1140016 - R8 SDMS

ANACONDA SMELTER NPL SITE
FLUE DUST OPERABLE UNIT

Remedial Action Construction and Completion Report
Appendices

Prepared for:

ARCO

307 East Park Street, Suite 400
Anaconda, MT 59711

August 1996

2110707

449709

APPENDIX A

REPOSITORY BOTTOM LINER GEOSYNTHETIC CERTIFICATIONS

PG TECHNOLOGY CO.

3150 1ST AVENUE • P.O. BOX 1089 • SPEARFISH, SOUTH DAKOTA 57783
605-642-8531 • FAX 605-642-8539

05 May '93

To: ITEX ENVIRONMENTAL SERVICES
ANACONDA, MT.

From: PG Technology Co.
3150 1st Ave.
Spearfish, SD 57783

Attached are your Quality Control/Assurance documents for your recent order of Gundseal.

These documents cover roll numbers: 4147-4177,4180, 4181,4183,4184,4188-4195,4200-4216

Item 1) Pages 2-4 are the Bentonite Certificates from the Bentonite Supplier.

Item 2) Pages 5 are the Bentonite Quality Control Verification sheets done by PG Technology Co.

Item 3) Pages 6,7 is the listing of Gundseal roll numbers and HDPE supplier roll numbers.

Item 4) Pages 08-29 HDPE Quality Control Certificates.

Item 5) Pages 30-33 Gundseal Quality information.

Item 6) Pages 34-37 Bentonite Quality Control Verification Daily Production.

Thank you for choosing Gundseal for your project. Quality is important to us at PG Technology Co. If you have questions regarding this order please call.

Ray Brosnahan

Date: 3 May 93

Ray Brosnahan

Production Manager
PG Technology Co.

APPENDIX A-1

BENTONITE CERTIFICATIONS

CERTIFICATE OF COMPLIANCE

AMERICAN COLLOID COMPANY
ONE NORTH ARLINGTON 1500 W. SHURE DRIVE
ARLINGTON HEIGHTS, ILLINOIS 60004

Date 29-Mar-93

TO: P.G. TECHNOLOGY CO.
1150 1st AVENUE
EXIT 14 OFF 190
SPEARFISH, S.D. 57783

ATTN: RAY Brosnahan

Dear Sirs:

A shipment of 3050 left our Colony West, Wyoming plant on 17-Mar-93 in UTI #1675 as requested on your order no. .

A sample from this shipment was tested, and gave the following results:

Test	Req. Specification	Actual Results
Moisture	6 - 12%	7
Water Absorption	600 Min.	940
Free Swell	10 - 30	25
% Retained On 16 Mesh	0 - 1.0	0
% Retained On 20 Mesh	15 - 30	20.6
% Retained On 50 Mesh	70 - 90	70.2
% Retained On 200 Mesh	0 - 5	1
% Retained On Pan	0 - 1.0	0.2

We hereby certify that the results shown above represent this shipment. Tests were conducted using American Colloid Company and/or customer approved laboratory procedures.

Tests Conducted By: ALLAN COLLINS

Approved By: Rick Budmayr

AMERICAN COLLOID COMPANY

In any correspondence regarding this shipment, please refer to our Order Number 74976 .

CERTIFICATE OF COMPLIANCE

AMERICAN COLLOID COMPANY
ONE NORTH ARLINGTON 1500 W. SHURE DRIVE
ARLINGTON HEIGHTS, ILLINOIS 60004

Date: 19-Mar-93

TO: P.G. TECHNOLOGY CO.
3150 1st AVENUE
EXIT 14 OFF I90
SPEARFISH, S.D. 57783

ATTN: RAY Brosnahan

Dear Sirs:

A shipment of 3050 left our Colony West, Wyoming plant on 18-Mar-93 in UTI #386407 as requested on your order no.
.

A sample from this shipment was tested, and gave the following results:

Test	Req. Specification	Actual Results
Moisture	6 - 12%	7.4
Water Absorption	600 Min.	956
Free Swell	10 - 30	24
% Retained On 16 Mesh	0 - 1.0	0
% Retained On 20 Mesh	15 - 30	27.4
% Retained On 50 Mesh	70 - 90	70.8
% Retained On 200 Mesh	0 - 5	1.5
% Retained On Pan	0 - 1.0	0.3

We hereby certify that the results shown above represent this shipment. Tests were conducted using American Colloid Company and/or customer approved laboratory procedures.

Tests Conducted By: ALLAN COLLINS

Approved By: Rick Budmayr

AMERICAN COLLOID COMPANY

In any correspondence regarding this shipment, please refer to our Order Number 75080 .

CERTIFICATE OF COMPLIANCE

AMERICAN COLLOID COMPANY
ONE NORTH ARLINGTON 1500 W. SHURE DRIVE
ARLINGTON HEIGHTS, ILLINOIS 60004

Date 24-Mar-93

TO: P.O. TECHNOLOGY CO.
3150 1st AVENUE
EXIT 14 OFF 190
SPEARFISH, S.D. 57783

ATTN: RAY Drosnahan

Dear Sirs:

A Shipment of 3050 left our Colony West, Wyoming plant on 18-Mar-93 in UT1 #386407 as requested on your order no.

A sample from this shipment was tested, and gave the following results:

Test	Req. Specification	Actual Results
Moisture	8 - 12%	7.6
Water Absorption	600 Min.	942
Free Swell	10 - 20	26
% Retained On 16 Mesh	0 - 1.0	0
% Retained On 20 Mesh	15 - 30	26.8
% Retained On 50 Mesh	70 - 90	71.0
% Retained On 200 Mesh	0 - 5	1.2
% Retained On Pan	0 - 1.0	0.2

We hereby certify that the results shown above represent this shipment. Tests were conducted using American Colloid Company and/or Customer approved laboratory procedures.

Tests Conducted By: ALLAN COLLINS

Approved By: Rick Budmayr

AMERICAN COLLOID COMPANY

In any correspondence regarding this shipment, please refer to our Order Number 75081 .

APPENDIX A-2

BENTONITE QUALITY CONTROL VERIFICATION

PG TECHNOLOGY CO.

3150 1ST AVENUE. .SPEARFISH, SD 57783
605-642-8531.FAX 605-642-8539

BENTONITE QUALITY CONTROL VERIFICATION

DATE: 03-17-93

BENTONITE SUPPLIER: AMERICAN COLLOID

TRUCK NO.: BOL #74976

MOISTURE: 8.6%

FILTRATE LOSS: 19.2 ml

DRY PARTICLE SIZE:

	MESH SIEVE SIZE	% RETAINED
	20	24.85
	40	71.12
	80	01.92
	100	1.00
	+200	.26
0	-200	.80

PLATE WATER ABSORPTION: 676 0% MOISTURE

WASH 325 SIEVE: 4.1%

FREE SWELL: 12.5 ml "as received"

Charles Taylor
TECHNICIAN

Ray Brosnahan
PRODUCTION MANAGER

APPENDIX A-3

GUNDSEAL / GUNDLINER ROLL NUMBERS

PG TECHNOLOGY CO.
3150 1ST AVE. .SPEARFISH, SD 57783
605-642-8531. .FAX: 605-642-8539

TO: ITEX ENVIRONMENTAL SERVICES
ANACONDA, MT. #S021578-00

GUNDSEAL ROLL #'S:	GUNDLINER ROLL #'S:
4147	03015248
4148	"
4149	03015293
4150	"
4151	"
4152	03015216
4153	"
4154	"
4155	"
4156	03015217
4157	"
4158	"
4159	03018198
4160	"
4161	03015237
4162	"
4163	"
4164	"
4165	03015230
4166	"
4167	"
4168	03015208
4169	"
4170	"
4171	03015231
4172	"
4173	"
4174	03015273
4175	"
4176	"
4177	03015283
4180	03015267
4181	"
4183	"
4184	03015200
4188	03015290
4189	"
4190	03015289
4191	"
4192	"

4193	03015219
4194	"
4195	03015213
4200	"
4201	"
4202	03015274
4203	"
4204	"
4205	03015194
4206	"
4207	"
4208	03015249
4209	"
4210	"
4211	03015291
4212	"
4213	"
4214	03015245
4215	"
4216	"

APPENDIX A-4

QUALITY CONTROL CERTIFICATE

Gundle®

Quality Control Certificate

RAILCAR : CHEX357
MATERIAL : HDT 030 MIL
BATCH # : 041292
ROLL # : 03015248

MANF. DATE : 04/12/1992
PROJECT NAME : P.G. TECHNOLOGY
MR NUMBER : 8566-05 PROJECT # :
LOCATION : HOUSTON TX

TEST PARAMETER	TESTING FREQUENCY	TYPICAL SPECIFICATIONS	TEST RESULTS	ASTM METHOD
Average Thickness (mils)	EVERY ROLL	27 to 33	31	D 1593
Carbon Black (%)	1/SHIFT	2.0 to 3.0	2.5	D 1603
Carbon Black Dispersion	1/SHIFT	A-1/A-2/B-1	A-2	D 3015
Melt Index (g/10 min)	1/SHIFT	0.30 max	0.13	D 1238 E
Density (g/cm3)	1/SHIFT	0.940 min	0.947	D 1505 A
Tensile Properties:				
T.S. Yield (ppi)	2ND ROLL	63	91	D 638
T.S. Break (ppi)	2ND ROLL	17	93	Type IV
Elong. Yield %	2ND ROLL	13	15	2 ipm
Elong. Break %	2ND ROLL	100	662	
Puncture Resistance (lbs)	2ND ROLL	34	59	FTMS 101,Method 2065
Tear Resistance (lbs)	2ND ROLL	23	27	D 1004,Die C

CERTIFIED BY

R.J. Schaefer

R.J. Schaefer
Quality Manager

Gundle®

Quality Assurance Certificate

RAILCAR : PSPX6000
MATERIAL : HDT 030 MIL
BATCH # : 041592
ROLL # : 03015293

MANF. DATE : 04/15/1992
PROJECT NAME : P.G. TECHNOLOGY
MR NUMBER : 8566-05 PROJECT # :
LOCATION : HOUSTON TX

TEST PARAMETER	TESTING FREQUENCY	TYPICAL SPECIFICATIONS	TEST RESULTS	ASTM METHOD
Average Thickness (mils)	EVERY ROLL	27 to 33	30	D 1593
Carbon Black (%)	1/SHIFT	2.0 to 3.0	2.5	D 1603
Carbon Black Dispersion	1/SHIFT	A-1/A-2/B-1	A-1	D 3015
Melt Index (g/10 min)	1/SHIFT	0.30 max	0.13	D 1238 E
Density (g/cm3)	1/SHIFT	0.940 min	0.948	D 1505 A
Tensile Properties:				
T.S. Yield (ppi)	2ND ROLL	63	83	D 638
T.S. Break (ppi)	2ND ROLL	17	76	Type IV
Elong. Yield %	2ND ROLL	13	15	2 ipm
Elong. Break %	2ND ROLL	100	547	
Puncture Resistance (lbs)	2ND ROLL	34	70	FTMS 101,Method 2065
Tear Resistance (lbs)	2ND ROLL	23	29	D 1004,Die C

CERTIFIED BY:

R.J. Schaefer
Quality Manager

Gundle®

Quality Assurance Certificate

RAILCAR : CHEX357
MATERIAL : HDT 030 MIL
BATCH # : 041192
ROLL # : 03015216

MANF. DATE : 04/11/1992
PROJECT NAME : P.G. TECHNOLOGY
MR NUMBER : 8566-05 PROJECT # :
LOCATION : HOUSTON TX

TEST PARAMETER	TESTING FREQUENCY	TYPICAL SPECIFICATIONS	TEST RESULTS	ASTM METHOD
Average Thickness (mils)	EVERY ROLL	27 to 33	28	D 1593
Carbon Black (%)	1/SHIFT	2.0 to 3.0	2.5	D 1603
Carbon Black Dispersion	1/SHIFT	A-1/A-2/B-1	A-1	D 3015
Melt Index (g/10 min)	1/SHIFT	0.30 max	0.12	D 1238 E
Density (g/cm3)	1/SHIFT	0.940 min	0.946	D 1505 A
Tensile Properties:				
T.S. Yield (ppi)	2ND ROLL	63	94	D 638
T.S. Break (ppi)	2ND ROLL	17	104	Type IV
Elong. Yield %	2ND ROLL	13	15	2 ipm
Elong. Break %	2ND ROLL	100	757	
Puncture Resistance (lbs)	2ND ROLL	34	65	FTMS 101,Method 2065
Tear Resistance (lbs)	2ND ROLL	23	29	D 1004,Die C

CERTIFIED BY:

R.J. Schaefer
Quality Manager

Gundle®

Quality Control Certificate

RAILCAR : CHEX357
MATERIAL : HDT 030 MIL
BATCH # : 041192
ROLL # : 03015217

MANF. DATE : 04/11/1992
PROJECT NAME : P.G. TECHNOLOGY
MR NUMBER : 8566-05 PROJECT # :
LOCATION : HOUSTON TX

TEST PARAMETER	TESTING FREQUENCY	TYPICAL SPECIFICATIONS	TEST RESULTS	ASTM METHOD
Average Thickness (mils)	EVERY ROLL	27 to 33	29	D 1593
Carbon Black (%)	1/SHIFT	2.0 to 3.0	2.5	D 1603
Carbon Black Dispersion	1/SHIFT	A-1/A-2/B-1	A-1	D 3015
Melt Index (g/10 min)	1/SHIFT	0.30 max	0.12	D 1238 E
Density (g/cm3)	1/SHIFT	0.940 min	0.946	D 1505 A
Tensile Properties:				
T.S. Yield (ppi)	2ND ROLL	63	86	D 638
T.S. Break (ppi)	2ND ROLL	17	76	Type IV
Elong. Yield %	2ND ROLL	13	17	2 ipm
Elong. Break %	2ND ROLL	100	533	
Puncture Resistance (lbs)	2ND ROLL	34	61	FTMS 101,Method 2065
Tear Resistance (lbs)	2ND ROLL	23	27	D 1004,Die C

CERTIFIED BY:

R.J. Schaefer
Quality Manager

Gundle®

Quality Assurance Certificate

RAILCAR : CHEX134
MATERIAL : HDT 030 MIL
BATCH # : 111392
ROLL # : 03018198

MANF. DATE : 11/13/1992
PROJECT NAME : P.G. TECHNOLOGY
MR NUMBER : 8566-05 PROJECT # :
LOCATION : HOUSTON TX

TEST PARAMETER	TESTING FREQUENCY	TYPICAL SPECIFICATIONS	TEST RESULTS	ASTM METHOD
Average Thickness (mils)	EVERY ROLL	27 to 33	33	D 1593
Carbon Black (%)	1/SHIFT	2.0 to 3.0	2.5	D 1603
Carbon Black Dispersion	1/SHIFT	A-1/A-2/B-1	A-1	D 3015
Melt Index (g/10 min)	1/SHIFT	0.30 max	0.11	D 1238 E
Density (g/cm3)	1/SHIFT	0.940 min	0.944	D 1505 A
Tensile Properties:				
T.S. Yield (ppi)	2ND ROLL	63	100	D 638
T.S. Break (ppi)	2ND ROLL	17	75	Type IV
Elong. Yield %	2ND ROLL	13	13	2 ipm
Elong. Break %	2ND ROLL	100	242	
Puncture Resistance (lbs)	2ND ROLL	34	73	FTMS 101,Method 2065
Tear Resistance (lbs)	2ND ROLL	23	36	D 1004,Die C

CERTIFIED BY:

R.J. Schaefer
Quality Manager

Gundle®

Quality Control Certificate

RAILCAR : CHEX357
MATERIAL : HDT 030 MIL
BATCH # : 041292
ROLL # : 03015237

MANF. DATE . 04/12/1992
PROJECT NAME : P.G. TECHNOLOGY
MR NUMBER : 8566-05 PROJECT # :
LOCATION . HOUSTON TX

TEST PARAMETER	TESTING FREQUENCY	TYPICAL SPECIFICATIONS	TEST RESULTS	ASTM METHOD
Average Thickness (mils)	EVERY ROLL	27 to 33	29	D 1593
Carbon Black (%)	1/SHIFT	2.0 to 3.0	2.6	D 1603
Carbon Black Dispersion	1/SHIFT	A-1/A-2/B-1	A-1	D 3015
Melt Index (g/10 min)	1/SHIFT	0.30 max	0.12	D 1238 E
Density (g/cm3)	1/SHIFT	0.940 min	0.947	D 1505 A
Tensile Properties:				
T.S. Yield (ppi)	2ND ROLL	63	101	D 638
T.S. Break (ppi)	2ND ROLL	17	96	Type IV
Elong. Yield %	2ND ROLL	13	15	2 ipm
Elong. Break %	2ND ROLL	100	705	
Puncture Resistance (lbs)	2ND ROLL	34	61	FTMS 101,Method 2065
Tear Resistance (lbs)	2ND ROLL	23	28	D 1004,Die C

CERTIFIED BY:

R.J. Schaefer
Quality Manager

Gundle®

Quality Assurance Certificate

RAILCAR : CHEX357
MATERIAL : HDT 030 MIL
BATCH # : 041292
ROLL # : 03015230

MANF. DATE : 04/12/1992
PROJECT NAME : P.G. TECHNOLOGY
MR NUMBER : 8566-05 PROJECT # :
LOCATION : HOUSTON TX

TEST PARAMETER		TESTING FREQUENCY	TYPICAL SPECIFICATIONS	TEST RESULTS	ASTM METHOD
Average Thickness (mils)		EVERY ROLL	27 to 33	28	D 1593
Carbon Black	(%)	1/SHIFT	2.0 to 3.0	2.5	D 1603
Carbon Black Dispersion		1/SHIFT	A-1/A-2/B-1	A-1	D 3015
Melt Index	(g/10 min)	1/SHIFT	0.30 max	0.13	D 1238 E
Density	(g/cm3)	1/SHIFT	0.940 min	0.947	D 1505 A
Tensile Properties:					
T.S. Yield	(ppi)	2ND ROLL	63	102	D 638
T.S. Break	(ppi)	2ND ROLL	17	116	Type IV
Elong. Yield	%	2ND ROLL	13	16	2 ipm
Elong. Break	%	2ND ROLL	100	786	
Puncture Resistance (lbs)		2ND ROLL	34	58	FTMS 101,Method 2065
Tear Resistance	(lbs)	2ND ROLL	23	28	D 1004,Die C

CERTIFIED BY:

R.J. Schaefer
Quality Manager

Gundle®

Quality Assurance Certificate

RAILCAR : CHEX357
MATERIAL : HDT 030 MIL
BATCH # : 041092
ROLL # : 03015208

MANF. DATE : 04/10/1992
PROJECT NAME : P.G. TECHNOLOGY
MR NUMBER : 8566-05 PROJECT # :
LOCATION : HOUSTON TX

TEST PARAMETER	TESTING FREQUENCY	TYPICAL SPECIFICATIONS	TEST RESULTS	ASTM METHOD
Average Thickness (mils)	EVERY ROLL	27 to 33	31	D 1593
Carbon Black (%)	1/SHIFT	2.0 to 3.0	2.6	D 1603
Carbon Black Dispersion	1/SHIFT	A-1/A-2/B-1	A-1	D 3015
Melt Index (g/10 min)	1/SHIFT	0.30 max	0.14	D 1238 E
Density (g/cm3)	1/SHIFT	0.940 min	0.945	D 1505 A
Tensile Properties:				
T.S. Yield (ppi)	2ND ROLL	63	89	D 638
T.S. Break (ppi)	2ND ROLL	17	77	Type IV
Elong. Yield %	2ND ROLL	13	15	2 ipm
Elong. Break %	2ND ROLL	100	550	
Puncture Resistance (lbs)	2ND ROLL	34	60	FTMS 101,Method 2065
Tear Resistance (lbs)	2ND ROLL	23	33	D 1004,Die C

CERTIFIED BY:

R.J. Schaefer
Quality Manager

Gundle®

Quality Control Certificate

RAILCAR : CHEX357
MATERIAL : HDT 030 MIL
BATCH # : 041292
ROLL # : 03015231

MANF. DATE : 04/12/1992
PROJECT NAME : P.G. TECHNOLOGY
MR NUMBER : 8566-05 PROJECT # :
LOCATION : HOUSTON TX

TEST PARAMETER		TESTING FREQUENCY	TYPICAL SPECIFICATIONS	TEST RESULTS	ASTM METHOD
Average Thickness (mils)		EVERY ROLL	27 to 33	29	D 1593
Carbon Black	(%)	1/SHIFT	2.0 to 3.0	2.5	D 1603
Carbon Black Dispersion		1/SHIFT	A-1/A-2/B-1	A-1	D 3015
Melt Index	(g/10 min)	1/SHIFT	0.30 max	0.13	D 1238 E
Density	(g/cm3)	1/SHIFT	0.940 min	0.947	D 1505 A
Tensile Properties:					
T.S. Yield	(ppi)	2ND ROLL	63	90	D 638
T.S. Break	(ppi)	2ND ROLL	17	93	Type IV
Elong. Yield	%	2ND ROLL	13	17	2 ipm
Elong. Break	%	2ND ROLL	100	700	
Puncture Resistance	(lbs)	2ND ROLL	34	59	FTMS 101,Method 2065
Tear Resistance	(lbs)	2ND ROLL	23	28	D 1004,Die C

CERTIFIED BY:

R.J. Schaefer
Quality Manager

Gundle®

Quality Assurance Certificate

RAILCAR : PSPX6000
MATERIAL : HDT 030 MIL
BATCH # : 041492
ROLL # : 03015273

MANF. DATE : 04/14/1992
PROJECT NAME : P.G. TECHNOLOGY
MR NUMBER : 8566-05 PROJECT # :
LOCATION : HOUSTON TX

TEST PARAMETER	TESTING FREQUENCY	TYPICAL SPECIFICATIONS	TEST RESULTS	ASTM METHOD
Average Thickness (mils)	EVERY ROLL	27 to 33	32	D 1593
Carbon Black (%)	1/SHIFT	2.0 to 3.0	2.3	D 1603
Carbon Black Dispersion	1/SHIFT	A-1/A-2/B-1	A-1	D 3015
Melt Index (g/10 min)	1/SHIFT	0.30 max	0.13	D 1238 E
Density (g/cm3)	1/SHIFT	0.940 min	0.949	D 1505 A
Tensile Properties:				
T.S. Yield (ppi)	2ND ROLL	63	93	D 638
T.S. Break (ppi)	2ND ROLL	17	76	Type IV
Elong. Yield %	2ND ROLL	13	15	2 ipm
Elong. Break %	2ND ROLL	100	478	
Puncture Resistance (lbs)	2ND ROLL	34	73	FTMS 101,Method 2065
Tear Resistance (lbs)	2ND ROLL	23	26	D 1004,Die C

CERTIFIED BY:

R.J. Schaefer
Quality Manager

Gundle®

Quality Assurance Certificate

RAILCAR : PSPX2311
MATERIAL : HDT 030 MIL
BATCH # : 041592
ROLL # : 03015283

MANF. DATE : 04/15/1992
PROJECT NAME : P.G. TECHNOLOGY
MR NUMBER : 8566-05 PROJECT # :
LOCATION : HOUSTON TX

TEST PARAMETER	TESTING FREQUENCY	TYPICAL SPECIFICATIONS	TEST RESULTS	ASTM METHOD
Average Thickness (mils)	EVERY ROLL	27 to 33	30	D 1593
Carbon Black (%)	1/SHIFT	2.0 to 3.0	2.5	D 1603
Carbon Black Dispersion	1/SHIFT	A-1/A-2/B-1	A-1	D 3015
Melt Index (g/10 min)	1/SHIFT	0.30 max	0.11	D 1238 E
Density (g/cm3)	1/SHIFT	0.940 min	0.947	D 1505 A
Tensile Properties:				
T.S. Yield (ppi)	2ND ROLL	63	86	D 638
T.S. Break (ppi)	2ND ROLL	17	70	Type IV
Elong. Yield %	2ND ROLL	13	14	2 ipm
Elong. Break %	2ND ROLL	100	443	
Puncture Resistance (lbs)	2ND ROLL	34	60	FTMS 101,Method 2065
Tear Resistance (lbs)	2ND ROLL	23	27	D 1004,Die C

CERTIFIED BY:

R.J. Schaefer
Quality Manager

Gundle®

Quality Assurance Certificate

RAILCAR : PSPX6000
MATERIAL : HDT 030 MIL
BATCH # : 041492
ROLL # : 03015267

MANF. DATE : 04/14/1992
PROJECT NAME : P.G. TECHNOLOGY
MR NUMBER : 8566-05 PROJECT # :
LOCATION : HOUSTON TX

TEST PARAMETER	TESTING FREQUENCY	TYPICAL SPECIFICATIONS	TEST RESULTS	ASTM METHOD
Average Thickness (mils)	EVERY ROLL	27 to 33	31	D 1593
Carbon Black (%)	1/SHIFT	2.0 to 3.0	2.6	D 1603
Carbon Black Dispersion	1/SHIFT	A-1/A-2/B-1	A-1	D 3015
Melt Index (g/10 min)	1/SHIFT	0.30 max	0.11	D 1238 E
Density (g/cm3)	1/SHIFT	0.940 min	0.947	D 1505 A
Tensile Properties:				
T.S. Yield (ppi)	2ND ROLL	63	96	D 638
T.S. Break (ppi)	2ND ROLL	17	69	Type IV
Elong. Yield %	2ND ROLL	13	15	2 ipm
Elong. Break %	2ND ROLL	100	391	
Puncture Resistance (lbs)	2ND ROLL	34	56	FTMS 101,Method 2065
Tear Resistance (lbs)	2ND ROLL	23	30	D 1004,Die C

CERTIFIED BY:

R.J. Schaefer
Quality Manager

Gundle®

Quality Assurance Certificate

RAILCAR : CHEX357
MATERIAL : HDT 030 MIL
BATCH # : 041092
ROLL # : 03015200

MANF. DATE : 04/10/1992
PROJECT NAME : P.G. TECHNOLOGY
MR NUMBER : 8566-05 PROJECT # :
LOCATION : HOUSTON TX

TEST PARAMETER		TESTING FREQUENCY	TYPICAL SPECIFICATIONS	TEST RESULTS	ASTM METHOD
Average Thickness	(mils)	EVERY ROLL	27 to 33	31	D 1593
Carbon Black	(%)	1/SHIFT	2.0 to 3.0	2.4	D 1603
Carbon Black Dispersion		1/SHIFT	A-1/A-2/B-1	A-1	D 3015
Melt Index	(g/10 min)	1/SHIFT	0.30 max	0.14	D 1238 E
Density	(g/cm3)	1/SHIFT	0.940 min	0.945	D 1505 A
Tensile Properties:					
T.S. Yield	(ppi)	2ND ROLL	63	90	D 638
T.S. Break	(ppi)	2ND ROLL	17	93	Type IV
Elong. Yield	%	2ND ROLL	13	16	2 ipm
Elong. Break	%	2ND ROLL	100	728	
Puncture Resistance	(lbs)	2ND ROLL	34	75	FTMS 101,Method 2065
Tear Resistance	(lbs)	2ND ROLL	23	27	D 1004,Die C

CERTIFIED BY:

R.J. Schaefer
Quality Manager

Gundle®

Quality Control Certificate

RAILCAR : PSPX6000
MATERIAL : HDT 030 MIL
BATCH # : 041592
ROLL # : 03015290

MANF. DATE : 04/15/1992
PROJECT NAME : P.G. TECHNOLOGY
MR NUMBER : 8566-05 PROJECT # :
LOCATION : HOUSTON TX

TEST PARAMETER	TESTING FREQUENCY	TYPICAL SPECIFICATIONS	TEST RESULTS	ASTM METHOD
Average Thickness (mils)	EVERY ROLL	27 to 33	31	D 1593
Carbon Black (%)	1/SHIFT	2.0 to 3.0	2.4	D 1603
Carbon Black Dispersion	1/SHIFT	A-1/A-2/B-1	A-1	D 3015
Melt Index (g/10 min)	1/SHIFT	0.30 max	0.13	D 1238 E
Density (g/cm3)	1/SHIFT	0.940 min	0.948	D 1505 A
Tensile Properties:				
T.S. Yield (ppi)	2ND ROLL	63	89	D 638
T.S. Break (ppi)	2ND ROLL	17	83	Type IV
Elong. Yield %	2ND ROLL	13	15	2 ipm
Elong. Break %	2ND ROLL	100	561	
Puncture Resistance (lbs)	2ND ROLL	34	68	FTMS 101,Method 2065
Tear Resistance (lbs)	2ND ROLL	23	29	D 1004,Die C

CERTIFIED BY:

R.J. Schaefer
Quality Manager

Gundle®

Quality Assurance Certificate

RAILCAR : PSPX6000
MATERIAL : HDT 030 MIL
BATCH # : 041592
ROLL # : 03015289

MANF. DATE : 04/15/1992
PROJECT NAME : P.G. TECHNOLOGY
MR NUMBER : 8566-05 PROJECT # :
LOCATION : HOUSTON TX

TEST PARAMETER	TESTING FREQUENCY	TYPICAL SPECIFICATIONS	TEST RESULTS	ASTM METHOD
Average Thickness (mils)	EVERY ROLL	27 to 33	30	D 1593
Carbon Black (%)	1/SHIFT	2.0 to 3.0	2.4	D 1603
Carbon Black Dispersion	1/SHIFT	A-1/A-2/B-1	A-1	D 3015
Melt Index (g/10 min)	1/SHIFT	0.30 max	0.13	D 1238 E
Density (g/cm3)	1/SHIFT	0.940 min	0.948	D 1505 A
Tensile Properties:				
T.S. Yield (ppi)	2ND ROLL	63	96	D 638
T.S. Break (ppi)	2ND ROLL	17	68	Type IV
Elong. Yield %	2ND ROLL	13	16	2 ipm
Elong. Break %	2ND ROLL	100	348	
Puncture Resistance (lbs)	2ND ROLL	34	58	FTMS 101,Method 2065
Tear Resistance (lbs)	2ND ROLL	23	27	D 1004,Die C

CERTIFIED BY:

R.J. Schaefer
Quality Manager

Gundle®

Quality Control Certificate

RAILCAR : CHEX357
MATERIAL : HDT 030 MIL
BATCH # : 041192
ROLL # : 03015219

MANF. DATE : 04/11/1992
PROJECT NAME : P.G. TECHNOLOGY
MR NUMBER : 8566-05 PROJECT # :
LOCATION : HOUSTON TX

TEST PARAMETER		TESTING FREQUENCY	TYPICAL SPECIFICATIONS	TEST RESULTS	ASTM METHOD
Average Thickness (mils)		EVERY ROLL	27 to 33	29	D 1593
Carbon Black	(%)	1/SHIFT	2.0 to 3.0	2.6	D 1603
Carbon Black Dispersion		1/SHIFT	A-1/A-2/B-1	A-1	D 3015
Melt Index	(g/10 min)	1/SHIFT	0.30 max	0.12	D 1238 E
Density	(g/cm3)	1/SHIFT	0.940 min	0.946	D 1505 A
Tensile Properties:					
T.S. Yield	(ppi)	2ND ROLL	63	93	D 638
T.S. Break	(ppi)	2ND ROLL	17	87	Type IV
Elong. Yield	%	2ND ROLL	13	16	2 ipm
Elong. Break	%	2ND ROLL	100	668	
Puncture Resistance (lbs)		2ND ROLL	34	67	FTMS 101,Method 2065
Tear Resistance	(lbs)	2ND ROLL	23	26	D 1004,Die C

CERTIFIED BY:

R.J. Schaefer
Quality Manager

Gundle®

Quality Control Certificate

RAILCAR : CHEX357
MATERIAL : HDT 030 MIL
BATCH # : 041192
ROLL # : 03015213

MANF. DATE : 04/11/1992
PROJECT NAME : P.G. TECHNOLOGY
MR NUMBER : 8566-05 PROJECT # :
LOCATION : HOUSTON TX

TEST PARAMETER	TESTING FREQUENCY	TYPICAL SPECIFICATIONS	TEST RESULTS	ASTM METHOD
Average Thickness (mils)	EVERY ROLL	27 to 33	28	D 1593
Carbon Black (%)	1/SHIFT	2.0 to 3.0	2.5	D 1603
Carbon Black Dispersion	1/SHIFT	A-1/A-2/B-1	A-1	D 3015
Melt Index (g/10 min)	1/SHIFT	0.30 max	0.12	D 1238 E
Density (g/cm3)	1/SHIFT	0.940 min	0.946	D 1505 A
Tensile Properties:				
T.S. Yield (ppi)	2ND ROLL	63	87	D 638
T.S. Break (ppi)	2ND ROLL	17	96	Type IV
Elong. Yield %	2ND ROLL	13	16	2 ipm
Elong. Break %	2ND ROLL	100	733	
Puncture Resistance (lbs)	2ND ROLL	34	61	FTMS 101,Method 2065
Tear Resistance (lbs)	2ND ROLL	23	30	D 1004,Die C

CERTIFIED BY:

R.J. Schaefer
Quality Manager

Gundle®

Quality Control Certificate

RAILCAR : PSPX2311
MATERIAL : HDT 030 MIL
BATCH # : 041492
ROLL # : 03015274

MANF. DATE : 04/14/1992
PROJECT NAME : P.G. TECHNOLOGY
MR NUMBER : 8566-05 PROJECT # :
LOCATION : HOUSTON TX

TEST PARAMETER	TESTING FREQUENCY	TYPICAL SPECIFICATIONS	TEST RESULTS	ASTM METHOD
Average Thickness (mils)	EVERY ROLL	27 to 33	31	D 1593
Carbon Black (%)	1/SHIFT	2.0 to 3.0	2.3	D 1603
Carbon Black Dispersion	1/SHIFT	A-1/A-2/B-1	A-1	D 3015
Melt Index (g/10 min)	1/SHIFT	0.30 max	0.13	D 1238 E
Density (g/cm3)	1/SHIFT	0.940 min	0.949	D 1505 A
Tensile Properties:				
T.S. Yield (ppi)	2ND ROLL	63	83	D 638
T.S. Break (ppi)	2ND ROLL	17	97	Type IV
Elong. Yield %	2ND ROLL	13	15	2 ipm
Elong. Break %	2ND ROLL	100	782	
Puncture Resistance (lbs)	2ND ROLL	34	67	FTMS 101,Method 2065
Tear Resistance (lbs)	2ND ROLL	23	27	D 1004,Die C

CERTIFIED BY:

R.J. Schaefer
Quality Manager

Gundle®

Quality Assurance Certificate

RAILCAR : CHEX357
MATERIAL : HDT 030 MIL
BATCH # : 041092
ROLL # : 03015194

MANF. DATE : 04/10/1992
PROJECT NAME : P.G. TECHNOLOGY
MR NUMBER : 8566-05 PROJECT # :
LOCATION : HOUSTON TX

TEST PARAMETER	TESTING FREQUENCY	TYPICAL SPECIFICATIONS	TEST RESULTS	ASTM METHOD
Average Thickness (mils)	EVERY ROLL	27 to 33	31	D 1593
Carbon Black (%)	1/SHIFT	2.0 to 3.0	2.6	D 1603
Carbon Black Dispersion	1/SHIFT	A-1/A-2/B-1	A-2	D 3015
Melt Index (g/10 min)	1/SHIFT	0.30 max	0.10	D 1238 E
Density (g/cm3)	1/SHIFT	0.940 min	0.947	D 1505 A
Tensile Properties:				
T.S. Yield (ppi)	2ND ROLL	63	85	D 638
T.S. Break (ppi)	2ND ROLL	17	91	Type IV
Elong. Yield %	2ND ROLL	13	16	2 ipm
Elong. Break %	2ND ROLL	100	684	
Puncture Resistance (lbs)	2ND ROLL	34	66	FTMS 101,Method 2065
Tear Resistance (lbs)	2ND ROLL	23	27	D 1004,Die C

CERTIFIED BY:

R.J. Schaefer
Quality Manager

Gundle®

Quality Control Certificate

RAILCAR : CHEX357
MATERIAL : HDT 030 MIL
BATCH # : 041392
ROLL # : 03015249

MANF. DATE : 04/13/1992
PROJECT NAME : P.G. TECHNOLOGY
MR NUMBER : 8566-05 PROJECT # :
LOCATION : HOUSTON TX

TEST PARAMETER	TESTING FREQUENCY	TYPICAL SPECIFICATIONS	TEST RESULTS	ASTM METHOD
Average Thickness (mils)	EVERY ROLL	27 to 33	28	D 1593
Carbon Black (%)	1/SHIFT	2.0 to 3.0	2.5	D 1603
Carbon Black Dispersion	1/SHIFT	A-1/A-2/B-1	A-2	D 3015
Melt Index (g/10 min)	1/SHIFT	0.30 max	0.13	D 1238 E
Density (g/cm3)	1/SHIFT	0.940 min	0.947	D 1505 A
Tensile Properties:				
T.S. Yield (ppi)	2ND ROLL	63	92	D 638
T.S. Break (ppi)	2ND ROLL	17	99	Type IV
Elong. Yield %	2ND ROLL	13	15	2 ipm
Elong. Break %	2ND ROLL	100	739	
Puncture Resistance (lbs)	2ND ROLL	34	68	FTMS 101,Method 2065
Tear Resistance (lbs)	2ND ROLL	23	28	D 1004,Die C

CERTIFIED BY:

R.J. Schaefer
Quality Manager

Gundle®

Quality Assurance Certificate

RAILCAR : PSPX6000
MATERIAL : HDT 030 MIL
BATCH # : 041592
ROLL # : 03015291

MANF. DATE : 04/15/1992
PROJECT NAME : P.G. TECHNOLOGY
MR NUMBER : 8566-05 PROJECT # :
LOCATION : HOUSTON TX

TEST PARAMETER		TESTING FREQUENCY	TYPICAL SPECIFICATIONS	TEST RESULTS	ASTM METHOD
Average Thickness (mils)		EVERY ROLL	27 to 33	31	D 1593
Carbon Black	(%)	1/SHIFT	2.0 to 3.0	2.4	D 1603
Carbon Black Dispersion		1/SHIFT	A-1/A-2/B-1	A-1	D 3015
Melt Index	(g/10 min)	1/SHIFT	0.30 max	0.13	D 1238 E
Density	(g/cm3)	1/SHIFT	0.940 min	0.948	D 1505 A
Tensile Properties:					
T.S. Yield	(ppi)	2ND ROLL	63	89	D 638
T.S. Break	(ppi)	2ND ROLL	17	83	Type IV
Elong. Yield	%	2ND ROLL	13	15	2 ipm
Elong. Break	%	2ND ROLL	100	561	
Puncture Resistance (lbs)		2ND ROLL	34	68	FTMS 101,Method 2065
Tear Resistance	(lbs)	2ND ROLL	23	29	D 1004,Die C

CERTIFIED BY:

R.J. Schaefer

R.J. Schaefer
Quality Manager

28

Gundle®

Quality Assurance Certificate

RAILCAR : CHEX357
MATERIAL : HDT 030 MIL
BATCH # : 041292
ROLL # : 03015245

MANF. DATE : 04/12/1992
PROJECT NAME : P.G. TECHNOLOGY
MR NUMBER : 8566-05 PROJECT # :
LOCATION : HOUSTON TX

TEST PARAMETER	TESTING FREQUENCY	TYPICAL SPECIFICATIONS	TEST RESULTS	ASTM METHOD
Average Thickness (mils)	EVERY ROLL	27 to 33	29	D 1593
Carbon Black (%)	1/SHIFT	2.0 to 3.0	2.6	D 1603
Carbon Black Dispersion	1/SHIFT	A-1/A-2/B-1	A-1	D 3015
Melt Index (g/10 min)	1/SHIFT	0.30 max	0.12	D 1238 E
Density (g/cm3)	1/SHIFT	0.940 min	0.947	D 1505 A
Tensile Properties:				
T.S. Yield (ppi)	2ND ROLL	63	104	D 638
T.S. Break (ppi)	2ND ROLL	17	70	Type IV
Elong. Yield %	2ND ROLL	13	16	2 ipm
Elong. Break %	2ND ROLL	100	482	
Puncture Resistance (lbs)	2ND ROLL	34	74	FTMS 101,Method 2065
Tear Resistance (lbs)	2ND ROLL	23	31	D 1004,Die C

CERTIFIED BY:

R.J. Schaefer
Quality Manager

HDPE LINER VACUUM TEST

ITEX QA/QC

DATE: 5/25/93
TIME: 8:35am

SEAM #	TEST#	PSI	TIME (SEC)	RESULT PASS	FAIL	RETEST
1	A	9	15	P		
	B	8	15	P		
	C	8	15	P		
	D	6	15	P		
	E	7	15	P		
	F	IRREG.	SURFACE	NO	SEAL	
	G	8	15	P		
	H	9	15	P		
	I	8	15	P		
	J	8	15	P		
	K	8	15	P		
	L	8	15	P		
	M	5	15	P		
	N	7	15	P		
	O	7	15	P		
	P	7	15	P		
	Q	7	15	P		
	R	7	15		F	P
2	A	7	15	P		
	B	8	15	P		
	C	8	15	P		
	D	8	15	P		
	E	8	15	P		
	F	8	15	P		
	G	8	15	P		
	H	6	15	P		
	I	7	15	P		
	J	8	15	P		
	K	8	15	P		
	L	7	15	P		
	M	8	15	P		
	N	7	15	P		
	O	7	15	P		
	P	7	15	P		
	Q	8	15	P		
	R	8	15	P		
	S	8	15	P		
	T	8	15	P		

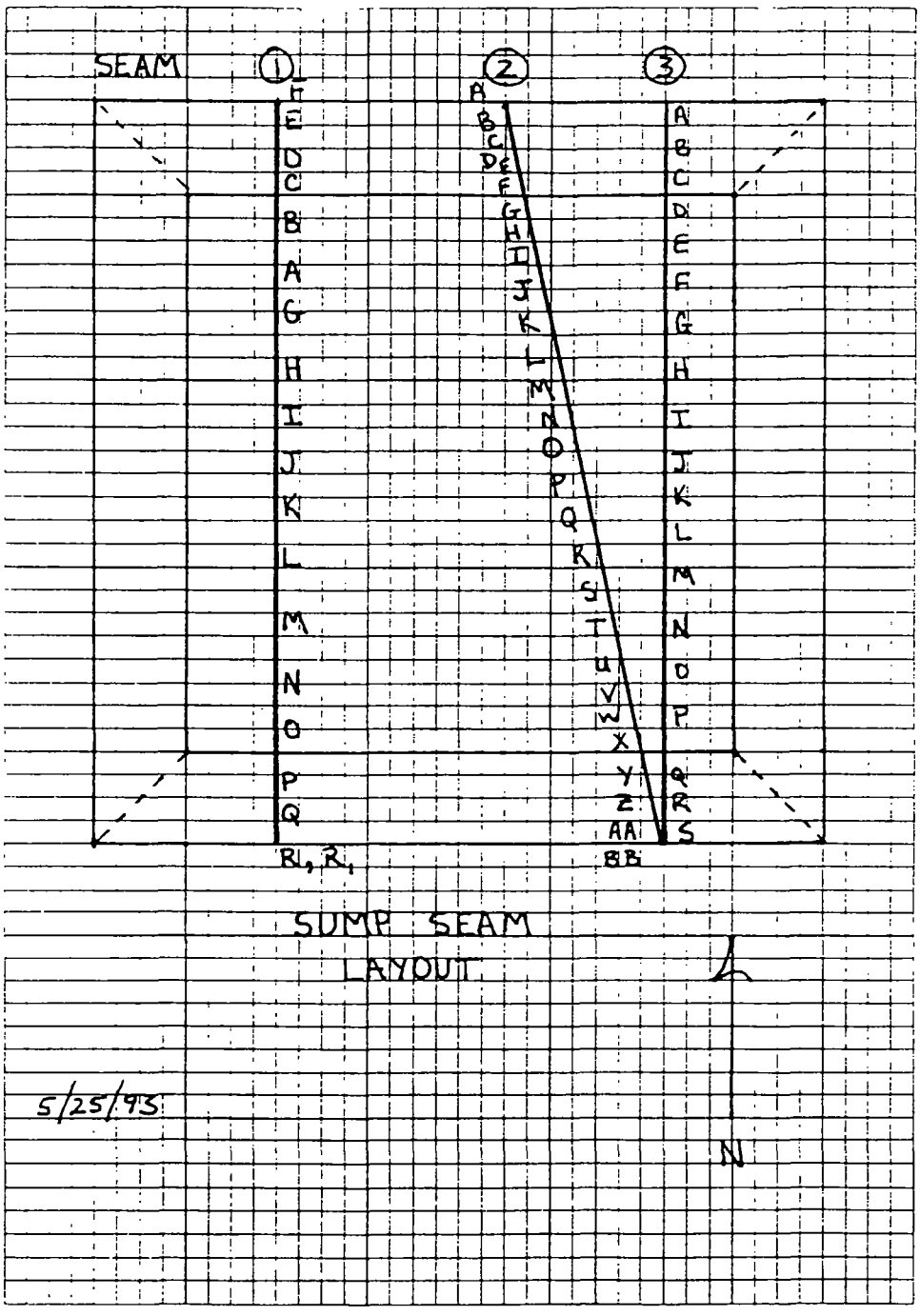
HDPE LINER VACUUM TEST

ITEX QA/QC

DATE: 5/25/93

TIME:

SEAM #	TEST#	PSI	TIME (SEC)	RESULT PASS	FAIL	RETEST
2	U	8	15	P		
	V	8	15	P		
	W	8	15	P		
	X	7	15	P		
	Y	7	15	P		
	Z	8	15	P		
	AA	5	15	P		
	BB	6	15	P		
3	A	5	15	P		
	B	5	15	P		
	C	9	15	P		
	D	8	15	P		
	E	7	15	P		
	F	7	15	P		
	G	8	15	P		
	H	7	15	P		
	I	7	15	P		
	J	7	15	P		
	K	7	15	P		
	L	8	15	P		
	M	8	15	P		
	N	8	15	P		
	O	8	15	P		
	P	8	15	P		
	Q	7	15	P		
	R	7	15	P		
	S	7	15	P		



SUMP SEAM
LAYOUT

5/25/93

N

APPENDIX A-5

FINAL PRODUCT WEIGHT DOCUMENT

SPG TECHNOLOGY CO.
3150 1ST AVE. .SPEARFISH,SD 57783
605-642-8531.FAX: 605-642-8539

GUNDSEAL
FINAL PRODUCT WEIGHT

Manufacturing Date: April 21,1993

Test Results

a.	Average Thickness.....	.212	in.
b.	Average Total Weight	1.19	lbs./sq.ft.
	Nominal Geomembrane Weight	.15	lbs./sq.ft.
	Bentonite Coating Weight	1.04	lbs./sq.ft.

Test Results For

Roll #: 4149 . which covers rolls from

#: 4147 to # 4160

SPG TECHNOLOGY CO.
3150 1ST AVE. .SPEARFISH,SD 57783
605-642-8531.FAX: 605-642-8539

GUNDSEAL
FINAL PRODUCT WEIGHT

Manufacturing Date: April 21,1993

Test Results

a.	Average Thickness.....	.21	in.
b.	Average Total Weight	1.18	lbs./sq.ft.
	Nominal Geomembrane Weight	.15	lbs./sq.ft.
	Bentonite Coating Weight	1.03	lbs./sq.ft.

Test Results For

Roll #: 4161 which covers rolls from

#: 4161 to # 4181

SPG TECHNOLOGY CO.
3150 1ST AVE. .SPEARFISH,SD 57783
605-642-8531.FAX: 605-642-8539

GUNDSEAL
FINAL PRODUCT WEIGHT

Manufacturing Date: April 22,1993

Test Results

a.	Average Thickness.....	.22	in.
b.	Average Total Weight	1.22	lbs./sq.ft.
	Nominal Geomembrane Weight	.15	lbs./sq.ft.
	Bentonite Coating Weight	1.07	lbs./sq.ft.

Test Results For

Roll #: 4183 which covers rolls from

#: 4182 to # 4206

SPG TECHNOLOGY CO.
3150 1ST AVE. .SPEARFISH,SD 57783
605-642-8531.FAX: 605-642-8539

GUNDSEAL
FINAL PRODUCT WEIGHT

Manufacturing Date: April 22,1993

Test Results

a.	Average Thickness.....	.21	in.
b.	Average Total Weight	1.21	lbs./sq.ft.
	Nominal Geomembrane Weight	.15	lbs./sq.ft.
	Bentonite Coating Weight	1.06	lbs./sq.ft.

Test Results For

Roll #: 4208 which covers rolls from

#: 4207 to # 4217

APPENDIX A-6

BENTONITE QUALITY CONTROL VERIFICATION
DAILY PRODUCTION LOG

PG TECHNOLOGY CO.
3150 1ST AVE. .SPEARFISH, SD 57783
605-642-8531.FAX: 605-642-8539

BENTONITE QUALITY CONTROL VERIFICATION
DAILY PRODUCTION

Date: 4-21-93

Time: AM

Moisture Content: 7.6%

Filtrate Loss: 22.0 ml "as received"

Free Swell: 26ml "as received"

Gundseal Moisture (at 0% moisture) 20.1%

Gundseal Free Swell: 23.5ml 0% moisture

Soil Mold Test Results: N.A.

Charles Taylor
Technician

Ray Brosnahan
Production Manager

PG TECHNOLOGY CO.
3150 1ST AVE. .SPEARFISH, SD 57783
605-642-8531.FAX: 605-642-8539

BENTONITE QUALITY CONTROL VERIFICATION
DAILY PRODUCTION

Date: 4-21-93

Time: PM

Moisture Content: 8.0%

Filtrate Loss: 20.4 ml "as received"

Free Swell: 22ml "as received"

Gundseal Moisture (at 0% moisture) 23.9%

Gundseal Free Swell: 22.0ml 0% moisture

Soil Mold Test Results: N.A.

Charles Taylor
Technician

Ray Brosnahan
Production Manager

PG TECHNOLOGY CO.
3150 1ST AVE. .SPEARFISH, SD 57783
605-642-8531.FAX: 605-642-8539

BENTONITE QUALITY CONTROL VERIFICATION
DAILY PRODUCTION

Date: 4-22-93

Time: AM

Moisture Content: 8.0%

Filtrate Loss: 20.4 ml "as received"

Free Swell: 22ml "as received"

Gundseal Moisture (at 0% moisture) 23.9%

Gundseal Free Swell: 22.0ml 0% moisture

Soil Mold Test Results: N.A.

Charles Taylor
Technician

Ray Brosnahan
Production Manager

PG TECHNOLOGY CO.
3150 1ST AVE. .SPEARFISH, SD 57783
605-642-8531.FAX: 605-642-8539

BENTONITE QUALITY CONTROL VERIFICATION
DAILY PRODUCTION

Date: 4-22-93

Time: PM

Moisture Content: 7.8%

Filtrate Loss: 21.2 ml "as received"

Free Swell: 23ml "as received"

Gundseal Moisture (at 0% moisture) 21.53%

Gundseal Free Swell: 21.5ml 0% moisture

Soil Mold Test Results: N A.

Charles Taylor
Technician

Ray Brosnahan
Production Manager

APPENDIX B

REPOSITORY FINAL CAP SYSTEM GEOSYNTHETIC CERTIFICATIONS

Amoco Fabrics and Fibers Company
Quality Control Department
P O Box 836
Hazlehurst Georgia 31539-0451

April 15, 1994

Roscoe Steel & Culvert Company
5405 Momont Road
Missoula, MT 59802

Re: Purchase Order # 11794, Bid # 4002
Amoco Shipping # H0323, dated April 15, 1994

Amoco Style 4510 is a 100% polypropylene nonwoven needlepunched fabric This engineered geotextile is stabilized to resist degradation due to ultraviolet exposure. It is resistant to commonly encountered soil chemicals, mildew, and insects, and is non-biodegradable. Polypropylene is stable within a ph range of 2 to 13 making it one of the most stable polymers available for geotextiles today. The Amoco 4510 conforms to the physical property values listed below:

Property	Unit	Test Method	Typical Value	Minimum Average Roll Value
Weight	oz/yd^2	ASTM-D-3776	10.56	10.0
Thickness	Mils	ASTM-D-1777	129	110
Grab Tensile (CMD/MD)	lbs.	ASTM-D-4632	350/277	235
Grab Tensile Elongation (CMD/MD)	%	ASTM-D-4632	70/67	50
Mullen Burst	psi	ASTM-D-3786	607	550
Puncture Resistance	lbs	ASTM-D-4833	182	165
Trapezoid Tear (CMD/MD)	lbs.	ASTM-D-4533	140/113	95
Permittivity	$Gal/Min/Ft^2$	ASTM-D-4491	114	70
Apparent Opening Size (% Retained)	Sieve Size	ASTM-D-4751	100+	100
Permittivity	Sec^{-1}	ASTM-D-4491	1.5	1.1

CMD - Cross Machine Direction
MD - Machine Direction

Richard H. Brewer
Quality Control Supervisor
Amoco Fabrics and Fibers Company

mom

Amoco Fabrics and Fibers Company

Quality Control Department
P O Box 836
Hazlehurst Georgia 31539-0451

April 15, 1994

Roscoe Steel & Culvert Company
5405 Momont Road
Missoula, MT 59802

Re: Purchase Order # 11794, Bid # 4002
Shipping # H0323, dated April 15, 1994

Piece Number	Style	Weight Yd.2 Oz.	Thickness	Tensile	Elong-ation	Burst	Puncture	Trap Tear	A.O.S.	Permittivity Gal/Min/Ft2
1562849	4510	11.98	148	347	80	999	305	184	100+	114
1563335	4510	11.98	149	332	80	770	297	142	100+	114

THIS DOCUMENT CONTAINS
INFORMATION CLAIMED AS
TRADE SECRET-CONFIDENTIAL
BY AMOCO FABRICS COMPANY

See memo dated 5/13/97

Amoco Fabrics and Fibers Company

Quality Control Department
P O Box 836
Hazlehurst Georgia 31539-0451

April 18, 1994

Roscoe Steel & Culvert Company
5405 Momont Road
Missoula, MT 59802

Re: Purchase Order # 11794, Bid # 4002
Shipping # H0370, dated April 18, 1994

Piece Number	Style	Weight Yd.2 Oz.	Thickness	Tensile	Elong-ation	Burst	Puncture	Trap Tear	A.O.S.	Permittivity Gal/Min/Ft2
1560968	4510	12.30	155	381	80	999	341	167	100+	114
1562681	4510	12.59	161	375	84	999	273	182	100+	114

THIS DOCUMENT CONTAINS
INFORMATION CLAIMED AS
TRADE SECRET-CONFIDENTIAL
BY AMOCO FABRICS COMPANY

See memo dated
5/13/97

C L E M

C L A Y M A X

RECEIVED
MAY 10 1994

May 5, 1994

Don Haugen
Itex
4570 Westgrove Drive
Suite 240
Addison, TX 75218

RE: Certification for Anaconda

Dear Don:

We herein certify that the CLAYMAX 200R rolls shipped under shippers numbe: 1484, 1494, 1496, 1529, and 1530 meet or exceed the minimum or maximum values outlined below with a 95% confidence level.

The certification is based on quality control testing performed by the Cle: Corporation on the specific manufactured Lot from which the delivered material was produced. All quality control testing was performed in strict accordance with the Clem Corporation Quality Management Program.

PROPERTY/METHOD	SPECIFICATION	TYPICAL VALUES
Hydraulic Conductivity/ ASTM 5084 Modified	5 x 10(-9) cm/sec @ 5 psi eff. stress	3.0-5.0 x 10(-9) cm/sec @ 5 psi
Bentonite Free Swell/ USP NF XVII	30 ml min.	35-40 ml
Bentonite Fluid Loss/ API 13A	15 ml max.	10-13 ml
Bentonite pH/ ASTM D4972	8.5-10.5	9.0-10.0
Bentonite Unit Weight reported @ 20% M.C.	1.00 psf min.	1.02 psf
Roll Width	13.5 feet min.	13.6 feet
Roll Length	per project requirements	100 feet

Sincerely,

Thomas N Dobras

Thomas N Dobras, P.E.
Director of Quality Management

STRAIGHT BILL OF LADING

STRAIGHT BILL OF LADING—NOT NEGOTIABLE

Carrier No

Shipper No 1[illegible]

JCCREP: ~~869~~

~~HUB CITY~~ Name of Carrier 350-00010 SCAC 04/19/94

ITEX	~~James Clem Corporation~~
605 ARBITEX ROAD	~~234 Gordon St.~~
ANACONDA, MT 59711	~~Fairmount GA 30139~~
406 563-7370 DON HAUGEN	

2 Roll Number	Lot Number	X HM	Kind of Packaging, Description of Articles, Special Marks or Exceptions	Weight (Subject to Correction)	Class or Rate	Check Column	Char.
0134528.0	09094		CLAYMAX 500SP 150'				
0134529.0	09094		CLAYMAX 500SP 150'				
0134530.0	09094		CLAYMAX 500SP 150'				
0134537.0	09094		CLAYMAX 500SP 150'				
0134540.0	09094		CLAYMAX 500SP 150'				
0134541.0	09094		CLAYMAX 500SP 150'				
0134546.0	09094		CLAYMAX 500SP 150'				
0134548.0	09094		CLAYMAX 500SP 150'				
0134559.0	09094		CLAYMAX 500SP 150'				
0134618.0	09794		CLAYMAX 500SP 150'				
0134620.0	09794		CLAYMAX 500SP 150'				
0134622.0	09794		CLAYMAX 500SP 150'				
0134623.0	09794		CLAYMAX 500SP 150'				
0134624.0	09794		CLAYMAX 500SP 150'				
0134629.0	09794		CLAYMAX 500SP 150'				
0134632.0	09794		CLAYMAX 500SP 150'				

Trailer # 1131

Seal # 1131

Number Of Rolls: 16 Total: 41306.00

REMIT C.O.D. TO ADDRESS

C.O.D. AMT. $

C.O.D. FEE PREPAID ☐ $ COLLECT ☐

SHIPPER James Clem Corporation

PER DATE

CARRIER TCW (SLC)

PER

DATE 4-13-94

JCCREF: 869 Shipper No 1485

HUB CITY Name of Carrier 350-00010 SCAC 04/13/94

TO Consignee ITEX	FROM Shipper James Clem Corporation
Address 605 ARBITEX ROAD	Street 234 Gordon St
Address ANACONDA, MT 59711	City, State Fairmount GA 30139
Address 406 563-7370 DON HAUGEN	Origin

1 Roll Number	Lot Number	X HM	Kind of Packaging, Description of Articles, Special Marks or Exceptions	Weight (Subject to Correction)	Class or Rate	Check Column	Charg
0134487.0	08994		CLAYMAX 500SP 150'				
0134489.0	08994		CLAYMAX 500SP 150'				
0134490.0	08994		CLAYMAX 500SP 150'				
0134491.0	08994		CLAYMAX 500SP 150'				
0134492.0	08994		CLAYMAX 500SP 150'				
0134493.0	08994		CLAYMAX 500SP 150'				
0134496.0	08994		CLAYMAX 500SP 150'				
0134497.0	08994		CLAYMAX 500SP 150'				
0134514.0	09094		CLAYMAX 500SP 150'				
0134515.0	09094		CLAYMAX 500SP 150'				
0134516.0	09094		CLAYMAX 500SP 150'				
0134517.0	09094		CLAYMAX 500SP 150'				
0134521.0	09094		CLAYMAX 500SP 150'				
0134523.0	09094		CLAYMAX 500SP 150'				
0134524.0	09094		CLAYMAX 500SP 150'				
0134525.0	09094		CLAYMAX 500SP 150'				

Trailer #
PEAZ 240372
Seal #
1140

Number Of Rolls: 16 Total: 42424.00

REMIT C.O.D. TO ADDRESS	C.O.D. AMT. $	C.O.D. FEE PREPAID ☐ $ COLLECT ☐

SHIPPER James Clem Corporation

CARRIER TCW SLC

PER [signature]

DATE 04-13-94

STRAIGHT BILL OF LADING - NOT NEGOTIABLE

Carrier No

Shipper No 1440

JCCREF: 876

Name of Carrier	SCAC	Date
350-00010		04/18/94

ITEX	James Clem Corporation
605 ARBITEX ROAD	234 Gordon St.
ANACONDA, MT 59711	Fairmount GA 30139

Rail Number	Lot Number	X HM	Kind of Packaging, Description of Articles, Special Marks or Exceptions	Weight (Subject to Correction)	Class or Rate	Check Column	Che
0134731.0	10194		CLAYMAX 500SP 150'				
0134732.0	10194		CLAYMAX 500SP 150'				
0134733.0	10194		CLAYMAX 500SP 150'				
0134734.0	10194		CLAYMAX 500SP 150'				
0134739.0	10294		CLAYMAX 500SP 150'				
0134741.0	10294		CLAYMAX 500SP 150'				
0134743.0	10294		CLAYMAX 500SP 150'				
0134746.0	10294		CLAYMAX 500SP 150'				
0134765.0	10294		CLAYMAX 500SP 150'				
0134771.0	10294		CLAYMAX 500SP 150'				
0134772.0	10294		CLAYMAX 500SP 150'				
0134775.0	10294		CLAYMAX 500SP 150'				
0134776.0	10294		CLAYMAX 500SP 150'				
0134777.0	10294		CLAYMAX 500SP 150'				
0134780.0	10294		CLAYMAX 500SP 150'				
0134796.0	10294		CLAYMAX 500SP 150'				
0134799.0	10294		CLAYMAX 500SP 150'				

Trailer #
YTr2239408

Seal #
1135

1135

Number Of Bulls: 17 Total: [illegible]

REMIT C.O.D. TO ADDRESS	C.O.D. AMT. $	C.O.D. FEE PREPAID ☐ $ COLLECT ☐

SHIPPER

PER James Clem Corporation DATE

CARRIER T.C.W. 4/18/94

PER John A. Moore

DATE

MARK WITH "X" TO DESIGNATE HAZARDOUS MATERIAL AS DEFINED IN TITLE 49 OF THE CODE OF FEDERAL REGULATIONS.

04/18/94

STRAIGHT BILL OF LADING

STRAIGHT BILL OF LADING - NOT NEGOTIABLE

Carrier No

JCCREF: 876

Shipper No 1046

HUB CITY Name of Carrier 350-00010 SCAC 04/18/94 Date

To Consignee ITEX	From Shipper James Clem Corporation
605 ARBITEX ROAD	234 Gordon St.
ANACONDA, MT 59711	City Office Fairmount GA 30139
	Origin

2 Roll Number	Lot Number	X HM	Kind of Packaging, Description of Articles, Special Marks or Exceptions	Weight (Subject to Correction)	Class or Rate	Check Column	Ch
0134437.0	08994		CLAYMAX 500SP 150'				
0134440.0	08994		CLAYMAX 500SP 150'				
0134441.0	08994		CLAYMAX 500SP 150'				
0134442.0	08994		CLAYMAX 500SP 150'				
0134443.0	08994		CLAYMAX 500SP 150'				
0134471.0	08994		CLAYMAX 500SP 150'				
0134472.0	08994		CLAYMAX 500SP 150'				
0134473.0	08994		CLAYMAX 500SP 150'				
0134566.0	09094		CLAYMAX 500SP 150'				
0134570.0	09094		CLAYMAX 500SP 150'				
0134749.0	10294		CLAYMAX 500SP 150'				
0134750.0	10294		CLAYMAX 500SP 150'				
0134751.0	10294		CLAYMAX 500SP 150'				
0134752.0	10294		CLAYMAX 500SP 150'				
0134759.0	10294		CLAYMAX 500SP 150'				
0134813.0	10294		CLAYMAX 500SP 150'				

Trailer #
REAR 239305
Seal #
1136

Number Of Rolls: 16 Total: 42531.00

REMIT C.O.D. TO ADDRESS

C.O.D. AMT. $

C.O.D. FEE PREPAID ☐ $ COLLECT ☐

SHIPPER James Clem Corporation

CARRIER [signature]

PER

DATE

STRAIGHT BILL OF LADING

STRAIGHT BILL OF LADING - NOT NEGOTIABLE

Carrier No

JCCREP: 879

Shipper No 001529

HUB CITY | Name of Carrier | 350-00010 | SCAC | 04/22/94

ITEX	James Clem Corporation
605 ARBITEX ROAD	234 Gordon St.
ANACONDA, MT 59711	Fairmount GA 30139

1 Roll Number	Lot Number	X HM	Kind of Packaging, Description of Articles, Special Marks or Exceptions	Weight (Subject to Correction)	Class or Rate	Check Column	Char
0135153.0	10494		CLAYMAX 500SP 150'				
0135154.0	10494		CLAYMAX 500SP 150'				
0135418.0	10994		CLAYMAX 500SP 150'				
0135440.0	10994		CLAYMAX 500SP 150'				
0135441.0	10994		CLAYMAX 500SP 150'				
0135445.0	10994		CLAYMAX 500SP 150'				
0135446.0	10994		CLAYMAX 500SP 150'				
0135447.0	10994		CLAYMAX 500SP 150'				
0135450.0	10994		CLAYMAX 500SP 150'				
0135454.0	10994		CLAYMAX 500SP 150'				
0135456.0	10994		CLAYMAX 500SP 150'				
0135457.0	10994		CLAYMAX 500SP 150'				
0135458.0	10994		CLAYMAX 500SP 150'				
0135460.0	10994		CLAYMAX 500SP 150				
0135463.0	10994		CLAYMAX 500SP 150				
0135465.0	10994		CLAYMAX 500SP 150				

Trailer # REAR 239314

Seal # 1158

(406) 563-7300

*24 Hr. Notice

(2004400

Number Of Rolls: 16 Total: 41555.00

REMIT C.O.D. TO ADDRESS

C.O.D. AMT. $

C.O.D. FEE PREPAID ☐ $ COLLECT ☐

Note: Where the rate is dependent on value, shippers are required to state specifically in writing the agreed or declared value of the property. The agreed or declared value of the property is hereby specifically stated by the shipper to be not exceeding

$ per

This is to certify that the above named materials are properly classified, packaged, marked and labeled, and are in proper condition for transportation according to the applicable regulations of the Department of Transportation.

Signature

Subject to Section 7 of the conditions, if this shipment is to be delivered to the consignee without recourse on the consignor, the consignor shall sign the following statement.

The carrier shall not make delivery of this shipment without payment of freight and all other lawful charges.

Signature of Consignor

TOTAL CHARGES $

If charges are to be prepaid, write or stamp here, "To be Prepaid."

Received, subject to individually determined rates or contracts that have been agreed upon in writing between the carrier and shipper, if applicable, otherwise to the rates, classifications and rules established by the carrier in effect on the date of issue of this Straight Bill of Lading, the property described above in apparent good order, except as noted (contents and condition of contents of packages unknown), marked, consigned and destined as indicated above which said carrier (the word carrier being understood throughout this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery at said destination, if on its route, otherwise to deliver to another carrier on the route to said destination. It is agreed that every service to be performed hereunder shall be subject to all the conditions not prohibited by law, whether printed or written, herein contained, including the conditions on back hereof, which are hereby agreed to by the shipper and accepted for himself and his assigns.

PER James Clem Corporation

PER DATE

CARRIER SLC

PER

DATE

STRAIGHT BILL OF LADING

STRAIGHT BILL OF LADING - NOT NEGOTIABLE

Carrier No

Shipper No 0015.0

JCCREF: 879

Name of Carrier	SCAC	Date
H ITY 350-00010		04/27/94

To Consignee: ITEX	From Shipper: James Clem Corporation
Address: 605 ARBITEX ROAD	Street: 234 Gordon St.
Address: ANACONDA, MT 59711	City, State: Fairmount GA 30139
Address:	Origin:

2 Roll Number	Lot Number	X HM	Kind of Packaging, Description of Articles, Special Marks or Exceptions	Weight (Subject to Correction)	Class or Rate	Check Column	Charge
0135069.0	10494		CLAYMAX 500SP 150'				
0135071.0	10494		CLAYMAX 500SP 150'				
0135072.0	10494		CLAYMAX 500SP 150'				
0135075.0	10494		CLAYMAX 500SP 150'				
0135076.0	10494		CLAYMAX 500SP 150'				
0135077.0	10494		CLAYMAX 500SP 150'				
0135078.0	10494		CLAYMAX 500SP 150'				
0135162.0	10494		CLAYMAX 500SP 150'				
0135163.0	10494		CLAYMAX 500SP 150'				
0135188.0	10594		CLAYMAX 500SP 150'				
0135409.0	10894		CLAYMAX 500SP 150'				
0135411.0	10894		CLAYMAX 500SP 150'				
0135412.0	10894		CLAYMAX 500SP 150'				
135448.0	10994		CLAYMAX 500SP 150'				
0135451.0	10994		CLAYMAX 500SP 150'				
0135452.0	10994		CLAYMAX 500SP 150'				
5453.0	10994		CLAYMAX 500SP 150'				

Trailer # 239220

Seal # 1157

24 hr Notice (406) 563-7370

Number Of Rolls: 17 Total: 42658.00

REMIT C.O.D. TO ADDRESS	C.O.D. AMT. $	C.O.D. FEE PREPAID ☐ $ COLLECT ☐

Note: Where the rate is dependent on value, shippers are required to state specifically in writing the agreed or declared value of the property. The agreed or declared value of the property is hereby specifically stated by the shipper to be not exceeding

_____ per _____

This is to certify that the above named materials are properly classified, described, packaged, marked and labeled, and are in proper condition for transportation according to the applicable regulations of the Department of Transportation.

_____ Signature

Subject to Section 7 of the conditions, if this shipment is to be delivered to the consignee without recourse on the consignor, the consignor shall sign the following statement.

The carrier shall not make delivery of this shipment without payment of freight and all other lawful charges.

_____ Signature of Consignor

TOTAL CHARGES

If charges are to be prepaid, write or stamp here, "To be Prepaid."

[illegible]

SHIPPER

James Clem Corporation

CARRIER Carrier Mark (SLC)

PER

C L E M

C L A Y M A X

May 10, 1994

Don Haugen
Itex
4570 Westgrove Drive
Suite 240
Addison, TX 75218

RECEIVED
MAY 19 1994
TEX HUMAN RESOURCES

RE: Certification for Anaconda

Dear Don:

We herein certify that the CLAYMAX 500SP rolls shipped under shippers numbers 1551, 1552, and 1579 meet or exceed the minimum or maximum values outlined below with a 95% confidence level.

The certification is based on quality control testing performed by the Clem Corporation on the specific manufactured Lot from which the delivered material was produced. All quality control testing was performed in stric accordance with the Clem Corporation Quality Management Program.

PROPERTY/METHOD	SPECIFICATION	TYPICAL VALUES
Hydraulic Conductivity/ ASTM 5084 Modified	5 x 10(-9) cm/sec @ 5 psi eff. stress	3.0-5.0 x 10(-9) cm/sec @ 5 psi
Bentonite Free Swell/ USP NF XVII	30 ml min.	35-40 ml
Bentonite Fluid Loss/ API 13A	15 ml max.	10-13 ml
Bentonite pH/ ASTM D4972	8.5-10.5	9.0-10.0
Bentonite Unit Weight reported @ 20% M.C.	0.95 psf min.	1.02 psf
Roll Width	13.5 feet min.	13.6 feet
Roll Length	per project requirements	100 feet

Sincerely,

Thomas N Dobras, P.E.
Director of Quality Management

STRAIGHT BILL OF LADING

STRAIGHT BILL OF LADING - NOT NEGOTIABLE

Carrier No

JCCREF. 879

Shipper No ~~001552~~

Name of Carrier ~~356 00010~~ SCAC

Date ~~05/02/02~~

TO ITEX	FROM James Clem Corporation
605 ARBITEX ROAD	234 Gordon St
ANACONDA, MT 59711	Fairmount GA 30139

S Rail Number	Lot Number	X HM	Kind of Packaging, Description of Articles, Special Marks or Exceptions	Weight (Subject to Correction)	Class or Rate	Check Column	Charges
0135546.0	10994		CLAYMAX 500SP 150'				
0135553.0	10994		CLAYMAX 500SP 150'				
0135993.0	11894		CLAYMAX 500SP 150'				
0135994.0	11894		CLAYMAX 500SP 150'				
0135997.0	11894		CLAYMAX 500SP 150'				
0135998.0	11894		CLAYMAX 500SP 150'				
0135999.0	11894		CLAYMAX 500SP 150'				
0136000.0	11894		CLAYMAX 500SP 150'				
0136001.0	11894		CLAYMAX 500SP 150'				
0136003.0	11894		CLAYMAX 500SP 150'				
0136004.0	11894		CLAYMAX 500SP 150'				
0136005.0	11894		CLAYMAX 500SP 150'				
0136006.0	11894		CLAYMAX 500SP 150'				
0136011.0	11894		CLAYMAX 500SP 150'				
0136012.0	11894		CLAYMAX 500SP 150'				
0136015.0	11894		CLAYMAX 500SP 150'				

Trailer # REAX 235357

Seal # 1212

REAZ 239359

Number Of Rolls: 16 Total: 42190.00

REMIT C.O.D. TO ADDRESS

C.O.D. AMT. $

C.O.D. FEE PREPAID ☐ $ COLLECT ☐

Note: Where the rate is dependent on value, shippers are required to state specifically in writing the agreed or declared value of the property. The agreed or declared value of the property is hereby specifically stated by the shipper to be not exceeding

$ per

If this is a motor shipment, and is to be delivered to the consignee without recourse on the consignor, the consignor shall sign the following statement:

The carrier shall not make delivery of this shipment without payment of freight and all other lawful charges.

Signature of Consignor

TOTAL CHARGES

If charges are to be prepaid, write or stamp here, "To be Prepaid."

Received subject to the classifications and tariffs in effect on the date of issue of this Straight Bill of Lading, the property described above, in apparent good order, except as noted (contents and condition of contents of packages unknown), marked, consigned and destined as indicated above which said carrier (the word carrier being understood throughout this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery at said destination, if on its own road or its own water line, otherwise to deliver to another carrier on the route to said destination. It is agreed, as to each carrier of all or any of said property over all or any portion of said route to destination, and as to each party at any time interested in all or any of said property, that every service to be performed hereunder shall be subject to all the terms and conditions of the Uniform Domestic Straight Bill of Lading set forth (1) in Official, Southern, Western and Illinois Freight Classifications in effect on the date hereof, if this is a rail or rail-water shipment, or (2) in the applicable motor carrier classification or tariff if this is a motor carrier shipment.

Agreed that no carrier shall be liable for loss of or damage to any part of said property which is occasioned by an act of God, public enemy, quarantine, the authority of law or the act or default of the shipper or owner or for natural shrinkage, or which results from riots or strikes, or which is the result of boiling, fermentation, leakage, decay, or from the nature of the property, or from the inherent vice or propensity thereof, or from the act of the consignor or consignee in loading or unloading, packing or unpacking, or from the handling of explosives or dangerous articles, or from the act of any person in charge of animals while in transit, or from any cause which could not have been prevented by the exercise of ordinary care, skill or foresight, unless such loss or damage shall have been caused by the negligence of such carrier, and the burden of proof to show freedom from negligence shall be on the carrier or carriers claiming exemption. No carrier shall be liable for any loss or damage to said property after the expiration of nine months after a reasonable time for delivery has elapsed, unless a claim shall have been previously made in writing to the carrier at the point of origin or point of delivery, and unless suit is instituted within two years and one day after notice in writing given by the carrier to the claimant that the carrier has disallowed the claim or any part or parts thereof specified in the notice. No carrier shall be liable for any part of a through rate which has been lost, destroyed or damaged while in the possession of a connecting carrier, unless such connecting carrier is a party to the through rate under which the shipment moves. Any carrier or party liable on any claim for loss or damage to or delay in connection with said property shall be entitled to the benefit of any insurance that has been effected upon or in respect to said property by or on account of the shipper or owner, so far as the same shall cover the loss or damage claimed, but this provision shall not apply to insurance upon the property of the carrier. Any carrier or party making a claim against any other carrier or party for loss or damage to said property shall furnish reasonable information and assistance to the carrier or party from which such claim is made in the investigation, adjustment and defense of such claim. Any carrier or party liable on any claim for loss or damage to said property hereby specifically agrees to the time and conditions of the above provisions.

SHIPPER	CARRIER
James Clem Corporation	PER H Thompson Sec
DATE 05/02/02	DATE

BILL OF LADING

STRAIGHT BILL OF LADING - NOT NEGOTIABLE

Carrier No.

Shipper No. 00155

Name of Carrier | JCCREP: 879 | SCAC | Date

HUB CITY ITEX 350-00010	James Clea Corporation 05/02/94
605 ARBITEX ROAD	234 Gordon St.
ANACONDA, MT 59711	Fairmount GA 30139

4 Rail Number	Lot Number	X HM	Kind of Packaging, Description of Articles, Special Marks or Exceptions	Weight (Subject to Correction)	Class or Rate	Check Column
0135988.0	11894		CLAYMAX 500SP 150'			
0135991.0	11894		CLAYMAX 500SP 150'			
0135992.0	11894		CLAYMAX 500SP 150'			
0136010.0	11894		CLAYMAX 500SP 150'			
0136218.0	12094		CLAYMAX 500SP 150'			
0136219.0	12094		CLAYMAX 500SP 150'			
0136223.0	12094		CLAYMAX 500SP 150'			
0136224.0	12094		CLAYMAX 500SP 150'			
0136226.0	12094		CLAYMAX 500SP 150'			
0136227.0	12094		CLAYMAX 500SP 150'			
0136228.0	12094		CLAYMAX 500SP 150'			
0136229.0	12094		CLAYMAX 500SP 150'			
0136230.0	12094		CLAYMAX 500SP 150'			
0136231.0	12094		CLAYMAX 500SP 150'			
0136232.0	12094		CLAYMAX 500SP 150'			
0136234.0	12094		CLAYMAX 500SP 150'			

Trailer # Rear 239355

Seal # 1220

Number Of Rolls: 16 Total: 42699.00

REMIT C.O.D. TO ADDRESS

C.O.D. AMT. $

C.O.D. FEE PREPAID ☐ $ COLLECT ☐

Where the rate is dependent on value, shippers are required to state specifically in writing the agreed or declared value of the property. The agreed or declared value of the property is hereby specifically stated by the shipper to be not exceeding

This is to certify that the above named materials are properly classified, described, packaged, marked and labeled, and are in proper condition for transportation according to the applicable regulations of the Department of Transportation.

Signature

Subject to Section 7 of the conditions, if this shipment is to be delivered to the consignee without recourse on the consignor, the consignor shall sign the following statement.

The carrier shall not make delivery of this shipment without payment of freight and all other lawful charges.

Signature of Consignor

If charges are to be prepaid, write or stamp here, "To be Prepaid."

ER James Clea Corporation

PER

DATE 05/02/94

CARRIER TCW

PER

DATE

STRAIGHT BILL OF LADING

STRAIGHT BILL OF LADING - NOT NEGOTIABLE

Carrier No

Shipper No 1514

JCCREP: 908

Name of Carrier 350-00010 SCAC

Date 09/09/94

To ITEX	From James Clem Corporation
605 ARBITEX ROAD	234 Cordon St.
ANACONDA, MT 59711	City State Fairmount Ga. 30139
	Origin

1 Rail Number	Lot Number	X HM	Kind of Packaging, Description of Articles, Special Marks or Exceptions	Weight (Subject to Correction)	Class or Rate	Check Column	Che
0136508.0	12394		CLAYMAX 500SP 150'				
0136929.0	12694		CLAYMAX 500SP 150'				
0136931.0	12694		CLAYMAX 500SP 150'				
0136940.0	12694		CLAYMAX 500SP 150'				
0136941.0	12694		CLAYMAX 500SP 150'				
0136951.0	12694		CLAYMAX 500SP 150'				
0136956.0	12694		CLAYMAX 500SP 150'				
0136957.0	12694		CLAYMAX 500SP 150'				
0136958.0	12694		CLAYMAX 500SP 150'				
0136959.0	12694		CLAYMAX 500SP 150'				
0136960.0	12694		CLAYMAX 500SP 150'				
0136962.0	12694		CLAYMAX 500SP 150'				
0136963.0	12694		CLAYMAX 500SP 150'				
0136965.0	12694		CLAYMAX 500SP 150'				
0136967.0	12694		CLAYMAX 500SP 150'				
0136968.0	12694		CLAYMAX 500SP 150'				
0136969.0	12694		CLAYMAX 500SP 150'				

Trailer # REAZ233581

Seal # 1161

Hot Rush!

Number Of Rolls: 17 Total: 43564.00

REMIT C.O.D. TO ADDRESS

C.O.D. AMT. $

C.O.D. FEE PREPAID ☐ $ COLLECT ☐

TOTAL CHARGES $

If charges are to be prepaid, write or stamp here, "To be Prepaid."

Subject to Section 7 of the conditions, if this shipment is to be delivered to the consignee without recourse on the consignor, the consignor shall sign the following statement.

The carrier shall not make delivery of this shipment without payment of freight and all other lawful charges.

Signature of Consignor

Signature

SHIPPER

James Clem Corporation

CARRIER

PER

5/9/94

CLEM

CLAYMAX

May 18, 1994

MAY 27

Don Haugen
Itex
4570 Westgrove Drive
Suite 240
Addison, TX 75218

RE: Certification for Anaconda

Dear Don:

We herein certify that the CLAYMAX 500SP rolls shipped under shippers numbers 1590, 1592, 1593, 1609, and 1610 meet or exceed the minimum or maximum values outlined below with a 95% confidence level.

The certification is based on quality control testing performed by the Cl· Corporation on the specific manufactured Lot from which the delivered material was produced. All quality control testing was performed in stri: accordance with the Clem Corporation Quality Management Program.

PROPERTY/METHOD	SPECIFICATION	TYPICAL VALUES
Hydraulic Conductivity/ ASTM 5084 Modified	5 x 10(-9) cm/sec @ 5 psi eff. stress	3.0-5.0 x 10(-9) cm/sec @ 5 psi
Bentonite Free Swell/ USP NF XVII	30 ml min.	35-40 ml
Bentonite Fluid Loss/ API 13A	15 ml max.	10-13 ml
Bentonite pH/ ASTM D4972	8.5-10.5	9.0-10.0
Bentonite Unit Weight reported @ 20% M.C.	0.95 psf min.	1.02 psf
Roll Width	13.5 feet min.	13.6 feet
Roll Length	per project requirements	100 feet

Sincerely,

Thomas N Dobras

Thomas N Dobras, P.E.
Director of Quality Management

JAMES CLEM CORPORATION

P.O. Box [illegible] 234 Gordon Street Fairmount, CA 30139 USA Phone 706-[illegible]-5316 Fax 706-[illegible]-2215

BAB (1)

STRAIGHT BILL OF LADING

STRAIGHT BILL OF LADING - NOT NEGOTIABLE

Carrier No

Shipper No 00162.0

JCCREF: 935

Name of Carrier	SCAC	Date
CITY 350-00010		05/16/94

To ITEX	From James Clen Corporation
605 ARBITEX ROAD	234 Gordon St.
ANACONDA, MT 59711	Fairmount GA 30139

2 Rail Number	Lot Number	X Kind	Kind of Packaging, Description of Articles, Special Marks or Exceptions	Weight (Subject to Correction)	Class or Rate	Check Column	Charges
0136493.0	12394		CLAYMAX 500SP 150'				
0136498.0	12394		CLAYMAX 500SP 150'				
0136499.0	12394		CLAYMAX 500SP 150'				
~~0136655.0~~	12594 13135		CLAYMAX 500SP 150'				
0136928.0	12694		CLAYMAX 500SP 150'				
0137218.0	12994		CLAYMAX 500SP 150'				
0137251.0	12994		CLAYMAX 500SP 150'				
0137254.0	12994		CLAYMAX 500SP 150'				
0137255.0	12994		CLAYMAX 500SP 150'				
0137262.0	13094		CLAYMAX 500SP 150'				
0137266.0	13094		CLAYMAX 500SP 150'				
0137268.0	13094		CLAYMAX 500SP 150'				
0137303.0	13094		CLAYMAX 500SP 150'				
0137370.0	13094		CLAYMAX 500SP 150'				
0137371.0	13094		CLAYMAX 500SP 150				
0137382.0	13094		CLAYMAX 500SP 150				

Trailer # 256228

Seal # 1172

Number Of Rolls: 16 Total: 41218.00

REMIT C.O.D. TO ADDRESS

C.O.D. AMT. $

C.O.D. FEE PREPAID ☐ $ COLLECT ☐

Note: Where the rate is dependent on value, shippers are required to state specifically in writing the agreed or declared value of the property. The agreed or declared value of the property is hereby specifically stated by the shipper to be not exceeding

If this is a notify bill of lading, enter name and address of party to be notified in the space provided for the purpose.

Subject to Section 7 of the conditions, if this shipment is to be delivered to the consignee without recourse on the consignor, the consignor shall sign the following statement.

The carrier shall not make delivery of this shipment without payment of freight and all other lawful charges.

Signature of Consignor

TOTAL CHARGES $

If charges are to be prepaid, write or stamp here, "To be Prepaid."

Received, subject to the classifications and tariffs in effect on the date of the issue of this Straight Bill of Lading, the property described above, in apparent good order, except as noted (contents and condition of contents of packages unknown), marked, consigned, and destined as indicated above which said carrier (the word carrier being understood throughout this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery at said destination, if on its own road or its own water line, otherwise to deliver to another carrier on the route to said destination. It is agreed, as to each carrier of all or any of said property over all or any portion of said route to destination, and as to each party at any time interested in all or any of said property, that every service to be performed hereunder shall be subject to all the terms and conditions of the Uniform Domestic Straight Bill of Lading set forth in the Uniform Freight Classification in effect on the date hereof, if this is a rail or rail-water shipment, or in the applicable motor carrier classification or tariff if this is a motor carrier shipment. Agreed or declared value of the property is hereby specifically stated by the shipper to be not exceeding

SHIPPER

James Clen Corporation

PER

DATE 05/16/94

CARRIER

PER

DATE

MARK WITH 'X' TO DESIGNATE HAZARDOUS MATERIAL AS DEFINED IN TITLE 49 OF THE CODE OF FEDERAL REGULATIONS.

STRAIGHT BILL OF LADING - NOT NEGOTIABLE

JCCREP: 935 Shipper No. ~~[illegible]~~

CITY 350-00010 SCAC 16C9

Name of Carrier Date 05/16/94

ITEX	James Clem Corporation
605 ARBITEX ROAD	234 Gordon St.
ANACONDA, MT 59711	Fairmount GA 30139

1 Roll Number	Lot Number	X HM	Kind of Packaging, Description of Articles, Special Marks or Exceptions	Weight (Subject to Correction)	Class or Rate	Check Column	Charges
0136925.0	12694		CLAYMAX 500SP 150'				
0137252.0	12994		CLAYMAX 500SP 150'				
0137253.0	12994		CLAYMAX 500SP 150'				
0137304.0	13094		CLAYMAX 500SP 150'				
0137305.0	13094		CLAYMAX 500SP 150'				
0137306.0	13094		CLAYMAX 500SP 150'				
0137367.0	13094		CLAYMAX 500SP 150'				
0137368.0	13094		CLAYMAX 500SP 150'				
0137369.0	13094		CLAYMAX 500SP 150'				
0137372.0	13094		CLAYMAX 500SP 150'				
0137373.0	13094		CLAYMAX 500SP 150'				
0137379.0	13094		CLAYMAX 500SP 150'				
0137380.0	13094		CLAYMAX 500SP 150'				
0137383.0	13094		CLAYMAX 500SP 150'				
0137385.0	13094		CLAYMAX 500SP 150'				
37386.0	13094		CLAYMAX 500SP 150'				

Trailer # REAZ 238494

Seal # 1171

Number Of Rolls: 16 Total: 41195.00

REMIT C.O.D. TO ADDRESS

C.O.D. AMT. $

C.O.D. FEE PREPAID ☐ $ COLLECT ☐

TOTAL CHARGES

SHIPPER James Clem Corporation

PER DATE 05/16/94

CARRIER Chuck 5/16

PER

DATE

MARK WITH "X" TO DESIGNATE HAZARDOUS MATERIAL AS DEFINED IN TITLE 49 THE CODE OF FEDERAL REGULATIONS.

BILL OF LADING

STRAIGHT BILL OF LADING - NOT NEGOTIABLE

Carrier No

Shipper No 0[illegible]3

JCCREF: 908

Name of Carrier	SCAC	Date
B CITY 350-00010		05/11/94

TO: ITEX	FROM: James Clem Corporation
605 ARBITEX ROAD	33 Gordon St
ANACONDA, MT 59711	Fairmount, GA 30139

4 Ref Number	Lot Number	X HM	Kind of Packaging, Description of Articles, Special Marks or Exceptions	Weight (Subject to Correction)	Class or Rate	Check Column	Charges
0136898.0	12694		CLAYMAX 500SP 150'				
0136904.0	12694		CLAYMAX 500SP 150'				
0136905.0	12694		CLAYMAX 500SP 150'				
0136915.0	12694		CLAYMAX 500SP 150'				
0136916.0	12694		CLAYMAX 500SP 150'				
0136917.0	12694		CLAYMAX 500SP 150'				
0136919.0	12694		CLAYMAX 500SP 150'				
0136921.0	12694		CLAYMAX 500SP 150'				
0136923.0	12694		CLAYMAX 500SP 150'				
0136924.0	12694		CLAYMAX 500SP 150'				
0136930.0	12694		CLAYMAX 500SP 150'				
0136933.0	12694		CLAYMAX 500SP 150'				
0136937.0	12694		CLAYMAX 500SP 150'				
0136976.0	12694		CLAYMAX 500SP 150'				
0136980.0	12694		CLAYMAX 500SP 150'				
0136983.0	12694		CLAYMAX 500SP 150'				

Triple #

BNZ 230 932

Seal #

1169

Number Of Rolls: 16 Total: 40826.00

REMIT C.O.D. TO ADDRESS

C.O.D. AMT. $

C.O.D. FEE PREPAID ☐ $ COLLECT ☐

SHIPPER

James Clem Corporation

PER DATE 05/11/94

CARRIER

PER

DATE

MARK WITH "X" TO DESIGNATE HAZARDOUS MATERIAL AS DEFINED IN TITLE 49 OF THE CODE OF FEDERAL REGULATIONS

STRAIGHT BILL OF LADING

STRAIGHT BILL OF LADING - NOT NEGOTIABLE

Carrier No

JCCRL #: 908

Shipper No. LJ92

Name of Carrier: ISO-00010 | SCAC | Date: 05/11/94

To: ITEX	From: James Clem Corporation
605 ARBITEX ROAD	234 Gordon St.
ANACONDA MT 59711	Fairmount GA 30139

3 Roll Number	Lot Number	X NM	Kind of Packaging, Description of Articles, Special Marks or Exceptions	Weight (Subject to Correction)	Class or Rate	Check Column
[illegible]	12394		CLAYMAX 500SP 150'			
0136878.0	12694		CLAYMAX 500SP 150'			
0136882.0	12694		CLAYMAX 500SP 150'			
0136883.0	12694		CLAYMAX 500SP 150'			
0136884.0	12694		CLAYMAX 500SP 150'			
0136885.0	12694		CLAYMAX 500SP 150'			
0136887.0	12694		CLAYMAX 500SP 150'			
0136889.0	12694		CLAYMAX 500SP 150'			
0136890.0	12694		CLAYMAX 500SP 150'			
0136892.0	12694		CLAYMAX 500SP 150'			
0136893.0	12694		CLAYMAX 500SP 150'			
0136894.0	12694		CLAYMAX 500SP 150'			
0136895.0	12694		CLAYMAX 500SP 150'			
0136932.0	12694		CLAYMAX 500SP 150'			
0136972.0	12694		CLAYMAX 500SP 150'			
0136981.0	12694		CLAYMAX 500SP 150'			
16960	12694					

Trailer # SBOC630725

Seal # 0001170

Number Of Rolls: 16 Total: 41076.00

REMIT C.O.D. TO ADDRESS

C.O.D. AMT. $

C.O.D. FEE PREPAID ☐ $ COLLECT ☐

Shipper: James Clem Corporation

PER

DATE 05/11/94

Carrier

PER

DATE

STRAIGHT BILL OF LADING

STRAIGHT BILL OF LADING - NOT NEGOTIABLE

Carrier No _____

Shipper No. 0015.(

JCCREP: 908

Name of Carrier	SCAC	Date
UB CITY	350-00010	05/11/94

ITEI	James Clen Corporation
605 ARBITEX ROAD	234 Gordon St.
ANACONDA, MT 59711	Fairmount GA 30139

2 Roll Number	Lot Number	X Mbf	Kind of Packaging, Description of Articles, Special Marks or Exceptions	Weight (Subject to Correction)	Class or Rate	Check Column	Ck
0136868.0	12694		CLAYMAX 500SP 150'				
0136869.0	12694		CLAYMAX 500SP 150'				
0136871.0	12694		CLAYMAX 500SP 150'				
0136872.0	12694		CLAYMAX 500SP 150'				
0136875.0	12694		CLAYMAX 500SP 150'				
0136876.0	12694		CLAYMAX 500SP 150'				
0136877.0	12694		CLAYMAX 500SP 150'				
0136880.0	12694		CLAYMAX 500SP 150'				
0136881.0	12694		CLAYMAX 500SP 150'				
0136886.0			CLAYMAX 500SP 150'				
0136926.0	12694		CLAYMAX 500SP 150'				
0136938.0	12694		CLAYMAX 500SP 150'				
0136942.0	12694		CLAYMAX 500SP 150'				
0136953.0	12694		CLAYMAX 500SP 150'				
6977.0	12694		CLAYMAX 500SP 150'				

Trailer # BNZ 232815

Seal # 1161

Number Of Rolls: 15 Total: 38424.00

REMIT C.O.D. TO ADDRESS

C.O.D. AMT. $

C.O.D. FEE PREPAID ☐ $ COLLECT ☐

Shipper: James Clen Corporation

PER _____ DATE 05/11/94

Carrier: _____ 5/11/94

PER _____ DATE _____

MARK WITH "X" TO DESIGNATE HAZARDOUS MATERIAL AS DEFINED IN TITLE 49 - THE CODE OF FEDERAL REGULATIONS.

C L E M

C L A Y M A X

June 1, 1994

Don Haugen
Itex
4570 Westgrove Drive
Suite 240
Addison, TX 75218

RE: Certification for Anaconda

Dear Don:

We herein certify that the CLAYMAX 500SP rolls shipped under shippers numbers 1619, 1620, 1624, 1625, 1642 and 1645 meet or exceed the minimum or maximum values outlined below with a 95% confidence level.

The certification is based on quality control testing performed by the Clem Corporation on the specific manufactured Lot from which the delivered material was produced. All quality control testing was performed in strict accordance with the Clem Corporation Quality Management Program.

PROPERTY/METHOD	SPECIFICATION	TYPICAL VALUES
Hydraulic Conductivity/ ASTM 5084 Modified	5 x 10(-9) cm/sec @ 5 psi eff. stress	3.0-5.0 x 10(-9) cm/sec @ 5 psi
Bentonite Free Swell/ USP NF XVII	30 ml min.	35-40 ml
Bentonite Fluid Loss/ API 13A	15 ml max.	10-13 ml
Bentonite pH/ ASTM D4972	8.5-10.5	9.0-10.0
Bentonite Unit Weight reported @ 20% M.C.	0.95 psf min.	1.02 psf
Roll Width	13.5 feet min.	13.6 feet
Roll Length	per project requirements	100 feet

Sincerely,

Thomas N Dobras, P.E.
Director of Quality Management

STRAIGHT BILL OF LADING

STRAIGHT BILL OF LADING - NOT NEGOTIABLE

Carrier No.

Shipper No. 001619

JCCREF: 935

HUB CITY | Name of Carrier | 350-00010 | SCAC | 05/17/94

To: Consignee: ITEX	Address: James Clem Corporation
Address: 605 ARBITEX ROAD	Street: 234 Gordon St.
Address: ANACONDA, MT 59711	City, State: Fairmount GA 30139
Address:	Date:

Roll Number	Lot Number	X Kid	Kind of Packaging, Description of Articles, Special Marks or Exceptions	Weight (Subject to Correction)	Class or Rate	Check Column	Charges
0137397.0	13194		Trailer #				
0137882.0	13494		BUC 234954				
0137883.0	13494						
0137887.0	13494						
0137888.0	13494						
0137889.0	13494						
0137890.0	13494		Seal #				
0137893.0	13494		1174				
0137894.0	13494						
0137895.0	13494		0137900				
0137900.0	13494						
0137905.0	13494						
0137906.0	13494						
0137908.0	13494						
0137911.0	13494						
0137989.0	13494						
			Number Of Rolls: 16 Total	41241.00			

RECEIVED MAY 24 1994 TEX HUMAN RESOURCES

REMIT C.O.D. TO ADDRESS	C.O.D. AMT. $	C.O.D. FEE PREPAID ☐ $ COLLECT ☐

Carrier: James Clem Corporation 5/17/94

Per: [illegible] Date

Shipper

MARK WITH "X" TO DESIGNATE HAZARDOUS SUBSTANCE AS DEFINED IN TITLE 49 THE CODE OF FEDERAL REGULATIONS

STRAIGHT BILL OF LADING

STRAIGHT BILL OF LADING - NOT NEGOTIABLE

Carrier No. _____

JOCREF: 935

Shipper No. 001620

~~SUB CITY~~ ~~Name of Sender~~ ~~350-00010~~ ~~SCAC~~ ~~VOUCH~~

To ITEX	From James Clen Corporation
605 ARBILLA ROAD	Dept 234 Gordon St.
ANACONDA, MT 59711	City Fairmount GA 30139
Attn	Attn

4 Rail Number	Lot Number	X HM	Kind of Packaging, Description of Articles, Special Marks or Exceptions	Weight (Subject to Correction)	Class or Rate	Check Column	Charges
D136440.0	12294		CLAYMAX 500SP 150'				
D137398.0	13194		CLAYMAX 500SP 150'				
D137776.0	13394		CLAYMAX 500SP 150'				
D137779.0	13394		CLAYMAX 500SP 150'				
D137781.0	13394		CLAYMAX 500SP 150'				
D137891.0	13494		CLAYMAX 500SP 150'				
D137902.0	13494		CLAYMAX 500SP 150'				
D137907.0	13494		CLAYMAX 500SP 150'				
D137909.0	13494		CLAYMAX 500SP 150'				
D137910.0	13494		CLAYMAX 500SP 150'				
D137914.0	13494		CLAYMAX 500SP 150'				
D137915.0	13494		CLAYMAX 500SP 150'				
D137919.0	13494		CLAYMAX 500SP 150'				
D137920.0	13494		CLAYMAX 500SP 150'				
D137921.0	13494		CLAYMAX 500SP 150'				
D137971.0	13494		CLAYMAX 500SP 150'				
D137974.0	13494		CLAYMAX 500SP 150'				

Trailer # BMDZ630966

Seal # 1173

RECEIVED MAY 24 1994 TEX HUMAN RESOURCES

Number Of Rolls: 17 Total: 43456.00

RESET C.O.D. TO ADDRESS	C.O.D. AMT. $	C.O.D. FEE PREPAID ☐ $ COLLECT ☐

			TOTAL CHARGES

SHIPPER Janet Clen Corporation

PER _____ DATE 05/17/94

CARRIER DIAMOND EXPRESS

PER Richard Combs

DATE 5-17-94

STRAIGHT BILL OF LADING - NOT NEGOTIABLE

Carrier No

Shipper No. 001629

JCCRBP1 935

Name of Carrier | SCAC | Date

BOB CITY | 350-00010 | 05/18/91

ITEX	James Clen Corporation
ANACONDA, MT 59711	Fairmount GA 30139

Roll Number	Lot Number	X	Kind of Packaging, Description of Articles, Special Marks or Exceptions	Weight (Subject to Correction)	Class or Rate	Check Column
5						
0136896.0	12694		CLAYMAX 500SP 150'			
0136900.0	12694		CLAYMAX 500SP 150'			
0136901.0	12694		CLAYMAX 500SP 150'			
0136903.0	12694		CLAYMAX 500SP 150'			
0136914.0	12694		CLAYMAX 500SP 150'			
0137774.0	13394		CLAYMAX 500SP 150'			
0137775.0	13394		CLAYMAX 500SP 150'			
0137780.0	13394		CLAYMAX 500SP 150'			
0137782.0	13394		CLAYMAX 500SP 150'			
0137783.0	13394		CLAYMAX 500SP 150'			
0137789.0	13394		CLAYMAX 500SP 150'			
0137896.0	13494		CLAYMAX 500SP 150'			
0137898.0	13494		CLAYMAX 500SP 150'			
0137899.0	13494		CLAYMAX 500SP 150'			
0137901.0	13494		CLAYMAX 500SP 150'			
0137918.0	13494		CLAYMAX 500SP 150'			

Trailer # 237199

Seal # 1181

RECEIVED MAY 25 4 TEX HUMAN RESOURCES

PERMIT C.O.D. TO ADDRESS

C.O.D. AMT. $

C.O.D. FEE PREPAID ☐ $ COLLECT ☐

Subject to Section 7 of the conditions, if this shipment is to be delivered to the consignee without recourse on the consignor, the consignor shall sign the following statement.

The carrier shall not make delivery of this shipment without payment of freight and all other lawful charges.

Signature of Consignor

Will [illegible]

If charges are to be prepaid, write or stamp "To be Prepaid."

SHIPPER

per James Clen Corporation DATE

CARRIER Ed Rich

PER

DATE

05/18/91

STRAIGHT BILL OF LADING

STRAIGHT BILL OF LADING - NOT NEGOTIABLE

Carrier No.

JCCREF: 935

Shipper No. 001625

JUB CITY Name of Carrier 350-00010 BOAD 05/18/94

ITEX	James Clem Corporation
605 ARBITEX ROAD	734 Gordon St.
ANACONDA, MT 59711	Fairmount GA 30139

Roll Number 6	Lot Number	X KM	Kind of Packaging, Description of Articles, Special Marks or Exceptions	Weight (Subject to Correction)	Class or Rate	Check Column	Charges
0136490.0	12394		CLAYMAX 500SP 150'				
0136491.0	12394		CLAYMAX 500SP 150'				
0136492.0	12394		CLAYMAX 500SP 150'				
0136502.0	12394		CLAYMAX 500SP 150'				
0136511.0	12394		CLAYMAX 500SP 150'				
0136514.0	12394		CLAYMAX 500SP 150'				
0136518.0	12394		CLAYMAX 500SP 150'				
0136520.0	12394		CLAYMAX 500SP 150'				
0136899.0	12694		CLAYMAX 500SP 150'				
0136902.0	12694		CLAYMAX 500SP 150'				
0136907.0	12694		CLAYMAX 500SP 150'				
0136908.0	12694		CLAYMAX 500SP 150'				
0136920.0	12694		CLAYMAX 500SP 150'				
0136934.0	12694		CLAYMAX 500SP 150'				
[illegible]	12694		CLAYMAX 500SP 150'				
0136961.0	12694		CLAYMAX 500SP 150'				
0136966.0	12694		CLAYMAX 500SP 150'				

Trailer #
Rear 240660
Seal #
1182

RECEIVED
MAY 25 4
TEX HUMAN RESOURCES

Number Of Rolls: ~~15~~ 16 Total: 43473.00

REMIT C.O.D. TO ADDRESS	C.O.D. AMT. $	C.O.D. FEE PREPAID ☐ $ COLLECT ☐

CHARGES		CARRIER Ed Rucker	
PER James Clem Corporation	DATE	PER	DATE

MARK WITH "X" TO DESIGNATE HAZARDOUS MATERIAL AS DEFINED IN TITLE 49 OF THE CODE OF FEDERAL REGULATIONS.

STRAIGHT BILL OF LADING

STRAIGHT BILL OF LADING - NOT NEGOTIABLE

Carrier No. _____

JCCRoF: 953

Shipper No. 1642

~~JUB CITY~~ Name of Carrier ~~350-00010~~ SCAC ~~05/20/94~~ Date

To Consignee: ITEX	From Shipper: James Clem Corporation
Address: 605 ARBITEX ROAD	Street: 234 Gordon St.
Address: ANACONDA, MT 59711	City, State: Fairmount GA 30139
Address:	Origin:

1 Roll Number	Lot Number	X HM	Kind of Packaging, Description of Articles, Special Marks or Exceptions	Weight (Subject to Correction)	Class or Rate	Check Column	Charges
0136487.0	12394		CLAYMAX 500SP 150'				
0136489.0	12394		CLAYMAX 500SP 150'				
0136495.0	12394		CLAYMAX 500SP 150'				
0136496.0	12394		CLAYMAX 500SP 150'				
0136497.0	12394		CLAYMAX 500SP 150'				
0136503.0	12394		CLAYMAX 500SP 150'				
0136509.0	12394		CLAYMAX 500SP 150'				
0136510.0	12394		CLAYMAX 500SP 150'				
0136512.0	12394		CLAYMAX 500SP 150'				
0136515.0	12394		CLAYMAX 500SP 150'				
0136516.0	12394		CLAYMAX 500SP 150'				
0136517.0	12394		CLAYMAX 500SP 150'				
0136521.0	12394		CLAYMAX 500SP 150'				
0136522.0	12394		CLAYMAX 500SP 150'				
0137969.0	13494		CLAYMAX 500SP 150'				
0137970.0	13494		CLAYMAX 500SP 150'				
			Number Of Rolls: 16 Total:	41285.00			

Trailer #

Seal # 1200

RECEIVED MAY 26, 4 TEX HUMAN RESOURCES

REMIT C.O.D. TO ADDRESS	C.O.D. AMT. $	C.O.D. FEE PREPAID ☐ COLLECT ☐

Note: Where the rate is dependent on value, shippers are required to state specifically in writing the agreed or declared value of the property. The agreed or declared value of the property is hereby specifically stated by the shipper to be not exceeding _____ per _____	If this is to be delivered to the consignee without recourse on the consignor, the consignor shall sign the following statement: The carrier shall not make delivery of this shipment without payment of freight and all other lawful charges. _____ Signature of Consignor	Subject to Section 7 of the conditions, if this shipment is to be delivered to the consignee without recourse on the consignor, the consignor shall sign the following statement: The carrier shall not make delivery of this shipment without payment of freight and all other lawful charges. _____ Signature of Consignor	Note: Where the rate is dependent on value, shippers are required to state specifically in writing the agreed or declared value of the property. The agreed or declared value of the property is hereby specifically stated by the shipper to be not exceeding _____ per _____

SHIPPER: James Clem Corporation	CARRIER:
PER: DATE: 05/20/94	PER: DATE:

MARK WITH "X" TO DESIGNATE HAZARDOUS MATERIAL AS DEFINED IN TITLE 49 OF THE CODE OF FEDERAL REGULATIONS

STRAIGHT BILL OF LADING

STRAIGHT BILL OF LADING - NOT NEGOTIABLE

Carrier No

JCCREF: 972

Shipper No. 1660-A

OD CITY Name of Carrier 350-00010 SCAC 05/24/94

To: ITEX	From: James Clem Corporation
605 ARBITEX ROAD	234 Gordon St.
ANACONDA, MT 59711	Fairmount GA 30139

2 Roll Number	Lot Number	X HM	Kind of Packaging, Description of Articles, Special Marks or Exceptions	Weight (Subject to Correction)	Class or Rate	Check Column	Charges
0136214.0	12094		CLAYMAX 500SP 150'				
0136523.0	12394		CLAYMAX 500SP 150'				
0137214.0	12994		CLAYMAX 500SP 150'				
0137215.0	12994		CLAYMAX 500SP 150'				
0137217.0	12994		CLAYMAX 500SP 150'				
0137219.0	12994		CLAYMAX 500SP 150'				
0137220.0	12394		CLAYMAX 500SP 150'				
0137221.0	12994		CLAYMAX 500SP 150'				
0137481.0	13194		CLAYMAX 500SP 150'				
0138015.0	13794		CLAYMAX 500SP 150'				
0138018.0	13794		CLAYMAX 500SP 150'				
0138026.0	13794		CLAYMAX 500SP 150'				
0138030.0	13794		CLAYMAX 500SP 150'				
0138032.0	13794		CLAYMAX 500SP 150'				
138033.0	13794		CLAYMAX 500SP 150'				
0138037.0	13794		CLAYMAX 500SP 150'				
0138046.0	13794		CLAYMAX 500SP 150'				

Trailer #

Seal # 1240

RECEIVED MAY 31, 4 TEX HUMAN RESOURCES

Number Of Rolls: 17 Total: 43958.00

REMIT C.O.D. TO ADDRESS

C.O.D. AMT. $

C.O.D. FEE PREPAID ☐ COLLECT ☐

Signature

Signature

TOTAL

PER James Clem Corporation

DATE 05/24/94

CARRIER

PER

DATE

MARK WITH "X" TO DESIGNATE HAZARDOUS MATERIAL AS DEFINED IN TITLE 49 OF THE CODE OF FEDERAL REGULATIONS.

C L E M

C L A Y M A X

July 13, 1994

RECEIVED
JUL 28 1994

Don Haugen
Itex
4570 Westgrove Drive
Suite 240
Addison, TX 75218

RE: Certification for Anaconda

Dear Don:

We herein certify that the CLAYMAX 500SP rolls shipped under shippers number 1677, 1678, 1679, 1681. and 1724 meet or exceed the minimum or maximum values outlined below with a 95% confidence level.

The certification is based on quality control testing performed by the Cle Corporation on the specific manufactured Lot from which the delivered material was produced. All quality control testing was performed in stric accordance with the Clem Corporation Quality Management Program.

PROPERTY/METHOD	SPECIFICATION	TYPICAL VALUES
Hydraulic Conductivity/ ASTM 5084 Modified	5 x 10(-9) cm/sec @ 5 psi eff. stress	3.0-5.0 x 10(-9) cm/sec @ 5 psi
Bentonite Free Swell/ USP NF XVII	24 ml min.	25-35 ml
Bentonite Fluid Loss/ API 13A	15 ml max.	10-13 ml
Bentonite pH/ ASTM D4972	8.5-10.5	9.0-10.0
Bentonite Unit Weight reported @ 20% M.C.	.95 psf min.	1.02 psf
Roll Width	13.5 feet min.	13.6 feet
Roll Length	per project requirements	100 feet

Sincerely,

Thomas N Dobras, P.E.
Director of Quality Management

TWO PRESIDENT'S E AWARD FOR RECOGNITION OF OUTSTANDING EXPORT CONTRIBUTION

STRAIGHT BILL OF LADING - NOT NEGOTIABLE — Carrier No

JCCREP: 972 — Shipper No. 16.77

~~HUB CITY~~ — Name of Carrier — 350-00010 — SCAC — ~~Date~~ 05/31/94

ITEX	James Clem Corporation
605 ARBITEX ROAD	234 Gordon St.
ANACONDA, MT 59711	Fairmount GA 30139

3 Roll Number	Lot Number	X HM	Kind of Packaging Description of Articles, Special Marks or Exceptions	Weight (Subject to Correction)	Class or Rate	Check Column	Charges
0138461.0	14194		CLAYMAX 500SP 150'				
0138514.0	14294		CLAYMAX 500SP 150'				
0138898.0	14594		CLAYMAX 500SP 150'				
0138899.0	14594		CLAYMAX 500SP 150'				
0138905.0	14594		CLAYMAX 500SP 150'				
0138906.0	14594		CLAYMAX 500SP 150'				
0138907.0	14594		CLAYMAX 500SP 150'				
0138908.0	14594		CLAYMAX 500SP 150'				
0138912.0	14594		CLAYMAX 500SP 150'				
0139016.0	14594		CLAYMAX 500SP 150'				
0139023.0	14594		CLAYMAX 500SP 150'				
[illegible]0	14594		CLAYMAX 500SP 150'				
0139032.0	14594		CLAYMAX 500SP 150'				
0139041.0	14694		CLAYMAX 500SP 150'				
0139050.0	14694		CLAYMAX 500SP 150'				
0139052.0	14694		CLAYMAX 500SP 150'				

Trailer #

Seal # 1249

RECEIVED
JUN - 1 1994
TEX HUMAN RESOURCES

Number Of Rolls: 16 Total: 42078.00

REMIT C.O.D. TO ADDRESS

C.O.D. AMT. $

C.O.D. FEE PREPAID ☐ $ COLLECT ☐

[illegible]

SHIPPER
James Clem Corporation
PER DATE 05/31/94

CARRIER
PER
DATE

MARK WITH "X" TO DESIGNATE HAZARDOUS MATERIAL AS DEFINED IN TITLE 49 OF THE CODE OF FEDERAL REGULATIONS.

STRAIGHT BILL OF LADING - NOT NEGOTIABLE

Carrier No.

JCCKeP: 972

Shipper No. 16[illegible]

CITY | Name of Carrier | 350-00010 | SCAC | 05/31/94 Date

To ITEX	From James Clem Corporation
605 ARBITEX ROAD	234 Gordon St.
ANACONDA, MT 59711	Fairmount GA 30139
	Origin

4 Roll Number	Lot Number	X HM	Kind of Packaging, Description of Articles, Special Marks or Exceptions	Weight (Subject to Correction)	Class or Rate	Check Column	Charges
0138370.0	14194		CLAYMAX 500SP 150'				
0138853.0	14494		CLAYMAX 500SP 150'				
0138874.0	14494		CLAYMAX 500SP 150'				
0138913.0	14594		CLAYMAX 500SP 150'				
0139024.0	14594		CLAYMAX 500SP 150'				
0139025.0	14594		CLAYMAX 500SP 150'				
0139027.0	14594		CLAYMAX 500SP 150'				
0139029.0	14594		CLAYMAX 500SP 150'				
0139031.0	14594		CLAYMAX 500SP 150'				
0139033.0	14594		CLAYMAX 500SP 150'				
0139034.0	14594		CLAYMAX 500SP 150'				
0139043.0	14694		CLAYMAX 500SP 150'				
0139044.0	14694		CLAYMAX 500SP 150'				
0139045.0	14694		CLAYMAX 500SP 150'				
0139051.0	14694		CLAYMAX 500SP 150'				
0139053.0	14694		CLAYMAX 500SP 150'				

Trailer #

Seal # 1248

RECEIVED
JUN -6 '94
TEX HUMAN RESOURCES

Number Of Rolls: 16 Total: 42370.00

REMIT C.O.D. TO ADDRESS

C.O.D. AMT. $

C.O.D. FEE PREPAID ☐ $ COLLECT ☐

[illegible]

SHIPPER

James Clem Corporation

PER DATE 05/31/94

CARRIER

PER

DATE

MARK WITH "X" TO DESIGNATE HAZARDOUS MATERIAL AS DEFINED IN TITLE 49 OF THE CODE OF FEDERAL REGULATIONS.

JCCREP: 972 Shipper No. 16.77

JB CITY Name of Carrier 350-00010 SCAC 05/31/94 Date

ITEX
605 ARBITEX ROAD
ANACONDA, MT 59711

From James Clem Corporation
234 Gordon St.
Fairmount GA 30139

5 Rail Number	List Number	X HM	Kind of Packaging, Description of Articles, Special Marks or Exceptions	Weight (Subject to Correction)	Class or Rate	Check Column	Charges
0138854.0	14494		CLAYMAX 500SP 150'				
0138855.0	14494		CLAYMAX 500SP 150'				
0138856.0	14494		CLAYMAX 500SP 150'				
0138864.0	14494		CLAYMAX 500SP 150'				
0138865.0	14494		CLAYMAX 500SP 150'				
0138866.0	14494		CLAYMAX 500SP 150'				
0138878.0	14494		CLAYMAX 500SP 150'				
0138883.0	14494		CLAYMAX 500SP 150'				
0138884.0	14494		CLAYMAX 500SP 150'				
0138995.0	14594		CLAYMAX 500SP 150'				
0138996.0	14594		CLAYMAX 500SP 150'				
0138997.0	14594		CLAYMAX 500SP 150'				
0139030.0	14594		CLAYMAX 500SP 150'				
0139042.0	14694		CLAYMAX 500SP 150'				
0139046.0	14694		CLAYMAX 500SP 150'				
0139047.0	14694		CLAYMAX 500SP 150'				

Trailer #

Seal #
1245

RECEIVED
JUN -7, 1994
TEX HUMAN RESOURCES

Number Of Rolls: 16 Total: 42065.00

REMIT C.O.D. TO ADDRESS

C.O.D. AMT. $

C.O.D. FEE PREPAID ☐ $ COLLECT ☐

James Clem Corporation

DATE 05/31/94

CARRIER

PER

DATE

MARK WITH "X" TO DESIGNATE HAZARDOUS MATERIAL AS DEFINED IN TITLE 49 OF THE CODE OF FEDERAL REGULATIONS.

JCCR..P: 972 Shipper No. 16-81

HUB CITY Name of Carrier 350-00010 SCAC 05/31/94 Date

To ITEX	From James Clem Corporation
605 ARBITEX ROAD	234 Gordon St.
ANACONDA, MT 59711	City Fairmount GA 30139
	Origin

6 Roll Number	Lot Number	X HM	Kind of Packaging, Description of Articles, Special Marks or Exceptions	Weight (Subject to Correction)	Class or Rate	Check Column	Charges
0138857.0	14494		CLAYMAX 500SP 150'				
0138858.0	14494		CLAYMAX 500SP 150'				
0138859.0	14494		CLAYMAX 500SP 150'				
0138863.0	14494		CLAYMAX 500SP 150'				
0138867.0	14494		CLAYMAX 500SP 150'				
0138868.0	14494		CLAYMAX 500SP 150'				
0138869.0	14494		CLAYMAX 500SP 150'				
0138871.0	14494		CLAYMAX 500SP 150'				
0138872.0	14494		CLAYMAX 500SP 150'				
0138873.0	14494		CLAYMAX 500SP 150'				
0138875.0	14494		CLAYMAX 500SP 150'				
0138876.0	14494		CLAYMAX 500SP 150'				
0138877.0	14494		CLAYMAX 500SP 150'				
0138879.0	14494		CLAYMAX 500SP 150'				
0138882.0	14494		CLAYMAX 500SP 150'				
0138886.0	14494		CLAYMAX 500SP 150'				

Trailer #

Seal # 1247

- 6 1994

TEX HUMAN RESOURCES

Number Of Rolls: 16 Total: 44348.00

REMIT C.O.D. TO ADDRESS

C.O.D. AMT.: $

C.O.D. FEE PREPAID ☐ $ COLLECT ☐

Note: Where the rate is dependent on value, shippers are required to state specifically in writing the agreed or declared value of the property. The agreed or declared value of the property is hereby specifically stated by the shipper to be not exceeding

per

The carrier shall not make delivery of this shipment without payment of freight and all other lawful charges.

Shipper Signature

TOTAL CHARGES

If charges are to be prepaid, write or stamp here, "To be Prepaid."

Agent

Subject to Section 7 of the conditions, if this shipment is to be delivered to the consignee without recourse on the consignor, the consignor shall sign the following statement.

The carrier shall not make delivery of this shipment without payment of freight and all other lawful charges.

Signature of Consignor

RECEIVED subject to the classifications and tariffs in effect on the date of the issue of this Bill of Lading.

The property described below, in apparent good order, except as noted (contents and condition of contents of packages unknown), marked, consigned and destined as indicated below, which said carrier (the word carrier being understood throughout this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery at said destination, if on its own road or its own water line, otherwise to deliver to another carrier on the route to said destination. It is agreed, as to each carrier of all or any of said property over all or any portion of said route to destination and as to each party at any time interested in all or any of said property, that every service to be performed hereunder shall be subject to all the conditions not prohibited by law, whether printed or written, herein contained, including the conditions on back hereof, which are hereby agreed to by the shipper and accepted for himself and his assigns.

SHIPPER

James Clem Corporation

PER DATE 05/31/94

CARRIER

PER

DATE

MARK WITH "X" TO DESIGNATE HAZARDOUS MATERIAL AS DEFINED IN TITLE 49 OF THE CODE OF FEDERAL REGULATIONS

STRAIGHT BILL OF LADING

STRAIGHT BILL OF LADING - NOT NEGOTIABLE

Carrier No 001794

Shipper No.

JCCREP: 982

Name of Carrier	SCAC	Date
350-00010		06/07/94

To	From
ITEX	James Clen Corporation
605 ARBITEX ROAD	234 Gordon St.
ANACONDA, MT 59711	Fairmount GA 30139

Roll Number	Lot Number	X HM	Kind of Packaging, Description of Articles, Special Marks or Exceptions	Weight (Subject to Correction)	Class or Rate	Check Column	Charges
0140182.0	15594		CLAYMAX 500SP 150'				
0140186.0	15594		CLAYMAX 500SP 150'				
0140187.0	15594		CLAYMAX 500SP 150'				
0140188.0	15594		CLAYMAX 500SP 150'				
0140189.0	15594		CLAYMAX 500SP 150'				
0140190.0	15594		CLAYMAX 500SP 150'				
0140193.0	15594		CLAYMAX 500SP 150'				
0140196.0	15594		CLAYMAX 500SP 150'				
0140197.0	15594		CLAYMAX 500SP 150'				
0140198.0	15594		CLAYMAX 500SP 150'				
0140281.0	15594		CLAYMAX 500SP 150'				
0140285.0	15594		CLAYMAX 500SP 150'				
0140288.0	15694		CLAYMAX 500SP 150'				
0140291.0	15694		CLAYMAX 500SP 150'				
140133	15494						

Hot Rush!
406 563-7370

Must Deliver
By Friday 6/10/94!

Rec'd 6/10/94

Number Of Rolls: 14 Total: 21565.00

REMIT C.O.D. TO ADDRESS

C.O.D. AMT. $

C.O.D. FEE PREPAID ☐ $ COLLECT ☐

TOTAL CHARGES

SHIPPER

PER James Clen Corporation DATE 06/07/94

CARRIER

PER

DATE

MARK WITH 'X' TO DESIGNATE HAZARDOUS MATERIAL AS DEFINED IN TITLE 49 - THE CODE OF FEDERAL REGULATIONS

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION VIII, MONTANA OFFICE
FEDERAL BUILDING, 301 S PARK, DRAWER 10096
HELENA, MONTANA 59626-0096

Ref: 8MO

May 3, 1994

Ms. Robin Bullock
Atlantic Richfield Company
307 E. Park St., Suite 400
Anaconda, MT 59711

Dear Robin:

This letter confirms previous verbal approvals of the final caps for the beryllium, flue dust and Arbiter repositories. The beryllium repository cap design was submitted with your letter dated November 15, 1993. The flue dust cap design was submitted with your letter dated December 9, 1993 and revised by your letter dated April 26, 1994. The Arbiter cap was submitted with your letter dated April 22, 1994.

If you have any questions, please give me a call.

Sincerely,

Charles Coleman
Anaconda Project Manager

cc: Andy Lensink, 8RC
Kevin Kirley, SHWB
Ken Brockman, BOR
Bart Richardson, ARCO

C L E M

C L A Y M A X

April 21, 1994

Mr. Rich Mattucci
Canonie
605 Arbiter Rd.
Anaconda, MT. 59711

Re 1) Claymax contraction data
2) Shear-Pro NW internal shear strength data
3) Standard Shear-Pro interface shear data against non-woven geotextile

Dear Mr. Mattucci

Per our phone conversation, the following is the requested information on the above referenced issues:

1) A liner contraction study was performed during the summer of 1992. The study involved placing three six foot by six foot samples of Claymax 200R outside and recording the length and width variations from July 8, 1992 to August 14, 1992. One sample was exposed to the elements; one was placed under an HDPE liner and one was placed under six inches of sand. Daily ambient temperatures were monitored and temperatures generated under the HDPE liner were recorded continuously using a temperature sensor and computer plotter

Under the HDPE, extremely high temperatures (maximum recorded temperature 164 degrees F) and wide temperature variations (92 degree variation over a 7 hour period) were recorded. Under these extreme conditions, the liner experienced negligible amounts of contraction over the 36 day test period. This is apparently due to the HDPE liner's ability to retain moisture despite the high temperatures. Exposed Claymax 200R contracted a maximum of 4.4% and a minimum of 2.8 % under maximum daily temperatures ranging from 90 degrees F to 97 degrees over a 24 hour period.

Claymax liner placed under the six inch sand layer also contracted to a negligible degree over the entire duration of the study due to the effective water retention capabilities of the overlying sand layer.

In summary, under high ambient temperatures and arid conditions (very low humidity) contraction of 200R may be experienced in varying degrees on exposed liner. If, however, the liner is covered within a few hours, either using an HDPE liner or a sand or soil cover, the contraction can be eliminated.

In addition, although testing of the 500SP stitch-bonded GCL was not performed in this study, field experience has determined that the lock-stitches of 500SP restrict the contraction and the dimensional variations of the product even

PO Box 88, 234 Gordon Street Fairmount GA 30139 USA Phone 706 337 3316 Fax 706-337 2215

under the hot arid conditions described herein. Therefore projects utilizing 500SP will not be as susceptible to the effects from contraction as the 200R product.

2) I have enclosed internal direct shear testing curves for our new 501SP product (utilizing a non-woven geotextile as the secondary backing) indicating high shear resistance even at large displacements. These residual results are similar to those achieved with our standard Shear-Pro product, as previously submitted

3). Interface testing on the 501SP product is currently on-going. We have performed tilt table tests against a non-woven product and achieved 30 degrees under low confining pressures of 0.2 psi. Using a textured HDPE liner, a friction angle of 50 degrees was achieved on the tilt table Similar tilt table testing with our standard Shear-Pro 500SP and the Bentomat products indicated friction angles of 26 degrees and 27 degrees respectively against a non-woven geotextile.

Direct shear box testing using our standard Shear-Pro 500SP product has been performed against a non-woven geotextile. The normal pressure range during the test was 1 to 50 psi Test results indicated a 15 degree peak friction angle and 61 psf peak adhesion I have enclosed these results.

I hope I have sufficiently answered your questions. If not, please do not hesitate to contact our office.

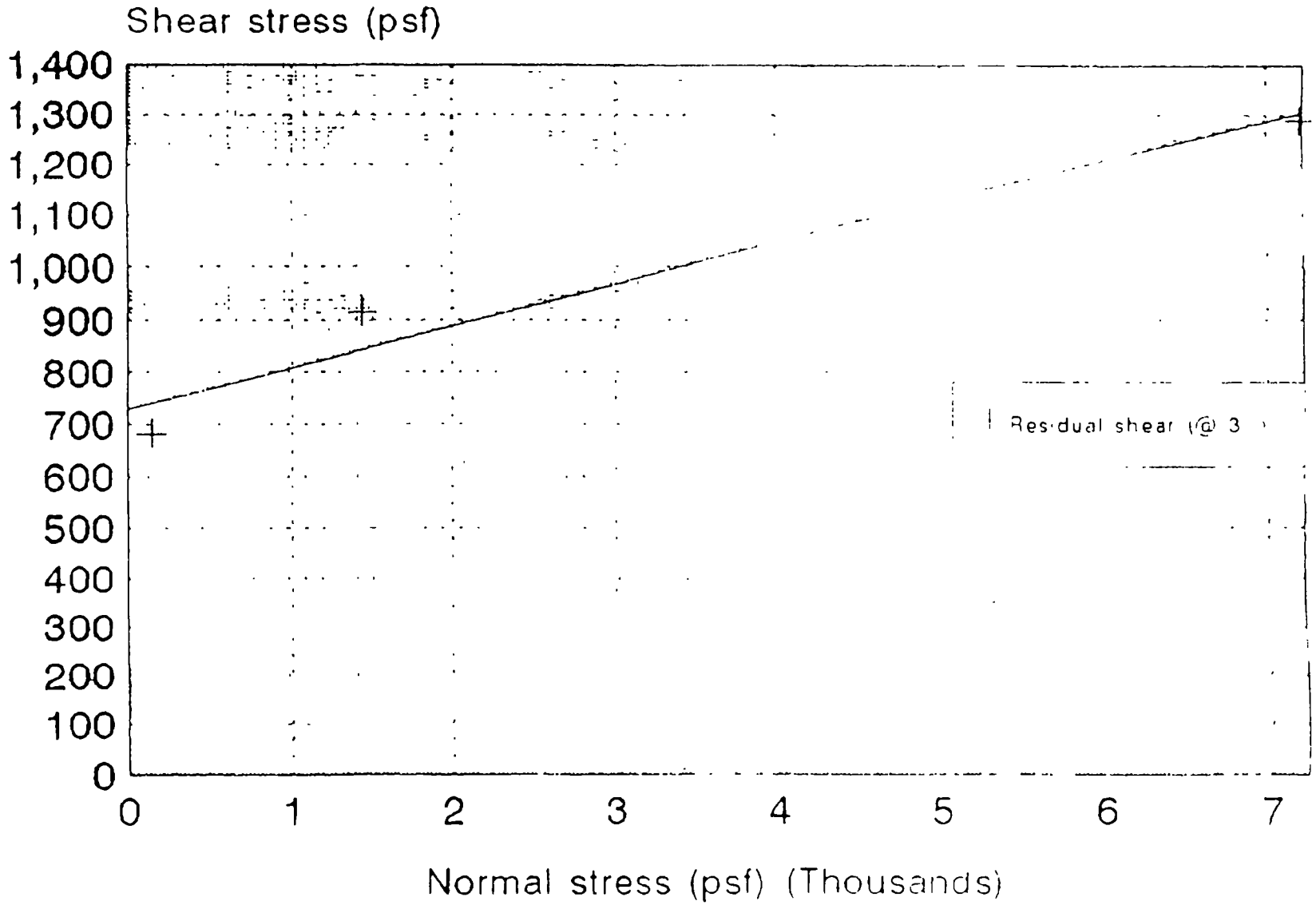
Sincerely,

Thomas N. Dobras, P.E.
Director of Quality Management and Technical Services

cc: Mr. Thomas Hauck
Western Regional Manager

Internal Shear Testing - Claymax 501SP (w/ non-woven sec. backing)

April 7, 1994

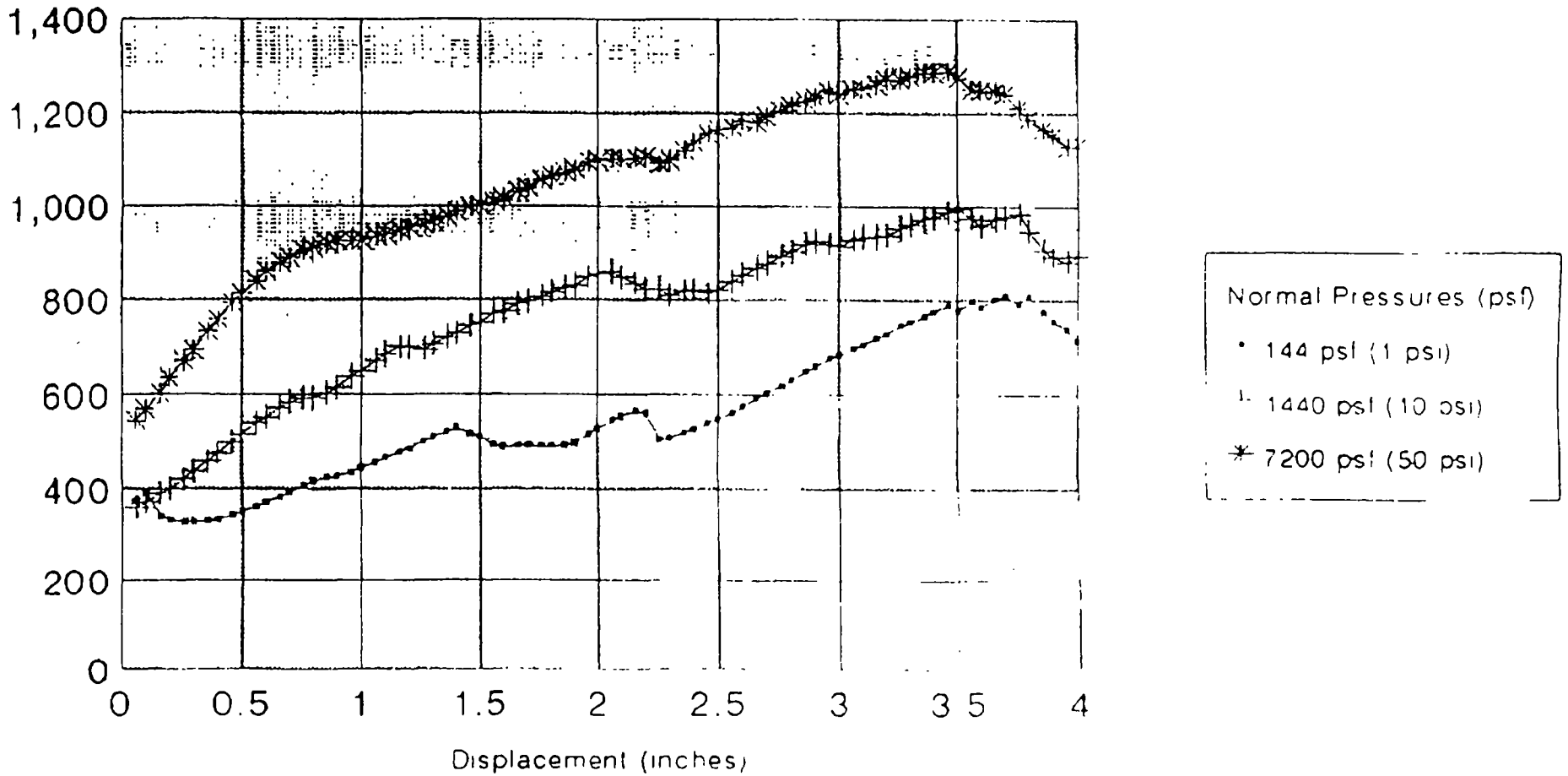


Hydrated for 120 hours @ 200 psf

Internal Shear Strength Load Displacement Curve-Claymax 501SP (w/ NW sec. backing)

Normal Load - 200 to 7200 psf (1 to 10 psi)

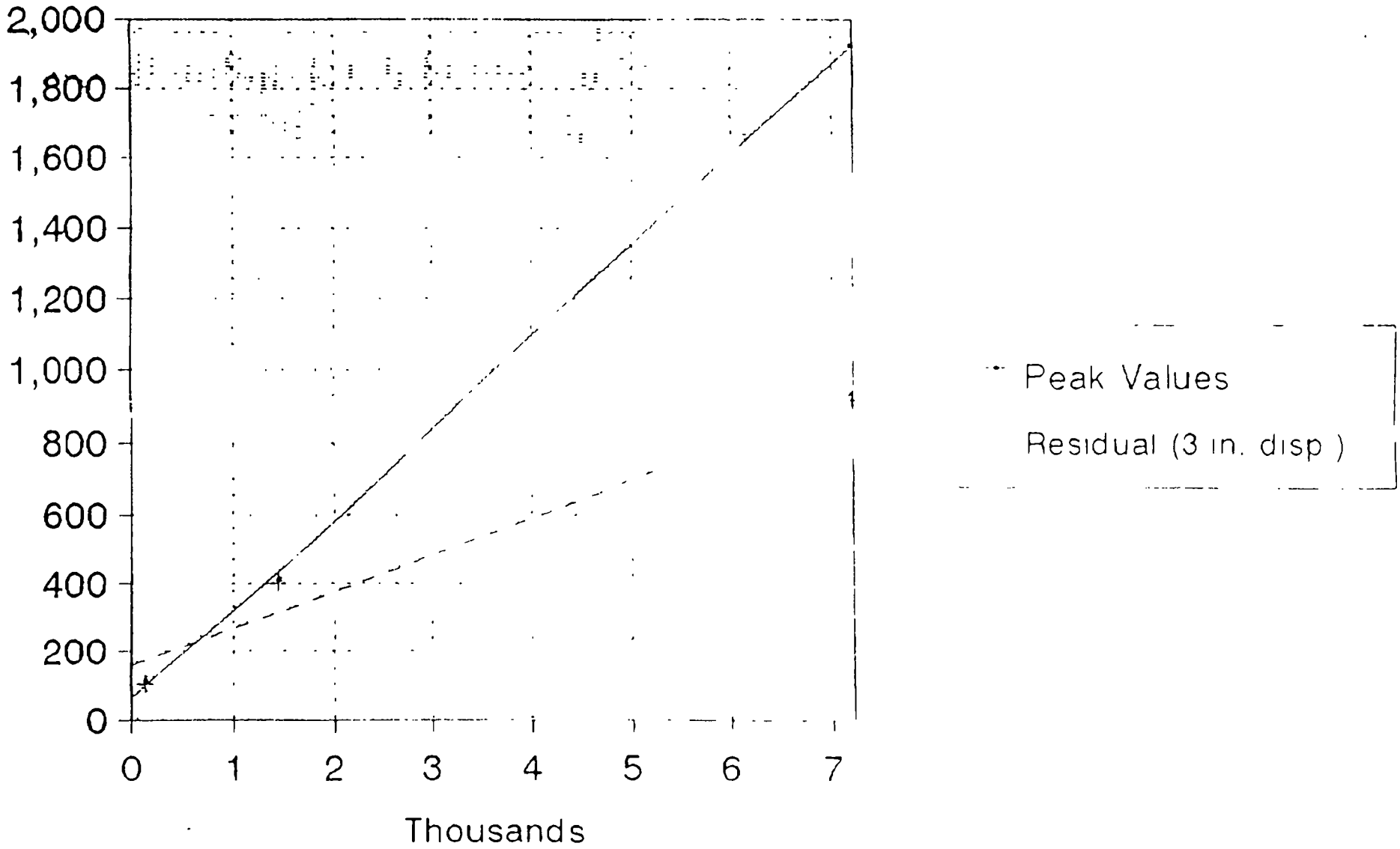
TEST PERFORMED APRIL 7, 1994 CLEM TEST SERIES NO 6



HYDRATED FOR 120 HOURS @ 200 PSF

Interface Shear Testing - Claymax 500SP (SI EP865 backing to NW Geotextile)

April 15, 1994



C L E M

C L A Y M A X

June 1, 1994

Mr. Richard Mattucci
Cannonie Environmental Inc.
Arbiter Gate House
605 Gate House
Anaconda, MT 59711

Dear Mr. Mattucci:

I understand that a question has arisen regarding how best to place the CLAYMAX Geosynthetic Clay Liner (GCL) panels around the corner ridges on the Flue Dust Repository project. After reviewing the 2 alternatives you submitted, I recommend the installer follow Alternative No. 1, increasing the panel overlaps to 2 ft. (see attached figure).

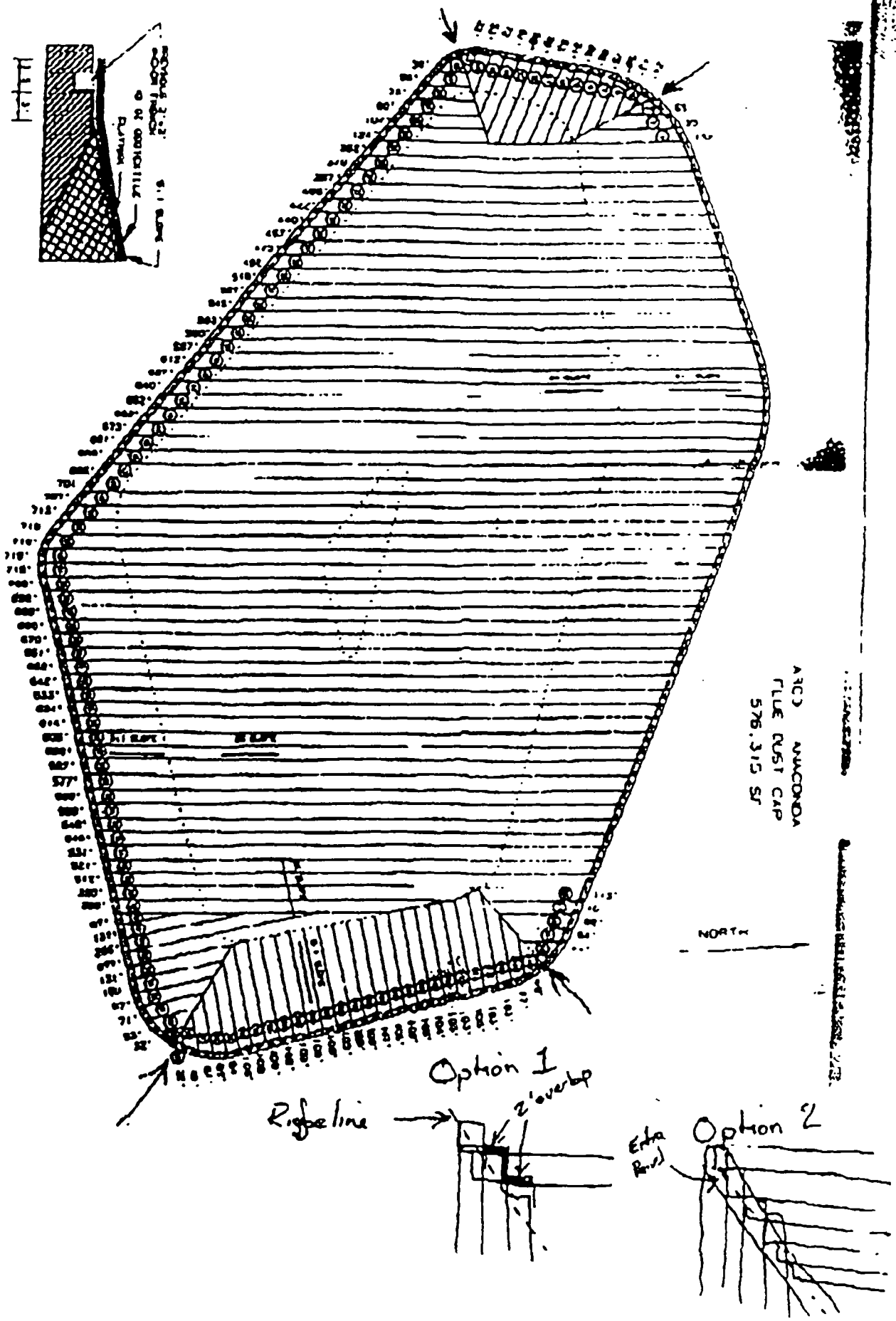
The stability of the CLAYMAX GCL on the side slopes is based on interaction between the liner and the underlying subbase soil. Alternative No. 1 will not change the amount of contact between the liner and the subbase soil down the length of the slope. Consequently, this approach represents only a minor departure from the original design.

I hope this information is helpful. Please note that the James Clem Corporation provides this information for guidance purposes only. We do not accept any responsibility for the design of this project. Please call me at 800/220-2536 if you have any questions.

Sincerely,

John M. Fuller
Technical Marketing Manager
James Clem Corporation

JAMES CLEM CORPORATION
PO Box 88 234 Gordon Street Fairmount, GA 30139 USA Phone: 706-337-5316 Fax 706-337-2215


ARCO ANACONDA
FLUE DUST CAP
576,315 SF
NORTH
Option 1
Riffle line
2' overlap
Option 2
Extra Panel

APPENDIX C

SOURCE AREA CLEAN-UP INSPECTION LETTERS

ITEX
COMPANIES

RECEIVED
APR 12 1993
RMER
MONTANA FACILITIES

April 09, 1993

Ms. Robin Bullock
Atlantic Richfield Company
307 East Park, Suite 400
Anaconda, MT 59711

Re: Two miscellaneous piles near the CPT Laydown Area

ITEX requested and received an inspection of the above excavated contaminated material area(s). Steve Jones of Canonie and Don Campbell of the EPA, have both given verbal approval that the area(s) was/were accepted as clean, and to proceed to bring the area(s) to an acceptable grade.

ITEX has performed all necessary work to bring the area(s) to an acceptable grade, and therefore considers the area to be closed. Please sign below if you are in agreement with this letter, and forward to next signee. Will the last person executing this document, please forward to sender for copy distribution.

Robin Bullock Robin Bullock
ARCO
Steve Jones Steve Jones 4-14-93
Canonie
Don Campbell Don Campbell 4-15-93
EPA

Thank you for your cooperation,

Thomas L. Stoneman

Thomas L. Stoneman
Project Manager

KSG/sa

cc: Steve Jones
Don Campbell
Neal Heckel
Madeline Brindley
File

4140 OVERTON ROAD
DALLAS TEXAS 75216
214-374-2962 FAX 214-372 5105

ITEX
COMPANIES

RECEIVED
APR 12 1993
RMER
MONTANA FACILITIES

April 09, 1993

Ms. Robin Bullock
Atlantic Richfield Company
307 East Park, Suite 400
Anaconda, MT 59711

Re: Upper CPT Road west of ARCHON XIII

ITEX requested and received an inspection of the above excavated contaminated material area(s). Steve Jones of Canonie and Don Campbell of the EPA, have both given verbal approval that the area(s) was/were accepted as clean, and to proceed to bring the area(s) to an acceptable grade.

ITEX has performed all necessary work to bring the area(s) to an acceptable grade, and therefore considers the area to be closed. Please sign below if you are in agreement with this letter, and forward to next signee. Will the last person executing this document, please forward to sender for copy distribution.

Robin Bullock
ARCO

Steve Jones 4-14-93
Canonie

Don Campbell 4-15-93
EPA

Thank you for your cooperation,

Thomas L. Stoneman
Project Manager

KSG/sa

cc: Steve Jones
Don Campbell
Neal Heckel
Madeline Brindley
File

RECEIVED
APR 20 1993
RMER
MONTANA FACILITIES

April 23, 1993

Ms. Robin Bullock
Atlantic Richfield Office
307 East Park, Suite 400
Anaconda, MT 59701

Re: S.E. end of the CPT, approximately the last 250 feet

ITEX has requested and received an inspection of the above mentioned excavated contaminated material area(s). Steve Jones of Canonie and Ken Brockman of the EPA, have both given verbal approval that the area(s) was/were accepted as clean.

ITEX has performed all work necessary to remove the material to a clean subgrade. Any necessary grade work will begin in a timely manner. Please sign below if you are in agreement with this letter, and forward to next signee. Will the last person executing this document, please forward to sender for distribution.

Robin Bullock Robin Bullock
ARCO
Steve Jones Steve Jones 5-6-93.
Canonie
Don Campbell Don Campbell 5-6-93
EPA

Thank you for your cooperation,

Thomas L. Stoneman
Project Manager

KSG/kg

cc: Steve Jones
Don Campbell
Neal Heckel
Madeline Brindley
File

ITEX
ENTERPRISES INC.

RECEIVED
JUN 3 1993
RMER
MONTANA FACILITIES

June 1, 1993

Atlantic Richfield Office
Attn: Robin Bullock
307 East Park, Suite 400
Anaconda, MT 59711

Re: The Switchback Flue Dust Area

ITEX has requested and received an inspection of the above mentioned excavated contaminated material area(s). Steve Jones of Canonie and Ken Brockman of the EPA, have both given verbal approval that the area(s) was/were accepted as clean.

ITEX has performed all work necessary to remove the material to a clean subgrade. Any necessary grade work will begin in a timely manner. Please sign below if you are in agreement with this letter, and forward to next signee. Will the last person executing this document, please forward to sender for distribution?

Robin Bullock
ARCO
Steve Jones
Canonie
Don Campbell
EPA - U.S.B.R.

Thank you for your cooperation.

Thomas L. Stoneman
Project Manager

KSG/sa

cc: Steve Jones
Don Campbell
Neal Heckel
Madeline Brindley
File

1570 WESTGROVE DRIVE SUITE 210
ADDISON TEXAS 75248
214 732 0084 FAX 214-407 0634

ITEX
ENTERPRISES INC

NOV 5 1993

November 11, 1993

Mr. Bart Richardson
Atlantic Richfield Office
307 East Park, Suite 400
Anaconda, MT 58701

Re: The Iron Ponds Area

ITEX has requested and received an inspection of the above mentioned excavated contaminated material area(s). Steve Jones of Canonie and Don Campbell of the EPA, have both given verbal approval that the area(s) was/were accepted as clean.

ITEX has performed all work necessary to remove the material to a clean subgrade. Any necessary grade work will begin in a timely manner. Please sign below if you are in agreement with this letter, and forward to next signee. Will the last person executing this document, please forward to sender for distribution.

Bart Richardson _____
ARCO
Steve Jones _____
Canonie
Don Campbell _____
EPA/BOR

Thank you for your cooperation,

Don Haugan
Project Manager

KSG/kg

cc: Steve Jones
Don Campbell
Neal Heckel
Madeline Brindley
File

[illegible]

ITEX
ENTERPRISES INC.

NOV 5 1993

November 11, 1993

Mr. Bart Richardson
Atlantic Richfield Office
307 East Park, Suite 400
Anaconda, MT 58701

Re: The Bradley Ponds 3 Area

ITEX has requested and received an inspection of the above mentioned excavated contaminated material area(s). Steve Jones of Canonie and Don Campbell of the EPA, have both given verbal approval that the area(s) was/were accepted as clean.

ITEX has performed all work necessary to remove the material to a clean subgrade. Any necessary grade work will begin in a timely manner. Please sign below if you are in agreement with this letter, and forward to next signee. Will the last person executing this document, please forward to sender for distribution.

Bart Richardson _____
ARCO
Steve Jones _____
Canonie
Don Campbell _____
EPA/BOR

Thank you for your cooperation,

Don Haugan
Project Manager

KSG/kg

cc: Steve Jones
Don Campbell
Neal Heckel
Madeline Brindley
File

ITEX

December 13, 1993

Ms. Robin Bullock
Atlantic Richfield Office
307 East Park, Suite 400
Anaconda, MT 58701

Re: The Main Flue

ITEX has requested and received an inspection of the above mentioned excavated contaminated material area(s). Steve Jones of Canonie and Don Campbell of the EPA, have both given verbal approval that the area(s) was/were accepted as clean, and to proceed to bring the area(s) to an acceptable grade.

ITEX has performed all necessary work to bring the area(s) to an acceptable grade, and therefore considers the area to be closed. Please sign below if you are in agreement with this letter, and forward to next signee. Will the last person executing this document, please forward to sender for distribution.

Robin Bullock
ARCO

Steve Jones
Canonie

Don Campbell
EPA

Thank you for your cooperation,

Don Haugan
Project Manager

KSG/kg

cc: Steve Jones
Don Campbell
Neal Heckel
Madeline Brindley
File

ITEX ENVIRONMENTAL SERVICES INC.
3570 WESTGROVE DRIVE SUITE 240
ADDISON TEXAS 75248
214 407-0550 FAX 214 407 0634

ITEX

DEC 17 1993

December 14, 1993

Mr. Bart Richardson
Atlantic Richfield Office
307 East Park, Suite 400
Anaconda, MT 59711

Re: The Thickener Pond

ITEX has requested and received an inspection of the above mentioned excavated contaminated material area(s). Bart Richardson of ARCO, and Don Campbell of the EPA, have both given verbal approval that the area(s) was/were accepted as clean.

ITEX has performed all work necessary to remove the material to a clean subgrade. Any necessary grade work will begin in a timely manner. Please sign below if you are in agreement with this letter, and forward to next signee. Will the last person executing this document, please forward to sender for distribution.

Bart Richardson _____
ARCO
Steve Jones _____
Canonie
Don Campbell _____
EPA

Thank you for your cooperation,

Don Haugan
Project Manager

KSG/kg

cc: Steve Jones
Don Campbell
Neal Heckel
Madeline Brindley
File

ITEX ENVIRONMENTAL SERVICES INC
4570 WESTGROVE DRIVE SUITE 240
ADDISON TEXAS 75248
214 407-0550 FAX 214 407-0634

ITEX

7 1993

December 14, 1993

Mr. Bart Richardson
Atlantic Richfield Office
307 East Park, Suite 400
Anaconda, MT 59711

Re: The Area Cut

ITEX has requested and received an inspection of the above mentioned excavated contaminated material area(s). Bart Richardson of ARCO, and Don Campbell of the EPA, have both given verbal approval that the area(s) was/were accepted as clean.

ITEX has performed all work necessary to remove the material to a clean subgrade. Any necessary grade work will begin in a timely manner. Please sign below if you are in agreement with this letter, and forward to next signee. Will the last person executing this document, please forward to sender for distribution.

Bart Richardson _____
ARCO
Steve Jones _____
Canonie
Don Campbell _____
EPA

Thank you for your cooperation,

Don Haugan
Project Manager

KSG/kg

cc: Steve Jones
Don Campbell
Neal Heckel
Madeline Brindley
File

ITEX ENVIRONMENTAL SERVICES INC
4570 WESTGROVE DRIVE SUITE 240
ADDISON TEXAS 75248
214-407 0550 FAX 214-407-0634

ITEX
ENTERPRISES INC

December 15, 1993

Mr. Bart Richardson
Atlantic Richfield Office
307 East Park, Suite 400
Anaconda, MT 59711

Re: The Bradley Pond 1 area and adjacent Laydown area

ITEX has requested and received an inspection of the above mentioned excavated contaminated material area(s). Bart Richardson of ARCO, and Don Campbell of the EPA, have both given verbal approval that the area(s) was/were accepted as clean.

ITEX has performed all work necessary to remove the material to a clean subgrade. Any necessary grade work will begin in a timely manner. Please sign below if you are in agreement with this letter, and forward to next signee. Will the last person executing this document, please forward to sender for distribution.

Bart Richardson
ARCO
Steve Jones
Canonie
Don Campbell
EPA

Thank you for your cooperation,

Don Haugan
Project Manager

KSG/kg

cc: Steve Jones
Don Campbell
Neal Heckel
Madeline Brindley
File

15710 WESTGROVE DRIVE SUITE 240
ADDISON, TEXAS 75248
214-732-0681 FAX 214-407-0641

ITEX

February 23, 1994

[illegible]
307 East Park, Suite 300
Anaconda, MT 59711

Re: The Bradley Pond 2 South Laydown Area

ITEX has requested and received an inspection of the above mentioned excavated contaminated material area(s). Bart Richardson of ARCO, and Don Campbell of the EPA, have both given verbal approval that the area(s) was/were accepted as clean.

ITEX has performed all work necessary to remove the material to a clean subgrade. Any necessary grade work will begin in a timely manner. Please sign below if you are in agreement with this letter, and forward to next signee. Will the last person executing this document, please forward to sender for distribution.

Bart Richardson _____
ARCO
Joe Flynn _____
Canonie
Don Campbell _____ (Stockpiles of treated matr to be addressed in spring.
EPA

Thank you for your cooperation,

Don Haugan
Project Manager

KSG/kg

cc: Joe Flynn
Don Campbell
Neal Heckel
Madeline Brindley
File

ITEX ENVIRONMENTAL SERVICES INC
4570 WESTGROVE DRIVE SUITE 240
ADDISON TEXAS 75248
214-407-0550 FAX 214-407-0634

ITEX

February 23, 1994

Atlantic Richfield Office
307 East Park, Suite 400
Anaconda, MT 59711

Re: Coal Pile Tracks

ITEX has requested and received an inspection of the above mentioned excavated contaminated material area(s). Bart Richardson of ARCO, and Don Campbell of the EPA, have both given verbal approval that the area(s) was/were accepted as clean.

ITEX has performed all work necessary to remove the material to a clean subgrade. Any necessary grade work will begin in a timely manner. Please sign below if you are in agreement with this letter, and forward to next signee. Will the last person executing this document, please forward to sender for distribution.

Bart Richardson _____
ARCO
Joe Flynn _____
Canonie
Don Campbell _____ (stockpiles of treated matrl. to be addressed in spring.)
EPA

Thank you for your cooperation,

Don Haugan
Project Manager

KSG/kg

cc: Joe Flynn
Don Campbell
Neal Heckel
Madeline Brindley
File

ITEX ENVIRONMENTAL SERVICES INC
4570 WESTGROVE DRIVE SUITE 240
ADDISON TEXAS 75248
214-407-0550 FAX 214-407-0634

ITEX

RECEIVED
MAR - 2 1994
RMER
MONTANA FACILITIES

March 1, 1994

Mr. Bart Richardson
Atlantic Richfield Office
307 East Park, Suite 400
Anaconda, MT 59711

Re: Triangular Laydown Area between Bradley Ponds 2 South and Bradley Pond 3

ITEX has requested and received an inspection of the above mentioned excavated contaminated material area(s). Bart Richardson of ARCO, and Don Campbell of the EPA, have both given verbal approval that the area(s) was/were accepted as clean.

ITEX has performed all work necessary to remove the material to a clean subgrade. Any necessary grade work will begin in a timely manner. Please sign below if you are in agreement with this letter, and forward to next signee. Will the last person executing this document, please forward to sender for distribution.

Bart Richardson _____
ARCO
Joe Flynn _____
Canonie
Don Campbell _____
EPA

Thank you for your cooperation,

_____
Kim Haugan
Project Manager

KSG/kg

cc: Joe Flynn
Don Campbell
Neal Heckel
Madeline Brindley
File

ITEX ENVIRONMENTAL SERVICES INC
4570 WESTGROVE DRIVE SUITE 240
ADDISON, TEXAS 75248

ITEX

March 31, 1994

Mr. Bart Richardson
Atlantic Richfield Office
301 East Park, Suite 400
Anaconda, MT 59711

Re: BP2 Area

ITEX has requested and received an inspection of the above mentioned excavated contaminated material area(s). Bart Richardson of ARCO, and Don Campbell of the EPA, have both given verbal approval that the area(s) was/were accepted as clean.

ITEX has performed all work necessary to remove the material to a clean subgrade. Any necessary grade work will begin in a timely manner. Please sign below if you are in agreement with this letter, and forward to next signee. Will the last person executing this document, please forward to sender for distribution.

Bart Richardson
ARCO

Steve Jones
Canonie

Don Campbell
EPA

Thank you for your cooperation,

Don Haugan
Project Manager

KSG/kg

cc: Steve Jones
Don Campbell
Bill Meyer
Neal Heckel
Madeline Brindley
File

[illegible] ENVIRONMENTAL SERVICES INC
[illegible] WESTGROVE DRIVE SUITE 100
[illegible]

ITEX

[illegible], 1994

Mr. Bart Richardson
Atlantic Richfield Office
[illegible] East Park, Suite 400
Anaconda, MT 59711

Re: [illegible]ewing Area/Landown Area

ITEX has requested and received an inspection of the above mentioned excavated contaminated material area(s) [illegible] Richardson of ARCO, and Don Campbell of the EPA, have given verbal approval that the area(s) was/were accepted as is.

ITEX has performed all work necessary to remove the material to a clean subgrade. Any necessary grade work will be done at a later time manner. Please sign below if you are in agreement with this letter, and forward to next signee. Will the last person please return this document, please forward to sender for distribution.

Bart Richardson _____
ARCO
Steve Jones _____
Canonie
Don Campbell _____
EPA

Thank you for your cooperation,

_____
Don Haugan
Project Manager

KSG/kg

cc: Steve Jones
Don Campbell
Bill Meyer
Neal Heckel
Madeline Brindley
File

ITEX ENVIRONMENTAL SERVICES INC
4570 WESTGROVE DRIVE SUITE 240
ADDISON TEXAS 75248
214-407-0550 FAX 214-407 0634

ITEX

7/29/94

Bart Richardson
Atlantic Richfield Office
307 East Park, Suite 400
Anaconda, MT 59711

RE: Flue Dust Storage and Surrounding Areas

On May 9, 1994, Itex requested and received an inspection of the above mentioned excavated contaminated material areas. Bart Richardson of ARCO and Don Campbell of the EPA, had both given verbal approval that the areas were accepted as clean.

ITEX has performed all work necessary to remove the material to a clean subgrade. Please sign below if you are in agreement with this letter, and forward to the next signee. Will the last person executing this document, please forward to the sender for distribution.

Bart Richardson
ARCO

Steve Jones
Canonie

Don Campbell
EPA

Thank you for your cooperation,

Don Haugan
Project Manager

cc: Steve Jones
Don Campbell
Neal Heckel
File

ITEX ENVIRONMENTAL SERVICES, INC
3731 NORTH RAMSEY, SUITE 150
COEUR D' ALENE, IDAHO 83814
208-664-5141 FAX 208-664-5816
214-407-0550 CORPORATE OFFICE

ITEX

7/29/94

Bart Richardson
Atlantic Richfield Office
307 East Park, Suite 400
Anaconda, MT 59711

RE: Miscellanous Laydown Area

On July 10, 1994, Itex requested and received an inspection of the above mentioned excavated contaminated material areas. Bart Richardson of ARCO and Don Campbell of the EPA, had both given verbal approval that the areas were accepted as clean.

ITEX has performed all work necessary to remove the material to a clean subgrade. Please sign below if you are in agreement with this letter, and forward to the next signee. Will the last person executing this document, please forward to the sender for distribution.

Bart Richardson _____
ARCO

Steve Jones _____
Canonie

Don Campbell _____
EPA

Thank you for your cooperation,

Don Haugan
Project Manager

cc: Steve Jones
Don Campbell
Neal Heckel
File

ITEX ENVIRONMENTAL SERVICES INC
3731 NORTH RAMSEY. SUITE 150
COEUR D' ALENE IDAHO 83814

ITEX
COMPANIES

RECEIVED
APR 12 1993
RMER
MONTANA FACILITIES

April 09, 1993

Ms. Robin Bullock
Atlantic Richfield Company
307 East Park, Suite 400
Anaconda, MT 59711

Re: Small miscellaneous pile North of ARCHON XIII

ITEX requested and received an inspection of the above excavated contaminated material area(s). Steve Jones of Canonie and Don Campbell of the EPA, have both given verbal approval that the area(s) was/were accepted as clean, and to proceed to bring the area(s) to an acceptable grade.

ITEX has performed all necessary work to bring the area(s) to an acceptable grade, and therefore considers the area to be closed. Please sign below if you are in agreement with this letter, and forward to next signee. Will the last person executing this document, please forward to sender for copy distribution.

Robin Bullock _____
ARCO
Steve Jones 4-14-93
Canonie
Don Campbell 4-15-93
EPA

Thank you for your cooperation,

Thomas L. Stoneman
Project Manager

KSG/sa

cc: Steve Jones
Don Campbell
Neal Heckel
Madeline Brindley
File

4140 OVERTON ROAD
DALLAS TEXAS 75216
214-374-2962 FAX 214-372 5015

APPENDIX D

FLUE DUST STABILIZATION DATA

LIST OF APPENDIX D TABLES

TABLE NUMBER	TITLE
D-1.1	Summary of Shakedown Analytical Testing Methods and Frequencies for Untreated and Treated Flue Dust and Reagents, Flue Dust Operable Unit, Anaconda Smelter NPL Site
D-1.2	Full-Scale Stabilization Testing Requirements
D-2.1a	Process Control Parameter Bands, Flue Dust Shakedown/Prove-Out, Flue Dust Operable Unit, Anaconda Smelter NPL Site
D-2.1b	Process Control Parameter Bands, Full-Scale Stabilization, Flue Dust Operable Unit, Anaconda Smelter NPL Site
D-2.2	Summary of Flue Dust Area Production Logs, Flue Dust Operable Unit, Anaconda Smelter NPL Site
D-3.1a	Analytical Results and Curing Times, Shakedown / Prove-Out, Smelter Hill NPL Site, Anaconda, Montana
D-3.1b	Analytical Results Summary and Curing Times, Flue Dust Shakedown / Prove-Out, Anaconda Smelter NPL Site
D-3.2a	Data Summary of Full-Scale Analytical Results, Flue Dust Operable Unit, Anaconda Smelter NPL Site
D-3.2b	Itex Analytical Results, Coal Pile Tracks, Iron Ponds, Bradley Ponds, and Flue Dust Storage Area, Flue Dust Shakedown / Prove-Out, Anaconda Smelter NPL Site
D3.3	Contingency Test Results, Itex Treated Analytical Results, Coal Pile Tracks, Miscellaneous Piles, Area Cut, Switchback, Flue Dust Shakedown / Prove-Out, Anaconda Smelter NPL Site
D-3.4	Summary of Quality Control Analytical Results, Comparison of Itex and QA/QC Results, Flue Dust Operable Unit, Anaconda Smelter NPL Site
D-3.5	Canonie Quality Control Sampling, Flue Dust Shakedown / Prove-Out, Flue Dust Operable Unit, Anaconda Smelter NPL Site
D-4.1a	Summary of Laboratory Geotechnical testing, Flue Dust Operable Unit, Anaconda Smelter NPL Site

D-4.1b	Results of Laboratory Geotechnical Testing and Moisture Tracking for Coal Pile Track Samples, Flue Dust Shakedown/Prove-Out, Anaconda Smelter NPL Site
D-4.2	Summary of Plasticity, Permeability, Bulk Specific Gravity, and USCS Results, Flue Dust Operable Unit, Anaconda Smelter NPL Site
D-4.3a	Summary of Moisture/Density Results on Stabilized Waste Material, Flue Dust Operable Unit, Anaconda Smelter NPL Site, Anaconda, Montana
D-4.3b	Summary of Moisture/Density Test Results on Soils, Flue Dust Operable Unit, Anaconda Smelter NPl Site, Anaconda, Montana
D-4.3c	Summary of Moisture/Density Test Results, Flue Dust Repository - Final Subgrade, Flue Dust Operable Unit, Anaconda Smelter NPL Site
D-4.3d	Summary of Moisture/Density Test Results, Flue Dust Repository - Final Cover, Flue Dust Operable Unit, Anaconda Smelter NPL Site
D-4.3e	Summary of Canonie Geotechnical Testing, Flue Dust Operable Unit, Anaconda Smelter NPL Site
D-5.1	Comparison of Flue Dust Pile Quantities, Original versus Final Quantities, Flue Dust Operable Unit, Anaconda Smelter NPL Site
D-5.2a	Summary of Itex's Analytical Results, Main Flue Excavation, Anaconda Smelter NPL Site
D-5.2b	Comparison of Total Metals Concentration in Raw Flue Dust, Remedial Investigation Versus Shakedown / Prove-Out, Flue Dust Shakedown / Prove-Out, Flue Dust Operable Unit, Anaconda Smelter NPL Site
D-5.2c	Comparison of Total Metals Concentration in Raw Flue Dust, Remedial Investigation Versus Shakedown / Prove-Out, Flue Dust Shakedown / Prove-Out, Anaconda Smelter NPL Site
D-5.2d	Comparison of Total Metals Concentration in Raw Flue Dust, Remedial Investigation Versus Shakedown / Full-Scale, Flue Dust Operable Unit, Anaconda Smelter NPL Site
D-5.2e	Comparison of Total Metals Concentration in Raw Flue Dust, Remedial Investigation Versus Shakedown / Prove-Out, Flue Dust Operable Unit, Anaconda Smelter NPL Site
D-5.2f	Comparison of Total Metals Concentration in Raw Flue Dust, Remedial Investigation Versus Shakedown / Prove-Out, Flue Dust Operable Unit, Anaconda Smelter NPL Site

D-6.1 Summarized Material Quantities, Flue Dust Operable Unit, Anaconda Smelter NPL Site

D-7 ITEX Contingency Test Results

TABLE D-1.1

SUMMARY OF SHAKEDOWN ANALYTICAL TESTING METHODS AND FREQUENCIES FOR UNTREATED AND TREATED FLUE DUST AND REAGENTS FLUE DUST OPERABLE UNIT ANACONDA SMELTER NPL SITE

Material	Test Method	Method/Reference	Minimum Frequency
Untreated Flue Dust	pH	CFRSSI LAP[1] Appendix Q SW-846, Method 9045	1 per 100 tons (minimum 1 per day)
	Percent Moisture	ASTM D2216-80	1 per 100 tons (minimum 1 per day)
	Total Metals (As, Cd, Pb)	AA/ICP	1 per 100 tons (minimum 1 per day)
	TCLP Metals (As, Cd, Pb)	SW-846	3 per flue dust location
Treated Flue Dust	pH	CFRSSI LAP, Appendix Q SW-846, Method 9045	1 per 100 tons (minimum 1 per day)
	Percent Moisture	ASTM D2216-80	1 per 100 tons (minimum 1 per day)
	Alkalinity	_____	1 per 100 tons (minimum 1 per day)
	TCLP On-Site (As, Cd, Pb)	CFRSSI LAP	1 per 100 tons
	TCLP Off-Site (As, Cd, Pb)	CFRSSI LAP	1 per 40 on-site TCLPs
	Hydraulic Conductivity(2)	---	1 per 20,000 tons
	Field Test (3)	To be determined during Shakedown/ Prove-out	1 per 100 tons
	Percent Cement (4)	ASTM D2901-82	1 per 100 tons
	Seven-Day UCS	---	1 per day
	Reagents Alkalinity	---	1 per 400 tons

Notes

1. CFRSSI LAP is the Clark Fork River Superfund Site Investigation Laboratory Analytical Protocol document
2. Hydraulic Conductivity testing is no longer required PER informal discussions with on-site EPA representatives
3. The field test was defined during Shakedown to be the process parameter control bands, which include pH, moisture content and alkalinity of the treated flue dust Therefore, alkalinity of the treated flue dust was added to this table
4. Laboratory percent cement tests were not required after April 23, 1993.

TABLE D-1.2

FULL-SCALE STABILIZATION TESTING REQUIREMENTS (1)

Material	Laboratory Location	Test Method	Minimum Frequency (5)
Untreated flue dust	On-site	pH (2)	1 per day per plant
		Percent moisture (3)	1 per day per plant
		Total metals (As, Cd, Pb) (4)	1 per day per plant
Treated flue dust	On-site	pH (2)	1 per 3 batches per plant
		Percent moisture (3)	1 per day per plant
		Alkalinity	1 per day per plant
Reagent		Alkalinity	1 per reagent per day per plant
	Off-site	pH (2)	1 per 10 on-site tests
		Percent moisture (3)	1 per 10 on-site tests
		Total metals (As, Cd, Pb) (4)	1 per 10 on-site tests
		Alkalinity	1 per 10 on-site tests

Notes:

1. Performed by Contractor.
2. Determined in accordance with CFRSSI LAP, Appendix Q, SW-846 Method 9045.
3. Determined in accordance with ASTM D2216-80.
4. Determined in accordance with CFRSSI LAP Table 1-3, or x-ray fluorescence, as appropriate.
5. For flue dust area piles with less total volume than the minimum frequency requirements, a minimum of one test per pile for each material, laboratory location, and test method shall apply.

TABLE D-2.1a
PROCESS CONTROL PARAMETER BANDS
FLUE DUST SHAKEDOWN/PROVE-OUT
FLUE DUST OPERABLE UNIT
ANACONDA SMELTER NPL SITE

Untreated Material

Pile	pH (Min. - Max.)	% Moisture (Min. - Max.)	Total Pb (mg/kg) (Min. - Max.)	Total Cd (mg/kg) (Min. - Max.)	Total As (mg/kg) (Min. - Max.)
Bradley Ponds 2	8.1 - 9.5	16.9 - 47.5	4,794 - 15,732	645 - 1,352	7,295 - 12,171
Bradley Ponds 3	4.6 - 10.1	23.5 - 68.8	4,459 - 14,474	451 - 1,255	3,369 - 17,238
Iron Ponds	6.0 - 6 4	24.6 - 49.1	3,415 - 7,600	356 - 1,183	1,780 - 6,589
Flue Dust Storage Facility	4 0 - 8 5	24 7 - 46.4	2,758 - 24,360	702 - 1,756	630 - 25,275
Coal Pile Tracks	2 6 - 5 1	29.7 - 81.8	14,109 - 69,273	590 - 4,628	18,027 - 121,609

Treated Material

Pile	pH (Min - Max.)	% Moisture (Min. - Max.)	Alkalinity (mg/kg) (Min. - Max)
Bradley Ponds 2	11.1 - 11 7	28.10 - 59.91	112,000 - 441,684
Bradley Ponds 3	11.2 - 12.2	35.25 - 66.53	160,377 - 552,692
Iron Ponds	11.0 - 12.0	41.20 - 49.68	210,224 - 287,918
Flue Dust Storage Facility	10.8 - 12.5	34.91 - 72.10	172,994 - 496,205
Coal Pile Tracks	9.6 - 12.2	29 7 - 81.8	148,804 - 599,923

TABLE D-2.1b

PROCESS PARAMETER CONTROL BANDS FOR FULL SCALE STABILIZATION ANACONDA SMELTER NPL SITE FLUE DUST OPERABLE UNIT

	REAGENT		UNTREATED MATERIAL					TREATED MATERIAL		
FLUE DUST PILE	PERCENT CEMENT	PERCENT LIME	pH Min. - Max.	Moisture Content (%) Min. - Max.	TOTAL Pb (mg/kg) Min. - Max.	TOTAL Cd (mg/kg) Min. - Max.	TOTAL As (mg/kg) Min. - Max.	pH Min. - Max.	Moisture Content (%) Min. - Max.	Alkalinity (mg/kg as CaCO3) (Min. - Max.)
Bradley Pond 2	24	0	7 96 - 11 98	21 26 - 51 33	657 - 22,400	55 - 2,221	481 - 20,263	11 15 - 12 25	21 65 - 50 44	127,167 - 356,577
Bradley Pond 3	24	4	7 82 - 11 00	4 12 - 40 03	863 - 8,575	15 - 846	1,904 - 5,600	11 45 - 12 21	32 45 - 61 25	124,394 - 311,543
Coal Pile Tracks	40	10	2 60 - 5 10	29 70 - 81 80	14,109 - 69,273	590 - 4,628	18,027 - 121,609	9 60 - 12 20	29 70 - 81 80	148,804 - 599,923
Flue Dust Storage	32	9	2 65 - 11 58	7 5 - 45 44	1,166 - 40,851	129 - 5,643	1,709 - 146,447	11 13 - 12 02	36 18 - 64 17	136,000 - 534,617
Iron Ponds	28	0	3 27 - 10 57	20 27 - 61 50	1,450 - 18,445	60 - 1,145	775 - 16,171	11 14 - 11.38	39 8 - 48 47	186,096 - 256,063
Main Flue	40	10	3 86 - 6 62	13 73 - 32 41	1,147 - 10,866	32 - 663	8,888 - 43,398	11 54 - 12 13	27 60 - 61 23	206,000 - 374,000

TABLE D-2.2

SUMMARY OF FLUE DUST AREA PRODUCTION LOGS
FLUE DUST OPERABLE UNIT
ANACONDA SMELTER NPL SITE

PERIOD	NO OF BATCHES	FLUE DUST SLURRY WEIGHT (tons)	CEMENT WEIGHT (tons)	PERCENT CEMENT ADDN (% of slurry)	PERCENT CEMENT ADDN (% of raw fd)	WEIGH BATCHER WATER WEIGHT (tons)	TOTAL STABILIZED WEIGHT (tons)	WATER VOLUME (gallons)	TANK WEIGHT (tons)	RAW FLUE DUST WEIGHT (tons)	RAW FLUE DUST MOISTURE (%)	DRY FLUE DUST WEIGHT (tons)	PROCESS TIME (hours)	AVERAGE PROCESS (stab tons/hr)	DAILY RATE (dry tons/hr)
BRADLEY PONDS MATERIAL															
SHAKEDOWN (10/13/92 6/2/93)	1 145	12 788	1 985	16 72%	17 00%	38	15 286	378 131	1 577	11 630	35 62%	8 549	231	215	40
BRADLEY POND 2 MATERIAL															
SHAKEDOWN/FULL SC (6/3/93 9/7/93)	5 403	NA	11 174	NA	19 12%	NA	92 007	NA	NA	69 587	27 40%	54 790	268	258	202
BRADLEY POND 3 MATERIAL															
SHAKEDOWN/FULL SC (6/3/93 9/7/93)	7 542	NA	17 942	NA	20 30%	NA	123 270	NA	NA	88 402	28 09%	69 219	414	215	167
FULL SCALE (9/8/93 12/24/93)	545	NA	1 185	NA	18 29%	NA	9 222	NA	NA	6 479	35 01%	4 805	25	257	194
IRON PONDS MATERIAL															
SHAKEDOWN 10/13/92 11/22/92)	92	1 169	208	17 71%	21 11%	7	1 384	43 655	182	987	29 40%	762	25	60	33
SHAKEDOWN/FULL SC (6/3/93-9/7/93)	1 902	NA	4 102	NA	20 30%	NA	30 862	NA	NA	21 160	23 87%	17 134	101	214	172
FULL SCALE 9/8/93 12/24/93)	6 845	NA	15 105	NA	23 14%	NA	114 750	NA	NA	82 796	22 76%	67 575	322	256	209
COAL PILE TRACKS MATERIAL															
SHAKEDOWN (10/13/92 2/12/93	1 225	NA	2 246	NA	27 54%	2 058	13 112	NA	NA	8 153	50 30%	5 434	164	49	33
SHAKEDOWN (2/12/93 - 4/26/93)	1 044	NA	2 165	NA	30 52%	1 682	11 398	NA	NA	7 095	26 80%	5 617	56	121	96
SHAKEDOWN/FULL SC (4/27/93-6/2/93)	1 748	NA	3,015	NA	26 09%	2,515	17 791	NA	NA	11 557	32 41%	8 731	7 515	15	114
FULL SCALE 6/2/93 - 9/7/93)	13,162	NA	24,153	NA	31 20%	26,823	134,698	NA	NA	77 614	29 05%	60 230	691	112	97
SHAKEDOWN/FULL SC (9/8/93-12/24/93)	2,226	NA	3 944	NA	32 72%	4 734	21 714	NA	NA	12 055	29 95%	9 309	122	101	79
FULL SCALE (12/25/93 - 5/26/94)	61	NA	107	NA	35 53%	108	544	NA	NA	302	16 43%	259	3	92	79
MAIN FLUE MATERIAL															
SHAKEDOWN (6/3/93 - 9/7/93)	1,293	NA	2,521	NA	35 46%	2 610	12 828	NA	NA	7,111	26 97%	5 600	65	110	87
SHAKEDOWN/FULL SC (9/8/93-12/24/93)	17,491	NA	30 056	NA	33 87%	30 449	157 208	NA	NA	88 750	21 77%	73 030	928	96	79
FULL SCALE 12/25/93 5/26/94)	278	NA	425	NA	33 53%	586	2 387	NA	NA	1 266	24 07%	1 021	17	77	62
THICKENER MATERIAL															
SHAKEDOWN (9/8/93 12/24/93)	4,615	NA	6,537	NA	25 22%	5,964	41 234	NA	NA	27,639	29 39%	21,395	257	106	83
SHAKEDOWN (12/25/93 5/26/94)	25	NA	46	NA	28 27%	24	242			163	23 26%	132	2	101	82
AREA CUT MATERIAL															
SHAKEDOWN (4/27/93 - 6/2/93)	1,209	NA	1,971	24 45%	28 90%	1 973	12 446	NA	NA	8 063	18 24%	6 820	49	166	139
MISCELLANEOUS PILES MATERIAL															
SHAKEDOWN (4/27/93 - 6/2/93)	2 006	NA	2 546	16 52%	19 61%	2 465	20 704	NA	NA	15 412	18 76%	12 979	71	218	184
SWITCHBACK AREA MATERIAL															
SHAKEDOWN (4/27/93 6/2/93)	2 325	NA	3 537	22 47%	28 18%	3 969	24 132	NA	NA	15 738	25 40%	12 552	93	167	133
RETREATED MATERIAL															
MAIN FLUE (12/25/93 5/26/94)	38	NA	19	7 12%	9 73%	19	298	NA	NA	261	36 50%	191	1	230	169
THICKENER (9/8/93 12/24/93)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	516	NA	NA	NA
F D S /THICKENER (9/8/93 12/24/93)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1 606	NA	NA	NA
COAL PILE TRACKS (9/8/93 12/24/93)	1 856	NA	901	7 76%	10 21%	2 500	15 018	NA	NA	11 617	24 04%	8 825	75	147	108
FLUE DUST STORAGE FACILITY															
SHAKEDOWN (10/13/92 11/28/92)	151	1,056	766	13 78%	16 52%	1 241	8 441	249 155	1 039	4 635	33 30%	3 476	130	64	27
SHAKEDOWN/FULL SC (9/8/93 12/24/93)	15,137	NA	22 091	NA	24 10%	27 410	147 444	NA	NA	91 645	30 83%	70 127	672	136	104

TABLE D-3.1a
ANALYTICAL RESULTS AND CURING TIMES
SHAKEDOWN/PROVE-OUT
SMELTER HILL NPL SITE
ANACONDA, MONTANA

		ORIGINAL ANALYSES				CONTINGENCY ANALYSES				
Sample ID	Laydown Grid I D.	TCLPAnalytical Result (Pass/Fail)	Stabilization Date	Extraction Date	Curing Time (days)	Confirmation Sample ID	TCLP Analytical Result (Pass/Fail)	Stabilization Date	Extraction Date	Curing Time (days)
BP2-XI-1/3-9	1A	Pass	13-Oct	Not Reported	NA	NA				
BP2-XI-1/10-20	1A, 2A	Pass	14-Oct	17-Oct	3	NA				
BP2-XI-1/24-35	2A,3A	Pass	15-Oct	22-Oct	7	NA				
BP2-XI-1/36-42	4A	Pass	15-Oct	22-Oct	7	NA				
BP2-XI-1/43-45	4A	Pass	17-Oct	22-Oct	5	NA				
BP2-XI-1/46-57	4A,5A	Pass	17-Oct	22-Oct	5	NA				
BP2-XI-1/58-61	5A,6A	Pass	17-Oct	22-Oct	5	NA				
BP2-XI-1/62-67	6A	Pass	17-Oct	22-Oct	5	NA				
BP2-XI-1/69-70	6A,7A	Pass	17-Oct	22-Oct	5	NA				
BP2-XI-1/71-80	7A,8A	Pass	18-Oct	22-Oct	4	NA				
BP2-XI-1/81-90	8A,9A	Pass	18-Oct	22-Oct	4	NA				
BP2-XI-1/91-96	9A	Pass	18-Oct	22-Oct	4	NA				
97-98 (no sample)	9A	No Test	19-Oct			NA				
99-108 (no sample)	10A	No Test	20-Oct							
BP2-XI-1/0109-0118	1B	Pass	20-Oct	26-Oct	6	NA				
BP2-XI-1/0119-0128	2B	Pass	20-Oct	26-Oct	6	NA				
BP2-XI-1/0129-0135	3B	Pass	20-Oct	26-Oct	6	NA				
BP2-XI-1/0136-0139	4B	Pass	20-Oct	26-Oct	6	NA				
BP2-XI-1/0140-0149	4B	Pass	21-Oct	26-Oct	5	NA				
BP2-XI-1/0150-0159	5B.6B	Pass	21-Oct	26-Oct	5	NA				
BP2-XI-1/0160-0169	6B.7B	Pass	21-Oct	26-Oct	5	NA				
BP2-XI-1/0170-0179	7B,8B	Pass	21-Oct	26-Oct	5	NA				
BP2-XI-1/0180-0189	8B,9B	Pass	21-Oct	26-Oct	5	NA				
BP2-XI-1/0190-0199	9B,1C	Pass	21-Oct	26-Oct	5	NA				

(a) Indicates these samples initially failed TCLP, but passed upon reanalysis

(b) This samples acctually passes TCLP criteria, but the cadmium concentration is 0 99 ppm and is therefore considered failing

TABLE D-3.1a
ANALYTICAL RESULTS AND CURING TIMES
SHAKEDOWN/PROVE-OUT
SMELTER HILL NPL SITE
ANACONDA, MONTANA

		ORIGINAL ANALYSES				CONTINGENCY ANALYSES				
Sample ID	Laydown Grid I D	TCLPAnalytical Result (Pass/Fail)	Stabilization Date	Extraction Date	Curing Time (days)	Confirmation Sample ID	TCLP Analytical Result (Pass/Fail)	Stabilization Date	Extraction Date	Curing Time (days)
BP2-XI-1/0200-0209	1C,2C	Pass	22-Oct	26-Oct	4	NA				
BP2-XI-1/0210-0219	2C,3C	Pass	22-Oct	26-Oct	4	NA				
BP2-XI-1/0220-0229	3C,4C	Pass	22-Oct	26-Oct	4	NA				
230 (No sample)										
BP2-XI-1/0231-0241	4C	Pass	22-Oct	26-Oct	4	NA				
BP2-XI-1/0242-0251	4C,5C	Pass	22-Oct	26-Oct	4	NA				
BP2-XI-1/0252-0261	5C,6C	Pass	22-Oct	26-Oct	4	NA				
BP2-XI-1/262-267	6C	Pass	23-Oct	27-Oct	4	NA				
BP2-XI-1/268-278	6C,7C	Pass	23-Oct	27-Oct	4	NA				
BP2-XI-1/279-288	8C,9C	Pass	23-Oct	27-Oct	4	NA				
289-292 (No sample)		No Test	23-Oct	27-Oct	4	NA				
BP2-XI-1/293-302	9C,10C	Pass	24-Oct	27-Oct	3	NA				
BP2-XI-1/303-312	10C,11C,12C	Pass	24-Oct	27-Oct	3	NA				
BP2-XI-1/313-322	12C,1D	Pass	24-Oct	27-Oct	3	NA				
BP2-XI-1/323-332	1D,2D	Pass	24-Oct	27-Oct	3	NA				
BP2-XI-1/333-342	2D,3D	Pass	24-Oct	27-Oct	3	NA				
BP2-XI-1/343-352	3D	Pass	24-Oct	27-Oct	3	NA				
BP2-XI-1/353-360	3D	Pass	24-Oct	27-Oct	3	NA				
BP2-XI-1/361-370	10B	Pass	26-Oct	30-Oct	4	NA				
BP2-XI-1/371-380	10B,11B	Pass	26-Oct	30-Oct	4	NA				
BP2-XI-1/381-390	11B 12B	Pass	26-Oct	30-Oct	4	NA				
BP2-XI-1/391-400	12B,11A	Pass	26-Oct	30-Oct	4	NA				
BP2-XI-1/401-410	11A,12A	Pass	26-Oct	30-Oct	4	NA				
BP2-XI-1/411-420	12A	Pass	27-Oct	30-Oct	3	NA				
BP2-XI-1/421-432	12A,1B-2	Pass	27-Oct	30-Oct	3	NA				
BP1-XI-1/433-442	1A-2,2C-2	Pass	27-Oct	30-Oct	3	NA				

(a) Indicates these samples initially failed TCLP, but passed upon reanalysis

(b) This samples acctually passes TCLP criteria, but the cadmium concentration is 0 99 ppm and is therefore considered failing

TABLE D-3.1a
ANALYTICAL RESULTS AND CURING TIMES
SHAKEDOWN/PROVE-OUT
SMELTER HILL NPL SITE
ANACONDA, MONTANA

		ORIGINAL ANALYSES				CONTINGENCY ANALYSES				
Sample ID	Laydown Grid I D.	TCLPAnalytical Result (Pass/Fail)	Stabilization Date	Extraction Date	Curing Time (days)	Confirmation Sample ID	TCLP Analytical Result (Pass/Fail)	Stabilization Date	Extraction Date	Curing Time (days)
BP1-XI-1/443-452	1C-2,1B-2,6A-2	Pass	27-Oct	30-Oct	3	NA				
BP1-XI-1/453-462	6A-2,1A-2	Pass	27-Oct	30-Oct	3	NA				
BP1-XI-1/463-472	1A-2,12A-2	Pass	27-Oct	30-Oct	3	NA				
BP1-XI-1/473-475	12A-2	Pass	27-Oct	30-Oct	3	NA				
BP1-XI-1/476-485	6A'-2	Pass	28-Oct	2-Nov	5	NA				
BP1-XI-1/486-495	6A'-2,7A'-2	Pass	28-Oct	2-Nov	5	NA				
BP1-XI-1/496-505	7A'-2,8A'-2	Fail	28-Oct	2-Nov	5	BP-XI-1/496-505-1	Pass	28-Oct	9-Nov	12
						BP-XI-1/496-505-2	Pass	28-Oct	9-Nov	12
BP1-XI-1/506-515	8A'-2	Fail	28-Oct	2-Nov	5	BP1-XI-1/506-515-3	Pass	28-Oct	9-Nov	12
						BP1-XI-1/506-515-5	Pass	28-Oct	9-Nov	12
BP1-XI-1/516-525	8A'-2,9A'-2	Fail	28-Oct	2-Nov	5	BP1-XI-1/516-525-4	Pass	28-Oct	9-Nov	12
						BP1-XI-1/516-525-5	Pass	28-Oct	9-Nov	12
BP1-XI-1/526-535	9A'-2,10A'-2	Fail	28-Oct	2-Nov	5	BP1-XI-1/526-535-1	Pass	28-Oct	9-Nov	12
						BP1-XI-1/526-535-2	Pass	28-Oct	9-Nov	12
BP1-XI-1/536-542	10A'-2	Pass	28-Oct	2-Nov	5	NA				
BP1-XI-1/543-549	11A'-2,12A'-2	Pass	28-Oct	2-Nov	5	NA				
BP1-XI-1/550-555	10A'-2,11A'-2	Pass	28-Oct	2-Nov	5	NA				
						NA				
BP1-XI-1/556-562	10A'-2	Pass	29-Oct	2-Nov	4	NA				
BP1-XI-1/563-569	11A'-2,12A'-2	Pass	29-Oct	2-Nov	4	NA				
BP1-XI-1/570-576	11A'-2,12A''-2	Pass	29-Oct	2-Nov	4	NA				
BP1-XI-1/577-582	11A'-2,12A'-2	Pass	29-Oct	2-Nov	4	NA				
BP1-XI-1/583-588	11A'-2,12A'-2	Pass	29-Oct	2-Nov	4	NA				
BP1-XI-1/589-595	9A'-2,10A'-2,11A'-2	Fail	29-Oct	2-Nov	4	BP1-XI-1/589-595-1	Pass	29-Oct	16-Nov	18
						BP1-XI-1/589-595-5	Pass	29-Oct	16-Nov	18
BP1-XI-1/596-603	9A'-2,10A'-2,1A,W1A	Pass	29-Oct	2-Nov	4	NA				
BP1-XI-1/604-612	W1A	Fail	29-Oct	2-Nov	4	BP1-XI-1/604-612-1	Pass (a)	29-Oct	15-Nov	17
						BP1-XI-1/604-612-2	Pass (a)	29-Oct	15-Nov	17
BP1-XI-1/613-619	W1A,W2B,W2A	Pass	29-Oct	3-Nov	5	NA				
BP1-XI-1/620-627	W2A	Pass	29-Oct	3-Nov	5	NA				

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TABLE D-3.1a
ANALYTICAL RESULTS AND CURING TIMES
SHAKEDOWN/PROVE-OUT
SMELTER HILL NPL SITE
ANACONDA, MONTANA

		ORIGINAL ANALYSES				CONTINGENCY ANALYSES				
Sample ID	Laydown Grid I D.	TCLPAnalytical Result (Pass/Fail)	Stabilization Date	Extraction Date	Curing Time (days)	Confirmation Sample ID	TCLP Analytical Result (Pass/Fail)	Stabilization Date	Extraction Date	Curing Time (days)
BP1-XI-1/628-637	W2A,W3A	Fail	29-Oct	3-Nov	5	BP1-XI-1/628-637-1	Pass (a)	29-Oct	15-Nov	17
						BP1-XI-1/628-637-2	Pass (a)	29-Oct	15-Nov	17
BP1-XI-1/638-645	W3A	Pass	30-Oct	3-Nov	4	NA				
BP1-XI-1/646-653	W3A,W4A	Pass	30-Oct	3-Nov	4	NA				
BP1-XI-1/654-661	W4A	Pass	30-Oct	3-Nov	4	NA				
BP1-XI-1/662-669	W4A,W5A	Pass	30-Oct	3-Nov	4	NA				
BP1-XI-1/670-677	W5A,W6A	Pass	30-Oct	3-Nov	4	NA				
BP1-XI-1/678-685	W6A	Pass	30-Oct	3-Nov	4	NA				
BP1-XI-1/686-693	W6A,W7A	Pass	30-Oct	3-Nov	4	NA				
BP1-XI-1/694-698	W7A,W8A	Pass	30-Oct	3-Nov	4	NA				
						NA				
BP1-XI-1/699-706	W7A,W8A	Pass	31-Oct	4-Nov	4	NA				
BP1-XI-1/707-714	W8A	Pass	31-Oct	4-Nov	4	NA				
BP1-XI-1/715-722	W9A	Pass	31-Oct	4-Nov	4	NA				
BP1-XI-1/723-730	W9A	Pass	31-Oct	4-Nov	4	NA				
BP1-XI-1/731-738	W10A	Pass	31-Oct	4-Nov	4	NA				
BP1-XI-1/739-746	W10A,W11A	Fail	31-Oct	4-Nov	4	BP1-XI-1/739-746-4	Pass	31-Oct	17-Nov	17
						BP1-XI-1/739-746-5	Pass	31-Oct	17-Nov	17
BP2-XI-1/747-753	W11A	Pass	31-Oct		4	NA				
						NA				
BP2-XI-1/754-761	W11A,W12A	Pass	2-Nov		2	NA				
BP2-XI-1/762-769	W12A,W12B	Pass	2-Nov		2	NA				
BP2-XI-1/770-780	W12B	Pass	2-Nov		2	NA				
BP3-XI-1/781-790	W11B	Pass	2-Nov			NA				
						NA				
BP3-XI-1/791-798	W11B,W10B	Fail	3-Nov	5-Nov	2	BP3-XI-1/791-798-2	Pass	3-Nov	17-Nov	14
						BP3-XI-1/791-798-3	Pass	3-Nov	17-Nov	14
BP3-XI-1/799-806	W10B	Fail	3-Nov	5-Nov	2	BP3-XI-1/799-806-1	Pass	3-Nov	17-Nov	14
						BP3-XI-1/799-806-2	Fail	3-Nov	17-Nov	14
BP3-XI-1/807-814	W10B,W9B	Fail	3-Nov	5-Nov	2	BP3-XI-1/807-814-4	Pass	3-Nov	17-Nov	14
						BP3-XI-1/807-814-1	Pass	3-Nov	17-Nov	14

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ANALYTICAL RESULTS AND CURING TIMES
SHAKEDOWN/PROVE-OUT
SMELTER HILL NPL SITE
ANACONDA, MONTANA

		ORIGINAL ANALYSES				CONTINGENCY ANALYSES				
Sample ID	Laydown Grid I D	TCLPAnalytical Result (Pass/Fail)	Stabilization Date	Extraction Date	Curing Time (days)	Confirmation Sample ID	TCLP Analytical Result (Pass/Fail)	Stabilization Date	Extraction Date	Curing Time (days)
BP3-XI-1/815-824	W9B,W8B	Fail	3-Nov	5-Nov	2	BP3-XI-1/815-824-1	Pass	3-Nov	17-Nov	14
						BP3-XI-1/815-824-2	Pass	3-Nov	17-Nov	14
BP3-XI-1/825-836	W8B	Fail	3-Nov	5-Nov	2	BP3-XI-1/825-836-2	Pass	3-Nov	17-Nov	14
						BP3-XI-1/825-836-4	Pass	3-Nov	17-Nov	14
BP3-XI-1/837-846	W8B,W7B	Fail	3-Nov	5-Nov	2	BP3-XI-1/837-846-1	Pass	3-Nov	17-Nov	14
						BP3-XI-1/837-846-3	Pass	3-Nov	17-Nov	14
BP3-XI-1/847-859	W7B,W6B	Fail	3-Nov	5-Nov	2	BP3-XI-1/847-859-4	Pass	3-Nov	17-Nov	14
						BP3-XI-1/847-859-1	Pass	3-Nov	17-Nov	14
BP3-XI-1/860-869	W6B,W5B	Pass	5-Nov	9-Nov	4	NA				
BP3-XI-1/870-879	W5B	Pass	5-Nov	9-Nov	4	NA				
BP3-XI-1/880-889	W5B,W4B	Pass	5-Nov	9-Nov	4	NA				
BP3-XI-1/890-899	W4B,W3B	Pass	5-Nov	10-Nov	5	NA				
BP3-XI-1/900-908	W3B,W2B	Pass	5-Nov	9-Nov	4	NA				
BP3-XI-1/909-918	WB2,WC12	Pass	6-Nov	10-Nov	4	NA				
BP3-XI-1/919-928	WC11	Pass	6-Nov	10-Nov	4	NA				
BP3-XI-1/929-938	WC11,WC10	Pass	6-Nov	10-Nov	4	NA				
BP3-XI-1/939-948	WC10,WC9	Pass	6-Nov	10-Nov	4	NA				
BP3-XI-1/949-958	WC9,WD4	Pass	6-Nov	10-Nov	4	NA				
BP3-XI-1/959-968	WD4	Pass	6-Nov	10-Nov	4	NA				
BP3-XI-1/969-977	WC8	Pass	6-Nov	10-Nov	4	NA				
BP3-XI-1/978-981	WC8,W7C	Pass	7-Nov	11-Nov	4	NA				
982-983 (No sample)	W7C		8-Nov			NA				
BP3-XI-1/984-993	W7C,W6C	Pass	9-Nov	13-Nov	4	NA				
BP3-XI-1/994-1003	W6C	Fail	9-Nov	13-Nov	4	BP3-XI-1/994-1003-1	Pass	9-Nov	21-Dec	42
						BP3-XI-1/994-1003-3	Pass	9-Nov	21-Dec	42
BP3-XI-1/1004-1013	W6C,W5C	Pass	9-Nov	13-Nov	4	NA				

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TABLE D-3.1a
ANALYTICAL RESULTS AND CURING TIMES
SHAKEDOWN/PROVE-OUT
SMELTER HILL NPL SITE
ANACONDA, MONTANA

		ORIGINAL ANALYSES				CONTINGENCY ANALYSES				
Sample ID	Laydown Grid I D	TCLPAnalytical Result (Pass/Fail)	Stabilization Date	Extraction Date	Curing Time (days)	Confirmation Sample ID	TCLP Analytical Result (Pass/Fail)	Stabilization Date	Extraction Date	Curing Time (days)
BP3-XI-1/1014-1023	W5C,W3D	Fail	9-Nov	13-Nov	4	BP3-XI-1/1014-1023-1	Pass	9-Nov	21-Dec	42
						BP3-XI-1/1014-1023-2	Fail	9-Nov	21-Dec	42
BP3-XI-1/1024-1033	W3D	Fail	9-Nov	13-Nov	4	BP3-XI-1/1024-1033-1	Pass	9-Nov	21-Dec	42
						BP3-XI-1/1024-1033-3	Pass	9-Nov	21-Dec	42
BP3-XI-1/1034-1047	W4C	Fail	9-Nov	13-Nov	4	BP3-XI-1/1034-1047-1	Fail	9-Nov	21-Dec	42
						BP3-XI-1/1034-1047-4	Pass	9-Nov	21-Dec	42
BP3-XI-1/1048-1055	W2D	Fail	10-Nov	14-Nov	4	BP3-XI-1/1048-1055-1	Pass	10-Nov	22-Dec	42
						BP3-XI-1/1048-1055-3	Fail (b)	10-Nov	22-Dec	42
BP3-XI-1/1056-1063	W1D	Fail	10-Nov	14-Nov	4	BP3-XI-1/1056-1063-3	Pass	10-Nov	22-Dec	42
						BP3-XI-1/1056-1063-4	Pass	10-Nov	22-Dec	42
BP3-XI-1/1064-1072	W3C	Fail	10-Nov	14-Nov	4	BP3-XI-1/1064-1072-1	Pass	10-Nov	22-Dec	42
						BP3-XI-1/1064-1072-5	Pass	10-Nov	22-Dec	42
BP3-XI-1/1073-1082	W2C	Fail	10-Nov	14-Nov	4	BP3-XI-1/1073-1082-1	Pass	10-Nov	22-Dec	42
						BP3-XI-1/1073-1082-3	Pass	10-Nov	22-Dec	42
BP3-XI-1/1083-1090	W1C	Fail	10-Nov	14-Nov	4	BP3-XI-1/1083-1090-1	Pass	10-Nov	22-Dec	42
						BP3-XI-1/1083-1090-2	Pass	10-Nov	22-Dec	42
BP3-XI-1/1091-1094	WB2	Fail	10-Nov	14-Nov	4	BP3-XI-1/1091-1094-1	Pass	10-Nov	22-Dec	42
						BP3-XI-1/1091-1094-4	Pass	10-Nov	22-Dec	42
BP3-XI-1/1095-1098	WB2	Pass	11-Nov	16-Nov	5	NA				
BP3-XI-1/1099-1107	WA1,WB1	Pass	11-Nov	16-Nov	5	NA				
BP3-XI-1/1108-1117	B'1,B'2	Fail	11-Nov	15-Nov	4	BP3-XI-1/1108-1117-2	Pass	11-Nov	26-Dec	45
						BP3-XI-1/1108-1117-3	Pass	11-Nov	26-Dec	45
IP-XI-1/1118-1122	B'2	Fail	11-Nov	15-Nov	4	IP-XI-1/1118-1122-2	Fail	11-Nov	26-Dec	45
						IP-XI-1/1118-1122-4	Pass	11-Nov	26-Dec	45
IP-XI-1/1123-1130	B'3	Fail	11-Nov	15-Nov	4	IP-XI-1/1123-1130-1	Pass	11-Nov	26-Dec	45
						IP-XI-1/1123-1130-2	Pass	11-Nov	26-Dec	45
IP-XI-1/1131-1138	B'4	Fail	11-Nov	15-Nov	4	IP-XI-1/1131-1138-1	Pass	11-Nov	26-Dec	45
						IP-XI-1/1131-1138-2	Pass	11-Nov	26-Dec	45
IP-XI-1/1139-1146	B'5	Fail	11-Nov	15-Nov	4	IP-XI-1/1139-1146-3	Pass	11-Nov	26-Dec	45
						IP-XI-1/1139-1146-5	Pass	11-Nov	26-Dec	45
IP-XI-1/1147-1155	B'6	Fail	11-Nov	15-Nov	4	IP-XI-1/1147-1155-2	Pass	11-Nov	26-Dec	45

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TABLE D-3.1a
ANALYTICAL RESULTS AND CURING TIMES
SHAKEDOWN/PROVE-OUT
SMELTER HILL NPL SITE
ANACONDA, MONTANA

		ORIGINAL ANALYSES				CONTINGENCY ANALYSES				
Sample ID	Laydown Grid I D.	TCLPAnalytical Result (Pass/Fail)	Stabilization Date	Extraction Date	Curing Time (days)	Confirmation Sample ID	TCLP Analytical Result (Pass/Fail)	Stabilization Date	Extraction Date	Curing Time (days)
						IP-XI-1/1147-1155-4	Pass	11-Nov	26-Dec	45
IP-XI-1/1156-1163	B'7	Pass	12-Nov	16-Nov	4	NA				
IP-XI-1/1164-1171	B'8	Pass	12-Nov	16-Nov	4	NA				
IP-XI-1/1172-1181	B'9	Pass	12-Nov	16-Nov	4	NA				
IP-XI-1/1182-1184	B'10	Fail	12-Nov	16-Nov	4	IP-XI-1/1182-1184-2	Pass	12-Nov	26-Dec	44
						IP-XI-1/1182-1184-4	Pass	12-Nov	26-Dec	44
IP-XI-1/1185-1191	B'10	Pass	14-Nov	18-Nov	4	NA				
IP-XI-1/1192-1201	B'11	Pass	14-Nov	18-Nov	4	NA				
IP-XI-1/1202-1209	B'12	Pass	14-Nov	19-Nov	5	NA				
IP-XI-1/1210-1213	B'12 B'13	Pass	14-Nov	18-Nov	4	NA				
IP-XI-1/1214-1220	B'13	Pass	15-Nov	19-Nov	4	NA				
IP-XI-1/1221-1230	B'14	Pass	15-Nov	19-Nov	4	NA				
IP-XI-1/1231-1240	B'15	Pass	15-Nov	19-Nov	4	NA				
IP-XI-1/1241-1250	B'16	Pass	15-Nov	19-Nov	4	NA				
FDS-XI-1/1251-1252	B'17	Pass	15-Nov	19-Nov	4	NA				
FDS-XI-1/1253-1260	B'17	Pass	17-Nov	21-Nov	4	NA				
FDS-XI-1/1261-1270	B'18	Pass	17-Nov	21-Nov	4	NA				
FDS-XI-1/1271-1280	B'19	Pass	17-Nov	21-Nov	4	NA				
FDS-XI-1/1281-1290	C'1	Pass	17-Nov	21-Nov	4	NA				
FDS-XI-1/1291-1299	C'2	Pass	17-Nov	21-Nov	4	NA				
FDS-XI-1/1300-1309	C'3	Pass	18-Nov	22-Nov	4	NA				
FDS-XI-1/1310-1319	C'4	Pass	18-Nov	22-Nov	4	NA				
FDS-XI-1/1320-1329	C'5	Pass	18-Nov	22-Nov	4	NA				
FDS-XI-1/1330-1339	C'7	Pass	18-Nov	22-Nov	4	NA				
FDS-XI-1/1340-1349	C'6	Pass	18-Nov	22-Nov	4	NA				
FDS-XI-1/1350-1360	C'8	Pass	18-Nov	22-Nov	4	NA				
FDS-XI-1/1361-1370	C'9	Pass	19-Nov	23-Nov	4	NA				

(a) Indicates these samples initially failed TCLP, but passed upon reanalysis

(b) This samples acctually passes TCLP criteria, but the cadmium concentration is 0 99 ppm and is therefore considered failing

TABLE D-3.1a
ANALYTICAL RESULTS AND CURING TIMES
SHAKEDOWN/PROVE-OUT
SMELTER HILL NPL SITE
ANACONDA, MONTANA

		ORIGINAL ANALYSES				CONTINGENCY ANALYSES				
Sample ID	Laydown Grid I.D.	TCLPAnalytical Result (Pass/Fail)	Stabilization Date	Extraction Date	Curing Time (days)	Confirmation Sample ID	TCLP Analytical Result (Pass/Fail)	Stabilization Date	Extraction Date	Curing Time (days)
FDS-XI-1/1371-1380	C'10	Pass	19-Nov	23-Nov	4	NA				
FDS-XI-1/1381-1390	C'11	Pass	19-Nov	23-Nov	4	NA				
FDS-XI-1/1391-1400	EA1	Pass	19-Nov	23-Nov	4	NA				
FDS-XI-1/1401-1410	EA2	Pass	19-Nov	23-Nov	4	NA				
FDS-XI-1/1411-1420	EA3		19-Nov	23-Nov	4	NA				
FDS-XI-1/1421-1430	EA4	Pass	19-Nov	25-Nov	6	NA				
FDS-XI-1/1431-1440	EA5	Pass	19-Nov	25-Nov	6	NA				
FDS-XI-1/1441-1450	EA6	Pass	19-Nov	25-Nov	6	NA				
FDS-XI-1/1451-1460	EA7	Pass	19-Nov	25-Nov	6	NA				
FDS-XI-1/1461-1470	EA8	Pass	19-Nov	25-Nov	6	NA				
FDS-XI-1/1471-1480	EA9	Pass	19-Nov	25-Nov	6	NA				
FDS-XI-1/1481-1490	EA10	Pass	19-Nov	25-Nov	6	NA				
FDS-XI-1/1491-1500	EA11	Pass	20-Nov	25-Nov	5	NA				
FDS-XI-1/1501-1510	EA12	Pass	20-Nov	25-Nov	5	NA				
FDS-XI-1/1511-1520	EA13	Pass	20-Nov	25-Nov	5	NA				
FDS-XI-1/1521-1530	EA14	Pass	20-Nov	25-Nov	5	NA				
FDS-XI-1/1531-1540	EA15	Pass	20-Nov	25-Nov	5	NA				
FDS-XI-1/1541-1550	EA16		20-Nov	1-Dec	11	NA				
FDS-XI-1/1551-1559	EA17	Fail	20-Nov	1-Dec	11	FDS-XI-1/1551-1559-2	Pass	11/20/1492	29-Dec	39
						FDS-XI-1/1551-1559-4	Pass	11/20/1492	29-Dec	39
FDS-XI-1/1560-1570	EA17,EA18	Fail	21-Nov	1-Dec	10	FDS-XI-1/1560-1570-1	Pass	21-Nov	29-Dec	38
						FDS-XI-1/1560-1570-5	Pass	21-Nov	29-Dec	38
FDS-XI-1/1571-1580	EA19	Pass	21-Nov	1-Dec	10	NA				
FDS-XI-1/1581-1590	EA20	Pass	21-Nov	1-Dec	10	NA				
FDS-XI-1/1591-1600	EA21	Pass	21-Nov	1-Dec	10	NA				
FDS-XI-1/1601-1610	EB1	Pass	21-Nov	1-Dec	10	NA				
FDS-XI-1/1611-1620	EB2	Pass	21-Nov							
FDS-XI-1/1621-1630	EB3	Pass	22-Nov	1-Dec	9	NA				
FDS-XI-1/1631-1640	EB4	Fail	22-Nov	1-Dec	9	FDS-XI-1/1631-1640-1	Pass	22-Nov	29-Dec	37

(a) Indicates these samples initially failed TCLP, but passed upon reanalysis

(b) This samples acctually passes TCLP criteria, but the cadmium concentration is 0 99 ppm and is therefore considered failing

TABLE D-3.1a
ANALYTICAL RESULTS AND CURING TIMES
SHAKEDOWN/PROVE-OUT
SMELTER HILL NPL SITE
ANACONDA, MONTANA

		ORIGINAL ANALYSES				CONTINGENCY ANALYSES				
Sample ID	Laydown Grid I D	TCLPAnalytical Result (Pass/Fail)	Stabilization Date	Extraction Date	Curing Time (days)	Confirmation Sample ID	TCLP Analytical Result (Pass/Fail)	Stabilization Date	Extraction Date	Curing Time (days)
						FDS-XI-1/1631-1640-3	Pass	22-Nov	29-Dec	37
FDS-XI-1/1641-1650	EB5	Pass	22-Nov	1-Dec	9	NA				
FDS-XI-1/1651-1660	EB6	Pass	22-Nov	1-Dec	9	NA				
FDS-XI-1/1661-1670	EB7	Pass	22-Nov	1-Dec	9	NA				
FDS-XI-1/1671-1680	EB8	Pass	22-Nov	1-Dec	9	NA				
FDS-XI-1/1681-1690	EB9	Pass	22-Nov	1-Dec	9	NA				
FDS-XI-1/1691-1700	EB10	Pass	22-Nov	1-Dec	9	NA				
FDS-XI-1/1701-1710	EB11	Pass	22-Nov	1-Dec	9	NA				
FDS-XI-1/1711-1720	EB12	Pass	22-Nov	1-Dec	9	NA				
FDS-XI-1/1721-1730	EB13	Pass	22-Nov	1-Dec	9	NA				
FDS-XI-1/1731-1740	EB14	Pass	22-Nov	1-Dec	9	NA				
FDS-XI-1/1741-1747	EB15	Pass	22-Nov	1-Dec	9	NA				
FDS-XI-1/1748-1750	EB15	Fail	23-Nov	1-Dec	8	FDS-XI-1/1748-1750-1	Pass	23-Nov	29-Dec	36
						FDS-XI-1/1748-1750-4	Pass	23-Nov	29-Dec	36
FDS-XI-1/1751-1760	EB16	Fail	23-Nov	1-Dec	8	FDS-XI-1/1751-1760-3	Pass	23-Nov	29-Dec	36
						FDS-XI-1/1751-1760-4	Pass	23-Nov	29-Dec	36
FDS-XI-1/1761-1770	EC1	Fail	23-Nov	1-Dec	8	FDS-XI-1/1761-1770-2	Pass	23-Nov	29-Dec	36
						FDS-XI-1/1761-1770-4	Pass	23-Nov	29-Dec	36
FDS-XI-1/1771-1780	EC2	Fail	23-Nov	1-Dec	8	FDS-XI-1/1771-1780-2	Pass	23-Nov	29-Dec	36
						FDS-XI-1/1771-1780-3	Pass	23-Nov	29-Dec	36
FDS-XI-1/1781-1790	EC3	Fail	23-Nov	1-Dec	8	FDS-XI-1/1781-1790-2	Pass	23-Nov	29-Dec	36
						FDS-XI-1/1781-1790-3	Pass	23-Nov	29-Dec	36
FDS-XI-1/1791-1795	EC4	Fail	23-Nov	1-Dec	8	FDS-XI-1/1791-1795-1	Pass	23-Nov	29-Dec	36
						FDS-XI-1/1791-1795-4	Pass	23-Nov	29-Dec	36
FDS-XI-1/1797-1801	EC4	Fail	24-Nov	2-Dec	8	FDS-XI-1/1797-1801-1	Pass	24-Nov	29-Dec	35
						FDS-XI-1/1797-1801-2	Pass	24-Nov	29-Dec	35
FDS-XI-1/1802-1811	EC5		24-Nov	2-Dec	8	NA				
FDS-XI-1/1812-1822	EC6	Fail	24-Nov	2-Dec	8	FDS-XI-1/1812-1822-3	Pass	24-Nov	29-Dec	35
						FDS-XI-1/1812-1822-4	Pass	24-Nov	29-Dec	35
FDS-XI-1/1823-1832	EC7	Fail	27-Nov	2-Dec	5	FDS-XI-1/1823-1832-1	Pass	27-Nov	29-Dec	32

(a) Indicates these samples initially failed TCLP, but passed upon reanalysis

(b) This samples acctually passes TCLP criteria, but the cadmium concentration is 0 99 ppm and is therefore considered failing

TABLE D-3.1a
ANALYTICAL RESULTS AND CURING TIMES
SHAKEDOWN/PROVE-OUT
SMELTER HILL NPL SITE
ANACONDA, MONTANA

		ORIGINAL ANALYSES				CONTINGENCY ANALYSES				
Sample ID	Laydown Grid I.D	TCLPAnalytical Result (Pass/Fail)	Stabilization Date	Extraction Date	Curing Time (days)	Confirmation Sample ID	TCLP Analytical Result (Pass/Fail)	Stabilization Date	Extraction Date	Curing Time (days)
						FDS-XI-1/1823-1832-2	Pass	27-Nov	29-Dec	32
FDS-XI-1/1833-1843	EC8	Fail	27-Nov	2-Dec	5	FDS-XI-1/1833-1843-1	Pass	27-Nov	29-Dec	32
						FDS-XI-1/1833-1843-4	Pass	27-Nov	29-Dec	32
FDS-XI-1/1844-1853	EC9	Fail	27-Nov	2-Dec	5	FDS-XI-1/1844-1853-2	Pass	27-Nov	29-Dec	32
						FDS-XI-1/1844-1853-5	Pass	27-Nov	29-Dec	32
FDS-XI-1/1854-1863	EC10	Fail	27-Nov	2-Dec	5	FDS-XI-1/1854-1863-3	Pass	27-Nov	29-Dec	32
						FDS-XI-1/1854-1863-4	Pass	27-Nov	29-Dec	32
FDS-XI-1/1864-1873	EC11	Fail	27-Nov	2-Dec	5	FDS-XI-1/1864-1873-1	Pass	27-Nov	28-Dec	31
						FDS-XI-1/1864-1873-4	Pass	27-Nov	28-Dec	31
FDS-XI-1/1874-1883	EC12	Fail	27-Nov	2-Dec	5	FDS-XI-1/1874-1883-1	Pass	27-Nov	28-Dec	31
						FDS-XI-1/1874-1883-4	Pass	27-Nov	28-Dec	31
FDS-XI-1/1884-1888	EC13	Fail	27-Nov	2-Dec	5	FDS-XI-1/1884-1888-1	Pass	27-Nov	28-Dec	31
						FDS-XI-1/1884-1888-3	Pass	27-Nov	28-Dec	31
FDS-XI-1/1889-1893	EC13	Fail	28-Nov	2-Dec	4	FDS-XI-1/1889-1893-1	Pass	28-Nov	28-Dec	30
						FDS-XI-1/1889-1893-4	Pass	28-Nov	28-Dec	30
FDS-XI-1/1894-1903	ED1		28-Nov	2-Dec	4	NA				
FDS-XI-1/1904-1913	ED2	Fail	28-Nov	2-Dec	4	FDS-XI-1/1904-1913-2	Pass	28-Nov	28-Dec	30
						FDS-XI-1/1904-1913-3	Pass	28-Nov	28-Dec	30
FDS-XI-1/1914-1921	ED3	Pass	28-Nov	2-Dec	4	NA				
FDS-XI-1/1924-1933	ED4	Pass	28-Nov	2-Dec	4	NA				
FDS-XI-1/1934-1943	ED5	Pass	28-Nov	2-Dec	4	NA				
FDS-XI-1/1944-1953	ED6	Pass	28-Nov	2-Dec	4	NA				
FDS-XI-1/1954-1966	ED7	Pass	28-Nov	2-Dec	4	NA				
CPT-XI-1/1967-1976	ED8	Fail	29-Nov	3-Dec	4	CPT-XI-1/1967-1976-3	Fail	29-Nov	26-Dec	27
						CPT-XI-1/1967-1976-4	Fail	29-Nov	26-Dec	27
CPT-XI-1/1977-1986	EE1	Fail	29-Nov	3-Dec	4	CPT-XI-1/1977-1986-1	Fail	29 Nov	26-Dec	27
						CPT-XI-1/1977-1986-3	Fail	29-Nov	26-Dec	27
CPT-XI-1/1987-1996	EE2	Fail	29-Nov	3-Dec	4	CPT-XI-1/1987-1996-3	Fail	29-Nov	26-Dec	27
						CPT-XI-1/1987-1996-4	Fail	29-Nov	26-Dec	27
CPT-XI-1/1977-2006	EE3	Fail	29-Nov	3-Dec	4	CPT-XI-1/1977-2006-4	Fail	29-Nov	26-Dec	27

(a) Indicates these samples initially failed TCLP, but passed upon reanalysis

(b) This samples acctually passes TCLP criteria, but the cadmium concentration is 0 99 ppm and is therefore considered failing

TABLE D-3.1a
ANALYTICAL RESULTS AND CURING TIMES
SHAKEDOWN/PROVE-OUT
SMELTER HILL NPL SITE
ANACONDA, MONTANA

		ORIGINAL ANALYSES				CONTINGENCY ANALYSES				
Sample ID	Laydown Grid I D.	TCLPAnalytical Result (Pass/Fail)	Stabilization Date	Extraction Date	Curing Time (days)	Confirmation Sample ID	TCLP Analytical Result (Pass/Fail)	Stabilization Date	Extraction Date	Curing Time (days)
						CPT-XI-1/1977-2006-5	Fail	29-Nov	26-Dec	27
CPT-XI-1/2007-2016	ED9	Fail	29-Nov	3-Dec	4	CPT-XI-1/2007-2016-2	Fail	29-Nov	26-Dec	27
						CPT-XI-1/2007-2016-3	Fail	29-Nov	26-Dec	27
CPT-XI-1/2017-2026	ED10	Fail	29-Nov	3-Dec	4	CPT-XI-1/2017-2026	Fail	29-Nov	26-Dec	27
						CPT-XI-1/2017-2026	Fail	29-Nov	26-Dec	27
BP3-XI-1/2027-2036	EE4	Pass	30-Nov	4-Dec	4	NA				
BP3-XI-1/2037-2044	EE5	Pass	30-Nov	4-Dec	4	NA				
BP3-XI-1/2045-2054	E2A1	Pass	30-Nov	4-Dec	4	NA				
BP3-XI-1/2055-2064	E2A2	Pass	30-Nov	4-Dec	4	NA				
BP3-XI-1/2065-2074	E2A3	Pass	30-Nov	4-Dec	4	NA				
BP3-XI-1/2075-2078	E2A4	Pass	30-Nov	4-Dec	4	NA				
BP3-XI-1/2079-2082	E2A4	Pass	1-Dec	4-Dec	3	NA				
BP3-XI-1/2083-2092	E2B1	Pass	1-Dec	4-Dec	3	NA				
BP3-XI-1/2093-2095	E2B2	Pass	1-Dec	4-Dec	3	NA				

(a) Indicates these samples initially failed TCLP, but passed upon reanalysis.

(b) This samples acctually passes TCLP criteria, but the cadmium concentration is 0.99 ppm and is therefore considered failing.

TABLE D-3.1b

ANALYTICAL RESULTS SUMMARY AND CURING TIMES
FLUE DUST SHAKEDOWN/PROVE-OUT
ANACONDA SMELTER NPL SITE

Sample ID	Laydown Grid I.D.	TCLP Analytical Result (Pass/Fail)	Stabilization Date	Extraction Date	Curing Time (days)
CPT-XIII-1/0001-0009	SH-1	Fail-Pb	11-Jan	14-Jan	3
CPT-XIII-1/0001-0009-2	SH-1	Fail-Pb	11-Jan	22-Jan	11
CPT-XIII-1/0001-0009-3	SH-1	Fail-Pb	11-Jan	22-Jan	11
CPT-XIII-1/0010-0019	SH-2	Fail-Pb	11-Jan	14-Jan	3
CPT-XIII-1/0010-0019 dup	SH-2	Fail-Pb	11-Jan	14-Jan	3
CPT-XIII-1/0010-0019-2	SH-2	Fail-Pb	11-Jan	22-Jan	11
CPT-XIII-1/0010-0019-3	SH-2	Fail-Pb	11-Jan	22-Jan	11
CPT-XIII-1/0020-0023	SH-3	Fail-Pb	11-Jan	14-Jan	3
CPT-XIII-1/0020-0023-3	SH-3	Fail-Pb	11-Jan	22-Jan	11
CPT-XIII-1/0020-0023-5	SH-3	Fail-Pb	11-Jan	22-Jan	11
CPT-XIII-1/0024-0030	SH-3	Fail-Pb	12-Jan	15-Jan	3
CPT-XIII-1/0024-0030-2	SH-3	Fail-Pb	12-Jan	22-Jan	10
CPT-XIII-1/0024-0030-3	SH-3	Fail-Pb	12-Jan	22-Jan	10
CPT-XIII-1/0031-0040	SH-4	Pass	12-Jan	15-Jan	3
CPT-XIII-1/0031-0040 dup	SH-4	Fail-Cd,Pb	12-Jan	15-Jan	3
CPT-XIII-1/0031-0040-2	SH-4	Pass	12-Jan	22-Jan	10
CPT-XIII-1/0031-0040-4	SH-4	Fail-Pb,Cd	12-Jan	22-Jan	10
CPT-XIII-1/0041-0050	SH-5	Fail-Cd	12-Jan	15-Jan	3
CPT-XIII-1/0041-0050-1	SH-5	Fail-Pb,Cd	12-Jan	22-Jan	10
CPT-XIII-1/0041-0050-3	SH-5	Pass	12-Jan	22-Jan	10
CPT-XIII-1/0051-0060	SH-6	Fail-Cd, Pb	12-Jan	15-Jan	3
CPT-XIII-1/0051-0060-1	SH-6	Fail-Cd	12-Jan	22-Jan	10
CPT-XIII-1/0051-0060-5	SH-6	Fail-Cd	12-Jan	22-Jan	10
CPT-XIII-1/0061-0064	SH-7	Fail-Cd, Pb	12-Jan	15-Jan	3
CPT-XIII-1/0061-0064-3	SH-7	Fail-Pb,Cd	12-Jan	22-Jan	10
CPT-XIII-1/0061-0064-5	SH-7	Fail-Cd	12-Jan	22-Jan	10
CPT-XIII-1/0065-0074	SH-8	Fail-Cd	13-Jan	16-Jan	3
CPT-XIII-1/0065-0074-1	SH-8	Fail-Cd,Pb	13-Jan	23-Jan	10
CPT-XIII-1/0065-0074-4	SH-8	Fail-Cd, Pb	13-Jan	23-Jan	10
CPT-XIII-1/0075-0080	SH-9	Fail-Cd	13-Jan	16-Jan	3
CPT-XIII-1/0075-0080-1	SH-9	Fail-Cd, Pb	13-Jan	23-Jan	10
CPT-XIII-1/0075-0080-3	SH-9	Fail-Cd, Pb	13-Jan	23-Jan	10
CPT-XIII-1/0081-0090	SH-10	Fail-Cd	13-Jan	16-Jan	3
CPT-XIII-1/0081-0090-2	SH-10	Fail-Cd, Pb	13-Jan	23-Jan	10
CPT-XIII-1/0081-0090-5	SH-10	Fail-Cd	13-Jan	23-Jan	10
CPT-XIII-1/0091-0100	SH-11	Pass	13-Jan	16-Jan	3
CPT-XIII-1/0101-0110	SH-12	Fail-Cd	13-Jan	16-Jan	3
CPT-XIII-1/0101-0110-1	SH-12	Pass	13-Jan	23-Jan	10
CPT-XIII-1/0101-0110-3	SH-12	Fail-Cd	13-Jan	23-Jan	10
CPT-XIII-1/0111-0121	SH-13	Pass	14-Jan	17-Jan	3
CPT-XIII-1/0122-0129	SH-14	Pass	14-Jan	17-Jan	3
CPT-XIII-1/0130	not recorded	Fail-Pb,Cd	14-Jan	17-Jan	3
CPT-XIII-1/0131-0140	SH-15	Pass	15-Jan	18-Jan	3
CPT-XIII-1/0131-0140 dup	SH-15	Pass	15-Jan	18-Jan	3
CPT-XIII-1/0141–0151	SH-16	Pass	15-Jan	18-Jan	3
CPT-XIII-1/0152	VOID	VOID	VOID	VOID	VOID

TABLE D-3.1b

ANALYTICAL RESULTS SUMMARY AND CURING TIMES
FLUE DUST SHAKEDOWN/PROVE-OUT
ANACONDA SMELTER NPL SITE

Sample ID	Laydown Grid I.D.	TCLP Analytical Result (Pass/Fail)	Stabilization Date	Extraction Date	Curing Time (days)
CPT-XIII-1/0153-0162	SH-17	Pass	15-Jan	18-Jan	3
CPT-XIII-1/0163-0169	SH-18	Pass	15-Jan	18-Jan	3
CPT-XIII-1/0170-0173	SH-18	Pass	16-Jan	19-Jan	3
CPT-XIII-1/0170-0173 dup	SH-18	Pass	16-Jan	19-Jan	3
CPT-XIII-1/0174-0183	SH-19	Pass	16-Jan	19-Jan	3
CPT-XIII-1/0184-0188	SH-20	Pass	16-Jan	19-Jan	3
CPT-XIII-1/0189-0194	SH-20	Pass	18-Jan	21-Jan	3
CPT-XIII-1/0189-0194 dup	SH-20	Pass	18-Jan	21-Jan	3
CPT-XIII-1/0195-0204	SH-21	Fail-Pb,Cd	18-Jan	21-Jan	3
CPT-XIII-1/0195-0204-2	SH-21	Pass	18-Jan	27-Jan	9
CPT-XIII-1/0195-0204-5	SH-21	Pass	18-Jan	27-Jan	9
CPT-XIII-1/0205-0214	SH-22	Pass	18-Jan	21-Jan	3
CPT-XIII-1/0215-0223	SH-23	Pass	18-Jan	21-Jan	3
CPT-XIII-1/0224-0234	SH-24	Pass	18-Jan	21-Jan	3
CPT-XIII-1/0235-0244	SH-25	Pass	19-Jan	22-Jan	3
CPT-XIII-1/0235-0244 dup	SH-25	Pass	19-Jan	22-Jan	3
CPT-XIII-1/0245-0254	SH-26	Pass	19-Jan	22-Jan	3
CPT-XIII-1/0245-0254(1/40 split)	SH-26	Fail Pb	19-Jan	22-Jan	3
CPT-XIII-1/0255-0264	SH-27	Pass	19-Jan	22-Jan	3
CPT-XIII-1/0265-0274	SH-28	Pass	19-Jan	22-Jan	3
CPT-XIII-1/0275-0278	SH-29	Pass	19-Jan	22-Jan	3
CPT-XIII-1/0279-0280	SH-30	Pass	19-Jan	22-Jan	3
CPT-XIII-1/0281-0286	SH-29	Pass	19-Jan	22-Jan	3
CPT-XIII-1/0287-0294	SH-30	Pass	19-Jan	22-Jan	3
CPT-XIII-1/0295-0300	SH-31	Pass	19-Jan	22-Jan	3
CPT-XIII-1/0301-0305	SH-31	Pass	20-Jan	23-Jan	3
CPT-XIII-1/0301-0305 dup	SH-31	Pass	20-Jan	23-Jan	3
CPT-XIII-1/0306-0315	SH-32	Pass	20-Jan	23-Jan	3
CPT-XIII-1/0316-0325	SH-33	Pass	20-Jan	23-Jan	3
CPT-XIII-1/0326-0335	SH-34	Fail-Cd	20-Jan	23-Jan	3
CPT-XIII-1/0326-0335-1	SH-34	Fail-Cd,Pb	20-Jan	29-Jan	9
CPT-XIII-1/0326-0335-3	SH-34	Fail-Cd,Pb	20-Jan	29-Jan	9
CPT-XIII-1/0336-0345	SH-35	Pass	20-Jan	23-Jan	3
CPT-XIII-1/0346-0356	SH-36	Pass	20-Jan	23-Jan	3
CPT-XIII-1/0357-0360	SH-37	Pass	20-Jan	23-Jan	3
CPT-XIII-1/0361-0366	SH-37	Pass	21-Jan	24-Jan	3
CPT-XIII-1/0361-0366 dup	SH-37	Pass	21-Jan	24-Jan	3
CPT-XIII-1/0367-0376	SH-38	Pass	21-Jan	24-Jan	3
CPT-XIII-1/0377-0386	SH-39	Pass	21-Jan	24-Jan	3
CPT-XIII-1/0387-0396	SH-40	Pass	21-Jan	24-Jan	3
CPT-XIII-1/0397-0406	SH-41	Pass	21-Jan	24-Jan	3
CPT-XIII-1/0407-0416	SH-42	Fail	21-Jan	24-Jan	3
CPT-XIII-1/0417-0422	SH-43	Pass	21-Jan	24-Jan	3
CPT-XIII-1/0423-0432	SH-44	Fail-Cd	22-Jan	25-Jan	3

TABLE D-3.1b

ANALYTICAL RESULTS SUMMARY AND CURING TIMES
FLUE DUST SHAKEDOWN/PROVE-OUT
ANACONDA SMELTER NPL SITE

Sample ID	Laydown Grid I.D.	TCLP Analytical Result (Pass/Fail)	Stabilization Date	Extraction Date	Curing Time (days)
CPT-XIII-1/0423-0432 dup	SH-44	Pass	22-Jan	25-Jan	3
CPT-XIII-1/0423-0432-2	SH-44	Pass	22-Jan	1-Feb	10
CPT-XIII-1/0423-0432-5	SH-44	Pass	22-Jan	1-Feb	10
CPT-XIII-1/0433-0443	SH-45	Pass	22-Jan	25-Jan	3
CPT-XIII-1/0444-0453	SH-46	Pass	22-Jan	25-Jan	3
CPT-XIII-1/0454-0463	SH-47	Pass	22-Jan	25-Jan	3
CPT-XIII-1/0464-0473	SH-48	Pass	22-Jan	25-Jan	3
CPT-XIII-1/0474-0484	SH-49	Pass	22-Jan	25-Jan	3
CPT-XIII-1/0485-0494	SH-50	Pass	23-Jan	26-Jan	3
CPT-XIII-1/0485-0494 dup	SH-50	Pass	23-Jan	26-Jan	3
CPT-XIII-1/0495-0504	SH-51	Pass	23-Jan	26-Jan	3
CPT-XIII-1/0505-0514	SH-52	Pass	23-Jan	26-Jan	3
CPT-XIII-1/0515-0524	SH-53	Pass	23-Jan	26-Jan	3
CPT-XIII-1/0525-0534	SH-54	Pass	23-Jan	26-Jan	3
CPT-XIII-1/0535-0544	SH-55	Pass	23-Jan	26-Jan	3
CPT-XIII-1/0545-0550	SH-56	Pass	23-Jan	26-Jan	3
CPT-XIII-1/0551-0554	SH-56	Fail-Cd,Pb	25-Jan	28-Jan	3
CPT-XIII-1/0551-0554-2	SH-56	Pass	25-Jan	4-Feb	10
CPT-XIII-1/0551-0554-4	SH-56	Pass	25-Jan	4-Feb	10
CPT-XIII-1/0555-0564	SH-57	Fail-Cd,Pb	25-Jan	28-Jan	3
CPT-XIII-1/0555-0564 dup	SH-57	Fail-Cd,Pb	25-Jan	28-Jan	3
CPT-XIII-1/0555-0564(1/40 split)	SH-57	Pass	25-Jan	28-Jan	3
CPT-XIII-1/0555-0564-2	SH-57	Pass	25-Jan	4-Feb	10
CPT-XIII-1/0555-0564-4	SH-57	Pass	25-Jan	4-Feb	10
CPT-XIII-1/0565-0574	SH-58	Pass	25-Jan	28-Jan	3
CPT-XIII-1/0575-0584	SH-59	Fail-Cd,Pb	25-Jan	28-Jan	3
CPT-XIII-1/0575-0584-4	SH-59	Pass	25-Jan	4-Feb	10
CPT-XIII-1/0575-0584-5	SH-59	Pass	25-Jan	4-Feb	10
CPT-XIII-1/0585	VOID	VOID	VOID	VOID	VOID
CPT-XIII-1/0586-0595	SH-60	Fail-Cd,Pb	25-Jan	28-Jan	3
CPT-XIII-1/0586-0595-2	SH-60	Pass	25-Jan	4-Feb	10
CPT-XIII-1/0586-0595-5	SH-60	Pass	25-Jan	4-Feb	10
CPT-XIII-1/0596-0605	SH-61	Pass	25-Jan	28-Jan	3
CPT-XIII-1/0606-0615	SH-62	Pass	25-Jan	28-Jan	3
CPT-XIII-1/0616-0626	SH-63	Fail-Cd,Pb	25-Jan	28-Jan	3
CPT-XIII-1/0616-0626-1	SH-63	Pass	25-Jan	4-Feb	10
CPT-XIII-1/0616-0626-3	SH-63	Pass	25-Jan	4-Feb	10
CPT-XIII-1/0627-0636	SH-64	Fail-Cd,Pb	26-Jan	29-Jan	3
CPT-XIII-1/0627-0636 dup	SH-64	Fail-Cd,Pb	26-Jan	29-Jan	3
CPT-XIII-1/0627-0636-3	SH-64	Pass	26-Jan	4-Feb	9
CPT-XIII-1/0627-0636-4	SH-64	Pass	26-Jan	4-Feb	9
CPT-XIII-1/0637-0646	SH-65	Fail-Cd,Pb	26-Jan	29-Jan	3
CPT-XIII-1/0637-0646-3	SH-65	Pass	26-Jan	4-Feb	9
CPT-XIII-1/0637-0646-4	SH-65	Pass	26-Jan	4-Feb	9
CPT-XIII-1/0647-0658	SH-66	Fail-Cd,Pb	26-Jan	29-Jan	3
CPT-XIII-1/0647-0658-1	SH-66	Pass	26-Jan	4-Feb	9
CPT-XIII-1/0647-0658-4	SH-66	Pass	26-Jan	4-Feb	9

TABLE D-3.1b

ANALYTICAL RESULTS SUMMARY AND CURING TIMES
FLUE DUST SHAKEDOWN/PROVE-OUT
ANACONDA SMELTER NPL SITE

Sample ID	Laydown Grid I.D.	TCLP Analytical Result (Pass/Fail)	Stabilization Date	Extraction Date	Curing Time (days)
CPT-XIII-1/0659-0668	SH-67	Fail-Cd,Pb	26-Jan	29-Jan	3
CPT-XIII-1/0659-0668-2	SH-67	Pass	26-Jan	4-Feb	9
CPT-XIII-1/0659-0668-4	SH-67	Pass	26-Jan	4-Feb	9
CPT-XIII-1/0669-0678	SH-68	Fail-Cd,Pb	26-Jan	29-Jan	3
CPT-XIII-1/0669-0678-1	SH-68	Pass	26-Jan	4-Feb	9
CPT-XIII-1/0669-0678-3	SH-68	Pass	26-Jan	4-Feb	9
CPT-XIII-1/0679-0686	SH-69	Fail-Cd,Pb	26-Jan	29-Jan	3
CPT-XIII-1/0679-0686-1	SH-69	Pass	26-Jan	4-Feb	9
CPT-XIII-1/0679-0686-3	SH-69	Pass	26-Jan	4-Feb	9
CPT-XIII-1/0687-0696	SH-70	Fail-Cd,Pb	26-Jan	29-Jan	3
CPT-XIII-1/0687-0696-1	SH-70	Pass	26-Jan	8-Feb	13
CPT-XIII-1/0687-0696-4	SH-70	Pass	26-Jan	8-Feb	13
CPT-XIII-1/0697-0706	SH-71	Fail-Cd,Pb	26-Jan	29-Jan	3
CPT-XIII-1/0697-0706-2	SH-71	Pass	26-Jan	8-Feb	13
CPT-XIII-1/0697-0706-3	SH-71	Pass	26-Jan	8-Feb	13
CPT-XIII-1/0707-0710	SH-72	Fail-Cd,Pb	26-Jan	29-Jan	3
CPT-XIII-1/0707-0710-3	SH-72	Pass	26-Jan	8-Feb	13
CPT-XIII-1/0707-0710-5	SH-72	Pass	26-Jan	8-Feb	13
CPT-XIII-1/0711-0716	SH-72	Pass	27-Jan	30-Jan	3
CPT-XIII-1/0711-0716 dup	SH-72	Pass	27-Jan	30-Jan	3
CPT-XIII-1/0717-0726	SH-73	Fail-Cd, Pb	27-Jan	30-Jan	3
CPT-XIII-1/0717-0726-2	SH-73	Pass	27-Jan	8-Feb	12
CPT-XIII-1/0717-0726-4	SH-73	Pass	27-Jan	8-Feb	12
CPT-XIII-1/0727-0736	SH-74	Pass	27-Jan	30-Jan	3
CPT-XIII-1/0737-0746	SH-75	Pass	27-Jan	30-Jan	3
CPT-XIII-1/0747-0757	SH-76	Pass	27-Jan	30-Jan	3
CPT-XIII-1/0758-0764	SH-77	Fail-Cd	27-Jan	30-Jan	3
CPT-XIII-1/0758-0764-2	SH-77	Pass	27-Jan	8-Feb	12
CPT-XIII-1/0758-0764-3	SH-77	Pass	27-Jan	8-Feb	12
CPT-XIII-1/0765-0768	SH-77	Pass	28-Jan	31-Jan	3
CPT-XIII-1/0769-0778	SH-78	Fail-Cd	28-Jan	31-Jan	3
CPT-XIII-1/0769-0778 dup	SH-78	Fail-Cd	28-Jan	31-Jan	3
CPT-XIII-1/0769-0778-3	SH-78	Pass	28-Jan	15-Feb	18
CPT-XIII-1/0769-0778-5	SH-78	Pass	28-Jan	15-Feb	18
CPT-XIII-1/0779-0788	SH-79	Fail-Pb,Cd	28-Jan	31-Jan	3
CPT-XIII-1/0779-0788-3	SH-79	Pass	28-Jan	11-Feb	14
CPT-XIII-1/0779-0788-4	SH-79	Pass	28-Jan	11-Feb	14
CPT-XIII-1/0789-0798	SH-80	Fail-Pb,Cd	28-Jan	31-Jan	3
CPT-XIII-1/0789-0798-2	SH-80	Pass	28-Jan	11-Feb	14
CPT-XIII-1/0789-0798-5	SH-80	Pass	28-Jan	11-Feb	14
CPT-XIII-1/0799-0809	SH-81	Fail-Cd	28-Jan	31-Jan	3
CPT-XIII-1/0799-0809-1	SH-81	Pass	28-Jan	11-Feb	14
CPT-XIII-1/0799-0809-5	SH-81	Pass	28-Jan	11-Feb	14
CPT-XIII-1/0810-0820	SH-82	Fail-Cd	28-Jan	31-Jan	3
CPT-XIII-1/0810-0820-3	SH-82	Pass	28-Jan	11-Feb	14
CPT-XIII-1/0810-0820-4	SH-82	Pass	28-Jan	11-Feb	14
CPT-XIII-1/0821-0830	SH-83	Fail-Cd	28-Jan	31-Jan	3
CPT-XIII-1/0821-0830-2	SH-83	Pass	28-Jan	11-Feb	14

TABLE D-3.1b

ANALYTICAL RESULTS SUMMARY AND CURING TIMES
FLUE DUST SHAKEDOWN/PROVE-OUT
ANACONDA SMELTER NPL SITE

Sample ID	Laydown Grid I.D.	TCLP Analytical Result (Pass/Fail)	Stabilization Date	Extraction Date	Curing Time (days)
CPT-XIII-1/0821-0830-3	SH-83	Pass	28-Jan	11-Feb	14
CPT-XIII-1/0831-0840	SH-84	Fail-Cd	28-Jan	31-Jan	3
CPT-XIII-1/0831-0840-1	SH-84	Pass	28-Jan	11-Feb	14
CPT-XIII-1/0831-0840-5	SH-84	Pass	28-Jan	11-Feb	14
CPT-XIII-1/0841-0847	SH-85	Fail-Cd	28-Jan	31-Jan	3
CPT-XIII-1/0841-0847-1	SH-85	Pass	28-Jan	15-Feb	18
CPT-XIII-1/0841-0847-2	SH-85	Pass	28-Jan	15-Feb	18
CPT-XIII-1/0848-0857	SH-86	Pass	29-Jan	1-Feb	3
CPT-XIII-1/0848-0857 dup	SH-86	Pass	29-Jan	1-Feb	3
CPT-XIII-1/0858-0867	SH-87	Pass	29-Jan	1-Feb	3
CPT-XIII-1/0868-0877	SH-88	Pass	29-Jan	1-Feb	3
CPT-XIII-1/0878-0887	SH-89	Pass	29-Jan	1-Feb	3
CPT-XIII-1/0888-0897	SH-90	Pass	29-Jan	1-Feb	3
CPT-XIII-1/0898-0907	SH-91	Pass	29-Jan	1-Feb	3
CPT-XIII-1/0908-0915	SH-92	Fail-Cd	29-Jan	1-Feb	3
CPT-XIII-1/0908-0915-1	SH-92	Pass	29-Jan	15-Feb	17
CPT-XIII-1/0908-0915-4	SH-92	Pass	29-Jan	15-Feb	17
CPT-XIII-1/0916-0917	SH-92	Pass	30-Jan	2-Feb	3
CPT-XIII-1/0916-0917(1/40 split)		Pass	30-Jan	2-Feb	3
CPT-XIII-1/0918-0928	SH-93	Pass	30-Jan	2-Feb	3
CPT-XIII-1/0918-0928 dup	SH-93	Pass	30-Jan	2-Feb	3
CPT-XIII-1/0929-0938	SH-94	Pass	30-Jan	2-Feb	3
CPT-XIII-1/0939-0948	SH-95	Pass	30-Jan	2-Feb	3
CPT-XIII-1/0949-0958	SH-96	Pass	30-Jan	2-Feb	3
CPT-XIII-1/0959-0964	SH-97	Pass	1-Feb	4-Feb	3
CPT-XIII-1/0959-0964 dup	SH-97	Pass	1-Feb	4-Feb	3
CPT-XIII-1/0965-0968	SH-97	Fail-Cd,Pb	3-Feb	6-Feb	3
CPT-XIII-1/0965-0968 dup	SH-97	Fail-Cd	3-Feb	6-Feb	3
CPT-XIII-1/0965-0968-2	SH-97	Pass	3-Feb	15-Feb	12
CPT-XIII-1/0965-0968-5	SH-97	Pass	3-Feb	15-Feb	12
CPT-XIII-1/0969-0979	SH-98	Fail-Cd	3-Feb	6-Feb	3
CPT-XIII-1/0969-0979-3	SH-98	Pass	3-Feb	15-Feb	12
CPT-XIII-1/0969-0979-5	SH-98	Pass	3-Feb	15-Feb	12
CPT-XIII-1/0980-0989	SH-99	Fail-Cd	3-Feb	6-Feb	3
CPT-XIII-1/0980-0989-2	SH-99	Pass	3-Feb	15-Feb	12
CPT-XIII-1/0980-0989-4	SH-99	Pass	3-Feb	15-Feb	12
CPT-XIII-1/990-1001	SH-100	Pass	3-Feb	6-Feb	3
CPT-XIII-1/1002-1011	SH-101	Pass	4-Feb	7-Feb	3
CPT-XIII-1/1002-1011 dup	SH-101	Pass	4-Feb	7-Feb	3
CPT-XIII-1/1012-1021	SH-102	Pass	4-Feb	7-Feb	3
CPT-XIII-1/1022-1031	SH-103	Fail-Pb	4-Feb	7-Feb	3
CPT-XIII-1/1022-1031-1	SH-103	Pass	4-Feb	15-Feb	11
CPT-XIII-1/1022-1031-3	SH-103	Pass	4-Feb	15-Feb	11
CPT-XIII-1/1032-1033	SH-104	Pass	4-Feb	7-Feb	3

TABLE D-3.1b

ANALYTICAL RESULTS SUMMARY AND CURING TIMES
FLUE DUST SHAKEDOWN/PROVE-OUT
ANACONDA SMELTER NPL SITE

Sample ID	Laydown Grid I.D.	TCLP Analytical Result (Pass/Fail)	Stabilization Date	Extraction Date	Curing Time (days)
CPT-XIII-1/1034-1043	SH-105	Pass	9-Feb	12-Feb	3
CPT-XIII-1/1044-1053	SH-106	Pass	9-Feb	12-Feb	3
CPT-XIII-1/1044-1053 dup	SH-106	Pass	9-Feb	12-Feb	3
CPT-XIII-1/1054-1063	SH-107	Pass	9-Feb	12-Feb	3
CPT-XIII-1/1064-1073	SH-108	Pass	9-Feb	12-Feb	3
CPT-XIII-1/1074-1079	SH-109	Pass	9-Feb	12-Feb	3
CPT-XIII-1/1080-1083	SH-109	Fail Pb	10-Feb	13-Feb	3
CPT-XIII-1/1080-1083-1	SH-109	Pass	10-Feb	21-Feb	11
CPT-XIII-1/1080-1083-4	SH-109	Pass	10-Feb	21-Feb	11
CPT-XIII-1/1084-1093	SH-110	Fail Pb	10-Feb	13-Feb	3
CPT-XIII-1/1084-1093 dup	SH-110	Fail Pb	10-Feb	13-Feb	3
CPT-XIII-1/1084-1093-3	SH-110	Pass	10-Feb	21-Feb	11
CPT-XIII-1/1084-1093-4	SH-110	Fail Pb	10-Feb	21-Feb	11
CPT-XIII-1/1094-1103	SH-111	Fail Pb	10-Feb	13-Feb	3
CPT-XIII-1/1094-1103-1	SH-111	Pass	10-Feb	21-Feb	11
CPT-XIII-1/1094-1103-3	SH-111	Pass	10-Feb	21-Feb	11
CPT-XIII-1/1104-1113	SH-112	Fail Pb	10-Feb	13-Feb	3
CPT-XIII-1/1104-1113-2	SH-112	Pass	10-Feb	21-Feb	11
CPT-XIII-1/1104-1113-5	SH-112	Pass	10-Feb	21-Feb	11
CPT-XIII-1/1114-1123	SH-113	Fail Pb	10-Feb	13-Feb	3
CPT-XIII-1/1114-1123-1	SH-113	Pass	10-Feb	21-Feb	11
CPT-XIII-1/1114-1123-5	SH-113	Pass	10-Feb	21-Feb	11
CPT-XIII-1/1124-1133	SH-114	Pass	10-Feb	13-Feb	3
CPT-XIII-1/1135-1144	SH-115	Pass	11-Feb	14-Feb	3
CPT-XIII-1/1135-1144 dup	SH-115	Fail Pb	11-Feb	14-Feb	3
CPT-XIII-1/1135-1144-2	SH-115	Fail Pb	11-Feb	21-Feb	10
CPT-XIII-1/1135-1144-3	SH-115	Fail Pb	11-Feb	21-Feb	10
CPT-XIII-1/1145-1154	SH-116	Pass	11-Feb	14-Feb	3
CPT-XIII-1/1155-1164	SH-117	Fail Pb	11-Feb	14-Feb	3
CPT-XIII-1/1155-1164-1	SH-117	Fail Pb	11-Feb	21-Feb	10
CPT-XIII-1/1155-1164-3	SH-117	Fail Pb	11-Feb	21-Feb	10
CPT-XIII-1/1165-1174	SH-118	Fail Pb	11-Feb	14-Feb	3
CPT-XIII-1/1165-1174-3	SH-118	Fail Pb	11-Feb	21-Feb	10
CPT-XIII-1/1165-1174-4	SH-118	Pass	11-Feb	21-Feb	10
CPT-XIII-1/1175-1176	SH-119	Fail Pb	11-Feb	14-Feb	3
CPT-XIII-1/1175-1176-3	SH-119	Fail Pb	11-Feb	21-Feb	10
CPT-XIII-1/1175-1176-4	SH-119	Fail Pb	11-Feb	21-Feb	10

TABLE D-3.2a

DATA SUMMARY OF SHAKEDOWN ANALYTICAL RESULTS
BRADLEY POND 2
FLUE DUST OPERABLE UNIT
ANACONDA SMELTER NPL SITE

UNTREATED FLUE DUST
(393 samples taken/ 0 TCLP samples taken)

			TOTAL METALS (mg/kg)			TCLP (mg/l)		
	pH	% Moisture	Pb	Cd	As	Pb	Cd	As
AVG	9 38	29.00	11,851	936	8,843	NT	NT	NT
MIN	7.65	18 45	657	55	481	NT	NT	NT
MAX	11 98	51 33	22,440	2,221	36,796	NT	NT	NT

TREATED FLUE DUST
(393 samples taken/ 383 samples passing)

	ADDITIVE %							TCLP (mg/l)		
	Cement		Lime							
	% of Raw FD	% of Dry FD	% of Raw fd	% of Dry fd	pH	% Moisture	Alkalinity	Pb	Cd	As
AVG	19.07	24.28	NA	NA	11 53	39.30	231,974	1.05	6.90	0.78
MIN	17.90	22 65	NA	NA	10.98	13 43	113,404	ND	ND	ND
MAX	21.91	27.11	NA	NA	12 25	50 44	356,578	64.90	16 10	2 79

TREATED FLUE DUST
PASSING CONTINGENCY TESTING (2)
(10 samples taken/10 samples passing)

		TCLP (mg/l)		
	Cure Time (days)	Pb	Cd	As
AVG	13	0.54	ND	1.45
MIN	11	0.22	ND	0 9
MAX	25	0.78	0 03	2.17

NOTES:
(1) Data are for period June 2, 1993 through September 7, 1993
(2) Data is for contingency testing only. Material that had not passed contingency testing at the end of this reporting period remained in stockpiles awaiting retesting.
(3) ND = Not Detected
(4) NT = Not Tested
(5) NA = Not Applicable

TABLE D-3.2a

DATA SUMMARY OF FULL-SCALE ANALYTICAL RESULTS
BRADLEY POND 2
FLUE DUST OPERABLE UNIT
ANACONDA SMELTER NPL SITE

UNTREATED FLUE DUST
(3 samples taken/ 0 TCLP samples taken)

		TOTAL METALS (mg/kg)				TCLP (mg/l)		
	pH	% Moisture	Pb	Cd	As	Pb	Cd	As
AVG	9.08	27 32	9,816	804	7,729	NT	NT	NT
MIN	8 69	24 49	9,000	684	6,817	NT	NT	NT
MAX	9.27	30.65	10,810	9,638	8,254	NT	NT	NT

TREATED FLUE DUST
(3 samples taken/ 2 samples passing)

	ADDITIVE %								TCLP (mg/l)	
	Cement		Lime							
	% of Raw FD	% of Dry FD	% of Raw fd	% of Dry fd	pH	% Moisture	Alkalinity	Pb	Cd	As
AVG	19.19	23.57	NA	NA	11.21	36.43	291,595	0 53	0 46	2.01
MIN	18.32	22.81	NA	NA	11.14	34.00	255,624	0 33	0 06	1.71
MAX	20.17	24 06	NA	NA	11 25	38.58	314,671	0 79	1.25	2.16

TREATED FLUE DUST
PASSING CONTINGENCY TESTING (2)
(1 samples taken/1 samples passing)

			TCLP (mg/l)	
	Cure Time (days)	Pb	Cd	As
AVG	16	0.55	ND	1 27

NOTES:
(1) Data are for reporting period June 2, 1993 through September 7, 1993.
(2) Data are for contingency testing only Material that had not passed contingency testing at the end of this reporting period remained in stockpiles awaiting re-testing
(3) ND = Not Detected
(4) NT = Not Tested
(5) NA = Not Applicable

TABLE D-3.2a

DATA SUMMARY OF FULL-SCALE ANALYTICAL RESULTS
BRADLEY POND 3
FLUE DUST OPERABLE UNIT
ANACONDA SMELTER NPL SITE

UNTREATED FLUE DUST
(9 samples taken/ 0 TCLP samples taken)

			TOTAL METALS (mg/kg)			TCLP (mg/l)		
	pH	% Moisture	Pb	Cd	As	Pb	Cd	As
AVG	9 63	26.02	4,159	333	5,083	NT	NT	NT
MIN	8.46	19.79	572	109	605	NT	NT	NT
MAX	10.73	36.12	12,234	641	22,623	NT	NT	NT

TREATED FLUE DUST
(9 samples taken/ 9 samples passing)

	ADDITIVE %							TCLP (mg/l)		
	Cement		Lime							
	% of Raw FD	% of Dry FD	% of Raw fd	% of Dry fd	pH	% Moisture	Alkalinity	Pb	Cd	As
AVG	19.18	24 18	3 38	4.26	11.89	42.09	257,557	NT	NT	NT
MIN	17.87	21.41	3 12	3.82	11 65	34.27	225,251	NT	NT	NT
MAX	20.41	25.83	3 58	4 48	12.03	49 43	285,657	NT	NT	NT

NOTES:
(1) Above data are for reporting period June 2, 1993 through September 7, 1993.
(2) Data is for contingency testing only. Material that had not passed contingency testing at the end of this reporting period remained in stockpiles awaiting re-testing
(3) ND = Not Detected
(4) NT = Not Tested

TABLE D-3.2a

DATA SUMMARY OF SHAKEDOWN ANALYTICAL RESULTS
BRADLEY POND 3
FLUE DUST OPERABLE UNIT
ANACONDA SMELTER NPL SITE

UNTREATED FLUE DUST
(847 samples taken/ 0 TCLP samples taken)

			TOTAL METALS (mg/kg)			TCLP (mg/l)		
	pH	% Moisture	Pb	Cd	As	Pb	Cd	As
AVG	9.65	27.41	4,673	325	4,674	NT	NT	NT
MIN	6.75	4.12	471	13	410	NT	NT	NT
MAX	11.55	72.92	28,571	2,554	52,854	NT	NT	NT

TREATED FLUE DUST
(891 samples taken/ 740 samples passing)

	ADDITIVE %							TCLP (mg/l)		
	Cement		Lime							
	% of Raw FD	% of Dry FD	% of Raw fd	% of Dry fd	pH	% Moisture	Alkalinity	Pb	Cd	As
AVG	20.71	26.43	2.61	4 58	11.43	43 37	227,167	3 54	4 57	1.17
MIN	16 89	22 62	0.00	0 00	10 84	21.03	124,394	ND	ND	ND
MAX	24 00	29 47	4.19	5.17	12.21	64 32	311,543	46 14	17 29	6.12

TREATED FLUE DUST
PASSING CONTINGENCY TESTING (2)
(151 samples taken/ 150 samples passing)

		TCLP (mg/l)		
	Cure Time (days)	Pb	Cd	As
AVG	18	0 37	0 13	0 93
MIN	6	ND	ND	0 12
MAX	41	2 14	0 51	4 37

NOTES:
(1) Above data are for reporting period June 2, 1993 through September 7, 1993.
(2) Data is for contingency testing only. Material that had not passed contingency testing at the end of this reporting period remained in stockpiles awaiting re-testing
(3) ND = Not Detected
(4) NT = Not Tested

TABLE D-3.2a

DATA SUMMARY OF FULL-SCALE ANALYTICAL RESULTS
BRADLEY POND 3
FLUE DUST OPERABLE UNIT
ANACONDA SMELTER NPL SITE

UNTREATED FLUE DUST
(3 samples taken/ 0 TCLP samples taken)

			TOTAL METALS (mg/kg)			TCLP (mg/l)		
	pH	% Moisture	Pb	Cd	As	Pb	Cd	As
AVG	9.91	31 37	5,992	508	3,331	NT (1)	NT	NT
MIN	9.32	26 77	5,694	485	2,463	NT	NT	NT
MAX	10 25	37.85	6,300	533	3,768	NT	NT	NT

TREATED FLUE DUST
(4 samples taken/ 2 samples passing)

	ADDITIVE %							TCLP (mg/l)		
	Cement		Lime							
	% of Raw FD	% of Dry FD	% of Raw fd	% of Dry fd	pH	% Moisture	Alkalinity	Pb	Cd	As
AVG	18.29	24 66	3 19	4 30	11 97	39 10	320,527	NT	NT	NT
MIN	17.76	24 49	3 08	4 08	11 94	35 84	238,594	NT	NT	NT
MAX	20 16	25 56	3 26	4 47	12 00	43 20	444,030	NT	NT	NT

TREATED FLUE DUST
PASSING CONTINGENCY TESTING (2)
(10 samples taken/ 10 samples passing) (3)

		TCLP (mg/l)		
	Cure Time (days)	Pb	Cd	As
MIN	48	ND	ND	0.13
MAX	48	0 51	ND	0.45

NOTES:
(1) NT = Not Tested
(2) Data are for contingency testing only. Material that had not passed contingency testing at the end of this reporting period remained in stockpiles awaiting re-testing
(3) Five random samples were taken for stabilized material not meeting TCLP control perameter criteria and analyzed for TCLP metals. All five samples must meet TCLP criteria to consider the material passing.
(4) ND = Not Detected
(5) Data are for period September 8, 1993 through December, 1994

TABLE D-3.2a

DATA SUMMARY OF SHAKEDOWN ANALYTICAL RESULTS
IRON PONDS
FLUE DUST OPERABLE UNIT
ANACONDA SMELTER NPL SITE

UNTREATED FLUE DUST
(240 samples taken/ 0 TCLP samples taken)

			TOTAL METALS (mg/kg)			TCLP (mg/l)		
	pH	% Moisture	Pb	Cd	As	Pb	Cd	As
AVG	4.26	24.84	4,449	313	3,804	NT	NT	NT
MIN	2.42	13.09	451	17	117	NT	NT	NT
MAX	10.57	63.57	35,538	3,280	26,653	NT	NT	NT

TREATED FLUE DUST
(242 samples taken/ 178 samples passing)

	ADDITIVE %							TCLP (mg/l)		
	Cement		Lime							
	% of Raw FD	% of Dry FD	% of Raw fd	% of Dry fd	pH	% Moisture	Alkalinity	Pb	Cd	As
AVG	20.38	25.20	3.39	4.48	11.51	43.47	189,960	4 64	5 87	0.51
MIN	17.42	23.63	0.00	0.00	11 14	29.92	76,958	ND	ND	0.03
MAX	23.56	31.51	4.30	5.18	11.95	63 44	282,596	54 17	22 28	4.79

TREATED FLUE DUST
PASSING CONTINGENCY TESTING (2)
(64 samples taken/ 53 samples passing)

		TCLP (mg/l)		
	Cure Time (days)	Pb	Cd	As
AVG	25	0 45	0.2	0 48
MIN	7	ND	ND	ND
MAX	40	4.82	0.49	1.69

NOTES:
(1) Data are for period June 2, 1993 through September 7, 1993.
(2) Data is for contingency testing only. Material that had not passed contingency testing at the end of this reporting period remained in stockpiles awaiting re-testing
(3) ND = Not Detected
(4) NT = Not Tested

TABLE D-3.2a

DATA SUMMARY OF FULL-SCALE ANALYTICAL RESULTS
IRON PONDS
FLUE DUST OPERABLE UNIT
ANACONDA SMELTER NPL SITE

UNTREATED FLUE DUST

(31 samples taken/ 0 TCLP samples taken)

			TOTAL METALS (mg/kg)			TCLP (mg/l)		
	pH	% Moisture	Pb	Cd	As	Pb	Cd	As
AVG	4 43	22 58	5,291	303	3,262	NT	NT	NT
MIN	2 52	12 97	716	50	99	NT	NT	NT
MAX	6.15	31 66	11,100	672	7,980	NT	NT	NT

TREATED FLUE DUST

(52 samples taken/ 22 samples passing)

	ADDITIVE %							TCLP (mg/l)		
	Cement		Lime							
	% of Raw FD	% of Dry FD	% of Raw fd	% of Dry fd	pH	% Moisture	Alkalinity	Pb	Cd	As
AVG	21.11	25.50	5.08	5.70	11.61	42 03	214,278	50 37	13.51	2.32
MIN	19.28	23.70	4.35	5.34	11.18	32 95	132,361	21.19	8.40	0.38
MAX	23.90	27.00	5 82	7.15	11.98	51.87	435,756	149 90	19 90	12.70

TREATED FLUE DUST
PASSING CONTINGENCY TESTING (2)

(28 samples taken/ 27 samples passing)

		TCLP (mg/l)		
	Cure Time (days)	Pb	Cd	As
AVG	16	0.21	0.04	0.48
MIN	16	ND	ND	0 05
MAX	16	0.32	0.06	1.43

NOTES:
(1) Data are for period June 2, 1993 through September 7, 1993.
(2) Data are for contingency testing only. Material that had not passed contingency testing at the end of this reporting period remained in stockpiles awaiting re-testing
(3) ND = Not Detected
(4) NT = Not Tested

TABLE D-3.2a

DATA SUMMARY OF FULL SCALE ANALYTICAL RESULTS
IRON PONDS
FLUE DUST OPERABLE UNIT
ANACONDA SMELTER NPL SITE

UNTREATED FLUE DUST
(33 samples taken/ 1 TCLP samples taken)

			TOTAL METALS (mg/kg)			TCLP (mg/l)		
	pH	% Moisture	Pb	Cd	As	Pb	Cd	As
AVG	5 77	22.76	3,363	231	2,385	2 70	7.20	0 53
MIN	3 26	12.94	476	32	482	2 70	7.20	0 53
MAX	11 35	34.95	10,283	811	9,075	2 70	7 20	0.53

TREATED FLUE DUST
(39 samples taken/ 15 samples passing)

	ADDITIVE %							TCLP (mg/l)		
	Cement		Lime							
	% of Raw FD	% of Dry FD	% of Raw fd	% of Dry fd	pH	% Moisture	Alkalinity	Pb	Cd	As
AVG	23 14	28 36	NA (1)	NA	11 48	41.66	322,241	NT (2)	NT	NT
MIN	19.66	24.21	NA	NA	11.18	32 95	132,361	NT	NT	NT
MAX	27.80	32.84	NA	NA	11 99	51.87	501,490	NT	NT	NT

TREATED FLUE DUST
PASSING CONTINGENCY TESTING (3)
(24 samples taken/ 24 samples passing)

		TCLP (mg/l)		
	Cure Time (days)	Pb	Cd	As
MIN	24	ND (4)	ND	0.04
MAX	56	0 58	ND	1 33

NOTES:
(1) NA = Not Applicable
(2) NT = Not Tested
(3) Data are for contingency testing only. Material that had not passed contingency testing at the end of this reporting period remained in stockpiles awaiting re-testing
(4) ND = Not Detected
(5) Data are for period September 8, 1993 through December 24, 1993

TABLE D-3.2a

DATA SUMMARY OF SHAKEDOWN ANALYTICAL RESULTS
MAIN FLUE
FLUE DUST OPERABLE UNIT
ANACONDA SMELTER NPL SITE

UNTREATED FLUE DUST
(135 samples taken/ 0 TCLP samples taken)

			TOTAL METALS (mg/kg)			TCLP (mg/l)		
	pH	% Moisture	Pb	Cd	As	Pb	Cd	As
AVG	4.23	26.96	6,022	339	34,074	NT	NT	NT
MIN	3.44	20 14	1,147	18	8,888	NT	NT	NT
MAX	4.84	32.66	13,212	774	62,965	NT	NT	NT

TREATED FLUE DUST
(134 samples taken/ 129 samples passing)

	ADDITIVE %							TCLP (mg/l)		
	Cement		Lime							
	% of Raw FD	% of Dry FD	% of Raw fd	% of Dry fd	pH	% Moisture	Alkalinity	Pb	Cd	As
AVG	35.46	44.86	8.24	10.40	11.75	47.00	286,372	0.32	0.05	0.91
MIN	31.70	40.50	7.11	9.04	11.39	35.43	205,765	0.15	0.03	0.14
MAX	39.95	50.35	9.12	11.49	12.05	67.71	356,626	1 22	0 06	9 83

TREATED FLUE DUST
PASSING CONTINGENCY TESTING (2)
(5 samples taken/ 5 samples passing)

		TCLP (mg/l)		
	Cure Time (days)	Pb	Cd	As
AVG	14	0.20	ND	0.38
MIN	12	ND	ND	0 27
MAX	20	0.22	ND	0 54

NOTES:
(1) Data are for period June 2, 1993 through September 7, 1993
(2) Data is for contingency testing only. Material that had not passed contingency testing at the end of this reporting period remained in stockpiles awaiting re-testing
(3) ND = Not Detected
(4) NT = Not Tested

TABLE D-3.2a

DATA SUMMARY OF SHAKEDOWN ANALYTICAL RESULTS
MAIN FLUE
FLUE DUST OPERABLE UNIT
ANACONDA SMELTER NPL SITE

UNTREATED FLUE DUST
(83 samples taken/ 0 TCLP samples taken)

			TOTAL METALS (mg/kg)			TCLP (mg/l)		
	pH	% Moisture	Pb	Cd	As	Pb	Cd	As
AVG	5.86	20 59	5,099	301	27,432	NT (1)	NT	NT
MIN	4.23	9.46	2,406	116	14,218	NT	NT	NT
MAX	9.55	32 08	10,276	539	44,681	NT	NT	NT

TREATED FLUE DUST
(91 samples taken/ 89 samples passing)

	ADDITIVE %							TCLP (mg/l)		
	Cement		Lime							
	% of Raw FD	% of Dry FD	% of Raw fd	% of Dry fd	pH	% Moisture	Alkalinity	Pb	Cd	As
AVG	32.92	39.99	8.27	10.04	12 03	44 09	303,203	0.29	0 08	0.91
MIN	32.32	37.78	7 85	9.48	11 54	27 60	205,000	ND (2)	ND	0.02
MAX	33.83	41 51	8 70	10.63	12 63	61.46	372,000	1 54	1.51	15.80

TREATED FLUE DUST
PASSING CONTINGENCY TESTING (3)
(2samples taken/ 0 samples passing)

		TCLP (mg/l)		
	Cure Time (days)	Pb	Cd	As
MIN	11	ND (3)	ND	0.08
MAX	61	0 17	17	38 8

NOTES:
(1) Data are for period September 8, 1993 through December 24, 1993
(2) Data is for contingency testing only Material that had not passed contingency testing at the end of this reporting period remained in stockpiles awaiting re-testing
(3) ND = Not Detected
(4) NT = Not Tested

TABLE D-3.2a

DATA SUMMARY OF FULL SCALE ANALYTICAL RESULTS
MAIN FLUE
FLUE DUST OPERABLE UNIT
ANACONDA SMELTER NPL SITE

UNTREATED FLUE DUST
(74 samples taken/ 0 TCLP samples taken)

			TOTAL METALS (mg/kg)			TCLP (mg/l)		
	pH	% Moisture	Pb	Cd	As	Pb	Cd	As
AVG	5.63	21.73	5,260	320	24,844	NT (1)	NT	NT
MIN	3.95	12.16	1,732	70	9,475	NT	NT	NT
MAX	6.81	33.04	10,294	586	44,681	NT	NT	NT

TREATED FLUE DUST
(118 samples taken/ 106 samples passing)

	ADDITIVE %							TCLP (mg/l)		
	Cement		Lime							
	% of Raw FD	% of Dry FD	% of Raw fd	% of Dry fd	pH	% Moisture	Alkalinity	Pb	Cd	As
AVG	33.90	41.30	8.99	10.99	11.84	45.39	304,483	NT	NT	NT
MIN	30.49	40.05	7.71	10.01	11.45	34.25	197,000	NT	NT	NT
MAX	39.06	44 88	11 49	14 02	12.16	66.91	449,000	NT	NT	NT

TREATED FLUE DUST
PASSING CONTINGENCY TESTING (2)
(12 samples taken/ 12 samples passing)

		TCLP (mg/l)		
	Cure Time (days)	Pb	Cd	As
MIN	3	ND (3)	ND	0.15
MAX	34	0 43	0.05	10 2 (4)

NOTES:
(1) Data are for period September 8, 1993 through December 24, 1993
(2) Data is for contingency testing only. Material that had not passed contingency testing at the end of this reporting period remained in stockpiles awaiting re-testing
(3) ND = Not Detected
(4) Sample passed after a second contingency analysis
(5) NT = Not Tested

TABLE D-3.2a

DATA SUMMARY OF FULL SCALE ANALYTICAL RESULTS
MAIN FLUE
FLUE DUST OPERABLE UNIT
ANACONDA SMELTER NPL SITE

UNTREATED FLUE DUST
(1 sample taken/ 0 TCLP samples taken)

			TOTAL METALS (mg/kg)			TCLP (mg/l)		
	pH	% Moisture	Pb	Cd	As	Pb	Cd	As
AVG	5.97	24.07	3,835	367	17,755	NT (1)	NT	NT
MIN	5 97	24.07	3,835	367	17,755	NT	NT	NT
MAX	5.97	24.07	3,835	367	17,755	NT	NT	NT

TREATED FLUE DUST
(3 samples taken/ 3 samples passing)

	ADDITIVE %								TCLP (mg/l)	
	Cement		Lime							
	% of Raw FD	% of Dry FD	% of Raw FD	% of Dry FD	pH	% Moisture	Alkalinity	Pb	Cd	As
AVG	33.53	41.60	8.69	10.78	11.95	47.31	329,000	NT	NT	NT
MIN	32.94	40 87	8.52	10.57	11.81	41.98	253,000	NT	NT	NT
MAX	33.93	42.10	8.92	11.06	12.10	53.90	370,000	NT	NT	NT

NOTES:
(1) NT = Not Tested
(2) Data are for period December 25, 1993 through May 26, 1994

TABLE D-3.2a

DATA SUMMARY OF SHAKEDOWN ANALYTICAL RESULTS
MAIN FLUE RETREAT
FLUE DUST OPERABLE UNIT
ANACONDA SMELTER NPL SITE

UNTREATED FLUE DUST
(1 sample taken/ 0 TCLP samples taken)

			TOTAL METALS (mg/kg)			TCLP (mg/l)		
	pH	% Moisture	Pb	Cd	As	Pb	Cd	As
AVG	NT (1)	36.50	NT	NT	NT	NT	NT	NT
MIN	NT	36.50	NT	NT	NT	NT	NT	NT
MAX	NT	36.50	NT	NT	NT	NT	NT	NT

TREATED FLUE DUST
(5 samples taken/ 5 samples passing)

	ADDITIVE %								TCLP (mg/l)	
	Cement		Lime							
	% of Raw FD	% of Dry FD	% of Raw FD	% of Dry FD	pH	% Moisture	Alkalinity	Pb	Cd	As
AVG	7 12	9.73	NA (2)	NA	11 90	55 03	337,000	0 21	ND(3)	0.70
MIN	7 12	9 73	NA	NA	11 84	52 45	315,000	0 21	ND	0.51
MAX	7.12	9.73	NA	NA	11 95	59.00	358,000	0 22	ND	0.93

NOTES:
(1) NT = Not Tested (Analysis of raw material was not required for retreat material)
(2) NA = Not Applicable
(3) ND = Not Detected
(4) Data are for period December 25, 1993 through May 26, 1994

TABLE D-3.2a

DATA SUMMARY OF SHAKEDOWN ANALYTICAL RESULTS
THICKENER
FLUE DUST OPERABLE UNIT
ANACONDA SMELTER NPL SITE

UNTREATED FLUE DUST
(504 samples taken/ 2 TCLP samples taken)

			TOTAL METALS (mg/kg)			TCLP (mg/l)		
	pH	% Moisture	Pb	Cd	As	Pb	Cd	As
AVG	5.06	29.26	19,279	1,460	16,451	1 65	41.70	0.59
MIN	3.55	16.42	730	95	202	0.60	7 20	0.53
MAX	11.29	47.50	47,697	15,213	55,960	2 70	76.20	0.65

TREATED FLUE DUST
(506 samples taken/ 381 samples passing)

	ADDITIVE %							TCLP (mg/l)		
	Cement		Lime							
	% of Raw FD	% of Dry FD	% of Raw fd	% of Dry fd	pH	% Moisture	Alkalinity	Pb	Cd	As
AVG	25.22	32.58	4 08	5 17	11 54	52.44	229,953	0 48	17.96	0.35
MIN	21 15	28 22	0 00	0.00	8.02	31.21	42,000	ND (1)	ND	ND
MAX	29 51	37.74	5.49	6.92	12 18	85.02	391,000	9 09	88.20	17.90

TREATED FLUE DUST
PASSING CONTINGENCY TESTING (2)
(125 samples taken/ 45 samples passing)

		TCLP (mg/l)		
	Cure Time (days)	Pb	Cd	As
MIN	14	ND	ND	ND
MAX	36	10 4	88.2	23.6

NOTES:
(1) ND = Not Detected
(2) Data are for contingency testing only. Material that had not passed contingency testing at the end of this reporting period remained in stockpiles awaiting re-testing
(3) Data are for period September 8, 1993 through December 24, 1993

TABLE D-3.2a

DATA SUMMARY OF SHAKEDOWN ANALYTICAL RESULTS
THICKENER
FLUE DUST OPERABLE UNIT
ANACONDA SMELTER NPL SITE

UNTREATED FLUE DUST
(2 samples taken/ 0 TCLP samples taken)

		TOTAL METALS (mg/kg)				TCLP (mg/l)		
	pH	% Moisture	Pb	Cd	As	Pb	Cd	As
AVG	NT (1)	23.27	NT	NT	NT	NT	NT	NT
MIN	NT	21.63	NT	NT	NT	NT	NT	NT
MAX	NT	24.91	NT	NT	NT	NT	NT	NT

TREATED FLUE DUST
(4 samples taken/ 4 samples passing)

	ADDITIVE %							TCLP (mg/l)		
	Cement		Lime							
	% of Raw FD	% of Dry FD	% of Raw fd	% of Dry fd	pH	% Moisture	Alkalinity	Pb	Cd	As
AVG	28.27	34.85	5.84	7.20	11 86	52 41	291,000	0 20	ND (2)	0.60
MIN	28.27	34.85	5.84	7.20	11.77	50.61	281,000	0 18	ND	0.50
MAX	28.27	34.85	5 84	7.20	11 95	56 24	306,000	0 21	ND	0 65

NOTES:
(1) NT = Not Tested
(2) ND = Not Detected
(3) Data are for period December 25, 1993 through May 26, 1994

TABLE D-3.2a

DATA SUMMARY OF SHAKEDOWN ANALYTICAL RESULTS
FLUE DUST SHAKEDOWN/PROVE-OUT
COAL PILE TRACKS MATERIAL
ANACONDA SMELTER NPL SITE

UNTREATED FLUE DUST
(138 samples taken/ No TCLP samples taken)

			TOTAL METALS (mg/kg)			TCLP (mg/l)		
	pH	% Moisture	As	Cd	Pb	As	Cd	Pb
AVG	7.41	26 74	24,973	493	10,050	NA	NA	NA
MIN	3 61	19 54	4,050	46	1,063	NA	NA	NA
MAX	11 17	47 82	91,158	2,228	41,054	NA	NA	NA

TREATED FLUE DUST (3 DAY CURE)
(137 samples taken/125 samples passing)

	ADDITIVE %								TCLP (mg/l)		
	Cement		Lime					Plant Measurement			
	% of Raw FD	% of Dry FD	% of Raw fd	% of Dry fd	pH	% Moisture	Alkalinity	% Cement	As	Cd	Pb
AVG	30.52	38.55	6.43	8 12	12.46	38.53	370,768	38 54	0 22	ND	1 86
MIN	26 42	33 35	5 72	7 12	11.78	27 19	298,717	33.35	0 06	ND	0 11
MAX	31 90	40.78	8.49	11.32	12 98	48 68	595,447	40.78	0.76	ND	6.63

TREATED FLUE DUST
PASSING CONTINGENCY TESTING
(12 samples taken)

		TCLP (mg/l)		
	Cure Time (days)	As	Cd	Pb
AVG	31	0 43	ND	3 99
MIN	15	0 16	ND	0 85
MAX	43	0.6	ND	4 1

NOTES:
(1) ND = Not detected.
(2) NA = Not applicable.
(3) Data are for period February 12, 1993 through April 26, 1993

TABLE D-3.2a

DATA SUMMARY OF ANALYTICAL RESULTS - COAL PILE TRACKS MATERIAL
FLUE DUST OPERABLE UNIT
ANACONDA SMELTER NPL SITE

UNTREATED FLUE DUST
(168 samples taken/ 0 TCLP samples taken)

		TOTAL METALS (mg/kg)				TCLP (mg/l)		
	pH	% Moisture	Pb	Cd	As	Pb	Cd	As
AVG	6.22	32.76	12,397	824	31,234	NT	NT	NT
MIN	3.21	22.19	859	129	4,625	NT	NT	NT
MAX	10.83	77.86	30,816	2,629	103,162	NT	NT	NT

TREATED FLUE DUST (3 DAY CURE)
(197 samples taken/ 139 samples passing)

	ADDITIVE %								TCLP (mg/l)		
	Cement		Lime					Plant Measurement			
	% of Raw FD	% of Dry FD	% of Raw fd	% of Dry fd	pH	% Moisture	Alkalinity	% Cement	Pb	Cd	As
AVG	26.92	35.41	6.23	8.20	12.44	42.42	335,803	35.12	NC	NC	NC
MIN	23.59	31.32	5.37	7 20	11.39	29.70	211,895	31.32	0 17	ND	0.16
MAX	31.59	40.89	7.17	9.45	12.99	55 03	447,322	44.26	12 97	ND	0182

TREATED FLUE DUST
PASSING CONTINGENCY TESTING
(58 samples taken)

		TCLP (mg/l)		
	Cure Time (days)	Pb	Cd	As
MIN	12	0 17	ND	0 10
MAX	56	4.97	ND	2 36

NOTES:
(1) ND = Not detected
(2) NT = Not Tested
(3) Data are for period April 27, 1993 through June 2, 1993.

TABLE D-3.2a

DATA SUMMARY OF FULL-SCALE ANALYTICAL RESULTS
COAL PILE TRACKS
FLUE DUST OPERABLE UNIT
ANACONDA SMELTER NPL SITE

UNTREATED FLUE DUST
(75 samples taken/ 0 TCLP samples taken)

			TOTAL METALS (mg/kg)			TCLP (mg/l)		
	pH	% Moisture	Pb	Cd	As	Pb	Cd	As
AVG	6.49	29.57	17,925	996	33,001	NT	NT	NT
MIN	4 49	18.13	3,117	233	2,837	NT	NT	NT
MAX	12.38	41.38	33,651	1,748	54,350	NT	NT	NT

TREATED FLUE DUST
(75 samples taken/ 73 samples passing)

	ADDITIVE %							TCLP (mg/l)		
	Cement		Lime							
	% of Raw FD	% of Dry FD	% of Raw fd	% of Dry fd	pH	% Moisture	Alkalinity	Pb	Cd	As
AVG	31.19	40.29	7.93	10.24	11.86	46.94	301,112	2.19	ND	0.36
MIN	29.15	36.07	6.59	8.53	11.04	33.69	205,261	ND	ND	0.20
MAX	33.69	44.37	9.74	13.23	12.64	57.95	371,558	6.95	ND	0.65

TREATED FLUE DUST
PASSING CONTINGENCY TESTING (2)
(2 samples taken/ 2 samples passing)

		TCLP (mg/l)		
	Cure Time (days)	Pb	Cd	As
AVG	12.5	0 2	ND	0.52
MIN	10	0.15	ND	0.47
MAX	15	0 25	ND	0.57

NOTES:
(1) Data are for period June 2, 1993 through September 7, 1993
(2) Data are for contingency testing only Material that had not passed contingency testing at the end of this reporting period remained in stockpiles awaiting re-testing
(3) ND = Not Detected
(4) NT = Not Tested

TABLE D-3.2a

DATA SUMMARY OF SHAKEDOWN ANALYTICAL RESULTS
COAL PILE TRACKS
FLUE DUST OPERABLE UNIT
ANACONDA SMELTER NPL SITE

UNTREATED FLUE DUST
(4 samples taken/ 0 TCLP samples taken)

			TOTAL METALS (mg/kg)			TCLP (mg/l)		
	pH	% Moisture	Pb	Cd	As	Pb	Cd	As
AVG	6 36	27 95	9,930	433	20,698	NT (1)	NT	NT
MIN	6 27	23 53	8,241	368	18,609	NT	NT	NT
MAX	6.42	32.99	14,114	509	22,727	NT	NT	NT

TREATED FLUE DUST
(4 samples taken/ 1 sample passing)

	ADDITIVE %							TCLP (mg/l)		
	Cement		Lime							
	% of Raw FD	% of Dry FD	% of Raw fd	% of Dry fd	pH	% Moisture	Alkalinity	Pb	Cd	As
AVG	37.60	48.11	NA (2)	NA	11 42	44 58	329,207	1.48	1 23	0.73
MIN	37.60	48.11	NA	NA	11 38	42.13	316,678	0.02	ND (3)	0.53
MAX	37 60	48 11	NA	NA	11 45	47.81	349,468	3.92	2 30	1.16

TREATED FLUE DUST
PASSING CONTINGENCY TESTING (4)
(3 samples taken/ 3 samples passing)

		TCLP (mg/l)		
	Cure Time (days)	Pb	Cd	As
MIN	30	ND	ND	0.32
MAX	30	ND	ND	2.89

NOTES:
(1) NT = Not Tested
(2) NA = Not Applicable
(3) ND = Not Detected
(4) Data are for contingency testing only. Material that had not passed contingency testing at the end of this reporting period remained in stockpiles awaiting re-testing
(5) Data are period September 8, 1993 through December 24, 1993

TABLE D-3.2a

DATA SUMMARY OF FULL SCALE ANALYTICAL RESULTS
COAL PILE TRACKS
FLUE DUST OPERABLE UNIT
ANACONDA SMELTER NPL SITE

UNTREATED FLUE DUST
(15 samples taken/ 0 TCLP samples taken)

			TOTAL METALS (mg/kg)			TCLP (mg/l)		
	pH	% Moisture	Pb	Cd	As	Pb	Cd	As
AVG	5.64	29.13	15,516	990	32,865	NT (1)	NT	NT
MIN	3.01	19.05	9,885	450	19,304	NT	NT	NT
MAX	6.50	40.22	24,914	1,533	56,645	NT	NT	NT

TREATED FLUE DUST
(13 samples taken/ 13 samples passing)

	ADDITIVE %									TCLP (mg/l)
	Cement		Lime							
	% of Raw FD	% of Dry FD	% of Raw fd	% of Dry fd	pH	% Moisture	Alkalinity	Pb	Cd	As
AVG	32.72	42 37	8.13	10.53	11.92	52.72	400,793	NT	NT	NT
MIN	30.83	37.12	7.53	9.06	11.77	42.92	296,260	NT	NT	NT
MAX	34.73	46.70	9.36	11.72	12.13	65.67	502,195	NT	NT	NT

NOTES:
(1) NT = Not Tested
(2) Data are for period September 8, 1993 through December 24, 1993

TABLE D-3.2a

DATA SUMMARY OF FULL SCALE ANALYTICAL RESULTS
COAL PILE TRACKS
FLUE DUST OPERABLE UNIT
ANACONDA SMELTER NPL SITE

UNTREATED FLUE DUST
(1 sample taken/ 0 TCLP samples taken)

			TOTAL METALS (mg/kg)			TCLP (mg/l)		
	pH	% Moisture	Pb	Cd	As	Pb	Cd	As
AVG	6.18	16.43	4,023	206	10,229	NT (1)	NT	NT
MIN	6 18	16 43	4,023	206	10,229	NT	NT	NT
MAX	6.18	16 43	4,023	206	10,229	NT	NT	NT

TREATED FLUE DUST
(1 sample taken/ 1 sample passing)

	Additive %							TCLP (mg/l)		
	Cement		Lime							
	% of Raw FD	% of Dry FD	% of Raw FD	% of Dry FD	pH	% Moisture	Alkalinity	Pb	Cd	As
AVG	35.53	41 37	8.97	10.44	11.78	37 61	389,000	NT	NT	NT
MIN	35 53	41.37	8.97	10.44	11.78	37.61	389,000	NT	NT	NT
MAX	35 53	41.37	8.97	10.44	11.78	37 61	389,000	NT	NT	NT

NOTES:
(1) NT = Not Tested
(2) Data are for period December 25, 1993 through May 26, 1994

TABLE D-3.2a

DATA SUMMARY OF SHAKEDOWN ANALYTICAL RESULTS
FLUE DUST STORAGE
FLUE DUST OPERABLE UNIT
ANACONDA SMELTER NPL SITE

UNTREATED FLUE DUST

(686 samples taken/ 2 TCLP samples taken)

			TOTAL METALS (mg/kg)			TCLP (mg/l)		
	pH	% Moisture	Pb	Cd	As	Pb	Cd	As
AVG	4.74	29.74	18,106	1,159	48,253	2.72	18 40	141.72
MIN	2.42	7.50	1,166	129	1,709	0.55	8.60	1.44
MAX	11.58	53 69	49,186	10,804	230,322	4 88	28.20	282.00

TREATED FLUE DUST

(686 samples taken/ 514 samples passing)

	ADDITIVE %							TCLP (mg/l)		
	Cement		Lime							
	% of Raw FD	% of Dry FD	% of Raw fd	% of Dry fd	pH	% Moisture	Alkalinity	Pb	Cd	As
AVG	23.08	29.82	6.07	7.92	11 64	51.53	292,405	0.51	7.14	11.98
MIN	17.91	23 38	0.00	0 00	9.78	26.06	11,135	ND (1)	ND	0.03
MAX	26.00	35.39	8.65	11.69	12 11	72.48	549,095	2.94	26 00	877.00

TREATED FLUE DUST
PASSING CONTINGENCY TESTING (2)

(172 samples taken/ 131 samples passing)

		TCLP (mg/l)		
	Cure Time (days)	Pb	Cd	As
MIN	9	ND	ND	0 03
MAX	80	2 94	26.3	877

NOTES:
(1) ND = Not Detected
(2) Data are for contingency testing only. Material that had not passed contingency testing at the end of this reporting period remained in stockpiles awaiting re-testing
(3) Data are for period Spetember 8, 1993 through December 24, 1993

TABLE D-3.2a

DATA SUMMARY OF FULL SCALE ANALYTICAL RESULTS
FLUE DUST STORAGE
FLUE DUST OPERABLE UNIT
ANACONDA SMELTER NPL SITE

UNTREATED FLUE DUST
(254 samples taken/ 0 TCLP samples taken)

		TOTAL METALS (mg/kg)				TCLP (mg/l)		
	pH	% Moisture	Pb	Cd	As	Pb	Cd	As
AVG	4.31	30.58	16,141	1,152	60,587	NT (1)	NT	NT
MIN	1.98	18.84	4,159	155	17,648	NT	NT	NT
MAX	6.63	53.97	28,110	2,413	151,115	NT	NT	NT

TREATED FLUE DUST
(270 samples taken/ 243 samples passing)

	ADDITIVE %							TCLP (mg/l)		
	Cement		Lime							
	% of Raw FD	% of Dry FD	% of Raw fd	% of Dry fd	pH	% Moisture	Alkalinity	Pb	Cd	As
AVG	7.57	32.38	25.07	9.82	11 66	51.65	406,188	NT	NT	NT
MIN	6.61	29.76	22.16	8.55	10 75	39.08	139,000	NT	NT	NT
MAX	9.48	35.04	26 65	12 80	12 14	71.23	510,000	NT	NT	NT

TREATED FLUE DUST
PASSING CONTINGENCY TESTING (2)
(27 samples taken/ 26 samples passing)

		TCLP (mg/l)		
	Cure Time (days)	Pb	Cd	As
MIN	22	ND (3)	ND	0.11
MAX	60	0.67	8 1	4 59

NOTES:
(1) NT = Not Tested
(2) Data are for contingency testing only. Material that had not passed contingency testing at the end of this reporting period remained in stockpiles awaiting re-testing
(3) ND = Not Detected
(4) Data are for period September 8, 1993 through December 24, 1993

TABLE D-3.2a

DATA SUMMARY OF SHAKEDOWN ANALYTICAL RESULTS
FLUE DUST STORAGE/THICKENER RETREAT
FLUE DUST OPERABLE UNIT
ANACONDA SMELTER NPL SITE

UNTREATED FLUE DUST
(0 samples taken/ 0 TCLP samples taken)

		TOTAL METALS (mg/kg)				TCLP (mg/l)		
	pH	% Moisture	Pb	Cd	As	Pb	Cd	As
AVG	NT (1)	NT	NT	NT	NT	NT	NT	NT
MIN	NT	NT	NT	NT	NT	NT	NT	NT
MAX	NT	NT	NT	NT	NT	NT	NT	NT

TREATED FLUE DUST
(196 samples taken/ 183 samples passing)

	ADDITIVE %							TCLP (mg/l)		
	Cement		Lime							
	% of Raw FD	% of Dry FD	% of Raw fd	% of Dry fd	pH	% Moisture	Alkalinity	Pb	Cd	As
AVG	7.76	10.21	NA (2)	NA	11 42	60 66	235,811	0 19	4 67	0 60
MIN	7.30	9 79	NA	NA	11 20	44.13	173,000	ND (3)	ND	0.03
MAX	8.60	10 48	NA	NA	11.74	73 01	337,000	0 64	12.80	3.67

TREATED FLUE DUST
PASSING CONTINGENCY TESTING (4)
(13 samples taken/ 13 samples passing)

		TCLP (mg/l)		
	Cure Time (days)	Pb	Cd	As
MIN	15	ND	ND	0 14
MAX	17	ND	ND	1 57

NOTES:
(1) NT = Not Tested (Analysis of raw material was not required for retreat material)
(2) NA = Not Applicable
(3) ND = Not Detected
(4) Data are for contingency testing only. Material that had not passed contingency testing at the end of this reporting period remained in stockpiles awaiting re-testing
(5) Data are for period September 8, 1993 through December 24, 1993

TABLE D-3.2a

DATA SUMMARY OF ANALYTICAL RESULTS - SWITCHBACK AREA MATERIAL
FLUE DUST OPERABLE UNIT
ANACONDA SMELTER NPL SITE

UNTREATED FLUE DUST
(235 samples taken/ 0 TCLP samples taken)

			TOTAL METALS (mg/kg)			TCLP (mg/l)		
	pH	% Moisture	Pb	Cd	As	Pb	Cd	As
AVG	3.55	25.72	4,937	428	28,957	NT	NT	NT
MIN	2.47	11.51	54	46	1,543	NT	NT	NT
MAX	11.27	34 33	15,183	1,400	68,575	NT	NT	NT

TREATED FLUE DUST
(245 samples taken/ 217 samples passing)

	ADDITIVE %							Plant Measurement	TCLP (mg/l)		
	Cement		Lime								
	% of Raw FD	% of Dry FD	% of Raw fd	% of Dry fd	pH	% Moisture	Alkalinity	% Cement	Pb	Cd	As
AVG	22.57	28.28	5 65	7.08	12.15	46.81	198,822	28.71	NC	NC	NC
MIN	20.17	24.71	4.78	5.85	11 15	30.58	52,461	26.45	0.11	ND	0.18
MAX	24.09	30.19	6.36	8.07	12 73	56.08	337,782	30 91	1.49	ND	50.55

TREATED FLUE DUST
PASSING CONTINGENCY TESTING
(28 samples taken)

		TCLP (mg/l)		
	Cure Time (days)	Pb	Cd	As
MIN	7	2.79	ND	1 17
MAX	26	0.15	ND	0.54

NOTES:
(1) ND = Not Detected.
(2) NT = Not Tested
(3) NC = Not Calculated
(4) Data are for reporting period April 27, 1993 through June 2, 1993.

TABLE D-3.2a

DATA SUMMARY OF ANALYTICAL RESULTS - AREA CUT MATERIAL
FLUE DUST OPERABLE UNIT
ANACONDA SMELTER NPL SITE

UNTREATED FLUE DUST
(125 samples taken/ 0 TCLP samples taken)

		TOTAL METALS (mg/kg)				TCLP (mg/l)		
	pH	% Moisture	Pb	Cd	As	Pb	Cd	As
AVG	7.17	17.70	3,455	230	4,025	NT	NT	NT
MIN	3 05	13 43	911	43	610	NT	NT	NT
MAX	11.79	27.58	7,848	511	8,957	NT	NT	NT

TREATED FLUE DUST
(126 samples taken/ 125 samples passing)

	ADDITIVE %										
	Cement		Lime					Plant Measurement		TCLP (mg/l)	
	% of Raw FD	% of Dry FD	% of Raw fd	% of Dry fd	pH	% Moisture	Alkalinity	% Cement	Pb	Cd	As
AVG	24.55	29.16	5.49	6.52	12.31	37.61	368,686	28.95	1.33	0.87	0.21
MIN	23.43	27.74	4 72	5.60	11.73	21.30	153,001	27.74	0 19	0 87	0.03
MAX	25.19	30 91	6.15	7.23	12.54	49 93	453,570	30 91	4 33	0.87	8 99

TREATED FLUE DUST
PASSING CONTINGENCY TESTING
(1 sample taken)

		TCLP (mg/l)		
	Cure Time (days)	Pb	Cd	As
AVG	38	0.32	ND	0.12
MIN	38	0 28	ND	0 11
MAX	38	0.36	ND	0 12

NOTES:
(1) ND = Not detected.
(2) NT = Not Tested
(3) Data are for reporting period April 27, 1993 through June 2, 1993.

TABLE D-3.2a

DATA SUMMARY OF ANALYTICAL RESULTS - MISCELLANEOUS PILES MATERIAL
FLUE DUST OPERABLE UNIT
ANACONDA SMELTER NPL SITE

UNTREATED FLUE DUST
(207 samples taken/ 0 TCLP samples taken)

			TOTAL METALS (mg/kg)			TCLP (mg/l)		
	pH	% Moisture	Pb	Cd	As	Pb	Cd	As
AVG	6 13	18 77	3,004	310	16,836	NT	NT	NT
MIN	4 79	13.40	445	59	2,480	NT	NT	NT
MAX	7 02	33.22	9,436	1,146	50,100	NT	NT	NT

TREATED FLUE DUST
(210 samples taken/ 205 samples passing)

	ADDITIVE %							Plant Measurement	TCLP (mg/l)		
	Cement		Lime								
	% of Raw FD	% of Dry FD	% of Raw fd	% of Dry fd	pH	% Moisture	Alkalinity	% Cement	Pb	Cd	As
AVG	26.92	35.41	6.23	8.20	11.80	36 12	281,133	19.92	0.63	ND	0.83
MIN	23.59	31.32	5.37	7.20	11.39	29 86	39,876	19.32	0 01	ND	0.04
MAX	31.59	40 89	7.17	9.45	12.39	53.78	514,579	40 89	6.34	ND	2.30

TREATED FLUE DUST
PASSING CONTINGENCY TESTING
(5 samples taken)

		TCLP (mg/l)		
	Cure Time (days)	Pb	Cd	As
AVG	36.6	1 81	ND	1 81
MIN	31	0 26	ND	0 36
MAX	46	6 34	ND	8.97

NOTES:
(1) ND = Not detected.
(2) NT = Not Tested
(3) Data are for reporting period April 27, 1993 through June 2, 1993

TABLE D-3.2b
ITEX ANALYTICAL RESULTS
COAL PILE TRACKS, IRON PONDS, BRADLEY PONDS AND FLUE DUST STORAGE AREA
FLUE DUST SHAKEDOWN/PROVEOUT
ANACONDA SMELTER NPL SITE

SAMPLE I.D. #	pH (SU)	MOISTURE %	ALKALINITY as CaC mg/kg	TOTAL METALS (mg/Kg dry)			TCLP METALS (mg/L)			PLANT MEASUREMENT LIME %	PLANT MEASUREMENT CEMENT %	LABORATORY MEASUREMENT CEMENT %	CURE TIME (days)	UCS psi
				LEAD	CADMIUM	ARSENIC	LEAD	CADMIUM	ARSENIC					
BP1-RAW	8 19	20 54	NR	NR	NR	NR	NR	NR	NR	NA	NA	NA	NA	NR
BP3-RAW	NR	46 16	NR	NR	NR	NR	NR	NR	NR	NA	NA	NA	NA	NR
BP3-RAW	7 89	29 17	NR	NR	NR	NR	NR	NR	NR	NA	NA	NA	NA	NR
BP2-RAW-0001	5 9	26 02	NR	1,306	129	1,398	NR	NR	NR	NA	NA	NA	NA	NR
BP2-XI-1/0003-0009	11 60	40 47	NR	NR	NR	NR	ND	0 020	0 093	NA	23 40%	35 5	NA	NR
BP2-XI-1/0010-0020	11 40	36 73	NR	NR	NR	NR	ND	ND	0 211	NA	22 70%	37 7	3	NR
BP2-XI-1/0021-0035	11 60	NR	404,578	6,439	814	7,181	ND	ND	0 428	NA	20 20%	35 4	7	NR
BP2-RAW-0000-0035	8 93	18 04	NR	NR	NR	NR	NR	NR	NR	NA	NA	NA	NA	NR
BP2-XI-1/0036-0042	11 50	NR	136 407	5 743	743	7 232	0 37	0 030	0 729	NA	20 20%	30 3	7	NR
BP2-RAW-0000-0042	8 17	30 01	NR	NR	NR	NR	NR	NR	NR	NA	NA	NA	NA	NR
BP2-XI-1/0043-0045	11 40	NR	221 137	6,172	840	7,410	ND	ND	0 440	NA	22 80%	32 7	5	NR
BP2-XI-1/0046-0057	11 55	38 36	214,787	7,553	834	7,283	ND	ND	0 480	NA	22 80%	35 7	5	35 3
BP2-RAW-0043-0057	8 93	37 32	NR	NR	NR	NR	NR	NR	NR	NA	NA	NA	NA	NR
BP2-XI-1/0058-0061	11 40	36 61	308,985	7,307	851	7,334	ND	ND	0 467	NA	22 80%	36 2	5	NR
BP2-XI-1/0062-0067	11 59	39 06	383,825	7,051	840	7,328	ND	ND	0 429	NA	22 80%	36 4	5	NR
BP2-RAW-0058-0067	9 17	35 98	NR	NR	NR	NR	NR	NR	NR	NA	NA	NA	NA	NR
BP2-XI-1/0069-0070	11 39	35 56	441,684	6,832	838	7,826	ND	ND	0 486	NA	22 80%	35 7	5	NR
BP2-XI-1/0071-0080	11 50	37 94	398,792	6,025	672	6,564	ND	ND	0 513	NA	23 10%	29 3	4	NR
BP2-RAW-0071-0080	9 01	35 41	NR	NR	NR	NR	NR	NR	NR	NA	NA	NA	NA	NR
BP2-XI-1/0081-0090	11 50	37 67	344,210	6,807	784	7,341	ND	ND	0 479	NA	23 10%	31 3	4	38 5
BP2-RAW-0081-0090	8 96	16 85	NR	NR	NR	NR	NR	NR	NR	NA	NA	NA	NA	NR
BP2-XI-1/0091-0096	11 55	38 83	381 648	5,649	672	6,231	ND	ND	0 569	NA	23 10%	36 2	4	NR
BP2-XI-1/0099-0108	11 47	41 62	262,800	6 740	793	8,989	ND	ND	0 650	NA	22 50%	NA	NA	NR
BP2-RAW-0099-0108	8 92	NR	NR	NR	NR	NR	NR	NR	NR	NA	NA	NA	NA	NR
BP2-XI-1/0109-0118	11 47	41 62	262 800	6,740	793	8,989	ND	ND	0 650	NA	22 50%	15 7	6	NR
BP2-RAW-0109-0118	8 95	47 48	NR	NR	NR	NR	NR	NR	NR	NA	NA	NA	NA	NR
BP2-XI-1/0119-0128	11 49	59 91	203,500	6,984	822	9,318	ND	ND	0 580	NA	22 50%	12 0	6	NR
BP2-RAW-0119-0128	8 89	41 56	NR	NR	NR	NR	NR	NR	NR	NA	NA	NA	NA	NR
BP2-XI-1/0129-0135	11 50	42 85	136,000	6,834	768	8,738	ND	ND	0 600	NA	22 50%	24 1	6	27 6
BP2-RAW-0129-0135	8 44	37 85	NR	NR	NR	NR	NR	NR	NR	NA	NA	NA	NA	NR
BP2-XI-1/0136-0139	11 50	44 89	217,000	6,576	773	8,898	ND	ND	0 580	NA	22 50%	26 1	6	NR
BP2-XI-1/0140-0149	11 50	44 89	261,900	6,394	758	8,269	ND	ND	0 560	NA	20 60%	16 8	5	NR
BP2-RAW-0140-0149	8 84	NR	NR	NR	NR	NR	NR	NR	NR	NA	NA	NA	NA	NR
BP2-XI-1/0150-0159	11 48	52 42	292,194	7 044	945	9,442	0 30	0 030	1 020	NA	20 60%	16 3	5	NR
BP2-RAW-0150-0159	9 11	33 21	NR	NR	NR	NR	NR	NR	NR	NA	NA	NA	NA	NR
BP2-XI-1/0160-0169	11 57	49 90	382 000	5 881	736	8 359	ND	ND	0 620	NA	20 60%	13 9	5	NR
BP2-RAW-0160-0169	9 03	30 44	NR	NR	NR	NR	NR	NR	NR	NA	NA	NA	NA	NR
BP2-XI-1/0170-0179	11 60	56 11	386 000	5 722	639	7,663	ND	ND	0 640	NA	20 60%	13 3	5	NR

NA = Not Applicable
ND = Not Detectable
NR = Not Received
* = Lab required off-site analysis
(a) = Consingency samples re-analyzed on site. The re-analyzed results are shown

TABLE D-3.2b
ITEX ANALYTICAL RESULTS
COAL PILE TRACKS, IRON PONDS, BRADLEY PONDS AND FLUE DUST STORAGE AREA
FLUE DUST SHAKEDOWN/PROVEOUT
ANACONDA SMELTER NPL SITE

SAMPLE I.D. #	pH (SU)	MOISTURE %	ALKALINITY as CaC mg/kg	TOTAL METALS (mg/Kg dry) LEAD	CADMIUM	ARSENIC	TCLP METALS (mg/L) LEAD	CADMIUM	ARSENIC	PLANT MEASUREMENT LIME %	PLANT MEASUREMENT CEMENT %	LABORATORY MEASUREMENT CEMENT %	CURE TIME (days)	UCS psi
BP2-RAW-0170-0179	9 29	33 5	NR	NR	NR	NR	NR	NR	NR	NA	NA	NA	NA	NR
BP2-XI-1/0180-0189	11 56	54 20	112 000	5 984	672	8,450	ND	ND	0 830	NA	20 60%	16 3	5	NR
BP2-RAW-0180-0189	8 68	NR	NR	NR	NR	NR	NR	NR	NR	NA	NA	NA	NA	NR
BP2-XI-1/0190-0199	11 53	52 38	257,300	6,310	741	8,595	ND	ND	0 760	NA	20 60%	12 7	5	14 7
BP2-RAW-0190-0199	8 08	34 34	NR	NR	NR	NR	NR	NR	NR	NA	NA	NA	NA	NR
BP2-XI-1/0200-0209	11 57	37 99	198,807	6,598	774	8,179	ND	ND	0 620	NA	19 80%	14 1	4	NR
BP2-RAW-0200-0209	8 59	NR	NR	NR	NR	NR	NR	NR	NR	NA	NA	NA	NA	NR
BP2-XI-1/0210-0219	11 58	42 31	207,748	6 039	769	7,681	ND	ND	0 610	NA	19 80%	13 6	4	NR
BP2-RAW-0210-0219	8 68	NR	NR	NR	NR	NR	NR	NR	NR	NA	NA	NA	NA	NR
BP2-XI-1/0220-0229	11 59	43 75	193,361	5,637	690	7,522	ND	ND	0 740	NA	19 80%	18 2	4	NR
BP2-RAW-0220-0229	8 1	NR	NR	NR	NR	NR	NR	NR	NR	NA	NA	NA	NA	NR
BP2-XI-1/0231-0241	11 66	54 28	253,618	3,931	529	5,982	ND	ND	0 910	NA	19 80%	15 3	4	NR
BP2-XI-1/0231-0241dup	NR	NR	NR	NR	NR	NR	ND	ND	0 720	NA	19 80%	15 3	4	NR
BP2-RAW-0231-0241	8 35	NR	NR	NR	NR	NR	NR	NR	NR	NA	NA	NA	NA	NR
BP2-XI-1/0242-0251	11 56	46 78	148,890	4,710	589	6,643	ND	ND	0 920	NA	19 80%	15 8	4	25 3
BP2-RAW-0242-0251	8 47	36 59	NR	NR	NR	NR	NR	NR	NR	NA	NA	NA	NA	NR
BP2-XI-1/0252-0261	11 47	45 05	177,408	5,688	679	8,668	ND	ND	0 790	NA	19 80%	18 2	4	NR
BP2-RAW-0252-0261	8 51	NR	NR	NR	NR	NR	NR	NR	NR	NA	NA	NA	NA	NR
BP2-XI-1/0262-0267	11 51	29 60	227,000	12 900	954	9,980	0 03	0 003	0 550	NA	20 10%	32 5	4	NR
BP2-XI-1/0268-0278	11 58	28 10	239,000	8,630	638	6,900	0 03	ND	0 490	NA	20 10%	35 2	4	31 9
BP2-XI-1/0268-0278 dup	NR	NR	NR	NR	NR	NR	ND	ND	0 61	NA	20 10%	NR	4	NR
BP2-RAW-0262-0278	8 96	38 01	NR	NR	NR	NR	NR	NR	NR	NA	NA	NA	NA	NR
BP2-XI-1/0279-0288	11 60	31 90	185,000	11 600	920	8,720	ND	ND	0 630	NA	20 10%	36 9	4	NR
BP2-RAW-0279-0288	8 73	36 95	NR	NR	NR	NR	NR	NR	NR	NA	NA	NA	NA	NR
BP2-XI-1/0293-0302	11 58	29 3	166 000	11,700	886	9,180	ND	ND	0 580	NA	20 30%	31 7	3	16 9
BP2-RAW-0293-0302	9 48	NR	NR	NR	NR	NR	NR	NR	NR	NA	NA	NA	NA	NR
BP2-XI-1/0303-0312	11 54	29 9	211,000	12 400	975	9,210	ND	ND	0 680	NA	20 30%	36 3	3	NR
BP2 RAW-0303-0312	8 94	34 71	NR	NR	NR	NR	NR	NR	NR	NA	NA	NA	NA	NR
BP2-XI-1/0313-0322	11 52	29 7	231 000	12 200	962	9 090	ND	ND	0 520	NA	20 30%	39 3	3	NR
BP2-RAW-0313-0322	8 77	21 54	NR	NR	NR	NR	NR	NR	NR	NA	NA	NA	NA	NR
BP2-XI-1/0323-0332	11 48	29 5	239 000	12 600	982	9 630	ND	ND	0 520	NA	20 30%	36 3	3	NR
BP2-RAW-0323-0332	9 2	36 54	NR	NR	NR	NR	NR	NR	NR	NA	NA	NA	NA	NR
BP2-XI-1/0333-0342	11 5	29 8	215 000	11 600	866	8,700	ND	ND	0 490	NA	20 30%	29 5	3	NR
BP2-RAW-0333-0342	9 54	34 8	NR	NR	NR	NR	NR	NR	NR	NA	NA	NA	NA	NR
BP2-XI-1/0343-0352	11 55	30 2	178 000	11 200	857	8 520	ND	ND	0 580	NA	20 30%	30 0	3	NR
BP2-RAW-0343-0352	8 64	35 04	NR	NR	NR	NR	NR	NR	NR	NA	NA	NA	NA	NR
BP2-XI-1/0353-0360	11 54	29 6	226,000	12 000	892	9,390	ND	ND	0 580	NA	20 30%	36 3	3	NR
BP2-RAW-0353-0360	9 52	NR	NR	NR	NR	NR	NR	NR	NR	NA	NA	NA	NA	NR

NA = Not Applicable
ND = Not Detectable
NR = Not Received
* = 1:40 required offsite analysis
(b) = Cuesta grey samples re-analyzed on site. The re-analyzed results are shown

TABLE D-3.2b
ITEX ANALYTICAL RESULTS
COAL PILE TRACKS, IRON PONDS, BRADLEY PONDS AND FLUE DUST STORAGE AREA
FLUE DUST SHAKEDOWN/PROVEOUT
ANACONDA SMELTER NPL SITE

SAMPLE I.D. #	pH (SU)	MOISTURE %	ALKALINITY as CaC mg/kg	TOTAL METALS (mg/Kg dry) LEAD	CADMIUM	ARSENIC	TCLP METALS (mg/L) LEAD	CADMIUM	ARSENIC	PLANT MEASUREMENT LIME %	PLANT MEASUREMENT CEMENT %	LABORATORY MEASUREMENT CEMENT %	CURE TIME (days)	UCS psi
BP2-X1-1/0361-0370	11 3	44 44	302 637	7 301	844	8,278	0 27	ND	0 690	NA	20 30%	25 4	4	NR
BP2-RAW-0361-0370	8 89	40 71	NR	NR	NR	NR	NR	NR	NR	NA	NA	NA	NA	NR
BP2-X1-1/0371-0380	11 3	42 45	192,118	7 724	1,000	8,414	0 38	0 030	0 850	NA	20 30%	26 8	4	26 4
BP2-RAW-0371-0380	9 52	33 86	NR	NR	NR	NR	NR	NR	NR	NA	NA	NA	NA	NR
BP2-X1-1/0381-0390	11 3	42 74	167,600	7,961	972	8,537	0 25	0 020	0 850	NA	20 30%	25 6	4	NR
BP2-RAW-0381-0390	9 1	37 51	NR	NR	NR	NR	NR	NR	NR	NA	NA	NA	NA	NR
BP2-X1-1/0391-0400	11 4	42 74	230,200	8 039	964	8,667	0 16	ND	0 820	NA	20 30%	35 2	4	NR
BP2-RAW-0391-0400	8 85	34 01	NR	NR	NR	NR	NR	NR	NR	NA	NA	NA	NA	NR
BP2-X1-1/0401-0410	11 4	54 95	214,300	7 839	886	8,479	0 28	0 030	0 650	NA	20 30%	24 1	4	NR
BP2-RAW-0401-0410	9 28	NR	NR	NR	NR	NR	NR	NR	NR	NA	NA	NA	NA	NR
BP2-X1-1/0411-0420	11 2	42 94	299,300	7,755	962	8,779	0 14	ND	0 590	NA	18 80%	36 4	3	NR
BP2-RAW-0411-0420	NR	37 43	NR	NR	NR	NR	NR	NR	NR	NA	NA	NA	NA	NR
BP2-X1-1/0421-0432	11 4	47 72	236,300	6 706	757	7 534	0 21	0 020	0 690	NA	18 80%	33 7	3	NR
BP2-RAW-0421-0432	NR	38 84	NR	NR	NR	NR	NR	NR	NR	NA	NA	NA	NA	NR
BP1-X1-1/0433/0442	11 6	41 41	236,200	6 927	781	7 897	ND	ND	0 580	NA	18 80%	28 6	3	NR
BP1-RAW-0433-0442	NR	35 42	NR	NR	NR	NR	NR	NR	NR	NA	NA	NA	NA	NR
BP1-X1-1/0443-0452	11 4	40 78	166,600	6,030	695	6,404	0 21	0 450	0 270	NA	18 80%	26 6	3	11 4
BP1-RAW-0443-0452	NR	42 53	NR	NR	NR	NR	NR	NR	NR	NA	NA	NA	NA	NR
BP1-X1-1/0453-0462	11 6	43 85	285,300	6,386	759	7,046	0 13	0 030	ND	NA	18 80%	30 5	3	NR
BP1-RAW-0453-0462	NR	NR	NR	NR	NR	NR	NR	NR	NR	NA	NA	NA	NA	NR
BP1-X1-1/0463-0472	11 6	28 68	188,439	6 116	736	6,976	0 30	0 030	ND	NA	18 80%	29 8	3	NR
BP1-RAW-0463-0472	NR	28 68	NR	NR	NR	NR	NR	NR	NR	NA	NA	NA	NA	NR
BP1-X1-1/0473-0475	11 5	46 15	174 274	6 235	732	6,741	0 26	0 090	ND	NA	18 80%	35 4	3	NR
BP1-X1-1/0476-0485	11 55	44 97	225,116	5,001	524	4,070	0 13	ND	0 690	NA	16 40%	31 3	5	NR
BP1-RAW-0476-0485	8 49	26 68	NR	NR	NR	NR	NR	NR	NR	NA	NA	NA	NA	NR
BP1-X1-1/0486-0495	11 49	42 59	278 509	5 285	528	4 399	0 21	ND	0 540	NA	16 40%	29 1	5	NR
BP1-RAW-0486-0495	9 06	27 62	NR	NR	NR	NR	NR	NR	NR	NA	NA	NA	NA	NR
BP1-X1-1/0496-0505	11 56	41 42	236 650	6 614	639	5 561	0 54	8 550	ND	NA	16 40%	36 4	5	NR
BP1-RAW-0496-0505	8 91	25 94	NR	NR	NR	NR	NR	NR	NR	NA	NA	NA	NA	NR
BP1-X1-1/0496-0505-1	NR	NR	353 029	NR	NR	NR	ND	ND	0 30	NA	16 40%	36 4	12	NR
BP1 X1-1/0496-0505-2	NR	NR	317 996	NR	NR	NR	ND	ND	0 26	NA	16 40%	NR	12	NR
BP1-X1-1/0506-0515	11 48	44 63	300,926	5,741	576	4,834	6 07	16 140	ND	NA	16 40%	NR	5	NR
BP1-RAW-0506-0515	9 15	29 29	NR	NR	NR	NR	NR	NR	NR	NA	NA	NA	NA	NR
BP1-X1-1/0506-0515-3	NR	NR	311,431	NR	NR	NR	ND	ND	0 24	NA	16 40%	NR	12	NR
BP1-X1-1/0506-0515-5	NR	NR	NR	NR	NR	NR	ND	ND	0 40	NA	16 40%	NR	12	NR
BP1-X1-1/0516-0525	11 5	42 81	186,567	7,348	725	5,921	0 49	9 350	0 500	NA	16 40%	29 5	5	NR
BP1-RAW-0516-0525	8 82	24 31	NR	NR	NR	NR	NR	NR	NR	NA	NA	NA	NA	NR
BP1-X1-1/0516-0525-4	NR	NR	333,269	NR	NR	NR	ND	ND	0 40	NA	16 40%	NR	12	NR

NA = Not Applicable
ND = Not Detectable
NR = Not Received
* = 180 required offsite analysis
(b) = Contingency samples re-analyzed on site. The re-analyzed results are shown
MRD52B.XLS[1/95

TABLE D-3.2b
ITEX ANALYTICAL RESULTS
COAL PILE TRACKS, IRON PONDS, BRADLEY PONDS AND FLUE DUST STORAGE AREA
FLUE DUST SHAKEDOWN/PROVEOUT
ANACONDA SMELTER NPL SITE

SAMPLE I.D. #	pH (SU)	MOISTURE %	ALKALINITY as CaC mg/kg	TOTAL METALS (mg/Kg dry)			TCLP METALS (mg/L)			PLANT MEASUREMENT LIME %	PLANT MEASUREMENT CEMENT %	LABORATORY MEASUREMENT CEMENT %	CURE TIME (days)	UCS psi
				LEAD	CADMIUM	ARSENIC	LEAD	CADMIUM	ARSENIC					
BPI-XI-1/0516-0525-5	NR	NR	348,837	NR	NR	NR	ND	0 18	0 39	NA	16 40%	NR	12	NR
BPI-XI-1/0526-0535	11 51	44 02	216,121	7,334	720	6,210	0 29	5 540	ND	NA	16 40%	36 4	5	NR
BPI-RAW-0526-0535	9 13	38 36	NR	NR	NR	NR	NR	NR	NR	NA	NA	NA	NA	NR
BPI-XI-1/0526-0535-1	NR	NR	340,973	NR	NR	NR	ND	0 13	0 94	NA	16 40%	NR	12	NR
BPI-XI-1/0526-0535-2	NR	NR	267,459	NR	NR	NR	ND	ND	0 67	NA	16 40%	NR	12	NR
BPI-XI-1/0536-0542	11 55	41 45	233,831	4 921	497	4,427	ND	0 050	0 590	NA	16 40%	36 4	5	7 8
BPI-RAW-0536-0542	8 84	26 68	NR	NR	NR	NR	NR	NR	NR	NA	NA	NA	NA	NR
BPI-XI-1/0543-0549	11 53	41 53	217,442	7,073	714	6,517	ND	ND	ND	NA	16 40%	36 2	5	NR
BPI-RAW-0543-0549	8 91	29 29	NR	NR	NR	NR	NR	NR	NR	NA	NA	NA	NA	NR
BPI-XI-1/0550-0555	11 54	42 84	214 623	6,134	626	5 597	0 10	0 040	0 770	NA	16 40%	34 9	5	NR
BPI-RAW-0550-0555	8 83	27 72	NR	NR	NR	NR	NR	NR	NR	NA	NA	NA	NA	NR
BPI-XI-1/0556-0562	11 57	42 75	238,582	6,781	689	6,057	0 10	ND	ND	NA	15 20%	36 4	4	NR
BPI-RAW-0556-0562	8 75	31 08	NR	NR	NR	NR	NR	NR	NR	NA	NA	NA	NA	NR
BPI-XI-1/0563-0569	11 36	42 19	233,092	8,701	844	7,963	ND	ND	0 55	NA	15 20%	36 2	4	NR
BPI-RAW-0563-0569	8 68	23 64	NR	NR	NR	NR	NR	NR	NR	NA	NA	NA	NA	NR
BPI-XI-1/0570-0576	11 40	44 16	204,125	7,290	707	6,604	0 20	ND	ND	NA	15 20%	35 7	4	NR
BPI-RAW-0570-0576	8 57	23 9	NR	NR	NR	NR	NR	NR	NR	NA	NA	NA	NA	NR
BPI-XI-1/0577-0582	11 42	46 96	217 875	7 268	741	6,074	0 13	ND	ND	NA	15 20%	37 4	4	NR
BPI-RAW-0577-0582	8 66	27 86	NR	NR	NR	NR	NR	NR	NR	NA	NA	NA	NA	NR
BPI-XI-1/0583-0588	11 21	47 57	241 912	6 924	704	6,037	ND	ND	0 63	NA	15 20%	32 2	4	NR
BPI-RAW-0583-0588	8 78	29 18	NR	NR	NR	NR	NR	NR	NR	NA	NA	NA	NA	NR
BPI-XI-1/0589-0595	11 46	45 92	239,603	5 866	571	5,071	0 17	2 69	0 57	NA	15 20%	25 6	4	NR
BPI-RAW-0589-0595	9 22	25 05	NR	NR	NR	NR	NR	NR	NR	NA	NA	NA	NA	NR
BPI-XI-1/0589-0595-1	NR	NR	332,584	NR	NR	NR	ND	ND	0 41	NA	15 20%	NR	18	NR
BPI-XI-1/0589-0595-5	NR	NR	329,876	NR	NR	NR	ND	ND	0 37	NA	15 20%	NR	18	NR
BPI-XI-1/0596-0603	11 43	48 44	228 202	7,002	715	7,138	0 15	0 08	0 66	NA	15 20%	34 7	4	4 2
BPI-RAW-0596-0603	8 91	27 38	NR	NR	NR	NR	NR	NR	NR	NA	NA	NA	NA	NR
BPI-XI-1/0604-0612	11 28	51 03	233,621	6,801	758	6,723	1 25	10 34	ND	NA	15 20%	35 4	4	NR
BPI-RAW-0604-0612	9 27	25 96	NR	NR	NR	NR	26 06	26 8	0 54	NA	NA	NA	NA	NR
BPI-XI-1/0604-0612-1(a)	NR	NR	263,192	NR	NR	NR	ND	ND	0 45	NA	15 20%	NR	17	NR
BPI-XI-1/0604-0612-2 (a)	NR	NR	260,877	NR	NR	NR	ND	ND	ND	NA	15 20%	NR	17	NR
BPI-XI-1/0604-0612-2	NR	NR	NR	NR	NR	NR	ND	ND	0 52	NA	15 20%	NR	145	NR
BPI-XI-1/0604-0612-4	NR	NR	NR	NR	NR	NR	ND	ND	0 56	NA	15 20%	NR	145	NR
BPI-XI-1/0613-0619	11 51	46 10	229 329	6,698	701	6 258	ND	0 79	0 56	NA	15 20%	23 9	5	NR
BPI-RAW-0613-0619	9 09	26 75	NR	NR	NR	NR	NR	NR	NR	NA	NA	NA	NA	NR
BPI-XI-1/0620-0627	11 62	48 12	221,844	4 480	565	4,327	0 25	0 88	0 68	NA	15 20%	34 4	5	NR
BPI-RAW-0620-0627	8 91	30 5	NR	NR	NR	NR	NR	NR	NR	NA	NA	NA	NA	NR
BPI-XI-1/0628-0637	11 56	41 76	202,106	4 519	672	5 055	3 81	13 26	0 68	NA	15 20%	32 7	5	NR

NA = Not Applicable
ND = Not Detectable
NR = Not Received
* = 1:400 required silicate analysis
(a) = Cracking-core sample re-analyzed on site. The re-analyzed results are shown
IARD32B.XLS2/1/95

TABLE D-3.2b
ITEX ANALYTICAL RESULTS
COAL PILE TRACKS, IRON PONDS, BRADLEY PONDS AND FLUE DUST STORAGE AREA
FLUE DUST SHAKEDOWN/PROVEOUT
ANACONDA SMELTER NPL SITE

SAMPLE I.D. #	pH (SU)	MOISTURE %	ALKALINITY as CaC mg/kg	TOTAL METALS (mg/Kg dry) LEAD	CADMIUM	ARSENIC	TCLP METALS (mg/L) LEAD	CADMIUM	ARSENIC	PLANT MEASUREMENT LIME %	PLANT MEASUREMENT CEMENT %	LABORATORY MEASUREMENT CEMENT %	CURE TIME (days)	UCS psi
BP1-XI-1/0628-0637 dup	NR	NR	NR	NR	NR	NR	ND	ND	0 31	NA	15 20%	32 7	5	NR
BP1-XI-1/0628-0637-1 (a)	NR	NR	253 578	NR	NR	NR	ND	ND	ND	NA	15 20%	NR	17	NR
BP1-XI-1/0628-0637-2 (a)	NR	NR	256,432	NR	NR	NR	ND	ND	0 38	NA	15 20%	NR	17	NR
BP1-XI-1/0628-0637-2	NR	NR	NR	NR	NR	NR	ND	ND	0 35	NA	15 20%	NR	145	NR
BP1-XI-1/0628-0637-4	NR	NR	NR	NR	NR	NR	ND	ND	0 35	NA	15 20%	NR	145	NR
BP1-XI-1/0638-0645	11 22	44 32	NR	7,086	803	6,123	ND	ND	0 83	NA	15 30%	33 5	4	NR
BP1-RAW-0638-0645	8 69	27 45	NR	NR	NR	NR	NR	NR	NR	NA	NA	NA	NA	NR
BP1-XI-1/0646-0653	11 21	45 96	198,020	7,735	904	6,583	ND	ND	1 03	NA	15 30%	31 5	4	NR
BP1-RAW-0646-0653	8 33	28 42	NR	NR	NR	NR	NR	NR	NR	NA	NA	NA	NA	NR
BP1-XI-1/0654-0661	11 21	48 55	266,089	7,095	806	6,056	ND	0 10	0 83	NA	15 30%	30 8	4	NR
BP1-RAW-0654-0661	8 47	33 88	NR	NR	NR	NR	NR	NR	NR	NA	NA	NA	NA	NR
BP1-XI-1/0662-0669	11 02	44 07	283,473	6,460	692	5,417	0 11	ND	0 88	NA	15 30%	33 5	4	7 4
BP1-RAW-0662-0669	8 21	29 18	NR	NR	NR	NR	NR	NR	NR	NA	NA	NA	NA	NR
BP1-XI-1/0670-0677	11 14	44 73	358 894	6 963	736	5,905	0 32	ND	0 89	NA	15 30%	27 3	4	NR
BP1-XI-1/0678-0685	11 17	47 11	267,668	7,210	754	6,031	ND	ND	0 72	NA	15 30%	35 4	4	NR
BP1-RAW-0678-0685	8 26	29 7	NR	NR	NR	NR	NR	NR	NR	NA	NA	NA	NA	NR
BP1-XI-1/0686-0693	11 12	46 94	276 980	7 304	775	6 248	ND	ND	0 99	NA	15 30%	26 4	4	NR
BP1-RAW-0686-0693	8 14	29 72	NR	NR	NR	NR	NR	NR	NR	NA	NA	NA	NA	NR
BP1-XI-1/0694-0698	11 20	48 07	284,856	6,055	679	5 202	ND	0 34	0 87	NA	15 30%	24 9	4	NR
BP1-XI-1/0699-0706	11 32	46 71	227,344	7 353	738	6 215	0 16	ND	0 83	NA	15 00%	24 9	4	NR
BP1-RAW-0699-0706	8 13	29 06	NR	NR	NR	NR	NR	NR	NR	NA	NA	NA	NA	NR
BP1-XI-1/0707-0714	11 23	48 72	198,775	7 626	784	6,303	0 12	ND	0 82	NA	15 00%	25 1	4	NR
BP1-RAW-0707-0714	8 41	29 46	NR	NR	NR	NR	NR	NR	NR	NA	NA	NA	NA	NR
BP1-XI-1/0715-0722	11 30	41 01	217,079	8,286	845	6,594	0 13	0 19	0 87	NA	15 00%	26 4	4	NR
BP1-RAW-0715-0722	8 29	31 75	NR	NR	NR	NR	NR	NR	NR	NA	NA	NA	NA	NR
BP1-XI-1/0723-0730	11 29	47 36	238 500	7 733	727	6,200	0 18	ND	0 69	NA	15 00%	32 5	4	NR
BP1-RAW-0723-0730	8 26	29 63	NR	NR	NR	NR	NR	NR	NR	NA	NA	NA	NA	NR
BP1-XI 1/0731-0738	11 25	40 43	243,103	7,787	783	6,433	0 12	ND	0 76	NA	15 00%	25 6	4	NR
BP1-RAW-0731-0738	8 18	31 7	NR	NR	NR	NR	NR	NR	NR	NA	NA	NA	NA	NR
BP1-XI-1/0739-0746	11 35	43 29	230,485	8 312	779	6 971	6 73	18 50	1 07	NA	15 00%	35 9	4	14 8
BP1-RAW-0739-0746	8 72	35 07	NR	NR	NR	NR	10 18	18 9	0 1	NA	NA	NA	NA	NR
BP1-XI-1/0739-0746-4	NR	NR	307 545	NR	NR	NR	ND	ND	0 034	NA	15 00%	NR	17	NR
BP1-XI-1/0739-0746-5	NR	NR	279,572	NR	NR	NR	ND	ND	0 35	NA	15 00%	NR	17	NR
BP2-XI-1/0747-0753	11 33	49 87	233,621	9,491	929	7 285	0 11	0 05	0 51	NA	15 00%	30 3	4	NR
BP2-XI-1/0754-0761	11 14	54 76	187,990	9,563	978	7,370	0 10	ND	0 67	NA	14 40%	32 0	2	6 5
BP2-RAW-0754-0761	9 12	45 73	NR	NR	NR	NR	NR	NR	NR	NA	NA	NA	NA	NR
BP2-XI-1/0762-0769	11 23	56 54	211,836	11,352	1,176	8,834	0 15	ND	0 87	NA	14 40%	37 1	2	NR
BP2-RAW-0762-0769	9 26	45 66	NR	NR	NR	NR	NR	NR	NR	NA	NA	NA	NA	NR

NA = Not Applicable
ND = Not Detectable
NR = Not Received
* = 1/10 required dilution analysis
(a) = Contingency samples re-analyzed on site. The re-analyzed results are shown.

TABLE D-3.2b
ITEX ANALYTICAL RESULTS
COAL PILE TRACKS, IRON PONDS, BRADLEY PONDS AND FLUE DUST STORAGE AREA
FLUE DUST SHAKEDOWN/PROVEOUT
ANACONDA SMELTER NPL SITE

SAMPLE I.D. #	pH (SU)	MOISTURE %	ALKALINITY as CaC mg/kg	TOTAL METALS (mg/Kg dry)			TCLP METALS (mg/L)			PLANT MEASUREMENT LIME %	PLANT MEASUREMENT CEMENT %	LABORATORY MEASUREMENT CEMENT %	CURE TIME (days)	UCS psi
				LEAD	CADMIUM	ARSENIC	LEAD	CADMIUM	ARSENIC					
BP2-XI-1/0770-0780	11 41	52 56	221,905	10,665	1,129	7,834	0 13	ND	ND	NA	14 40%	30 3	2	NR
BP2-RAW-0770-0780	8 95	40 14	NR	NR	NR	NR	NR	NR	NR	NA	NA	NA	NA	NR
BP3-XI-1/0781-0790	11 29	49 59	251,523	10 029	931	7,482	0 11	ND	ND	NA	14 40%	24 4	2	NR
BP3-RAW-0781-0790	8 52	37 86	NR	NR	NR	NR	NR	NR	NR	NA	NA	NA	NA	NR
BP3-XI-1/0791-0798	11 31	52 42	377 469	6 669	746	6,190	4 09	14 90	ND	NA	14 30%	29 3	2	NR
BP3-RAW-0791-0798	8 32	44 57	NR	NR	NR	NR	NR	NR	NR	NA	NA	NA	NA	NR
BP3-XI-1/0791-0798-2	NR	NR	287 019	NR	NR	NR	ND	ND	0 08	NA	14 30%	NR	14	NR
BP3-XI-1/0791-0798-3	NR	NR	284,797	NR	NR	NR	ND	ND	0 05	NA	14 30%	NR	14	NR
BP3-XI-1/0799-0806	11 42	48 43	370,923	7,671	838	7 407	3 05	15 00	ND	NA	14 30%	31 3	2	NR
BP3-RAW-0799-0806	8 35	23 46	NR	NR	NR	NR	NR	NR	NR	NA	NA	NA	NA	NR
BP3-XI-1/0799-0806-1	NR	NR	NR	NR	NR	NR	ND	ND	0 39	NA	14 30%	NR	14	NR
BP3-XI-1/0799-0806-2	NR	NR	NR	NR	NR	NR	ND	ND	0 24	NA	14 30%	NR	14	NR
BP3-XI-1/0799-0806-2	NR	NR	295,212	NR	NR	NR	ND	ND	0 04	NA	14 30%	NR	140	NR
BP3-XI-1/0799-0806-3	NR	NR	281,276	NR	NR	NR	ND	3 48	0 13	NA	14 30%	NR	140	NR
BP3-XI-1/0807-0814	11 19	46 64	394 380	7,382	802	6,635	9 23	17 10	ND	NA	14 30%	24 2	2	NR
BP3-RAW-0807-0814	8 42	38 73	NR	NR	NR	NR	NR	NR	NR	NA	NA	NA	NA	NR
BP3-XI-1/0807-0814-4	NR	NR	329,961	NR	NR	NR	ND	ND	0 11	NA	14 30%	NR	14	NR
BP3-XI-1/0807-0814-5	NR	NR	284,677	NR	NR	NR	ND	ND	0 14	NA	14 30%	NR	14	NR
BP3-XI-1/0807-0814-1	NR	NR	NR	NR	NR	NR	ND	ND	0 21	NA	14 30%	NR	140	NR
BP3-XI-1/0807-0814-4	NR	NR	NR	NR	NR	NR	ND	ND	0 23	NA	14 30%	NR	140	NR
BP3-XI-1/0815-0824	11 21	39 81	405,743	6,078	629	5,460	4 15	12 80	ND	NA	14 30%	26 4	2	NR
BP3-RAW-0815-0824	8 71	27 93	NR	NR	NR	NR	NR	NR	NR	NA	NA	NA	NA	NR
BP3-XI-1/0815-0824-1	NR	NR	287,179	NR	NR	NR	ND	ND	0 18	NA	14 30%	NR	14	NR
BP3-XI-1/0815-0824-2	NR	NR	260 341	NR	NR	NR	ND	ND	0 12	NA	14 30%	NR	14	NR
BP3-XI-1/0825-0836	11 28	39 81	161,137	6,193	648	6,676	16 12	15 30	0 89	NA	14 30%	30 3	2	NR
BP3-RAW-0825-0836	8 94	29 7	NR	NR	NR	NR	NR	NR	NR	NA	NA	NA	NA	NR
BP3-XI-1/0825-0836-2	NR	NR	307,619	NR	NR	NR	ND	ND	0 16	NA	14 30%	NR	14	NR
BP3-XI-1/0825-0836-4	NR	NR	256,970	NR	NR	NR	ND	ND	0 10	NA	14 30%	NR	14	NR
BP3-XI-1/0837-0846	11 26	43 05	525,373	6 329	663	5,631	7 31	13 60	ND	NA	14 30%	36 6	2	10 2
BP3-RAW-0837-0846	8 91	29 29	NR	NR	NR	NR	NR	NR	NR	NA	NA	NA	NA	NR
BP3-XI-1/0837-0846-1	NR	NR	287,708	NR	NR	NR	ND	ND	0 15	NA	14 30%	NR	14	NR
BP3-XI-1/0837-0846-3	NR	NR	289,332	NR	NR	NR	ND	ND	0 17	NA	14 30%	NR	14	NR
BP3-XI-1/0847-0859	11 36	39 79	487,805	6,040	612	5,224	7 11	14 5	ND	NA	14 30%	25 1	2	NR
BP3-RAW-0847-0859	8 42	NR	NR	NR	NR	NR	NR	NR	NR	NA	NA	NA	NA	NR
BP3-XI-1/0847-0859-4	NR	NR	294,233	NR	NR	NR	ND	ND	0 13	NA	14 30%	NR	14	NR
BP3-XI-1/0847-0859-1	NR	NR	275,721	NR	NR	NR	ND	ND	0 11	NA	14 30%	NR	14	NR
BP3-XI-1/0860-0869	11 39	56 93	365,463	8,668	815	6,718	0 10	ND	ND	NA	14 30%	24 2	4	NR
BP3-RAW-0860-0869	8 91	56 57	NR	NR	NR	NR	NR	NR	NR	NA	NA	NA	NA	NR

NA = Not Applicable
ND = Not Detectable
NR = Not Received
* = 1/40 required off-site analysis
(a) = Contingency samples re-analyzed on site. The re-analyzed results are shown.

TABLE D-3.2b
ITEX ANALYTICAL RESULTS
COAL PILE TRACKS, IRON PONDS, BRADLEY PONDS AND FLUE DUST STORAGE AREA
FLUE DUST SHAKEDOWN/PROVEOUT
ANACONDA SMELTER NPL SITE

SAMPLE I.D. #	pH (SU)	MOISTURE %	ALKALINITY as CaC mg/kg	TOTAL METALS (mg/Kg dry) LEAD	CADMIUM	ARSENIC	TCLP METALS (mg/L) LEAD	CADMIUM	ARSENIC	PLANT MEASUREMENT LIME %	PLANT MEASUREMENT CEMENT %	LABORATORY MEASUREMENT CEMENT %	CURE TIME (days)	UCS psi
BP3-XI-1/0870-0879	11 29	57 36	359,562	10,875	1,015	8 209	ND	ND	ND	NA	14 30%	30 3	4	NR
BP3-RAW-0870-0879	9 11	50 44	NR	NR	NR	NR	NR	NR	NR	NA	NA	NA	NA	NR
BP3-XI-1/0880-0889	11 33	35 25	269 608	10,968	1,056	8,415	ND	ND	0 54	NA	14 30%	23 2	4	NR
BP3-RAW-0880-0889	9 1	48 27	NR	NR	NR	NR	NR	NR	NR	NA	NA	NA	NA	NR
BP3-XI-1/0890-0899	11 36	52 14	371,811	10 568	919	8,286	ND	ND	ND	NA	14 30%	32 2	5	NR
BP3-RAW-0890-0899	8 49	53 15	NR	NR	NR	NR	NR	NR	NR	NA	NA	NA	NA	NR
BP3-XI-1/0900-0908	11 30	55 00	358 035	NR	NR	NR	ND	ND	0 31	NA	14 30%	32 4	4	NR
BP3-RAW-0900-0908	8 96	47 69	NR	NR	NR	NR	NR	NR	NR	NA	NA	NA	NA	NR
BP3-XI-1/0909-0918	11 21	52 88	359 603	9 763	869	7,103	ND	ND	ND	NA	14 70%	26 6	4	NR
BP3-RAW-0909-0918	8 9	53 28	NR	NR	NR	NR	NR	NR	NR	NA	NA	NA	NA	NR
BP3-XI-1/0919-0928	11 31	58 75	557 692	9 218	814	7,562	ND	0 07	ND	NA	14 70%	31 5	4	6 6
BP3-RAW-0919-0928	8 94	49 4	NR	NR	NR	NR	NR	NR	NR	NA	NA	NA	NA	NR
BP3-XI-1/0929-0938	11 35	51 84	329 471	9,830	906	7,562	ND	ND	ND	NA	14 70%	30 8	4	NR
BP3-RAW-0929-0938	9 87	57 68	NR	NR	NR	NR	NR	NR	NR	NA	NA	NA	NA	NR
BP3-XI-1/0939-0948	11 30	52 76	355,860	10,182	976	8,045	ND	ND	ND	NA	14 70%	24 6	4	NR
BP3-RAW-0939-0948	8 46	43 06	NR	NR	NR	NR	NR	NR	NR	NA	NA	NA	NA	NR
BP3-XI-1/0949-0958	11 32	51 95	350,832	9,696	915	7,764	ND	ND	ND	NA	14 70%	25 6	4	NR
BP3-RAW-0949-0958	9 13	45 59	NR	NR	NR	NR	NR	NR	NR	NA	NA	NA	NA	NR
BP3-XI-1/0959-0968	11 37	50 09	326,151	9,889	930	7,658	ND	0 40	ND	NA	14 70%	23 7	4	NR
BP3-RAW-0959-0968	9 5	42 69	NR	NR	NR	NR	NR	NR	NR	NA	NA	NA	NA	NR
BP3-XI-1/0969-0977	11 34	56 60	345,575	10,413	963	7 915	ND	ND	ND	NA	14 70%	29 5	4	NR
BP3-XI-1/0969-0977 dup	NR	NR	NR	NR	NR	NR	ND	ND	0 16	NA	14 70%	NR	4	NR
BP3-RAW-0969-0977	8 73	52 94	NR	NR	NR	NR	NR	NR	NR	NA	NA	NA	NA	NR
BP3-XI-1/0978-0981	11 22	47 24	NR	7 810	973	7,758	ND	ND	0 27	NA	15 10%	24 4	4	6 7
BP3-XI-1/0984-0993	11 38	55 31	316,507	8,248	971	8,107	ND	ND	0 38	NA	17 00%	28 8	4	NR
BP3-RAW-0984-0993	8 88	41 05	NR	NR	NR	NR	NR	NR	NR	NA	NA	NA	NA	NR
BP3-XI-1/0994-1003	11 38	43 57	303,706	7,276	895	7,712	18 31	21 14	2 16	NA	17 00%	31 2	4	8 8
BP3-RAW-0994-1003	9 12	36 73	NR	NR	NR	NR	6 81	21 8	0 05	NA	NA	NA	NA	NR
BP3-XI-1/0994-1003-1	NR	NR	153,345	NR	NR	NR	ND	ND	0 56	NA	17 00%	NR	42	NR
BP3-XI-1/0994-1003-3	NR	NR	211,109	NR	NR	NR	ND	ND	0 58	NA	17 00%	NR	42	NR
BP3-XI-1/1004-1013	11 39	45 52	321 180	7,311	834	7,646	ND	ND	0 64	NA	17 00%	33 6	4	NR
BP3-RAW-1004-1013	8 78	38 74	NR	NR	NR	NR	NR	NR	NR	NA	NA	NA	NA	NR
BP3-XI-1/1014-1023	11 32	47 95	318,922	6,946	777	7,196	ND	6 09	0 20	NA	17 00%	35 2	4	NR
BP3-RAW-1014-1023	8 96	36 73	NR	NR	NR	NR	NR	NR	NR	NA	NA	NA	NA	NR
BP3-XI-1/1014-1023-1	NR	NR	206,975	NR	NR	NR	ND	ND	0 82	NA	17 00%	NR	43	NR
BP3-XI-1/1014-1023-2	NR	NR	201,102	NR	NR	NR	ND	1 38	0 67	NA	17 00%	NR	43	NR
BP3-XI-1/1014-1023-3	NR	NR	NR	NR	NR	NR	ND	ND	0 86	NA	17 00%	NR	134	NR
BP3-XI-1/1014-1023-4	NR	NR	NR	NR	NR	NR	ND	ND	0 57	NA	17 00%	NR	134	NR

NA = Not Applicable
ND = Not Detectable
NR = Not Received
* = Lab required off-site analysis
(b) = Contingency sample re-analyzed on site. The re-analyzed results are shown

TABLE D-3.2b
ITEX ANALYTICAL RESULTS
COAL PILE TRACKS, IRON PONDS, BRADLEY PONDS AND FLUE DUST STORAGE AREA
FLUE DUST SHAKEDOWN/PROVEOUT
ANACONDA SMELTER NPL SITE

SAMPLE I.D. #	pH (SU)	MOISTURE %	ALKALINITY as CaC mg/kg	TOTAL METALS (mg/Kg dry) LEAD	CADMIUM	ARSENIC	TCLP METALS (mg/L) LEAD	CADMIUM	ARSENIC	PLANT MEASUREMENT LIME %	PLANT MEASUREMENT CEMENT %	LABORATORY MEASUREMENT CEMENT %	CURE TIME (days)	UCS psi
BP3-XI-1/1024-1033	11 21	53 05	234,792	7,007	797	7,394	17 7	19 18	1 62	NA	17 00%	25 6	4	NR
BP3-RAW-1024-1033	8 9	33 77	NR	NR	NR	NR	NR	NR	NR	NA	NA	NA	NA	NR
BP3-XI-1/1024-1033-1	NR	NR	180,881	NR	NR	NR	ND	ND	0 58	NA	17 00%	NR	42	NR
BP3-XI-1/1024-1033-3	NR	NR	204,554	NR	NR	NR	ND	ND	0 60	NA	17 00%	NR	42	NR
BP3-XI-1/1034-1047	11 26	54 33	248,265	7,563	913	7,586	11 82	20 70	1 21	NA	17 00%	30 3	4	NR
BP3-RAW-1034-1047	8 82	39 58	NR	NR	NR	NR	NR	NR	NR	NA	NA	NA	NA	NR
BP3-XI-1/1034-1047 1	NR	NR	1,709,987	NR	NR	NR	ND	1 40	0 69	NA	17 00%	NR	42	NR
BP3-XI-1/1034-1047-4	NR	NR	208,758	NR	NR	NR	ND	ND	0 52	NA	17 00%	NR	42	NR
BP3-XI-1/1034-1047-3	NR	NR	NR	NR	NR	NR	ND	ND	0 48	NA	17 00%	NR	131	NR
BP3-XI-1/1034-1047-4	NR	NR	NR	NR	NR	NR	ND	ND	0 9	NA	17 00%	NR	131	NR
BP3-XI-1/1048-1055	11 22	52 8	243,400	6 539	724	7 118	7 59	15 33	0 12	NA	17 40%	32 7	4	NR
BP3-RAW-1048-1055	8 94	35 22	NR	NR	NR	NR	NR	NR	NR	NA	NA	NA	NA	NR
BP3-XI-1/1048-1055-1	NR	NR	250 048	NR	NR	NR	ND	ND	0 75	NA	17 40%	NR	43	NR
BP3-XI-1/1048-1055-3	NR	NR	174,757	NR	NR	NR	ND	0 99	0 78	NA	17 40%	NR	43	NR
BP3-XI-1/1048-1055-1	NR	NR	NR	NR	NR	NR	ND	ND	0 78	NA	17 40%	NR	133	NR
BP3-XI-1/1048-1055-4	NR	NR	NR	NR	NR	NR	ND	ND	0 54	NA	17 40%	NR	133	NR
BP3-XI-1/1056-1063	11 32	53 01	235,917	7,243	736	7,754	13 61	17 00	2 04	NA	17 40%	30 3	4	2 4
BP3-RAW-1056-1063	9 02	36 94	NR	NR	NR	NR	NR	NR	NR	NA	NA	NA	NA	NR
BP3-XI-1/1056-1063-3	NR	NR	NR	NR	NR	NR	ND	ND	0 48	NA	17 40%	NR	42	NR
BP3-XI-1/1056-1063-4	NR	NR	450,677	NR	NR	NR	ND	ND	0 45	NA	17 40%	NR	42	NR
BP3-XI-1/1064-1072	11 23	37 57	227,315	6,574	705	7,226	9 89	16 32	0 54	NA	17 40%	26 8	4	NR
BP3-RAW-1064-1072	9 01	37 8	350150	NR	NR	NR	NR	NR	NR	NA	NA	NA	NA	NR
BP3-XI-1/1064-1072-1	NR	NR	486 641	NR	NR	NR	ND	ND	0 44	NA	17 40%	NR	42	NR
BP3-XI-1/1064-1072-5	NR	NR	490,020	NR	NR	NR	ND	ND	0 28	NA	17 40%	NR	42	NR
BP3-XI-1/1073-1082	11 32	47 74	224,620	6 541	725	6,954	10 44	17 00	1 15	NA	17 40%	26 1	4	NR
BP3-RAW-1073-1082	8 74	38 52	NR	NR	NR	NR	NR	NR	NR	NA	NA	NA	NA	NR
BP3-XI-1/1073-1082-1	NR	NR	475,345	NR	NR	NR	ND	ND	0 64	NA	17 40%	NR	42	NR
BP3-XI-1/1073-1082-3	NR	NR	595 238	NR	NR	NR	ND	ND	0 34	NA	17 40%	NR	42	NR
BP3-XI-1/1083-1090	11 17	47 92	257,782	6,891	695	7,095	16 47	18 58	2 06	NA	17 40%	24 6	4	NR
BP3-RAW-1083-1090	8 84	39 43	NR	NR	NR	NR	NR	NR	NR	NA	NA	NA	NA	NR
BP3-XI 1/1083-1090-1	NR	NR	NR	NR	NR	NR	ND	ND	ND	NA	17 40%	NR	42	NR
BP3-XI-1/1083-1090-2	NR	NR	NR	NR	NR	NR	2 61	ND	0 83	NA	17 40%	NR	42	NR
BP3-XI-1/1091-1094	11 21	50 26	230,916	7,539	745	7,450	17 60	19 20	1 86	NA	17 40%	31 5	4	NR
BP3-RAW-1091-1094	9 07	49 19	NR	NR	NR	NR	NR	NR	NR	NA	NA	NA	NA	NR
BP3-XI-1/1091-1094-1	NR	NR	NR	NR	NR	NR	ND	ND	0 41	NA	17 40%	NR	42	NR
BP3-XI-1/1091-1094-4	NR	NR	508 824	NR	NR	NR	ND	ND	1 01	NA	17 40%	NR	42	NR
BP3-XI-1/1095-1098	11 19	47 32	254 789	NR	NR	NR	ND	ND	0 81	NA	18 30%	33 2	5	NR
BP3-XI-1/1099-1107	11 37	48 73	240 727	NR	NR	NR	ND	ND	0 95	NA	18 30%	33 7	5	NR

NA = Not Applicable
ND = Not Detectable
NR = Not Received
* = 1/60 required silicic analysis
(b) = Contingency samples re-analyzed on site. The re-analyzed results are shown.
LARD95\B.XLS\2/1/95

TABLE D-3.2b
ITEX ANALYTICAL RESULTS
COAL PILE TRACKS, IRON PONDS, BRADLEY PONDS AND FLUE DUST STORAGE AREA
FLUE DUST SHAKEDOWN/PROVEOUT
ANACONDA SMELTER NPL SITE

SAMPLE I.D. #	pH (SU)	MOISTURE %	ALKALINITY as CaC mg/kg	TOTAL METALS (mg/Kg dry) LEAD	CADMIUM	ARSENIC	TCLP METALS (mg/L) LEAD	CADMIUM	ARSENIC	PLANT MEASUREMENT LIME %	PLANT MEASUREMENT CEMENT %	LABORATORY MEASUREMENT CEMENT %	CURE TIME (days)	UCS psi
BP3-RAW-1095-1107	4 62	39 4	NR	9 281	981	9 906	NR	NR	NR	NA	NA	NA	NA	NR
BP3-XI-1/1108-1117	11 32	45 39	284 082	NR	NR	NR	15 41	25 65	1 92	NA	18 30%	28 8	4	NR
BP3-RAW-1108-1117	4 89	40 72	NR	4 459	451	3 369	NR	NR	NR	NA	NA	NA	NA	NR
BP3-XI-1/1108-1117-2	NR	NR	NR	NR	NR	NR	ND	ND	0 84	NA	18 30%	NR	45	NR
BP3-XI-1/1108-1117-3	NR	NR	NR	NR	NR	NR	ND	ND	0 81	NA	18 30%	NR	45	NR
IP-XI-1/1118-1122	12 02	47 47	249,931	NR	NR	NR	20 42	17 42	1 28	NA	21 60%	30 0	4	NR
IP-XI-1/1118-1122-2	NR	NR	238,663	NR	NR	NR	ND	2 39	0 22	NA	21 60%	NR	46	NR
IP-XI-1/1118-1122-4	NR	NR	277,626	NR	NR	NR	ND	ND	0 25	NA	21 60%	NR	46	NR
IP-XI-1/1118-1122-3	NR	NR	NR	NR	NR	NR	ND	ND	0 4	NA	21 60%	NR	132	NR
IP-XI-1/1118-1122-1	NR	NR	NR	NR	NR	NR	ND	ND	0 38	NA	21 60%	NR	132	NR
IP-XI-1/1123-1130	11 84	47 64	238,051	NR	NR	NR	24 24	5 35	1 30	NA	21 60%	29 8	4	NR
IP-RAW-1118-1130	6 42	26 85	NR	3,430	356	2,258	NR	NR	NR	NA	NA	NA	NA	NR
IP-XI-1/1123-1130-1	NR	NR	267,048	NR	NR	NR	ND	ND	0 42	NA	21 60%	NR	45	NR
IP-XI-1/1123-1130-2	NR	NR	280,804	NR	NR	NR	ND	ND	0 45	NA	21 60%	NR	45	NR
IP-XI-1/1131-1138	11 08	46 55	280,706	NR	NR	NR	31 63	5 31	1 65	NA	21 60%	29 8	4	6 2
IP-RAW-1131-1138	6 08	26 95	NR	4,474	458	2,929	NR	NR	NR	NA	NA	NA	NA	NR
IP-XI-1/1131-1138-1	NR	NR	244,641	NR	NR	NR	ND	ND	0 49	NA	21 60%	NR	45	NR
IP-XI-1/1131-1138-2	NR	NR	279,992	NR	NR	NR	ND	ND	0 42	NA	21 60%	NR	45	NR
IP-XI-1/1139-1146	11 19	48 53	277,424	NR	NR	NR	26 39	5 66	2 73	NA	21 60%	30 3	4	NR
IP-RAW-1139-1146	6 13	29 75	NR	3,958	438	2 189	NR	NR	NR	NA	NA	NA	NA	NR
IP-XI-1/1139-1146-3	NR	NR	266,717	NR	NR	NR	ND	ND	0 62	NA	21 60%	NR	45	NR
IP-XI-1/1139-1146-5	NR	NR	262,218	NR	NR	NR	ND	ND	0 54	NA	21 60%	NR	45	NR
IP-XI-1/1147-1155	11 21	44 41	210,224	NR	NR	NR	24 59	4 87	1 28	NA	21 60%	33 9	4	NR
IP-RAW-1147-1155	6 22	24 63	NR	4,073	380	2,898	NR	NR	NR	NA	NA	NA	NA	NR
IP-XI-1/1147-1155-2	NR	NR	283,194	NR	NR	NR	ND	ND	0 28	NA	21 60%	NR	45	NR
IP-XI-1/1147-1155-4	NR	NR	351,953	NR	NR	NR	ND	ND	0 42	NA	21 60%	NR	45	NR
IP-XI-1/1156-1163	11 11	49 07	285,338	NR	NR	NR	ND	ND	0 50	NA	21 70%	37 9	4	NR
IP-RAW-1156-1163	6 02	39 62	NR	5,710	628	6,589	NR	NR	NR	NA	NA	NA	NA	NR
IP-XI-1/1164-1171	11 08	47 62	270,027	NR	NR	NR	ND	ND	0 85	NA	21 70%	32 0	4	NR
IP-RAW-1164-1171	6 17	49 07	NR	7 600	860	5 577	NR	NR	NR	NA	NA	NA	NA	NR
IP-XI-1/1172-1181	11 15	46 92	263,580	NR	NR	NR	ND	ND	0 32	NA	21 70%	28 8	4	8 8
IP-RAW-1172-1181	6 09	24 68	NR	5,284	1,183	3,082	NR	NR	NR	NA	NA	NA	NA	NR
IP-XI-1/1182-1184	11 23	49 68	255,008	NR	NR	NR	25 21	4 94	1 00	NA	21 70%	36 4	4	NR
IP-RAW-1182-1184	6 1	29 56	NR	4 914	534	3 305	NR	NR	NR	NA	NA	NA	NA	NR
IP-XI-1/1182-1184-2	NR	NR	266 712	NR	NR	NR	ND	ND	0 38	NA	21 70%	NR	44	NR
IP-XI-1/1182-1184-4	NR	NR	218,627	NR	NR	NR	ND	ND	0 26	NA	21 70%	NR	44	NR
IP-XI-1/1185-1191	11 14	44 35	272,293	NR	NR	NR	0 27	ND	0 41	NA	19 60%	36 4	4	NR
IP-RAW-1185-1191	6 1	28 02	NR	5 566	522	2,803	NR	NR	NR	NA	NA	NA	NA	NR

NA = Not Applicable
ND = Not Detectable
NR = Not Received
* = 1360 required off-site analysis
(a) = Contingency sample re-analyzed on site. The re-analyzed results are shown

TABLE D-3.2b
ITEX ANALYTICAL RESULTS
COAL PILE TRACKS, IRON PONDS, BRADLEY PONDS AND FLUE DUST STORAGE AREA
FLUE DUST SHAKEDOWN/PROVEOUT
ANACONDA SMELTER NPL SITE

SAMPLE I.D. #	pH (SU)	MOISTURE %	ALKALINITY as CaC mg/kg	TOTAL METALS (mg/Kg dry) LEAD	CADMIUM	ARSENIC	TCLP METALS (mg/L) LEAD	CADMIUM	ARSENIC	PLANT MEASUREMENT LIME %	PLANT MEASUREMENT CEMENT %	LABORATORY MEASUREMENT CEMENT %	CURE TIME (days)	UCS psi
IP-XI-1/1192 1201	11 04	43 55	287 918	NR	NR	NR	0 25	ND	0 37	NA	19 60%	34 4	4	8 3
IP-RAW-1192-1201	6 27	25 65	NR	5 056	445	3,229	NR	NR	NR	NA	NA	NA	NA	NR
IP-XI-1/1202-1209	11 19	41 20	270,923	NR	NR	NR	0 26	ND	0 37	NA	19 60%	25 6	5	NR
IP-RAW-1202-1209	6 24	24 7	NR	3 415	396	1,780	NR	NR	NR	NA	NA	NA	NA	NR
FDS-XI-1/1210-1213	12 05	45 41	409,651	NR	NR	NR	2 64	ND	0 10	18 30%	18 00%	36 4	4	NR
FDS-RAW-1210-1213	4 95	28 09	NR	11,621	1 363	12,385	NR	NR	NR	NA	NA	NA	NA	NR
FDS-XI-1/1214-1220	12 01	52 62	328,292	NR	NR	NR	1 23	ND	0 15	17 50%	17 80%	32 0	4	NR
FDS-RAW-1214-1220	4 76	31 49	NR	13,923	1,176	630	NR	NR	NR	NA	NA	NA	NA	NR
FDS-XI-1/1221-1230	11 72	60 79	196,015	NR	NR	NR	1 01	ND	0 14	17 50%	17 80%	35 7	4	NR
FDS-RAW-1221-1230	4 69	32 78	NR	15,083	1 174	18,987	NR	NR	NR	NA	NA	NA	NA	NR
FDS-XI-1/1231-1240	12 19	49 99	253,720	NR	NR	NR	1 04	ND	0 13	17 50%	17 80%	31 0	4	NR
FDS-RAW-1231-1240	5 03	29 6	NR	15,300	1,450	17 707	NR	NR	NR	NA	NA	NA	NA	NR
FDS-XI-1/1241-1250	11 01	55 96	430,812	NR	NR	NR	1 05	ND	0 15	17 50%	17 80%	35 2	4	NR
FDS-XI-1/1251-1252	11 73	58 03	260,571	NR	NR	NR	0 77	ND	0 16	17 50%	17 80%	31 7	4	NR
FDS-RAW-1241-1252	4 91	32 59	NR	17,007	1,464	18,173	NR	NR	NR	NA	NA	NA	NA	NR
FDS-XI-1/1253-1260	11 75	49 47	224 400	NR	NR	NR	1 21	ND	0 16	15 80%	15 90%	36 4	4	NR
FDS-RAW-1253-1260	4 55	31 35	NR	14,244	1,187	17,645	NR	NR	NR	NA	NA	NA	NA	NR
FDS-XI-1/1261-1270	11 76	50 52	272,667	NR	NR	NR	1 24	ND	0 22	15 80%	15 90%	36 4	4	NR
FDS-RAW-1261-1270	4 49	31 79	NR	15,499	1,343	17,297	NR	NR	NR	NA	NA	NA	NA	NR
FDS-XI-1/1271-1280	11 71	52 18	426,196	NR	NR	NR	1 17	ND	0 20	15 80%	15 90%	36 4	4	NR
FDS-RAW-1271-1280	4 4	33 48	NR	14,914	1,271	17,260	NR	NR	NR	NA	NA	NA	NA	NR
FDS-XI-1/1281-1290	11 69	62 07	183,078	NR	NR	NR	0 94	ND	0 17	15 80%	15 90%	36 4	4	NR
FDS-RAW-1281-1290	4 46	28 45	NR	11,830	1,202	15,339	NR	NR	NR	NA	NA	NA	NA	NR
FDS-XI-1/1291-1299	11 74	70 45	324,742	NR	NR	NR	1 92	ND	0 17	15 80%	15 90%	35 9	4	14 5
FDS-RAW-1291-1299	5 11	32 54	NR	13,183	1,500	17 551	NR	NR	NR	NA	NA	NA	NA	NR
FDS-XI-1/1300-1309	12 97	34 91	360 060	NR	NR	NR	3 35	ND	0 20	14 80%	15 20%	33 7	4	NR
FDS-RAW-1300-1309	5 13	32 55	NR	6 377	886	9 246	NR	NR	NR	NA	NA	NA	NA	NR
FDS-XI-1/1310-1319	13 28	67 33	238 744	NR	NR	NR	0 38	ND	0 11	14 80%	15 20%	36 4	4	NR
FDS-RAW-1310-1319	4 33	32 3	NR	9 810	1 235	16,783	NR	NR	NR	NA	NA	NA	NA	NR
FDS-XI-1/1320-1329	13 01	57 98	409 098	NR	NR	NR	1 02	ND	0 14	14 80%	15 20%	28 3	4	NR
FDS-RAW 1320-1329	4 27	31 75	NR	10 813	1,405	22 481	NR	NR	NR	NA	NA	NA	NA	NR
FDS-XI-1/1330-1339	13 04	58 70	196 077	NR	NR	NR	1 60	ND	0 15	14 80%	15 20%	24 2	4	NR
FDS-RAW-1330-1339	4 89	32 26	NR	9 827	1,303	17,640	NR	NR	NR	NA	NA	NA	NA	NR
FDS-XI-1/1340-1349	13 20	58 20	174,950	NR	NR	NR	0 95	ND	0 16	14 80%	15 20%	31 5	4	NR
FDS-RAW-1340-1349	4 76	30 91	NR	9,527	1,190	15 187	NR	NR	NR	NA	NA	NA	NA	NR
FDS-XI-1/1350-1360	13 09	57 59	172 994	NR	NR	NR	0 79	ND	0 11	14 80%	15 20%	33 0	4	22 0
FDS-RAW-1350-1360	4 31	33 04	NR	10 537	1 307	18 083	NR	NR	NR	NA	NA	NA	NA	NR
FDS-XI-1/1361-1370	12 94	58 60	385,384	NR	NR	NR	2 19	ND	0 18	15 60%	15 70%	33 2	4	NR

NA = Not Applicable
ND = Not Detectable
NR = Not Received
* = [illegible] required off-site analysis
(a) = Contingency sample re-analyzed on site. The re-analyzed results are shown
[illegible]

TABLE D-3.2b
ITEX ANALYTICAL RESULTS
COAL PILE TRACKS, IRON PONDS, BRADLEY PONDS AND FLUE DUST STORAGE AREA
FLUE DUST SHAKEDOWN/PROVEOUT
ANACONDA SMELTER NPL SITE

SAMPLE I.D. #	pH (SU)	MOISTURE %	ALKALINITY as CaC mg/kg	TOTAL METALS (mg/Kg dry) LEAD	CADMIUM	ARSENIC	TCLP METALS (mg/L) LEAD	CADMIUM	ARSENIC	PLANT MEASUREMENT LIME %	PLANT MEASUREMENT CEMENT %	LABORATORY MEASUREMENT CEMENT %	CURE TIME (days)	UCS psi
FDS-RAW-1361-1370	4 85	33 4	NR	8,631	1,306	21,480	NR	NR	NR	NA	NA	NA	NA	NR
FDS-XI-1/1371-1380	12 87	59 36	337,045	NR	NR	NR	1 69	ND	0 21	15 60%	15 70%	37 1	4	NR
FDS-RAW-1371-1380	4 16	31 66	NR	12,146	1,265	19 356	NR	NR	NR	NA	NA	NA	NA	NR
FDS-XI-1/1381-1390	12 90	62 59	320,145	NR	NR	NR	3 62	ND	0 16	15 60%	15 70%	35 4	4	NR
FDS-RAW-1381-1390	4 25	31 89	NR	10 374	1,439	18,839	NR	NR	NR	NA	NA	NA	NA	NR
FDS-XI-1/1391-1400	12 98	56 03	264,920	NR	NR	NR	2 02	ND	0 21	15 60%	15 70%	24 2	4	NR
FDS-RAW-1391-1400	4 32	24 7	NR	11,848	1,341	18,934	NR	NR	NR	NA	NA	NA	NA	NR
FDS-XI-1/1401-1410	12 87	53 19	245,283	NR	NR	NR	2 03	ND	0 17	15 60%	15 70%	33 9	4	NR
FDS-XI-1/1401-1410	Outside	TCLP *	NR	NR	NR	NR	0 78	ND	0 91	15 60%	15 70%	NR	4	NR
FDS-RAW-1401-1410	4 14	34 19	NR	8,795	1 213	17,072	NR	NR	NR	NA	NA	NA	NA	NR
FDS-XI-1/1411-1420	12 95	57 55	381,484	NR	NR	NR	1 69	ND	0 11	15 60%	15 70%	30 5	4	NR
FDS-RAW-1411-1420	4 58	31 83	NR	8,456	1,376	17,176	NR	NR	NR	NA	NA	NA	NA	NR
FDS-XI-1/1421-1430	12 82	59 30	324,950	NR	NR	NR	1 80	ND	0 20	15 60%	15 70%	30 5	6	28 5
FDS-RAW-1421-1430	4 2	34 15	NR	10,309	1,388	19,800	NR	NR	NR	NA	NA	NA	NA	NR
FDS-XI-1/1431-1440	12 92	53 21	398,588	NR	NR	NR	1 99	ND	0 21	15 60%	15 70%	35 7	6	NR
FDS-RAW-1431-1440	4 26	32 32	NR	10,544	1,415	22,954	NR	NR	NR	NA	NA	NA	NA	NR
FDS-XI-1/1441-1450	12 84	59 47	179,552	NR	NR	NR	1 50	ND	0 25	15 60%	15 70%	35 2	6	NR
FDS-RAW-1441-1450	4 76	33 14	NR	10 354	1,377	22,883	NR	NR	NR	NA	NA	NA	NA	NR
FDS-XI-1/1451-1460	12 98	51 22	209,762	NR	NR	NR	3 47	ND	0 21	15 60%	15 70%	35 4	6	NR
FDS-RAW-1451-1460	4 22	32 03	NR	9,213	1,726	20,064	NR	NR	NR	NA	NA	NA	NA	NR
FDS-XI-1/1461-1470	13 01	60 96	193,060	NR	NR	NR	2 85	ND	0 20	15 60%	15 70%	34 7	6	NR
FDS-RAW-1461-1470	4 77	35 9	NR	12,792	1,594	18,368	NR	NR	NR	NA	NA	NA	NA	NR
FDS-XI-1/1471-1480	12 92	60 85	266,280	NR	NR	NR	3 22	ND	0 24	15 60%	15 70%	37 6	6	NR
FDS-RAW-1471-1480	4 53	31 83	NR	13 806	1 467	21,925	NR	NR	NR	NA	NA	NA	NA	NR
FDS-XI-1/1481-1490	12 88	55 56	362,299	NR	NR	NR	3 60	ND	0 17	15 60%	15 70%	32 2	6	NR
FDS-RAW-1481-1490	4 22	33 57	NR	14 025	1 552	22,295	NR	NR	NR	NA	NA	NA	NA	NR
FDS-XI-1/1491-1500	12 98	53 97	205 129	NR	NR	NR	2 91	ND	0 20	15 60%	15 50%	32 7	5	28 5
FDS-RAW-1491-1500	4 44	31 26	NR	10 155	1 490	18,075	NR	NR	NR	NA	NA	NA	NA	NR
FDS-XI-1/1501-1510	13 08	54 94	346 874	NR	NR	NR	2 81	ND	0 22	15 60%	15 50%	28 4	5	NR
FDS-RAW-1501-1510	4 45	29 87	NR	12 591	1 686	25 275	NR	NR	NR	NA	NA	NA	NA	NR
FDS-XI-1/1511-1520	12 99	57 18	343,600	NR	NR	NR	1 58	ND	0 21	15 60%	15 50%	36 9	5	NR
FDS-RAW-1511-1520	4 19	33 74	NR	15,033	1,485	24,426	NR	NR	NR	NA	NA	NA	NA	NR
FDS-XI-1/1521-1530	13 03	59 21	334,634	NR	NR	NR	1 32	ND	0 16	15 60%	15 50%	26 1	5	NR
FDS-RAW-1521-1530	4 41	33 19	NR	12,253	1 749	23,877	NR	NR	NR	NA	NA	NA	NA	NR
FDS-XI-1/1531-1540	12 91	44 17	258,210	NR	NR	NR	3 08	ND	0 16	15 60%	15 50%	24 2	5	NR
FDS-RAW-1531-1540	4 39	NR	NR	13 695	1,528	19,890	NR	NR	NR	NA	NA	NA	NA	NR
FDS-XI-1/1541-1550	12 12	NR	202,335	NR	NR	NR	2 43	ND	0 14	15 60%	15 50%	33 0	11	NR
FDS-RAW-1541-1550	4 47	NR	NR	14 080	1,481	23,328	NR	NR	NR	NA	NA	NA	NA	NR

NA = Not Applicable
ND = Not Detectable
NR = Not Required
* = TCLP required off-site analysis
(a) = Contingency sample re-analyzed on site. The re-analyzed results are shown

TABLE D-3.2b
ITEX ANALYTICAL RESULTS
COAL PILE TRACKS, IRON PONDS, BRADLEY PONDS AND FLUE DUST STORAGE AREA
FLUE DUST SHAKEDOWN/PROVEOUT
ANACONDA SMELTER NPL SITE

SAMPLE I.D. #	pH (SU)	MOISTURE %	ALKALINITY as CaC mg/kg	TOTAL METALS (mg/Kg dry)			TCLP METALS (mg/L)			PLANT MEASUREMENT LIME %	PLANT MEASUREMENT CEMENT %	LABORATORY MEASUREMENT CEMENT %	CURE TIME (days)	UCS psi
				LEAD	CADMIUM	ARSENIC	LEAD	CADMIUM	ARSENIC					
FDS-XI-1/1551-1559	12 16	NR	354 436	NR	NR	NR	5 92	ND	0 23	15 60%	15 50%	23 4	11	NR
FDS-RAW-1551-1559	4 46	NR	NR	15 494	1 756	23,984	NR	NR	NR	NA	NA	NA	NA	NR
FDS-XI-1/1551-1559-2	NR	NR	NR	NR	NR	NR	1 77	ND	0 14	15 60%	15 50%	NR	39	NR
FDS-XI-1/1551-1559-4	NR	NR	NR	NR	NR	NR	ND	ND	0 10	15 60%	15 50%	NR	39	NR
FDS-XI-1/1560-1570	13 01	55 73	278,582	NR	NR	NR	5 73	ND	0 18	15 30%	15 20%	21 7	10	38 9
FDS-RAW-1560-1570	3 96	36 99	NR	16,702	1,416	19,246	NR	NR	NR	NA	NA	NA	NA	NR
FDS-XI-1/1560-1570-1	NR	NR	NR	NR	NR	NR	ND	ND	0 10	15 30%	15 20%	NR	38	NR
FDS-XI-1/1560-1570-5	NR	NR	199,491	NR	NR	NR	ND	ND	0 10	15 30%	15 20%	NR	38	NR
FDS-XI-1/1571-1580	12 49	56 67	342,570	NR	NR	NR	4 39	ND	0 18	15 30%	15 20%	31 5	10	NR
FDS-RAW-1571-1580	4 27	31 56	NR	16,027	1,533	21,210	NR	NR	NR	NA	NA	NA	NA	NR
FDS-XI-1/1581-1590	12 89	58 93	247 009	NR	NR	NR	4 22	ND	0 16	15 30%	15 20%	31 3	10	NR
FDS-RAW-1581-1590	4 41	32 84	NR	15 434	1,404	23,505	NR	NR	NR	NA	NA	NA	NA	NR
FDS-XI-1/1591-1600	12 89	57 53	301,496	NR	NR	NR	2 45	ND	0 13	15 30%	15 20%	36 6	10	NR
FDS-RAW-1591-1600	4 38	32 48	NR	16,302	1,578	24,762	NR	NR	NR	NA	NA	NA	NA	NR
FDS-XI-1/1601-1610	12 82	58 48	366,434	NR	NR	NR	4 11	ND	0 18	15 30%	15 20%	30 3	10	NR
FDS-RAW-1601-1610	4 52	36 07	NR	13 716	1,436	22 461	NR	NR	NR	NA	NA	NA	NA	NR
FDS-XI-1/1611-1620	12 20	57 41	NR	NR	NR	NR	3 03	ND	0 34	15 30%	15 20%	33 7	NR	NR
FDS-RAW-1611-1620	4 64	31 42	NR	14 971	1,237	22 445	NR	NR	NR	NA	NA	NA	NA	NR
FDS-XI-1/1621-1630	13 16	56 53	496,205	NR	NR	NR	3 73	ND	0 14	15 90%	16 00%	31 3	9	29 2
FDS-RAW-1621-1630	4 11	35 14	NR	14 779	1,456	24 453	NR	NR	NR	NA	NA	NA	NA	NR
FDS-XI-1/1631-1640	13 61	68 30	272,426	NR	NR	NR	6 32	ND	0 20	15 90%	16 00%	32 7	9	NR
FDS-RAW-1631-1640	4 47	33 6	NR	14,886	1 455	23,428	NR	NR	NR	NA	NA	NA	NA	NR
FDS-XI-1/1631-1640-1	NR	NR	NR	NR	NR	NR	ND	ND	0 22	15 90%	16 00%	NR	37	NR
FDS-XI-1/1631-1640-3	NR	NR	NR	NR	NR	NR	ND	ND	0 10	15 90%	16 00%	NR	37	NR
FDS-XI-1/1641-1650	13 07	66 59	210,837	NR	NR	NR	4 53	ND	0 25	15 90%	16 00%	24 6	9	NR
FDS-RAW-1641-1650	4 29	32 7	NR	14 320	1,503	21 421	NR	NR	NR	NA	NA	NA	NA	NR
FDS-XI-1/1651-1660	12 54	72 10	380 192	NR	NR	NR	3 03	ND	0 21	15 90%	16 00%	34 9	9	NR
FDS-RAW-1651-1660	4 77	32 79	NR	16 606	1,262	21,826	NR	NR	NR	NA	NA	NA	NA	NR
FDS-XI-1/1661-1670	12 38	70 02	317 324	NR	NR	NR	3 32	ND	0 16	15 90%	16 00%	35 2	9	NR
FDS-RAW-1661-1670	4 32	33 28	NR	15 025	1,499	18,500	NR	NR	NR	NA	NA	NA	NA	NR
FDS-XI-1/1671-1680	12 87	61 19	229 217	NR	NR	NR	3 55	ND	0 19	15 90%	16 00%	32 5	9	NR
FDS-RAW-1671-1680	4 73	34 08	NR	14,035	1,377	19,585	NR	NR	NR	NA	NA	NA	NA	NR
FDS-XI-1/1681-1690	13 03	64 09	258,564	NR	NR	NR	2 44	ND	0 14	15 90%	16 00%	23 9	9	NR
FDS-RAW-1681-1690	4 82	31 27	NR	9 322	1,549	19,765	NR	NR	NR	NA	NA	NA	NA	NR
FDS-XI-1/1691-1700	12 43	60 49	184,879	NR	NR	NR	3 61	ND	0 20	15 90%	16 00%	25 4	9	NR
FDS-RAW-1691-1700	4 8	34 87	NR	8,450	1 732	15,764	NR	NR	NR	NA	NA	NA	NA	NR
FDS-XI-1/1701-1710	12 19	59 31	204,436	NR	NR	NR	2 06	ND	0 17	15 90%	16 00%	31 3	9	NR
FDS-RAW-1701-1710	4 33	31 56	NR	10,944	1,323	14,354	NR	NR	NR	NA	NA	NA	NA	NR

NA = Not Applicable
ND = Not Detectable
NR = Not Reported
* = (a) required off-site analysis
(a) = Curing/assay samples re-analyzed on site. The re-analyzed results are shown
[illegible]

TABLE D-3.2b
ITEX ANALYTICAL RESULTS
COAL PILE TRACKS, IRON PONDS, BRADLEY PONDS AND FLUE DUST STORAGE AREA
FLUE DUST SHAKEDOWN/PROVEOUT
ANACONDA SMELTER NPL SITE

SAMPLE I.D. #	pH (SU)	MOISTURE %	ALKALINITY as CaC mg/kg	TOTAL METALS (mg/Kg dry) LEAD	CADMIUM	ARSENIC	TCLP METALS (mg/L) LEAD	CADMIUM	ARSENIC	PLANT MEASUREMENT LIME %	PLANT MEASUREMENT CEMENT %	LABORATORY MEASUREMENT CEMENT %	CURE TIME (days)	UCS psi
FDS-XI-1/1711-1720	12 91	59 18	242,372	NR	NR	NR	3 48	ND	0 18	15 90%	16 00%	26 8	9	NR
FDS-RAW-1711-1720	4 93	33 57	NR	10,732	1.357	16.617	NR	NR	NR	NA	NA	NA	NA	NR
FDS-XI-1/1721-1730	12 32	62 28	245,134	NR	NR	NR	4 27	ND	0 18	15 90%	16 00%	28 3	9	NR
FDS-RAW-1721-1730	4 44	33 7	NR	9,887	1.446	16.438	NR	NR	NR	NA	NA	NA	NA	NR
FDS-XI-1/1731-1740	12 83	56 10	254,297	NR	NR	NR	4 44	ND	0 19	15 90%	16 00%	37 4	9	NR
FDS-RAW-1731-1740	4 82	36 2	NR	12,360	1,284	16.540	NR	NR	NR	NA	NA	NA	NA	NR
FDS-XI-1/1741-1747	13 06	55 49	313,565	NR	NR	NR	2 92	ND	0 18	15 90%	16 00%	34 4	9	NR
FDS-RAW-1741-1747	4 41	34 1	NR	11,680	1,391	17,282	NR	NR	NR	NA	NA	NA	NA	NR
FDS-XI-1/1748-1750	12 20	55 04	443,058	NR	NR	NR	8 09	ND	0 27	19 30%	19 10%	23 9	8	NR
FDS-XI-1/1748-1750-1	NR	NR	203 875	NR	NR	NR	1 89	ND	0 10	19 30%	19 10%	NR	36	NR
FDS-XI-1/1748-1750-4	NR	NR	NR	NR	NR	NR	ND	ND	0 05	19 30%	19 10%	NR	36	NR
FDS-XI-1/1751-1760	12 39	56 40	358,401	NR	NR	NR	6 17	ND	0 17	19 30%	19 10%	28 6	8	NR
FDS-RAW-1748-1760	4 47	39 17	NR	11,019	1 217	19,514	NR	NR	NR	NA	NA	NA	NA	NR
FDS-XI-1/1751-1760-3	NR	NR	153 635	NR	NR	NR	ND	ND	0 16	19 30%	19 10%	NR	36	NR
FDS-XI-1/1751-1760-4	NR	NR	33 834	NR	NR	NR	3 86	ND	0 14	19 30%	19 10%	NR	36	NR
FDS-XI-1/1761-1770	12 44	66 31	354,835	NR	NR	NR	5 87	ND	0 16	19 30%	19 10%	22 9	8	NR
FDS-RAW-1761-1770	4 47	46 41	NR	6 813	1,029	17,980	NR	NR	NR	NA	NA	NA	NA	NR
FDS-XI-1/1761-1770-2	NR	NR	127,084	NR	NR	NR	2 15	ND	0 13	19 30%	19 10%	NR	36	NR
FDS-XI-1/1761-1770-4	NR	NR	141 557	NR	NR	NR	2 07	ND	0 10	19 30%	19 10%	NR	36	NR
FDS-XI-1/1771-1780	12 98	51 90	287 677	NR	NR	NR	7 68	ND	0 25	19 30%	19 10%	36 4	8	NR
FDS-RAW-1771-1780	4 69	34 4	NR	6,844	1 317	16,479	NR	NR	NR	NA	NA	NA	NA	NR
FDS-XI-1/1771-1780-2	NR	NR	66,333	NR	NR	NR	3 93	ND	0 13	19 30%	19 10%	NR	36	NR
FDS-XI-1/1771-1780-3	NR	NR	59,430	NR	NR	NR	2 65	ND	0 15	19 30%	19 10%	NR	36	NR
FDS-XI-1/1781-1790	12 71	62 96	NR	NR	NR	NR	11 72	ND	0 22	19 30%	19 10%	26 1	8	61 6
FDS-RAW-1781-1790	4 4	31 14	NR	8,731	1 374	17,138	NR	NR	NR	NA	NA	NA	NA	NR
FDS-XI-1/1781-1790-2	NR	NR	62 747	NR	NR	NR	1 05	ND	0 06	19 30%	19 10%	NR	36	NR
FDS-XI-1/1781-1790-3	NR	NR	51 132	NR	NR	NR	1 79	ND	0 17	19 30%	19 10%	NR	36	NR
FDS-XI-1/1791-1795	12 69	48 19	400 220	NR	NR	NR	9 36	ND	0 24	19 30%	19 10%	23 2	8	NR
FDS-RAW-1791-1795	4 46	34 67	NR	6,685	1 213	19 294	NR	NR	NR	NA	NA	NA	NA	NR
FDS-XI-1/1791-1795-1	NR	NR	162 627	NR	NR	NR	1 82	ND	0 14	16 70%	16 60%	NR	36	NR
FDS-XI-1/1791-1795-4	NR	NR	172,966	NR	NR	NR	2 82	ND	0 20	16 70%	16 60%	NR	36	NR
FDS-XI-1/1797-1801	12 96	NR	NR	NR	NR	NR	5 72	ND	0 18	16 70%	16 60%	30 3	8	NR
FDS-XI-1/1797-1801 dup	NR	NR	NR	NR	NR	NR	NR	NR	NR	16 70%	16 60%	NR	8	NR
FDS-XI-1/1797-1801-1	NR	NR	46,179	NR	NR	NR	3 52	ND	0 16	16 70%	16 60%	NR	35	NR
FDS-XI-1/1797-1801-2	NR	NR	54,639	NR	NR	NR	3 09	ND	0 23	16 70%	16 60%	NR	35	NR
FDS-XI-1/1802-1811	12 41	NR	361 074	NR	NR	NR	4 60	ND	0 18	16 70%	16 60%	22 6	8	NR
FDS-RAW-1797 1811	4 39	NR	NR	2,758	1,165	18,127	NR	NR	NR	NA	NA	NA	NA	NR
FDS-XI-1/1812-1822	13 07	NR	387 389	NR	NR	NR	6 18	ND	0 20	16 70%	16 60%	22 9	8	44 6

NA = Not Applicable
ND = Not Detectable
NR = Not Received
* = Lab required off-site analysis
(a) = Cooling assy samples re-analyzed on site. The re-analyzed results are shown
\ARD33B.XLS]3/1/95

TABLE D-3.2b
ITEX ANALYTICAL RESULTS
COAL PILE TRACKS, IRON PONDS, BRADLEY PONDS AND FLUE DUST STORAGE AREA
FLUE DUST SHAKEDOWN/PROVEOUT
ANACONDA SMELTER NPL SITE

SAMPLE I.D. #	pH (SU)	MOISTURE %	ALKALINITY as CaC mg/kg	TOTAL METALS (mg/Kg dry)			TCLP METALS (mg/L)			PLANT MEASUREMENT LIME %	PLANT MEASUREMENT CEMENT %	LABORATORY MEASUREMENT CEMENT %	CURE TIME (days)	UCS psi
				LEAD	CADMIUM	ARSENIC	LEAD	CADMIUM	ARSENIC					
FDS-RAW-1812-1822	4 49	NR	NR	14 513	1,087	17,639	NR	NR	NR	NA	NA	NA	NA	NR
FDS-XI-1/1812-1822-3	NR	NR	127,084	NR	NR	NR	1 52	ND	0 12	16 70%	16 60%	NR	35	NR
FDS-XI-1/1812-1822-4	NR	NR	138,716	NR	NR	NR	2 38	ND	0 08	16 70%	16 60%	NR	35	NR
FDS-XI-1/1823-1832	12 52	64 88	217 041	NR	NR	NR	6 04	ND	0 14	18 00%	18 40%	28 8	5	6 2
FDS-RAW-1823-1832	7 24	29 5	NR	7,281	870	13 643	NR	NR	NR	NA	NA	NA	NA	NR
FDS-XI-1/1823-1832-1	NR	NR	52,198	NR	NR	NR	2 53	ND	0 11	18 00%	18 40%	NR	32	NR
FDS-XI-1/1823-1832-2	NR	NR	192,164	NR	NR	NR	ND	ND	0 17	18 00%	18 40%	NR	32	NR
FDS-XI-1/1823-1832	12 53	63 6	240 794	NR	NR	NR	5 52	ND	0 11	18 00%	18 40%	38 0	5	NR
FDS-XI-1/1833-1843	12 41	60 33	371,799	NR	NR	NR	6 20	ND	0 13	18 00%	18 40%	34 2	5	NR
FDS-RAW-1833 1843	6 41	35 12	NR	8,131	963	15,413	NR	NR	NR	NA	NA	NA	NA	NR
FDS-XI-1/1833-1843-1	NR	NR	44 824	NR	NR	NR	2 59	ND	0 15	18 00%	18 40%	NR	32	NR
FDS-XI-1/1833-1843-4	NR	NR	181 173	NR	NR	NR	1 76	ND	0 16	18 00%	18 40%	NR	32	NR
FDS-XI-1/1844-1853	12 56	64 96	200 582	NR	NR	NR	6 72	ND	0 15	18 00%	18 40%	23 7	5	NR
FDS-RAW-1844-1853	8 49	37 64	NR	12 453	952	14 745	NR	NR	NR	NA	NA	NA	NA	NR
FDS-XI-1/1844-1853-2	NR	NR	73,603	NR	NR	NR	2 39	ND	0 13	18 00%	18 40%	NR	32	NR
FDS-XI-1/1844-1853-5	NR	NR	157 782	NR	NR	NR	4 08	ND	0 19	18 00%	18 40%	NR	32	NR
FDS-XI-1/1854-1863	12 32	63 36	217 440	NR	NR	NR	8 32	ND	0 23	18 00%	18 40%	26 1	5	NR
FDS-RAW 1854-1863	6 46	36 93	NR	9 826	840	11 966	NR	NR	NR	NA	NA	NA	NA	NR
FDS-XI-1/1854-1863-3	NR	NR	136,205	NR	NR	NR	1 89	ND	0 17	18 00%	18 40%	NR	32	NR
FDS-XI-1/1854-1863-4	NR	NR	145,037	NR	NR	NR	3 38	ND	0 16	18 00%	18 40%	NR	32	NR
FDS-XI-1/1864-1873	12 56	65 37	189,365	NR	NR	NR	7 06	ND	0 22	18 00%	18 40%	24 4	5	NR
FDS-RAW-1864-1873	6 64	35 9	NR	11 044	854	16 124	NR	NR	NR	NA	NA	NA	NA	NR
FDS-XI-1/1864-1873-1	NR	NR	NR	NR	NR	NR	3 62	ND	0 09	18 00%	18 40%	NR	31	NR
FDS-XI-1/1864-1873-4	NR	NR	NR	NR	NR	NR	2 40	ND	0 11	18 00%	18 40%	NR	31	NR
FDS-XI-1/1874-1883	12 20	62 54	211,325	NR	NR	NR	7 59	ND	0 26	18 00%	18 40%	30 5	5	NR
FDS-RAW-1874-1883	6 12	NR	NR	11,891	1 038	17 693	NR	NR	NR	NA	NA	NA	NA	NR
FDS XI-1/1874-1883-1	NR	NR	NR	NR	NR	NR	3 49	ND	0 15	18 00%	18 40%	NR	31	NR
FDS-XI-1/1874-1883-4	NR	NR	NR	NR	NR	NR	2 77	ND	0 12	18 00%	18 40%	NR	31	NR
FDS-XI-1/1884-1888	12 44	61 74	250,966	NR	NR	NR	7 99	ND	0 21	18 00%	18 40%	32 7	5	NR
FDS-RAW-1884-1888	4 78	30 33	NR	24,360	1,256	24,360	NR	NR	NR	NA	NA	NA	NA	NR
FDS-XI-1/1884-1888-1	NR	NR	NR	NR	NR	NR	3 63	ND	0 11	18 00%	18 40%	NR	31	NR
FDS-XI-1/1884-1888-3	NR	NR	NR	NR	NR	NR	4 84	ND	0 13	18 00%	18 40%	NR	31	NR
FDS-XI-1/1889-1893	12 63	65 50	256,310	NR	NR	NR	5 90	ND	0 19	18 30%	18 40%	36 4	4	NR
FDS-RAW-1889-1893	6 48	36 19	NR	12 128	1,100	16,448	NR	NR	NR	NA	NA	NA	NA	NR
FDS-XI-1/1889-1893-1	NR	NR	NR	NR	NR	NR	3 82	ND	0 11	18 30%	18 40%	NR	30	NR
FDS-XI-1/1889-1893-4	NR	NR	NR	NR	NR	NR	2 97	ND	0 10	18 30%	18 40%	NR	30	NR
FDS-XI-1/1894-1903	12 61	62 55	229,201	NR	NR	NR	4 63	ND	0 17	18 30%	18 40%	35 4	4	43 3
FDS-XI-1/1894-1903	12 57	67 85	356,127	NR	NR	NR	4 47	ND	0 15	18 30%	18 40%	35 4	4	NR

NA = Not Applicable
ND = Not Detectable
NR = Not Received
* = TRC required off-site analysis
60 = Contingency sample re-analyzed on site. The re-analyzed results are shown

TABLE D-3.2b
ITEX ANALYTICAL RESULTS
COAL PILE TRACKS, IRON PONDS, BRADLEY PONDS AND FLUE DUST STORAGE AREA
FLUE DUST SHAKEDOWN/PROVEOUT
ANACONDA SMELTER NPL SITE

SAMPLE I.D. #	pH (SU)	MOISTURE %	ALKALINITY as CaC mg/kg	TOTAL METALS (mg/Kg dry) LEAD	CADMIUM	ARSENIC	TCLP METALS (mg/L) LEAD	CADMIUM	ARSENIC	PLANT MEASUREMENT LIME %	PLANT MEASUREMENT CEMENT %	LABORATORY MEASUREMENT CEMENT %	CURE TIME (days)	UCS psi
FDS-RAW 1894-1903	6 67	33 53	NR	8,738	702	9,740	NR	NR	NR	NA	NA	NA	NA	NR
FDS-XI-1/1904-1913	12 46	61 54	263,348	NR	NR	NR	5 56	ND	0 17	18 30%	18 40%	33 2	4	NR
FDS-RAW-1904-1913	6 71	32 3	NR	11,769	1,046	18,570	NR	NR	NR	NA	NA	NA	NA	NR
FDS-XI-1/1904-1913-2	NR	NR	NR	NR	NR	NR	2 99	ND	0 13	18 30%	18 40%	NR	30	NR
FDS-XI-1/1904-1913-3	NR	NR	NR	NR	NR	NR	2 62	ND	0 51	18 30%	18 40%	NR	30	NR
FDS-XI-1/1914-1923	12 57	67 12	265,360	NR	NR	NR	3 72	ND	0 15	18 30%	18 40%	35 7	4	NR
FDS-RAW-1914-1923	6 33	40 73	NR	13 055	1 257	21,603	NR	NR	NR	NA	NA	NA	NA	NR
FDS-XI-1/1924-1933	12 64	58 89	250 243	NR	NR	NR	4 03	ND	0 13	18 30%	18 40%	27 8	4	NR
FDS-RAW-1924-1933	6 27	34 23	NR	7,681	893	15,966	NR	NR	NR	NA	NA	NA	NA	NR
FDS-XI-1/1934-1943	12 51	58 81	279,422	NR	NR	NR	3 83	ND	0 09	18 30%	18 40%	35 2	4	NR
FDS-RAW 1934-1943	6 39	36 59	NR	11,404	1,105	17,627	NR	NR	NR	NA	NA	NA	NA	NR
FDS-XI-1/1944-1953	12 39	64 98	279,444	NR	NR	NR	ND	ND	0 11	18 30%	18 40%	36 4	4	NR
FDS-RAW-1944-1953	6 17	31 09	NR	10,153	867	15,443	NR	NR	NR	NA	NA	NA	NA	NR
FDS-XI-1/1954-1966	12 71	66 29	373,765	NR	NR	NR	4 12	ND	0 11	18 30%	18 40%	34 2	4	NR
FDS-RAW-1954-1966	6 57	36 32	NR	11,250	1,031	16,726	NR	NR	NR	NA	NA	NA	NA	NR
CPT-XI-1/1967-1976	12 48	49 93	454,747	NR	NR	NR	51 07	ND	0 12	15 60%	16 50%	25 4	4	25 8
CPT-RAW-1967-1976	4 36	42 83	359095	20,274	862	63,525	NR	NR	NR	NA	NA	NA	NA	NR
CPT-XI-1/1967-1976-3	NR	NR	269,076	NR	NR	NR	23 40	ND	0 07	15 60%	16 50%	NR	28	NR
CPT-XI-1/1967-1976-4	NR	NR	289,883	NR	NR	NR	36 33	ND	0 07	15 60%	16 50%	NR	28	NR
CPT-XI-1/1967-1976	NR	52 65	269,097	NR	NR	NR	46 14	ND	0 09	15 60%	16 50%	25 6	4	NR
CPT-XI-1/1977-1986	12 52	51 56	220,908	NR	NR	NR	44 04	ND	0 10	15 60%	16 50%	25 1	4	NR
CPT-RAW-1977-1986	4 43	49	NR	17,275	992	65 485	NR	NR	NR	NA	NA	NA	NA	NR
CPT-XI-1/1977-1986-1	NR	NR	262,745	NR	NR	NR	26 73	ND	0 09	15 60%	16 50%	NR	28	NR
CPT-XI-1/1977-1986-3	NR	NR	269,886	NR	NR	NR	24 52	ND	0 05	15 60%	16 50%	NR	28	NR
CPT-XI-1/1987-1996	12 41	61 26	77,626	NR	NR	NR	33 66	ND	0 09	15 60%	16 50%	32 0	4	NR
CPT-RAW-1987-1996	4 39	43 6	NR	19 235	879	65,500	NR	NR	NR	NA	NA	NA	NA	NR
CPT-XI-1/1987-1996-3	NR	NR	300,242	NR	NR	NR	17 78	ND	0 16	15 60%	16 50%	NR	28	NR
CPT-XI-1/1987-1996-4	NR	NR	205,929	NR	NR	NR	21 14	ND	0 05	15 60%	16 50%	NR	28	NR
CPT-XI-1/1997-2006	12 37	65 04	248,849	NR	NR	NR	32 75	ND	0 13	15 60%	16 50%	25 9	4	NR
CPT-RAW-1997-2006	4 37	45 38	NR	17,314	917	54,961	NR	NR	NR	NA	NA	NA	NA	NR
CPT-XI-1/1997-2006-4	NR	NR	249 884	NR	NR	NR	19 76	ND	0 07	15 60%	16 50%	NR	28	NR
CPT-XI-1/1997-2006-5	NR	NR	253,378	NR	NR	NR	23 84	ND	0 11	15 60%	16 50%	NR	28	NR
CPT-XI-1/2007-2016	12 39	59 40	269 656	NR	NR	NR	32 56	ND	0 11	15 60%	16 50%	23 9	4	NR
CPT-RAW-2007-2016	4 31	47 43	NR	20,759	918	60,124	NR	NR	NR	NA	NA	NA	NA	NR
CPT-XI-1/2007-2016-2	NR	NR	NR	NR	NR	NR	22 35	ND	0 13	15 60%	16 50%	NR	28	NR
CPT-XI-1/2007-2016-3	NR	NR	244,935	NR	NR	NR	18 81	ND	0 11	15 60%	16 50%	NR	28	NR
CPT-XI-1/2017-2026	12 44	54 13	426,463	NR	NR	NR	37 07	ND	0 12	15 60%	16 50%	24 2	4	NR
CPT-RAW-2017-2026	4 32	41 49	NR	21,329	932	70,525	NR	NR	NR	NA	NA	NA	NA	NR

NA = Not Applicable
ND = Not Detectable
NR = Not Reported
* = 1168 required off-site analysis
(a) = Contingency samples re-analyzed on site. The re-analyzed results are shown.
IARD32B.XLS01/1/95

TABLE D-3.2b
ITEX ANALYTICAL RESULTS
COAL PILE TRACKS, IRON PONDS, BRADLEY PONDS AND FLUE DUST STORAGE AREA
FLUE DUST SHAKEDOWN/PROVEOUT
ANACONDA SMELTER NPL SITE

SAMPLE I.D. #	pH (SU)	MOISTURE %	ALKALINITY as CaC mg/kg	TOTAL METALS (mg/Kg dry)			TCLP METALS (mg/L)			PLANT MEASUREMENT LIME %	PLANT MEASUREMENT CEMENT %	LABORATORY MEASUREMENT CEMENT %	CURE TIME (days)	UCS psi
				LEAD	CADMIUM	ARSENIC	LEAD	CADMIUM	ARSENIC					
CPT-XI-1/2017-2026-3	NR	NR	NR	NR	NR	NR	24 03	ND	0 11	15 60%	16 50%	NR	28	NR
CPT-XI-1/2017-2026-4	NR	NR	282,335	NR	NR	NR	20 58	ND	0 15	15 60%	16 50%	NR	28	NR
BP3-XI-1/2027-2036	12 13	48 24	267,612	NR	NR	NR	ND	ND	0 76	NA	18 70%	29 1	4	6.1
BP3-RAW-2027-2036	NR	44 96	NR	13,463	1,255	14,968	NR	NR	NR	NA	NA	NA	NA	NR
BP3-XI-1/2037-2044	12 05	58 88	258,147	NR	NR	NR	ND	ND	0 68	NA	18 70%	32 2	4	NR
BP3-RAW-2037-2044	10 06	68 77	NR	13,214	1,058	12,771	NR	NR	NR	NA	NA	NA	NA	NR
BP3-XI-1/2045-2054	12 06	56 26	160,377	NR	NR	NR	ND	ND	0 49	NA	18 70%	36 2	4	NR
BP3-XI-1/2045-2054	Outside	TCLP *	NR	NR	NR	NR	0 12	ND	0 44	NA	18 70%	NR	4	NR
BP3-RAW-2045-2054	9 62	41 69	NR	13,538	1,118	14,394	NR	NR	NR	NA	NA	NA	NA	NR
BP3-XI-1/2055-2064	12 04	61 05	240,194	NR	NR	NR	ND	ND	0 46	NA	18 70%	35 2	4	NR
BP3-RAW-2055-2064	9 88	45 37	NR	14,474	1,194	15,104	NR	NR	NR	NA	NA	NA	NA	NR
BP3-XI-1/2065-2074	12 22	59 30	280,908	NR	NR	NR	ND	ND	0 42	NA	18 70%	26 4	4	NR
BP3-RAW-2065-2074	9 96	39 29	NR	13,577	943	16,379	NR	NR	NR	NA	NA	NA	NA	NR
BP3-XI-1/2075-2078	12 14	52 92	253 645	NR	NR	NR	0 28	ND	0 31	NA	18 70%	36 4	4	NR
BP3-RAW-2075-2078	9 53	41 05	NR	13 245	1,076	13,695	NR	NR	NR	NA	NA	NA	NA	NR
BP3-XI-1/2079-2082	12 01	65 05	223,755	NR	NR	NR	0 36	ND	0 38	NA	19 50%	33 2	3	NR
BP3-XI-1/2083-2092	NR	56 87	261,746	NR	NR	NR	0 26	ND	0 24	NA	19 50%	27 2	3	NR
BP3-XI-1/2083-2092	12 17	61 40	384,962	NR	NR	NR	0 24	ND	0 23	NA	19 50%	27 2	3	NR
BP3-RAW-2079-2092	9 64	42 33	NR	13,406	1,109	14 258	NR	NR	NR	NA	NA	NA	NA	NR
BP3-XI-1/2093-2095	12 09	66 53	388 679	NR	NR	NR	0 20	ND	0 35	NA	19 50%	24 6	3	NR
BP3-RAW-2093-2095	9 59	38 94	NR	13 947	1,036	17,238	NR	NR	NR	NA	NA	NA	NA	NR
IP-RAW-GRAB	4 75	NR	NR	NR	NR	NR	NR	NR	NR	NA	NA	NA	NA	NR
BP1-RAW-TCLP	NR	NR	NR	NR	NR	NR	19 47	26 9	0 26	NA	NA	NA	NA	NR
BP1-RAW-TCLP dup	NR	NR	NR	NR	NR	NR	17 3	18 4	ND	NA	NA	NA	NA	NR
BP2-RAW TCLP	NR	NR	NR	17,275	924	11 353	15 12	23 4	0 58	NA	NA	NA	NA	NR
BP3-RAW-TCLP	NR	NR	NR	NR	NR	NR	2	10 02	1 74	NA	NA	NA	NA	NR
IP-RAW-TCLP	NR	NR	NR	NR	NR	NR	16 42	50 5	3 61	NA	NA	NA	NA	NR
IP-RAW-TCLP dup	NR	NR	NR	NR	NR	NR	24 8	12 2	ND	NA	NA	NA	NA	NR
FDS-RAW TCLP	NR	NR	NR	NR	NR	NR	8 03	35 6	0 38	NA	NA	NA	NA	NR
BEGIN PHASE II DATA														
CPT-Raw-Comp	4 22	32 48	NR	NR	NR	NR	9 66	17 15	0 52	NR	NR	NR	NA	NR
CPT-Raw-Comp	4 30	40 24	NR	NR	NR	NR	9 99	17 21	0 50	NR	NR	NR	NA	NR
CPT-Raw-Random	3 39	27 07	NR	NR	NR	NR	8 09	3 88	0 58	NR	NR	NR	NA	NR
CPT-XIII-1/0001-0009	12 38	53 02	308 571	NR	NR	NR	8 77	ND	0 15	21 00%	21 90%	30%	3	25 46
CPT XIII-1/0001-0009-2	NR	NR	322,012	NR	NR	NR	22 42	ND	0 21	21 00%	21 90%	NR	11	NR
CPT-XIII-1/0001-0009-3	NR	NR	310,820	NR	NR	NR	9 55	ND	0 23	21 00%	21 90%	NR	11	NR

NA = Not Applicable
ND = Not Detectable
NR = Not Reported
* = 1400 required off-site analysis
(a) = Contingency samples re-analyzed on site. The re-analyzed results are shown

TABLE D-3.2b
ITEX ANALYTICAL RESULTS
COAL PILE TRACKS, IRON PONDS, BRADLEY PONDS AND FLUE DUST STORAGE AREA
FLUE DUST SHAKEDOWN/PROVEOUT
ANACONDA SMELTER NPL SITE

SAMPLE I.D. #	pH (SU)	MOISTURE %	ALKALINITY as CaC mg/kg	TOTAL METALS (mg/Kg dry) LEAD	CADMIUM	ARSENIC	TCLP METALS (mg/L) LEAD	CADMIUM	ARSENIC	PLANT MEASUREMENT LIME %	PLANT MEASUREMENT CEMENT %	LABORATORY MEASUREMENT CEMENT %	CURE TIME (days)	UCS psi
CPT-Raw/0001-0009	4 22	32 48	NR	33,366	2 028	57,503	NR	NR	NR	NA	NA	NR	NA	NR
CPT-XIII-1/0010-0019	12 47	41 52	575,844	NR	NR	NR	9 97	ND	0 14	21 00%	21 90%	25%	3	NR
CPT-XIII-1/0010-0019-2	NR	NR	335,313	NR	NR	NR	15 31	ND	0 32	21 00%	21 90%	NR	11	NR
CPT-XIII-1/0010-0019-3	NR	NR	337,042	NR	NR	NR	21 93	ND	0 27	21 00%	21 90%	NR	11	NR
CPT-Raw/0010-0019	4 30	40 24	NR	25,413	1,135	49,639	NR	NR	NR	NA	NA	NR	NA	NR
CPT-XIII-1/0010-0019 dup	12 52	35 43	599,923	NR	NR	NR	9 47	ND	0 11	21 00%	21 90%	NR	3	NR
CPT-Raw/0010-0019 dup	4 29	41 63	NR	23 175	1,328	36,435	NR	NR	NR	NA	NA	NR	NA	NR
CPT-XIII-1/0020-0023	12 48	42 88	549,955	NR	NR	NR	9 52	ND	0 09	21 00%	21 90%	20%	3	NR
CPT-XIII-1/0020-0023-3	NR	NR	305 497	NR	NR	NR	13 19	ND	0 09	21 00%	21 90%	NR	11	NR
CPT-XIII-1/0020-0023-5	NR	NR	304 273	NR	NR	NR	7 43	ND	0 04	21 00%	21 90%	NR	11	NR
CPT-Raw/0020-0023	4 47	42 78	NR	28,130	1 066	31,327	NR	NR	NR	NA	NA	NR	NA	NR
CPT-XIII-1/0024-0030	12 27	49 96	489,108	NR	NR	NR	6 84	ND	0 09	21 00%	22 00%	30%	3	NR
CPT-Raw/0024-0030	4 26	29 76	NR	22 192	1,340	20 642	NR	NR	NR	NA	NA	NR	NA	NR
CPT-XIII-1/0024-0030-3	NR	NR	305 497	NR	NR	NR	13 19	ND	0 09	21 00%	22 00%	NR	10	NR
CPT-XIII-1/0024-0030-5	NR	NR	304,273	NR	NR	NR	7 43	ND	0 04	21 00%	22 00%	NR	10	NR
CPT-XIII-1/0031-0040	11 53	40 63	355,018	NR	NR	NR	ND	ND	0 19	0 00%	28 40%	28%	3	NR
CPT-XIII-1/0031-0040 dup	11 66	52 85	527,438	NR	NR	NR	15 37	16 30	0 04	0 00%	28 40%	NR	3	NR
CPT-Raw/0031-0040	4 38	38 57	NR	14 982	1 455	22 586	NR	NR	NR	NA	NA	NR	NA	NR
CPT-Raw/0031-0040 dup	4 22	50 21	NR	27 056	1,577	38,359	NR	NR	NR	NA	NA	NR	NA	NR
CPT-XIII-1/0031-0040-2	NR	NR	193 619	NR	NR	NR	0 08	ND	0 11	0 00%	28 40%	NR	10	NR
CPT-XIII-1/0031-0040-4	NR	NR	209,829	NR	NR	NR	15 59	10 90	0 04	0 00%	28 40%	NR	10	NR
CPT-XIII-1/0041-0050	11 38	53 45	530,901	NR	NR	NR	3 45	2 70	0 03	0 00%	28 40%	26%	3	NR
CPT-Raw/0041-0050	4 11	43 40	NR	25 866	1,775	28,232	NR	NR	NR	NA	NA	NR	NA	NR
CPT-XIII-1/0041-0050-1	NR	NR	220,847	NR	NR	NR	8 70	18 20	0 05	0 00%	28 40%	NR	10	NR
CPT-XIII-1/0041-0050-3	NR	NR	246 674	NR	NR	NR	0 66	ND	0 06	0 00%	28 40%	NR	10	NR
CPT-XIII-1/0051-0060	11 53	51 37	442,131	NR	NR	NR	5 58	10 23	0 03	0 00%	28 40%	20%	3	11 32
CPT-Raw/0051-0060	4 06	51 44	NR	21,906	1 375	27,952	NR	NR	NR	NA	NA	NR	NA	NR
CPT-XIII-1/0051-0060-1	NR	NR	110 316	NR	NR	NR	ND	3 84	ND	0 00%	28 40%	NR	10	NR
CPT-XIII-1/0051-0060-5	NR	NR	155,560	NR	NR	NR	2 68	18 20	0 05	0 00%	28 40%	NR	10	NR
CPT-XIII-1/0061-0064	9 61	51 34	422,143	NR	NR	NR	31 41	7 60	0 07	0 00%	28 40%	28%	3	NR
CPT-XIII-1/0061-0064-3	NR	NR	100,675	NR	NR	NR	13 15	31 50	0 03	0 00%	28 40%	NR	10	NR
CPT-XIII-1/0061-0064-5	NR	NR	54,762	NR	NR	NR	1 51	10 20	ND	0 00%	28 40%	NR	10	NR
CPT-Raw/0061-0064	4 11	42 93	NR	26,549	1,376	18,027	NR	NR	NR	NA	NA	NR	NA	NR
CPT-XIII-1/0065-0074	11 54	52 60	507,163	NR	NR	NR	3 21	6 97	0 03	0 00%	21 40%	25%	3	NR
CPT-Raw/0065-0074	4 14	39 54	NR	23,495	1,273	38,583	NR	NR	NR	NA	NA	NR	NA	NR
CPT-XIII-1/0065-0074-1	NR	NR	133,728	NR	NR	NR	7 67	8 10	0 56	0 00%	21 40%	NR	10	NR
CPT-XIII-1/0065-0074-4	NR	NR	35,056	NR	NR	NR	25 59	15 20	ND	0 00%	21 40%	NR	10	NR
CPT-XIII-1/0075-0080	NR	NR	NR	NR	NR	NR	3 46	8 08	0 02	0 00%	21 40%	NR	3	NR

NA = Not Applicable
ND = Not Detectable
NR = Not Received
* = 1/40 required off-site analysis
(a) = Contingency samples re-analyzed on site. The re-analyzed results are shown

TABLE D-3.2b
ITEX ANALYTICAL RESULTS
COAL PILE TRACKS, IRON PONDS, BRADLEY PONDS AND FLUE DUST STORAGE AREA
FLUE DUST SHAKEDOWN/PROVEOUT
ANACONDA SMELTER NPL SITE

SAMPLE I.D. #	pH (SU)	MOISTURE %	ALKALINITY as CaC mg/kg	TOTAL METALS (mg/Kg dry)			TCLP METALS (mg/L)			PLANT MEASUREMENT LIME %	PLANT MEASUREMENT CEMENT %	LABORATORY MEASUREMENT CEMENT %	CURE TIME (days)	UCS psi
				LEAD	CADMIUM	ARSENIC	LEAD	CADMIUM	ARSENIC					
CPT-Raw/0075-0080	4 44	38 65	NR	20,486	948	46,440	NR	NR	NR	NA	NA	NR	NA	NR
CPT-Raw/0075-0080 dup	4 42	42 23	NR	22,821	1,140	45,998	NR	NR	NR	NA	NA	NR	NA	NR
CPT-XIII-1/0075-0080-1	NR	NR	111,257	NR	NR	NR	5 47	17 50	0 03	0 00%	21 40%	NR	10	NR
CPT-XIII-1/0075-0080-3	NR	NR	138,441	NR	NR	NR	14 21	13 40	0 04	0 00%	21 40%	NR	10	NR
CPT-XIII-1/0081-0090	11 79	55 43	510 944	NR	NR	NR	0 79	6 03	0 02	0 00%	21 40%	27%	3	4 67
CPT-Raw/0081-0090	4 40	38 82	NR	21 326	1 006	41,159	NR	NR	NR	NA	NA	NR	NA	NR
CPT-XIII-1/0081-0090-2	NR	NR	108,907	NR	NR	NR	9 64	13 90	0 03	0 00%	21 40%	NR	10	NR
CPT-XIII-1/0081-0090-5	NR	NR	125,334	NR	NR	NR	1 17	8 80	ND	0 00%	21 40%	NR	10	NR
CPT-XIII-1/0091-0100	11 76	53 31	488,975	NR	NR	NR	ND	ND	ND	0 00%	21 40%	24%	3	NR
CPT-Raw/0091-0100	4 25	43 31	NR	24,937	1,236	47,903	NR	NR	NR	NA	NA	NR	NA	NR
CPT-XIII-1/0101-0110	10 68	49 21	445,805	NR	NR	NR	ND	2 64	0 05	0 00%	21 40%	32%	3	NR
CPT-Raw/0101-0110	4 34	74 12	NR	27,185	1,415	42,551	NR	NR	NR	NA	NA	NR	NA	NR
CPT-XIII-1/0101-0110-1	NR	NR	156,146	NR	NR	NR	ND	ND	ND	0 00%	21 40%	NR	10	NR
CPT-XIII-1/0101-0110-3	NR	NR	108,100	NR	NR	NR	2 68	11 40	ND	0 00%	21 40%	NR	10	NR
CPT-Raw/0111-0121	3 81	50 74	NR	41,398	716	46,015	NR	NR	NR	NA	NA	NR	NA	NR
CPT-XIII-1/0111-0121	12 23	49 76	337,082	NR	NR	NR	ND	ND	0 12	7 10%	26 10%	35%	3	NR
CPT-XIII-1/0122-0129	12 09	47 21	295,772	NR	NR	NR	ND	ND	0 10	7 10%	26 10%	35%	3	19 81
CPT-Raw/0122-0129	4 18	47 13	NR	23 651	1 416	52,305	NR	NR	NR	NA	NA	NR	NA	NR
CPT-XIII-1/0130	11 80	54 97	306,575	NR	NR	NR	5 48	8 38	ND	7 10%	26 10%	30%	3	NR
CPT-XIII-1/0131-0140	12 43	50 51	280,200	NR	NR	NR	ND	ND	0 16	7 10%	28 30%	29%	3	NR
CPT-Raw/0131-0140	3 89	45 55	NR	25,997	905	56,393	NR	NR	NR	NA	NA	NR	NA	NR
CPT-XIII-1/0131-0140 dup	NR	NR	NR	NR	NR	NR	ND	ND	0 13	7 10%	28 30%	NR	3	NR
CPT-Raw/0131-0140 dup	3 94	34 03	NR	20,937	783	41,525	NR	NR	NR	NA	NA	NR	NA	NR
CPT-XIII-1/0141-0151	12 34	51 89	253,522	NR	NR	NR	ND	ND	0 14	7 10%	28 30%	29%	3	25 47
CPT-Raw/0141-0151	3 80	43 31	NR	30,552	1,515	62,227	NR	NR	NR	NA	NA	NR	NA	NR
CPT-XIII-1/0153-0162	12 45	47 27	350,578	NR	NR	NR	ND	ND	0 06	7 10%	28 30%	25%	3	NR
CPT-Raw/0153-0162	3 69	53 39	NR	24,058	2,060	69,369	NR	NR	NR	NA	NA	NR	NA	NR
CPT-XIII-1/0163-0169	12 44	46 18	273,099	NR	NR	NR	ND	ND	0 10	7 10%	28 30%	23%	3	NR
CPT-Raw/0163-0169	3 53	49 73	NR	34 287	1,460	49,128	NR	NR	NR	NA	NA	NR	NA	NR
CPT-XIII-1/0170-0173	12 83	51 02	264,305	NR	NR	NR	ND	ND	0 10	7 20%	28 80%	21%	3	NR
CPT-Raw/0170-0173	4 09	48 14	NR	33 811	1,032	58,133	NR	NR	NR	NA	NA	NR	NA	NR
CPT-XIII-1/0170-0173 dup	NR	NR	NR	NR	NR	NR	ND	ND	0 12	7 20%	28 80%	NR	3	NR
CPT-Raw/0170-0173 dup	NR	NR	NR	33 836	898	48 445	NR	NR	NR	NA	NA	NR	NA	NR
CPT-XIII-1/0174-0183	12 79	53 84	275,227	NR	NR	NR	ND	ND	0 15	7 20%	28 80%	24	3	11 32
CPT-Raw/0174-0183	3 67	50 64	NR	38 338	1 280	69 483	NR	NR	NR	NA	NA	NR	NA	NR
CPT-XIII-1/0184-0188	12 74	51 61	279,452	NR	NR	NR	ND	ND	0 11	7 20%	28 80%	21	3	NR
CPT-Raw/0184-0188	3 52	54 98	NR	33,309	1,234	60,507	NR	NR	NR	NA	NA	NR	NA	NR
CPT-XIII-1/0189-0194	12 35	50 52	256,807	NR	NR	NR	ND	ND	0 10	6 90%	27 80%	35	3	NR

NA = Not Applicable
ND = Not Detectable
NR = Not Received
* = 180 required off-site analysis
(a) = Contingency sample re-analyzed on site. The re-analyzed results are shown

TABLE D-3.2b
ITEX ANALYTICAL RESULTS
COAL PILE TRACKS, IRON PONDS, BRADLEY PONDS AND FLUE DUST STORAGE AREA
FLUE DUST SHAKEDOWN/PROVEOUT
ANACONDA SMELTER NPL SITE

SAMPLE I.D. #	pH (SU)	MOISTURE %	ALKALINITY as CaC mg/kg	TOTAL METALS (mg/Kg dry) LEAD	CADMIUM	ARSENIC	TCLP METALS (mg/L) LEAD	CADMIUM	ARSENIC	PLANT MEASUREMENT LIME %	PLANT MEASUREMENT CEMENT %	LABORATORY MEASUREMENT CEMENT %	CURE TIME (days)	UCS psi
CPT-Raw/0189-0194	4 01	53 04	NR	57,408	1 129	78,144	NR	NR	NR	NA	NA	NR	NA	NR
CPT-XIII-1/0189-0194 dup	12 45	51 04	264 510	NR	NR	NR	ND	ND	0 15	6 90%	27 80%	NR	3	NR
CPT-Raw/0189-0194 dup	4 23	57 71	NR	52,952	1,439	79,348	NR	NR	NR	NA	NA	NR	NA	NR
CPT-XIII-1/0195-0204	12 33	50 82	278,502	NR	NR	NR	31 15	8 86	0 12	6 90%	27 80%	33%	3	16 98
CPT-XIII-1/0195-0204-2	NR	NR	256,470	NR	NR	NR	ND	ND	0 15	6 90%	27 80%	NR	9	NR
CPT-XIII-1/0195-0204-5	NR	NR	211,675	NR	NR	NR	ND	ND	0 13	6 90%	27 80%	NR	9	NR
CPT-Raw/0195-0204	4 36	50 87	NR	39,376	1,263	65,098	NR	NR	NR	NA	NA	NR	NA	NR
CPT-XIII-1/0205-0214	12 42	51 01	294,089	NR	NR	NR	0 82	ND	0 18	6 90%	27 80%	21%	3	NR
CPT-Raw/0205-0214	4 56	51 33	NR	43,659	1,173	80 678	NR	NR	NR	NA	NA	NR	NA	NR
CPT-XIII-1/0215-0223	12 22	49 04	258,036	NR	NR	NR	ND	ND	0 04	6 90%	27 80%	29%	3	NR
CPT-Raw/0215-0223	4 40	58 94	NR	36,533	1 147	62 193	NR	NR	NR	NA	NA	NR	NA	NR
CPT-XIII-1/0224-0234	12 45	49 24	276,527	NR	NR	NR	ND	ND	0 10	6 90%	27 80%	42%	3	NR
CPT-Raw/0224-0234	4 39	52 05	NR	37 841	1 532	55,485	NR	NR	NR	NA	NA	NR	NA	NR
CPT-XIII-1/0235-0244	12 32	58 81	267,212	NR	NR	NR	ND	ND	0 16	7 10%	28 50%	35%	3	14 16(3day)
CPT-Raw/0235-0244	3 66	33 68	NR	54,188	981	55,784	NR	NR	NR	NA	NA	NR	NA	NR
CPT-XIII-1/0235-0244 dup	NR	NR	NR	NR	NR	NR	ND	ND	0 19	7 10%	28 50%	NR	3	NR
CPT-Raw/0235-0244 dup	3 28	44 96	NR	42,731	1,136	62,348	NR	NR	NR	NA	NA	NR	NA	NR
CPT-XIII-1/0245-0254	11 03	52 77	252,998	NR	NR	NR	ND	ND	0 14	7 10%	28 50%	32%	3	NR
CPT-XIII-1/0245-0254 *	NR	NR	NR	NR	NR	NR	11 10	ND	0 21	7 10%	28 50%	NR	3	NR
CPT-Raw/0245-0254	3 38	48 67	NR	44,138	1,319	70,621	NR	NR	NR	NA	NA	NR	NA	NR
CPT-XIII-1/0255-0264	10 72	52 75	272,498	NR	NR	NR	ND	ND	0 14	7 10%	28 50%	36%	3	NR
CPT-Raw/0255-0264	3 38	50 62	NR	35,245	866	91,219	NR	NR	NR	NA	NA	NR	NA	NR
CPTXIII-1/0265-0274	12 31	50 20	285 381	NR	NR	NR	ND	ND	0 15	7 10%	28 50%	25%	3	NR
CPT-Raw/0265-0274	3 42	52 45	NR	36,443	1,062	85,779	NR	NR	NR	NA	NA	NR	NA	NR
CPT-XIII-1/0275-0286	11 82	52 56	278,530	NR	NR	NR	ND	ND	0 18	7 10%	28 50%	29%	3	NR
CPT-Raw/0275-0286	3 10	55 67	NR	45 674	1,452	68,212	NR	NR	NR	NA	NA	NR	NA	NR
CPT-XIII-1/0287-0294	12 09	54 02	276,149	NR	NR	NR	ND	ND	0 14	7 10%	28 50%	36%	3	NR
CPT-Raw/0287-0294	2 63	49 66	NR	69 273	1,253	96,772	NR	NR	NR	NA	NA	NR	NA	NR
CPT-XIII-1/0295-0300	10 50	49 91	314,867	NR	NR	NR	3 16	ND	0 15	7 10%	28 50%	40%	3	NR
CPT-Raw/0295-0300	3 78	37 32	NR	28,391	618	42,020	NR	NR	NR	NA	NA	NR	NA	NR
CPT-XIII-1/301-305	12 28	51 09	270,548	NR	NR	NR	ND	ND	ND	7 00%	28 00%	39%	3	14 16
CPT-Raw/0301-0305	4 24	57 82	NR	27,088	1,786	62,420	NR	NR	NR	NA	NA	NR	NA	NR
CPT-XIII-1/0301-0305 dup	12 34	53 32	261,659	NR	NR	NR	ND	ND	0 15	7 00%	28 00%	NR	3	NR
CPT-Raw/0301-0305 dup	4 09	55 49	NR	25,811	1,399	66,277	NR	NR	NR	NA	NA	NR	NA	NR
CPT-XIII-1/0306-0315	11 11	50 11	261,509	NR	NR	NR	ND	ND	0 05	7 00%	28 00%	20%	3	NR
CPT-Raw/0306-0315	3 77	34 03	NR	42,422	1,240	51,938	NR	NR	NR	NA	NA	NR	NA	NR
CPT-XIII-1/0316-0325	10 95	52 96	285,313	NR	NR	NR	ND	ND	0 15	7 00%	28 00%	24%	3	NR
CPT-RAW/0316-0325	3 65	52 58	NR	36,105	1,183	88,497	NR	NR	NR	NA	NA	NR	NA	NR

NA = Not Applicable
ND = Not Detectable
NR = Not Received
* = [illegible] required off-site analysis
(a) = Contingency samples re-analyzed on site. The re-analyzed results are shown.
[illegible]

TABLE D-3.2b
ITEX ANALYTICAL RESULTS
COAL PILE TRACKS, IRON PONDS, BRADLEY PONDS AND FLUE DUST STORAGE AREA
FLUE DUST SHAKEDOWN/PROVEOUT
ANACONDA SMELTER NPL SITE

SAMPLE I.D. #	pH (SU)	MOISTURE %	ALKALINITY as CaC mg/kg	TOTAL METALS (mg/Kg dry)			TCLP METALS (mg/L)			PLANT MEASUREMENT LIME %	PLANT MEASUREMENT CEMENT %	LABORATORY MEASUREMENT CEMENT %	CURE TIME (days)	UCS psi
				LEAD	CADMIUM	ARSENIC	LEAD	CADMIUM	ARSENIC					
CPT-XIII-1/0326-0335	11 15	53 75	261,958	NR	NR	NR	ND	4 36	ND	7 00%	28 00%	18%	3	NR
CPT-Raw/0326-0335	3 68	53 03	NR	45 853	1,569	80,917	NR	NR	NR	NA	NA	NR	NA	NR
CPT-XIII-1/0326-0335-1	NR	NR	259,703	NR	NR	NR	128 00	2 35	0 09	7 00%	28 00%	NR	9	NR
CPT-XIII-1/0326-0335-3	NR	NR	241,220	NR	NR	NR	141 50	17 70	0 25	7 00%	28 00%	NR	9	NR
CPTXIII-1/0336-0345	12 43	53 73	224,080	NR	NR	NR	ND	ND	ND	7 00%	28 00%	37%	3	NR
CPT-Raw/0336-0345	3 43	52 62	NR	41,059	1,500	54,669	NR	NR	NR	NA	NA	NR	NA	NR
CPT-XIII-1/0346-0356	12 34	52 18	236,834	NR	NR	NR	ND	ND	0 22	7 00%	28 00%	36%	3	NR
CPT-Raw/0346-0356	3 73	59 99	NR	31 617	1 320	81,792	NR	NR	NR	NA	NA	NR	NA	NR
CPT-XIII-1/0357-0360	11 10	50 24	256,968	NR	NR	NR	ND	ND	0 19	7 00%	28 00%	16%	3	NR
CPT-Raw/0357-0360	3 80	58 18	NR	30 240	1 082	77 714	NR	NR	NR	NA	NA	NR	NA	NR
CPT-XIII-1/0361-0366	12 76	53 12	307,496	NR	NR	NR	ND	ND	0 16	7 10%	27 90%	37%	3	18 39
CPT-Raw/0361-0366	3 41	52 62	NR	32,031	1,679	79,553	NR	NR	NR	NA	NA	NR	NA	NR
CPT-XIII-1/0361-0366 dup	12 63	54 05	297,328	NR	NR	NR	ND	ND	0 11	7 10%	27 90%	NR	3	NR
CPT-Raw/0361-0366 dup	3 83	52 50	NR	31,562	1 555	60,697	NR	NR	NR	NA	NA	NR	NA	NR
CPT-XIII-1/0367-0376	12 81	54 85	223,273	NR	NR	NR	ND	ND	0 19	7 10%	27 90%	16%	3	NR
CPT-Raw/0367-0376	3 86	50 60	NR	30,100	1 648	54,319	NR	NR	NR	NA	NA	NR	NA	NR
CPT-XIII-1/0377-0386	12 72	50 69	229,159	NR	NR	NR	ND	ND	0 12	7 10%	27 90%	17%	3	NR
CPT-Raw/0377-0386	3 75	46 23	NR	23,225	2,037	64,383	NR	NR	NR	NA	NA	NR	NA	NR
CPT-XIII-1/0387-0396	12 57	51 62	193,963	NR	NR	NR	ND	ND	0 13	7 10%	27 90%	17%	3	NR
CPT-Raw/0387-0396	3 85	53 09	NR	40,971	880	72,336	NR	NR	NR	NA	NA	NR	NA	NR
CPT-XIII-1/0397-0406	12 71	49 07	281,725	NR	NR	NR	ND	ND	0 10	7 10%	27 90%	21%	3	NR
CPT-Raw/0397-0406	3 67	52 92	NR	43 480	1,560	85 590	NR	NR	NR	NA	NA	NR	NA	NR
CPT-XIII-1/0407-0416	12 56	47 56	272,074	NR	NR	NR	ND	ND	0 10	7 10%	27 90%	19%	3	NR
CPT-Raw/0407-0416	3 60	52 09	NR	33,160	1,570	58,451	NR	NR	NR	NA	NA	NR	NA	NR
CPT-XIII-1/0417-0422	12 50	49 53	256,125	NR	NR	NR	ND	ND	ND	7 10%	27 90%	23%	3	NR
CPT-Raw/0417-0422	4 62	32 32	NR	42,394	1,348	70,933	NR	NR	NR	NA	NA	NR	NA	NR
CPT-XIII-1/0423-0432	11 47	53 22	260,043	NR	NR	NR	ND	4 36	0 03	7 40%	28 00%	NR	3	16 98
CPT-Raw/0423-0432	3 71	51 19	NR	43,013	2,117	86,178	NR	NR	NR	NA	NA	NR	NA	NR
CPT-XIII-1/0423-0432-2	NR	NR	190,578	NR	NR	NR	ND	ND	0 09	7 40%	28 00%	NR	10	NR
CPT-XIII-1/0423-0432-5	NR	NR	243 343	NR	NR	NR	ND	ND	0 09	7 40%	28 00%	NR	10	NR
CPT-XIII-1/0423-0432 dup	12 84	50 40	261 620	NR	NR	NR	ND	ND	ND	7 40%	28 00%	NR	3	NR
CPT-Raw/0423-0432 dup	3 59	47 78	NR	42,394	1 348	70,933	NR	NR	NR	NA	NA	NR	NA	NR
CPT-XIII-1/0433-0443	12 92	54 10	262,311	NR	NR	NR	ND	ND	ND	7 40%	28 00%	32%	3	NR
CPT-Raw/0433-0443	3 99	49 61	NR	39,385	2,113	64,894	NR	NR	NR	NA	NA	NR	NA	NR
CPT-XIII-1/0444-0453	13 05	55 11	258,336	NR	NR	NR	ND	ND	0 07	7 40%	28 00%	36%	3	NR
CPT-Raw/0444-0453	3 51	53 22	NR	40,802	4,212	50,884	NR	NR	NR	NA	NA	NR	NA	NR
CPT-XIII-1/0454-0463	13 16	54 19	301,276	NR	NR	NR	ND	ND	0 06	7 40%	28 00%	38%	3	NR
CPT-Raw/0454-0463	3 57	60 48	NR	51 037	2 495	60,877	NR	NR	NR	NA	NA	NR	NA	NR

NA = Not Applicable
ND = Not Detectable
NR = Not Reported
* = TAD required off-site analysis
(a) = Contingency sample re-analyzed on site. The re-analyzed results are shown

TABLE D-3.2b
ITEX ANALYTICAL RESULTS
COAL PILE TRACKS, IRON PONDS, BRADLEY PONDS AND FLUE DUST STORAGE AREA
FLUE DUST SHAKEDOWN/PROVEOUT
ANACONDA SMELTER NPL SITE

SAMPLE I.D. #	pH (SU)	MOISTURE %	ALKALINITY as CaC mg/kg	TOTAL METALS (mg/Kg dry) LEAD	CADMIUM	ARSENIC	TCLP METALS (mg/L) LEAD	CADMIUM	ARSENIC	PLANT MEASUREMENT LIME %	PLANT MEASUREMENT CEMENT %	LABORATORY MEASUREMENT CEMENT %	CURE TIME (days)	UCS psi
CPT-XIII-1/0464-0473	13 20	57 10	276,690	NR	NR	NR	ND	ND	0 17	7 40%	28 00%	21%	3	NR
CPT-Raw/0464-0473	4 04	55 81	NR	50,774	2,064	89,396	NR	NR	NR	NA	NA	NR	NA	NR
CPT-XIII-1/0474-0484	12 69	52 31	288,937	NR	NR	NR	ND	ND	0 10	7 40%	28 00%	42%	3	NR
CPT-Raw/0474-0484	3 61	57 55	NR	48 187	2,293	87 007	NR	NR	NR	NA	NA	NR	NA	NR
CPT-XIII-1/0485-0494	12 69	52 31	261,430	NR	NR	NR	ND	ND	0 10	7 10%	28 20%	32%	3	4 16
CPT-Raw/0485-0494	3 73	56 59	NR	47,996	1,957	51,481	NR	NR	NR	NA	NA	NR	NA	NR
CPT-XIII-1/0485-0494 dup	12 73	57 25	243,955	NR	NR	NR	ND	ND	0 09	7 10%	28 20%	NR	3	NR
CPT-Raw/0485-0494 dup	3 72	59 91	NR	44,551	2 188	65,235	NR	NR	NR	NA	NA	NR	NA	NR
CPT-XIII-1/0495-0504	12 78	52 89	228,084	NR	NR	NR	ND	ND	0 13	7 10%	28 20%	39%	3	NR
CPT-Raw/0495-0504	3 43	54 54	NR	48,699	1,777	54,862	NR	NR	NR	NA	NA	NR	NA	NR
CPT-XIII-1/0505-0514	12 82	56 01	229,767	NR	NR	NR	ND	ND	0 25	7 10%	28 20%	39%	3	NR
CPT-Raw/0505-0514	3 50	60 33	NR	48,538	1,376	72,987	NR	NR	NR	NA	NA	NR	NA	NR
CPT-XIII-1/0515-0524	12 81	60 57	241,759	NR	NR	NR	ND	ND	0 54	7 10%	28 20%	35%	3	NR
CPT-Raw/0515-0524	4 01	55 72	NR	53,354	1,440	78,445	NR	NR	NR	NA	NA	NR	NA	NR
CPT-XIII-1/0525-0534	12 72	58 02	243,376	NR	NR	NR	ND	ND	0 20	7 10%	28 20%	36%	3	NR
CPT-Raw/0525-0534	4 02	66 02	NR	42,169	4,628	121,609	NR	NR	NR	NA	NA	NR	NA	NR
CPT-XIII-1/0535-0544	12 73	58 73	271,433	NR	NR	NR	ND	ND	0 25	7 10%	28 20%	32%	3	NR
CPT-Raw/0535-0544	3 80	52 07	NR	46,793	2,743	80,006	NR	NR	NR	NA	NA	NR	NA	NR
CPT-XIII-1/0545-0550	12 82	61 60	26,331	NR	NR	NR	ND	ND	0 16	7 10%	28 20%	31%	3	NR
CPT-Raw/0545-0550	4 43	38 61	NR	35,726	1,265	53,363	NR	NR	NR	NA	NA	NR	NA	NR
CPT--XIII-1/0551-0554	12 07	55 04	218,478	NR	NR	NR	113 80	25 50	0 11	6 90%	28 00%	19%	3	6 98
CPT-Raw/0551-0554	3 98	66 92	NR	51,427	2,554	93,843	NR	NR	NR	NA	NA	NR	NA	NR
CPT--XIII-1/0551-0554-2	NR	NR	221,611	NR	NR	NR	ND	ND	0 05	6 90%	28 00%	NR	10	NR
CPT--XIII-1/0551-0554-4	NR	NR	268 463	NR	NR	NR	ND	ND	0 38	6 90%	28 00%	NR	10	NR
CPT-XIII-1/0555-0564	12 60	58 32	256,813	NR	NR	NR	83 40	23 70	0 15	6 90%	28 00%	42%	3	NR
CPT-XIII-1/0555-0564 *	NR	NR	NR	NR	NR	NR	ND	ND	ND	6 90%	28 00%	NR	3	NR
CPT-XIII-1/0555-0564 -2	NR	NR	210,259	NR	NR	NR	ND	ND	0 05	6 90%	28 00%	NR	10	NR
CPT-XIII-1/0555-0564-4	NR	NR	263,678	NR	NR	NR	ND	0 36	0 04	6 90%	28 00%	NR	10	NR
CPT-Raw/0555-0564	4 21	60 74	NR	58,528	2 431	94,432	NR	NR	NR	NA	NA	NR	NA	NR
CPT-XII-1/0555-0564 dup	12 37	59 73	196,741	NR	NR	NR	83 60	24 60	0 16	6 90%	28 00%	NR	3	NR
CPT-Raw/0555-0564 dup	4 25	48 64	NR	53 512	1 635	79 525	NR	NR	NR	NA	NA	NR	NA	NR
CPT-XIII-1/0565-0574	12 43	56 47	263 915	NR	NR	NR	ND	ND	0 35	6 90%	28 00%	41%	3	NR
CPT-Raw/0565-0574	3 87	77 36	NR	57 444	3,459	109 523	NR	NR	NR	NA	NA	NR	NA	NR
CPT-XIII-1/0575-0584	12 47	58 68	188 188	NR	NR	NR	71 70	20 80	0 13	6 90%	28 00%	19%	3	NR
CPT-Raw/0575-0584	4 65	39 61	NR	47 782	1,588	62,651	NR	NR	NR	NA	NA	NR	NA	NR
CPT-XIII-1/0575-0584-4	NR	NR	299 981	NR	NR	NR	ND	ND	0 33	6 90%	28 00%	NR	10	NR
CPT-XIII-1/0575-0584-5	NR	NR	216,426	NR	NR	NR	ND	ND	0 06	6 90%	28 00%	NR	10	NR
CPT-XIII-1/585	VOID	VOID	VOID	VOID	VOID	VOID	VOID	VOID	VOID	VOID	VOID	VOID	VOID	VOID

NA = Not Applicable
ND = Not Detectable
NR = Not Received
* = 180 required off-site analysis
(a) = Contingency sample re-analyzed on site. The re-analyzed results are shown.
SARD32R 9/30/1/93

TABLE D-3.2b
ITEX ANALYTICAL RESULTS
COAL PILE TRACKS, IRON PONDS, BRADLEY PONDS AND FLUE DUST STORAGE AREA
FLUE DUST SHAKEDOWN/PROVEOUT
ANACONDA SMELTER NPL SITE

SAMPLE I.D. #	pH (SU)	MOISTURE %	ALKALINITY as CaC mg/kg	TOTAL METALS (mg/Kg dry) LEAD	CADMIUM	ARSENIC	TCLP METALS (mg/L) LEAD	CADMIUM	ARSENIC	PLANT MEASUREMENT LIME %	PLANT MEASUREMENT CEMENT %	LABORATORY MEASUREMENT CEMENT %	CURE TIME (days)	UCS psi
CPT-XIII-1/0586-0595	12 55	53 82	257,353	NR	NR	NR	68 20	20 60	0 14	6 90%	28 00%	32%	3	NR
CPT-Raw/0586-0595	3 98	69 56	NR	65,261	2,162	100 467	NR	NR	NR	NA	NA	NR	NA	NR
CPT-XIII-1/0586-0595-2	NR	NR	260,620	NR	NR	NR	ND	ND	0 02	6 90%	28 00%	NR	10	NR
CPT-XIII-1/0586-0595-5	NR	NR	435,683	NR	NR	NR	ND	ND	0 02	6 90%	28 00%	NR	10	NR
CPT-XIII-1/0596-0605	12 42	53 34	241 660	NR	NR	NR	ND	ND	0 34	6 90%	28 00%	38%	3	NR
CPT-Raw/0596-0605	4 17	63 29	NR	58,269	1,828	76,771	NR	NR	NR	NA	NA	NR	NA	NR
CPT-XIII-1/0606-0615	12 43	54 11	285,308	NR	NR	NR	ND	ND	0 36	6 90%	28 00%	19%	3	NR
CPT-Raw/0606-0615	4 09	81 75	NR	67,928	2,272	100,189	NR	NR	NR	NA	NA	NR	NA	NR
CPT-XIII-1/0616-0626	12 62	59 86	257,389	NR	NR	NR	35 70	23 40	1 03	6 90%	28 00%	35%	3	NR
CPT-XIII-1/0616-0626-1	NR	NR	227,712	NR	NR	NR	ND	ND	0 37	6 90%	28 00%	NR	10	NR
CPT-XIII-1/0616-0626-3	NR	NR	227,423	NR	NR	NR	ND	ND	0 05	6 90%	28 00%	NR	10	NR
CPT-Raw/0616-0626	4 33	53 83	NR	51,984	2 085	79,975	NR	NR	NR	NA	NA	NR	NA	NR
CPT-XIII-1/0627-0636	12 59	55 32	236,377	NR	NR	NR	121 20	20 70	0 34	7 20%	28 20%	22%	3	19 8
CPT-XIII-1/0627-0636-3	NR	NR	251,549	NR	NR	NR	ND	ND	0 48	7 20%	28 20%	NR	9	NR
CPT-XIII-1/0627-0636-4	NR	NR	255,398	NR	NR	NR	ND	ND	0 17	7 20%	28 20%	NR	9	NR
CPT-Raw/0627-0636	4 09	54 68	NR	53,233	2,828	88,883	NR	NR	NR	NA	NA	NR	NA	NR
CPT-XIII-1/0627-0636 dup	12 48	55 78	236 344	NR	NR	NR	85 50	18 90	0 34	7 20%	28 20%	NR	3	NR
CPT-Raw/0627-0636 dup	4 05	59 90	NR	48 827	2,566	81,543	NR	NR	NR	NA	NA	NR	NA	NR
CPT-XIII-1/0637-0646	12 49	59 31	223,527	NR	NR	NR	93 10	22 40	0 35	7 20%	28 20%	19%	3	NR
CPT-XIII-1/0637-0646-3	NR	NR	131,628	NR	NR	NR	ND	ND	0 36	7 20%	28 20%	NR	9	NR
CPT-XIII-1/0637-0646-4	NR	NR	332,023	NR	NR	NR	ND	ND	0 32	7 20%	28 20%	NR	9	NR
CPT-Raw/0637-0646	4 90	44 59	NR	41,171	1,825	64,160	NR	NR	NR	NA	NA	NR	NA	NR
CPT-XIII-1/0647-0658	12 94	59 71	266,898	NR	NR	NR	63 30	15 60	0 34	7 20%	28 20%	40%	3	NR
CPT-XIII-1/0647-0658-1	NR	NR	449,524	NR	NR	NR	ND	ND	0 29	7 20%	28 20%	NR	9	NR
CPT-XIII-1/0647-0658-4	NR	NR	363,059	NR	NR	NR	ND	ND	0 08	7 20%	28 20%	NR	9	NR
CPT-Raw/0647-0658	4 41	55 82	NR	53 976	2,306	83,532	NR	NR	NR	NA	NA	NR	NA	NR
CPT-XIII-1/0659-0668	12 78	55 67	178,893	NR	NR	NR	48 00	13 80	0 23	7 20%	28 20%	27%	3	NR
CPT-XIII-1/0659-0668-2	NR	NR	315,529	NR	NR	NR	ND	ND	0 61	7 20%	28 20%	NR	9	NR
CPT-XIII-1/0659-0668-4	NR	NR	280,419	NR	NR	NR	ND	ND	0 60	7 20%	28 20%	NR	9	NR
CPT-Raw/0659-0668	4 16	55 15	NR	55 875	2,211	75,056	NR	NR	NR	NA	NA	NR	NA	NR
CPT-XIII-1/0669-0678	12 57	59 26	251 176	NR	NR	NR	62 90	19 00	0 26	7 20%	28 20%	39%	3	NR
CPT-XIII-1/0669-0678-1	NR	NR	211,573	NR	NR	NR	ND	ND	0 49	7 20%	28 20%	NR	9	NR
CPT-XIII-1/0669-0678-3	NR	NR	236,721	NR	NR	NR	ND	ND	0 51	7 20%	28 20%	NR	9	NR
CPT-Raw/0669-0678	4 24	60 95	NR	51,523	2,273	80,674	NR	NR	NR	NA	NA	NR	NA	NR
CPT-XIII-1/0679-0686	12 61	56 10	255,356	NR	NR	NR	96 90	13 80	0 56	7 20%	28 20%	38%	3	NR
CPT-XIII-1/0679-0686-1	NR	NR	128,377	NR	NR	NR	ND	ND	0 48	7 20%	28 20%	NR	9	NR
CPT-XIII-1/0679-0686-3	NR	NR	271,670	NR	NR	NR	ND	ND	0 04	7 20%	28 20%	NR	9	NR
CPT-Raw/0679-0686	4 92	43 15	NR	37,373	1,496	55 196	NR	NR	NR	NA	NA	NR	NA	NR

NA = Not Applicable
ND = Not Detectable
NR = Not Received
* = 1/40 required off-site analysis
(a) = Contingency sample re-analyzed on site. The re-analyzed results are shown

TABLE D-3.2b
ITEX ANALYTICAL RESULTS
COAL PILE TRACKS, IRON PONDS, BRADLEY PONDS AND FLUE DUST STORAGE AREA
FLUE DUST SHAKEDOWN/PROVEOUT
ANACONDA SMELTER NPL SITE

SAMPLE I.D. #	pH (SU)	MOISTURE %	ALKALINITY as CaC mg/kg	TOTAL METALS (mg/Kg dry) LEAD	CADMIUM	ARSENIC	TCLP METALS (mg/L) LEAD	CADMIUM	ARSENIC	PLANT MEASUREMENT LIME %	PLANT MEASUREMENT CEMENT %	LABORATORY MEASUREMENT CEMENT %	CURE TIME (days)	UCS psi
CPT-XIII-1/0687-0696	12 75	55 42	240,042	NR	NR	NR	75 90	17 50	0 41	7 20%	28 20%	26%	3	NR
CPT-XIII-1/0687-0696-1	NR	NR	346,377	NR	NR	NR	0 94	ND	0 30	7 20%	28 20%	NR	13	NR
CPT-XIII-1/0687-0696-4	NR	NR	266,568	NR	NR	NR	ND	ND	0 24	7 20%	28 20%	NR	13	NR
CPT-Raw/0687-0696	4 84	42 32	NR	38,897	1,792	80,740	NR	NR	NR	NA	NA	NR	NA	NR
CPT-XIII-1/0697-0706	12 62	49 48	273,712	NR	NR	NR	69 30	15 40	0 30	7 20%	28 20%	28%	3	NR
CPT-XIII-1/0697-0706-2	NR	NR	207 044	NR	NR	NR	ND	ND	0 48	7 20%	28 20%	NR	13	NR
CPT-XIII-1/0697-0706-3	NR	NR	209,115	NR	NR	NR	ND	ND	0 56	7 20%	28 20%	NR	13	NR
CPT-Raw/0697-0706	4 30	65 35	NR	43,806	2,478	78,358	NR	NR	NR	NA	NA	NR	NA	NR
CPT-XIII-1/0707-0710	11 06	44 02	221 001	NR	NR	NR	69 30	21 40	0 29	7 20%	28 20%	40%	3	NR
CPT-XIII-1/0707-0710-3	NR	NR	379,203	NR	NR	NR	ND	ND	0 64	7 20%	28 20%	NR	13	NR
CPT-XIII-1/0707-0710-5	NR	NR	188,614	NR	NR	NR	ND	ND	0 12	7 20%	28 20%	NR	13	NR
CPT-Raw/0707-0710	5 01	42 03	NR	43,862	1,590	57,411	NR	NR	NR	NA	NA	NR	NA	NR
CPT-XIII-1/0711-0716	12 73	57 90	246,737	NR	NR	NR	ND	ND	0 22	7 10%	28 00%	31%	3	10 61
CPT-Raw/0711-0716	5 08	40 91	NR	36,091	2,008	61,825	NR	NR	NR	NA	NA	NR	NA	NR
CPT-XIII-1/0711-0716 dup	12 65	59 30	275,841	NR	NR	NR	ND	ND	0 26	7 10%	28 00%	32%	3	NR
CPT-Raw/0711-0716 dup	5 01	46 25	NR	32 989	2 699	54,343	NR	NR	NR	NA	NA	NR	NA	NR
CPT-XIII-1/0717-0726	12 68	61 00	277,975	NR	NR	NR	8 55	16 30	0 10	7 10%	28 00%	32%	3	NR
CPT-XIII-1/0717-0726-2	NR	NR	520,665	NR	NR	NR	ND	ND	0 42	7 10%	28 00%	NR	12	NR
CPT-XIII-1/0717-0726-4	NR	NR	152,826	NR	NR	NR	ND	ND	0 50	7 10%	28 00%	NR	12	NR
CPT-Raw/0717-0726	4 68	46 42	NR	43 488	2,453	70,283	NR	NR	NR	NA	NA	NR	NA	NR
CPT-XIII-1/0727-0736	12 92	58 40	249 036	NR	NR	NR	ND	ND	0 35	7 10%	28 00%	29%	3	NR
CPT-Raw/0727-0736	5 10	37 42	NR	31,451	1,494	47,752	NR	NR	NR	NA	NA	NR	NA	NR
CPT-XIII-1/0737-0746	12 99	56 40	300 016	NR	NR	NR	ND	ND	0 76	7 10%	28 00%	39%	3	NR
CPT-Raw/0737-0746	5 05	36 98	NR	34,688	1,636	54,009	NR	NR	NR	NA	NA	NR	NA	NR
CPT-XIII-1/0747-0757	12 90	59 10	262,669	NR	NR	NR	ND	ND	0 40	7 10%	28 00%	38%	3	NR
CPT-Raw/0747-0757	4 37	50 17	NR	43,887	3,323	41,860	NR	NR	NR	NA	NA	NR	NA	NR
CPT-XIII-1/0758-0764	11 68	58 00	286,065	NR	NR	NR	1 17	20 40	0 04	7 10%	28 00%	38%	3	NR
CPT-XIII-1/0758-0764-2	NR	NR	195,999	NR	NR	NR	ND	ND	0 47	7 10%	28 00%	NR	12	NR
CPT-XIII-1/0758-0764-3	NR	NR	186 098	NR	NR	NR	ND	ND	0 49	7 10%	28 00%	NR	12	NR
CPT-Raw/0758-0764	5 27	37 65	NR	36,296	1,918	58,040	NR	NR	NR	NA	NA	NR	NA	NR
CPT-XIII-1/0765-0768	12 51	63 20	269,097	NR	NR	NR	ND	ND	0 18	7 50%	28 00%	31%	3	10 61
CPT-Raw/0765-0768	4 95	43 29	NR	56,318	2 424	76,636	NR	NR	NR	NA	NA	NR	NA	NR
CPT-XIII-1/0769-0778	12 48	58 60	271 956	NR	NR	NR	ND	5 63	0 02	7 50%	28 00%	38%	3	NR
CPT-Raw/0769-0778	4 63	49 09	NR	41,261	3 168	74,919	NR	NR	NR	NA	NA	NR	NA	NR
CPT-XIII-1/0769-0778 dup	12 58	58 10	311,087	NR	NR	NR	1 03	5 50	0 02	7 50%	28 00%	NR	3	NR
CPT-Raw/0769-0778 dup	4 29	52 10	NR	46 159	3,538	96,292	NR	NR	NR	NA	NA	NR	NA	NR
CPT-XIII-1/0769-0778-3	NR	NR	220,097	NR	NR	NR	ND	ND	0 34	7 50%	28 00%	NR	18	NR
CPT-XIII-1/0769-0778-5	NR	NR	254,997	NR	NR	NR	ND	ND	0 36	7 50%	28 00%	NR	18	NR

NA = Not Applicable
ND = Not Detectable
NR = Not Received
* = 1:400 required off-site analysis
(a) = Contingency sample re-analyzed on site. The re-analyzed results are shown.

TABLE D-3.2b
ITEX ANALYTICAL RESULTS
COAL PILE TRACKS, IRON PONDS, BRADLEY PONDS AND FLUE DUST STORAGE AREA
FLUE DUST SHAKEDOWN/PROVEOUT
ANACONDA SMELTER NPL SITE

SAMPLE I.D. #	pH (SU)	MOISTURE %	ALKALINITY as CaC mg/kg	TOTAL METALS (mg/Kg dry)			TCLP METALS (mg/L)			PLANT MEASUREMENT LIME %	PLANT MEASUREMENT CEMENT %	LABORATORY MEASUREMENT CEMENT %	CURE TIME (days)	UCS psi
				LEAD	CADMIUM	ARSENIC	LEAD	CADMIUM	ARSENIC					
CPT-XIII-1/0779-0788	12 42	53 10	233,051	NR	NR	NR	7 99	13 90	ND	7 50%	28 00%	32%	3	NR
CPT-Raw/0779-0788	4 35	51 36	NR	41,303	3,500	79 466	NR	NR	NR	NA	NA	NR	NA	NR
CPT-XIII-1/0779-0788-3	NR	NR	188,285	NR	NR	NR	ND	ND	0 31	7 50%	28 00%	NR	14	NR
CPT-XIII-1/0779-0788-4	NR	NR	157,349	NR	NR	NR	ND	ND	0 37	7 50%	28 00%	NR	14	NR
CPT-XIII-1/0789-0798	11 83	56 00	263,718	NR	NR	NR	12 05	14 80	0 04	7 50%	28 00%	32%	3	NR
CPT-Raw/0789-0798	3 78	48 96	NR	68,053	3,391	94,307	NR	NR	NR	NA	NA	NR	NA	NR
CPT-XIII-1/0789-0798-2	NR	NR	154,669	NR	NR	NR	3 59	ND	0 56	7 50%	28 00%	NR	14	NR
CPT-XIII-1/0789-0798-5	NR	NR	172,223	NR	NR	NR	2 33	ND	0 49	7 50%	28 00%	NR	14	NR
CPT-XIII-1/0799-0809	12 44	58 50	302,909	NR	NR	NR	ND	2 90	0 04	7 50%	28 00%	33%	3	NR
CPT-Raw/0799-0809	4 65	55 04	NR	44,825	3,605	74,805	NR	NR	NR	NA	NA	NR	NA	NR
CPT-XIII-1/0799-0809-1	NR	NR	205,809	NR	NR	NR	4 74	ND	0 30	7 50%	28 00%	NR	14	NR
CPT-XIII-1/0799-0809-5	NR	NR	79,318	NR	NR	NR	ND	ND	0 41	7 50%	28 00%	NR	14	NR
CPT-XIII-1/0810-0820	12 33	59 40	225,736	NR	NR	NR	1 89	6 30	ND	7 50%	28 00%	32%	3	NR
CPT-Raw/0810-0820	4 71	39 18	NR	31,054	1,653	48,886	NR	NR	NR	NA	NA	NR	NA	NR
CPT-XIII-1/0810-0820-3	NR	NR	97,310	NR	NR	NR	1 90	ND	0 41	7 50%	28 00%	NR	14	NR
CPT-XIII-1/0810-0820-4	NR	NR	92,049	NR	NR	NR	0 94	ND	0 46	7 50%	28 00%	NR	14	NR
CPT-XIII-1/0821-0830	12 33	58 10	258,175	NR	NR	NR	1 14	8 80	0 04	7 50%	28 00%	31%	3	NR
CPT-Raw/0821-0830	4 67	50 78	NR	45,402	3,319	71,263	NR	NR	NR	NA	NA	NR	NA	NR
CPT-XIII-1/0821-0830-2	NR	NR	376,704	NR	NR	NR	ND	ND	0 80	7 50%	28 00%	NR	14	NR
CPT-XIII-1/0821-0830-3	NR	NR	347,742	NR	NR	NR	ND	ND	0 49	7 50%	28 00%	NR	14	NR
CPT-XIII-1/0831-0840	12 33	56 70	286,921	NR	NR	NR	4 16	9 80	0 05	7 50%	28 00%	29%	3	NR
CPT-Raw/0831-0840	4 23	52 92	NR	39,962	2,872	80,456	NR	NR	NR	NA	NA	NR	NA	NR
CPT-XIII-1/0831-0840-1	NR	NR	351,371	NR	NR	NR	ND	ND	0 13	7 50%	28 00%	NR	14	NR
CPT-XIII-1/0831-0840-5	NR	NR	77,058	NR	NR	NR	ND	ND	0 59	7 50%	28 00%	NR	14	NR
CPT-XIII-1/0841-0847	12 44	60 80	182,755	NR	NR	NR	ND	5 30	0 08	7 50%	28 00%	31%	3	NR
CPT-Raw/0841-0847	4 81	29 73	NR	27,415	1,194	47,439	NR	NR	NR	NA	NA	NR	NA	NR
CPT-XIII-1/0841-0847-1	NR	NR	280,008	NR	NR	NR	ND	ND	0 54	7 50%	28 00%	NR	18	NR
CPT-XIII-1/0841-0847-2	NR	NR	310,179	NR	NR	NR	ND	ND	0 41	7 50%	28 00%	NR	18	NR
CPT-XIII-1/0848-0857	12 37	59 27	235,862	NR	NR	NR	ND	ND	0 32	7 50%	28 30%	33%	3	10 61
CPT-Raw/0848-0857	4 73	33 88	NR	21 388	1 573	39 830	NR	NR	NR	NA	NA	NR	NA	NR
CPT-XIII-1/0848-0857 dup	12 26	64 21	233,585	NR	NR	NR	ND	ND	0 86	7 50%	28 30%	NR	3	NR
CPT Raw/0848-0857 dup	4 71	40 47	NR	24,513	1,703	44,249	NR	NR	NR	NA	NA	NR	NA	NR
CPT-XIII-1/0858-0867	11 76	58 94	209,148	NR	NR	NR	ND	ND	0 12	7 50%	28 30%	25%	3	NR
CPT-Raw/0858-0867	3 84	46 19	NR	37,456	2,964	69,639	NR	NR	NR	NA	NA	NR	NA	NR
CPT-XIII-1/0868-0877	12 41	58 62	228,372	NR	NR	NR	ND	ND	0 31	7 50%	28 30%	33%	3	NR
CPT-Raw/0868-0877	3 79	42 85	NR	40,570	3,411	76,605	NR	NR	NR	NA	NA	NR	NA	NR
CPT-XIII-1/0878-0887	11 71	60 90	193,942	NR	NR	NR	ND	ND	0 66	7 50%	28 30%	31%	3	NR
CPT-Raw/0878-0887	3 93	49 68	NR	40,957	2,788	71,473	NR	NR	NR	NA	NA	NR	NA	NR

NA = Not Applicable
ND = Not Detectable
NR = Not Received
* = [illegible] required off-site analysis
(a) = Curing/assay sample re-analyzed on site. The re-analyzed results are shown
[illegible]

TABLE D-3.2b
ITEX ANALYTICAL RESULTS
COAL PILE TRACKS, IRON PONDS, BRADLEY PONDS AND FLUE DUST STORAGE AREA
FLUE DUST SHAKEDOWN/PROVEOUT
ANACONDA SMELTER NPL SITE

SAMPLE I.D. #	pH (SU)	MOISTURE %	ALKALINITY as CaC mg/kg	TOTAL METALS (mg/Kg dry)			TCLP METALS (mg/L)			PLANT MEASUREMENT LIME %	PLANT MEASUREMENT CEMENT %	LABORATORY MEASUREMENT CEMENT %	CURE TIME (days)	UCS psi
				LEAD	CADMIUM	ARSENIC	LEAD	CADMIUM	ARSENIC					
CPT-XIII-1/0888-0897	12 51	60 34	249,691	NR	NR	NR	ND	ND	0 67	7 50%	28 30%	28%	3	NR
CPT-Raw/0888-0897	3 41	60 24	NR	63,935	1,883	69,102	NR	NR	NR	NA	NA	NR	NA	NR
CPT-XIII-1/0898-0907	12 44	58 11	216,455	NR	NR	NR	ND	ND	0 93	7 50%	28 30%	31%	3	NR
CPT-Raw/0898-0907	3 58	36 61	NR	21,277	1,639	47,813	NR	NR	NR	NA	NA	NR	NA	NR
CPT-XIII-1/0908-0915	12 54	58 57	243,250	NR	NR	NR	1 26	8 50	0 04	7 50%	28 30%	32%	3	NR
CPT-Raw/0908-0915	3 46	65 78	NR	52,537	1,629	88 868	NR	NR	NR	NA	NA	NR	NA	NR
CPT-XIII-1/0908-0915-1	NR	NR	224,213	NR	NR	NR	ND	ND	0 48	7 50%	28 30%	NR	17	NR
CPT-XIII-1/0908-0915-4	NR	NR	279 025	NR	NR	NR	ND	ND	0 55	7 50%	28 30%	NR	17	NR
CPT-XIII-1/0916-0917	12 55	63 40	311,634	NR	NR	NR	ND	ND	0 62	7 30%	28 20%	38%	3	10 61
CPT-XIII-1/0916-0917 *	NR	NR	NR	NR	NR	NR	0 10	ND	0 63	7 30%	28 20%	NR	3	NR
CPT-Raw/0916-0917	2 67	53 75	NR	37 825	2,562	81,464	NR	NR	NR	NA	NA	NR	NA	NR
CPT-XIII-1/0918-0928	12 96	55 35	172 402	NR	NR	NR	ND	ND	0 47	7 30%	28 20%	38%	3	NR
CPT-Raw/0918-0928	2 94	46 75	NR	46 889	2 975	88 887	NR	NR	NR	NA	NA	NR	NA	NR
CPT-XIII-1/0918-0928 dup	12 74	57 74	185 833	NR	NR	NR	ND	ND	0 57	7 30%	28 20%	NR	3	NR
CPT-Raw/0918-0928 dup	2 98	61 52	NR	42 902	1 252	92 064	NR	NR	NR	NA	NA	NR	NA	NR
CPT-XIII-1/0929-0938	12 63	61 66	443 737	NR	NR	NR	ND	ND	0 73	7 30%	28 20%	37%	3	NR
CPT-Raw/0929-0938	3 12	57 95	NR	47 660	3,772	92 138	NR	NR	NR	NA	NA	NR	NA	NR
CPT-XIII-1/0939-0948	12 77	57 96	267,721	NR	NR	NR	ND	ND	0 61	7 30%	28 20%	32%	3	NR
CPT-Raw/0939-0948	3 67	49 74	NR	34 685	2 920	69 819	NR	NR	NR	NA	NA	NR	NA	NR
CPT-XIII-1/0949-0958	12 77	59 12	220 652	NR	NR	NR	ND	ND	0 42	7 30%	28 20%	39%	3	NR
CPT-Raw/0949-0958	3 09	75 30	NR	52 678	2 126	86 775	NR	NR	NR	NA	NA	NR	NA	NR
CPT-XIII-1 /0959-0964	12 84	67 08	152 536	NR	NR	NR	ND	ND	0 15	7 30%	28 70%	33%	3	10 61
CPT-Raw/0959-0964	4 08	49 72	NR	41 147	1 606	70,569	NR	NR	NR	NA	NA	NR	NA	NR
CPT-XIII-1/0959-0964 dup	12 82	66 51	205 155	NR	NR	NR	ND	ND	0 04	7 30%	28 70%	NR	3	NR
CPT-Raw/0959-0964 dup	4 07	48 81	NR	40 516	1,277	59,969	NR	NR	NR	NA	NA	NR	NA	NR
CPT XIII-1/0965-0968	10 98	52 89	232 904	NR	NR	NR	10 17	14 50	0 05	7 30%	28 50%	37%	3	14 16
CPT-Raw/0965-0968	3 27	47 22	NR	40 101	1,685	59 904	NR	NR	NR	NA	NA	NR	NA	NR
CPT-XIII-1/0965-0968 dup	10 93	54 40	254,008	NR	NR	NR	3 16	11 90	0 08	7 30%	28 50%	NR	3	NR
CPT-Raw/0965-0968 dup	3 41	46 45	NR	44 832	1 593	53 821	NR	NR	NR	NA	NA	NR	NA	NR
CPT-XIII-1/0965-0968-2	NR	NR	253.986	NR	NR	NR	ND	ND	0 22	7 30%	28 50%	NR	12	NR
CPT-XIII-1/0965-0968-5	NR	NR	267,639	NR	NR	NR	ND	ND	0 17	7 30%	28 50%	NR	12	NR
CPT-XIII-1/0969-0979	10 92	56 78	196,774	NR	NR	NR	2 83	9 70	0 06	7 30%	28 50%	39%	3	NR
CPT-Raw/0969-0979	3 70	30 32	NR	37 247	1 799	48 139	NR	NR	NR	NA	NA	NR	NA	NR
CPT-XIII-1/0969-0979-3	NR	NR	270,308	NR	NR	NR	ND	ND	0 16	7 30%	28 50%	NR	12	NR
CPT-XIII-1/0969-0979 5	NR	NR	193 482	NR	NR	NR	ND	ND	0 18	7 30%	28 50%	NR	12	NR
CPT-XIII-1/0980-0989	10 77	57 13	249 762	NR	NR	NR	1 49	6 20	0 05	7 30%	28 50%	36%	3	NR
CPT-Raw/0980-0989	3 81	50 83	NR	49 208	1 088	68 099	NR	NR	NR	NA	NA	NR	NA	NR
CPT-XIII-1/0980-0989-2	NR	NR	258 052	NR	NR	NR	ND	ND	0 21	7 30%	28 50%	NR	12	NR

NA = Not Applicable
ND = Not Detectable
NR = Not Received
* = 1:40 required all else analysis
(a) = Contingency sample re-analyzed on site. The re-analyzed results are shown.
LABDATA 8/18/97/95

TABLE D-3.2b
ITEX ANALYTICAL RESULTS
COAL PILE TRACKS, IRON PONDS, BRADLEY PONDS AND FLUE DUST STORAGE AREA
FLUE DUST SHAKEDOWN/PROVEOUT
ANACONDA SMELTER NPL SITE

SAMPLE I.D. #	pH (SU)	MOISTURE %	ALKALINITY as CaC mg/kg	TOTAL METALS (mg/Kg dry) LEAD	CADMIUM	ARSENIC	TCLP METALS (mg/L) LEAD	CADMIUM	ARSENIC	PLANT MEASUREMENT LIME %	PLANT MEASUREMENT CEMENT %	LABORATORY MEASUREMENT CEMENT %	CURE TIME (days)	UCS psi
CPT-XIII-1/0980-0989-4	NR	NR	298 333	NR	NR	NR	ND	ND	0 19	7 30%	28 50%	NR	12	NR
CPT-XIII 1/0990-1001	10 70	56 03	228 876	NR	NR	NR	ND	ND	0 14	7 30%	28 50%	39%	3	NR
CPT-Raw/0990-1001	4 12	44 74	NR	38,310	1 350	57 789	NR	NR	NR	NA	NA	NR	NA	NR
CPT-XIII-1/1002-1011	12 10	53 57	273 879	NR	NR	NR	ND	ND	0 15	7 20%	28 20%	32%	3	NR
CPT-Raw/1002-1011	4 11	42 88	NR	32 841	1 280	47 804	NR	NR	NR	NA	NA	NR	NA	NR
CPT-XIII-1/1002-1011 dup	11 35	56 48	148 804	NR	NR	NR	ND	ND	0 19	7 20%	28 20%	NR	3	NR
CPT-Raw/1002-1011 dup	3 76	45 55	NR	53 966	1 394	78 026	NR	NR	NR	NA	NA	NR	NA	NR
CPT-XIII-1/1012-1021	11 15	56 24	215 399	NR	NR	NR	ND	ND	0 11	7 20%	28 20%	39%	3	NR
CPT-Raw/1012-1021	3 98	41 40	NR	41 730	1 343	57 266	NR	NR	NR	NA	NA	NR	NA	NR
CPT-XIII-1/1022 1031	11 18	55 38	196,774	NR	NR	NR	27 06	ND	0 36	7 20%	28 20%	36%	3	10 61
CPT-Raw/1022-1031	3 98	42 29	NR	43 790	1 672	68 656	NR	NR	NR	NA	NA	NR	NA	NR
CPT-XIII-1/1022-1031-1	NR	NR	243,802	NR	NR	NR	ND	ND	0 08	7 20%	28 20%	NR	11	NR
CPT-XIII-1/1022-1031-3	NR	NR	237,758	NR	NR	NR	ND	ND	0 13	7 20%	28 20%	NR	11	NR
CPT-XIII-1/1032 1033	10 91	59 54	234 190	NR	NR	NR	ND	ND	0 14	7 20%	28 20%	37%	3	NR
CPT Raw/1032-1033	3 77	48 39	NR	49,831	1 827	64,043	NR	NR	NR	NA	NA	NR	NA	NR
CPT-XIII-1/1034 1043	12 62	52 59	455 704	NR	NR	NR	2 85	ND	0 18	7 40%	22 20%	21%	3	14 16
CPT-Raw/1034 1043	13 01	39 53	NR	14 109	729	20 998	NR	NR	NR	NA	NA	NR	NA	NR
CPT XIII-1/1044-1053	12 66	51 27	584 323	NR	NR	NR	3 62	ND	0 19	7 40%	22 20%	NR	3	NR
CPT-Raw/1034-1043 dup	13 04	40 19	NR	14 913	736	21 379	NR	NR	NR	NA	NA	NR	NA	NR
CPT-XIII-1/1044-1053 dup	12 50	63 88	530 235	NR	NR	NR	3 75	ND	0 26	7 40%	22 20%	21%	3	NR
CPT-Raw/1044-1053	4 59	66 33	NR	42 913	1 518	106 866	NR	NR	NR	NA	NA	NR	NA	NR
CPT-XIII-1/1054-1063	12 51	60 21	534,938	NR	NR	NR	4 49	ND	0 28	9 70%	32 60%	18%	3	NR
CPT-Raw/1054-1063	4 33	58 80	NR	43 749	1 171	95 677	NR	NR	NR	NA	NA	NR	NA	NR
CPT-XIII-1/1064-1073	12 56	61 90	484 079	NR	NR	NR	3 10	ND	0 18	9 70%	32 60%	20%	3	NR
CPT-Raw/1064-1073	5 70	54 86	NR	42 067	1 310	69 534	NR	NR	NR	NA	NA	NR	NA	NR
CPT-XIII-1/1074-1079	12 60	56 35	529 307	NR	NR	NR	3 77	ND	0 25	9 70%	32 60%	19%	3	NR
CPT-Raw/1074-1079	4 71	47 61	NR	39 436	863	81,332	NR	NR	NR	NA	NA	NR	NA	NR
CPT-XIII-1/1080-1083	12 44	60 97	433,002	NR	NR	NR	5 13	ND	0 29	9 70%	32 30%	21%	3	16 98
CPT-Raw/1080-1083	7 67	53 18	NR	29 276	977	47 294	NR	NR	NR	NA	NA	NR	NA	NR
CPT-XIII-1/1080-1083-1	NR	NR	291 123	NR	NR	NR	2 14	ND	0 34	9 70%	32 30%	NR	11	NR
CPT-XIII-1/1080-1083-4	NR	NR	319 324	NR	NR	NR	1 37	ND	0 18	9 70%	32 30%	NR	11	NR
CPT-XIII-1/1084-1093	12 44	60 17	465 078	NR	NR	NR	7 32	ND	0 22	9 70%	32 30%	25%	3	NR
CPT-Raw/1084-1093	3 38	47 64	NR	49 476	1 476	66 990	NR	NR	NR	NA	NA	NR	NA	NR
CPT-XIII-1/1084 1093 dup	12 49	57 93	373 349	NR	NR	NR	7 45	ND	0 25	9 70%	32 30%	15%	3	NR
CPT-Raw/1084-1093 dup	3 89	56 57	NR	41 862	1 213	72 217	NR	NR	NR	NA	NA	NR	NA	NR
CPT-XIII-1/1084-1093-3	NR	NR	319,936	NR	NR	NR	3 77	ND	0 15	9 70%	32 30%	NR	11	NR
CPT-XIII-1/1084-1093-4	NR	NR	262 050	NR	NR	NR	5 36	ND	0 13	9 70%	32 30%	NR	11	NR
CPT-XIII-1/1094-1103	12 43	63 02	368 000	NR	NR	NR	5 11	ND	0 23	9 70%	32 30%	19%	3	NR

NA = Not Applicable
ND = Not Detectable
NR = Not Received
* = Lab required off-site analysis
(a) = Contingency sample re-analyzed on site. The re-analyzed results are shown

TABLE D-3 2b
ITEX ANALYTICAL RESULTS
COAL PILE TRACKS, IRON PONDS, BRADLEY PONDS AND FLUE DUST STORAGE AREA
FLUE DUST SHAKEDOWN/PROVEOUT
ANACONDA SMELTER NPL SITE

SAMPLE I.D. #	pH (SU)	MOISTURE %	ALKALINITY as CaC mg/kg	TOTAL METALS (mg/Kg dry) LEAD	CADMIUM	ARSENIC	TCLP METALS (mg/L) LEAD	CADMIUM	ARSENIC	PLANT MEASUREMENT LIME %	PLANT MEASUREMENT CEMENT %	LABORATORY MEASUREMENT CEMENT %	CURE TIME (days)	UCS psi
CPT XIII-1/0980 0989-4	NR	NR	298 333	NR	NR	NR	ND	ND	0 19	7 30%	28 50%	NR	12	NR
CPT-XIII-1/0990-1001	10 70	56 03	228 876	NR	NR	NR	ND	ND	0 14	7 30%	28 50%	39%	3	NR
CPT-Raw/0990-1001	4 12	44 74	NR	38 310	1 350	57,789	NR	NR	NR	NA	NA	NR	NA	NR
CPT-XIII-1/1002 1011	12 10	53 57	273 879	NR	NR	NR	ND	ND	0 15	7 20%	28 20%	32%	3	NR
CPT Raw/1002 1011	4 11	42 88	NR	32 841	1 280	47 804	NR	NR	NR	NA	NA	NR	NA	NR
CPT XIII-1/1002 1011 dup	11 35	56 48	148 804	NR	NR	NR	ND	ND	0 19	7 20%	28 20%	NR	3	NR
CPT-Raw/1002-1011 dup	3 76	45 55	NR	53 966	1 394	78 026	NR	NR	NR	NA	NA	NR	NA	NR
CPT-XIII-1/1012-1021	11 15	56 24	215,399	NR	NR	NR	ND	ND	0 11	7 20%	28 20%	39%	3	NR
CPT-Raw/1012-1021	3 98	41 40	NR	41 730	1 343	57 266	NR	NR	NR	NA	NA	NR	NA	NR
CPT-XIII-1/1022 1031	11 18	55 38	196 774	NR	NR	NR	27 06	ND	0 36	7 20%	28 20%	36%	3	10 61
CPT-Raw/1022 1031	3 98	42 29	NR	43 790	1 672	68 656	NR	NR	NR	NA	NA	NR	NA	NR
CPT-XIII-1/1022-1031-1	NR	NR	243 802	NR	NR	NR	ND	ND	0 08	7 20%	28 20%	NR	11	NR
CPT-XIII-1/1022 1031-3	NR	NR	237 758	NR	NR	NR	ND	ND	0 13	7 20%	28 20%	NR	11	NR
CPT-XIII-1/1032 1033	10 91	59 54	234,190	NR	NR	NR	ND	ND	0 14	7 20%	28 20%	37%	3	NR
CPT-Raw/1032 1033	3 77	48 39	NR	49 831	1 827	64 043	NR	NR	NR	NA	NA	NR	NA	NR
CPT-XIII-1/1034-1043	12 62	52 59	455,704	NR	NR	NR	2 85	ND	0 18	7 40%	22 20%	21%	3	14 16
CPT-Raw/1034-1043	13 01	39 53	NR	14 109	729	20 998	NR	NR	NR	NA	NA	NR	NA	NR
CPT-XIII-1/1044-1053	12 66	51 27	584 323	NR	NR	NR	3 62	ND	0 19	7 40%	22 20%	NR	3	NR
CPT-Raw/1034 1043 dup	13 04	40 19	NR	14 913	736	21 379	NR	NR	NR	NA	NA	NR	NA	NR
CPT-XIII-1/1044-1053 dup	12 50	63 88	530 235	NR	NR	NR	3 75	ND	0 26	7 40%	22 20%	21%	3	NR
CPT-Raw/1044-1053	4 59	66 33	NR	42 913	1 518	106,866	NR	NR	NR	NA	NA	NR	NA	NR
CPT-XIII-1/1054-1063	12 51	60 21	534,938	NR	NR	NR	4 49	ND	0 28	9 70%	32 60%	18%	3	NR
CPT-Raw/1054-1063	4 33	58 80	NR	43 749	1 171	95,677	NR	NR	NR	NA	NA	NR	NA	NR
CPT-XIII-1/1064-1073	12 56	61 90	484 079	NR	NR	NR	3 10	ND	0 18	9 70%	32 60%	20%	3	NR
CPT-Raw/1064-1073	5 70	54 86	NR	42 067	1 310	69 534	NR	NR	NR	NA	NA	NR	NA	NR
CPT XIII-1/1074 1079	12 60	56 35	529 307	NR	NR	NR	3 77	ND	0 25	9 70%	32 60%	19%	3	NR
CPT-Raw/1074-1079	4 71	47 61	NR	39 436	863	81 332	NR	NR	NR	NA	NA	NR	NA	NR
CPT-XIII-1/1080-1083	12 44	60 97	433 002	NR	NR	NR	5 13	ND	0 29	9 70%	32 30%	21%	3	16 98
CPT-Raw/1080 1083	7 67	53 18	NR	29 276	977	47 294	NR	NR	NR	NA	NA	NR	NA	NR
CPT-XIII-1/1080 1083 1	NR	NR	291 123	NR	NR	NR	2 14	ND	0 34	9 70%	32 30%	NR	11	NR
CPT XIII-1/1080 1083-4	NR	NR	319 324	NR	NR	NR	1 37	ND	0 18	9 70%	32 30%	NR	11	NR
CPT XIII-1/1084-1093	12 44	60 17	465 078	NR	NR	NR	7 32	ND	0 22	9 70%	32 30%	25%	3	NR
CPT-Raw/1084 1093	3 38	47 64	NR	49 476	1 476	66 990	NR	NR	NR	NA	NA	NR	NA	NR
CPT XIII-1/1084-1093 dup	12 49	57 93	373 349	NR	NR	NR	7 45	ND	0 25	9 70%	32 30%	15%	3	NR
CPT-Raw/1084 1093 dup	3 89	56 57	NR	41 862	1 213	72 217	NR	NR	NR	NA	NA	NR	NA	NR
CPT XIII-1/1084-1093-3	NR	NR	319 936	NR	NR	NR	3 77	ND	0 15	9 70%	32 30%	NR	11	NR
CPT XIII 1/1084-1093-4	NR	NR	262 050	NR	NR	NR	5 36	ND	0 13	9 70%	32 30%	NR	11	NR
CPT XIII-1/1094 1103	12 43	63 02	368 000	NR	NR	NR	5 11	ND	0 23	9 70%	32 30%	19%	3	NR

NA = Not Applicable
ND = Not Detectable
NR = Not Received
* = 1400 supplied off-site analysis
(a) = 4 outing/quick samples re-analyzed on site. The re-analyzed results are shown

TABLE D-3.2b
ITEX ANALYTICAL RESULTS
COAL PILE TRACKS, IRON PONDS, BRADLEY PONDS AND FLUE DUST STORAGE AREA
FLUE DUST SHAKEDOWN/PROVEOUT
ANACONDA SMELTER NPL SITE

SAMPLE I.D. #	pH (SU)	MOISTURE %	ALKALINITY as CaC mg/kg	TOTAL METALS (mg/Kg dry) LEAD	CADMIUM	ARSENIC	TCLP METALS (mg/L) LEAD	CADMIUM	ARSENIC	PLANT MEASUREMENT LIME %	PLANT MEASUREMENT CEMENT %	LABORATORY MEASUREMENT CEMENT %	CURE TIME (days)	UCS psi
CPT Raw/1094-1103	3 59	58 51	NR	46 310	1 163	84 774	NR	NR	NR	NA	NA	NR	NA	NR
CPT XIII-1/1094-1103 1	NR	NR	260 326	NR	NR	NR	4 67	ND	0 15	9 70%	32 30%	NR	11	NR
CPT XIII-1/1094-1103 3	NR	NR	255 522	NR	NR	NR	3 62	ND	0 14	9 70%	32 30%	NR	11	NR
CPT XIII-1/1104-1113	12 38	51 04	375 196	NR	NR	NR	5 23	ND	0 28	9 70%	32 30%	15%	3	NR
CPT-Raw/1104-1113	3 86	61 12	NR	45 490	1 343	86 370	NR	NR	NR	NA	NA	NR	NA	NR
CPT-XIII-1/1104-1113-2	NR	NR	290 665	NR	NR	NR	2 00	ND	0 17	9 70%	32 30%	NR	11	NR
CPT XIII 1/1104-1113-5	NR	NR	226 236	NR	NR	NR	1 87	ND	0 18	9 70%	32 30%	NR	11	NR
CPT XIII-1/1114-1123	12 38	57 43	472 549	NR	NR	NR	5 07	ND	0 33	9 70%	32 30%	20%	3	NR
CPT Raw/1114-1123	3 73	63 14	NR	47,623	1 136	120,935	NR	NR	NR	NA	NA	NR	NA	NR
CPT XIII-1/1114-1123 1	NR	NR	251 179	NR	NR	NR	0 97	ND	0 19	9 70%	32 30%	NR	11	NR
CPT XIII-1/1114-1123 5	NR	NR	197 377	NR	NR	NR	3 76	ND	0 27	9 70%	32 30%	NR	11	NR
CPT XIII-1/1124-1133	12 39	57 39	338 258	NR	NR	NR	3 48	ND	0 30	9 70%	32 30%	22%	3	NR
CPT Raw/1124-1133	4 08	53 04	NR	41 343	1 428	90 224	NR	NR	NR	NA	NA	NR	NA	NR
CPT XIII-1/1135-1144	12 94	56 20	472 549	NR	NR	NR	4 93	0 44	0 45	9 70%	31 90%	51%	3	18 39
CPT Raw/1135 1144	5 08	52 25	NR	23 047	590	40 918	NR	NR	NR	NA	NA	NR	NA	NR
CPT XIII-1/1135 1144 dup	12 95	57 78	174 784	NR	NR	NR	5 76	ND	0 40	9 70%	31 90%	49%	3	NR
CPT Raw/1135 1144 dup	9 22	53 44	NR	32 721	767	58 498	NR	NR	NR	NA	NA	NR	NA	NR
CPT XIII-1/1135 1144 2	NR	NR	214 015	NR	NR	NR	7 98	ND	0 25	9 70%	31 90%	NR	10	NR
CPT XIII-1/1135-1144-3	NR	NR	222 518	NR	NR	NR	7 39	ND	0 31	9 70%	31 90%	NR	10	NR
CPT XIII 1/1145-1154	12 48	50 18	440 674	NR	NR	NR	3 48	ND	0 36	9 70%	31 90%	25%	3	NR
CPT Raw/1145-1154	3 11	63 34	NR	43 091	1 300	93 659	NR	NR	NR	NA	NA	NR	NA	NR
CPT XIII-1/1155 1164	13 03	52 10	450 060	NR	NR	NR	7 20	ND	0 24	9 70%	31 90%	26%	3	NR
CPT Raw/1155 1164	4 15	47 68	NR	35 461	997	57 593	NR	NR	NR	NA	NA	NR	NA	NR
CPT-XIII-1/1155 1164 1	NR	NR	302 281	NR	NR	NR	5 24	ND	0 21	9 70%	31 90%	NR	10	NR
CPT XIII 1/1155 1164-3	NR	NR	215 018	NR	NR	NR	8 20	ND	0 26	9 70%	31 90%	NR	10	NR
CPT-XIII 1/1165 1174	13 05	50 04	460 012	NR	NR	NR	7 94	ND	0 23	9 70%	31 90%	29%	3	NR
CPT-Raw/1165-1174	3 80	52 78	NR	40 855	1 121	59 667	NR	NR	NR	NA	NA	NR	NA	NR
CPT XIII-1/1165-1174 3	NR	NR	179 398	NR	NR	NR	9 47	ND	0 20	9 70%	31 90%	NR	10	NR
CPT-XIII 1/1165 1174-4	NR	NR	194 958	NR	NR	NR	4 28	ND	0 18	9 70%	31 90%	NR	10	NR
CPT-XIII 1/1175 1176	12 98	54 34	381 938	NR	NR	NR	5 21	ND	0 35	9 70%	31 90%	32%	3	NR
CPT-Raw/1175 1176	4 98	49 53	NR	36 299	991	58 131	NR	NR	NR	NA	NA	NR	NA	NR
CPT XIII-1/1175-1176 3	NR	NR	186 434	NR	NR	NR	7 80	ND	0 20	9 70%	31 90%	NR	10	NR
CPT-XIII-1/1175-1176-4	NR	NR	200 714	NR	NR	NR	11 10	ND	0 15	9 70%	31 90%	NR	10	NR

NA = Not Applicable
ND = Not Detectable
NR = Not Received
* = TCLP required off-site analysis
(a) = Contingency samples re-analyzed on site. The re-analyzed results are shown

TABLE D-3.3

CONTINGENCY TEST RESULTS
ITEX TREATED ANALYTICAL RESULTS
COAL PILE TRACKS, MISCELLANEOUS PILE, AREA CUT, SWITCHBACK
FLUE DUST SHAKEDOWN/PROVE-OUT
ANACONDA SMELTER NPL SITE

SAMPLE ID	pH (S.U.)	MOISTURE (%)	ALKALINITY as CaCO3 (mg/kg)	TCLP METALS (mg/l)			PLANT MEASUREMENT LIME (%)	PLANT MEASUREMENT CEMENT (%)	LABORATORY MEASUREMENT CEMENT (%)	CURE TIME (days)	UCS (psi)	STABILIZATION DATE	TEST RESULT	SAMPLE STATUS
				Lead	Cadmium	Arsenic								
CPT-XIII-1-2005/2012	12 66	41 99	343,907	5 17	ND	0 25	8 10	38 93	NT	3	16 97	24 Apr-93	fail	
CPT-XIII-1-2005/2012-1	NR	NR	322,022	4 1	ND	0 2	8 10	38 93	NT	15	NR	24 Apr-93	pass	pass
CPT-XIII 1-2005/2012-2	NR	NR	348,318	2 45	ND	0 2	8 10	38 93	NT	15	NR	24-Apr 93	pass	
CPT-XIII-1-2013/2023	12 66	40 27	321,105	6 06	ND	0 21	8 10	38 93	NT	3	NR	24-Apr-93	fail	
CPT-XIII-1-2013/2023-1	NR	NR	379,289	6 91	ND	0 18	8 10	38 93	NT	15	NR	24-Apr 93	fail	
CPT-XIII-1-2013/2023-2	NR	N R	318 512	5 89	ND	0 22	8 10	38 93	NT	15	NR	24-Apr-93	fail	pass
SH-199-(2013/10230-1	NR	NR	347,610	1 57	ND	0 22	8 10	38 93	NT	43	NR	24-Apr-93	pass	
SH-199-(2013/2023)-3	NR	NR	304,950	0 85	ND	0 24	8 10	38 93	NT	43	NR	24-Apr-93	pass	
CPT-XIII 1 2024/2033	12 61	37 80	318,550	5 46	ND	0 2	8 10	38 93	NT	3	NR	24-Apr-93	fail	
CPT-XIII 1-2024/2033-2	NR	NR	358,422	2 77	ND	0 16	8 10	38 93	NT	15	NR	24-Apr-93	pass	pass
CPT-XIII-1 2024/2033-5	NR	NR	130,757	2 42	ND	0 16	8 10	38 93	NT	15	NR	24-Apr-93	pass	
CPT-XIII 1 2034/2042	12 63	35 26	368,145	5 54	ND	0 19	8 10	38 93	NT	3	NR	24-Apr 93	fail	
CPT XIII 1-2034/2042-1	NR	NR	426,200	1 87	ND	0 16	8 10	38 93	NT	15	NR	24-Apr-93	pass	
CPT XIII 1-2034/2042-5	NR	NR	366,814	8 09	ND	0 15	8 10	38 93	NT	15	NR	24 Apr 93	fail	pass
SH-201-(2034/2042)-1	NR	NR	336,275	1 09	ND	0 27	8 10	38 93	NT	43	NR	24-Apr 93	pass	
SH 201-(2034-/2042)-2	NR	NR	352,000	2 49	ND	0 22	8 10	38 93	NT	43	NR	24-Apr 93	pass	
CPT-XIII 1 2043/2052	12 61	34 71	395,566	5 10	ND	0 19	8 10	38 93	NT	3	NR	24-Apr 93	fail	
CPT XIII 1-2043/2052-2	NR	NR	374,703	6 11	ND	0 21	8 10	38 93	NT	15	NR	24 Apr 93	fail	
CPT-XIII-1 2043/2052-4	NR	NR	375,240	5 61	ND	0 15	8 10	38 93	NT	15	NR	24 Apr 93	fail	pass
SH-202-(2043/2052)-1	NR	NR	396,620	1 57	ND	0 25	8 10	38 93	NT	43	NR	24 Apr 93	pass	
SH-202-(2043/2052)-2	NR	NR	411,531	1 03	ND	0 24	8 10	38 93	NT	43	NR	24 Apr 93	pass	
CPT-XIII 1-2053/2063	12 60	35 79	366,127	5 84	ND	0 19	8 10	38 93	NT	3	NR	24-Apr-93	fail	
CPT-XIII-1-2053/2063-2	NR	NR	323,633	1 96	ND	0 2	8 10	38 93	NT	15	NR	24-Apr-93	pass	pass
CPT-XIII-1-2053/2063-5	NR	NR	383,127	2 21	ND	0 11	8 10	38 93	NT	15	NR	24-Apr-93	pass	
CPT-XIII 1-2064/2072	12 72	34 37	385,883	4 99	ND	0 15	8 10	38 93	NT	3	NR	24-Apr-93	fail	
CPT-XIII-1-2064/2072-1	NR	NR	375,240	2 04	ND	0 18	8 10	38 93	NT	15	NR	24 Apr 93	pass	pass
CPT-XIII-1-2064/2072-5	NR	NR	376,202	4 16	ND	0 18	8 10	38 93	NT	15	NR	24-Apr 93	pass	
CPT-XIII 1 2084/2093	12 64	37 44	370,685	5 11	ND	0 2	8 10	38 93	NT	3	NR	24-Apr-93	fail	
CPT-XIII-1-2084/2093-4	NR	NR	392,547	1 69	ND	0 21	8 10	38 93	NT	15	NR	24-Apr 93	pass	pass
CPT-XIII-1-2084/2093-5	NR	NR	345,704	1 25	ND	0 16	8 10	38 93	NT	15	NR	24 Apr 93	pass	
CPT-XIII-1 2104/2109	12 64	34 51	405,684	5 13	ND	0 18	8 10	38 93	NT	3	NR	24-Apr-93	fail	
CPT-XIII-1-2104/2109-3	NR	NR	416 840	6 25	ND	0 15	8 10	38 93	NT	15	NR	24-Apr-93	fail	
CPT-XIII-1 2104/2109-5	NR	NR	425,238	4 4	ND	0 17	8 10	38 93	NT	15	NR	24-Apr-93	pass	pass
SH 208-(2104/2109)-2	NR	NR	433,981	1 71	ND	0 23	8 10	38 93	NT	43	NR	24-Apr-93	pass	
SH-208-(2104/2109)-5	NR	NR	414,851	1 01	ND	0 24	8 10	38 93	NT	43	NR	24-Apr-93	pass	

NOTES
The original failing sample entered preceding contingency results

TABLE D-3.3

CONTINGENCY TEST RESULTS
ITEX TREATED ANALYTICAL RESULTS
COAL PILE TRACKS, MISCELLANEOUS PILE, AREA CUT, SWITCHBACK
FLUE DUST SHAKEDOWN/PROVE-OUT
ANACONDA SMELTER NPL SITE

SAMPLE ID	pH (S U)	MOISTURE (%)	ALKALINITY as CaCO3 (mg/kg)	TCLP METALS (mg/l)			PLANT MEASUREMENT LIME (%)	PLANT MEASUREMENT CEMENT (%)	LABORATORY MEASUREMENT CEMENT (%)	CURE TIME (days)	UCS (psi)	STABILIZATION DATE	TEST RESULT	SAMPLE STATUS
				Lead	Cadmium	Arsenic								
CPT-XIII-1 2110/2119	12 59	39 33	345,800	6 39	ND	0 19	8 10	38 93	NT	3	NR	24-Apr-93	fail	
CPT XIII 1-2110/2119-3	NR	NR	398,644	4 69	ND	0 14	8 10	38 93	NT	15	NR	24 Apr-93	pass	
CPT-XIII-1-2110/2119-4	NR	NR	384,855	6 14	ND	0 2	8 10	38 93	NT	15	NR	24-Apr-93	fail	pass
SH-209-(2110/2119)-2	NR	NR	374,257	1 1	ND	0 27	8 10	38 93	NT	43	NR	24-Apr 93	pass	
SH-209-(2110/2119) 3	NR	NR	378,193	1 6	ND	0 6	8 10	38 93	NT	43	NR	24-Apr-93	pass	
CPT-XIII-1-2120/2130	12 48	40 08	360,996	6 63	ND	0 21	8 10	38 93	NT	3	NR	24-Apr-93	fail	
CPT-XIII 1-2120/2130-1	NR	NR	374 279	5 48	ND	0 2	8 10	38 93	NT	15	NR	24-Apr-93	fail	
CPT-XIII-1-2120/2130-4	NR	NR	364,168	5 6	ND	0 19	8 10	38 93	NT	15	NR	24-Apr 93	fail	pass
SH-210-(2120/2130)-1	NR	NR	366,354	0 98	ND	0 24	8 10	38 93	NT	43	NR	24-Apr-93	pass	
SH-210-(2120/2130)-2	NR	NR	339,960	4 12	ND	0 26	8 10	38 93	NT	43	NR	24-Apr-93	pass	
CPT-XIII-1-2234/2242	12 29	37 60	352,125	5 72	ND	0 23	8 10	38 93	NT	3	NR	24-Apr-93	fail	
CPT-XIII-1-2234/2242-3	NR	NR	359,380	8 7	ND	0 24	8 10	38 93	NT	15	NR	24-Apr 93	fail	
CPT-XIII-1-2234/2242-4	NR	NR	356,327	3 95	ND	0 16	8 10	38 93	NT	15	NR	24-Apr-93	pass	pass
SH-2210(2234/2242)-2	NR	NR	401,575	2 12	ND	0 19	8 10	38 93	NT	43	NR	24-Apr 93	pass	
SH-2210-(2234/2242)-4	NR	NR	405,882	1 55	ND	0 25	8 10	38 93	NT	43	NR	24-Apr-93	pass	

NOTES
The original failing sample entered preceding (contingency) results

TABLE D-3.4

SUMMARY OF QUALITY CONTROL ANALYTICAL RESULTS
COMPARISON OF ITEX AND QA/QC RESULTS
FLUE DUST OPERABLE UNIT
ANACONDA SMELTER NPL SITE

QC Samples ID/ Flue Dust Location	Date Sampled	Sample Type	TCLP Metals Analysis (mg/l) As	Cd	Pb	Total Metals Analysis (mg/kg) As	Cd	Pb	pH (S.U.)	Percent Moisture	Alkalinity as CaCO3 (mg/kg)
SD-1A-1016/BP2	16-Oct-92	QA/QC	0 38	0 004	ND	NT	NT	NT	11 53	30 20	NT
BP2-X1/0010-0020	16-Oct-92	ITEX	0 211	ND	ND	NT	NT	NT	11 40	36 70	NT
SD-1A-1027/BP2	27-Oct-92	QA/QC	0 18	ND	0 36	NT	NT	NT	11 65	20 9 (2)	NT
BP1-X1-1/433-442	27-Oct-92	ITEX	0 58	ND	ND	NT	NT	NT	8 99	41 40	NT
RD1-1027/BP2	27-Oct-92	QA/QC	NT	NT	NT	24,300	1,330	23,000	8 99	35 40	NT
BP1-X-1-1/433-442	27-Oct-92	ITEX	NT	NT	NT	7,897	781	6,927	NT	NT	NT
SD-W5A-1030/BP1	30-Oct-92	QA/QC	0 50	0 028	0 35	NT	NT	NT	11 20	42 40	NT
BP1-X1-1/0662-0669	30-Oct-92	ITEX	0 88	ND	0 11	NT	NT	NT	11 00	44 10	NT
SD-W7B-1105/BP3	5-Nov-92	QA/QC	0 21	ND	ND	NT	NT	NT	11 50	62 20	NT
BP3-X1-1/0860-0869	5-Nov-92	ITEX	ND	ND	0 1	NT	NT	NT	11 40	56 90	NT
SD-8B-1112/IP	12-Nov-92	QA/QC	0 39	0 005	ND	NT	NT	NT	11 66	41 20	NT
IP-X1-1/1164-1771	12-Nov-92	ITEX	0 85	ND	ND	NT	NT	NT	11 10	NT	NT
RD-1112/IP	12-Nov-92	QA/QC	NT	NT	NT	24,300	1,330	23,000	4 51	34 90	NT
IP-RAW/1164-1171	12-Nov-92	ITEX	NT	NT	NT	5,577	860	7,600	6 17	49 10	NT
SD-EA2-1119/FDS	19-Nov-92	QA/QC	0 16	ND	0 84	NT	NT	NT	12 28	56 20	NT
FDS-X1-1/1401-1410	19-Nov-92	ITEX	0 17	ND	2 03	NT	NT	NT	12 90	53 20	NT
SD-ED2-1128/FDS	28-Nov-92	QA/QC	0 18	ND	3 7	NT	NT	NT	12 20	54 30	NT
FDS-X1-1/1904-1913	28-Nov-92	ITEX	0 17	ND	5 56	NT	NT	NT	12 50	61 50	NT
FDS-RAW-1797/1811-C/FDS	24-Nov-92	QA/QC	NT	NT	NT	24,300	1,330	23,000	4 82	32 50	NT
FDS-RAW-1797-1811	24-Nov-92	ITEX	NT	NT	NT	18,127	1,165	2,758	4 39	NT	NT
CPT-SH-12 101/109/C-1	13-Jan-93	QA/QC	ND	8 55	3 38	NT	NT	NT	10 62	53 80	NT
CPT-SH-12 101/109/C-O	13-Jan-93	QA/QC	0 03	8 03	3 57	NT	NT	NT	10 78	55 50	NT

TABLE D-3.4

SUMMARY OF QUALITY CONTROL ANALYTICAL RESULTS
COMPARISON OF ITEX AND QA/QC RESULTS
FLUE DUST OPERABLE UNIT
ANACONDA SMELTER NPL SITE

QC Samples ID/ Flue Dust Location	Date Sampled	Sample Type	TCLP Metals Analysis (mg/l)			Total Metals Analysis (mg/kg)			pH (S.U.)	Percent Moisture	Alkalinity as CaCO3 (mg/kg)
			As	Cd	Pb	As	Cd	Pb			
CPT-XIII-1/101-110	13-Jan-93	ITEX	0 05	2 64	ND	NT	NT	NT	10 68	49 20	NT
CPT-Raw-464/473/C	22-Jan-93	QA/QC	17 70	19	3 48	63,332	1,266	46,549	4 32	56 70	NT
CPT-Raw/464-473	22-Jan-93	ITEX	NT	NT	NT	89,396	2,064	50,774	4 04	55 80	NT
CPT-SH-48-XIII-1/464/473C	22-Jan-93	QA/QC	0 37	0 009	0 22	NT	NT	NT	12 19	56 20	NT
CPT-XIII-1/464-473	22-Jan-93	ITEX	0 17	ND	ND	NT	NT	NT	13 20	57 10	NT
CPT-XIII SH-91 898/907	29-Jan-93	QA/QC	0 36	ND	0 08	NT	NT	NT	11 56	58 60	NT
CPT-XIII-1/898-907	29-Jan-93	ITEX	0 93	ND	ND	NT	NT	NT	12 44	58 10	NT
CPT-XIII-SH-145	15-Apr-93	QA/QC	0 17	ND	0 35	NT	NT	NT	11 60	30 00	NT
CPT-XIII-1-1457/1467	15-Apr-93	ITEX	0 16	ND	0 47	NT	NT	NT	11 87	40 51	NT
CPT SH-189 1909/1918	23-Apr-93	QA/QC	0 17	ND	1 13	NT	NT	NT	11 90	38 20	NT
CPT-XIII-1-1909/1918	23-Apr-93	ITEX	0 18	ND	2 31	NT	NT	NT	12 07	38 10	NT
CPT- RAW FLUE DUST SH-189 (1)	23-Apr-93	QA/QC	NT	NT	NT	21,700	513	9,230	6 30	24 70	NT
CPT-RAW-1909/1918 (1)	23-Apr-93	ITEX	NT	NT	NT	19,068	365	8,522	7 12	21 92	NT
CPT SH-218	24-Apr-93	QA/QC	0.3	< 003	1 28	NT	NT	NT	11 50	38 10	NT
CPT-XIII-1-2204/2213	24-Apr-93	ITEX	0.17	ND	1 92	NT	NT	NT	12 31	47 31	NT
CPT SH-231	26-Apr-93	QA/QC	1 34	0 989	3 2	NT	NT	NT	12 11	35 40	NT
CPT-XIII-1-2337/2347	26-Apr-93	ITEX	0 15	ND	0 7	NT	NT	NT	12 91	41 65	NT
CPT-XIII-SH-257	27-Apr-93	QA/QC	0 48	ND	1 39	NT	NT	NT	10 70	38 90	NT
CPT-XIII-1-2605/2614	27-Apr-93	ITEX	0 38	ND	4 91	NT	NT	NT	12 78	44 64	NT
CPT-XIII RAW-F D SH-257	27-Apr-93	QA/QC	NT	NT	NT	37,770	1,050	15,070	5 60	35 60	NT
CPT-RAW-2605/2614	27-Apr-93	ITEX	NT	NT	NT	28,724	508	10,581	8 58	27 50	NT

TABLE D-3.4

SUMMARY OF QUALITY CONTROL ANALYTICAL RESULTS
COMPARISON OF ITEX AND QA/QC RESULTS
FLUE DUST OPERABLE UNIT
ANACONDA SMELTER NPL SITE

QC Samples ID/ Flue Dust Location	Date Sampled	Sample Type	TCLP Metals Analysis (mg/l)			Total Metals Analysis (mg/kg)			pH (S.U.)	Percent Moisture	Alkalinity as CaCO3 (mg/kg)
			As	Cd	Pb	As	Cd	Pb			
CPT-XIII-SH-275	28-Apr-93	QA/QC	0 64	0 004	1 32	NT	NT	NT	11 10	42 20	NT
CPT-XIII-1-2789/2798	28-Apr-93	ITEX	0 39	ND	4 15	NT	NT	NT	12 82	45 40	NT
CPT SH-309	29-Apr-93	QA/QC	0 46	1 28	1 64	NT	NT	NT	12 05	42 30	NT
CPT-XIII-1-3146/3147/3155/3163	29-Apr-93	ITEX	0 396	ND	3 97	NT	NT	NT	12 84	40 30	NT
CPT-XIII-SH-319	30-Apr-93	QA/QC	0 689	0 01	0 418	NT	NT	NT	11 06	38 30	NT
CPT-XIII-1-3257/3266	30-Apr-93	ITEX	0 5	ND	2 25	NT	NT	NT	12 40	45 68	NT
CPT RAW 3257/3266 SH-319	30-Apr-93	QA/QC	NT	NT	NT	10,800	341	2,330	6 40	15 60	NT
CPT-RAW-3257/3266	30-Apr-93	ITEX	NT	NT	NT	46,654	1,363	19,102	5 20	34 84	NT
CPT-XIII-3467/3476	30-Apr-93	QA/QC	0 327	< 003	2 91	NT	NT	NT	9 05	32 60	NT
CPT-XIII-1-3467/3476	30-Apr-93	ITEX	0 47	ND	7 03	NT	NT	NT	12 62	45 42	NT
MP-XIII-4023/4032	3-May-93	QA/QC	7 43	0 015	0 172	NT	NT	NT	11 27	37 00	NT
MP-XIII-4023/4032 (REPEAT)	3-May-93	QA/QC	7 26	< 003	< 02	NT	NT	NT	11 27	37 00	NT
MP-XIII-1-4023/4032	3-May-93	ITEX	0 83	ND	ND	NT	NT	NT	11 78	39 49	NT
MSP-XIII-4223/4232 SH-413	4-May-93	QA/QC	3 04	< 02	< 1	NT	NT	NT	11 62	20 30	NT
MISC-XIII-1-4223/4232	4-May-93	ITEX	1 42	ND	ND	NT	NT	NT	11 87	37 36	NT
MSP SH-439 4487/4496	5-May-93	QA/QC	25 9	0 546	0 36	NT	NT	NT	11 66	34 90	NT
MSP SH-439 4487/4496(REPEAT)	5-May-93	QA/QC	13 4	0 009	0 04	NT	NT	NT	11 66	34 90	NT
MISC-XIII-1-4487/4496	5-May-93	ITEX	0 91	ND	0 29	NT	NT	NT	11 76	30 85	NT
MP SH-454	5-May-93	QA/QC	25 6	0 895	0 11	NT	NT	NT	11 45	37 50	NT
MP SH-454	5-May-93	QA/QC	18 6	0 012	0 11	NT	NT	NT	11 45	37 50	NT
MISC-XIII-1-4642/4643	5-May-93	ITEX	1 97	ND	0 35	NT	NT	NT	11 68	35 16	NT
MSC-RAW 4642/4643 SH-454	5-May-93	QA/QC	24 1	1 6	0 28	22,400	428	4,100	6 47	21 10	NT
MSC-RAW-4642/4643	5-May-93	ITEX	ND	ND	ND	3,074	75	495	6 48	20 28	NT

TABLE D-3.4

SUMMARY OF QUALITY CONTROL ANALYTICAL RESULTS
COMPARISON OF ITEX AND QA/QC RESULTS
FLUE DUST OPERABLE UNIT
ANACONDA SMELTER NPL SITE

QC Samples ID/ Flue Dust Location	Date Sampled	Sample Type	TCLP Metals Analysis (mg/l)			Total Metals Analysis (mg/kg)			pH (S.U.)	Percent Moisture	Alkalinity as CaCO3 (mg/kg)
			As	Cd	Pb	As	Cd	Pb			
MSC-XIII-4875/4884 SH-477	7-May-93	QA/QC	1.11	< .02	0 1	NT	NT	NT	11 87	24 40	NT
MSC-XIII-1-4875/4884	7-May-93	ITEX	1 23	ND	ND	NT	NT	NT	12 01	31 42	NT
MSC-XIII-5090/5100 SH-498	8-May-93	QA/QC	2 78	< 02	0 1	NT	NT	NT	11 91	23 50	NT
MSC-XIII-1-5090/5100	8-May-93	ITEX	0 15	ND	0 05	NT	NT	NT	11 91	35 10	NT
MSC-XIII-5324/5333 SH-520	9-May-93	QA/QC	4 54	< 02	< 1	NT	NT	NT	11 55	22 10	NT
MSC-XIII-5324/5333	9-May-93	ITEX	0 36	ND	6 34	NT	NT	NT	11 56	34.39	NT
MSC-XIII- 5566/5576 SH-543	10-May-93	QA/QC	3 43	0 003	< 02	NT	NT	NT	11 91	36 80	NT
MSC-XIII-1-5566/5576	10-May-93	ITEX	0.25	ND	0 41	NT	NT	NT	11 80	30 08	NT
MSC-RAW SH-543	10-May-93	QA/QC	NT	NT	NT	20,400	466	3,760	6 05	16 10	NT
MSC-RAW-5556/5565	10-May-93	ITEX	NT	NT	NT	14,398	375	3,174	6 13	15 65	NT
MSC-REPRESENTATIVE SAMPLE	10-May-93	QA/QC	NT	NT	NT	4,530	101	572	6 95	12 60	NT
MSC-RAW 5685/5695 SH-554	10-May-93	QA/QC	NT	NT	NT	27,700	517	5,080	5 71	18 50	NT
MSC-RAW 5685/5695	10-May-93	ITEX	NT	NT	NT	5,638	118	913	6 30	17 99	NT
MSC-XIII-5685/5695 SH-554	10-May-93	QA/QC	3 33	0 008	0 04	NT	NT	NT	11 78	35 80	NT
MSC-XIII- 5685/5695	10-May-93	ITEX	0 31	ND	ND	NT	NT	NT	11 81	43 22	NT
CPT RAW 5859/5869 SH-570	11-May-93	QA/QC	NT	NT	NT	31,200	824	11,700	5 96	27 10	NT
CPT RAW 5859/5869	11-May-93	ITEX	NT	NT	NT	16,376	495	6,712	6 28	32 17	NT
CPT-XIII-5859/5869 SH-570	11-May-93	QA/QC	0 58	0 009	0 59	NT	NT	NT	12 26	47 90	NT
CPT-XIII-5859/5869	11-May-93	ITEX	0 51	ND	1 96	NT	NT	NT	12 16	40 36	NT
CPT-XIII-5956/5965 SH-579	12-May-93	QA/QC	0 6	< 02	0 5	NT	NT	NT	12 16	40 50	NT
CPT-XIII-5956/5965	12-May-93	ITEX	0 56	ND	3 27	NT	NT	NT	12 30	37 47	NT

TABLE D-3.4

SUMMARY OF QUALITY CONTROL ANALYTICAL RESULTS
COMPARISON OF ITEX AND QA/QC RESULTS
FLUE DUST OPERABLE UNIT
ANACONDA SMELTER NPL SITE

QC Samples ID/ Flue Dust Location	Date Sampled	Sample Type	TCLP Metals Analysis (mg/l)			Total Metals Analysis (mg/kg)			pH (S.U.)	Percent Moisture	Alkalinity as CaCO3 (mg/kg)
			As	Cd	Pb	As	Cd	Pb			
AC-RAW 6231/6241 SH-606	13-May-93	QA/QC	NT	NT	NT	6,300	369	5,410	6 18	21 10	NT
AC-RAW 6231/6241	13-May-93	ITEX	NT	NT	NT	1,862	73	1,085	6 81	17 76	NT
AC-XIII 6231/6241 SH-606	13-May-93	QA/QC	0 33	< 02	< 1	NT	NT	NT	12 17	39 80	NT
AC-XIII 6231/6241	13-May-93	ITEX	ND	ND	1 28	NT	NT	NT	12 24	42 68	NT
AC RAW 6531/6540 SH-634	14-May-93	QA/QC	NT	NT	NT	5,990	273	4,560	6 45	16 50	NT
AC RAW 6531/6540	14-May-93	ITEX	NT	NT	NT	2,692	175	2,371	6 54	16 92	NT
AC -XIII-6531/6541SH-634	14-May-93	QA/QC	0.14	<.003	< 02	NT	NT	NT	11 62	16 50	NT
AC -XIII-6531/6541	14-May-93	ITEX	ND	ND	ND	NT	NT	NT	11 73	39 32	NT
AC-XIII-6606/6616 SH-641	14-May-93	QA/QC	0.08	< 003	< 02	NT	NT	NT	12 29	42 60	NT
AC-XIII-6606/6616	14-May-93	ITEX	ND	ND	0 82	NT	NT	NT	12 35	38 83	NT
AC-XIII-1-6870/6880 SH-667	17-May-93	QA/QC	0 2	0 005	0 11	NT	NT	NT	12 05	34 60	NT
AC-XIII-1-6870/6880	17-May-93	ITEX	0 11	0 87	1 84	NT	NT	NT	12 29	31 83	NT
AC-RAW 6870/6880 SH-667	17-May-93	QA/QC	NT	NT	NT	4,790	345	3,710	6 06	34 60	NT
AC-RAW-6870/6880	17-May-93	ITEX	NT	NT	NT	5,083	302	4,104	7 04	15.53	NT
AC-XIII-7046/7055 SH-684	18-May-93	QA/QC	0 27	0 006	0 14	NT	NT	NT	11 97	26 40	NT
AC-XIII-7046/7055	18-May-93	ITEX	0 05	ND	1 52	NT	NT	NT	12.42	35 78	NT
AC-XIII-7319/7328 SH-711	19-May-93	QA/QC	0 09	< 003	0 003	NT	NT	NT	11 92	42 00	NT
AC-XIII-1-7319/7328	19-May-93	ITEX	0 09	ND	0 64	NT	NT	NT	12 44	42 56	NT
AC RAW 7319/7328 SH-711	19-May-93	QA/QC	NT	NT	NT	4,740	229	3,680	10 80	17 40	NT
AC-RAW-7319/7328	19-May-93	ITEX	NT	NT	NT	1,982	88	1,688	11 76	17 54	NT
SB-XIII- 7457/7466 SH-725	19-May-93	QA/QC	23 0	0 022	0 029	NT	NT	NT	11 43	47 60	NT
SB-XIII-1-7457/7466	19-May-93	ITEX	50 55	ND	ND	NT	NT	NT	12 03	44 78	NT

TABLE D-3.4

SUMMARY OF QUALITY CONTROL ANALYTICAL RESULTS
COMPARISON OF ITEX AND QA/QC RESULTS
FLUE DUST OPERABLE UNIT
ANACONDA SMELTER NPL SITE

QC Samples ID/ Flue Dust Location	Date Sampled	Sample Type	TCLP Metals Analysis (mg/l)			Total Metals Analysis (mg/kg)			pH (S.U.)	Percent Moisture	Alkalinity as CaCO3 (mg/kg)
			As	Cd	Pb	As	Cd	Pb			
SB-RAW 7457/7466 SH-725	19-May-93	QA/QC	NT	NT	NT	59,100	651	9,790	3 52	23 30	NT
SB-RAW-7457/7466	19-May-93	ITEX	NT	NT	NT	11,806	143	2,227	3 92	27 33	NT
SB-XIII-7669/7678 SH-745	20-May-93	QA/QC	2 35	0.011	0 18	NT	NT	NT	11 92	53 80	NT
SB-XIII-1-7669/7678	20-May-93	ITEX	2 36	ND	ND	NT	NT	NT	12 47	56 08	NT
SB-RAW 7669/7678 SH-745	20-May-93	QA/QC	NT	NT	NT	52,900	749	9,210	3 68	22 80	NT
SB-RAW 7669/7678	20-May-93	ITEX	NT	NT	NT	24,748	317	4,159	3 35	27 01	NT
SB-XIII 7924/7933 SH-765	21-May-93	QA/QC	0 83	< 003	0 1	NT	NT	NT	11 74	47 50	NT
SB-XIII-1-7924/7933	21-May-93	ITEX	0 96	ND	0 11	NT	NT	NT	12 37	44 04	NT
SB-XIII 8014/8023 SH-774	21-May-93	QA/QC	4 5	< 003	< 02	NT	NT	NT	11 53	43 50	NT
SB-XIII-1-8014/8023	21-May-93	ITEX	0 96	ND	ND	NT	NT	NT	12 10	51 67	NT
SB-XIII 8093/8102 SH-782	24-May-93	QA/QC	1 5	0 003	0 08	NT	NT	NT	11 88	51 10	NT
SB-XIII-1- 8093/8102	24-May-93	ITEX	1 09	ND	0 68	NT	NT	NT	11 53	47 87	NT
SB-RAW 8093/8102 SH-782	24-May-93	QA/QC	NT	NT	NT	52,080	645	8,068	4 21	28 30	NT
SB-RAW 8093/8102	24-May-93	ITEX	NT	NT	NT	22,277	615	8,030	6 63	29 64	NT
SB-XIII 8233/8242 SH-796	24-May-93	QA/QC	1 21	< 003	0 06	NT	NT	NT	11 82	48 60	NT
SB-XIII-1- 8233/8242	24 May-93	ITEX	0 79	ND	0 41	NT	NT	NT	11 56	41 98	NT
SB-RAW 8233/8242 SH-796	24-May-93	QA/QC	NT	NT	NT	46,930	606	7,652	4 41	27 00	NT
SB-RAW 8233/8242	24-May-93	ITEX	NT	NT	NT	23,424	658	8,316	3 22	28 46	NT
SB-XIII-8468/8477 SH-819	25-May-93	QA/QC	1 25	< 003	0 05	NT	NT	NT	11 63	48 20	NT
SB-XIII-1-8468/8477	25-May-93	ITEX	3 94	ND	ND	NT	NT	NT	12 24	46 31	NT
SB-XIII 8656/8665 SH-838	26-May-93	QA/QC	0 94	< 003	0 04	NT	NT	NT	11 68	49 50	NT

TABLE D-3.4

SUMMARY OF QUALITY CONTROL ANALYTICAL RESULTS
COMPARISON OF ITEX AND QA/QC RESULTS
FLUE DUST OPERABLE UNIT
ANACONDA SMELTER NPL SITE

QC Samples ID/ Flue Dust Location	Date Sampled	Sample Type	TCLP Metals Analysis (mg/l) As	Cd	Pb	Total Metals Analysis (mg/kg) As	Cd	Pb	pH (S.U.)	Percent Moisture	Alkalinity as CaCO3 (mg/kg)
SB-XIII-1-8656/8665	26-May-93	ITEX	1 42	ND	0 27	NT	NT	NT	11 85	48 34	NT
SB-RAW 8656/8665 SH-838	26-May-93	QA/QC	NT	NT	NT	19,300	234	2,710	4 43	22 50	NT
SB-RAW 8656/8665	26-May-93	ITEX	NT	NT	NT	28,899	287	437	4 13	15 29	NT
ST-RAW MP-1	26-May-93	QA/QC	NT	NT	NT	120,000	1,160	15,300	2 75	38 10	NT
SB-XIII 8776/8785 SH-850	26-May-93	QA/QC	0 8	< 003	0 04	NT	NT	NT	11 91	49 60	NT
SB-XIII 8776/8785	26-May-93	ITEX	0 65	ND	0 24	NT	NT	NT	11 86	44 54	NT
SB-RAW-SH-876 9036/9045	27-May-93	QA/QC	NT	NT	NT	16,300	219	2,390	4 04	22 70	NT
SB-RAW-9036/9045	27-May-93	ITEX	NT	NT	NT	53,002	629	7,854	2 98	22 90	NT
SB-XIII-SH-876 9036/9045	27-May-93	QA/QC	0.91	0 007	0 18	NT	NT	NT	11 99	49 70	NT
SB-XIII-1-9036/9045	27-May-93	ITEX	1 1	ND	0 26	NT	NT	NT	12 49	48 23	NT
SB SH-894 9219/9229	28-May-93	QA/QC	0 43	<0 003	0 1	NT	NT	NT	11 68	39 10	NT
SB-XIII-1-9219/9229	28-May-93	ITEX	0 38	ND	ND	NT	NT	NT	12 26	39 17	NT
SB-RAW SH-894 9219/9229	28-May-93	QA/QC	NT	NT	NT	12,300	167	1,970	4 78	21 60	NT
SB-RAW- 9219/9229	28-May-93	ITEX	NT	NT	NT	25,565	244	158	2 80	22 15	NT
SB SH-913 9409/9418 SH-913	1-Jun-93	QA/QC	2 28	0 02	0 37	NT	NT	NT	12 12	47 20	NT
SB-XIII-1-9409/9418	1-Jun-93	ITEX	0 43	ND	ND	NT	NT	NT	12 43	43 85	NT
SB SH-923 9510/9519	1-Jun-93	QA/QC	0 65	<0 003	0 1	NT	NT	NT	12 09	47 60	NT
SB-XIII-1-9510/9519	1-Jun-93	ITEX	0 5	ND	ND	NT	NT	NT	12 11	50 41	NT
CPT-XIII-10823/11063 SH-946	9-Jun-93	QA/QC	1 01	0 005	0 25	NT	NT	NT	12 09	45 70	NT
CPT-XIII-10823/11063	9-Jun-93	ITEX	0 44	ND	1 07	NT	NT	NT	12 44	37 14	NT
CPT-RAW-10823/11063 SH-946	9-Jun-93	QA/QC	NT	NT	NT	24,000	753	9,370	11 08	28 10	NT
CPT-RAW-10823/11063	9-Jun-93	ITEX	NT	NT	NT	17,819	739	9,755	11 06	31 88	NT

TABLE D-3.4

SUMMARY OF QUALITY CONTROL ANALYTICAL RESULTS
COMPARISON OF ITEX AND QA/QC RESULTS
FLUE DUST OPERABLE UNIT
ANACONDA SMELTER NPL SITE

QC Samples ID/ Flue Dust Location	Date Sampled	Sample Type	TCLP Metals Analysis (mg/l)			Total Metals Analysis (mg/kg)			pH (S.U.)	Percent Moisture	Alkalinity as CaCO3 (mg/kg)
			As	Cd	Pb	As	Cd	Pb			
BP-XI-154/160 SH-BP24	4-Jun-93	QA/QC	0 96	0 006	0 06	NT	NT	NT	11 35	36 10	NT
BP-XI-154/160	4-Jun-93	ITEX	0 34	ND	0 59	NT	NT	NT	12 02	37 89	NT
BP-RAW-154/160 BP-24	4-Jun-93	QA/QC	NT	NT	NT	8,290	718	9,770	10 94	11 20	NT
BP-RAW-154/160	4-Jun-93	ITEX	NT	NT	NT	9,056	806	9,309	10 96	26 94	NT
BP-XI-SH-238/244 BP36	7-Jun-93	QA/QC	1 8	0 076	1 09	NT	NT	NT	11 23	35 70	NT
BP-XI-SH-238/244	7-Jun-93	ITEX	0 36	ND	0 92	NT	NT	NT	11 94	36 47	NT
BP-XI-522/528 SH-BP77	7-Jun-93	QA/QC	1 08	0 008	0 08	NT	NT	NT	11 21	37 00	NT
BP-XI-522/528	7-Jun-93	ITEX	1 06	ND	0 28	NT	NT	NT	12 23	38 94	NT
BP-RAW 522/528 SH-BP77	7-Jun-93	QA/QC	NT	NT	NT	5,110	502	6,880	9 15	27 10	NT
BP-RAW 522/528	7-Jun-93	ITEX	NT	NT	NT	11,900	977	13,133	9 02	28 20	NT
BP-XI-633/639 BP-93	8-Jun-93	QA/QC	0 58	0 015	0 23	NT	NT	NT	11 38	32 90	NT
BP-XI-633/639	8-Jun-93	ITEX	1 07	ND	ND	NT	NT	NT	11 57	38 40	NT
BP-XI-731/737 SH-BP107	8-Jun-93	QA/QC	1 27	0 034	0 47	NT	NT	NT	11 43	35 50	NT
BP-XI-731/737	8-Jun-93	ITEX	1 12	ND	ND	NT	NT	NT	11 61	40 21	NT
BP-XI-834/840 SH-BP121	9-Jun-93	QA/QC	1 19	0 006	0 13	NT	NT	NT	11 45	35 40	NT
BP-XI-834/840	9-Jun-93	ITEX	1 11	ND	0 15	NT	NT	NT	11 75	39 05	NT
BP-RAW-834/840 SH-BP121	9-Jun-93	QA/QC	NT	NT	NT	7,430	783	9,980	9 52	27 40	NT
BP-RAW-834/840	9-Jun-93	ITEX	NT	NT	NT	8,015	938	12,547	8 57	27 50	NT
BP-XI-967/973 BP-139	9-Jun-93	QA/QC	0 82	<0 003	0 06	NT	NT	NT	11 48	34 40	NT
BP-XI-967/973	9-Jun-93	ITEX	0 86	ND	ND	NT	NT	NT	11 85	43 57	NT
BP-XIII-1020/1026 BP-146	10-Jun-93	QA/QC	1	0 084	<0 02	NT	NT	NT	11 51	37 00	NT

TABLE D-3.4

SUMMARY OF QUALITY CONTROL ANALYTICAL RESULTS
COMPARISON OF ITEX AND QA/QC RESULTS
FLUE DUST OPERABLE UNIT
ANACONDA SMELTER NPL SITE

QC Samples ID/ Flue Dust Location	Date Sampled	Sample Type	TCLP Metals Analysis (mg/l)			Total Metals Analysis (mg/kg)			pH (S.U.)	Percent Moisture	Alkalinity as CaCO3 (mg/kg)
			As	Cd	Pb	As	Cd	Pb			
BP-XIII-1020/1026	10-Jun-93	ITEX	0 31	ND	0 57	NT	NT	NT	11 69	38 53	NT
BP-RAW-1020/1026 BP-146	10-Jun-93	QA/QC	NT	NT	NT	8,570	743	9,890	10 15	27 60	NT
BP-RAW-1020/1026	10-Jun-93	ITEX	NT	NT	NT	10,097	926	12,274	11 24	23 90	NT
BP-XI-1146/1152 BP-164	10-Jun-93	QA/QC	1 49	5 09	0 043	NT	NT	NT	11 39	31 50	NT
BP-XI-1146/1152	10-Jun-93	QA/QC	0 87	0 016	0 2	NT	NT	NT	NT	31 50	NT
BP-XI-1146/1152	10-Jun-93	ITEX	0 32	ND	0 56	NT	NT	NT	11 65	39 53	NT
BP-RAW-1146/1152 BP-164	10-Jun-93	QA/QC	NT	NT	NT	13,800	1,170	15,600	10 26	31 10	NT
BP-RAW-1146/1152	10-Jun-93	ITEX	NT	NT	NT	10,134	917	11,839	11 06	29 01	NT
BP-X1-1280/1286 BP-183	14-Jun-93	QA/QC	0 62	<0 003	0 08	NT	NT	NT	11 42	22 20	NT
BP-X1-1280/1286	14-Jun-93	ITEX	1 01	ND	ND	NT	NT	NT	11 71	37 34	NT
BP-XI-1301/1304 BP-186	14-Jun-93	QA/QC	1 07	0 075	0 12	NT	NT	NT	11 41	33 60	NT
BP-XI-1301/1304	14-Jun-93	ITEX	0 34	ND	0 61	NT	NT	NT	11 75	45 32	NT
BP-XI-1431/1437 BP-205	14-Jun-93	QA/QC	1 17	0 007	0 12	NT	NT	NT	11 50	42 90	NT
BP-XI-1431/1437	14-Jun-93	ITEX	1 08	ND	ND	NT	NT	NT	11 29	40 88	NT
BP-RAW-1431/1437 BP-205	14-Jun-93	QA/QC	NT	NT	NT	10,300	801	11,600	9 72	32 70	NT
BP-RAW-1431/1437 BP-205	14-Jun-93	ITEX	NT	NT	NT	7,434	670	9,141	9 24	28 16	NT
BP-XI-1501/1507 BP-215	14-Jun-93	QA/QC	0 62	0 009	0 2	NT	NT	NT	11 42	34 00	NT
BP-XI-1501/1507 BP-215	14-Jun-93	ITEX	1 16	ND	ND	NT	NT	NT	11 36	45 49	NT
BP-X1-1571/1577 BP-225	15-Jun-93	QA/QC	1 25	0 009	0 12	NT	NT	NT	11 39	31 60	NT
BP-X1-1571/1577 BP-225	15-Jun-93	ITEX	0 11	ND	ND	NT	NT	NT	11 52	38 02	NT
BP-XI-1661/1667 BP-238	15-Jun-93	QA/QC	1 3	< 003	< 02	NT	NT	NT	11 44	36 80	NT
BP-XI-1661/1667	15-Jun-93	ITEX	0 13	ND	1 11	NT	NT	NT	11 39	36 13	NT

TABLE D-3.4

SUMMARY OF QUALITY CONTROL ANALYTICAL RESULTS
COMPARISON OF ITEX AND QA/QC RESULTS
FLUE DUST OPERABLE UNIT
ANACONDA SMELTER NPL SITE

QC Samples ID/ Flue Dust Location	Date Sampled	Sample Type	TCLP Metals Analysis (mg/l)			Total Metals Analysis (mg/kg)			pH (S.U.)	Percent Moisture	Alkalinity as CaCO3 (mg/kg)
			As	Cd	Pb	As	Cd	Pb			
BP-RAW- 1661/1667 BP-238	15-Jun-93	QA/QC	NT	NT	NT	5,680	524	7,100	9 74	24 60	NT
BP-RAW- 1661/1667	15-Jun-93	ITEX	NT	NT	NT	6,032	594	8,182	8 91	28 77	NT
BP-XI- 2003/2009 BP-288	17-Jun-93	QA/QC	0 7	<0 003	<0 02	NT	NT	NT	11 57	36 00	NT
BP-XI- 2003/2009	17-Jun-93	ITEX	0 29	ND	1 43	NT	NT	NT	11 18	41 32	NT
BP-RAW- 2003/2009 BP-288	17-Jun-93	QA/QC	NT	NT	NT	10,900	910	12,500	9 64	32 50	NT
BP-RAW- 2003/2009	17-Jun-93	ITEX	NT	NT	NT	11,424	1,314	13,669	10 97	33 46	NT
BP-XI-2038/2094 BP-293	17-Jun-93	QA/QC	1	0 004	0 08	NT	NT	NT	11 66	38 70	NT
BP-XI-2038/2094	17-Jun-93	ITEX	0 55	ND	ND	NT	NT	NT	11 08	42 27	NT
BP-XI-2146/2152 BP-309	18-Jun-93	QA/QC	2 07	0 095	1 51	NT	NT	NT	11 69	37 90	NT
BP-XI-2146/2152	18-Jun-93	ITEX	0 54	ND	ND	NT	NT	NT	11 19	43 36	NT
CPT-XIII-11879/12079 SH-952	18-Jun-93	QA/QC	0 25	< 003	0 52	NT	NT	NT	12 37	50 30	NT
CPT-XIII-11879/12079 SH-952	18-Jun-93	ITEX	0 23	ND	1 3	NT	NT	NT	11 89	52 09	NT
CPT-RAW-11879/12079 SH-952	18-Jun-93	QA/QC	NT	NT	NT	32,000	1,240	11,600	6 00	36 60	NT
CPT-RAW-11879/12079	18-Jun-93	ITEX	NT	NT	NT	40,367	1,257	21,566	5 60	34 19	NT
BP-XI-2344/2350 BP-338	21-Jun-93	QA/QC	1 04	<0 003	0 06	NT	NT	NT	11 74	36.30	NT
BP-XI-2344/2350	21-Jun-93	ITEX	1 42	ND	ND	NT	NT	NT	11 18	40.31	NT
BP-RAW-2344/2350 BP-338	21-Jun-93	QA/QC	NT	NT	NT	7,810	602	9,150	9 92	25 40	NT
BP-RAW-2344/2350	21-Jun-93	ITEX	NT	NT	NT	5,356	608	8,554	7 94	28 34	NT
BP-XI-2488/2494 BP-359	22-Jun-93	QA/QC	1 98	0 072	1 12	NT	NT	NT	11 76	37 70	NT
BP-XI-2488/2494	22-Jun-93	ITEX	2 17	ND	0 33	NT	NT	NT	11 19	45 78	NT
BP-XI-2523/2529 BP-364	22-Jun-93	QA/QC	1 41	0 011	0 31	NT	NT	NT	11 70	34 00	NT

TABLE D-3.4

SUMMARY OF QUALITY CONTROL ANALYTICAL RESULTS
COMPARISON OF ITEX AND QA/QC RESULTS
FLUE DUST OPERABLE UNIT
ANACONDA SMELTER NPL SITE

QC Samples ID/ Flue Dust Location	Date Sampled	Sample Type	TCLP Metals Analysis (mg/l)			Total Metals Analysis (mg/kg)			pH (S.U.)	Percent Moisture	Alkalinity as CaCO3 (mg/kg)
			As	Cd	Pb	As	Cd	Pb			
BP-XI-2523/2529	22-Jun-93	ITEX	2 2	0 18	ND	NT	NT	NT	11 30	35 08	NT
BP-RAW-2523/2529 BP-364	22-Jun-93	QA/QC	NT	NT	NT	9,180	606	11,000	9 39	28 40	NT
BP-RAW-2523/2529	22-Jun-93	ITEX	NT	NT	NT	9,954	932	11,740	8 97	24 63	NT
BP-XI-2726 BP-378	23-Jun-93	QA/QC	1 01	0 005	0 09	NT	NT	NT	11.65	37 50	NT
BP-XI-2621/2867	23-Jun-93	ITEX	1 71	1 25	0 79	NT	NT	NT	11 14	38 58	NT
BP-RAW-2726 BP-378	23-Jun-93	QA/QC	NT	NT	NT	10,100	837	11,700	10 17	26 40	NT
BP-RAW-2621/2867	23-Jun-93	ITEX	NT	NT	NT	8,115	700	9,638	9 27	24 49	NT
BP-XI-2621/2867 BP-378	23-Jun-93	QA/QC	1 46	0 021	0 37	NT	NT	NT	11 60	36 90	NT
BP-XI-2621/2867	23-Jun-93	ITEX	1 71	1 25	0 79	NT	NT	NT	11 14	38 58	NT
BP-RAW-3355 BP-380	25-Jun-93	QA/QC	NT	NT	NT	8,840	617	9,640	9 96	23 20	NT
BP-RAW-3127/3369	25-Jun-93	ITEX	NT	NT	NT	6,817	1,028	9,000	8 69	26 81	NT
CPT-RAW-13341/13523 SH-959	25-Jun-93	QA/QC	NT	NT	NT	35,400	995	19,300	5 68	29 60	NT
CPT-RAW-13341/13523	25-Jun-93	ITEX	NT	NT	NT	45,999	683	25,621	5 03	27 21	NT
BP3-XI-3469 BP-395	28-Jun-93	QA/QC	1	1 15	0 58	NT	NT	NT	11 35	65 80	NT
BP3-XI-3468/3474	28-Jun-93	ITEX	1 64	0 93	0 26	NT	NT	NT	11 38	60 58	NT
BP3-RAW-3469 BP-395	28-Jun-93	QA/QC	NT	NT	NT	7,060	576	7,140	9 56	41 30	NT
BP3-RAW-3468/3474	28-Jun-93	ITEX	NT	NT	NT	8,603	900	8,101	9 22	38 76	NT
BP3-XI-3566/3569 BP-409	28-Jun-93	QA/QC	2 17	0 004	0 09	NT	NT	NT	11 41	53 10	NT
BP3-XI-3566/3569	28-Jun-93	ITEX	1 35	ND	ND	NT	NT	NT	11 44	57 38	NT
BP3-XI-3724/3730 BP 432	29-Jun-93	QA/QC	2 55	0 088	1 07	NT	NT	NT	11 50	61 60	NT

TABLE D-3.4

SUMMARY OF QUALITY CONTROL ANALYTICAL RESULTS
COMPARISON OF ITEX AND QA/QC RESULTS
FLUE DUST OPERABLE UNIT
ANACONDA SMELTER NPL SITE

QC Samples ID/ Flue Dust Location	Date Sampled	Sample Type	TCLP Metals Analysis (mg/l)			Total Metals Analysis (mg/kg)			pH (S.U.)	Percent Moisture	Alkalinity as CaCO3 (mg/kg)
			As	Cd	Pb	As	Cd	Pb			
BP3-XI-3724/3730	29-Jun-93	ITEX	1 07	1 43	0 62	NT	NT	NT	11 17	63 17	NT
BP3-RAW-3724/3730 BP 432	29-Jun-93	QA/QC	NT	NT	NT	5,640	475	5,930	9 65	43 40	NT
BP3-RAW-3724/3730	29-Jun-93	ITEX	NT	NT	NT	3,843	510	5,773	9 76	46 20	NT
BP2-XI-3754/3995	30-Jun-93	QA/QC	NT	NT	NT	NT	NT	NT	11 32	42 70	173,000
BP2-XI-3754/3995	30-Jun-93	ITEX	NT	NT	NT	NT	NT	NT	11 56	44 47	287,791
BP2-RAW-3754/3995	30-Jun-93	QA/QC	NT	NT	NT	12,300	890	14,700	9 61	24 50	NT
BP2-RAW-3754/3995	30-Jun-93	ITEX	NT	NT	NT	12,032	872	14,818	8 76	25 11	NT
CPT-XIII-14017/14181	30-Jun-93	QA/QC	NT	NT	NT	NT	NT	NT	11 79	48 70	212,000
CPT-XIII-14017/14181	30-Jun-93	ITEX	NT	NT	NT	NT	NT	NT	11 19	55 14	280,702
CPT-RAW-14017/14181	30-Jun-93	QA/QC	NT	NT	NT	36,600	994	19,900	6 68	26 40	NT
CPT-RAW-14017/14181	30-Jun-93	ITEX	NT	NT	NT	39,373	1,120	21,823	5 77	28.03	NT
CPT-XIII-14980/15207	8-Jul-93	QA/QC	NT	NT	NT	NT	NT	NT	11 93	22 80	156,700
CPT-XIII-14980/15207	8-Jul-93	ITEX	NT	NT	NT	NT	NT	NT	11 62	48 34	261,612
CPT-RAW-14980/15207	8-Jul-93	QA/QC	NT	NT	NT	28,900	845	14,300	5 12	31 30	NT
CPT-RAW-14980/15207	8-Jul-93	ITEX	NT	NT	NT	54,350	1,733	25,964	4 76	34 69	NT
BP2-XI-4839/5080	8-Jul-93	QA/QC	NT	NT	NT	NT	NT	NT	11 41	25 20	175,400
BP2-XI-4839/5080	8-Jul-93	ITEX	NT	NT	NT	NT	NT	NT	11 09	34 62	274,259
BP2-RAW-4839/5080	8-Jul-93	QA/QC	NT	NT	NT	9,040	700	10,100	9 64	19 50	NT
BP2-RAW-4839/5080	8-Jul-93	ITEX	NT	NT	NT	12,521	922	12,396	8 52	25 41	NT
BP3-XI-5934/5939	13-Jul-93	QA/QC	0 48	<0 003	0 31	NT	NT	NT	11 47	54 30	NT
BP3-XI-5934/5939	13-Jul-93	ITEX	3 3	ND	ND	NT	NT	NT	11 16	58 67	189,862

TABLE D-3.4

SUMMARY OF QUALITY CONTROL ANALYTICAL RESULTS
COMPARISON OF ITEX AND QA/QC RESULTS
FLUE DUST OPERABLE UNIT
ANACONDA SMELTER NPL SITE

QC Samples ID/ Flue Dust Location	Date Sampled	Sample Type	TCLP Metals Analysis (mg/l)			Total Metals Analysis (mg/kg)			pH (S.U.)	Percent Moisture	Alkalinity as CaCO3 (mg/kg)
			As	Cd	Pb	As	Cd	Pb			
BP3-XI-6157/6163	14-Jul-93	QA/QC	0 4	<0 003	0 7	NT	NT	NT	11 73	52 40	NT
BP3-XI-6157/6163	14-Jul-93	ITEX	3 03	ND	ND	NT	NT	NT	11 17	45 60	246,018
BP3-RAW-6157/6163	14-Jul-93	QA/QC	NT	NT	NT	5,590	527	5,380	11 52	38 20	NT
BP3-RAW-6157/6163	14-Jul-93	ITEX	NT	NT	NT	7,971	549	10,267	11 27	39 11	NT
BP3-RAW-6483/6491	15-Jul-93	QA/QC	NT	NT	NT	4,000	252	3,550	9 90	27 30	NT
BP3-RAW-6483/6491	15-Jul-93	ITEX	NT	NT	NT	3,290	175	2,972	9 06	28 43	NT
BP3-XI-6483/6491	15-Jul-93	QA/QC	0 33	0.003	0 78	NT	NT	NT	11 65	42 00	NT
BP3-XI-6483/6491	15-Jul-93	ITEX	0 44	7.75	0 7	NT	NT	NT	11 38	42 89	224,024
CPT-XIII-16248/16483	15-Jul-93	QA/QC	NT	NT	NT	NT	NT	NT	11 82	51 40	169,600
CPT-XIII-16248/16483	15-Jul-93	ITEX	NT	NT	NT	NT	NT	NT	11 38	45 21	259,541
CPT-RAW-16248/16483	15-Jul-93	QA/QC	NT	NT	NT	44,000	1,290	20,500	5 50	33 10	NT
CPT-RAW-16248/16483	15-Jul-93	ITEX	NT	NT	NT	48,518	1,666	24,212	5 47	34 61	NT
BP3-XI-6695/6701	16-Jul-93	QA/QC	0 27	0 005	0 68	NT	NT	NT	11 58	38.90	NT
BP3-XI-6695/6701	16-Jul-93	ITEX	0 48	ND	ND	NT	NT	NT	11 29	42 26	193,430
IP-XI-6881/6885	19-Jul-93	QA/QC	0 46	<0 003	0 08	NT	NT	NT	11 69	44 30	NT
IP-XI-6881/6885	19-Jul-93	ITEX	1 23	0 04	ND	NT	NT	NT	11 89	48 70	189,902
IP-RAW-6881/6887	19-Jul-93	QA/QC	NT	NT	NT	5,030	493	6,650	4 79	34 20	NT
IP-RAW-6881/6887	19 Jul-93	ITEX	NT	NT	NT	4,935	404	5,219	4 49	29 80	NT
IP-XI-6900/6906	22-Jul-93	QA/QC	0 43	<0 003	0 04	NT	NT	NT	11 73	49 80	NT
IP-XI-6900/6906	22-Jul-93	ITEX	0 3	ND	ND	NT	NT	NT	11 22	45 74	157,942
BP3-XI-7234/7241	22-Jul-93	QA/QC	1 14	<0 003	<0 02	NT	NT	NT	11 63	41 70	NT
BP3-XI-7234/7241	22-Jul-93	ITEX	2 01	ND	ND	NT	NT	NT	11 31	43 37	187,825

TABLE D-3.4

SUMMARY OF QUALITY CONTROL ANALYTICAL RESULTS
COMPARISON OF ITEX AND QA/QC RESULTS
FLUE DUST OPERABLE UNIT
ANACONDA SMELTER NPL SITE

QC Samples ID/ Flue Dust Location	Date Sampled	Sample Type	TCLP Metals Analysis (mg/l)			Total Metals Analysis (mg/kg)			pH (S.U.)	Percent Moisture	Alkalinity as CaCO3 (mg/kg)
			As	Cd	Pb	As	Cd	Pb			
BP3-RAW-7234/7241	22-Jul-93	QA/QC	NT	NT	NT	3,470	179	2,900	8 70	17 90	NT
BP3-RAW-7234/7241	22-Jul-93	ITEX	NT	NT	NT	3,015	166	3,236	8 83	16 18	NT
BP3-XI-7340/7346	22-Jul-93	QA/QC	3 17	0 004	<0 023	NT	NT	NT	11 57	47 30	NP
BP3-XI-7340/7346	22-Jul-93	ITEX	1 32	ND	ND	NT	NT	NT	11 31	51 05	239,451
CPT-XIII-17576/17830	23-Jul-93	QA/QC	NT	NT	NT	NT	NT	NT	11 95	42 80	319,400
CPT-XIII-17576/17830	23-Jul-93	ITEX	NT	NT	NT	NT	NT	NT	11 88	47 87	278,796
CPT-RAW-17576/17830	23-Jul-93	QA/QC	NT	NT	NT	24,200	664	15,800	4 94	30 90	NT
CPT-RAW-17576/17830	23-Jul-93	ITEX	NT	NT	NT	25,379	602	25,810	4 90	27 46	NT
IP-XI-7436/7442	23-Jul-93	QA/QC	0 611	<0 003	<0 023	NT	NT	NT	11 62	44 10	NT
IP-XI-7436/7442	23-Jul-93	ITEX	0 48	ND	ND	NT	NT	NT	11 30	42 69	250,925
IP-XI-7572/7578	26-Jul-93	QA/QC	0 72	0 009	0 2	NT	NT	NT	11 45	37 70	NT
IP-XI-7572/7578	26-Jul-93	ITEX	0 96	ND	ND	NT	NT	NT	11 31	46 52	242,515
IP-RAW-7572/7578	26-Jul-93	QA/QC	NT	NT	NT	5,540	597	7,020	6 45	45 90	NT
IP-RAW-7572/7578	26-Jul-93	ITEX	NT	NT	NT	7,459	740	10,872	5 96	32 28	NT
BP3-XI-7751/7757	27-Jul-93	QA/QC	0 69	<0 003	<0 04	NT	NT	NT	11 36	36 50	NT
BP3-XI-7751/7757	27-Jul-93	ITEX	1 2	ND	0 25	NT	NT	NT	11 34	37 80	256,944
BP3-XI-7758/7764	27-Jul-93	QA/QC	1 12	<0 003	<0 04	NT	NT	NT	11 38	37 90	NT
BP3-XI-7758/7764	27-Jul-93	ITEX	1 61	ND	0 2	NT	NT	NT	11 30	42 57	249,511
BP3-XI-7765/7771	27-Jul-93	QA/QC	0 66	<0 003	<0 04	NT	NT	NT	11 37	32 30	NT
BP3-XI-7765/7771	27-Jul-93	ITEX	0 79	ND	0 22	NT	NT	NT	11 28	42 81	239,806
BP3-XI-7786/7792	27-Jul-93	QA/QC	0 24	<0 003	<0 04	NT	NT	NT	11 54	32 40	NT

TABLE D-3.4

SUMMARY OF QUALITY CONTROL ANALYTICAL RESULTS
COMPARISON OF ITEX AND QA/QC RESULTS
FLUE DUST OPERABLE UNIT
ANACONDA SMELTER NPL SITE

QC Samples ID/ Flue Dust Location	Date Sampled	Sample Type	TCLP Metals Analysis (mg/l)			Total Metals Analysis (mg/kg)			pH (S.U.)	Percent Moisture	Alkalinity as CaCO3 (mg/kg)
			As	Cd	Pb	As	Cd	Pb			
BP3-XI-7786/7792	27-Jul-93	ITEX	0 45	ND	0 17	NT	NT	NT	11 47	34 09	236,143
BP3-RAW-7786/7792	27-Jul-93	QA/QC	NT	NT	NT	2,680	166	2,280	10 22	17 00	NT
BP3-RAW-7786/7792	27-Jul-93	ITEX	NT	NT	NT	2,210	73	1,788	8 88	16 29	NT
BP3-XI-6399/6905 (3)	14-Jul-93	QA/QC	2 25	0 01	0 12	NT	NT	NT	11 73	73 90	NT
BP3-XI-6399/6905 (3)	16-Jul-93	ITEX	2 1	ND	ND	NT	NT	NT	NT	NT	NT
BP3-XI-6569/6575 (3)	14-Jul-93	QA/QC	1 39	<0 003	<0 04	NT	NT	NT	11 65	41 50	NT
BP3-XI-6569/6575 (3)	16-Jul-93	ITEX	3 18	ND	ND	NT	NT	NT	NT	NT	NT
BP3-XI-8080/8086	30-Jul-93	QA/QC	1 37	<0 003	0 04	NT	NT	NT	11 70	37 00	NT
BP3-XI-8080/8086	30-Jul-93	ITEX	0.63	6 15	8 3	NT	NT	NT	11.13	36 19	208,064
BP3-RAW-8080/8086	30-Jul-93	QA/QC	NT	NT	NT	2,670	169	2,690	9 59	20 20	NT
BP3-RAW-8080/8086	30-Jul-93	ITEX	NT	NT	NT	8,255	220	3,776	9 63	24 12	NT
MF-XIII-18750/18759	30-Jul-93	QA/QC	0 77	<0 003	0 04	NT	NT	NT	12 06	55 70	NT
MF-XIII-18750/18759	30-Jul-93	ITEX	0 45	ND	ND	NT	NT	NT	11 56	51 77	269,030
MF-RAW-18750/18759	30-Jul-93	QA/QC	NT	NT	NT	44,200	541	6,320	4 15	19 60	NT
MF-RAW-18750/18759	30-Jul-93	ITEX	NT	NT	NT	39,464	549	6,505	4 38	21 08	NT
BP3-XI-8172/8178	30-Jul-93	QA/QC	1 72	0 045	0 59	NT	NT	NT	11 72	33 50	NT
BP3-XI-8172/8178	30-Jul-93	ITEX	1 34	ND	ND	NT	NT	NT	11 27	38 93	200,216
MF-XIII-18840/18849	30-Jul-93	QA/QC	0 41	<0 003	0 14	NT	NT	NT	12 06	51 00	NT
MF-XIII-18840/18849	30-Jul-93	ITEX	2 24	0 04	0 27	NT	NT	NT	11 66	50 88	308,404
MF-XIII-18991/19000	31-Jul-93	QA/QC	0 33	<0.003	0 1	NT	NT	NT	12 18	50 20	NT
MF-XIII-18991/19000	31-Jul-93	ITEX	0 46	ND	0 3	NT	NT	NT	11 87	48 35	327,505

TABLE D-3.4

SUMMARY OF QUALITY CONTROL ANALYTICAL RESULTS
COMPARISON OF ITEX AND QA/QC RESULTS
FLUE DUST OPERABLE UNIT
ANACONDA SMELTER NPL SITE

QC Samples ID/ Flue Dust Location	Date Sampled	Sample Type	TCLP Metals Analysis (mg/l)			Total Metals Analysis (mg/kg)			pH (S.U.)	Percent Moisture	Alkalinity as CaCO3 (mg/kg)
			As	Cd	Pb	As	Cd	Pb			
MF-RAW-18991/19000	31-Jul-93	QA/QC	NT	NT	NT	47,800	550	6,580	3 95	25 70	NT
MF-RAW-18991/19000	31-Jul-93	ITEX	NT	NT	NT	35,355	378	5,656	4 00	26 04	NT
BP3-XI-8506/8512	31-Jul-93	QA/QC	2 16	<0 003	0 04	NT	NT	NT	10 73	42 50	NT
BP3-XI-8506/8512	31-Jul-93	ITEX	0 79	8 88	14 09	NT	NT	NT	11 30	44 01	225,550
BP3-RAW-8506/8512	31-Jul-93	QA/QC	NT	NT	NT	2,910	244	3,090	10 73	26 60	NT
BP3-RAW-8506/8512	31-Jul-93	ITEX	NT	NT	NT	4,049	240	4,754	9 81	24 17	NT
BP3-X1-8838/8844	2-Aug-93	QA/QC	0 82	0 009	0.04	NT	NT	NT	11 02	33 00	NT
BP3-X1-8838/8844	2-Aug-93	ITEX	0 81	ND	ND	NT	NT	NT	11 20	37 96	236,205
BP3-X1-8894/8900	2-Aug-93	QA/QC	1 22	<0 003	0 1	NT	NT	NT	11 01	43.20	NT
BP3-X1-8894/8900	2-Aug-93	ITEX	0 69	15 39	38 71	NT	NT	NT	11 24	39 76	235,849
BP3-RAW-8894/8900	2-Aug-93	QA/QC	NT	NT	NT	4,930	389	5,210	10 54	29 20	NT
BP3-RAW-8894/8900	2-Aug-93	ITEX	NT	NT	NT	8,167	353	5,579	10 91	27 71	NT
CPT-XIII-19344/19540 SH-1039	2-Aug-93	QA/QC	NT	NT	NT	NT	NT	NT	11 31	54 80	241,500
CPT-XIII-19344/19540	2-Aug-93	ITEX	NT	NT	NT	NT	NT	NT	11 04	51 30	303,814
CPT-RAW-19344/19540	2-Aug-93	QA/QC	NT	NT	NT	45,400	1,270	25,800	5 17	28 90	NT
CPT-RAW-19344/19540	2-Aug-93	ITEX	NT	NT	NT	42,668	1,028	22,313	4 80	30 48	NT
BP3-XI-9029/9035	3-Aug-93	QA/QC	0 47	0 007	<0 04	NT	NT	NT	11 06	31 10	NT
BP3-XI-9029/9035	3-Aug-93	ITEX	2 06	ND	ND	NT	NT	NT	11 14	39 74	225,573
BP3-XI-9257/9263	4-Aug-93	QA/QC	0 85	<0 003	<0 04	NT	NT	NT	11 07	34 90	NT
BP3-XI-9257/9263	4-Aug-93	ITEX	2 06	ND	ND	NT	NT	NT	11 25	35 00	264,710
BP3-XI-9342/9348	5-Aug-93	QA/QC	0 95	0 024	0 3	NT	NT	NT	11 18	37 10	NT
BP3-XI-9342/9348	5-Aug-93	ITEX	1 83	ND	0 17	NT	NT	NT	11 33	37 79	241,612

TABLE D-3.4

SUMMARY OF QUALITY CONTROL ANALYTICAL RESULTS
COMPARISON OF ITEX AND QA/QC RESULTS
FLUE DUST OPERABLE UNIT
ANACONDA SMELTER NPL SITE

QC Samples ID/ Flue Dust Location	Date Sampled	Sample Type	TCLP Metals Analysis (mg/l)			Total Metals Analysis (mg/kg)			pH (S.U.)	Percent Moisture	Alkalinity as CaCO3 (mg/kg)
			As	Cd	Pb	As	Cd	Pb			
BP3-RAW-9342/9348	5-Aug-93	QA/QC	NT	NT	NT	2,360	84	1,990	11 17	15 50	NT
BP3-RAW-9342/9348	5-Aug-93	ITEX	NT	NT	NT	3,429	286	3,543	8 43	20 01	NT
BP3-XI-9540/9546	6-Aug-93	QA/QC	0 49	<0 003	0 04	NT	NT	NT	11.60	30 60	NR
BP3-XI-9540/9546	6-Aug-93	ITEX	ND	0.09	2 08	NT	NT	NT	11 19	34 96	260,558
BP3-XI-9753/9759	7-Aug-93	QA/QC	0.24	0 005	0 05	NT	NT	NT	11 62	35 00	NR
BP3-XI-9752/9762	7-Aug-93	ITEX	0 21	ND	0 43	NT	NT	NT	11 36	34 82	245,327
BP3-RAW-9753/9759	7-Aug-93	QA/QC	NT	NT	NT	3,300	229	3,510	9 42	21 10	NT
BP3-RAW-9752/9762	7-Aug-93	ITEX	NT	NT	NT	2,796	175	3,623	8 79	19 10	NT
BP3-XI-9896/9902	9-Aug-93	QA/QC	0 91	<0 003	<0 04	NT	NT	NT	11 65	29 10	NR
BP3-XI-9896/9902	9-Aug-93	ITEX	0 83	ND	1 2	NT	NT	NT	11 33	33 92	220,928
CPT-XIII-20251/20252	9-Aug-93	QA/QC	NT	NT	NT	NT	NT	NT	12 08	57 00	267,700
CPT-XIII-20197/20408	9-Aug-93	ITEX	NT	NT	NT	NT	NT	NT	11 85	47 18	278,693
CPT-RAW-20197/20408	9-Aug-93	QA/QC	NT	NT	NT	17,300	761	12,600	6 09	22 50	NT
CPT-RAW-20197/20408	9-Aug-93	ITEX	NT	NT	NT	22,143	849	18,687	5 93	22 83	NT
BP3-XI-10013/10019	10-Aug-93	QA/QC	0 32	0 004	0 1	NT	NT	NT	11 61	34 30	NR
BP3-XI-10013/10019	10-Aug-93	ITEX	1 3	ND	ND	NT	NT	NT	11 40	42 61	218,148
BP3-RAW-10013/10019	10-Aug-93	QA/QC	NT	NT	NT	3,860	241	3,800	9 91	20 90	NT
BP3-RAW-10013/10019	10-Aug-93	ITEX	NT	NT	NT	4,029	237	4,331	9 51	18 14	NT
BP3-XI-10243/10249	11-Aug-93	QA/QC	0.18	<0 003	0 08	NT	NT	NT	12 12	36 00	NR
BP3-XI-10243/10249	11-Aug-93	ITEX	0 17	ND	0 24	NT	NT	NT	11 95	43 01	253,883
BP3-XI-10446/10452	12-Aug-93	QA/QC	0 18	<0 003	0 33	NT	NT	NT	12 17	32 50	NR

TABLE D-3.4

SUMMARY OF QUALITY CONTROL ANALYTICAL RESULTS
COMPARISON OF ITEX AND QA/QC RESULTS
FLUE DUST OPERABLE UNIT
ANACONDA SMELTER NPL SITE

QC Samples ID/ Flue Dust Location	Date Sampled	Sample Type	TCLP Metals Analysis (mg/l)			Total Metals Analysis (mg/kg)			pH (S.U.)	Percent Moisture	Alkalinity as CaCO3 (mg/kg)
			As	Cd	Pb	As	Cd	Pb			
BP3-XI-10446/10452	12-Aug-93	ITEX	0.13	ND	0 73	NT	NT	NT	11 69	35 29	265,755
BP3-RAW-10446/10452	12-Aug-93	QA/QC	NT	NT	NT	3,970	298	4,110	10 24	27 70	NT
BP3-RAW-10446/10452	12-Aug-93	ITEX	NT	NT	NT	3,170	244	3,865	9 97	28 63	NT
BP3-XI-10671/10677	13-Aug-93	QA/QC	0 24	<0 003	0 06	NT	NT	NT	12 14	37 30	NR
BP3-XI-10671/10677	13-Aug-93	ITEX	0 2	ND	ND	NT	NT	NT	11 64	37 73	243,107
BP3-XI-10746/10752	14-Aug-93	QA/QC	0 84	<0 003	<0 04	NT	NT	NT	12 34	38 90	NR
BP3-XI-10746/10752	14-Aug-93	ITEX	0 19	ND	0 67	NT	NT	NT	11 98	39 82	197,400
BP3-RAW-10746/10752	14-Aug-93	QA/QC	NT	NT	NT	2,940	164	2,620	9 04	27 10	NT
BP3-RAW-10746/10752	14-Aug-93	ITEX	NT	NT	NT	2,781	185	3,031	8 74	24 89	NT
BP3-XI-10944/10950	16-Aug-93	QA/QC	0 339	<0 003	0 04	NT	NT	NT	12 20	42 15	NR
BP3-XI-10944/10950	16-Aug-93	ITEX	0 13	ND	0 15	NT	NT	NT	11 87	38 01	254,968
BP3-XI-11090/11096	17-Aug-93	QA/QC	0 211	<0 003	<0 040	NT	NT	NT	12 14	38 00	205,600
BP3-XI-11090/11096	17-Aug-93	ITEX	0 14	ND	0 47	NT	NT	NT	12 08	39 61	223,804
BP3-RAW-11090/11096	17-Aug-93	QA/QC	NT	NT	NT	3,680	253	4,040	8 84	22 10	NR
BP3-RAW-11090/11096	17-Aug-93	ITEX	NT	NT	NT	2,932	269	3,467	8 61	20 95	NR
MF-XIII-21391/21400	16-Aug-93	QA/QC	0 344	<0 003	0 594	NT	NT	NT	12 16	44 50	285,200
MF-XIII-21391/21400	16-Aug-93	ITEX	0 24	ND	0 55	NT	NT	NT	11 99	43 01	310,032
MF-XIII-21401/21410	16-Aug-93	QA/QC	0 323	<0 003	0 436	NT	NT	NT	12 16	47 10	294,200
MF-XIII-21401/21410	16-Aug-93	ITEX	0 27	ND	0 46	NT	NT	NT	12 05	39 96	318,934
MF-XIII-21411/21420	16-Aug-93	QA/QC	0 365	<0 003	0 266	NT	NT	NT	12 09	45 70	272,100
MF-XIII-21411/21420	16-Aug-93	ITEX	0 23	ND	0 54	NT	NT	NT	11 95	49 30	269,717

TABLE D-3.4

SUMMARY OF QUALITY CONTROL ANALYTICAL RESULTS
COMPARISON OF ITEX AND QA/QC RESULTS
FLUE DUST OPERABLE UNIT
ANACONDA SMELTER NPL SITE

QC Samples ID/ Flue Dust Location	Date Sampled	Sample Type	TCLP Metals Analysis (mg/l)			Total Metals Analysis (mg/kg)			pH (S.U.)	Percent Moisture	Alkalinity as CaCO3 (mg/kg)
			As	Cd	Pb	As	Cd	Pb			
MF-XIII-21421/21430	16-Aug-93	QA/QC	0 375	<0 003	0 124	NT	NT	NT	12 02	48 20	243,800
MF-XIII-21421/21430	16-Aug-93	ITEX	0 29	ND	0 4	NT	NT	NT	11 94	48 68	257,624
MF-XIII-21431/21440	16-Aug-93	QA/QC	0 544	<0 003	0 074	NT	NT	NT	11 99	44 00	235,600
MF-XIII-21431/21440	16-Aug-93	ITEX	0 37	ND	0 51	NT	NT	NT	11 86	43 38	275,922
MF-XIII-21441/21450	16-Aug-93	QA/QC	0 435	0 005	0 088	NT	NT	NT	11 96	44 40	209,900
MF-XIII-21441/21450	16-Aug-93	ITEX	0 72	ND	0 36	NT	NT	NT	11 86	46 22	263,453
MF-XIII-21451/21460	16-Aug-93	QA/QC	0 504	<0 003	0 11	NT	NT	NT	11 99	43 70	231,300
MF-XIII-21451/21460	16-Aug-93	ITEX	0 28	ND	0 57	NT	NT	NT	11 84	43 92	315,795
MF-XIII-21461/21470	16-Aug-93	QA/QC	0 368	<0 003	0 142	NT	NT	NT	11 98	44 30	222,200
MF-XIII-21461/21470	16-Aug-93	ITEX	0 25	ND	ND	NT	NT	NT	11 88	43 09	290,661
MF-XIII-21471/21480	16-Aug-93	QA/QC	1 266	0 012	0 4	NT	NT	NT	12 01	48 20	275,100
MF-XIII-21471/21480	16-Aug-93	ITEX	0 31	ND	0 18	NT	NT	NT	11 85	48 15	319,147
MF-XIII-21481/21490	16-Aug-93	QA/QC	0 599	<0 003	0 202	NT	NT	NT	11 99	43 50	229,800
MF-XIII-21481/21490	16-Aug-93	ITEX	0 31	ND	ND	NT	NT	NT	11 86	44 33	263,433
MF-XIII-21491/21500	16-Aug-93	QA/QC	0 381	<0 003	0 049	NT	NT	NT	12 05	41 00	230,100
MF-XIII-21491/21500	16-Aug-93	ITEX	0.38	ND	ND	NT	NT	NT	11 81	42 59	268,669
MF-XIII-21501/21510	16-Aug-93	QA/QC	0 427	<0 003	0 091	NT	NT	NT	11 94	42 30	260,000
MF-XIII-21501/21510	16-Aug-93	ITEX	0 39	ND	0 16	NT	NT	NT	11 76	41 09	290,956
MF-XIII-21511/21520	16-Aug-93	QA/QC	0 509	<0 003	<0 040	NT	NT	NT	11 95	42 30	238,600
MF-XIII-21511/21520	16-Aug-93	ITEX	0 35	ND	0 26	NT	NT	NT	11 77	43 74	271,361
MF-XIII-21521/21530	16-Aug-93	QA/QC	0 496	<0 003	0 069	NT	NT	NT	11 98	44 40	243,700
MF-XIII-21521/21530	16-Aug-93	ITEX	0 31	ND	0 27	NT	NT	NT	11 80	45 49	262,940

TABLE D-3.4

SUMMARY OF QUALITY CONTROL ANALYTICAL RESULTS
COMPARISON OF ITEX AND QA/QC RESULTS
FLUE DUST OPERABLE UNIT
ANACONDA SMELTER NPL SITE

QC Samples ID/ Flue Dust Location	Date Sampled	Sample Type	TCLP Metals Analysis (mg/l)			Total Metals Analysis (mg/kg)			pH (S.U.)	Percent Moisture	Alkalinity as CaCO3 (mg/kg)
			As	Cd	Pb	As	Cd	Pb			
MF-XIII-21531/21540	16-Aug-93	QA/QC	0 499	<0 003	0 341	NT	NT	NT	12 04	41 20	302,600
MF-XIII-21531/21540	16-Aug-93	ITEX	0 43	ND	0 47	NT	NT	NT	11 84	45 84	325,862
MF-XIII-21541/21550	16-Aug-93	QA/QC	0 509	<0.003	0 096	NT	NT	NT	11 85	45 60	245,700
MF-XIII-21541/21550	16-Aug-93	ITEX	0 29	ND	0 3	NT	NT	NT	11 78	49 06	289,802
MF-XIII-21551/21560	16-Aug-93	QA/QC	0 414	<0 003	<0 040	NT	NT	NT	11 91	45 80	252,300
MF-XIII-21551/21560	16-Aug-93	ITEX	0 28	ND	0 35	NT	NT	NT	11 81	40 95	275,495
MF-XIII-21561/21570	16-Aug-93	QA/QC	0 391	<0 003	0 121	NT	NT	NT	12 01	44 50	283,100
MF-XIII-21561/21570	16-Aug-93	ITEX	0 35	ND	0 32	NT	NT	NT	11 86	46 83	262,940
MF-XIII-21571/21580	16-Aug-93	QA/QC	0 337	<0 003	0 094	NT	NT	NT	11 98	44 70	261,600
MF-XIII-21571/21580	16-Aug-93	ITEX	0 35	ND	0 46	NT	NT	NT	11 76	45 48	273,310
MF-XIII-21581/21588	16-Aug-93	QA/QC	0.359	<0 003	0 063	NT	NT	NT	11 93	48 00	226,000
MF-XIII-21581/21588	16-Aug-93	ITEX	0.6	ND	0 53	NT	NT	NT	11 74	44 35	293,119
MF-RAW-21391/21400	16-Aug-93	QA/QC	NT	NT	NT	45,920	381	6,480	4 44	30 80	NT
MF-RAW-21391/21400	16-Aug-93	ITEX	NT	NT	NT	34,723	184	6,767	4 42	29 22	NT
MF-RAW-21441/21450	16-Aug-93	QA/QC	NT	NT	NT	36,740	365	6,110	5 06	27 30	NT
MF-RAW-21441/21450	16-Aug-93	ITEX	NT	NT	NT	36,974	351	7,277	4 43	27 73	NT
MF-RAW-21491/21500	16-Aug-93	QA/QC	NT	NT	NT	43,460	373	6,340	4 37	26 70	NT
MF-RAW-21491/21500	16-Aug-93	ITEX	NT	NT	NT	40,030	349	5,698	4 31	28 77	NT
MF-RAW-21541/21550	16-Aug-93	QA/QC	NT	NT	NT	39,260	446	7,360	4 50	27 90	NT
MF-RAW-21541/21550	16-Aug-93	ITEX	NT	NT	NT	31,458	413	7,143	4 84	26 15	NT
MF-RAW-21581/21588	16-Aug-93	QA/QC	NT	NT	NT	39,350	336	5,620	4 35	27 90	NT

TABLE D-3.4

SUMMARY OF QUALITY CONTROL ANALYTICAL RESULTS
COMPARISON OF ITEX AND QA/QC RESULTS
FLUE DUST OPERABLE UNIT
ANACONDA SMELTER NPL SITE

QC Samples ID/ Flue Dust Location	Date Sampled	Sample Type	TCLP Metals Analysis (mg/l)			Total Metals Analysis (mg/kg)			pH (S.U.)	Percent Moisture	Alkalinity as CaCO3 (mg/kg)
			As	Cd	Pb	As	Cd	Pb			
MF-RAW-21581/21588	16-Aug-93	ITEX	NT	NT	NT	33,122	270	4,315	4 38	26 62	NT
CPT-XIII-21589/21755	17-Aug-93	QA/QC	NT	NT	NT	NT	NT	NT	10 80	50 10	341 700
CPT-XIII-21589/21755	17-Aug-93	ITEX	NT	NT	NT	NT	NT	NT	12 05	46 53	338.736
CPT-RAW-21589/21755	17-Aug-93	QA/QC	NT	NT	NT	24.900	852	15,500	6 50	52 30	NT
CPT-RAW-21589/21755	17-Aug-93	ITEX	NT	NT	NT	14,039	562	10,620	6 30	27 50	NT
BP3-XI-11155/11161	18-Aug-93	QA/QC	0 09	<0 003	<0 04	NT	NT	NT	10 62	40 00	NR
BP3-XI-11155/11161	18-Aug-93	ITEX	0 06	ND	0 25	NT	NT	NT	12 17	46 85	227,216
BP3-XI-11294/11300	19-Aug-93	QA/QC	0 29	<0 003	0 07	NT	NT	NT	10 59	40 80	NR
BP3-XI-11294/11300	19-Aug-93	ITEX	0.1	ND	ND	NT	NT	NT	12 09	38 25	246,621
BP3-RAW-11294/11300	19-Aug-93	QA/QC	NT	NT	NT	4,010	172	3,050	11 14	42 00	NT
BP3-RAW-11294/11300	19-Aug-93	ITEX	NT	NT	NT	2,493	102	2,079	9 03	30 99	NT
BP3-XI-11452/11458	20-Aug-93	QA/QC	0 27	<0 003	<0 04	NT	NT	NT	10 59	42 10	NR
BP3-XI-11452/11458	20-Aug-93	ITEX	0.21	ND	0 23	NT	NT	NT	11 36	44 71	263,413
BP3-XI-11501/11507	21-Aug-93	QA/QC	NT	NT	NT	NT	NT	NT	10 60	42 10	219,600
BP3-XI-11501/11507	21-Aug-93	ITEX	NT	NT	NT	NT	NT	NT	11 70	40 19	240,258
BP3-RAW-11501/11507	21-Aug-93	QA/QC	NT	NT	NT	4,130	251	3,530	10 45	26 50	NT
BP3-RAW-11501/11507	21-Aug-93	ITEX	NT	NT	NT	2,924	191	3,484	9 70	29 76	NT
BP3-XI-11702/11708	22-Aug-93	QA/QC	NT	NT	NT	NT	NT	NT	10 60	50 60	114,700
BP3-XI-11702/11708	22-Aug-93	ITEX	0 17	ND	0 42	NT	NT	NT	11 83	52 97	234,664
BP3-XI-11942/11948	23-Aug-93	QA/QC	NT	NT	NT	NT	NT	NT	12 11	42 40	175,000
BP3-XI-11942/11948	23-Aug-93	ITEX	0 14	ND	0 67	NT	NT	NT	11 53	49 29	210,884

TABLE D-3.4

SUMMARY OF QUALITY CONTROL ANALYTICAL RESULTS
COMPARISON OF ITEX AND QA/QC RESULTS
FLUE DUST OPERABLE UNIT
ANACONDA SMELTER NPL SITE

QC Samples ID/ Flue Dust Location	Date Sampled	Sample Type	TCLP Metals Analysis (mg/l)			Total Metals Analysis (mg/kg)			pH (S.U.)	Percent Moisture	Alkalinity as CaCO3 (mg/kg)
			As	Cd	Pb	As	Cd	Pb			
BP3-RAW-11942/11948	23-Aug-93	QA/QC	NT	NT	NT	5,050	413	5,380	10 49	33 50	NT
BP3-RAW-11942/11948	23-Aug-93	ITEX	NT	NT	NT	3,036	455	6,381	10 50	34 45	NT
CPT-XIII-22729/22864	23-Aug-93	QA/QC	NT	NT	NT	NT	NT	NT	12 20	44 10	263,100
CPT-XIII-22729/22864	23-Aug-93	ITEX	NT	NT	NT	NT	NT	NT	11 84	42 64	346,890
CPT-RAW-22729/22864	23-Aug-93	QA/QC	NT	NT	NT	18,300	685	12,400	6 49	23 10	NT
CPT-RAW-22729/22864	23-Aug-93	ITEX	NT	NT	NT	16,742	704	14,370	6 16	24 88	NT
BP3-XI-11972/12119	25-Aug-93	QA/QC	NT	NT	NT	NT	NT	NT	12 28	34 70	216,900
BP3-XI-11972/12169	25-Aug-93	ITEX	NT	NT	NT	NT	NT	NT	11 92	34 27	270,783
BP3-RAW-11972/12119	25-Aug-93	QA/QC	NT	NT	NT	5,760	417	6,110	10 73	26 90	NT
BP3-RAW-11972/12169	25-Aug-93	ITEX	NT	NT	NT	22,623	641	12,234	9 93	26 34	NT
BP3-XI-13003/13181	30-Aug-93	QA/QC	NT	NT	NT	NT	NT	NT	11 70	50 80	276,100
BP3-XI-13003/13181	30-Aug-93	ITEX	NT	NT	NT	NT	NT	NT	11 91	43.90	285,657
BP3-RAW-13003/13181	30-Aug-93	QA/QC	NT	NT	NT	2,030	77	1,760	8 05	21 00	NT
BP3-RAW-13003/13181	30-Aug-93	ITEX	NT	NT	NT	3,046	181	2,996	9 66	26 65	NT
IP-XI-13698/13704 GRID 1356	1-Sep-93	QA/QC	0 235	0 009	0 432	NT	NT	NT	11 80	42 34	NT
IP-XI-13698/13704	1-Sep-93	ITEX	0 11	ND	0 27	NT	NT	NT	11 83	41 01	215,336
IP-RAW-13698/13704	1-Sep-93	QA/QC	NT	NT	NT	2,180	153	2,150	3 69	23 44	NT
IP-RAW-13698/13704	1-Sep-93	ITEX	NT	NT	NT	4,745	223	2,833	4 01	21 60	NT
IP-XI-13991/13997 GRID 1398	2-Sep-93	QA/QC	0 06	<0 003	<0 04	NT	NT	NT	11 76	41 90	NR
IP-XI-13991/13997	2-Sep-93	ITEX	0 08	ND	0 34	NT	NT	NT	11 89	43 01	212,219
IP-XI-14219/14225 GRID 1433	3-Sep-93	QA/QC	0 36	<0 003	<0 04	NT	NT	NT	11 66	43 40	NR
IP-XI-14219/14225	3-Sep-93	ITEX	0 23	ND	ND	NT	NT	NT	11 86	44 70	194,485

TABLE D-3.4

SUMMARY OF QUALITY CONTROL ANALYTICAL RESULTS
COMPARISON OF ITEX AND QA/QC RESULTS
FLUE DUST OPERABLE UNIT
ANACONDA SMELTER NPL SITE

QC Samples ID/ Flue Dust Location	Date Sampled	Sample Type	TCLP Metals Analysis (mg/l)			Total Metals Analysis (mg/kg)			pH (S.U.)	Percent Moisture	Alkalinity as CaCO3 (mg/kg)
			As	Cd	Pb	As	Cd	Pb			
IP-RAW-14219/14225	3-Sep-93	QA/QC	NT	NT	NT	6,720	509	6,070	4 05	21 00	NT
IP-RAW-14219/14225	3-Sep-93	ITEX	NT	NT	NT	2,801	287	3,798	4 00	21 52	NT
IP-XI-14726/14732 GRID 1508	7-Sep-93	QA/QC	0 94	0 04	0 6	NT	NT	NT	11 63	39 00	NR
IP-XI-14726/14732	7-Sep-93	ITEX	0 92	11 6	31 08	NT	NT	NT	11 74	40 33	183,920
IP-RAW-14726/14732	7-Sep-93	QA/QC	NT	NT	NT	3,950	455	5,700	5 09	23 50	NT
IP-RAW-14726/14732	7-Sep-93	ITEX	NT	NT	NT	3,998	365	6,490	5 04	23 09	NT
IP-XI-14733/14739 GRID 1509	7-Sep-93	QA/QC	0 27	<0 003	0 08	NT	NT	NT	11 63	43 10	NR
IP-XI-14733/14739	7-Sep-93	ITEX	4 67	9 4	48 41	NT	NT	NT	11.87	44.72	192,133
FDS-XIV-82/92	8-Sep-93	QA/QC	0 40	<0 003	<0 04	NA (1)	NA	NA	11 50	50 40	NA
FDS-XIV-82/92	8-Sep-93	ITEX	0 23	ND (2)	0 40	NA	NA	NA	11 80	51 34	189,752
FDS-RAW-82/92	8-Sep-93	QA/QC	NA	NA	NA	81,500	1,470	23,200	3 97	32 00	NA
FDS-RAW-82/92	8-Sep-93	ITEX	NA	NA	NA	74,213	1,395	25,005	4 24	33 22	NA
IP-XI-14921/15072	8-Sep-93	QA/QC	NR (3)	NR	NR	NA	NA	NA	11 83	37 70	186,100
IP-XI-14921/15072	8-Sep-93	ITEX	NR	NR	NR	NA	NA	NA	11 43	38 04	208,711
FDS-XIV-347/356	9-Sep-93	QA/QC	0 43	0 01	0 10	NA	NA	NA	12 09	58 80	NA
FDS-XIV-347/356	9-Sep-93	ITEX	0 34	ND	ND	NA	NA	NA	11 73	50 94	197,979
FDS-XIV-595/604	9-Sep-93	QA/QC	4 24	<0 003	<0 04	NA	NA	NA	10 27	44 90	NA
FDS-XIV-595/604	9-Sep-93	ITEX	2 45	4 25	0 42	NA	NA	NA	11 08	49 92	182,753
FDS-RAW-595/604	9-Sep-93	QA/QC	NA	NA	NA	24,200	1,200	20,700	4 85	29 40	NA
FDS-RAW-595/604	9-Sep-93	ITEX	NA	NA	NA	29,302	1,362	22,587	5 03	31 15	NA
FDS-XIV-930/939	10-Sep-93	QA/QC	2 09	0 00	<0 04	NA	NA	NA	10 22	50 60	NA

TABLE D-3.4

SUMMARY OF QUALITY CONTROL ANALYTICAL RESULTS
COMPARISON OF ITEX AND QA/QC RESULTS
FLUE DUST OPERABLE UNIT
ANACONDA SMELTER NPL SITE

QC Samples ID/ Flue Dust Location	Date Sampled	Sample Type	TCLP Metals Analysis (mg/l)			Total Metals Analysis (mg/kg)			pH (S.U.)	Percent Moisture	Alkalinity as CaCO3 (mg/kg)
			As	Cd	Pb	As	Cd	Pb			
FDS-XIV-930/939	10-Sep-93	ITEX	14.10	0 08	ND	NA	NA	NA	11 19	51 56	215,609
FDS-RAW-930/939	10-Sep-93	QA/QC	NA	NA	NA	70,800	1,050	14,000	4 30	31 60	NA
FDS-RAW-930/939	10-Sep-93	ITEX	NA	NA	NA	94,042	1,357	20,035	4 15	36 07	NA
FDS-XIV-1-1187/1197	13-Sep-93	QA/QC	0 55	0 03	0 35	NA	NA	NA	10 60	54 00	NA
FDS-XIV-1-1187/1197	13-Sep-93	ITEX	0 06	4 30	ND	NA	NA	NA	11 16	52 95	166,489
FDS-XIV-1-1399/1405	13-Sep-93	QA/QC	0 57	<0 003	0 05	NA	NA	NA	10 19	58.60	NA
FDS-XIV-1-1399/1405	13-Sep-93	ITEX	0 17	19 30	1 31	NA	NA	NA	11 32	52 32	178,661
FDS-RAW-1399/1405	13-Sep-93	QA/QC	NA	NA	NA	25,200	1,240	23,200	4 93	30 10	NA
FDS-RAW-1399/1405	13-Sep-93	ITEX	NA	NA	NA	21,595	1,038	21,997	4 64	29 23	NA
FDS-XIV-1-1749/1758	14-Sep-93	QA/QC	0 24	<0 003	<0 04	NA	NA	NA	10.30	64 00	NA
FDS-XIV-1-1749/1758	14-Sep-93	ITEX	0 27	16 80	1 39	NA	NA	NA	11 79	54 81	215,336
IP-XI-1-15826/16027	13-Sep-93	QA/QC	NA	NA	NA	NA	NA	NA	10 22	42 60	155,900
IP-XI-1-15826/16027	13-Sep-93	ITEX	NA	NA	NA	NA	NA	NA	11 19	42 44	212,281
IP-RAW-C-2	13-Sep-93	QA/QC	NA	NA	NA	1,990	215	2,360	4 21	15 60	NA
IP-RAW-C-2	13-Sep-93	ITEX	NA	NA	NA	1,744	191	2,283	3 66	15 20	NA
CPT-XIII-1-24788/24949	14-Sep-93	QA/QC	NR	NR	NR	NA	NA	NA	10 61	43 20	287,100
CPT-XIII-1-24788/24949	14-Sep-93	ITEX	NR	NR	NR	NA	NA	NA	11 86	45 25	311,950
CPT-RAW-SP- R-1	13-Sep-93	QA/QC	NA	NA	NA	34,700	1,180	17,300	6 35	20 40	NA
CPT-RAW-SP- R-1	13-Sep-93	ITEX	NA	NA	NA	34,377	1,533	18,669	6 09	19 05	NA
CPT-XIII-1-24970/24979	14-Sep-93	QA/QC	0 59	<0 003	<0 04	NA	NA	NA	10 28	40 5	NA
CPT-XIII-1-24970/24979	14-Sep-93	ITEX	1 16	ND	3 92	NA	NA	NA	11 45	43 59	349,468

TABLE D-3.4

SUMMARY OF QUALITY CONTROL ANALYTICAL RESULTS
COMPARISON OF ITEX AND QA/QC RESULTS
FLUE DUST OPERABLE UNIT
ANACONDA SMELTER NPL SITE

QC Samples ID/ Flue Dust Location	Date Sampled	Sample Type	TCLP Metals Analysis (mg/l) As	TCLP Metals Analysis (mg/l) Cd	TCLP Metals Analysis (mg/l) Pb	Total Metals Analysis (mg/kg) As	Total Metals Analysis (mg/kg) Cd	Total Metals Analysis (mg/kg) Pb	pH (S.U.)	Percent Moisture	Alkalinity as CaCO3 (mg/kg)
CPT-RAW-24970/24979	14-Sep-93	QA/QC	NA	NA	NA	21,200	492	8,800	6 27	21 70	NA
CPT-RAW-24970/24979	14-Sep-93	ITEX	NA	NA	NA	18,609	368	8,241	6 38	23.53	NA
FDS-XIV-1-2125/2135	15-Sep-93	QA/QC	0 47	<0 003	<0 04	NA	NA	NA	11 05	50 50	NA
FDS-XIV-1-2125/2135	15-Sep-93	ITEX	0 05	6 20	ND	NA	NA	NA	11 02	44 46	142,882
FDS-RAW-2125/2135	15-Sep-93	QA/QC	NA	NA	NA	17,500	954	12,300	5 61	25 20	NA
FDS-RAW-2125/2135	15-Sep-93	ITEX	NA	NA	NA	22,550	1,055	17,851	5 30	27 21	NA
FDS-XIV-1-2521/2532	16-Sep-93	QA/QC	1 44	0 007	0 05	NA	NA	NA	11 35	44 60	NA
FDS-XIV-1-2521/2532	16-Sep-93	ITEX	1 26	ND	ND	NA	NA	NA	11 28	51 29	254,417
FDS-XIV-1-3405/3415	19-Sep-93	QA/QC	0 33	<0 003	0 09	NA	NA	NA	11 95	54 50	NA
FDS-XIV-1-3405/3415	19-Sep-93	ITEX	0 28	ND	ND	NA	NA	NA	11 82	54 23	259,586
FDS-RAW-3405/3415	19-Sep-93	QA/QC	NA	NA	NA	45,900	589	13,200	3 30	38 80	NA
FDS-RAW-3405/3415	19-Sep-93	ITEX	NA	NA	NA	76,326	950	20,774	3 35	36 46	NA
IP-XI-1-17615/17737	20-Sep-93	QA/QC	NR	NR	NR	NA	NA	NA	11 77	43 20	209,900
IP-XI-1-17615/17737	20-Sep-93	ITEX	NR	NR	NR	NA	NA	NA	11 31	45 62	218,261
IP-RAW-G-2	2-Oct-93	QA/QC	NA	NA	NA	6,650	373	4,924	6 21	46 10	NA
IP-RAW-G-2	2-Oct-93	ITEX	NA	NA	NA	1,329	220	3,220	5 70	28 81	NA
FDS-XIV-1-3798/3807	21-Sep-93	QA/QC	0 24	0 004	0 11	NA	NA	NA	12 30	58 80	NA
FDS-XIV-1-3798/3807	21-Sep-93	ITEX	0 13	ND	ND	NA	NA	NA	11 94	58 13	295,239
FDS-XIV-1-4176/4186	22-Sep-93	QA/QC	0 22	0 003	<0 04	NA	NA	NA	12 24	59 90	NA
FDS-XIV-1-4176/4186	22-Sep-93	ITEX	0 44	ND	ND	NA	NA	NA	11 80	58 89	278,785
FDS-RAW-4176/4186	22-Sep-93	QA/QC	NA	NA	NA	20,800	1,000	15,800	5 76	23 10	NA
FDS-RAW-4176/4186	22-Sep-93	ITEX	NA	NA	NA	20,001	938	13,959	6 10	23 39	NA

TABLE D-3.4

SUMMARY OF QUALITY CONTROL ANALYTICAL RESULTS
COMPARISON OF ITEX AND QA/QC RESULTS
FLUE DUST OPERABLE UNIT
ANACONDA SMELTER NPL SITE

QC Samples ID/ Flue Dust Location	Date Sampled	Sample Type	TCLP Metals Analysis (mg/l)			Total Metals Analysis (mg/kg)			pH (S.U.)	Percent Moisture	Alkalinity as CaCO3 (mg/kg)
			As	Cd	Pb	As	Cd	Pb			
FDS-XIV-1-4345/4355	23-Sep-93	QA/QC	0 25	<0 003	0 09	NA	NA	NA	12 22	55 10	NA
FDS-XIV-1-4345/4355	23-Sep-93	ITEX	0 15	ND	0 17	NA	NA	NA	11 95	53 59	292,937
FDS-XIV-1-4885/4894	24-Sep-93	QA/QC	0 27	<0 003	<0 04	NA	NA	NA	12 17	59 63	NA
FDS-XIV-1-4885/4894	24-Sep-93	ITEX	0 16	5 34	ND	NA	NA	NA	11 97	58 98	438,601
FDS-RAW-4885/4894	24-Sep-93	QA/QC	NA	NA	NA	16,800	1,140	12,400	5 61	22 70	NA
FDS-RAW-4885/4894	24-Sep-93	ITEX	NA	NA	NA	23,515	1,258	17,308	5 51	23 30	NA
FDS-XIV-1-4932/4941	25-Sep-93	QA/QC	0 37	0 004	0 05	NA	NA	NA	11 72	53 31	NA
FDS-XIV-1-4932/4941	25-Sep-93	ITEX	0 33	ND	ND	NA	NA	NA	11 93	51 91	375,007
FDS-XIV-1-4962/4971	25-Sep-93	QA/QC	0 46	<0 003	<0 04	NA	NA	NA	11 97	48 21	NA
FDS-XIV-1-4962/4971	25-Sep-93	ITEX	0 85	9 10	0.84	NA	NA	NA	11 75	48 75	468,318
FDS-RAW-4962/4971	25-Sep-93	QA/QC	NA	NA	NA	104,000	1,670	16,500	5.03	27 50	NA
FDS-RAW-4962/4971	25-Sep-93	ITEX	NA	NA	NA	59,662	993	16,751	4 97	28 93	NA
IP-XI-1-18869/19026	27-Sep-93	QA/QC	NR	NR	NR	NA	NA	NA	11 70	41 10	198,300
IP-XI-1-18869/19026	27-Sep-93	ITEX	NR	NR	NR	NA	NA	NA	11 84	51 37	435,756
IP-RAW-H-1	27-Sep-93	QA/QC	NA	NA	NA	3,510	270	3,880	9 12	29 00	NA
IP-RAW-H-1	27-Sep-93	ITEX	NA	NA	NA	3,593	328	4,746	5 50	25 47	NA
CPT-XIII-1-25263/25424	27-Sep-93	QA/QC	NR	NR	NR	NA	NA	NA	12 25	54 50	291,600
CPT-XIII-1-25263/25424	27-Sep-93	ITEX	NR	NR	NR	NA	NA	NA	12 13	46 26	406,400
CPT-RAW-SP-U-2	30-Sep-93	QA/QC	NA	NA	NA	24,000	639	10,100	6 12	28 00	NA
CPT-RAW-SP-U-2	30-Sep-93	ITEX	NA	NA	NA	34,160	1,127	15,781	6 10	26 12	NA
FDS-XIV-1-5281/5286	26-Sep-93	QA/QC	0 27	<0 003	<0 04	NA	NA	NA	12 25	58 15	NA

TABLE D-4.3a

SUMMARY OF MOISTURE/DENSITY TEST RESULTS ON STABILIZED WASTE MATERIAL
FLUE DUST OPERABLE UNIT
ANACONDA SMELTER NPL SITE
ANACONDA, MONTANA

		Test Location Coordinates		Elevation	Wet Density	Dry Density	Moisture Content	Maximum Dry	Optimum Moisture	Percent	Category and	Sand Cone Testing			
Date	Test No	Northing	Easting	(ft. msl)	(pcf)	(pcf)	(percent)	Density (pcf)	Content (percent)	Compaction	Description	Wet Density (pcf)	Dry Density (pcf)	Moisture Content (percent)	Comments
10/1/93	100102	786,527	1 138 925	5 319	118 8	86 8	36 8	91 0	31 0	95 4	CPT - DIR	NP	NP	NP	PASS
10/1/93	100103	786,495	1 138 965	5 318	118 1	88 6	33 3	91 0	31 0	97 4	CPT DIR	NP	NP	NP	PASS
10/2/93	100202	786,805	1,138,860	5 322	140 3	114 2	22 9	108 6	22 3	105 1	IP	NP	NP	NP	PASS
10/2/93	100203	786,745	1,138,865	5 321	120 5	97 7	23 3	108 6	22 3	90 0	IP	NP	NP	NP	PASS
10/2/93	100204	786 685	1 138,875	5 322	124 9	103 1	21 2	108 6	22 3	94 9	IP	NP	NP	NP	PASS
10/6/93	100601	786,648	1,139,225	5,322	130 2	103 3	26 0	111 0	20 2	93 1	BP3	NP	NP	NP	PASS
10/6/93	100602	786 550	1 139 325	5,323	135 8	109 0	24 6	111 0	20 2	98 2	BP3	NP	NP	NP	PASS
10/6/93	100603	786 470	1,139 331	5 321	134 9	108 3	24 6	111 0	20 2	97 5	BP3	NP	NP	NP	PASS
10/6/93	100604	786,452	1 139 270	5 321	135 0	110 9	21 7	113 6	17 5	97 6	IP	NP	NP	NP	PASS
10/6/93	100605	786,625	1 139 096	5 320	135 9	111 4	19 8	113 6	17 5	99 9	IP	NP	NP	NP	PASS
10/6/93	100606	786 658	1 138,860	5 320	117 9	98 7	19 4	102 3	24 7	96 5	FDS	NP	NP	NP	PASS
10/6/93	100607	786 508	1 138 970	5 319	123 5	105 4	17 2	102 3	24 7	103 0	FDS	NP	NP	NP	PASS
10/6/93	100608	786,495	1 139,105	5 318	121 2	104 3	16 2	102 3	24 7	102 0	FDS	NP	NP	NP	PASS
10/11/93	101103	786 718	1 138 717	5 318	125 1	94 8	31 9	102 3	24 7	92 7	FDS	NP	NP	NP	PASS
10/11/93	101104	786 767	1,138,775	5,316	126 2	93 1	35 6	102 3	24 7	91 0	FDS	NP	NP	NP	PASS
10/11/93	101105	786 652	1 138 845	5,320	125 6	93 3	34 6	102 3	24 7	91 2	FDS	NP	NP	NP	PASS
10/11/93	101106	786 934	1 138 824	5 321	125 4	95 0	32 0	102 3	24 7	92 9	FDS	NP	NP	NP	PASS
10/11/93	101107	786,560	1 138,883	5 320	121 2	94 6	28 1	102 3	24 7	92 5	FDS	NP	NP	NP	PASS
10/12/93	101204	786,455	1,139,170	5,321	119 2	89 8	32 7	102 3	24 7	87 8	FDS	NP	NP	NP	FAIL
10/12/93	101205	786,550	1,139,063	5 320	126 9	95 0	33 6	102 3	24 7	92 8	FDS	NP	NP	NP	PASS
10/12/93	101206	786,395	1 139 078	5,320	126 4	92 9	36 0	102 3	24 7	90 9	FDS	NP	NP	NP	PASS
10/14/93	101204A	786,455	1 139 170	5 321	125 6	95 9	31 0	102 3	24 7	93 7	FDS	NP	NP	NP	PASS
10/14/93	101401	786,724	1,138 680	5 320	128 6	96 3	33 5	102 3	24 7	94 2	FDS	NP	NP	NP	PASS
10/14/93	101402	786,690	1 138 816	5 321	124 5	93 3	33 4	102 3	24 7	91 2	FDS	NP	NP	NP	PASS
10/14/93	101403	786,503	1,138 842	5,320	123 1	91 1	35 1	102 3	24 7	89 1	FDS	NP	NP	NP	FAIL
10/14/93	101404	786,837	1,138 851	5 320	130 5	96 3	35 5	102 3	24 7	94 1	FDS	NP	NP	NP	PASS
10/14/93	101405	786 802	1,138,990	5 321	128 1	95 7	33 8	102 3	24 7	93 6	FDS	NP	NP	NP	PASS
10/15/93	101403A	786 503	1,138,842	5 320	127 0	97 0	30 9	102 3	24 7	94 8	FDS	NP	NP	NP	PASS
10/15/93	101501	786,460	1,139,290	5 321	137 2	105 0	30 7	102 3	24 7	102 6	FDS	NP	NP	NP	PASS
10/15/93	101502	786,550	1 139,270	5 322	137 8	106 5	29 4	102 3	24 7	104 1	FDS	NP	NP	NP	PASS
10/15/93	101503	786 618	1 139 110	5 322	133 7	104 0	28 6	102 3	24 7	101 6	FDS	NP	NP	NP	PASS
10/17/93	101701	786,600	1,139,322	5 323	131 7	99 5	32 4	102 3	24 7	97 2	FDS	NP	NP	NP	PASS
10/17/93	101702	786,530	1,139,360	5 324	134 5	101 0	33 2	102 3	24 7	98 7	FDS	NP	NP	NP	PASS
10/17/93	101703	786,415	1 139 235	5,324	122 2	91 8	33 1	91 0	31 0	100 9	CPT	NP	NP	NP	PASS
10/17/93	101704	786,375	1 139 185	5 324	125 9	94 6	33 1	91 0	31 0	103 9	CPT	NP	NP	NP	PASS
10/17/93	101705	786,360	1 139 140	5 324	120 9	89 8	34 6	91 0	31 0	98 7	CPT	NP	NP	NP	PASS
10/18/93	101801	786,445	1 139 305	5 324	123 8	95 9	29 1	100 2	26 1	95 7	CPT	NP	NP	NP	PASS
10/18/93	101802	786 504	1 139 220	5 324	123 1	94 1	30 8	100 2	26 1	93 9	CPT	NP	NP	NP	PASS
10/18/93	101803	786,445	1 139,110	5 324	123 3	93 4	32 0	100 2	26 1	93 2	CPT	NP	NP	NP	PASS
10/18/93	101804	786,295	1 139 171	5 323	125 5	95 4	31 5	100 2	26 1	95 2	CPT	111 5	84 3	32 2	PASS
10/18/93	101805	786 446	1 138,810	5,323	122 0	91 9	32 8	100 2	26 1	91 7	CPT	NP	NP	NP	PASS

SUMMARY OF MOISTURE/DENSITY TEST RESULTS ON STABILIZED WASTE MATERIAL
FLUE DUST OPERABLE UNIT
ANACONDA SMELTER NPL SITE
ANACONDA, MONTANA

		Test Location Coordinates		Elevation	Wet Density	Dry Density	Moisture Content	Maximum Dry	Optimum Moisture	Percent	Category and	Sand Cone Testing: Wet Density	Sand Cone Testing: Dry Density	Sand Cone Testing: Moisture Content	
Date	Test No	Northing	Easting	(ft msl)	(pcf)	(pcf)	(percent)	Density (pcf)	Content (percent)	Compaction	Description	(pcf)	(pcf)	(percent)	Comments
10/18/93	101806	786 386	1 138 885	5 323	128 5	98 0	31 1	100 2	26 1	97 8	CPT	NP	NP	NP	PASS
10/18/93	101807	786 370	1 139 003	5 323	122 4	92 6	32 2	100 2	26 1	92 4	CPT	NP	NP	NP	PASS
10/18/93	101808	786 508	1 138,942	5 323	124 6	96 9	28 6	100 2	26 1	96 7	CPT	NP	NP	NP	PASS
10/19/93	101901	786 740	1 138 615	5 323	123 3	94 5	30 5	102 3	24 7	92 4	FDS	NP	NP	NP	PASS
10/19/93	101902	786 726	1 138 650	5 323	131 1	100 3	30 7	102 3	24 7	98 1	FDS	NP	NP	NP	PASS
10/19/93	101903	786 627	1 138 739	5 323	130 8	100 1	30 7	102 3	24 7	97 8	FDS	NP	NP	NP	PASS
10/19/93	101904	786 661	1 138 777	5 323	115 7	88 5	30 7	102 3	24 7	86 5	FDS	NP	NP	NP	FAIL
10/19/93	101905	786 724	1 138 640	5 323	116 2	89 0	30 6	91 0	31 0	97 8	CPT	NP	NP	NP	PASS
10/19/93	101906	786 525	1 138 720	5 323	118 7	88 7	33 8	91 0	31 0	97 5	CPT	NP	NP	NP	PASS
10/19/93	101907	786 455	1 138,910	5 323	127 6	98 1	30 1	100 2	26 1	97 9	CPT	NP	NP	NP	PASS
10/19/93	101908	786,298	1 139 030	5 323	120 9	91 0	32 9	100 2	26 1	90 8	CPT	NP	NP	NP	PASS
10/19/93	101904A	786 661	1 138,777	5,323	125 0	94 5	32 3	102 3	24 7	92 4	FDS	NP	NP	NP	PASS
10/19/93	101909	786,290	1 139 094	5,323	128 6	97 8	31 5	102 3	24 7	95 6	FDS	NP	NP	NP	PASS
10/20/93	102001	786,678	1 138,603	5,324	124 9	96 1	30 0	102 3	24 7	93 9	FDS	NP	NP	NP	PASS
10/20/93	102002	786,670	1 138 727	5,324	123 9	95 5	29 8	102 3	24 7	93 3	FDS	NP	NP	NP	PASS
10/20/93	102003	786,518	1,138,750	5,324	118 6	92 4	28 4	102 3	24 7	90 3	FDS	NP	NP	NP	PASS
10/20/93	102004	786,531	1,138 820	5,323	126 2	96 7	30 5	102 3	24 7	94 5	FDS	NP	NP	NP	PASS
10/20/93	102005	786,493	1 138 939	5 324	115 9	87 5	32 5	102 3	24 7	85 5	FDS	NP	NP	NP	FAIL
10/20/93	102006	786 394	1 139,073	5,324	123 1	96 1	28 1	102 3	24 7	93 9	FDS	NP	NP	NP	PASS
10/20/93	102007	786,527	1,139 300	5,321	127 8	99 7	28 2	102 3	24 7	97 4	FDS	NP	NP	NP	PASS
10/21/93	102005A	786 493	1,138,939	5 324	126 7	97 0	30 6	102 3	24 7	94 8	FDS	NP	NP	NP	PASS
10/21/93	102101	786,798	1,138,665	5 324	131 7	101 7	29 5	102 3	24 7	99 4	FDS	NP	NP	NP	PASS
10/21/93	102102	786,676	1,138,729	5 325	127 8	97 2	31 5	102 3	24 7	95 0	FDS	NP	NP	NP	PASS
10/21/93	102103	786 645	1,138,895	5,324	125 1	94 0	33 1	102 3	24 7	91 9	FDS	NP	NP	NP	PASS
10/21/93	102104	786,513	1,138,937	5,325	132 5	102 3	29 5	102 3	24 7	100 0	FDS	NP	NP	NP	PASS
10/21/93	102105	786,356	1,138,936	5,325	123 9	95 2	30 1	102 3	24 7	93 1	FDS	NP	NP	NP	PASS
10/21/93	102106	786,387	1 139,073	5 324	129 3	100 2	29 0	102 3	24 7	98 0	FDS	NP	NP	NP	PASS
10/21/93	102107	786,525	1,139,120	5,324	131 9	102 0	29 3	102 3	24 7	99 7	FDS	NP	NP	NP	PASS
10/21/93	102108	786 345	1 139 265	5 324	129 3	98 3	31 5	102 3	24 7	96 1	FDS	NP	NP	NP	PASS
10/23/93	102301	786 650	1,138 590	5 326	128 1	97 9	30 8	102 3	24 7	95 7	FDS	NP	NP	NP	PASS
10/23/93	102302	786 610	1 138 637	5 326	132 3	100 8	31 3	102 3	24 7	98 5	FDS	NP	NP	NP	PASS
10/23/93	102303	786,550	1 138 707	5 327	129 3	99 2	30 4	102 3	24 7	96 9	FDS	NP	NP	NP	PASS
10/23/93	102304	786 415	1 138 802	5 327	129 3	97 9	32 1	102 3	24 7	95 7	FDS	NP	NP	NP	PASS
10/23/93	102305	786 360	1 138 857	5 327	128 8	97 9	31 5	102 3	24 7	95 7	FDS	NP	NP	NP	PASS
10/23/93	102306	786 300	1 138 925	5 327	128 8	97 9	31 6	102 3	24 7	95 7	FDS	NP	NP	NP	PASS
10/23/93	102306A	786 300	1 138 925	5 327	129 2	97 4	32 6	102 3	24 7	95 2	FDS	NP	NP	NP	PASS
10/23/93	102307	786 223	1 139 007	5 327	129 1	99 7	29 5	102 3	24 7	97 4	FDS	NP	NP	NP	PASS
10/25/93	102501	786 752	1 138 983	5 324	128 1	97 9	30 9	102 3	24 7	95 7	FDS	NP	NP	NP	PASS
10/25/93	102502	786 758	1 138 937	5 323	130 1	98 9	31 5	102 3	24 7	96 7	FDS	NP	NP	NP	PASS
10/25/93	102503	786 806	1 138 875	5 322	123 3	94 2	30 9	102 3	24 7	92 1	FDS	NP	NP	NP	PASS
10/25/93	102504	786 834	1 138 827	5 322	125 8	97 2	29 4	102 3	24 7	95 0	FDS	NP	NP	NP	PASS

SUMMARY OF MOISTURE/DENSITY TEST RESULTS ON STABILIZED WASTE MATERIAL
FLUE DUST OPERABLE UNIT
ANACONDA SMELTER NPL SITE
ANACONDA, MONTANA

		Test Location Coordinates		Elevation	Wet Density	Dry Density	Moisture Content	Maximum Dry	Optimum Moisture	Percent	Category and	Sand Cone Testing: Wet Density	Sand Cone Testing: Dry Density	Sand Cone Testing: Moisture Content	
Date	Test No	Northing	Easting	(ft. msl)	(pcf)	(pcf)	(percent)	Density (pcf)	Content (percent)	Compaction	Description	(pcf)	(pcf)	(percent)	Comments
10/25/93	102505	786 862	1 138,770	5,323	125 9	97 7	28 9	102 3	24 7	95 5	FDS	NP	NP	NP	PASS
10/25/93	102506	786,813	1 138,745	5 323	125 3	97 2	28 9	102 3	24 7	95 0	FDS	NP	NP	NP	PASS
10/26/93	102601	786 658	1 138,558	5 326	123 9	95 5	29 8	102 3	24 7	93 3	FDS	NP	NP	NP	PASS
10/26/93	102602	786 534	1 138 585	5 328	127 0	97 8	29 9	102 3	24 7	95 6	FDS	NP	NP	NP	PASS
10/26/93	102603	786,530	1,138,700	5 327	122 5	95 2	28 7	102 3	24 7	93 0	FDS	NP	NP	NP	PASS
10/26/93	102604	786 645	1 139 385	5 322	129 5	105 7	22 5	102 3	24 7	103 3	FDS	NP	NP	NP	PASS
10/26/93	102605	786 378	1,139 410	5,322	132 5	106 5	24 4	102 3	24 7	104 1	FDS	NP	NP	NP	PASS
10/26/93	102606	786,235	1,138 900	5 328	111 1	85 9	29 3	102 3	24 7	84 0	FDS	NP	NP	NP	FAIL
10/26/93	102607	786 185	1 138,965	5 328	110 6	87 4	26 6	102 3	24 7	85 4	FDS	NP	NP	NP	FAIL
10/26/93	102608	786 241	1 139 015	5 327	128 9	98 2	31 3	102 3	24 7	96 0	FDS	NP	NP	NP	PASS
10/28/93	102606A	783 235	1 138 900	5 328	125 9	95 7	31 6	102 3	24 7	93 5	FDS	NP	NP	NP	PASS
10/28/93	102607A	786 158	1 138 965	5 328	123 8	97 1	27 5	102 3	24 7	94 9	FDS	NP	NP	NP	PASS
10/28/93	102801	786,513	1 139,314	5 322	120 8	89 8	34 5	102 3	24 7	87 8	FDS DIR	NP	NP	NP	FAIL
10/28/93	102802	786 658	1 139 195	5 322	124 7	96 4	29 4	102 3	24 7	94 2	FDS DIR	NP	NP	NP	PASS
10/28/93	102803	786 670	1 139 091	5,323	128 6	95 4	34 8	102 3	24 7	93 3	FDS DIR	NP	NP	NP	PASS
10/29/93	102801A	786 513	1 139 314	5,322	123 0	92 5	33 0	102 3	24 7	90 4	FDS	NP	NP	NP	PASS
10/29/93	102901	786 767	1,138 660	5 325	130 8	100 1	30 7	98 7	24 8	101 4	MF	NP	NP	NP	PASS
10/29/93	102902	786 816	1 138,736	5,325	122 5	95 6	28 2	98 7	24 8	96 8	MF	NP	NP	NP	PASS
10/30/93	103001	786 243	1,139,062	5,325	129 3	98 1	31 8	102 3	24 7	95 9	FDS	NP	NP	NP	PASS
10/30/93	103002	786,392	1,138,860	5,326	124 9	97 8	27 7	102 3	24 7	95 6	FDS	NP	NP	NP	PASS
10/30/93	103003	786,522	1 139,031	5,324	117 9	83 9	40 5	102 3	24 7	82 0	FDS	NP	NP	NP	FAIL
10/30/93	103004	786 653	1 138 890	5,324	122 9	88 8	38 4	102 3	24 7	86 8	FDS	NP	NP	NP	FAIL
10/30/93	103005	786 569	1 138 628	5 327	122 5	94 3	29 9	98 7	24 8	95 5	MF	NP	NP	NP	PASS
10/30/93	103006	786 689	1 138 543	5,326	129 7	101 5	27 8	98 7	24 8	102 8	MF	NP	NP	NP	PASS
11/2/93	103003A	786 522	1 139,031	5 324	125 9	94 9	32 6	102 3	24 7	92 8	FDS	NP	NP	NP	PASS
11/2/93	103004A	786 653	1 138,890	5 324	125 9	92 9	35 5	102 3	24 7	90 8	FDS	NP	NP	NP	PASS
11/2/93	110201	786,226	1 139,016	5 328	126 8	95 5	32 8	102 3	24 7	93 3	FDS	NP	NP	NP	PASS
11/2/93	110202	786,314	1 138 950	5 327	127 7	97 1	31 5	102 3	24 7	94 9	FDS	NP	NP	NP	PASS
11/2/93	110203	786,812	1 138,814	5,324	124 3	91 2	36 3	98 7	24 8	92 4	MF	NP	NP	NP	PASS
11/2/93	110204	786 751	1 138,799	5,324	127 6	96 6	32 1	98 7	24 8	97 9	MF	NP	NP	NP	PASS
11/6/93	110601	786 610	1 139 220	5 325	131 1	105 4	24 4	111 0	20 2	94 9	BP3	NP	NP	NP	PASS
11/6/93	110602	786,573	1,139 314	5,325	135 2	108 8	24 3	111 0	20 2	98 0	BP3	NP	NP	NP	PASS
11/6/93	110603	786 499	1,139,339	5 326	123 7	98 9	25 1	111 0	20 2	89 1	BP3	NP	NP	NP	FAIL
11/7/93	110603A	786 499	1,139 339	5,326	126 3	102 1	23 7	111 0	20 2	92 0	BP3	NP	NP	NP	PASS
11/7/93	110701	786,325	1,139 341	5,326	130 7	101 4	28 9	108 6	22 3	93 4	TH	NP	NP	NP	PASS
11/7/93	110702	786 395	1 139 253	5,327	128 2	99 1	29 4	108 6	22 3	91 2	TH	NP	NP	NP	FAIL
11/8/93	110702A	786 395	1,139 253	5 327	129 7	109 5	18 4	108 6	22 3	100 9	TH	NP	NP	NP	PASS
11/8/93	110801	786 745	1 138 976	5 325	126 6	93 9	34 9	98 7	24 8	95 1	MF	NP	NP	NP	PASS
11/8/93	110802	786,795	1 138 824	5 324	126 4	92 5	36 6	98 7	24 8	93 8	MF	NP	NP	NP	PASS
11/8/93	110803	786 625	1 139 194	5 325	123 5	99 9	23 6	111 0	20 2	90 0	BP3	NP	NP	NP	PASS
11/8/93	110804	786,599	1 139 034	5 325	127 1	102 8	23 6	111 0	20 2	92 6	BP3	NP	NP	NP	PASS

SUMMARY OF MOISTURE/DENSITY TEST RESULTS ON STABILIZED WASTE MATERIAL
FLUE DUST OPERABLE UNIT
ANACONDA SMELTER NPL SITE
ANACONDA, MONTANA

		Test Location Coordinates		Elevation	Wet Density	Dry Density	Moisture Content	Maximum Dry	Optimum Moisture	Percent	Category and	Sand Cone Testing			
Date	Test No	Northing	Easting	(ft. msl)	(pcf)	(pcf)	(percent)	Density (pcf)	Content (percent)	Compaction	Description	Wet Density (pcf)	Dry Density (pcf)	Moisture Content (percent)	Comments
11/8/93	110805	786 475	1 139 172	5 326	116 2	94 1	23 5	111 0	20 2	84 8	BP3	NP	NP	NP	FAIL
11/9/93	110805A	786 475	1 139 172	5 326	120 6	97 2	24 1	111 0	20 2	87 5	BP3	NP	NP	NP	FAIL
11/9/93	110901	786 372	1 139 385	5 326	116 9	91 1	28 3	111 0	20 2	82 1	BP3	NP	NP	NP	FAIL
11/9/93	110902	786,486	1 139 252	5 326	114 1	92 8	23 0	111 0	20 2	83 6	BP3	NP	NP	NP	FAIL
11/10/93	110805B	786 475	1 139 172	5 326	123 0	100 0	23 0	111 0	20 2	90 1	BP3	NP	NP	NP	PASS
11/10/93	110901A	786 372	1 139 385	5 326	116 5	91 9	26 8	98 0	26 0	93 8	BP3	NP	NP	NP	PASS
11/10/93	110902A	786,486	1 139 252	5,326	120 7	98 0	23 2	98 0	26 0	100 0	BP3	NP	NP	NP	PASS
11/10/93	111001	786 650	1,138 600	5 328	126 5	99 2	27 5	108 6	22 3	91 4	TH	NP	NP	NP	PASS
11/10/93	111002	786 648	1 138 673	5,328	123 5	99 0	24 7	108 6	22 3	91 2	TH	NP	NP	NP	PASS
11/10/93	111003	786 650	1 139 218	5 326	127 5	101 3	25 9	111 0	20 2	91 2	BP3	NP	NP	NP	PASS
11/11/93	111101	786 570	1,138,911	5,327	127 0	99 1	28 2	108 6	22 3	91 2	TH	NP	NP	NP	PASS
11/11/93	111102	786 445	1 138 945	5,328	124 5	92 7	34 3	102 3	24 7	90 6	FDS	NP	NP	NP	PASS
11/11/93	111103	786,726	1 138 604	5 328	134 1	107 6	24 6	111 0	20 2	97 0	BP3	NP	NP	NP	PASS
11/11/93	111104	786,690	1,138 775	5 327	133 3	110 3	20 9	111 0	20 2	99 3	BP3	NP	NP	NP	PASS
11/11/93	111105	786 739	1 138 895	5 326	133 5	108 6	22 9	111 0	20 2	97 9	BP3	NP	NP	NP	PASS
11/11/93	111106	786 636	1,139 005	5,326	132 0	107 9	22 3	111 0	20 2	97 2	BP3	NP	NP	NP	PASS
11/11/93	111107	786 685	1,139,105	5 325	127 0	100 3	26 6	111 0	20 2	90 4	BP3	NP	NP	NP	PASS
11/12/93	111201	786 645	1,139 222	5 325	135 5	111 5	21 5	113 6	17 5	98 2	IP	NP	NP	NP	PASS
11/12/93	111202	786 565	1,139 192	5 326	129 7	106 7	21 6	113 6	17 5	93 9	IP	NP	NP	NP	PASS
11/12/93	111203	786,515	1,138,995	5,327	126 4	97 5	29 6	102 3	24 7	95 3	FDS	NP	NP	NP	PASS
11/12/93	111204	786,517	1,139,070	5 327	129 0	99 4	29 8	102 3	24 7	97 1	FDS	NP	NP	NP	PASS
11/14/93	111401	786 770	1 138,550	5,328	127 3	103 1	23 5	108 6	22 3	94 9	IP	NP	NP	NP	PASS
11/14/93	111402	786,625	1,138,630	5,329	128 1	102 1	25 5	108 6	22 3	94 0	IP	NP	NP	NP	PASS
11/14/93	111403	786,695	1 138,674	5,329	124 9	97 9	27 6	108 6	22 3	90 1	IP	NP	NP	NP	PASS
11/14/93	111404	786,804	1,138,703	5 328	132 2	107 9	22 5	108 6	22 3	99 4	IP	NP	NP	NP	PASS
11/14/93	111405	786,785	1,138 630	5,328	130 8	106 8	22 5	108 6	22 3	98 3	IP	NP	NP	NP	PASS
11/14/93	111406	786 575	1,138,966	5,330	124 1	96 5	28 6	102 3	24 7	94 3	FDS	NP	NP	NP	PASS
11/14/93	111407	786 610	1 139 026	5 330	128 8	99 0	30 1	102 3	24 7	96 8	FDS	NP	NP	NP	PASS
11/14/93	111408	786,530	1,139 017	5 329	130 8	100 1	30 7	102 3	24 7	97 8	FDS	NP	NP	NP	PASS
11/14/93	111409	786 510	1 138,961	5 329	117 8	91 8	28 3	102 3	24 7	89 8	FDS	NP	NP	NP	FAIL
11/14/93	111410	786,620	1 138,915	5 330	120 8	94 4	27 9	102 3	24 7	92 3	FDS	NP	NP	NP	PASS
11/16/93	111409A	786 510	1 138,961	5,329	124 9	93 9	33 0	102 3	24 7	91 8	FDS	NP	NP	NP	PASS
11/16/93	111601	786,646	1,138,750	5 328	123 3	93 2	32 3	102 3	24 7	91 1	FDS	NP	NP	NP	PASS
11/16/93	111602	786 620	1,139,262	5,328	131 2	107 4	22 2	108 6	22 3	98 9	IP	NP	NP	NP	PASS
11/16/93	111603	786,685	1,139 035	5,328	131 6	104 7	25 7	108 6	22 3	96 4	IP	NP	NP	NP	PASS
11/18/93	111801	786 678	1 139,066	5 327	127 7	105 7	20 8	108 6	22 3	97 3	IP	NP	NP	NP	PASS
11/18/93	111802	786 820	1,138,870	5 327	129 7	106 0	22 4	108 6	22 3	97 6	IP	NP	NP	NP	PASS
11/18/93	111803	786,875	1,138 719	5,327	126 3	106 7	18 4	108 6	22 3	98 2	IP	NP	NP	NP	PASS
11/18/93	111804	786,745	1 138 577	5 328	133 3	108 1	23 3	108 6	22 3	99 5	IP	NP	NP	NP	PASS
11/19/93	111901	786 694	1,139 038	5 328	130 1	107 8	20 7	108 6	22 3	99 3	IP	NP	NP	NP	PASS
11/19/93	111902	786,838	1 138,854	5,328	119 6	101 9	17 4	108 6	22 3	93 8	IP	NP	NP	NP	PASS

SUMMARY OF MOISTURE/DENSITY TEST RESULTS ON STABILIZED WASTE MATERIAL
FLUE DUST OPERABLE UNIT
ANACONDA SMELTER NPL SITE
ANACONDA, MONTANA

		Test Location Coordinates		Elevation	Wet Density	Dry Density	Moisture Content	Maximum Dry	Optimum Moisture	Percent	Category and	Sand Cone Testing			
												Wet	Dry	Moisture	
Date	Test No	Northing	Easting	(ft. msl)	(pcf)	(pcf)	(percent)	Density (pcf)	Content (percent)	Compaction	Description	Density (pcf)	Density (pcf)	Content (percent)	Comments
11/19/93	111903	786,799	1 138,781	5,328	131 1	107 5	21 9	108 6	22 3	99 0	IP	NP	NP	NP	PASS
11/20/93	112001	786,750	1,138 545	5 329	130 5	106 1	23 0	113 6	22 3	93 4	IP	NP	NP	NP	PASS
11/20/93	112002	786 675	1 138 583	5,329	130 5	107 5	21 4	113 6	17 5	94 6	IP	NP	NP	NP	PASS
11/20/93	112003	786,605	1 138,653	5 329	133 4	109 1	22 3	113 6	17 5	96 0	IP	NP	NP	NP	PASS
11/20/93	112004	786 710	1,138,689	5,329	129 6	109 3	18 6	113 6	17 5	96 2	IP	NP	NP	NP	PASS
11/20/93	112005	786,743	1,138,609	5 329	133 2	109 5	21 6	113 6	17 5	96 4	IP	NP	NP	NP	PASS
11/20/93	112006	786,810	1 138 629	5 329	131 4	110 5	18 9	113 6	17 5	97 3	IP	NP	NP	NP	PASS
11/20/93	112007	786 815	1 138 695	5 329	129 6	113 4	14 3	113 6	17 5	99 8	IP	NP	NP	NP	PASS
11/20/93	112008	786 486	1 138 790	5 329	123 9	98 0	26 4	108 6	22 3	90 3	IP	NP	NP	NP	PASS
11/21/93	112008A	786 486	1 138 790	5 329	131 2	104 3	25 8	108 6	22 3	96 0	IP	NP	NP	NP	PASS
11/21/93	112101	786 428	1 138 856	5 329	128 0	98 2	30 4	102 3	24 7	96 0	FDS	NP	NP	NP	PASS
11/21/93	112102	786,440	1 138 944	5,329	120 4	89 7	34 3	102 3	24 7	87 6	FDS	NP	NP	NP	FAIL
11/21/93	112103	786,782	1 138 779	5,330	118 7	87 9	35 0	102 3	24 7	85 9	FDS	NP	NP	NP	FAIL
11/21/93	112104	786 797	1 138 598	5 330	134 9	109 4	23 3	113 6	17 5	96 3	IP	NP	NP	NP	PASS
11/21/93	112105	786 850	1 138 700	5 330	136 2	111 5	22 1	113 6	17 5	98 2	IP	NP	NP	NP	PASS
11/21/93	112106	786 537	1 139 062	5 330	134 7	109 4	23 1	113 6	17 5	96 3	IP	NP	NP	NP	PASS
11/21/93	112107	786,673	1,139,157	5 330	133 1	111 2	19 7	113 6	17 5	97 9	IP	NP	NP	NP	PASS
11/21/93	112108	786 627	1 139 265	5,330	134 4	120 6	11 4	113 6	17 5	106 2	IP	NP	NP	NP	PASS
11/24/93	112102A	786,440	1 138,944	5,329	124 5	100 9	23 4	102 3	24 7	98 6	FDS	NP	NP	NP	PASS
11/24/93	112103A	786 782	1 138 779	5 330	128 1	100 9	26 9	102 3	24 7	98 7	FDS	NP	NP	NP	PASS
11/24/93	112401	786,350	1 139 070	5,331	121 6	95 6	27 2	102 3	24 7	93 4	FDS	NP	NP	NP	PASS
11/24/93	112402	786 738	1 138 970	5 331	123 7	100 6	21 9	113 6	17 5	88 6	IP	NP	NP	NP	FAIL
11/24/93	112403	786 810	1,138 808	5 331	118 5	97 5	21 5	113 6	17 5	85 9	IP	NP	NP	NP	FAIL
11/30/93	112402A	786 738	1 138 970	5 331	129 3	106 9	20 9	113 6	17 5	94 1	IP	NP	NP	NP	PASS
11/30/93	112403A	786,810	1 138 808	5 331	118 0	99 9	18 1	113 6	17 5	88 0	IP	NP	NP	NP	FAIL
11/30/93	113001	786,781	1 138,820	5,332	106 3	85 7	24 0	113 6	17 5	75 5	IP	NP	NP	NP	FAIL
11/30/93	113002	786 421	1 139,122	5,332	132 2	107 5	23 0	113 6	17 5	94 6	IP	NP	NP	NP	PASS
11/30/93	113003	786 320	1 139,035	5 332	135 2	110 0	22 9	113 6	17 5	96 8	IP	NP	NP	NP	PASS
12/1/93	113001A	786,781	1 138 820	5 332	129 2	110 4	17 0	113 6	17 5	97 2	IP	NP	NP	NP	PASS
12/1/93	112403B	786 810	1 138 808	5 332	124 8	107 7	15 9	113 6	17 5	94 8	IP	NP	NP	NP	PASS
12/1/93	120101	786,696	1,139,158	5 332	126 4	107 8	17 2	113 6	17 5	94 9	IP	NP	NP	NP	PASS
12/1/93	120102	786,632	1,139 017	5,332	118 1	103 6	14 0	113 6	17 5	91 2	IP	NP	NP	NP	PASS
12/1/93	120103	786 520	1,139,155	5 332	120 4	104 1	15 7	113 6	17 5	91 6	IP	NP	NP	NP	PASS
12/1/93	120104	786 472	1 139,062	5 332	114 1	88 6	28 8	102 3	24 7	86 6	FDS	NP	NP	NP	FAIL
12/1/93	120105	786,444	1 138,982	5 332	116 7	92 3	26 4	102 3	24 7	90 3	FDS	NP	NP	NP	PASS
12/1/93	120104A	786 472	1 139 062	5 332	122 2	96 8	26 3	102 3	24 7	94 6	FDS	NP	NP	NP	PASS
12/2/93	120201	786,356	1 139 372	5 332	139 1	117 9	18 0	113 6	17 5	103 8	IP	NP	NP	NP	PASS
12/2/93	120202	786,360	1 139,225	5,332	132 9	117 1	13 5	113 6	17 5	103 1	IP	NP	NP	NP	PASS
12/2/93	120203	786 389	1 139 109	5 332	137 7	119 5	15 2	113 6	17 5	105 2	IP	NP	NP	NP	PASS
12/2/93	120204	786 504	1 139 179	5 332	126 3	109 7	15 1	113 6	17 5	96 6	IP	NP	NP	NP	PASS
12/2/93	120205	786 516	1 139 030	5 332	138 4	120 6	14 8	113 6	17 5	106 1	IP	NP	NP	NP	PASS

SUMMARY OF MOISTURE/DENSITY TEST RESULTS ON STABILIZED WASTE MATERIAL
FLUE DUST OPERABLE UNIT
ANACONDA SMELTER NPL SITE
ANACONDA, MONTANA

		Test Location Coordinates		Elevation	Wet Density	Dry Density	Moisture Content	Maximum Dry	Optimum Moisture	Percent	Category and	Sand Cone Testing			
												Wet	Dry	Moisture	
Date	Test No	Northing	Easting	(ft. msl)	(pcf)	(pcf)	(percent)	Density (pcf)	Content (percent)	Compaction	Description	Density (pcf)	Density (pcf)	Content (percent)	Comments
12/2/93	120206	786,475	1,138,904	5,332	107.8	83.2	29.6	102.3	24.7	81.3	FDS	NP	NP	NP	FAIL
12/2/93	120207	786,429	1,138,805	5,333	127.2	92.1	38.1	102.3	24.7	90.0	FDS	NP	NP	NP	PASS
12/2/93	120208	786,490	1,138,776	5,332	128.6	97.3	32.2	102.3	24.7	95.1	FDS	NP	NP	NP	PASS
12/2/93	120209	786,688	1,138,631	5,332	138.7	118.1	17.4	113.6	17.5	104.0	IP	NP	NP	NP	PASS
12/2/93	120206A	786,475	1,138,904	5,332	124.1	94.6	31.2	102.3	24.7	92.5	FDS	NP	NP	NP	PASS
12/2/93	120210	786,757	1,138,815	5,332	126.6	101.7	24.5	108.6	22.3	93.6	IP	NP	NP	NP	PASS
12/2/93	120211	786,700	1,138,811	5,332	132.9	107.3	23.9	108.6	22.3	98.8	IP	NP	NP	NP	PASS
12/2/93	120212	786,844	1,138,720	5,332	131.1	105.6	24.1	108.6	22.3	97.3	IP	NP	NP	NP	PASS
12/2/93	120213	786,768	1,138,565	5,332	132.3	107.6	23.0	108.6	22.3	99.0	IP	NP	NP	NP	PASS
12/3/93	120301	786,310	1,139,132	5,333	121.6	95.4	27.4	102.3	24.7	93.3	FDS	NP	NP	NP	PASS
12/3/93	120302	786,442	1,139,000	5,333	115.8	91.1	27.1	102.3	24.7	89.1	FDS	NP	NP	NP	FAIL
12/3/93	120303	786,480	1,138,872	5,334	107.4	87.2	23.1	102.3	24.7	85.3	FDS	NP	NP	NP	FAIL
12/3/93	120304	786,720	1,139,140	5,333	125.1	107.3	16.6	108.6	22.3	98.8	IP	NP	NP	NP	PASS
12/3/93	120305	786,705	1,139,034	5,333	132.5	111.6	18.7	113.6	17.5	98.3	IP	NP	NP	NP	PASS
12/3/93	120306	786,421	1,139,218	5,333	122.7	107.7	13.9	113.6	17.5	94.8	IP	NP	NP	NP	PASS
12/3/93	120302A	786,442	1,139,000	5,333	124.3	94.9	31.0	102.3	24.7	92.8	FDS	NP	NP	NP	PASS
12/3/93	120303A	786,480	1,138,872	5,334	117.5	92.7	26.7	102.3	24.7	90.7	FDS	NP	NP	NP	PASS
12/3/93	120307	786,782	1,138,605	5,333	133.3	109.8	21.4	113.6	17.5	96.7	IP	NP	NP	NP	PASS
12/3/93	120308	786,729	1,138,734	5,333	126.0	104.0	21.1	113.6	17.5	91.6	IP	NP	NP	NP	PASS
12/3/93	120309	786,807	1,138,826	5,333	136.1	112.8	20.7	113.6	17.5	99.3	IP	NP	NP	NP	PASS
12/3/93	120310	786,811	1,138,722	5,333	136.5	112.2	21.7	113.6	17.5	98.7	IP	NP	NP	NP	PASS
12/4/93	120401	786,380	1,138,845	5,334	128.2	95.5	34.3	102.3	24.7	93.3	FDS	NP	NP	NP	PASS
12/4/93	120402	786,284	1,138,934	5,334	121.3	92.1	31.7	102.3	24.7	90.0	FDS	NP	NP	NP	PASS
12/4/93	120403	786,223	1,138,990	5,334	126.2	97.1	30.0	102.3	24.7	94.9	FDS	NP	NP	NP	PASS
12/4/93	120404	786,666	1,139,039	5,334	133.9	110.0	21.7	113.6	17.5	96.9	IP	NP	NP	NP	PASS
12/4/93	120405	786,806	1,138,899	5,334	130.3	108.0	20.7	113.6	17.5	95.0	IP	NP	NP	NP	PASS
12/4/93	120406	786,665	1,139,070	5,335	134.3	108.1	24.2	113.6	17.5	95.2	IP	NP	NP	NP	PASS
12/4/93	120407	786,590	1,139,001	5,335	135.1	110.4	22.4	113.6	17.5	97.2	IP	NP	NP	NP	PASS
12/4/93	120808	786,662	1,138,882	5,335	127.7	102.7	24.4	113.6	17.5	90.4	IP	NP	NP	NP	PASS
12/4/93	120409	786,739	1,138,950	5,335	134.5	110.4	21.8	113.6	17.5	97.2	IP	NP	NP	NP	PASS
12/4/93	120410	786,734	1,138,792	5,335	130.6	107.2	21.8	113.6	17.5	94.4	IP	NP	NP	NP	PASS
12/5/93	120501	786,490	1,139,120	5,336	121.3	96.1	26.2	102.3	24.7	94.0	FDS	NP	NP	NP	PASS
12/5/93	120502	786,355	1,139,090	5,336	115.4	93.1	23.9	102.3	24.7	91.0	FDS	NP	NP	NP	PASS
12/5/93	120503	786,315	1,139,020	5,335	123.1	98.0	25.6	102.3	24.7	95.8	FDS	NP	NP	NP	PASS
12/5/93	120504	786,360	1,138,925	5,334	121.4	98.1	23.8	102.3	24.7	95.9	FDS	NP	NP	NP	PASS
12/5/93	120505	786,507	1,138,985	5,334	125.3	98.7	27.0	102.3	24.7	96.4	FDS	NP	NP	NP	PASS
12/5/93	120506	786,610	1,138,990	5,335	127.4	100.8	26.4	102.3	24.7	98.5	FDS	NP	NP	NP	PASS
12/5/93	120507	786,705	1,138,850	5,335	129.7	108.1	20.0	113.6	17.5	95.1	IP	NP	NP	NP	PASS
12/5/93	120508	786,758	1,138,795	5,335	125.4	103.8	20.8	113.6	17.5	91.4	IP	NP	NP	NP	PASS
12/5/93	120509	786,750	1,138,725	5,335	126.2	107.4	17.5	113.6	17.5	94.5	IP	NP	NP	NP	PASS
12/5/93	120510	786,810	1,138,680	5,335	135.1	110.9	21.8	113.6	17.5	97.6	IP	NP	NP	NP	PASS

SUMMARY OF MOISTURE/DENSITY TEST RESULTS ON STABILIZED WASTE MATERIAL
FLUE DUST OPERABLE UNIT
ANACONDA SMELTER NPL SITE
ANACONDA, MONTANA

												Sand Cone Testing			
		Test Location Coordinates		Elevation	Wet Density	Dry Density	Moisture Content	Maximum Dry	Optimum Moisture	Percent	Category and	Wet Density	Dry Density	Moisture Content	
Date	Test No	Northing	Easting	(ft msl)	(pcf)	(pcf)	(percent)	Density (pcf)	Content (percent)	Compaction	Description	(pcf)	(pcf)	(percent)	Comments
12/6/93	120601	786,395	1,139,310	5,336	125.3	106.6	17.5	113.6	17.5	93.9	IP	NP	NP	NP	PASS
12/6/93	120602	786,450	1,139,290	5,335	121.0	98.0	23.5	108.6	22.3	90.2	IP	107.2	84.0	27.7	PASS
12/6/93	120603	786,510	1,139,355	5,336	131.6	107.8	22.1	113.6	17.5	94.9	IP	NP	NP	NP	PASS
12/6/93	120604	786,520	1,139,270	5,336	123.6	102.5	20.6	113.6	17.5	90.2	IP	NP	NP	NP	PASS
12/6/93	120605	786,610	1,139,180	5,336	127.2	105.5	20.6	113.6	17.5	92.8	IP	NP	NP	NP	PASS
12/6/93	120606	786,670	1,139,195	5,336	126.0	104.0	21.1	113.6	17.5	91.6	IP	NP	NP	NP	PASS
12/6/93	120607	786,485	1,138,910	5,335	121.8	91.5	33.1	102.3	24.7	89.5	FDS	NP	NP	NP	FAIL
12/6/93	120608	786,445	1,138,850	5,335	130.2	104.4	24.7	102.3	24.7	102.1	FDS	NP	NP	NP	PASS
12/6/93	120609	786,530	1,138,830	5,335	123.7	98.9	25.1	102.3	24.7	96.7	FDS	NP	NP	NP	PASS
12/6/93	120610	786,610	1,138,850	5,335	113.1	85.2	32.8	102.3	24.7	83.3	FDS	NP	NP	NP	FAIL
12/7/93	120607A	786,485	1,138,910	5,335	122.9	96.2	27.7	102.3	24.7	94.1	FDS	NP	NP	NP	PASS
12/7/93	120610A	786,610	1,138,850	5,335	117.8	88.2	33.5	102.3	24.7	86.3	FDS	NP	NP	NP	FAIL
12/7/93	120701	786,733	1,138,642	5,335	121.2	101.3	19.7	108.6	22.3	93.2	IP	NP	NP	NP	PASS
12/7/93	120702	786,829	1,138,830	5,335	120.5	101.8	18.4	108.6	22.3	93.7	IP	NP	NP	NP	PASS
12/7/93	120703	786,710	1,139,020	5,335	113.3	92.8	22.1	113.6	17.5	81.7	IP	NP	NP	NP	FAIL
12/7/93	120704	786,340	1,139,110	5,335	123.6	103.6	19.3	113.6	17.5	91.2	IP	NP	NP	NP	PASS
12/7/93	120705	786,461	1,139,000	5,335	125.1	106.4	17.6	113.6	17.5	93.6	IP	NP	NP	NP	PASS
12/8/93	120610B	786,610	1,138,850	5,335	118.8	90.6	31.1	102.3	24.7	88.6	FDS	NP	NP	NP	FAIL
12/8/93	120801	786,445	1,139,015	5,336	113.6	88.8	28.0	102.3	24.7	86.8	FDS	NP	NP	NP	FAIL
12/8/93	120802	786,575	1,139,045	5,336	127.0	97.4	30.4	102.3	24.7	95.2	FDS	NP	NP	NP	PASS
12/8/93	120703A	786,710	1,139,020	5,335	133.7	110.4	21.1	113.6	17.5	97.2	IP	NP	NP	NP	PASS
12/8/93	120803	786,795	1,139,235	5,336	126.1	101.7	24.0	108.6	22.3	93.6	IP	NP	NP	NP	PASS
12/8/93	120804	786,524	1,139,292	5,336	132.2	106.3	24.4	108.6	22.3	97.9	IP	NP	NP	NP	PASS
12/8/93	120805	786,451	1,139,145	5,336	130.2	104.3	24.8	108.6	22.3	96.1	IP	NP	NP	NP	PASS
12/8/93	120806	786,600	1,139,125	5,336	124.6	103.1	20.9	108.6	22.3	94.9	IP	NP	NP	NP	PASS
12/8/93	120807	786,791	1,138,785	5,335	128.8	104.4	23.4	108.6	22.3	96.1	IP	NP	NP	NP	PASS
12/8/93	120808	786,708	1,138,700	5,335	129.6	105.0	23.4	108.6	22.3	96.7	IP	NP	NP	NP	PASS
12/8/93	120610C	786,610	1,138,850	5,335	124.0	92.7	33.8	102.3	24.7	90.6	FDS	NP	NP	NP	PASS
12/8/93	120801A	786,445	1,139,015	5,336	117.7	93.0	26.5	102.3	24.7	91.0	FDS	NP	NP	NP	PASS
12/9/93	120901	786,601	1,139,190	5,337	132.5	106.2	24.8	108.6	22.3	97.8	IP	136.9	103.1	32.8	PASS
12/9/93	120902	786,535	1,139,159	5,337	132.8	103.4	28.4	108.6	22.3	95.2	IP	NP	NP	NP	PASS
12/9/93	120903	786,615	1,139,065	5,336	128.2	99.5	28.9	108.6	22.3	91.6	IP	NP	NP	NP	PASS
12/9/93	120904	786,697	1,138,864	5,336	128.9	101.8	26.6	108.6	22.3	93.8	IP	NP	NP	NP	PASS
12/9/93	120905	786,687	1,139,069	5,336	133.8	106.0	26.2	108.6	22.3	97.6	IP	NP	NP	NP	PASS
12/9/93	120906	786,650	1,138,555	5,336	129.8	101.5	27.9	108.6	22.3	93.4	IP	NP	NP	NP	PASS
12/9/93	120907	786,650	1,138,706	5,336	129.7	103.2	25.7	108.6	22.3	95.0	IP	NP	NP	NP	PASS
12/9/93	120908	786,731	1,138,710	5,336	135.7	106.0	28.0	108.6	22.3	97.6	IP	NP	NP	NP	PASS
12/9/93	120909	786,820	1,138,853	5,336	134.3	108.0	24.3	108.6	22.3	99.5	IP	NP	NP	NP	PASS
12/9/93	120910	786,721	1,138,876	5,336	130.9	103.3	26.7	108.6	22.3	95.1	IP	NP	NP	NP	PASS
12/10/93	121001	786,317	1,139,300	5,337	126.9	106.7	18.9	108.6	22.3	98.3	IP	NP	NP	NP	PASS
12/10/93	121002	786,325	1,139,225	5,337	119.4	97.4	22.6	108.6	22.3	89.7	IP	NP	NP	NP	FAIL

SUMMARY OF MOISTURE/DENSITY TEST RESULTS ON STABILIZED WASTE MATERIAL
FLUE DUST OPERABLE UNIT
ANACONDA SMELTER NPL SITE
ANACONDA, MONTANA

		Test Location Coordinates									Sand Cone Testing			
Date	Test No	Northing	Easting	Elevation (ft msl)	Wet Density (pcf)	Dry Density (pcf)	Moisture Content (percent)	Maximum Dry Density (pcf)	Optimum Moisture Content (percent)	Percent Compaction	Category and Description	Wet Density (pcf)	Dry Density (pcf)	Moisture Content (percent)	Comments
12/10/93	121003	786 523	1 139 287	5 337	134 0	109 7	22 1	113 6	17 5	96 6	IP	NP	NP	NP	PASS
12/10/93	121004	786 663	1 139 147	5,337	126 2	100 3	25 8	108 6	22 3	92 4	IP	NP	NP	NP	PASS
12/10/93	121005	786,516	1,139,330	5 337	127 7	103 3	23 6	113 6	17 5	90 9	IP	NP	NP	NP	PASS
12/10/93	121006	786,661	1,138 665	5,338	136 1	102 7	32 5	102 3	24 7	100 4	FDS	NP	NP	NP	PASS
12/10/93	121007	786,530	1,138,851	5 338	129 7	97 2	33 5	102 3	24 7	95 0	FDS	NP	NP	NP	PASS
12/10/93	121008	786 413	1,138 992	5,338	125 1	95 2	31 4	102 3	24 7	93 1	FDS	NP	NP	NP	PASS
12/10/93	121009	786,347	1 139 045	5,338	126 2	96 0	31 4	102 3	24 7	93 9	FDS	NP	NP	NP	PASS
12/10/93	121010	786 490	1,138 812	5 338	129 2	96 6	33 7	102 3	24 7	94 5	FDS	NP	NP	NP	PASS
12/11/93	121101	786 744	1 138 748	5 338	126 2	104 6	20 7	108 6	22 3	96 3	IP	NP	NP	NP	PASS
12/11/93	121102	786,727	1 138 816	5,338	123 0	101 1	21 7	108 6	22 3	93 1	IP	NP	NP	NP	PASS
12/11/93	121103	786 737	1 138 887	5 338	126 9	102 4	23 9	108 6	22 3	94 3	IP	NP	NP	NP	PASS
12/11/93	121104	786 762	1 138,950	5 338	118 8	99 5	19 4	108 6	22 3	91 6	IP	NP	NP	NP	PASS
12/11/93	121105	786,728	1 139 032	5,338	134 4	110 5	21 6	113 6	17 5	97 3	IP	NP	NP	NP	PASS
12/11/93	121106	786,576	1,139,055	5,338	132 2	107 5	23 0	113 6	17 5	94 6	IP	NP	NP	NP	PASS
12/11/93	121107	786 441	1 139,155	5,338	133 7	106 4	25 7	113 6	17 5	93 6	IP	NP	NP	NP	PASS
12/11/93	121002A	786 325	1,139,225	5,337	123 2	98 8	24 7	108 6	22 3	91 0	IP	NP	NP	NP	PASS
12/13/93	121301	786,585	1,139,305	5,337	129 9	104 8	24 0	113 6	17 5	92 2	IP	NP	NP	NP	PASS
12/13/93	121302	786 480	1,139 350	5 337	116 0	95 9	20 9	108 6	22 3	88 3	IP	NP	NP	NP	FAIL
12/13/93	121303	786,420	1,139,300	5,337	126 5	102 3	23 6	108 6	22 3	94 2	IP	NP	NP	NP	PASS
12/13/93	121304	786 490	1,139,100	5,337	114 3	91 7	24 6	102 3	24 7	89 7	FDS	NP	NP	NP	FAIL
12/13/93	121305	786 590	1,138,900	5,337	123 9	95 5	29 8	102 3	24 7	93 3	FDS	NP	NP	NP	PASS
12/14/93	121401	786,492	1,138 684	5,338	125 7	98 2	28 0	102 3	24 7	96 0	FDS	NP	NP	NP	PASS
12/14/93	121304A	786,490	1,139,100	5 337	116 5	92 0	26 6	102 3	24 7	90 0	FDS	NP	NP	NP	PASS
12/14/93	121402	786,370	1,138,882	5 338	116 6	92 9	25 5	102 3	24 7	90 8	FDS	NP	NP	NP	PASS
12/14/93	121302A	786 480	1 139,350	5,337	127 3	105 5	20 7	108 6	22 3	97 1	IP	NP	NP	NP	PASS
12/14/93	121403	786,662	1,139 110	5,338	130 4	106 5	22 4	108 6	22 3	98 1	IP	NP	NP	NP	PASS
12/14/93	121404	786 759	1 138,924	5 338	128 8	107 1	20 3	108 6	22 3	98 6	IP	NP	NP	NP	PASS
12/14/93	121405	786,774	1 138 763	5,338	121 6	105 6	15 2	108 6	22 3	97 2	IP	NP	NP	NP	PASS
12/14/93	121406	786,715	1,138,625	5,338	134 4	115 6	16 3	113 6	17 5	101 7	IP	NP	NP	NP	PASS
12/15/93	121501	786 595	1 139 180	5,338	133 1	111 5	19 4	113 6	17 5	98 1	IP	NP	NP	NP	PASS
12/15/93	121502	786,740	1 138 990	5,338	133 5	112 2	19 0	113 6	17 5	98 8	IP	NP	NP	NP	PASS
12/15/93	121503	786 620	1,138 977	5,338	120 3	98 0	22 7	108 6	22 3	90 3	IP	NP	NP	NP	PASS
12/15/93	121504	786 510	1 139 054	5,338	118 9	98 7	20 5	108 6	22 3	90 9	IP	NP	NP	NP	PASS
12/15/93	121505	786 765	1,138,867	5,338	130 4	99 6	30 9	102 3	24 7	97 4	FDS	NP	NP	NP	PASS
12/15/93	121506	766,660	1 138 848	5,338	130 6	100 2	30 3	102 3	24 7	98 0	FDS	NP	NP	NP	PASS
12/15/93	121507	786 461	1 139,106	5 338	125 6	95 6	31 4	102 3	24 7	93 4	FDS	NP	NP	NP	PASS
12/15/93	121508	786,419	1 139 330	5 338	126 9	98 8	28 5	102 3	24 7	96 5	FDS	NP	NP	NP	PASS
12/16/93	121601	786 455	1 138,712	5 337	122 4	94 4	29 7	98 7	24 8	95 6	MF	NP	NP	NP	PASS
12/16/93	121602	786,305	1 138,905	5 337	119 4	88 4	35 0	98 7	24 8	89 6	MF	NP	NP	NP	FAIL
12/16/93	121603	786 190	1 139,030	5 337	120 9	94 1	28 5	98 7	24 8	95 3	MF	NP	NP	NP	PASS
12/16/93	121604	786 411	1 139 385	5 338	126 9	98 3	29 1	98 7	24 8	99 6	MF	NP	NP	NP	PASS

SUMMARY OF MOISTURE/DENSITY TEST RESULTS ON STABILIZED WASTE MATERIAL
FLUE DUST OPERABLE UNIT
ANACONDA SMELTER NPL SITE
ANACONDA, MONTANA

		Test Location Coordinates		Elevation	Wet Density	Dry Density	Moisture Content	Maximum Dry	Optimum Moisture	Percent	Category and	Sand Cone Testing			
												Wet	Dry	Moisture	
Date	Test No	Northing	Easting	(ft. msl)	(pcf)	(pcf)	(percent)	Density (pcf)	Content (percent)	Compaction	Description	Density (pcf)	Density (pcf)	Content (percent)	Comments
12/16/93	121605	786 628	1 138 810	5 338	124 5	96 1	29 5	98 7	24 8	97 4	MF	NP	NP	NP	PASS
12/16/93	121606	786,754	1 138 761	5 338	114 8	93 0	23 4	98 7	24 8	94 3	MF	NP	NP	NP	PASS
12/16/93	121607	786 737	1 138 619	5 337	134 3	119 4	12 5	113 6	17 5	105 1	IP	NP	NP	NP	PASS
12/17/93	121701	786,496	1 138 735	5,338	126 1	99 6	26 6	98 7	24 8	100 9	MF	NP	NP	NP	PASS
12/17/93	121602A	786 305	1 138 905	5 337	123 4	97 1	27 1	98 7	24 8	98 4	MF	NP	NP	NP	PASS
12/17/93	121702	786,224	1 139 140	5,338	128 3	98 8	29 9	98 7	24 8	100 1	MF	NP	NP	NP	PASS
12/17/93	121703	786,405	1 139 205	5 338	126 1	100 6	25 3	98 7	24 8	102 0	MF	113 6	88 7	28 1	PASS
12/17/93	121704	786,432	1 139 051	5 338	127 7	99 1	28 8	98 7	24 8	100 5	MF	NP	NP	NP	PASS
12/17/93	121705	786 635	1,138,850	5,338	130 0	102 0	27 5	98 7	24 8	103 3	MF	NP	NP	NP	PASS
12/18/93	121801	786,610	1,138 662	5,339	122 8	98 7	24 4	98 7	24 8	100 0	MF	NP	NP	NP	PASS
12/18/93	121802	786 415	1,138,930	5,339	114 9	93 4	23 0	98 7	24 8	94 6	MF	NP	NP	NP	PASS
12/18/93	121803	786,372	1 139 056	5,339	122 0	97 5	25 1	98 7	24 8	98 8	MF	NP	NP	NP	PASS
12/18/93	121804	786,245	1,139 068	5,339	122 8	93 5	31 4	98 7	24 8	94 7	MF	NP	NP	NP	PASS
12/18/93	121805	786,370	1 139 153	5 339	118 1	92 5	27 7	98 7	24 8	93 7	MF	NP	NP	NP	PASS
12/18/93	121806	786 525	1,139 040	5,339	119 2	93 7	27 2	98 7	24 8	94 9	MF	NP	NP	NP	PASS
12/18/93	121807	786 619	1 138,908	5 339	120 4	98 0	22 8	98 7	24 8	99 3	MF	NP	NP	NP	PASS
12/19/93	121901	786,610	1 139 280	5 338	128 5	96 8	32 7	98 7	24 8	98 1	MF	116 8	94 5	23 6	PASS
12/19/93	121902	786 540	1,139,160	5,338	119 5	91 5	30 6	98 7	24 8	92 7	MF	NP	NP	NP	PASS
12/19/93	121903	786 685	1 139 095	5,338	126 6	93 8	34 9	98 7	24 8	95 1	MF	NP	NP	NP	PASS
12/19/93	121904	786,620	1 139 020	5 338	121 6	93 2	30 5	98 7	24 8	94 4	MF	NP	NP	NP	PASS
12/19/93	121905	786,735	1 139 025	5 338	125 5	93 7	33 9	98 7	24 8	95 0	MF	NP	NP	NP	PASS
12/20/93	122001	786 561	1 138 623	5,339	127 4	99 6	27 9	98 7	24 8	100 9	MF	102 2	77 1	32 5	PASS
12/20/93	122002	786,434	1 138,760	5 339	126 1	99 1	27 3	98 7	24 8	100 4	MF	NP	NP	NP	PASS
12/20/93	122003	786 281	1,139 330	5 336	123 1	93 3	31 9	98 7	24 8	94 6	MF	NP	NP	NP	PASS
12/20/93	122004	786,285	1,139,208	5 339	128 4	97 4	31 8	98 7	24 8	98 7	MF	NP	NP	NP	PASS
12/20/93	122005	786,237	1,139,142	5,336	128 1	97 2	31 8	98 7	24 8	98 5	MF	NP	NP	NP	PASS
3/18/94	031801	786,510	1,139 270	5 336	115 3	86 7	33 1	98 7	24 8	87 8	MF	NP	NP	NP	FAIL
3/18/94	031802	786 670	1 139 190	5,336	115 8	86 2	34 3	98 7	24 8	87 4	MF	NP	NP	NP	FAIL
3/18/94	031803	786,680	1 139 100	5 336	122 6	97 1	26 3	98 7	24 8	98 4	MF	NP	NP	NP	PASS
3/18/94	031804	786 770	1 138,910	5 337	117 2	88 4	32 6	98 7	24 8	89 6	MF	NP	NP	NP	FAIL
3/21/94	031801A	786 510	1 139 270	5 336	118 2	92 1	28 3	98 7	24 8	93 3	MF	NP	NP	NP	PASS
3/21/94	031802A	786 670	1 139,190	5 336	116 5	90 0	29 4	98 7	24 8	91 2	MF	NP	NP	NP	PASS
3/21/94	032103	786 670	1 139 090	5 336	119 6	90 1	32 8	98 7	24 8	91 3	MF	NP	NP	NP	PASS
3/21/94	031804A	786 770	1 138,910	5 337	129 2	96 4	34 1	98 7	24 8	97 6	MF	NP	NP	NP	PASS
3/21/94	032105	786 660	1,138,920	5,337	119 8	90 6	32 2	98 7	24 8	91 8	MF	NP	NP	NP	PASS
3/22/94	032201	786,320	1 139 220	5 337	115 7	100 6	15 0	108 6	22 3	92 6	IP	NP	NP	NP	PASS
3/22/94	032202	786 310	1,139,180	5,337	116 7	101 2	15 3	108 6	22 3	93 2	IP	NP	NP	NP	PASS
3/22/94	032203	786,450	1,139,110	5,337	119 1	102 8	15 9	108 6	22 3	94 6	IP	NP	NP	NP	PASS
3/22/94	032204	786,370	1 139,050	5 337	112 5	97 4	15 5	108 6	22 3	89 7	IP	105 1	94 4	11 3	FAIL
3/22/94	032205	786 500	1,139,030	5 337	118 2	101 1	16 9	108 6	22 3	93 1	IP	NP	NP	NP	PASS
3/22/94	032206	786 480	1,138,910	5 337	112 5	97 1	15 9	108 6	22 3	89 4	IP	105 8	94 3	12 2	FAIL

SUMMARY OF MOISTURE/DENSITY TEST RESULTS ON STABILIZED WASTE MATERIAL
FLUE DUST OPERABLE UNIT
ANACONDA SMELTER NPL SITE
ANACONDA, MONTANA

		Test Location Coordinates		Elevation	Wet Density	Dry Density	Moisture Content	Maximum Dry	Optimum Moisture	Percent	Category and	Sand Cone Testing			
												Wet	Dry	Moisture	
Date	Test No	Northing	Easting	(ft. msl)	(pcf)	(pcf)	(percent)	Density (pcf)	Content (percent)	Compaction	Description	Density (pcf)	Density (pcf)	Content (percent)	Comments
3/22/94	032207	786,670	1 138 850	5 337	108 7	92 9	17 1	108 6	22 3	85 5	IP	NP	NP	NP	FAIL
3/22/94	032208	786 640	1,138,840	5 337	115 0	100 2	14 8	108 6	22 3	92 2	IP	NP	NP	NP	PASS
3/22/94	032209	786,580	1,138,820	5,337	113 7	98 4	15 5	108 6	22 3	90 6	IP	NP	NP	NP	PASS
3/22/94	032210	786,670	1,138 830	5,337	119 3	103 4	15 4	108 6	22 3	95 2	IP	NP	NP	NP	PASS
3/22/94	032211	786,660	1,138,820	5,337	120 6	106 9	12 8	108 6	22 3	98 4	IP	NP	NP	NP	PASS
3/22/94	032212	786,620	1,138,810	5 337	117 7	102 4	14 9	108 6	22 3	94 3	IP	NP	NP	NP	PASS
3/22/94	032213	786,700	1,138,780	5,337	117 6	102 6	14 6	108 6	22 3	94 5	IP	NP	NP	NP	PASS
3/22/94	032214	786 680	1,138,770	5,337	117 0	102 6	14 0	108 6	22 3	94 5	IP	NP	NP	NP	PASS
3/22/94	032215	786 640	1 138,760	5,337	119 3	104 6	14 1	108 6	22 3	96 3	IP	NP	NP	NP	PASS
3/22/94	032216	786,750	1,138,730	5 337	120 0	105 5	13 7	108 6	22 3	97 2	IP	NP	NP	NP	PASS
3/22/94	032217	786 700	1,138,710	5 337	119 6	104 6	14 3	108 6	22 3	96 4	IP	NP	NP	NP	PASS
3/22/94	032204A	786,370	1 139,050	5,337	115 0	99 7	15 4	108 6	22 3	91 8	IP	NP	NP	NP	PASS
3/22/94	032206A	786,480	1,138 910	5,337	114 2	99 6	14 7	108 6	22 3	91 7	IP	NP	NP	NP	PASS
3/22/94	032207A	786,670	1,138,850	5,337	120 5	104 4	15 4	108 6	22 3	96 2	IP	NP	NP	NP	PASS
3/23/94	032301	786,610	1,139,180	5,337	123 2	107 4	14 7	113 6	17 5	94 6	IP	NP	NP	NP	PASS
3/23/94	032302	786 680	1,139,100	5,337	128 3	112 5	14 1	113 6	17 5	99 0	IP	NP	NP	NP	PASS
3/23/94	032303	786 640	1,139 060	5,337	123 8	108 5	14 1	113 6	17 5	95 5	IP	NP	NP	NP	PASS
3/23/94	032304	786 690	1,139 040	5,337	129 5	111 3	16 3	113 6	17 5	98 0	IP	NP	NP	NP	PASS
3/23/94	032305	786 700	1 139,010	5,337	125 6	111 0	13 2	113 6	17 5	97 7	IP	NP	NP	NP	PASS
3/23/94	032306	786,730	1,138,980	5,338	120 0	101 2	18 6	113 6	17 5	89 1	IP	NP	NP	NP	FAIL
3/23/94	032306A	786,730	1,138,980	5,338	122 2	103 8	17 7	113 6	17 5	91 4	IP	NP	NP	NP	PASS
3/23/94	032307	786,760	1,138,920	5,338	112 7	96 2	17 2	113 6	17 5	84 6	IP	NP	NP	NP	FAIL
3/23/94	032308	786 800	1 138,840	5 338	124 3	108 9	14 1	113 6	17 5	95 9	IP	NP	NP	NP	PASS
3/23/94	032307A	786 760	1,138,920	5 338	122 2	106 3	15 0	113 6	17 5	93 5	IP	NP	NP	NP	PASS
3/24/94	032401	786 400	1 139 000	5 338	131 2	97 1	35 1	100 2	24 0	96 9	CPT	NP	NP	NP	PASS
3/24/94	032402	786 480	1 138 980	5 338	124 2	93 7	32 6	100 2	24 0	93 5	CPT	NP	NP	NP	PASS
3/24/94	032403	786 500	1 138 920	5 338	127 7	95 4	33 8	100 2	24 0	95 3	CPT	NP	NP	NP	PASS
3/24/94	032404	786 600	1 138 900	5 338	122 4	92 4	32 5	100 2	24 0	92 2	CPT	NP	NP	NP	PASS
3/24/94	032405	786 400	1 139 080	5 338	117 7	85 7	37 4	100 2	24 0	85 5	CPT	NP	NP	NP	FAIL
3/24/94	032406	786,340	1,139 100	5 338	119 7	85 1	40 6	100 2	24 0	85 0	CPT	NP	NP	NP	FAIL
3/24/94	032407	786 650	1 138 860	5 338	124 1	94 4	31 5	100 2	24 0	94 2	CPT	NP	NP	NP	PASS
3/24/94	032408	786,600	1 138 800	5,338	121 9	92 8	31 3	100 2	24 0	92 7	CPT	NP	NP	NP	PASS
3/24/94	032409	786 740	1 138,780	5,338	127 8	98 4	29 9	100 2	24 0	98 2	CPT	NP	NP	NP	PASS
3/24/94	032410	786,700	1,138,700	5,338	127 4	98 9	28 8	100 2	24 0	98 7	CPT	NP	NP	NP	PASS
3/25/94	032501	786,470	1,139,260	5 338	116 9	93 1	25 6	100 2	24 0	92 9	CPT	NP	NP	NP	PASS
3/25/94	032502	786,540	1 139 250	5,338	114 4	94 2	21 4	100 2	24 0	94 0	CPT	NP	NP	NP	PASS
3/25/94	032503	786,640	1,139,080	5,338	124 1	103 4	19 9	100 2	24 0	103 2	CPT	NP	NP	NP	PASS
3/25/94	032504	786,580	1,139 170	5 338	122 3	100 6	21 6	100 2	24 0	100 4	CPT	NP	NP	NP	PASS
3/25/94	032505	786 660	1 139 100	5 338	127 7	98 8	29 3	100 2	24 0	98 6	CPT	NP	NP	NP	PASS
3/25/94	032506	786 700	1 139 040	5 338	117 3	87 9	33 5	100 2	24 0	87 7	CPT	NP	NP	NP	FAIL
3/25/94	032506A	786 700	1 139 040	5 338	127 4	97 9	30 0	100 2	24 0	97 7	CPT	NP	NP	NP	PASS

SUMMARY OF MOISTURE/DENSITY TEST RESULTS ON STABILIZED WASTE MATERIAL
FLUE DUST OPERABLE UNIT
ANACONDA SMELTER NPL SITE
ANACONDA, MONTANA

		Test Location Coordinates		Elevation	Wet Density	Dry Density	Moisture Content	Maximum Dry	Optimum Moisture	Percent	Category and	Sand Cone Testing: Wet Density	Sand Cone Testing: Dry Density	Sand Cone Testing: Moisture Content	
Date	Test No	Northing	Easting	(ft, msl)	(pcf)	(pcf)	(percent)	Density (pcf)	Content (percent)	Compaction	Description	(pcf)	(pcf)	(percent)	Comments
3/25/94	032507	786,620	1,139,040	5,338	125 6	97 1	29 3	100 2	24 0	96 9	CPT	NP	NP	NP	PASS
3/25/94	032508	786,710	1,139,000	5,338	126 8	96 3	31 7	100 2	24 0	96 1	CPT	NP	NP	NP	PASS
3/25/94	032509	786 620	1,139 000	5,338	123 9	95 4	29 9	100 2	24 0	95 2	CPT	NP	NP	NP	PASS
3/25/94	032510	786 720	1 138,990	5 338	122 9	93 7	31 2	100 2	24 0	93 5	CPT	NP	NP	NP	PASS
3/25/94	032511	786 660	1,138 990	5 338	121 8	90 7	34 3	100 2	24 0	90 5	CPT	NP	NP	NP	PASS
3/25/94	032511A	786 660	1 138 990	5,338	128 3	94 7	35 4	100 2	24 0	94 5	CPT	NP	NP	NP	PASS
3/25/94	032512	786,740	1 138 920	5,338	125 8	94 8	32 7	100 2	24 0	94 6	CPT	NP	NP	NP	PASS
3/25/94	032513	786 700	1 138 900	5 338	119 2	89 2	33 6	100 2	24 0	89 0	CPT	NP	NP	NP	FAIL
3/25/94	032514	786 780	1 138 860	5 338	129 7	98 7	31 4	100 2	24 0	98 5	CPT	NP	NP	NP	PASS
3/25/94	032515	786 700	1 138 850	5 338	129 7	99 6	30 2	100 2	24 0	99 4	CPT	NP	NP	NP	PASS
3/25/94	032513A	786,700	1 138 900	5 338	124 0	94 1	31 8	100 2	24 0	93 9	CPT	NP	NP	NP	PASS
3/25/94	032516	786 800	1,138,840	5,338	125 6	96 8	29 8	100 2	24 0	96 6	CPT	NP	NP	NP	PASS
3/25/94	032517	786 680	1,138,800	5,338	128 2	103 3	24 1	100 2	24 0	103 1	CPT	NP	NP	NP	PASS
3/28/94	032801	786 650	1 138 740	5 339	125 3	94 4	32 7	100 2	24 0	94 2	CPT	NP	NP	NP	PASS
3/28/94	032802	786 700	1,138 780	5 339	125 5	95 3	31 7	100 2	24 0	95 1	CPT	NP	NP	NP	PASS
3/28/94	032803	786,690	1,138,840	5,339	138 4	105 9	30 7	100 2	24 0	105 7	CPT	NP	NP	NP	PASS
3/28/94	032804	786 680	1 138,960	5,339	126 7	97 4	30 1	100 2	24 0	97 2	CPT	NP	NP	NP	PASS
3/28/94	032805	786,480	1,138,940	5 339	125 6	95 9	30 9	100 2	24 0	95 8	CPT	NP	NP	NP	PASS
3/28/94	032806	786,440	1 138,980	5,339	121 5	92 3	31 6	100 2	24 0	92 1	CPT	NP	NP	NP	PASS
3/28/94	032807	786 520	1 138 900	5 339	123 5	94 6	30 6	100 2	24 0	94 4	CPT	NP	NP	NP	PASS
3/28/94	032808	786,500	1 139 120	5 339	124 9	100 5	24 3	100 2	24 0	100 3	CPT	NP	NP	NP	PASS
3/28/94	032809	786 390	1,139 190	5 339	133 2	105 0	26 9	100 2	24 0	104 8	CPT	NP	NP	NP	PASS
3/28/94	032810	786 320	1 139,170	5 339	127 6	102 2	24 8	100 2	24 0	102 0	CPT	NP	NP	NP	PASS
3/31/94	033101	786 730	1 138 630	5 340	119 5	96 4	24 0	100 2	24 0	96 2	CPT	NP	NP	NP	PASS
3/31/94	033102	786 750	1 138 700	5,340	126 1	103 1	22 3	100 2	24 0	102 9	CPT	NP	NP	NP	PASS
3/31/94	033103	786,780	1,138 810	5,340	125 5	98 9	27 0	100 2	24 0	98 7	CPT	NP	NP	NP	PASS
3/31/94	033104	786 750	1 138 910	5,340	131 4	104 3	26 0	100 2	24 0	104 1	CPT	NP	NP	NP	PASS
3/31/94	033105	786,680	1,138 850	5 340	131 3	102 6	27 9	100 2	24 0	102 4	CPT	NP	NP	NP	PASS
3/31/94	033106	786 620	1,138 830	5,340	128 9	100 4	28 4	100 2	24 0	100 2	CPT	NP	NP	NP	PASS
3/31/94	033107	786 530	1,138,780	5 340	132 2	105 0	25 9	100 2	24 0	104 8	CPT	NP	NP	NP	PASS
3/31/94	033108	786,530	1 138 900	5,340	124 1	98 1	26 5	100 2	24 0	97 9	CPT	NP	NP	NP	PASS
3/31/94	033109	786 590	1,138 890	5,340	127 7	96 4	32 5	100 2	24 0	96 2	CPT	NP	NP	NP	PASS
3/31/94	033110	786 570	1 139 020	5 340	122 1	93 1	31 1	100 2	24 0	92 9	CPT	NP	NP	NP	PASS
3/31/94	033111	786 490	1,139 020	5,340	129 1	98 4	31 2	100 2	24 0	98 2	CPT	NP	NP	NP	PASS
3/31/94	033112	786,390	1 139,020	5 340	128 8	99 1	29 9	100 2	24 0	98 9	CPT	NP	NP	NP	PASS
3/31/94	033113	786,450	1,139,050	5,340	133 5	108 7	22 8	100 2	24 0	108 5	CPT	NP	NP	NP	PASS
3/31/94	033114	786 540	1,139,110	5,340	131 1	104 3	25 6	100 2	24 0	104 1	CPT	NP	NP	NP	PASS
3/31/94	033115	786,500	1,139,150	5,340	125 4	103 5	21 2	113 6	22 3	91 1	IP	NP	NP	NP	PASS
3/31/94	033116	786 460	1 139 110	5,340	122 7	100 8	21 7	113 6	22 3	88 7	IP	NP	NP	NP	FAIL
3/31/94	033116A	786 450	1 139 120	5,340	131 9	108 0	22 2	113 6	22 3	95 0	IP	NP	NP	NP	PASS
3/31/94	033117	786,370	1,139,070	5,340	124 1	96 4	28 5	100 2	24 0	96 2	CPT	NP	NP	NP	PASS

SUMMARY OF MOISTURE/DENSITY TEST RESULTS ON STABILIZED WASTE MATERIAL
FLUE DUST OPERABLE UNIT
ANACONDA SMELTER NPL SITE
ANACONDA, MONTANA

		Test Location Coordinates		Elevation	Wet Density	Dry Density	Moisture Content	Maximum Dry	Optimum Moisture	Percent	Category and	Sand Cone Testing			
Date	Test No	Northing	Easting	(ft. msl)	(pcf)	(pcf)	(percent)	Density (pcf)	Content (percent)	Compaction	Description	Wet Density (pcf)	Dry Density (pcf)	Moisture Content (percent)	Comments
3/31/94	033118	786,290	1 139,010	5,340	123 6	97 9	26 3	100 2	24 0	97 7	CPT	NP	NP	NP	PASS
3/31/94	033119	786,360	1 139,190	5 340	121 8	97 4	25 0	100 2	24 0	97 2	CPT	NP	NP	NP	PASS
4/5/94	040501	786,390	1 138,910	5,341	125 0	94 7	31 9	102 3	24 7	92 6	FDS	NP	NP	NP	PASS
4/5/94	040502	786,450	1,138,950	5 341	124 3	98 7	25 9	102 3	24 7	96 5	FDS	120 0	98 5	21 8	PASS
4/5/94	040503	786 480	1,139,000	5 341	126 6	100 3	26 2	102 3	24 7	98 1	FDS	NP	NP	NP	PASS
4/5/94	040504	786,400	1 139 060	5 341	126 7	102 6	23 6	102 3	24 7	100 3	FDS	NP	NP	NP	PASS
4/5/94	040505	786,300	1 139,080	5 341	127 2	95 6	33 0	102 3	24 7	93 4	FDS	NP	NP	NP	PASS
4/5/94	040506	786 330	1 139,140	5,341	127 3	97 4	30 6	102 3	24 7	95 2	FDS	NP	NP	NP	PASS
4/5/94	040507	786,780	1 138,840	5 341	121 6	95 8	27 0	100 2	24 0	95 6	CPT	NP	NP	NP	PASS
4/5/94	040508	786,730	1 138 900	5,341	129 6	103 3	25 5	100 2	24 0	103 1	CPT	NP	NP	NP	PASS
4/5/94	040509	786 650	1,138,950	5,341	125 5	92 6	35 5	100 2	24 0	92 4	CPT	NP	NP	NP	PASS
4/5/94	040510	786,600	1,138,920	5 341	128 7	96 5	33 4	100 2	24 0	96 3	CPT	NP	NP	NP	PASS
4/5/94	040511	786,530	1 139 080	5 342	119 2	91 5	30 3	100 2	24 0	91 3	CPT	NP	NP	NP	PASS
4/5/94	040512	786,490	1,139,090	5,342	123 2	93 9	31 1	100 2	24 0	93 7	CPT	NP	NP	NP	PASS
4/5/94	040513	786,490	1,139 210	5,342	131 6	103 1	27 7	100 2	24 0	102 9	CPT	NP	NP	NP	PASS
4/5/94	040514	786,450	1 139 230	5 342	128 1	100 7	27 2	100 2	24 0	100 5	CPT	NP	NP	NP	PASS
4/5/94	040515	786 500	1,139,290	5 342	125 7	94 2	33 4	100 2	24 0	94 0	CPT	NP	NP	NP	PASS
4/5/94	040516	786,400	1 139 280	5 342	125 9	94 0	33 9	100 2	24 0	93 8	CPT	NP	NP	NP	PASS
4/5/94	040517	786,630	1 138 720	5 342	135 9	107 8	26 1	102 3	24 7	105 4	FDS	143 3	115 8	23 7	PASS
4/5/94	040518	786,720	1 138 610	5 342	132 3	106 1	24 6	102 3	24 7	103 8	FDS	NP	NP	NP	PASS
4/6/94	040601	786 340	1 139 050	5 343	135 5	104 5	29 7	102 3	24 7	102 2	FDS	NP	NP	NP	PASS
4/6/94	040602	786,350	1 139 080	5 343	117 7	90 7	29 7	102 3	24 7	88 7	FDS	NP	NP	NP	FAIL
4/6/94	040603	786 390	1 139 110	5,343	122 7	92 2	33 1	102 3	24 7	90 1	FDS	NP	NP	NP	PASS
4/6/94	040604	786 450	1 139,150	5 343	128 6	97 1	32 5	102 3	24 7	94 9	FDS	NP	NP	NP	PASS
4/6/94	040605	786,450	1 139 300	5 343	128 4	96 8	32 6	102 3	24 7	94 6	FDS	NP	NP	NP	PASS
4/6/94	040606	786 560	1,139 060	5 343	124 4	93 3	33 4	102 3	24 7	91 2	FDS	NP	NP	NP	PASS
4/6/94	040607	786 500	1 138 950	5 343	126 4	100 9	25 3	102 3	24 7	98 6	FDS	NP	NP	NP	PASS
4/6/94	040608	786 580	1 138 820	5 343	128 5	98 5	30 5	102 3	24 7	96 2	FDS	NP	NP	NP	PASS
4/6/94	040609	786 680	1 138 720	5 343	128 1	98 1	30 6	102 3	24 7	95 9	FDS	NP	NP	NP	PASS
4/6/94	040610	786 570	1 138 740	5 343	129 9	100 5	29 2	102 3	24 7	98 3	FDS	NP	NP	NP	PASS
4/11/94	040602A	786,350	1 139 080	5 343	117 0	92 2	26 9	102 3	24 7	90 1	FDS	114 8	89 4	28 4	PASS
4/11/94	040603A	786 390	1 139 110	5 343	119 7	93 3	28 1	102 3	24 7	91 3	FDS	NP	NP	NP	PASS
4/11/94	041101	786 370	1 139 180	5 344	130 3	104 6	24 6	102 3	24 7	102 2	FDS	NP	NP	NP	PASS
4/11/94	041102	786,390	1 139 230	5,344	131 5	103 5	27 1	102 3	24 7	101 1	FDS	NP	NP	NP	PASS
4/11/94	041103	786,450	1 139 290	5,344	119 3	90 1	32 4	102 3	24 7	88 1	FDS	NP	NP	NP	FAIL
4/11/94	041104	786,500	1,139,230	5 344	132 7	108 8	22 0	113 6	17 5/22 3	95 8	IP	NP	NP	NP	PASS
4/11/94	041105	786,570	1 139,130	5 344	124 0	95 7	29 5	102 3	24 7	93 6	FDS	NP	NP	NP	PASS
4/11/94	041106	786 670	1 139 030	5,344	125 2	95 2	31 4	102 3	24 7	93 1	FDS	NP	NP	NP	PASS
4/11/94	041107	786,540	1 139 040	5,344	127 9	103 8	23 2	102 3	24 7	101 5	FDS	NP	NP	NP	PASS
4/11/94	041108	786 600	1 138 970	5 344	124 3	95 5	30 2	102 3	24 7	93 3	FDS	NP	NP	NP	PASS
4/11/94	041109	786 670	1 138 960	5 344	129 6	100 1	29 5	102 3	24 7	97 8	FDS	NP	NP	NP	PASS

SUMMARY OF MOISTURE/DENSITY TEST RESULTS ON STABILIZED WASTE MATERIAL
FLUE DUST OPERABLE UNIT
ANACONDA SMELTER NPL SITE
ANACONDA, MONTANA

Date	Test No	Test Location Coordinates		Elevation	Wet Density	Dry Density	Moisture Content	Maximum Dry	Optimum Moisture	Percent	Category and	Sand Cone Testing			Comments
		Northing	Easting	(ft. msl)	(pcf)	(pcf)	(percent)	Density (pcf)	Content (percent)	Compaction	Description	Wet Density (pcf)	Dry Density (pcf)	Moisture Content (percent)	
4/11/94	041110	786 630	1 138 920	5 344	136 1	110 4	23 2	102 3	24 7	107 9	FDS	NP	NP	NP	PASS
4/11/94	041111	786 580	1 138 870	5 344	135 1	110 0	22 9	102 3	24 7	107 5	FDS	146 0	121 3	20 4	PASS
4/11/94	041112	786 750	1 138 850	5 344	129 9	102 8	26 3	102 3	24 7	100 5	FDS	NP	NP	NP	PASS
4/11/94	041113	786 690	1 138 800	5 344	128 1	98 8	29 7	102 3	24 7	96 6	FDS	NP	NP	NP	PASS
4/11/94	041114	786 650	1 138 750	5 344	123 2	93 8	31 4	102 3	24 7	91 6	FDS	NP	NP	NP	PASS
4/11/94	041103A	786 450	1 139 290	5 344	131 6	103 9	26 7	102 3	24 7	101 6	FDS	NP	NP	NP	PASS
4/13/94	041301	786 450	1 139 280	5 345	123 0	93 2	32 0	102 3	24 7	91 1	FDS	NP	NP	NP	PASS
4/13/94	041302	786 380	1 139 230	5 345	126 6	96 2	31 7	102 3	24 7	94 0	FDS	NP	NP	NP	PASS
4/13/94	041303	786 460	1 139 170	5 345	119 0	92 4	28 8	102 3	24 7	90 3	FDS	NP	NP	NP	FAIL
4/13/94	041304	786 530	1 139 220	5 345	119 9	91 7	30 7	102 3	24 7	89 6	FDS	NP	NP	NP	FAIL
4/13/94	041305	786 600	1 139 100	5 345	129 3	98 7	30 9	102 3	24 7	96 5	FDS	NP	NP	NP	PASS
4/13/94	041306	786 430	1 139 020	5 345	131 7	99 9	31 9	102 3	24 7	97 6	FDS	NP	NP	NP	PASS
4/13/94	041307	786 530	1 139 060	5 345	NP	NP	NP	102 3	24 7	NP	FDS	NP	NP	NP	NP
4/13/94	041308	786 460	1 139 100	5 345	NP	NP	NP	102 3	24 7	NP	FDS	NP	NP	NP	NP
4/13/94	041309	786 420	1 139 170	5 345	NP	NP	NP	102 3	24 7	NP	FDS	NP	NP	NP	NP
4/13/94	041310	786 360	1 139 120	5 345	NP	NP	NP	102 3	24 7	NP	FDS	NP	NP	NP	NP
4/14/94	041401	786 780	1 138 820	5 345	125 2	96 0	30 4	102 3	24 7	93 9	FDS	NP	NP	NP	PASS
4/14/94	041402	786 710	1 138 950	5 345	126 9	98 5	28 8	102 3	24 7	96 3	FDS	NP	NP	NP	PASS
4/14/94	041403	786 600	1 139 070	5 345	124 9	95 8	30 4	102 3	24 7	93 7	FDS	NP	NP	NP	PASS
4/14/94	041404	786 530	1 139 230	5 345	125 4	95 5	31 3	102 3	24 7	93 3	FDS	NP	NP	NP	PASS
4/14/94	041304A	786 480	1 139 270	5 345	133 4	104 1	28 1	102 3	24 7	101 8	FDS	NP	NP	NP	PASS
4/14/94	041405	786,460	1 139,260	5 345	122 3	93 7	30 5	102 3	24 7	91 6	FDS	NP	NP	NP	PASS
4/14/94	041303A	786 450	1 139 200	5 345	124 3	99 7	24 7	102 3	24 7	97 4	FDS	NP	NP	NP	PASS
4/14/94	041406	786 480	1 139,170	5 345	123 1	96 4	27 8	102 3	24 7	94 2	FDS	NP	NP	NP	PASS
4/14/94	041407	786 450	1 139 120	5 345	123 9	95 6	29 6	102 3	24 7	93 5	FDS	NP	NP	NP	PASS
4/14/94	041408	786 380	1,139 150	5 345	125 7	97 5	28 9	102 3	24 7	95 3	FDS	NP	NP	NP	PASS
4/14/94	041409	786 420	1 139 140	5 346	124 0	95 4	29 9	102 3	24 7	93 3	FDS	NP	NP	NP	PASS
4/14/94	041410	786 430	1 139 010	5 346	117 2	92 4	26 8	102 3	24 7	90 4	FDS	NP	NP	NP	PASS
4/14/94	041411	786 530	1 138 920	5 346	120 5	93 9	28 3	102 3	24 7	91 8	FDS	NP	NP	NP	PASS
4/14/94	041412	786 610	1 138 850	5 346	114 6	89 8	27 6	102 3	24 7	87 8	FDS	NP	NP	NP	FAIL
4/14/94	041412A	786 630	1,138 850	5 346	119 5	92 8	28 8	102 3	24 7	90 7	FDS	NP	NP	NP	PASS
4/14/94	041413	786 610	1 138 940	5 346	125 6	102 2	23 0	102 3	24 7	99 9	FDS	NP	NP	NP	PASS
4/14/94	041414	786 690	1 138 780	5 346	124 0	97 5	27 2	102 3	24 7	95 3	FDS	NP	NP	NP	PASS
4/14/94	041415	786,730	1 138 700	5 346	127 2	100 6	26 5	102 3	24 7	98 4	FDS	NP	NP	NP	PASS
4/15/94	041501	786,270	1 139 150	5,347	133 1	103 8	28 3	102 3	24 7	101 5	FDS	NP	NP	NP	PASS
4/15/94	041502	786 290	1 139 270	5 347	134 5	107 4	25 1	102 3	24 7	104 9	FDS	NP	NP	NP	PASS
4/15/94	041503	786 310	1 139 330	5 347	131 0	101 1	29 6	102 3	24 7	98 8	FDS	NP	NP	NP	PASS
4/15/94	041504	786 460	1 139,240	5 347	124 3	97 0	28 2	102 3	24 7	94 8	FDS	103 2	83 0	24 4	PASS
4/15/94	041505	786 510	1 139 150	5 347	128 9	102 9	25 2	102 3	24 7	100 6	FDS	NP	NP	NP	PASS
4/15/94	041506	786 450	1 139 100	5 347	132 1	102 9	28 6	102 3	24 7	100 6	FDS	NP	NP	NP	PASS
4/15/94	041507	786 500	1 138 990	5 347	129 3	99 6	29 9	102 3	24 7	97 4	FDS	NP	NP	NP	PASS

SUMMARY OF MOISTURE/DENSITY TEST RESULTS ON STABILIZED WASTE MATERIAL
FLUE DUST OPERABLE UNIT
ANACONDA SMELTER NPL SITE
ANACONDA, MONTANA

		Test Location Coordinates		Elevation	Wet Density	Dry Density	Moisture Content	Maximum Dry	Optimum Moisture	Percent	Category and	Sand Cone Testing			
												Wet	Dry	Moisture	
Date	Test No	Northing	Easting	(ft. msl)	(pcf)	(pcf)	(percent)	Density (pcf)	Content (percent)	Compaction	Description	Density (pcf)	Density (pcf)	Content (percent)	Comments
4/15/94	041508	786 610	1 139 150	5 347	135 2	111 0	21 8	102 3	24 7	108 5	FDS	NP	NP	NP	PASS
4/15/94	041509	786 720	1 139 010	5 347	136 6	113 2	20 7	102 3	24 7	110 6	FDS	NP	NP	NP	PASS
4/15/94	041510	786 770	1 138 820	5 347	119 5	98 9	20 9	102 3	24 7	96 7	FDS	NP	NP	NP	PASS
4/15/94	041511	786 410	1 138 960	5 347	128 6	104 6	23 0	102 3	24 7	102 2	FDS	NP	NP	NP	PASS
4/15/94	041512	786 660	1 138 880	5 346	121 3	97 0	25 1	102 3	24 7	94 8	FDS	NP	NP	NP	PASS
4/19/94	041901	786 400	1 138 970	5 348	115 4	86 3	33 6	102 3	24 7	84 4	FDS	NP	NP	NP	FAIL
4/19/94	041902	786 340	1 139,040	5 348	120 1	90 5	32 7	102 3	24 7	88 4	FDS	NP	NP	NP	FAIL
4/19/94	041903	786 490	1 138 900	5 348	126 7	96 4	31 5	102 3	24 7	94 2	FDS	NP	NP	NP	PASS
4/19/94	041904	786 570	1 138 930	5 348	129 3	98 5	31 3	102 3	24 7	96 3	FDS	NP	NP	NP	PASS
4/19/94	041905	786 480	1 139 040	5 348	126 4	96 8	30 5	102 3	24 7	94 7	FDS	NP	NP	NP	PASS
4/19/94	041906	786 640	1 138 950	5 348	123 4	94 3	32 9	102 3	24 7	92 2	FDS	NP	NP	NP	PASS
4/19/94	041907	786 520	1 139 000	5 348	128 1	97 2	31 8	102 3	24 7	95 0	FDS	NP	NP	NP	PASS
4/19/94	041908	786 700	1 138 940	5 348	125 9	96 1	31 0	102 3	24 7	93 9	FDS	NP	NP	NP	PASS
4/19/94	041909	786 610	1 139 050	5 348	123 8	95 3	29 9	102 3	24 7	93 1	FDS	NP	NP	NP	PASS
4/19/94	041910	786 720	1 139,010	5 348	122 5	95 0	29 0	102 3	24 7	92 9	FDS	NP	NP	NP	PASS
4/19/94	041911	786 600	1 139 190	5 348	131 9	101 6	29 7	102 3	24 7	99 3	FDS	NP	NP	NP	PASS
4/19/94	041912	786 520	1,139 240	5 348	128 3	100 4	27 7	102 3	24 7	98 2	FDS	NP	NP	NP	PASS
4/19/94	041913	786 470	1 139 290	5 348	131 4	102 3	28 4	102 3	24 7	100 0	FDS	NP	NP	NP	PASS
4/19/94	041914	786 440	1,139 190	5 348	127 5	99 8	27 7	102 3	24 7	97 6	FDS	NP	NP	NP	PASS
4/19/94	041915	786 360	1 139 210	5 348	125 7	98 5	27 6	102 3	24 7	96 3	FDS	NP	NP	NP	PASS
4/19/94	041901A	786,400	1 138 970	5 348	132 8	103 3	28 5	102 3	24 7	101 0	FDS	NP	NP	NP	PASS
4/19/94	041902A	786 340	1 139 040	5 348	134 6	104 4	28 9	102 3	24 7	102 1	FDS	NP	NP	NP	PASS
4/20/94	042001	786 340	1 139 090	5 349	127 4	98 6	29 2	102 3	24 7	96 4	FDS	NP	NP	NP	PASS
4/20/94	042002	786 450	1 139,050	5 349	122 2	89 8	36 0	102 3	24 7	87 8	FDS	106 8	86 1	24 1	FAIL
4/20/94	042003	786 590	1 139 070	5 349	129 8	97 9	32 5	102 3	24 7	95 7	FDS	NP	NP	NP	PASS
4/20/94	042004	786 530	1,139,170	5 349	127 1	95 9	32 5	102 3	24 7	93 7	FDS	NP	NP	NP	PASS
4/20/94	042005	786 630	1 139 160	5,349	129 8	100 4	29 2	102 3	24 7	98 2	FDS	NP	NP	NP	PASS
4/20/94	042006	786 480	1 139 280	5 349	120 4	90 1	33 7	102 3	24 7	88 0	FDS	110 7	90 5	22 3	FAIL
4/20/94	042007	786,370	1,139 300	5,349	122 4	92 9	31 7	102 3	24 7	90 8	FDS	NP	NP	NP	PASS
4/20/94	042008	786 460	1 139 190	5 349	123 6	94 0	31 4	102 3	24 7	91 9	FDS	NP	NP	NP	PASS
4/20/94	042009	786 690	1,139 000	5 349	122 2	94 8	28 9	102 3	24 7	92 7	FDS	NP	NP	NP	PASS
4/20/94	042010	786 570	1 138 900	5 349	121 6	92 7	31 3	102 3	24 7	90 6	FDS	NP	NP	NP	PASS
4/20/94	042011	786 490	1 138,890	5 349	128 1	96 7	32 5	102 3	24 7	94 5	FDS	NP	NP	NP	PASS
4/20/94	042012	786 610	1 138 750	5 349	130 8	100 1	30 7	102 3	24 7	97 8	FDS	NP	NP	NP	PASS
4/20/94	042013	786 700	1 138 800	5 349	127 6	97 2	31 2	102 3	24 7	95 1	FDS	NP	NP	NP	PASS
4/20/94	042014	786 760	1 138 860	5 349	127 6	98 2	29 9	102 3	24 7	96 0	FDS	NP	NP	NP	PASS
4/20/94	042015	786 720	1 138 750	5 349	132 1	102 0	29 6	102 3	24 7	99 7	FDS	NP	NP	NP	PASS
4/20/94	042016	786 740	1 138 640	5 349	128 5	104 8	22 5	102 3	24 7	102 5	FDS	NP	NP	NP	PASS
4/21/94	042101	786 360	1 139 090	5 350	133 1	103 2	29 0	102 3	24 7	100 9	FDS	NP	NP	NP	PASS
4/21/94	042002A	786 450	1 139 050	5 349	131 2	100 3	30 9	102 3	24 7	98 0	FDS	NP	NP	NP	PASS
4/21/94	042102	786 500	1 139 000	5 350	131 3	100 4	30 7	102 3	24 7	98 2	FDS	NP	NP	NP	PASS

SUMMARY OF MOISTURE/DENSITY TEST RESULTS ON STABILIZED WASTE MATERIAL
FLUE DUST OPERABLE UNIT
ANACONDA SMELTER NPL SITE
ANACONDA, MONTANA

Date	Test No	Test Location Coordinates		Elevation	Wet Density	Dry Density	Moisture Content	Maximum Dry	Optimum Moisture	Percent	Category and	Sand Cone Testing			
		Northing	Easting	(ft. msl)	(pcf)	(pcf)	(percent)	Density (pcf)	Content (percent)	Compaction	Description	Wet Density (pcf)	Dry Density (pcf)	Moisture Content (percent)	Comments
4/21/94	042103	786,690	1,138,990	5,350	122.7	94.2	30.3	102.3	24.7	92.1	FDS	NP	NP	NP	PASS
4/21/94	042104	786,580	1,139,210	5,350	130.8	103.4	26.5	102.3	24.7	101.0	FDS	NP	NP	NP	PASS
4/21/94	042006A	786,500	1,139,280	5,349	124.2	96.3	29.0	102.3	24.7	94.1	FDS	NP	NP	NP	PASS
4/21/94	042105	786,390	1,139,310	5,350	119.4	92.1	29.6	102.3	24.7	90.0	FDS	NP	NP	NP	PASS
4/21/94	042106	786,390	1,139,230	5,350	129.6	98.9	31.1	102.3	24.7	96.6	FDS	NP	NP	NP	PASS
4/21/94	042107	786,320	1,139,180	5,350	126.1	98.4	28.2	102.3	24.7	96.1	FDS	NP	NP	NP	PASS
4/21/94	042108	786,460	1,139,210	5,350	129.2	103.0	24.2	102.3	24.7	101.7	FDS	NP	NP	NP	PASS
4/21/94	042109	786,550	1,139,100	5,350	131.0	102.6	27.8	102.3	24.7	100.2	FDS	NP	NP	NP	PASS
4/21/94	042110	786,490	1,139,140	5,350	129.9	101.1	28.5	102.3	24.7	98.8	FDS	NP	NP	NP	PASS
4/21/94	042111	786,430	1,138,980	5,350	119.9	93.7	28.0	102.3	24.7	91.6	FDS	NP	NP	NP	PASS
4/21/94	042112	786,580	1,138,810	5,350	121.1	97.4	24.3	102.3	24.7	95.2	FDS	NP	NP	NP	PASS
4/21/94	042113	786,880	1,138,600	5,350	120.8	98.8	22.2	102.3	24.7	96.6	FDS	NP	NP	NP	PASS
4/22/94	042201	786,480	1,138,880	5,351	125.6	99.6	30.0	102.3	24.7	94.5	FDS	NP	NP	NP	PASS
4/22/94	042202	786,370	1,139,090	5,351	125.9	95.0	32.5	102.3	24.7	92.8	FDS	NP	NP	NP	PASS
4/22/94	042203	786,450	1,139,090	5,351	125.8	95.2	32.1	102.3	24.7	93.1	FDS	NP	NP	NP	PASS
4/22/94	042204	786,650	1,138,910	5,351	124.8	93.9	32.9	102.3	24.7	91.8	FDS	NP	NP	NP	PASS
4/22/94	042205	786,530	1,139,000	5,351	124.5	93.0	33.9	102.3	24.7	90.6	FDS	NP	NP	NP	PASS
4/22/94	042206	786,680	1,138,940	5,351	130.1	99.7	30.5	102.3	24.7	97.4	FDS	NP	NP	NP	PASS
4/22/94	042207	786,650	1,139,050	5,351	128.6	99.2	29.7	102.3	24.7	97.0	FDS	NP	NP	NP	PASS
4/22/94	042208	786,580	1,139,180	5,351	129.5	99.2	30.6	102.3	24.7	96.9	FDS	NP	NP	NP	PASS
4/22/94	042209	786,700	1,138,980	5,351	122.8	92.5	32.7	102.3	24.7	90.5	FDS	NP	NP	NP	PASS
4/22/94	042210	786,770	1,138,780	5,351	120.0	94.1	27.6	102.3	24.7	92.0	FDS	NP	NP	NP	PASS
4/22/94	042211	786,720	1,138,870	5,351	120.6	93.2	29.4	102.3	24.7	91.1	FDS	NP	NP	NP	PASS
4/22/94	042212	786,710	1,138,690	5,351	117.4	93.9	25.1	102.3	24.7	91.8	FDS	NP	NP	NP	PASS
4/22/94	042213	786,680	1,138,780	5,351	116.9	92.6	26.2	102.3	24.7	90.5	FDS	NP	NP	NP	PASS
4/22/94	042214	786,660	1,138,730	5,351	126.2	97.4	29.6	102.3	24.7	95.2	FDS	NP	NP	NP	PASS
4/22/94	042215	786,600	1,138,860	5,351	128.1	98.8	29.6	102.3	24.7	96.6	FDS	NP	NP	NP	PASS
4/22/94	042216	786,580	1,138,920	5,351	126.0	96.2	31.0	102.3	24.7	94.1	FDS	NP	NP	NP	PASS
4/27/94	042701	786,170	1,139,270	5,352	130.4	102.2	27.6	102.3	24.7	99.9	FDS	NP	NP	NP	PASS
4/27/94	042702	786,350	1,139,190	5,352	131.1	102.7	27.6	102.3	24.7	100.4	FDS	NP	NP	NP	PASS
4/27/94	042703	786,440	1,139,160	5,352	130.4	100.5	29.8	102.3	24.7	98.3	FDS	NP	NP	NP	PASS
4/27/94	042704	786,520	1,139,200	5,352	137.7	106.0	29.9	102.3	24.7	103.6	FDS	NP	NP	NP	PASS
4/27/94	042705	786,590	1,139,120	5,352	129.9	100.9	28.8	102.3	24.7	98.6	FDS	NP	NP	NP	PASS
4/27/94	042706	786,500	1,139,080	5,352	128.1	95.8	33.7	102.3	24.7	93.6	FDS	NP	NP	NP	PASS
4/27/94	042707	786,410	1,139,020	5,352	129.1	101.1	27.8	102.3	24.7	98.8	FDS	NP	NP	NP	PASS
4/27/94	042708	786,500	1,138,920	5,352	132.5	104.2	27.2	102.3	24.7	101.8	FDS	NP	NP	NP	PASS
4/27/94	042709	786,570	1,138,990	5,352	124.0	101.3	22.4	102.3	24.7	99.1	FDS	NP	NP	NP	PASS
4/27/94	042710	786,660	1,139,030	5,352	129.8	99.7	30.2	102.3	24.7	97.4	FDS	NP	NP	NP	PASS
4/27/94	042711	786,580	1,138,870	5,352	122.6	94.8	29.3	102.3	24.7	92.7	FDS	NP	NP	NP	PASS
4/27/94	042712	786,650	1,138,860	5,352	126.3	100.6	25.5	102.3	24.7	98.4	FDS	NP	NP	NP	PASS
4/27/94	042713	786,730	1,138,850	5,352	126.4	100.9	25.2	102.3	24.7	98.7	FDS	NP	NP	NP	PASS

SUMMARY OF MOISTURE/DENSITY TEST RESULTS ON STABILIZED WASTE MATERIAL
FLUE DUST OPERABLE UNIT
ANACONDA SMELTER NPL SITE
ANACONDA, MONTANA

Date	Test No	Test Location Coordinates		Elevation	Wet Density	Dry Density	Moisture Content	Maximum Dry	Optimum Moisture	Percent	Category and	Sand Cone Testing			Comments
		Northing	Easting	(ft. msl)	(pcf)	(pcf)	(percent)	Density (pcf)	Content (percent)	Compaction	Description	Wet Density (pcf)	Dry Density (pcf)	Moisture Content (percent)	
4/27/94	042714	786 710	1 138 750	5 352	127 2	98 4	29 2	102 3	24 7	96 2	FDS	NP	NP	NP	PASS
4/27/94	042715	786 650	1 138 790	5 352	120 3	93 1	29 2	102 3	24 7	91 0	FDS	NP	NP	NP	PASS
4/28/94	042801	786 400	1 139 280	5 353	123 0	93 3	31 7	102 3	24 7	91 2	FDS	NP	NP	NP	PASS
4/28/94	042802	786 390	1 139 210	5 353	128 5	101 5	26 7	102 3	24 7	99 2	FDS	NP	NP	NP	PASS
4/28/94	042803	786 450	1 139 200	5 353	129 0	97 9	31 8	102 3	24 7	95 7	FDS	NP	NP	NP	PASS
4/28/94	042804	786 500	1 139 280	5 353	130 4	100 2	30 1	102 3	24 7	98 0	FDS	NP	NP	NP	PASS
4/28/94	042805	786 540	1 139 190	5 353	127 6	98 5	29 5	102 3	24 7	96 3	FDS	NP	NP	NP	PASS
4/28/94	042806	786 390	1 139 070	5 353	127 2	95 3	33 5	102 3	24 7	93 1	FDS	NP	NP	NP	PASS
4/28/94	042807	786,510	1 139 090	5 353	129 0	100 2	28 8	102 3	24 7	97 9	FDS	NP	NP	NP	PASS
4/28/94	042808	786 560	1 139 040	5 353	128 3	101 2	26 8	102 3	24 7	98 9	FDS	NP	NP	NP	PASS
4/28/94	042809	786 520	1 138 930	5 353	126 9	102 6	23 7	102 3	24 7	100 3	FDS	NP	NP	NP	PASS
4/28/94	042810	786 640	1 139 050	5 353	123 0	95 8	28 3	102 3	24 7	93 7	FDS	NP	NP	NP	PASS
4/28/94	042811	786,690	1 138 910	5 353	121 3	93 2	30 1	102 3	24 7	91 1	FDS	NP	NP	NP	PASS
4/28/94	042812	786 620	1 138 830	5 353	119 1	93 0	28 2	102 3	24 7	90 9	FDS	NP	NP	NP	PASS
4/28/94	042813	786 640	1 138 880	5 353	118 6	93 9	26 2	102 3	24 7	91 8	FDS	NP	NP	NP	PASS
4/28/94	042814	786 680	1 138,730	5 353	128 1	98 5	30 1	102 3	24 7	96 3	FDS	NP	NP	NP	PASS
4/28/94	042815	786 740	1 138,800	5,353	119 6	92 5	29 4	102 3	24 7	90 4	FDS	105 4	86 1	22 4	PASS
4/29/94	042901	786,460	1,139,220	5 354	130 4	104 7	24 6	102 3	24 7	102 3	FDS	NP	NP	NP	PASS
4/29/94	042902	786 590	1 139,080	5,354	124 3	98 9	25 7	102 3	24 7	96 7	FDS	NP	NP	NP	PASS
4/29/94	042903	786,380	1 139 030	5,354	135 5	106 4	27 4	102 3	24 7	104 0	FDS	NP	NP	NP	PASS
4/29/94	042904	786 480	1,139,000	5 354	133 7	104 8	27 6	102 3	24 7	102 4	FDS	NP	NP	NP	PASS
4/29/94	042905	786 550	1,139,020	5,354	130 6	103 9	25 7	102 3	24 7	101 5	FDS	NP	NP	NP	PASS
4/29/94	042906	786 600	1 138 910	5 354	119 8	97 3	23 1	102 3	24 7	95 1	FDS	NP	NP	NP	PASS
5/2/94	050201	786 420	1 139 160	5,355	131 5	106 0	24 1	102 3	24 7	103 7	FDS	NP	NP	NP	PASS
5/2/94	050202	786,560	1,138 990	5,355	126 2	99 7	26 6	102 3	24 7	97 5	FDS	NP	NP	NP	PASS
5/2/94	050203	786 490	1 139 090	5 355	130 8	103 5	26 3	102 3	24 7	101 2	FDS	NP	NP	NP	PASS
5/2/94	050204	786 670	1 138 910	5 355	121 6	99 2	22 6	102 3	24 7	97 0	FDS	NP	NP	NP	PASS
5/2/94	050205	786,640	1 138 780	5 355	122 9	103 1	19 3	102 3	24 7	100 8	FDS	NP	NP	NP	PASS
5/2/94	050206	786 720	1 138 800	5 356	126 5	105 0	20 4	102 3	24 7	102 6	FDS	NP	NP	NP	PASS
5/2/94	050207	786 480	1 139 010	5 356	132 3	105 6	25 3	102 3	24 7	103 2	FDS	NP	NP	NP	PASS
5/2/94	050208	786 560	1 139 120	5 356	129 7	100 3	29 3	102 3	24 7	98 1	FDS	NP	NP	NP	PASS
5/2/94	050209	786 400	1 139 110	5 356	131 1	103 0	27 2	102 3	24 7	100 7	FDS	NP	NP	NP	PASS
5/2/94	050210	786 610	1 139 020	5 356	132 2	105 9	24 8	102 3	24 7	103 5	FDS	NP	NP	NP	PASS
5/3/94	050301	786 380	1 139 090	5 357	128 8	117 8	9 3	131 0	8 0	89 9	FDS & 6 MINUS MI	NP	NP	NP	PASS
5/3/94	050302	786 500	1 139 010	5 357	134 1	121 4	10 5	131 0	8 0	92 7	FDS & 6 MINUS MI	NP	NP	NP	PASS
5/3/94	050301A	786 410	1 139 080	5 357	125 8	114 0	10 3	131 0	8 0	87 0	FDS & 6 MINUS MI	NP	NP	NP	PASS
5/3/94	050303	786 580	1 138 920	5 357	130 4	118 1	10 4	131 0	8 0	90 1	FDS & 6 MINUS MI	NP	NP	NP	PASS
5/3/94	050304	786 560	1 138 850	5 357	125 1	112 5	11 2	131 0	8 0	85 8	FDS & 6 MINUS MI	NP	NP	NP	PASS
5/3/94	050305	786 680	1 138 750	5 357	129 3	117 2	10 3	131 0	8 0	89 5	FDS & 6 MINUS MI	NP	NP	NP	PASS
5/3/94	050306	786 490	1 139 240	5 358	125 6	97 6	28 8	102 3	24 7	95 4	FDS	NP	NP	NP	PASS
5/3/94	050307	786 470	1 139 180	5 358	121 7	96 1	29 8	102 3	24 7	94 0	FDS	NP	NP	NP	PASS

SUMMARY OF MOISTURE/DENSITY TEST RESULTS ON STABILIZED WASTE MATERIAL
FLUE DUST OPERABLE UNIT
ANACONDA SMELTER NPL SITE
ANACONDA, MONTANA

Date	Test No	Test Location Coordinates		Elevation	Wet Density	Dry Density	Moisture Content	Maximum Dry	Optimum Moisture	Percent	Category and	Sand Cone Testing			Comments
		Northing	Easting	(ft msl)	(pcf)	(pcf)	(percent)	Density (pcf)	Content (percent)	Compaction	Description	Wet Density (pcf)	Dry Density (pcf)	Moisture Content (percent)	
5/3/94	050308	786 440	1 139 260	5 358	127 6	102 5	24 5	102 3	24 7	100 2	FDS	124 5	103 8	19 9	PASS
5/3/94	050309	786 190	1,139 270	5 358	134 7	108 5	24 2	102 3	24 7	106 0	FDS	NP	NP	NP	PASS
5/3/94	050310	786 360	1 139 190	5 358	123 2	98 3	25 4	102 3	24 7	96 1	FDS	NP	NP	NP	PASS
5/4/94	050401	786 450	1 139 230	5 359	121 9	113 3	7 6	116 0	NA	97 6	MISC CLEANUP	NP	NP	NP	PASS
5/4/94	050402	786 410	1 139 200	5 359	120 2	110 6	8 6	116 0	NA	95 4	MISC CLEANUP	NP	NP	NP	PASS
5/4/94	050403	786 390	1 139 160	5 359	125 7	112 5	11 8	116 0	NA	97 0	MISC CLEANUP	NP	NP	NP	PASS
5/4/94	050404	786 480	1 139 180	5 359	122 3	114 6	6 8	116 0	NA	98 8	MISC CLEANUP	NP	NP	NP	PASS
5/4/94	050405	786 550	1 139 170	5,359	128 8	117 8	9 3	116 0	NA	101 6	MISC CLEANUP	NP	NP	NP	PASS
5/4/94	050406	786 600	1 139 050	5 359	127 9	116 1	10 2	116 0	NA	100 1	MISC CLEANUP	NP	NP	NP	PASS
5/4/94	050407	786 510	1 139 120	5 359	129 8	118 9	9 2	116 0	NA	102 5	MISC CLEANUP	NP	NP	NP	PASS
5/4/94	050408	786 650	1 138 940	5 359	128 2	116 6	9 9	116 0	NA	100 5	MISC CLEANUP	NP	NP	NP	PASS
5/4/94	050409	786 560	1 138 930	5 359	121 6	109 5	11 0	116 0	NA	94 4	MISC CLEANUP	NP	NP	NP	PASS
5/4/94	050410	786 660	1 138 840	5 359	118 8	107 6	10 4	116 0	NA	92 7	MISC CLEANUP	NP	NP	NP	PASS
5/5/94	050501	786 540	1 138 950	5 360	117 1	126 2	7 7	116 0	NA	101 0	MISC CLEANUP	NP	NP	NP	PASS
5/5/94	050502	786 590	1 139 010	5 360	117 5	106 5	10 6	116 0	NA	91 8	MISC CLEANUP	NP	NP	NP	PASS
5/5/94	050503	786 550	1 139 090	5 360	122 3	112 8	8 4	116 0	NA	97 2	MISC CLEANUP	NP	NP	NP	PASS
5/5/94	050504	786 500	1 139 170	5 360	123 1	115 4	6 7	116 0	NA	99 5	MISC CLEANUP	NP	NP	NP	PASS
5/5/94	050505	786 460	1 139 160	5 360	121 9	112 6	8 3	116 0	NA	97 1	MISC CLEANUP	NP	NP	NP	PASS
5/5/94	050506	786,490	1 139,040	5 360	125 2	115 7	8 2	116 0	NA	99 7	MISC CLEANUP	NP	NP	NP	PASS
5/5/94	050507	786 400	1 139 140	5 360	126 0	112 7	11 8	116 0	NA	97 2	MISC CLEANUP	NP	NP	NP	PASS
5/5/94	050508	786,460	1 139 240	5 360	124 8	116 1	7 4	116 0	NA	100 1	MISC CLEANUP	NP	NP	NP	PASS
5/5/94	050509	786 600	1 139 080	5 360	123 5	107 7	14 6	116 0	NA	92 8	MISC CLEANUP	NP	NP	NP	PASS
5/5/94	050510	786 630	1 138 920	5 360	122 7	112 6	8 9	116 0	NA	97 1	MISC CLEANUP	NP	NP	NP	PASS
5/5/94	050511	786 630	1 138 900	5 360	124 9	110 9	12 6	116 0	NA	95 6	MISC CLEANUP	NP	NP	NP	PASS
5/5/94	050512	786 680	1 138 820	5 360	125 5	112 7	11 4	116 0	NA	97 2	MISC CLEANUP	NP	NP	NP	PASS
5/5/94	050513	786 700	1 138 740	5 360	126 2	114 0	10 7	116 0	NA	98 3	MISC CLEANUP	NP	NP	NP	PASS
5/5/94	050514	786 550	1 138 860	5 360	127 7	114 6	11 4	116 0	NA	98 8	MISC CLEANUP	NP	NP	NP	PASS
5/5/94	0505201	786 610	1 139 020	5 361	126 2	118 4	6 6	116 0	NA	102 1	MISC CLEANUP	NP	NP	NP	PASS
5/5/94	0505202	786 620	1 138 910	5 361	128 8	117 1	10 0	116 0	NA	101 0	MISC CLEANUP	NP	NP	NP	PASS
5/5/94	0505203	786 560	1 138 890	5 361	121 1	110 6	9 5	116 0	NA	95 3	MISC CLEANUP	NP	NP	NP	PASS
5/5/94	0505204	786 540	1 139 030	5 361	122 8	111 9	9 8	116 0	NA	96 5	MISC CLEANUP	NP	NP	NP	PASS
5/5/94	0505205	786 550	1,139 140	5 361	118 0	107 4	9 9	116 0	NA	92 6	MISC CLEANUP	NP	NP	NP	PASS
5/5/94	0505206	786 420	1 139 140	5 361	122 2	112 8	8 3	116 0	NA	97 2	MISC CLEANUP	NP	NP	NP	PASS
5/5/94	0505207	786 490	1 139 210	5 361	130 9	120 6	8 6	116 0	NA	103 9	MISC CLEANUP	NP	NP	NP	PASS
5/6/94	050601	786 620	1 138 960	5 362	119 9	111 1	7 9	116 0	NA	95 8	MISC CLEANUP	NP	NP	NP	PASS
5/6/94	050602	786,660	1 138 900	5 362	120 8	112 3	7 5	116 0	NA	96 8	MISC CLEANUP	NP	NP	NP	PASS
5/6/94	050603	786 660	1 138 830	5 362	131 7	123 7	6 5	131 0	8 0	94 5	6" MINUS	NP	NP	NP	PASS
5/6/94	050604	786 570	1 138 950	5 362	125 8	118 9	5 8	131 0	8 0	90 8	6" MINUS	NP	NP	NP	PASS
5/6/94	050605	786 420	1 139,130	5 362	124 5	114 1	9 2	116 0	NA	98 3	MISC CLEANUP	NP	NP	NP	PASS
5/6/94	050606	786 430	1 139 200	5 362	133 8	123 2	8 6	131 0	8 0	94 1	6" MINUS	NP	NP	NP	PASS
5/6/94	050607	786 460	1 139 270	5 362	136 9	126 9	7 9	131 0	8 0	96 9	6" MINUS	NP	NP	NP	PASS

SUMMARY OF MOISTURE/DENSITY TEST RESULTS ON STABILIZED WASTE MATERIAL
FLUE DUST OPERABLE UNIT
ANACONDA SMELTER NPL SITE
ANACONDA, MONTANA

		Test Location Coordinates									Sand Cone Testing			
Date	Test No	Northing	Easting	Elevation (ft msl)	Wet Density (pcf)	Dry Density (pcf)	Moisture Content (percent)	Maximum Dry Density (pcf)	Optimum Moisture Content (percent)	Percent Compaction	Category and Description	Wet Density (pcf)	Dry Density (pcf)	Moisture Content (percent)	Comments
5/6/94	050608	786 500	1 139 260	5 362	128 2	118 6	8 1	131 0	8 0	90 6	6 MINUS	NP	NP	NP	PASS
5/6/94	050609	786 560	1 139 160	5 362	133 1	122 2	9 0	131 0	8 0	93 3	6 MINUS	NP	NP	NP	PASS
5/6/94	050610	786 620	1,139 060	5 362	128 9	119 4	8 0	131 0	8 0	91 1	6 MINUS	NP	NP	NP	PASS
5/6/94	050611	786 570	1 138 980	5 362	138 1	131 3	5 2	131 0	8 0	100 2	6" MINUS	NP	NP	NP	PASS
5/6/94	050612	786 520	1 139 110	5 362	129 4	119 3	8 5	131 0	8 0	91 1	6" MINUS	NP	NP	NP	PASS
5/6/94	050613	786 460	1 139 170	5,362	129 0	119 0	8 4	131 0	8 0	90 8	6" MINUS	NP	NP	NP	PASS
5/9/94	050901	786 420	1 139,240	5 363	125 7	118 1	6 4	131 0	8 0	90 2	6 MINUS	108 9	93 5	16 5	PASS
5/9/94	050902	786 410	1 139 190	5,363	129 1	120 1	7 5	131 0	8 0	91 7	6 MINUS	NP	NP	NP	PASS
5/9/94	050903	786 390	1 139 140	5 363	127 6	118 6	7 6	131 0	8 0	90 5	6" MINUS	111 1	92 2	20 5	PASS
5/9/94	050904	786 520	1 139 190	5 363	129 8	119 7	8 4	131 0	8 0	91 4	6" MINUS	NP	NP	NP	PASS
5/9/94	050905	786 540	1 139,080	5,363	128 0	119 0	7 6	131 0	8 0	90 8	6" MINUS	NP	NP	NP	PASS
5/9/94	050906	786 600	1 139 010	5,363	128 7	122 4	5 1	131 0	8 0	93 5	6 MINUS	NP	NP	NP	PASS
5/9/94	050907	786 650	1 138 860	5,363	131 4	118 9	10 5	131 0	8 0	90 8	6 MINUS	NP	NP	NP	PASS
5/9/94	050908	786 510	1 139 000	5,363	136 9	127 5	7 3	131 0	8 0	97 4	6" MINUS	NP	NP	NP	PASS
5/10/94	051001	786 660	1,138 870	5 364	132 2	123 5	8 7	131 0	8 0	94 3	6 MINUS	NP	NP	NP	PASS
5/10/94	051002	786 540	1 139 000	5 364	130 9	121 9	9 0	131 0	8 0	93 0	6" MINUS	NP	NP	NP	PASS
5/10/94	051003	786 530	1 139 090	5 364	125 2	115 9	9 3	116 0	NA	99 9	MISC CLEANUP	NP	NP	NP	PASS
5/11/94	051101	786 350	1 139 160	5 365	133 5	121 9	9 6	131 0	8 0	93 0	6 MINUS	NP	NP	NP	PASS
5/11/94	051102	786 460	1 139 180	5 365	126 4	118 5	6 7	131 0	8 0	90 4	6 MINUS	NP	NP	NP	PASS
5/11/94	051103	786 500	1 139 240	5 365	130 3	121 2	7 5	131 0	8 0	92 5	6" MINUS	NP	NP	NP	PASS
5/11/94	051104	786 570	1 139 150	5 365	128 2	117 7	8 9	131 0	8 0	89 9	6" MINUS	NP	NP	NP	PASS
5/11/94	051105	786 680	1 138 930	5 365	131 1	123 7	6 0	131 0	8 0	94 4	6" MINUS	NP	NP	NP	PASS
5/11/94	051106	786 590	1 138 920	5 365	133 6	124 4	7 5	131 0	8 0	94 9	6 MINUS	NP	NP	NP	PASS
5/11/94	051107	786,580	1 139 030	5 365	133 4	120 6	10 6	131 0	8 0	92 0	6" MINUS	NP	NP	NP	PASS
5/11/94	051108	786 530	1 139 110	5 365	126 3	119 3	5 9	131 0	8 0	91 1	6" MINUS	NP	NP	NP	PASS
5/11/94	051109	786 670	1 138 830	5 365	130 9	122 7	6 7	131 0	8 0	93 6	6" MINUS	NP	NP	NP	PASS
5/12/94	051201	786 450	1 139 150	5 366	122 2	109 0	12 1	112 0	18 5	97 3	CPT CLEANUP	NP	NP	NP	PASS
5/12/94	051202	786 460	1 139 210	5 366	135 6	123 3	9 9	131 0	8 0	94 1	6 MINUS	124 8	115 3	8 1	PASS
5/12/94	051203	786 550	1 139 180	5 366	128 2	112 4	14 1	112 0	18 5	100 4	CPT CLEANUP	NP	NP	NP	PASS
5/12/94	051204	786 620	1 138 960	5 366	125 9	112 8	11 6	112 0	18 5	100 7	CPT CLEANUP	NP	NP	NP	PASS
5/12/94	051205	786 690	1 138 790	5 366	129 1	115 7	11 6	112 0	18 5	103 3	CPT CLEANUP	NP	NP	NP	PASS
5/12/94	051206	786 540	1 138 860	5 366	137 2	122 6	11 9	131 0	8 0	93 6	6 MINUS	NP	NP	NP	PASS
5/12/94	051207	786 510	1 139 010	5 366	130 0	118 8	9 4	131 0	8 0	90 7	6 MINUS	NP	NP	NP	PASS
5/12/94	051208	786 420	1 138 980	5 366	121 6	109 9	10 6	112 0	18 5	98 1	CPT CLEANUP	NP	NP	NP	PASS
5/12/94	0512201	786 380	1 139 010	5 367	137 8	128 1	7 6	131 0	8 0	97 8	6" MINUS	NP	NP	NP	PASS
5/12/94	0512202	786 530	1 138 830	5 367	130 7	119 1	9 8	131 0	8 0	90 9	6" MINUS	NP	NP	NP	PASS
5/12/94	0512203	786 690	1 138 760	5 367	135 4	123 2	9 9	131 0	8 0	94 1	6 MINUS	NP	NP	NP	PASS
5/12/94	0512204	786 680	1 138,970	5 367	133 2	122 1	9 1	131 0	8 0	93 2	6" MINUS	NP	NP	NP	PASS
5/12/94	0512205	786 570	1 138 930	5 367	136 8	123 4	10 8	131 0	8 0	94 2	6" MINUS	NP	NP	NP	PASS
5/12/94	0512206	786 520	1 139 150	5 367	137 8	126 0	9 3	131 0	8 0	96 2	6 MINUS	NP	NP	NP	PASS
5/13/94	051307	786 430	1 139 210	5 367	130 7	118 9	9 9	131 0	8 0	90 8	6 MINUS	NP	NP	NP	PASS

TA. . D-4.3a

SUMMARY OF MOISTURE/DENSITY TEST RESULTS ON STABILIZED WASTE MATERIAL
FLUE DUST OPERABLE UNIT
ANACONDA SMELTER NPL SITE
ANACONDA, MONTANA

		Test Location Coordinates		Elevation	Wet Density	Dry Density	Moisture Content	Maximum Dry	Optimum Moisture	Percent	Category and	Sand Cone Testing			
												Wet	Dry	Moisture	
Date	Test No	Northing	Easting	(ft msl)	(pcf)	(pcf)	(percent)	Density (pcf)	Content (percent)	Compaction	Description	Density (pcf)	Density (pcf)	Content (percent)	Comments
5/13/94	051308	786 530	1 139 020	5 367	129 9	118 8	9 3	131 0	8 0	90 7	6 MINUS	135 9	126 0	7 9	PASS
5/16/94	051601	786 700	1 138 720	5 368	131 4	121 2	8 5	131 0	8 0	92 5	6 MINUS	NP	NP	NP	PASS
5/16/94	051602	786 680	1 139 050	5 368	135 3	125 3	7 8	131 0	8 0	95 8	6" MINUS	NP	NP	NP	PASS
5/16/94	051603	786 440	1 139 200	5 368	132 0	120 2	9 8	131 0	8 0	91 8	6" MINUS	NP	NP	NP	PASS
5/16/94	051604	786 380	1 139 070	5 368	135 1	122 1	10 6	131 0	8 0	93 2	6" MINUS	NP	NP	NP	PASS
5/16/94	051605	786 540	1 139 030	5 368	130 8	121 8	7 4	131 0	8 0	93 0	6 MINUS	NP	NP	NP	PASS
5/16/94	051606	786 590	1 138 880	5 368	137 7	124 9	10 2	131 0	8 0	95 4	6 MINUS	NP	NP	NP	PASS
5/16/94	051607	786 430	1 138 950	5 368	130 4	120 9	7 8	131 0	8 0	92 3	6 MINUS	NP	NP	NP	PASS
5/16/94	051608	786 510	1 139 210	5 368	132 8	121 9	8 9	131 0	8 0	93 1	6 MINUS	NP	NP	NP	PASS

Note (1) NP indicates the test was not performed

TABLE D-4.3b

SUMMARY OF MOISTURE / DENSITY TEST RESULTS ON SOILS
FLUE DUST OPERABLE UNIT
ANACONDA SMELTER NPL SITE
ANACONDA, MONTANA

Date	Test No	Test Location Coordinates		Elevation	Wet Density	Dry Density	Moisture Content	Maximum Dry	Optimum Moisture	Percent	Category and	Comments
		Northing	Easting	(ft msl)	(pcf)	(pcf)	(percent)	Density (pcf)	Content (percent)	Compaction	Description	
4/16/93	041601	786 825	1,138,700	5 300	113 2	93 2	21 5	121 0	12 0	77 0	FD Repository SS SubGd	NA
4/16/93	041602	786,825	1,138,700	5,300	121 4	101 1	20 5	121 0	12 0	83 6	FD Repository SS SubGd	NA
4/16/93	041603	786,750	1,138,750	5,290	122 9	109 2	12 5	114 0	14 0	95 8	FD Repository Floor SubGd	NA
4/16/93	041604	786,700	1 138,800	5,290	129 3	110 1	17 4	114 0	14 0	96 6	FD Repository Floor SubGd	NA
4/16/93	041605	786,700	1,138,800	5,290	128 1	109 4	17 1	114 0	14 0	96 0	FD Repository Floor SubGd	NA
4/16/93	041606	786,500	1 139,150	5 288	112 3	92 1	22 0	114 0	14 0	80 8	FD Repository Floor SubGd	NA
4/16/93	041607	786,500	1 139,150	5 288	123 5	102 8	20 1	121 0	12 0	85 0	FD Repository SS SubGd	NA
4/16/93	041608	786,500	1,138,800	5 310	121 8	111 7	9 1	121 0	12 0	92 3	FD Repository SS SubGd	NA
4/16/93	041609	786 525	1,138,800	5 308	117 7	108 6	8 4	121 0	12 0	89 8	FD Repository SS SubGd	NA
4/16/93	041610	786,525	1 138,800	5 308	123 8	115 1	7 6	121 0	12 0	95 1	FD Repository SS SubGd	NA
4/16/93	041611	726,255	1,139 200	5 310	116 9	109 8	6 5	121 0	12 0	90 7	FD Repository SS SubGd	NA
4/16/93	041612	726 255	1,139 200	5 310	116 7	110 0	6 1	121 0	12 0	90 9	FD Repository SS SubGd	NA
4/16/93	041613	726 750	1,139 100	5 300	125 0	105 6	18 3	121 0	12 0	87 3	FD Repository SS SubGd	NA
4/16/93	041614	726,750	1 139 100	5,300	125 9	106 8	17 9	121 0	12 0	88 3	FD Repository SS SubGd	NA
4/19/93	041901	786,825	1 139,000	5 310	129 7	114 0	13 8	121 0	12 0	94 2	FD Repository SS SubGd	NA
4/19/93	041902	786 720	1,139 200	5 308	129 6	111 9	15 8	121 0	12 0	92 5	FD Repository SS SubGd	NA
4/19/93	041903	786,900	1 138 700	5 306	137 4	121 4	13 2	121 0	12 0	100 3	FD Repository SS SubGd	NA
4/19/93	041904	786 910	1 138 750	5 306	138 5	130 5	6 1	121 0	12 0	107 9	FD Repository SS SubGd	NA
4/19/93	041905	786 700	1 139,200	5 308	146 0	127 5	14 5	121 0	12 0	105 4	FD Repository SS SubGd	NA
4/19/93	041906	786 720	1 139 200	5 312	121 1	111 5	8 6	121 0	12 0	92 1	FD Repository SS SubGd	NA
4/22/93	042201	786 880	1 138 900	5 312	134 9	122 2	10 4	121 0	12 0	101 0	FD Repository SS SubGd	Pass
4/22/93	042202	786 825	1 138 910	5 300	129 4	123 1	5 2	121 0	12 0	101 7	FD Repository SS SubGd	Fail
4/22/93	042202A	786 825	1 138,910	5 300	133 0	119 2	11 6	121 0	12 0	98 5	FD Repository SS SubGd	Pass
4/22/93	042203	786 700	1 139 200	5 310	133 5	121 1	10 2	121 0	12 0	100 1	FD Repository SS SubGd	Pass
4/22/93	042204	786 650	1 139 200	5 294	113 8	113 8	14 1	121 0	12 0	94 0	FD Repository SS SubGd	Fail
4/22/93	042204A	786,650	1 139 200	5 294	137 1	129 8	5 6	121 0	12 0	107 3	FD Repository SS SubGd	Fail
4/22/93	042204B	786,650	1 139 200	5,294	128 1	112 2	14 2	121 0	12 0	92 7	FD Repository SS SubGd	Fail
4/23/93	042204C	786 650	1,139,200	5,294	128 5	114 9	11 8	121 0	12 0	95 0	FD Repository SS SubGd	Pass
4/23/93	042301	786 740	1 138,900	5 288	131 2	112 5	16 6	114 0	14 0	98 7	FD Repository Floor SubGd	Pass
4/23/93	042302	786 675	1 139 000	5 287	131 6	112 5	17 0	114 0	14 0	98 7	FD Repository Floor SubGd	Pass
4/24/93	042401	786,875	1,138,900	5,311	133 0	120 1	10 8	121 0	12 0	99 3	FD Repository SS SubGd	Pass
4/24/93	042402	786,710	1,139,200	5 312	132 8	120 7	10 0	121 0	12 0	99 8	FD Repository SS SubGd	Pass
4/24/93	042403	786 675	1,139 200	5 298	128 0	116 2	10 0	121 0	12 0	96 0	FD Repository SS SubGd	Pass
4/24/93	042404	786,800	1 138,920	5 297	131 3	119 8	9 6	121 0	12 0	99 0	FD Repository SS SubGd	Pass
4/24/93	042405	786 710	1 138,902	5 288	127 6	110 5	15 5	114 0	14 0	96 9	FD Repository Floor SubGd	Pass
4/24/93	042406	786 625	1,139 100	5 286	131 8	117 0	12 6	114 0	14 0	102 6	FD Repository Floor SubGd	Pass
4/25/93	042501	786,876	1,138,901	5 311	134 4	120 6	11 4	121 0	12 0	99 7	FD Repository SS SubGd	Pass
4/25/93	042502	786,712	1,139 201	5 312	133 0	117 8	12 8	121 0	12 0	97 4	FD Repository SS SubGd	Pass
4/25/93	042503	786,802	1 139 921	5 297	129 9	118 9	9 2	121 0	12 0	98 3	FD Repository SS SubGd	Pass

SUMMARY OF MOISTURE / DENSITY TEST RESULTS ON SOILS
FLUE DUST OPERABLE UNIT
ANACONDA SMELTER NPL SITE
ANACONDA, MONTANA

Date	Test No	Test Location Coordinates		Elevation	Wet Density	Dry Density	Moisture Content	Maximum Dry	Optimum Moisture	Percent	Category and	Comments
		Northing	Easting	(ft msl)	(pcf)	(pcf)	(percent)	Density (pcf)	Content (percent)	Compaction	Description	
4/25/93	042504	786 676	1 139 201	5 298	133 9	120 7	10 7	121 0	12 0	99 8	FD Repository SS SubGd	Pass
4/25/93	042505	786 711	1 138 904	5 288	129 6	111 7	16 0	114 0	14 0	98 0	FD Repository Floor SubGd	Pass
4/25/93	042506	786 625	1 139 101	5 286	128 5	111 3	15 5	114 0	14 0	97 6	FD Repository Floor SubGd	Pass
4/27/93	042701	786 900	1,138 910	5 311	136 0	121 6	11 9	121 0	12 0	100 5	FD Repository SS SubGd	Pass
4/27/93	042702	786 750	1 139,000	5 300	133 7	117 2	14 0	121 0	12 0	96 9	FD Repository SS SubGd	Pass
4/27/93	042703	786 700	1 139 000	5 287	125 6	108 3	16 0	114 0	14 0	95 0	FD Repository Floor SubGd	Pass
4/27/93	042604	786,680	1 139 075	5 280	130 8	114 1	14 6	114 0	14 0	100 1	FD Repository Floor SubGd	Pass
4/27/93	042705	786 650	1 139 280	5 300	133 7	120 7	10 8	121 0	12 0	99 8	FD Repository SS SubGd	Pass
4/27/93	042706	786,440	1,139,310	5,286	131 5	115 1	14 3	114 0	14 0	101 0	FD Repository Floor SubGd	Pass
4/27/93	042707	786 520	1 139,300	5 300	136 4	120 9	12 9	121 0	12 0	99 9	FD Repository SS SubGd	Pass
4/27/93	042708	786,595	1,139 305	5 314	129 8	117 7	10 3	121 0	12 0	97 3	FD Repository SS SubGd	Pass
5/3/93	050301	786 830	1 139 025	5 312	130 0	116 4	11 9	121 0	12 0	96 2	FD Repository SS SubGd	Pass
5/3/93	050302	786,775	1,138 970	5 298	130 1	117 4	10 8	121 0	12 0	97 0	FD Repository SS SubGd	Pass
5/3/93	050303	786,700	1 139 125	5 298	128 2	114 8	11 7	121 0	12 0	94 9	FD Repository SS SubGd	Pass
5/3/93	050304	786 725	1 138 925	5 287	126 2	109 0	15 8	114 0	14 0	95 6	FD Repository Floor SubGd	Pass
5/3/93	050305	786 650	1 139 200	5 285	125 3	108 4	15 6	114 0	14 0	95 1	FD Repository Floor SubGd	Pass
5/10/93	051001	786 875	1 138 910	5 312	134 8	122 7	9 8	121 0	12 0	101 4	FD Repository SS SubGd	Pass
5/10/93	051002	786 710	1 139 105	5 300	133 0	118 4	12 4	121 0	12 0	97 9	FD Repository SS SubGd	Pass
5/10/93	051003	786,780	1 138 980	5 298	138 6	128 4	8 0	121 0	12 0	106 1	FD Repository SS SubGd	Pass
5/10/93	051004	786 660	1,138 900	5 298	131 7	116 3	13 2	114 0	14 0	102 0	FD Repository Floor SubGd	Pass
5/10/93	051005	786,605	1 139 400	5,288	130 6	112 5	16 0	114 0	14 0	98 7	FD Repository Floor SubGd	Pass
5/10/93	051006	786 500	1,139 180	5,287	130 1	114 3	13 8	114 0	14 0	100 3	FD Repository Floor SubGd	Pass
5/10/93	051007	786 490	1,139,295	5 285	130 4	112 2	16 2	114 0	14 0	98 4	FD Repository Floor SubGd	Pass
5/10/93	051008	786,540	1,139 325	5 300	131 0	118 2	10 8	121 0	12 0	97 7	FD Repository SS SubGd	Pass
5/10/93	051009	786,400	1 139,370	5 302	134 2	119 7	12 1	121 0	12 0	98 9	FD Repository SS SubGd	Pass
5/10/93	051010	786,405	1,139,290	5,287	130 8	112 5	16 2	114 0	14 0	98 7	FD Repository Floor SubGd	Pass
5/11/93	051101	786 300	1 139 280	5 306	142 2	134 9	5 4	121 0	12 0	111 5	FD Repository SS SubGd	Fail
5/11/93	51101A	786 301	1,139 281	5 306	132 5	121 7	8 9	121 0	12 0	100 6	FD Repository SS SubGd	Pass
5/11/93	051102	786 240	1 139 140	5 308	139 6	128 2	8 9	121 0	12 0	106 0	FD Repository SS SubGd	Pass
5/11/93	051103	786 320	1,139,160	5 292	141 4	131 1	7 7	121 0	12 0	108 3	FD Repository SS SubGd	Fail
5/11/93	51103A	786,321	1 139 161	5 292	133 9	123 0	8 9	121 0	12 0	101 7	FD Repository SS SubGd	Pass
5/11/93	051104	786 360	1 139,265	5,289	122 4	109 1	12 2	114 0	14 0	95 7	FD Repository Floor SubGd	Pass
5/11/93	051105	786,350	1,139 190	5 291	119 3	102 1	16 8	114 0	14 0	89 6	FD Repository Floor SubGd	Fail
5/11/93	51105A	786 349	1,139,189	5 291	132 3	116 8	13 2	114 0	14 0	102 5	FD Repository Floor SubGd	Pass
5/11/93	051106	786 290	1,139 100	5,294	130 3	109 5	19 0	114 0	14 0	96 1	FD Repository Floor SubGd	Pass
5/11/93	051107	786 320	1,139 020	5 296	130 2	110 3	18 1	114 0	14 0	96 8	FD Repository Floor SubGd	Pass
5/11/93	051108	786,360	1,138,980	5,299	133 8	119 5	12 0	114 0	14 0	104 8	FD Repository Floor SubGd	Pass
5/11/93	051109	786,358	1,138 978	5 302	140 5	133 1	5 6	121 0	12 0	110 0	FD Repository SS SubGd	Fail
5/12/93	051219	786 630	1 138 680	5 308	137 0	128 6	6 5	121 0	12 0	106 3	FD Repository SS SubGd	Fail

TAB. D-4.3b

SUMMARY OF MOISTURE / DENSITY TEST RESULTS ON SOILS
FLUE DUST OPERABLE UNIT
ANACONDA SMELTER NPL SITE
ANACONDA, MONTANA

Date	Test No	Test Location Coordinates		Elevation	Wet Density	Dry Density	Moisture Content	Maximum Dry	Optimum Moisture	Percent	Category and	Comments
		Northing	Easting	(ft msl)	(pcf)	(pcf)	(percent)	Density (pcf)	Content (percent)	Compaction	Description	
5/12/93	051220	786,500	1,138,810	5 306	137 7	129 3	6 4	121 0	12 0	106 9	FD Repository SS SubGd	Fail
5/12/93	051221	786 280	1 139 025	5 307	135 0	127 4	5 9	121 0	12 0	105 3	FD Repository SS SubGd	Fail
5/12/93	051222	786 600	1 138,800	5 293	129 8	114 5	13 4	114 0	14 0	100 4	FD Repository SS SubGd	Pass
5/12/93	051223	786 390	1 139,025	5 293	133 7	119 4	12 0	114 0	14 0	104 7	FD Repository SS SubGd	Pass
5/12/93	051224	786 580	1 139 260	5 282	130 3	114 4	13 9	114 0	14 0	100 4	FD Repository SS SubGd	Pass
5/12/93	051225	786 625	1,139 295	5 298	130 3	118 4	10 0	121 0	12 0	97 9	FD Repository SS SubGd	Pass
5/14/93	51109B	786 358	1 138 978	5 302	128 9	121 6	6 0	121 0	12 0	100 5	FD Repository SS SubGd	Fail
5/14/93	51219B	786,630	1 138 680	5 308	133 8	126 7	5 6	121 0	12 0	104 7	FD Repository SS SubGd	Fail
5/14/93	51220B	786 500	1 138 810	5 306	136 3	125 6	8 5	121 0	12 0	103 8	FD Repository SS SubGd	Fail
5/14/93	51221B	786 280	1 139,025	5 307	139 7	131 2	6 5	121 0	12 0	108 4	FD Repository SS SubGd	Fail
5/15/93	51109C	786 358	1 139 978	5 302	137 2	124 5	10 2	121 0	12 0	102 9	FD Repository SS SubGd	Pass
5/15/93	51219C	786 630	1 138 680	5 306	135 7	123 6	9 8	121 0	12 0	102 1	FD Repository SS SubGd	Pass
5/15/93	51220C	786 500	1 138 810	5 306	134 6	122 4	9 9	121 0	12 0	101 2	FD Repository SS SubGd	Pass
5/15/93	51221C	786 280	1 139 025	5 307	138 0	124 9	10 5	121 0	12 0	103 2	FD Repository SS SubGd	Pass
5/15/93	051501	786,600	1 138 800	5 292	131 5	114 2	15 1	114 0	14 0	100 2	FD Repository Floor SubGd	Pass
5/15/93	051502	786,390	1 139 025	5 293	132 4	113 9	16 2	114 0	14 0	99 9	FD Repository Floor SubGd	Pass
5/18/93	051807	786 605	1 139 320	5 300	133 8	119 1	12 3	121 0	12 0	98 4	FD Repository SS SubGd	Pass
5/25/93	052501	786 590	1 139 330	5 299	130 9	116 4	12 4	121 0	12 0	96 2	FD Repository SS SubGd	Pass
6/3/93	060304	786 780	1 138 710	5 291	131 3	117 5	11 7	114 0	14 0	103 1	FD Repository Floor SubGd	Pass
6/3/93	060305	786 830	1 138 700	5 302	132 7	121 0	9 7	121 0	12 0	100 0	FD Repository SS SubGd	Pass
6/4/93	060404	786 460	1 139 080	5 291	127 0	110 7	14 7	114 0	14 0	97 1	FD Repository Floor SubGd	Pass
6/4/93	060405	786 440	1,139 280	5 287	131 5	116 2	13 1	114 0	14 0	101 9	FD Repository Floor SubGd	Pass
6/8/93	060801	786 810	1 138,700	5 302	135 7	127 4	6 5	121 0	12 0	105 3	FD Repository SS SubGd	Fail
6/8/93	60801a	786 811	1,138 700	5 302	130 1	118 1	10 4	121 0	12 0	97 6	FD Repository SS SubGd	Pass
6/8/93	060802	786 660	1,138 750	5 292	130 0	114 9	13 1	114 0	14 0	100 8	FD Repository Floor SubGd	Pass
6/8/93	060803	786,600	1 139 950	5 290	132 8	117 8	12 7	114 0	14 0	103 3	FD Repository Floor SubGd	Pass
6/23/93	062305	786 560	1 139,270	5 286	128 7	110 6	16 0	114 0	14 0	97 0	Soil Berm Bed for ConcretePad	Pass
6/24/93	062405	786 560	1 139 270	5 287	129 9	113 1	14 8	114 0	14 0	99 2	Concrete Pad Subgrade	Pass
9/23/93	092301	786 608	1 138,492	5 334	134 9	120 3	12 1	136 9	7 0	87 9	Buildout Subgrade	Fail
9/23/93	092302	786,536	1 138 570	5 337	129 5	115 7	11 9	136 9	7 0	84 5	Buildout Subgrade	Fail
9/23/93	092303	786,558	1,138 543	5 334	126 7	116 9	8 4	136 9	7 0	85 4	Buildout Subgrade	Fail
9/24/93	092401	786,160	1,138,990	5,335	142 3	132 5	7 4	136 9	7 0	96 8	Buildout Subgrade	Pass
9/24/93	092402	786,536	1 138,570	5 337	141 7	132 3	7 1	136 9	7 0	96 6	Buildout Subgrade	Pass
9/24/93	092403	786 608	1 138,492	5 334	141 7	132 6	6 9	136 9	7 0	96 8	Buildout Subgrade	Pass
9/30/93	093003	786,610	1 138 451	5 335	139 7	129 8	7 6	136 9	7 0	94 8	Buildout Subgrade	Pass
9/30/93	093004	786,648	1 138 980	5 335	144 1	134 9	6 8	136 9	7 0	98 6	Buildout Subgrade	Pass
10/1/93	100104	786,480	1 138 650	5 336	128 2	118 4	8 3	127 5	10 0	92 8	Buildout Subgrade	Fail
10/1/93	100104A	786 480	1 138 650	5 336	131 4	120 9	8 7	127 5	10 0	94 8	Buildout Subgrade	Fail
10/2/93	100104B	786 480	1 138 650	5 336	133 4	123 5	8 0	127 5	10 0	96 9	Buildout Subgrade	Pass

SUMMARY OF MOISTURE / DENSITY TEST RESULTS ON SOILS
FLUE DUST OPERABLE UNIT
ANACONDA SMELTER NPL SITE
ANACONDA, MONTANA

Date	Test No	Test Location Coordinates		Elevation	Wet Density	Dry Density	Moisture Content	Maximum Dry	Optimum Moisture	Percent	Category and	
		Northing	Easting	(ft msl)	(pcf)	(pcf)	(percent)	Density (pcf)	Content (percent)	Compaction	Description	Comments
10/4/93	100401	786 545	1 138 550	5 336	130 7	123 4	5 9	127 5	10 0	96 8	Buildout Subgrade	Fail
10/5/93	100501	786 198	1 138 948	5 333	135 7	126 1	7 6	127 5	10 0	98 9	Buildout Subgrade	Pass
10/5/93	100502	786 238	1,138 980	5 325	141 3	135 6	4 2	127 5	10 0	106 4	Buildout Subgrade	Pass
10/11/93	101101	786,560	1,138 535	5 333	139 9	129 9	7 7	127 5	10 0	101 9	Buildout Subgrade	Pass
10/11/93	101102	786 650	1 138 533	5 326	141 5	130 5	8 4	127 5	10 0	102 4	Buildout Subgrade	Pass
10/12/93	101201	786 210	1 138 945	5 327	135 6	127 3	6 5	127 5	10 0	99 9	Buildout Subgrade	Pass
10/12/93	101202	786 240	1 138 845	5 325	143 5	135 6	5 8	127 5	10 0	106 4	Buildout Subgrade	Fail
10/12/93	101203	786 242	1 138 888	5 325	137 2	128 1	7 1	127 5	10 0	100 5	Buildout Subgrade	Pass
12/22/93	122201	786 624	1 139 128	5 339	132 6	122 3	8 4	131 0	8 0	93 4	Flue Dust Interim Cap	Pass
12/22/93	122202	786 537	1,139 070	5 340	128 8	119 9	7 4	131 0	8 0	91 5	Flue Dust Interim Cap	Pass
12/22/93	122203	786 374	1 138 980	5 340	125 8	116 4	8 1	131 0	8 0	88 8	Flue Dust Interim Cap	Fail
12/22/93	122204	786 755	1 138,846	5 339	129 8	119 6	8 5	131 0	8 0	91 3	Flue Dust Interim Cap	Pass
12/23/93	122301	786,680	1 138,730	5,339	126 3	119 5	5 7	131 0	8 0	91 2	Flue Dust Interim Cap	Pass
12/23/93	122302	786,750	1 138 820	5 339	133 2	124 5	7 0	131 0	8 0	95 0	Flue Dust Interim Cap	Pass
12/23/93	122303	786 710	1 138 980	5 339	133 2	123 2	8 1	131 0	8 0	94 1	Flue Dust Interim Cap	Pass
12/23/93	122304	786,620	1 138 890	5 339	133 0	123 6	7 6	131 0	8 0	94 4	Flue Dust Interim Cap	Pass
12/23/93	122305	786 615	1,139 100	5 339	128 3	118 6	8 2	131 0	8 0	90 5	Flue Dust Interim Cap	Pass
12/23/93	122306	786,420	1 139 050	5 338	115 2	108 9	5 8	131 0	8 0	83 1	Flue Dust Interim Cap	Fail
12/23/93	122307	786 670	1,139,270	5 338	118 6	112 7	5 2	131 0	8 0	86 1	Flue Dust Interim Cap	Fail
12/23/93	122306A	786 420	1,139,050	5 338	125 8	118 6	6 1	131 0	8 0	90 5	Flue Dust Interim Cap	Pass
12/23/93	122307A	786 670	1 139 270	5 338	125 6	119 1	5 5	131 0	8 0	90 9	Flue Dust Interim Cap	Pass

TABLE D-4.3c

SUMMARY OF MOISTURE/DENSITY TEST RESULTS
FLUE DUST REPOSITORY - FINAL SUBGRADE
ANACONDA SMELTER NPL SITE
ANACONDA, MONTANA

Date	Test No	Test Location Coordinates Northing	Easting	Wet Density (pcf)	Dry Density (pcf)	Moisture Content (%)	Maximum Dry Density (pcf)	Optimum Moisture Content (%)	Percent Compaction	Category and Description
5/27/94	52701	786,300	1,139,000	136.6	127.4	7.3	131.0	8.0	97.2	6" MINUS
5/27/94	52702	786,500	1,138,830	134.5	124.6	7.9	131.0	8.0	95.1	6" MINUS
5/27/94	52703	786,690	1,138,530	137.5	128.1	7.4	131.0	8.0	97.8	6" MINUS
5/27/94	52704	786,760	1,138,600	142.0	133.6	6.3	131.0	8.0	102.0	6" MINUS
5/27/94	52705	786,880	1,138,800	145.1	137.1	5.8	131.0	8.0	104.7	6" MINUS
5/27/94	52706	786,700	1,139,050	141.8	130.3	8.8	131.0	8.0	99.5	6" MINUS
5/27/94	52707	786,560	1,139,300	136.5	125.9	8.4	131.0	8.0	96.1	6" MINUS
5/27/94	52708	786,360	1,139,440	138.7	129.8	6.9	131.0	8.0	99.1	6" MINUS
5/27/94	52709	786,280	1,139,280	139.2	129.3	7.7	131.0	8.0	98.7	6" MINUS
5/27/94	527010	786,390	1,139,290	139.5	130.2	7.2	131.0	8.0	99.4	6" MINUS

Notes
NP = Test not performed
pcf = pounds per cubic foot

TABLE D-4.3d

SUMMARY OF MOISTURE/DENSITY TEST RESULTS
FLUE DUST REPOSITORY - FINAL COVER
ANACONDA SMELTER NPL SITE
ANACONDA, MONTANA

Date	Test No	Test Location Coordinates Northing	Easting	Wet Density (pcf)	Dry Density (pcf)	Moisture Content (%)	Maximum Dry Density (pcf)	Optimum Moisture Content (%)	Percent Compaction	Category & Description	Test Result	Comments
6/11/94	061101	786,190	1,139,170	135 5	122 6	10 5	131 0	8 0	93 6	Final Cover	Fail	Degerstrom haul ramp
6/11/94	061102	786,210	1,139,100	134 2	122 6	9 5	131 0	8 0	93 6	Final Cover	Fail	Degerstrom haul ramp
6/11/94	061103	786,200	1,139,080	135 8	125 7	8 1	131 0	8 0	95 9	Final Cover	Pass	Degerstrom haul ramp
6/11/94	061104	786,260	1,139,090	139 0	125 5	10 7	131 0	8 0	95 8	Final Cover	Pass	Degerstrom haul ramp
6/15/94	061501	786,280	1,139,100	142 0	130 6	8 7	131 0	8 0	99 7	Final Cover	Pass	Degerstrom haul ramp
6/15/94	061502	786,220	1,139 080	141 3	130 2	8 5	131 0	8 0	99 4	Final Cover	Pass	Degerstrom haul ramp
6/15/94	061503	786,180	1,139,070	136 9	125 2	9 4	131 0	8 0	95 5	Final Cover	Pass	Degerstrom haul ramp
6/15/94	061504	786,290	1,139,100	140 0	127 6	9 8	131 0	8 0	97 4	Final Cover	Pass	Degerstrom haul ramp
6/16/94	061601	786,340	1,139,130	137 6	124 4	10 7	131 0	8 0	94 9	Final Cover	Pass	Degerstrom haul ramp
6/16/94	061602	786,450	1,139,140	138 1	126 2	9 5	131 0	8 0	96 3	Final Cover	Pass	Degerstrom haul ramp
6/16/94	061603	786,480	1,139,170	141 7	130 8	8 4	131 0	8 0	99 8	Final Cover	Pass	Degerstrom haul ramp
6/17/94	061701	786,580	1,139,020	142 1	131 7	7 9	131 0	8 0	100 6	Final Cover	Pass	Haul road on top of FDR
6/17/94	061702	786,470	1,139,110	145 1	133 4	8 8	131 0	8 0	101 8	Final Cover	Pass	Haul road on top of FDR
6/17/94	061703	786,560	1,139,060	140 3	127 9	9 7	131 0	8 0	97 7	Final Cover	Pass	Haul road on top of FDR
6/17/94	061704	786,450	1,139,130	142 9	130 1	9 8	131 0	8 0	99 3	Final Cover	Pass	Haul road on top of FDR
7/7/94	07079401	786,400	1,139,280	136 3	122 3	11 4	131 0	8 0	93 4	Final Cover	Pass	FDR Final Cover Material
7/7/94	07079402	786,490	1,139,180	131 8	120 6	9 3	131 0	8 0	92 0	Final Cover	Pass	FDR Final Cover Material
7/7/94	07079403	786,600	1,139,010	132 1	118 3	11 7	131 0	8 0	90 3	Final Cover	Pass	FDR Final Cover Material
7/7/94	07079404	786,690	1,138,810	129 5	118 4	9 4	131 0	8 0	90 4	Final Cover	Pass	FDR Final Cover Material
7/7/94	07079405	786,580	1,138,810	141 1	129 6	8 9	131 0	8 0	98 9	Final Cover	Pass	FDR Final Cover Material
7/7/94	07079406	786,490	1,138,930	134 7	123 0	9 5	131 0	8 0	93 9	Final Cover	Pass	FDR Final Cover Material
7/7/94	07079407	786,370	1,139,050	140 3	130 7	7 3	131 0	8 0	99 8	Final Cover	Pass	FDR Final Cover Material
7/7/94	07079408	786,310	1,139,210	139 1	130 2	6 9	131 0	8 0	99 4	Final Cover	Pass	FDR Final Cover Material
7/7/94	07079409	786,230	1,139,130	132 4	122 3	8 2	131 0	8 0	93 4	Final Cover	Pass	FDR Final Cover Material
7/7/94	07079410	786,260	1,139,270	136 4	126 3	8 0	131 0	8 0	96 4	Final Cover	Pass	FDR Final Cover Material
7/7/94	07079411	786,450	1,139,380	129 7	120 3	7 8	131 0	8 0	91 9	Final Cover	Pass	FDR Final Cover Material
7/7/94	07079412	786,560	1,139,350	137 3	125 6	9 4	131 0	8 0	95 9	Final Cover	Pass	FDR Final Cover Material
7/7/94	07079413	786,660	1,139,220	135 7	123 5	9 8	131 0	8 0	94 3	Final Cover	Pass	FDR Final Cover Material

TABLE D-4.3d

SUMMARY OF MOISTURE/DENSITY TEST RESULTS
FLUE DUST REPOSITORY - FINAL COVER
ANACONDA SMELTER NPL SITE
ANACONDA, MONTANA

Date	Test No	Test Location Coordinates Northing	Easting	Wet Density (pcf)	Dry Density (pcf)	Moisture Content (%)	Maximum Dry Density (pcf)	Optimum Moisture Content (%)	Percent Compaction	Category & Description	Test Result	Comments
7/8/94	07089401	786,550	1,139,230	136 7	125 9	8 6	131 0	8 0	96 1	Final Cover	Pass	FDR Final Cover Material
7/8/94	07089402	786,740	1,139,040	136 4	122 2	11 6	131 0	8 0	93 3	Final Cover	Pass	FDR Final Cover Material
7/8/94	07089403	786,830	1,138,920	132 6	118 7	11 7	131 0	8 0	90 6	Final Cover	Pass	FDR Final Cover Material
7/8/94	07089404	786,860	1,138,760	132 8	120 1	10 6	131 0	8 0	91 6	Final Cover	Pass	FDR Final Cover Material
7/8/94	07089405	786,780	1,138,560	133 8	123 0	8 7	131 0	8 0	93 9	Final Cover	Pass	FDR Final Cover Material
7/8/94	07089406	786,650	1,138,650	142 2	132 4	7 4	131 0	8 0	101 1	Final Cover	Pass	FDR Final Cover Material
7/8/94	07089407	786,550	1 138,740	132 0	126 2	8 5	131 0	8 0	96 4	Final Cover	Pass	FDR Final Cover Material
7/8/94	07089408	786,470	1,138,870	133 7	120 6	10 9	131 0	8 0	92 1	Final Cover	Pass	FDR Final Cover Material
7/8/94	07089409	786,330	1,138,920	136 2	123 4	10 4	131 0	8 0	94 2	Final Cover	Pass	FDR Final Cover Material
7/8/94	07089410	786,280	1,139,040	132 8	118 0	12 5	131 0	8 0	90 1	Final Cover	Pass	FDR Final Cover Material
7/14/94	07149402	786,300	1,139,800	139 3	131 0	6 4	131 0	8 0	100 0	6" Minus Fill	Pass	Fill for over-excavated ditch
7/14/94	07149401A	786,290	1,139,815	143 7	134 0	7 2	131 0	8 0	102 3	6" Minus Fill	Pass	Fill for over-excavated ditch
7/14/94	07149403	786,285	1,139,820	138 5	130 6	6 1	131 0	8 0	99 7	6" Minus Fill	Pass	Fill for over-excavated ditch
7/14/94	07149404	786,280	1,139,825	131 9	125 0	5 5	131 0	8 0	95 4	6" Minus Fill	Pass	Fill for over-excavated ditch

Notes
NP = Test not performed
pcf = pounds per cubic foot

TABLE D-4.3e

SUMMARY OF CANONIE GEOTECHNICAL TESTING
FLUE DUST OPERABLE UNIT
ANACONDA SMELTER NPL SITE

DATE	ESTIMATED WASTE VOLUME PLACED (cubic yds)	ESTIMATED TOTAL WASTE VOLUME PLACED (cubic yds)	DENSITY TESTS TO DATE	DENSITY TESTS REQUIRED	PROCTOR TEST TO DATE	PROCTOR TESTS REQUIRED	SAND CONE TESTS TO DATE	SAND CONE TESTS REQUIRED	1-POINT TESTS TO DATE	1-POINT TESTS REQUIRED	MOISTURE CONTENT TO DATE	MOISTURE CONTENTS REQUIRED	COMMENTS
10/30/92			-		1								BP2
11/2/92					2								BP2
11/3/92			-	-	3								BP2
11/13/92			-	-	4	-	-	-		-			BP2
1/20/93			-		5	-	-	-					CPT
1/23/93		-	-		6		-						CPT
2/2/93	-			-	7	-	-	-	-	-			CPT
2/10/93	-		-		8	-		-		-			CPT
2/11/93			-		9	-		-					CPT
2/12/93							-						BP
3/24/93	-		-			-	2						CPT
4/22/93				-			4						CPT
4/26/93			-				6		-				CPT
4/29/93	-	-	-		10		8		-				CPT
5/5/93	-	-	-			-	10		-		-		CPT
5/12/93	-	-	-	-	-	-	12	-	-	-	-		CPT
5/17/93	459	459	1	1	-	0		0	-	0	-	0	BP
5/18/93	459	917	8	1		0	13	0		0	6	0	BP
5/19/93	459	1 376	8	2		0		0		0		0	BP
5/20/93	459	1 835	8	2		0		0		0		0	CPT
5/21/93	459	2,293	8	3		0		0		0		0	BP
5/22/93	459	2 752	14	3		0	15	0		0	10	0	BP
5/23/93	459	3,211	14	4		0		0		0		0	BP
5/24/93	459	3 669	17	5		0		0		0	13	0	BP
5/25/93	459	4 128	21	5		0		0		1	-	0	BP
5/26/93	459	4 587	21	6		0		0		1		0	BP
5/27/93	459	5 045	21	6		0		0		1		0	BP
5/28/93	459	5 504	21	7		0		0		1		0	BP
5/29/93	459	5 963	21	7		0		0		1		0	BP
5/30/93	459	6,421	21	8		0		0		1		0	BP
5/31/93	459	6 880	21	9		0		0		1		0	BP
6/1/93	459	7 339	21	9		0		0		1		0	BP
6/2/93	459	7 797	21	10		0		0		1		0	BP
6/3/93	459	8 256	24	10		1	16	1		1	15	1	BP
6/3/93	-	8,256				*ITEX SURVEY AT END OF DAY*							survey
6/4/93	718	8 974	27	11	11	1	17	1		1	17	1	BP
6/5/93	718	9 691	27	12		1		1		1		1	BP
6/6/93	718	10 409	27	13		1		1		1		1	BP
6/7/93	718	11 127	29	14		1		1		1		1	BP

TABLE D-4.3e

SUMMARY OF CANONIE GEOTECHNICAL TESTING
FLUE DUST OPERABLE UNIT
ANACONDA SMELTER NPL SITE

DATE	ESTIMATED WASTE VOLUME PLACED (cubic yds)	ESTIMATED TOTAL WASTE VOLUME PLACED (cubic yds)	DENSITY TESTS TO DATE	DENSITY TESTS REQUIRED	PROCTOR TEST TO DATE	PROCTOR TESTS REQUIRED	SAND CONE TESTS TO DATE	SAND CONE TESTS REQUIRED	1-POINT TESTS TO DATE	1-POINT TESTS REQUIRED	MOISTURE CONTENT TO DATE	MOISTURE CONTENTS REQUIRED	COMMENTS
6/8/93	718	11 844	29	15		1		1	-	1		1	BP
6/9/93	718	12,562	31	16		1	-	1		2		1	MP
6/9/93		*12,562*	-			*ITEX SURVEY AT END OF DAY*							survey
6/10/93	1 209	13 771	31	17		1		1	-	2		1	MP
6/11/93	1 209	14 980	31	19		1		1		2		1	MP
6/12/93	1 209	16 189	31	20		1		1		2		1	MP
6/13/93	1 209	17 398	31	22		1		1		2		1	MP
6/14/93	1 209	18 607	37	23		1	18	1	1	2	18	1	BP
6/15/93	1 209	19 817	43	25	12	1		1		2		1	BP
6/16/93	1 209	21 026	43	26		1		1		3		1	BP
6/17/93	1 209	22 235	43	28		1		1		3		1	BP
6/18/93	1 209	23,444	43	29		1		1		3		1	BP
6/19/93	1 209	24,653	43	31		2		2		3		2	BP
6/20/93	1,209	25 862	49	32		2	-	2		3		2	BP & MP
6/20/93		**25,862**	-			*ITEX SURVEY AT END OF DAY*							survey
6/21/93	3 799	29,661	52	37		2		2	-	4		2	BP & MP
6/22/93	3 799	33,460	55	41		2		2		4		2	BP&CPT
6/23/93	3 799	37 259	63	46		2		2		5		2	BP&CPT
6/24/93	3 799	41 058	69	51		3		3		5		3	BP&CPT
6/25/93	3 799	44 856	73	56	13	3	19	3		6	19	3	BP&CPT
6/26/93	3 799	48 655	73	60		3		3		6		3	BP&CPT
6/27/93	3 799	52 454	79	65		3		3		6		3	BP&CPT
6/28/93	3 799	56 253	86	70		3		3	2	7	20	3	BP&CPT
6/29/93	3 799	60 052	93	74	14	4	20	4	3	7	23	4	BP&CPT
6/30/93	5 550	65 602	98	81		4		4		8		4	BP&CPT
7/1/93	5 550	71 152	103	88		4		4		9		4	BP&CPT
7/2/93	5 550	76 702	103	95		5		5		10		5	BP&CPT
7/2/93		**76,702**				*ITEX SURVEY AT END OF DAY*							survey
7/3/93	2 755	79 457	103	98		5		5		10		5	BP&CPT
7/4/93	2,755	82 212	103	102		5		5		10		5	BP&CPT
7/5/93	2,755	84,966	103	105		5		5		11		5	BP&CPT
7/6/93	2,755	87,721	108	109	15	5	21	5	7	11		5	BP&CPT
7/7/93	2,755	90 476	120	112		6		6		11		6	BP&CPT
7/8/93	2,755	93 231	132	116	17	6		6	10	12	29	6	BP&CPT
7/8/93	-	**93,231**	-			*ITEX SURVEY AT END OF DAY*					-		survey
7/9/93	6,188	99 419	142	123		6		6	-	12		6	BP&CPT
7/10/93	6 188	105 606	147	131	-	7	-	7	-	13		7	BP&CPT
7/11/93	6 188	111,794	153	139		7		7		14		7	BP&CPT
7/12/93	6,188	117 981	161	146	-	7	-	7	-	15	30	7	BP&CPT

TABLE D-4.3e

SUMMARY OF CANONIE GEOTECHNICAL TESTING
FLUE DUST OPERABLE UNIT
ANACONDA SMELTER NPL SITE

DATE	ESTIMATED WASTE VOLUME PLACED (cubic yds)	ESTIMATED TOTAL WASTE VOLUME PLACED (cubic yds)	DENSITY TESTS TO DATE	DENSITY TESTS REQUIRED	PROCTOR TEST TO DATE	PROCTOR TESTS REQUIRED	SAND CONE TESTS TO DATE	SAND CONE TESTS REQUIRED	1-POINT TESTS TO DATE	1-POINT TESTS REQUIRED	MOISTURE CONTENT TO DATE	MOISTURE CONTENTS REQUIRED	COMMENTS
7/12/93	-	**117,981**	-			*ITEX SURVEY AT END OF DAY*							survey
7/13/93	3 859	121,840	169	151		8	-	8	11	15	33	8	BP&CPT
7/14/93	3,859	125,699	177	156		8		8		16		8	CPT
7/15/93	3 859	129 558	180	161	-	8	22	8	12	16	34	8	BP &CPT
7/15/93		**129,558**	-			*ITEX SURVEY AT END OF DAY*							survey
7/16/93	1,201	130,759	180	162		8		8	-	16		8	BP &CPT
7/17/93	1 201	131 960	184	164	-	8		8	-	16	-	8	BP &CPT
7/18/93	1,201	133,160	184	165		8	-	8	-	17	-	8	BP &CPT
7/19/93	0	133,160	187	165	-	8	-	8		17	35	8	NO PLACEMENT
7/20/93	2 402	135 562	198	168	19	8		8		17	39	8	BP &CPT
7/20/93	-	**135,562**	-			*ITEX SURVEY AT END OF DAY*							survey
7/21/93	2,182	137 744	208	171		9	-	9	13	17	41	9	BP &CPT
7/22/93	2 182	139 926	210	173		9		9	14	17	43	9	BP &CPT
7/23/93	2,182	142 107	215	176		9		9		18	49	9	BP &CPT
7/24/93	2 182	144 289	215	179		9		9		18	-	9	BP &CPT
7/25/93	0	144 289	215	179		9		9		18		9	NO PLACEMENT
7/26/93	0	144 289	215	179	20	9		9		18	51	9	NO PLACEMENT
7/27/93	0	144 289	217	179	22	9	23	9		18	52	9	NO PLACEMENT
7/28/93	4 364	148 653	221	184		9		9		18		9	BP &CPT
7/29/93	4 364	153 017	224	190		9		9	15	19		9	BP &CPT
7/30/93	4 364	157 380	226	195		10		10	16	20	55	10	BP &CPT
7/30/93		**157,380**	-			*ITEX SURVEY AT END OF DAY*							survey
7/31/93	4 389	161,769	228	200		10		10		20	56	10	BP &CPT
8/1/93	4 389	166 158	230	206		10		10		21	59	10	BP &CPT
8/2/93	4 389	170 547	232	211		11	24	11		21	61	11	BP &CPT
8/3/93	2 992	173 539	232	215		11		11		22		11	BP &CPT
8/4/93	2 992	176 531	236	219		11		11	18	22	64	11	BP3 (CPT DIRECT)
8/5/93	2 992	179 522	237	222		11		11	19	22	68	11	BP3
8/6/93	2 992	182 514	239	226		11		11	20	23	71	11	BP3
8/7/93	2 992	185 506	239	230		11		11		23	73	11	BP/CPT
8/8/93	2 992	188 498	239	234		12		12		23	75	12	BP/CPT
8/9/93	2 992	191,489	250	237		12	-	12	22	24	77	12	BP3
8/10/93	2,992	194 481	257	241	23	12	-	12	-	24	82	12	BP3
8/10/93	-	**194,481**	-	-		*ITEX SURVEY AT END OF DAY*							survey
8/11/03	1 614	196 095	257	243		12	-	12	-	24	85	12	MI
8/12/93	1 614	197,710	261	245		12		12	23	24	90	12	BP3
8/13/93	1 614	199 324	261	247		12	-	12	-	25	92	12	BP3
8/14/93	1 614	200 939	261	249		12		12		25		12	MI/BP3
8/15/93	1 614	202 553	265	251		13		13	25	25	94	13	BP3/CPT

TABLE D-4.3e

SUMMARY OF CANONIE GEOTECHNICAL TESTING
FLUE DUST OPERABLE UNIT
ANACONDA SMELTER NPL SITE

DATE	ESTIMATED WASTE VOLUME PLACED (cubic yds)	ESTIMATED TOTAL WASTE VOLUME PLACED (cubic yds)	DENSITY TESTS TO DATE	DENSITY TESTS REQUIRED	PROCTOR TEST TO DATE	PROCTOR TESTS REQUIRED	SAND CONE TESTS TO DATE	SAND CONE TESTS REQUIRED	1-POINT TESTS TO DATE	1-POINT TESTS REQUIRED	MOISTURE CONTENT TO DATE	MOISTURE CONTENTS REQUIRED	COMMENTS
8/16/93	0	202,553	265	251	26	13		13		25	96	13	NO PLACEMENT
8/17/93	0	202,553	265	251		13		13		25	99	13	NO PLACEMENT
8/18/93	2,691	205,244	265	254		13		13		25	101	13	BP3/CPT
8/19/93	2,691	207,934	269	258		13		13	26	26	102	13	BP3/CPT
8/20/93	2,691	210,625	272	261		13		13		26	104	13	BP3/CPT RAMP 4
8/20/93		**210,625**	-	-		*ITEX SURVEY AT END OF DAY*				-			survey
8/21/93	0	210,625	272	261		13		13		26		13	NO PLACEMENT
8/22/93	0	210,625	272	261		13		13		26		13	NO PLACEMENT
8/23/93	2,677	213,302	272	264		13		13		26	106	13	BP3/CPT
8/24/93	2,677	215,980	275	268		13		13		27		13	BP3/CPT
8/25/93	2,677	218,657	277	271		14	25	14	27	27	108	14	BP3/CPT/MP
8/26/93	0	218,657	277	271	28	14		14		27		14	NO PLACEMENT
8/27/93	0	218,657	277	271		14		14		27		14	NO PLACEMENT
8/28/93	0	218,657	277	271		14		14		27		14	NO PLACEMENT
8/29/93	2,677	221,335	277	274		14		14		27		14	BP3/CPT
8/30/93	2,677	224,012	279	278		14		14		28		14	BP3/CPT
8/31/93	2,677	226,690	282	281		14		14		28		14	BP3/CPT
9/1/93	2,677	229,367	285	284	30	14		14	28	28	112	14	BP3/CPT
9/2/93	2,677	232,044	291	288		14		14		29		14	BP3
9/3/93	2,677	234,722	291	291		15		15		29		15	BP3/CPT
9/4/93	2,677	237,399	291	294		15		15		29		15	BP3/IP
9/5/93	0	237,399	291	294		15		15		29		15	NO PLACEMENT
9/6/93	0	237,399	291	294		15		15		29		15	NO PLACEMENT
9/7/93	2,677	240,077	295	297		15		15		30		15	BP3
9/8/93	2,677	242,754	305	301		15		15	29	30	120	15	BP3/CPT
9/9/93	2,677	245,432	305	304		15		15		30	122	15	CPT
9/10/93	2,677	248,109	311	307		15		15	30	31	126	15	BP3/CPT
9/11/93	2,677	250,786	311	311	-	16		16		31		16	BP3
9/12/93	2,677	253,464	311	314		16	-	16		31	128	16	LIME/CPT
9/13/93	2,677	256,141	311	317		16	-	16		32	-	16	LIME/CPT
9/14/93	2,677	258,819	314	321		16	26	16	31	32	131	16	IP
9/15/93	2,677	261,496	316	324	31	16		16	32	32	135	16	IP
9/16/93	2,677	264,174	318	327		16		16	-	33	137	16	IP
9/17/93	2,677	266,851	320	331		17		17		33	141	17	BP3/IP
9/17/93	-	**266,851**	-			*ITEX SURVEY AT END OF DAY*							SURVEY
9/18/93	0	266,851	320	331		17		17		33		17	NO PLACEMENT
9/19/93	0	266,851	323	331		17		17	33	33	142	17	NO PLACEMENT
9/20/93	0	266,851	325	331		17		17		33	144	17	NO PLACEMENT
9/21/93	3,250	270,101	327	335		17	-	17		33		17	CPT/IP

TABLE D-4.3e

SUMMARY OF CANONIE GEOTECHNICAL TESTING
FLUE DUST OPERABLE UNIT
ANACONDA SMELTER NPL SITE

DATE	ESTIMATED WASTE VOLUME PLACED (cubic yds)	ESTIMATED TOTAL WASTE VOLUME PLACED (cubic yds)	DENSITY TESTS TO DATE	DENSITY TESTS REQUIRED	PROCTOR TEST TO DATE	PROCTOR TESTS REQUIRED	SAND CONE TESTS TO DATE	SAND CONE TESTS REQUIRED	1-POINT TESTS TO DATE	1-POINT TESTS REQUIRED	MOISTURE CONTENT TO DATE	MOISTURE CONTENTS REQUIRED	COMMENTS
9/22/93	0	270,101	331	335	33	17		17	34	33		17	NO PLACEMENT
9/25/93	2 500	272,601	334	338		17		17	-	34		17	CPT/ IP
9/26/93	2 358	274 959	342	341		17		17		34		17	IP
9/27/93	2 664	277 623	347	344		17		17		34		17	IP
9/30/93	4 464	282 087	351	350		17		17		35		17	IP
10/1/93	720	282 807	354	350		18		18		35		18	IP
10/2/93	1 680	284 487	357	353		18		18		35		18	IP
10/3/93	0	284 487	357	365		18		18		37		18	NO PLACEMENT
10/4/93	1 455	285,942	357	354		18		18		35		18	IP/BP3/FDS
10/5/93	5 130	291 072	357	361		18		18		36		18	IP/BP3/FDS
10/6/93	3 465	294 537	365	365		18		18		36		18	FDS
10/7/93	90	294 627	365	365		18		18		37		18	FDS
10/8/93	0	294,627	365	365		18		18		37		18	NO PLACEMENT
10/9/93	0	294 627	365	365		18		18		37		18	NO PLACEMENT
10/10/93	1 500	296 127	365	367		18		18		37		18	ROAD MAT FROM CPT
10/11/93	1,980	298 107	370	369		18		18	36	37	145	18	FDS
10/12/93	2 175	300 282	373	372		19		19	37	37	146	19	FDS
10/13/93	2 520	302 802	373	375		19		19		38		19	FDS
10/14/93	4 815	307 617	379	381		19		19		38		19	FDS/CPT
10/15/93	4 380	311 997	379	387		19		19		39		19	FDS/CPT
10/15/93		307,412				*ITEX SURVEY AT END OF DAY*							SURVEY
10/16/93	0	307 412	379	381		19		19	-	38		19	NO PLACEMENT
10/17/93	3 510	310 922	384	385		19		19	38	39	147	19	FDS/CPT
10/18/93	3 360	314 282	392	389		19	27	19	39	39	149	19	CPT
10/19/93	5 895	320,177	402	397		20		20	-	40		20	FDS
10/20/93	5 310	325 487	409	403		20		20	40	40	150	20	FDS/CPT
10/21/93	5 070	330 557	418	410		20		20		41		20	FDS
10/22/93	2 460	333 017	418	413		21		21		41		21	FDS
10/23/93	4 560	337 577	426	418		21		21		42		21	FDS/FDS DIR
10/24/93	1 030	338,607	426	420		21		21		42		21	FDS
10/25/93	1 965	340 572	432	422		21		21	41	42		21	FDS/FDS DIR
10/26/93	4 325	344,897	440	427		21		21		43		21	FDS/FDS - DIR
10/27/93	2 040	346,937	440	430		21		21		43		21	FDS/FDS DIR
10/28/93	0	346,937	445	430		21		21		43		21	NO PLACEMENT
10/29/93	2 125	349,062	448	433		22		22	42	43	151	22	ROAD MAT /FDS/MF/ MF DIR
10/29/93	-	334,169		-		*ITEX SURVEY AT NOON*			-	-			SURVEY
10/30/93	3 010	338 596	454	420		21		21		42		21	FDS/ MF DIR
10/31/93	2 551	341 147	454	423		21		21		42		21	ROAD MAT /FDS/MF DIR
11/1/93	0	341 147	454	423		21		21		42		21	NO PLACEMENT

TABLE D-4.3e

SUMMARY OF CANONIE GEOTECHNICAL TESTING
FLUE DUST OPERABLE UNIT
ANACONDA SMELTER NPL SITE

DATE	ESTIMATED WASTE VOLUME PLACED (cubic yds)	ESTIMATED TOTAL WASTE VOLUME PLACED (cubic yds)	DENSITY TESTS TO DATE	DENSITY TESTS REQUIRED	PROCTOR TEST TO DATE	PROCTOR TESTS REQUIRED	SAND CONE TESTS TO DATE	SAND CONE TESTS REQUIRED	1-POINT TESTS TO DATE	1-POINT TESTS REQUIRED	MOISTURE CONTENT TO DATE	MOISTURE CONTENTS REQUIRED	COMMENTS
11/2/93	1 498	342 645	460	425		21		21	43	42	152	21	FDS
11/3/93	0	342 645	460	425		21		21		42		21	NO PLACEMENT
11/4/93	0	342 645	460	425		21		21		42		21	NO PLACEMENT
11/5/93	0	342 645	460	425		21		21		42		21	NO PLACEMENT
11/6/93	2 200	344 845	463	427		21		21		43		21	BP3
11/7/93	0	344 845	466	427		21		21		43		21	NO PLACEMENT
11/8/93	2 440	347,285	472	430		22		22	45	43	154	22	IP
11/9/93	3 840	351,125	475	435		22		22		44	154	22	IP/TH
11/10/93	5 806	356,931	481	442		22		22		44	154	22	IP/TH
11/11/93	4 288	361 219	488	448		22	-	22		45	154	22	IP/FDS
11/12/93	2 295	357,535				*ITEX SURVEY AT NOON*							SURVEY
11/12/93	2 295	359 830	452	446		22		22		45		22	IP/FDS
11/13/93	4 632	364 462	462	452		23		23		45		23	IP/FDS
11/14/93	2 500	366 962	462	455		23		23	46	45	155	23	IP
11/15/93	3 892	370,854	466	460		23		23		46		23	IP/FDS/TH
11/16/93	3 922	374,776	466	464		23		23	47	46	156	23	IP/FDS/DEBRIS
11/17/93	3,480	378,256	466	469		23		23		47		23	IP/ROAD MATERIAL
11/18/93	2,880	381,136	470	472		24		24	-	47		24	IP
11/19/93	4,888	386,024	473	478	-	24	-	24	-	48	-	24	IP
11/20/93	5,398	391,422	481	485	-	24	-	24		49	-	24	FDS/IP/TH
11/21/93	3 348	394,770	490	489	-	24	-	24	48	49	157	24	FDS/TH
11/22/93	3,308	398,078	490	493		25	-	25	-	49		25	FDS/IP
11/23/93	1,460	399,538	490	495	-	25	-	25	-	50		25	IP
11/24/93	2,360	401 898	495	498		25	-	25	49	50	158	25	IP
11/25/93	0	401,898	495	498		25		25		50		25	NO PLACEMENT
11/26/93	0	401 898	495	498		25	-	25		50		25	NO PLACEMENT
11/27/93	0	401,898	495	498		25		25	-	50		25	NO PLACEMENT
11/28/93	0	401 898	495	498		25		25		50		25	NO PLACEMENT
11/29/93	3 120	405,018	495	502		25		25		50		25	IP
11/30/93	4 699	409,717	500	508		25		25	-	51		25	IP/FDS
12/1/93	7,337	417,054	508	517		26		26	-	52		26	IP/FDS
12/2/93	5 580	422,634	522	524		26		26	50	52	159	26	IP/FDS
12/3/93	5 656	428,290	534	531	-	27		27	51	53	160	27	IP/FDS/DEBRIS
12/4/93	6 315	434 605	544	539	-	27		27		54		27	IP/FDS/DEBRIS
12/5/93	6 528	441 133	554	547		27		27	52	55	161	27	IP/FDS/DEBRIS
12/6/93	6 828	447 961	564	555		28	28	28		56		28	IP/FDS/DEBRIS
12/7/93	5 213	453 174	571	562		28		28		56		28	IP/FDS/DEBRIS
12/8/93	5 976	459 150	583	569		28		28	53	57	162	28	IP/FDS/DEBRIS
12/9/93	6 221	465 371	593	577		29	29	29	54	58	164	29	IP/FDS/DEBRIS

TABLE D-4.3e

SUMMARY OF CANONIE GEOTECHNICAL TESTING
FLUE DUST OPERABLE UNIT
ANACONDA SMELTER NPL SITE

DATE	ESTIMATED WASTE VOLUME PLACED (cubic yds)	ESTIMATED TOTAL WASTE VOLUME PLACED (cubic yds)	DENSITY TESTS TO DATE	DENSITY TESTS REQUIRED	PROCTOR TEST TO DATE	PROCTOR TESTS REQUIRED	SAND CONE TESTS TO DATE	SAND CONE TESTS REQUIRED	1-POINT TESTS TO DATE	1-POINT TESTS REQUIRED	MOISTURE CONTENT TO DATE	MOISTURE CONTENTS REQUIRED	COMMENTS
12/10/93		439,690				*ITEX SURVEY AT END OF THE DAY*							SURVEY
12/10/93	6 729	439 690	603	545		27		27	55	54	165	27	IP/FDS/DEBRIS
12/11/93	5 726	445 416	611	552		28		28		55		28	IP/FDS/DEBRIS
12/12/93	0	445 416	611	552		28		28		55		28	NO PLACEMENT
12/13/93	6 589	452 005	616	560		28		28	56	56	165	28	IP/FDS/DEBRIS
12/14/93	3 374	455 379	624	564		28		28		56		28	IP/FDS/MI
12/15/93	1 670	457 049	632	566		28		28		57		28	MI/IP
12/16/93	5 130	462 179	639	573		29		29	58	57	167	29	MI/IP
12/17/93	6 723	468 902	645	581		29	30	29		58	168	29	MI
12/18/93	6 620	475 522	652	589		29		29	60	59	170	29	MI
12/19/93	5 620	481 142	657	596		30	31	30		60	171	30	MI/IP
12/20/93	0	481 142	662	596		30	32	30	61	60	173	30	INTERIM COVER PLACEMENT
ITEX													
TOTAL	-	**481,142**	**662**	**596**	**33**	**30**	**32**	**30**	**61**	**60**	**173**	**30**	**ITEX VOLUME**
DJ & A													
12/20/93	-	**573,898**				*DRUYVESTEIN JOHNSON & ANDERSON INTERIM TOP OF WASTE SURVEY*							SURVEY
	-	**554,368**				*(DJA SURVEY - (DRAIN ROCK, DEBRIS, ROAD MATERIAL, AND BP3 LIME))*							SURVEY ADJUSTMENT
TOTAL	-	**554,368**	**662**	**687**	**33**	**34**	**32**	**34**	**61**	**69**	**173**	**34**	
3/18/94	0	554 368	666	687		34		34		69		34	NO PLACEMENT
3/21/94	4 030	558 398	671	692	37	35		35	63	69		35	NO PLACEMENT
3/22/94	4 654	563 052	691	698		35	34	35		70	175	35	IP
3/23/94	5 130	568 182	701	704		35		35		70	-	35	IP + CPT
3/24/93	8 073	576 255	711	714		36	-	36		71		36	CPT + IP
3/25/94	7 938	584,193	731	724		36		36	66	72		36	CPT
3/28/94	7 101	591 294	741	733	-	37	-	37	66	73		37	MI/CPT
3/29/94	8 019	599 313	741	743		37		37		74		37	MI
3/30/94	7 857	607,170	741	752		38		38	67	75		38	MI
3/31/94	1 215	608 385	761	754		38	36	38	67	75		38	MI
4/1/94	5 616	614 001	761	761		38	36	38	67	76		38	FDS
4/4/94	1 323	615 324	779	762		38	36	38	67	76		38	FDS
4/5/94	8 181	623 505	779	773		39	38	39	67	77		39	FDS
4/6/94	8 019	631 524	789	783		39	38	39	67	78		39	FDS
4/7/94	1 404	632 928	789	784		39	38	39	67	78		39	FDS
4/8/94	7 371	640 299	789	793		40	38	40	67	79		40	FDS

TABLE D-4.3e

SUMMARY OF CANONIE GEOTECHNICAL TESTING
FLUE DUST OPERABLE UNIT
ANACONDA SMELTER NPL SITE

DATE	ESTIMATED WASTE VOLUME PLACED (cubic yds)	ESTIMATED TOTAL WASTE VOLUME PLACED (cubic yds)	DENSITY TESTS TO DATE	DENSITY TESTS REQUIRED	PROCTOR TEST TO DATE	PROCTOR TESTS REQUIRED	SAND CONE TESTS TO DATE	SAND CONE TESTS REQUIRED	1-POINT TESTS TO DATE	1-POINT TESTS REQUIRED	MOISTURE CONTENT TO DATE	MOISTURE CONTENTS REQUIRED	COMMENTS
4/11/94	7 398	647 697	804	803		40	40	40	67	80		40	FDS
4/12/94	8 802	656,499	804	814		41	40	41	67	81		41	FDS
4/13/94	7 722	664 221	814	823		41	40	41	67	82		41	FDS
4/14/94	1 971	666 192	827	826		41	40	41	67	83		41	FDS
4/15/94	8 478	674 670	839	836		42	41	42	67	84		42	FDS
4/18/94	7,560	682 230	839	845	40	42	41	42	67	85		42	FDS
4/19/94	9,018	691 248	854	857		43	41	43	67	86		43	FDS
4/20/94	9 369	700 617	870	868	43	43	43	43	67	87		43	FDS
4/21/94	8 235	708 852	883	878		44	43	44	67	88		44	FDS
4/22/94	6 048	714 900	883	886		44	43	44	67	89		44	FDS
4/25/94	No Placement	due to weather											
4/26/94	No Placement	due to weather											
4/27/94	8,289	723,189	891	896		45	43	45	67	90		45	FDS
4/28/94	9 369	732,558	891	908	47	45	44	45	67	91		45	FDS
4/29/94	0	732 558	911	908	47	45	44	45	67	91		45	No Placement - Clean Up
5/2/94	6,264	738 822	921	916	47	46	44	46	90	92		46	FDS
5/3/94	3,780	742,602	931	920	47	46	45	46	90	92		46	FDS
5/4/94	5,697	748,299	941	927	47	46	45	46	90	93		46	FDS
5/5/94	4 347	752,646	962	933	47	47	45	47	90	93		47	Clean-Up
5/6/94	No Placement	finish clean-up	975										
5/9/94	5 049	757 695	983	939	47	47	47	47	90	94		47	Clean Up
5/10/94	5,292	762 987	986	945	47	47	47	47	90	95		47	Clean Up
5/11/94	5 058	768,045	995	952	49	48	47	48	90	95		48	Clean Up
5/12/94	4,820	772 865	1009	958	49	48	47	48	96	96		48	Clean-Up
5/13/94	5,063	777 928	1011	964	49	48	49	48	96	96		48	Clean-Up
5/16/94	No Placement	finish clean-up	1019	964	49	48	49	48	96	96		48	Friday s haul mat placed
5/17/94	No Placement	due to weather	1019	960	49	48	49	48	96	96		48	
5/18/94	No Placement	due to weather	1019	960	49	48	49	48	96	96		48	
5/19/94	No Placement	due to weather	1019	960	49	48	49	48	96	96		48	
5/20/94	No Placement	due to weather	1019	960	49	48	49	48	96	96		48	
TOTAL		777,928	1019	964	49	48	49	48	96	96	175	48	
	Cover Material Quantities												
5/13/94	1 917	1 917	3	0	49	0	49	0	96	0		0	Arbiter/Beryllium
	1 971	3 888	3	0	49	0	49	0	96	0		0	Flue Dust
5/23/94	2 349	2,349	3	0	49	0	49	0	96	0		0	Arbiter/Beryllium

TABLE D-4.3e

SUMMARY OF CANONIE GEOTECHNICAL TESTING
FLUE DUST OPERABLE UNIT
ANACONDA SMELTER NPL SITE

DATE	ESTIMATED WASTE VOLUME PLACED (cubic yds)	ESTIMATED TOTAL WASTE VOLUME PLACED (cubic yds)	DENSITY TESTS TO DATE	DENSITY TESTS REQUIRED	PROCTOR TEST TO DATE	PROCTOR TESTS REQUIRED	SAND CONE TESTS TO DATE	SAND CONE TESTS REQUIRED	1-POINT TESTS TO DATE	1-POINT TESTS REQUIRED	MOISTURE CONTENT TO DATE	MOISTURE CONTENTS REQUIRED	COMMENTS
	1 917	4 266	3	0	49	0	49	0	96	0		0	Flue Dust
5/24/94	1 782	5 670	3	0	49	0	49	0	96	0		0	Arbiter/Beryllium
	1 998	7 668	3	0	49	0	49	0	96	0		0	Flue Dust
5/25/94	1 404	9 072	3	0	49	0	49	0	96	0		0	Arbiter/Beryllium
	972	10 044	3	0	49	0	49	0	96	0		0	Flue Dust
	2 214	12 258	3	0	49	0	49	0	96	0		0	Thickener
5/26/94	1 404	13 662	3	0	49	0	49	0	96	0		0	Arbiter/Beryllium
	216	13 878	3	0	49	0	49	0	96	0		0	Flue Dust
	2 214	16 092	3	0	49	0	49	0	96	0		0	Thickener
DJ & A													
5/27/94	-	**235,758**		DRUYVESTEIN JOHNSON & ANDERSON INTERIM TOP OF WASTE SURVEY									SURVEY
	-	**554,368**		(DJA SURVEY (DRAIN ROCK DEBRIS ROAD MATERIAL AND BP3 LINE))									SURVEY ADJUSTMENT
		790,126		Total Estimated FDR Pile Quantity									
		7,074		Estimated Foundation Layer Quantity									
		783,052		Estimated Gross Amount in the Flue Dust Repository									

Table 5.0
Flue Dust Source Pile Quantities
Flue Dust Operable Unit
Anaconda Smelter NPL Site

Flue Dust Pile	Processing Duration*		ARCHON unit(s)	Full-Scale Approval	Mix Design Percent Cement:Percent Lime	Total Tons Process (ITEX's dry weight data)
	Date Started	Date Completed				
Phase I						
Bradley Ponds 1 (BP1)	10/27/92	11/02/92	XI	NA	NA	2,800
Bradley Ponds 2 (BP2)	10/13/92	10/27/92	XI			2,700
Bradley Ponds 3 (BP3)	11/02/92	12/1/92	XI			3,100
Coal Pile Tracks (CPT)	11/29/92	11/29/92	XI			300
Flue Dust Storage (FDS)	11/14/92	11/28/92	XI			3,500
Iron Ponds (IP)	11/11/92	11/14/92	XI			800
Total						**13,200**
Phase II						
Coal Pile Tracks (CPT)	01/11/93	02/11/93	XIII			**5,100**
Phase III						
Area Cut (AC)	05/13/93	05/19/93	XIII	NA	NA	6,900
Bradley Ponds 2 (BP2)	06/02/93	06/22/93	XI	06/30/93		26,700
Bradley Ponds 3 (BP3)	06/28/93	08/23/93	XI	08/23/93		54,100
Coal Pile Tracks (CPT)	04/12/93	09/14/93	XIII	06/02/93		14,500
Flue Dust Storage (FDS)	09/08/93	10/01/93	XIV	10/01/93		31,300
Iron Ponds (IP)	07/19/93	09/04/93	XI	09/07/93		13,800
Main Flue (MF)	07/29/93	10/29/93	XIII, XIV	10/28/93		8,900
Miscellaneous Piles (MP)	05/03/93	05/10/93	XIII	NA	NA	13,000
Switchback (SB)	05/19/93	06/02/93	XIII	NA	NA	12,300
Thickener (TH)	10/11/93	01/07/94	XIII, XIV	NA	NA	21,200
Total						**202,900**
Full Scale						
Bradley Ponds 2 (BP2)	06/23/93	07/12/93	XI		24 0	28,000
Bradley Ponds 3 (BP3)	08/25/93	09/23/93	XI, XIII		24 4	20,000
Coal Pile Tracks (CPT)	06/02/93	01/07/94	XI, XIII, XIV		40 10	69,700
Flue Dust Storage (FDS)	10/01/93	11/15/93	XIV		32 9	39,000
Iron Ponds (IP)	09/07/93	10/16/93	XI		28 0	69,100
Main Flue (MF)	10/28/93	01/06/94	XIII, XIV		40 10	70,700
Total						**296,400**

Notes
1. Schedules for stabilization are not necessarily continuous
2 NA = Not Applicable, Full-scale stabilization was not required for these piles as stabilization was completed under Shakedown

Table D-5.1
Comparison of Flue Dust Pile Quantities
Original Versus Final Quantities
Flue Dust Operable Unit
Anaconda Smelter NPL Site

Flue Dust Pile	Flue Dust		
	Original Estimates Quality[1] (Dry Tons)	Final Quantity[2] (Dry Tons)	Percent Complete of Original Estimated Quantity
Bradley Ponds	70,227	137,390	196%
BP1		*2,756*	
BP2		*57,358*	
BP3		*77,276*	
Iron Ponds	54,733	85,471	156%
Flue Dust Storage	49,815	73,603	148%
Thickener	5,283	21,011	398%
Coal Pile Tracks	37,171	88,822	239%
Miscellaneous Piles	5,668	12,979	229%
Area Cut	3,653	6,820	187%
Switchback	3,596	12,552	349%
Main Flue	33,961	79,651	235%
Total	**264,107**	**518,299**	**196%**

Notes:
1. Provide by ARCO.
2. Quantities do not include any retreated quantities.

TABLE D-5.2a

SUMMARY OF ITEX'S ANALYTICAL RESULTS
MAIN FLUE EXCAVATION
ANACONDA SMELTER NPL SITE

Material	pH Std. Units	Dry Moisture %	Total Metals (mg/kg dry) Lead	Cadmium	Arsenic	Spike Recovery - TCLP (mg/kg dry) Lead	Cadmium	Arsenic
MFRAW-1A	4 49	30.84	5,483	187	26,152	108	120	97.8
MFRAW-2A	4.19	42 33	8,737	335	29,839	114	104	97 8
MFRAW-1B	4 29	27.45	11,010	374	36,127	108	120	97.8
MFRAW-2B	4.13	26.48	9,644	618	43,924	108	120	97 8
MFTEST1-FDUST	2.87	45.44	15,671	891	103,244	112	102	118
MFTEST1-FDUST-ASH	2 45	38.54	16,339	864	122,481	112	102	118
MFTEST1-RED SAND	5.55	19.27	1,767	15	13,082	112	102	118
MFTEST1-ASH	1.4	11.34	19,004	945	134,029	112	102	118
MFTEST2-A-SOIL	6 25	16.06	463	14	6,816	106	113	101
MFTEST2-B-RED	6 25	16 06	1,144	0	3,504	112	102	118
MFTEST3-BROWN SOIL	6.64	51.13	736	19	9,005	97.4	103	---
MFTEST3-RED SOIL	3 35	55 42	11,927	601	157,551	97.4	103	---
MFTEST3-BLACK/RED WET	3.63	13 47	11,297	551	30,388	97.4	103	---
MFTEST3-RED SOIL CHUNKS	5 57	20.58	0	0	1,744	97.4	103	---
MFTEST4-GRAY/RED SOIL	5.35	20 41	346	0	3,596	97.4	103	---
MFTEST4-GRAY SOIL	6 58	19.61	0	0	1,104	97.4	103	---
MFTEST4-DK GRAY/RED SOIL	6.54	16 13	201	9	704	106	102	110
MFTEST5-BLACK SOIL	3 78	23.11	2,607	107	28,751	96 2	100	109
MFTEST5-RED SOIL	7 08	17 22	2,254	176	18,398	96.2	100	109

TABLE D-5.2b

COMPARISON OF TOTAL METALS CONCENTRATIONS IN RAW FLUE DUST
REMEDIAL INVESTIGATION VERSUS SHAKEDOWN/PROVE-OUT
FLUE DUST OPERABLE UNIT
ANACONDA SMELTER NPL SITE

	Total Metals Analysis (mg/Kg)											
	Arsenic				Cadmium				Lead			
	Maximum		Minimum		Maximum		Minimum		Maximum		Minimum	
Flue Dust Location	RI (1)	Shakedown	RI (1)	Shakedown	RI (1)	Shakedown	RI (1)	Shakedown	RI (1)	Shakedown	RI (1)	Shakedown
Bradley Ponds	37,800	52,854	300	410	2,600	2,554	200	13	49,300	28,571	1,900	471
Coal Pile Tracks	176,400	121,609	20,100	4,050	7,500	4,628	1,000	46	82,500	69,273	1,200	859
FDS Facility	211,100	230,322	8,700	630	2,900	10,804	300	129	47,800	49,186	8,200	1,166
Iron Ponds	72,900	26,653	ND	99	3,800	3,820	ND	17	58,600	35,538	ND	451

Notes

1 Maximum/minimum concentrations were obtained from Table 4 2, Phase I Data Summary Report (Dames & Moore, February 23, 1990)

2 This table reflects analytical results January 11, 1993 through February 12, 1993

3 ND = Indicates the analyte was not detected

TABLE D-5.2c

COMPARISON OF TOTAL METALS CONCENTRATION IN RAW FLUE DUST
REMEDIAL INVESTIGATION VERSUS SHAKEDOWN/PROVE-OUT
FLUE DUST SHAKEDOWN/PROVE-OUT
ANACONDA SMELTER NPL SITE

	Total Metals Analysis (mg/Kg)											
	Arsenic				Cadmium				Lead			
	Maximum		Minimum		Maximum		Minimum		Maximum		Minimum	
Flue Dust Location	RI (a)	Shakedown	RI (a)	Shakedown	RI (a)	Shakedown	RI (a)	Shakedown	RI (a)	Shakedown	RI (a)	Shakedown
Bradley Ponds	37,800	17,238	300	3,369	2,600	1,352	200	451	49,300	15,732	1,900	4,459
Coal Pile Tracks	176,400	121,609	20,100	4,050	7,500	4,628	1,000	46	82,500	69,273	1,200	1,063
FDS Facility	211,100	25,275	8,700	630	2,900	1,756	300	702	47,800	24,360	8,200	2,758
Iron Ponds	72,900	7,600	ND	3,415	3,800	1,183	ND	356	58,600	6,589	ND	1,780

Notes

(a) Maximum/minimum concentrations were obtained from Table 4 2, Phase I Data Summary Report (Dames & Moore, February 23, 1990)

(b) This table reflects analytical results February 12, 1993 through April 26, 1993

(c) ND = Non-detect

TABLE D-5.2d

COMPARISON OF TOTAL METALS CONCENTRATIONS IN RAW FLUE DUST
REMEDIAL INVESTIGATION VERSUS SHAKEDOWN/PROVE-OUT
FLUE DUST OPERABLE UNIT
ANACONDA SMELTER NPL SITE

	Total Metals Analysis (mg/Kg)											
	Arsenic				Cadmium				Lead			
	Maximum		Minimum		Maximum		Minimum		Maximum		Minimum	
Flue Dust Location	RI (1)	Shakedown	RI (1)	Shakedown	RI (1)	Shakedown	RI (1)	Shakedown	RI (1)	Shakedown	RI (1)	Shakedown
Bradley Ponds	37,800	17,238	300	1,398	2,600	1,352	200	129	49,300	17,275	1,900	1,306
Coal Pile Tracks	176,400	121,609	20,100	4,050	7,500	4,628	1,000	46	82,500	69,273	1,200	859
FDS Facility	211,100	25,275	8,700	630	2,900	1,756	300	702	47,800	24,360	8,200	2,758
Iron Ponds	72,900	6,589	ND	1,780	3,800	1,183	ND	356	58,600	7,600	ND	3,415
Area Cut	30,200	8,957	12,300	610	1,100	511	900	43	22,400	7,848	15,900	911
Miscellaneous Piles	138,400	68,575	500	1,543	800	1,400	ND	46	24,700	15,183	ND	54
Switchback	110,100	50,100	12,600	2,480	900	1,146	100	59	15,400	9,436	3,400	445

Notes
(1) Maximum/minimum concentrations were obtained from Table 4 2, Phase I Data Summary Report (Dames & Moore, February 23, 1990)
(2) This table reflects analytical results April 27, 1993 through June 2, 1993
(3) ND = Non-detect

TABLE D-5.2e

COMPARISON OF TOTAL METALS CONCENTRATIONS IN RAW FLUE DUST
REMEDIAL INVESTIGATION VERSUS SHAKEDOWN/PROVE-OUT
FLUE DUST OPERABLE UNIT
ANACONDA SMELTER NPL SITE

	Total Metals Analysis (mg/Kg)											
	Arsenic				Cadmium				Lead			
	Maximum		Minimum		Maximum		Minimum		Maximum		Minimum	
Flue Dust Location	RI (1)	Shakedown	RI (1)	Shakedown	RI (1)	Shakedown	RI (1)	Shakedown	RI (1)	Shakedown	RI (1)	Shakedown
Bradley Ponds	37,800	52,854	300	410	2,600	2,554	200	13	49,300	28,571	1,900	471
Coal Pile Tracks	176,400	121,609	20,100	2,837	7,500	4,628	1,000	46	82,500	69,273	1,200	859
FDS Facility	211,100	25,275	8,700	630	2,900	1,756	300	702	47,800	24,360	8,200	2,758
Iron Ponds	72,900	26 653	ND	99	3,800	3,820	ND	17	58,600	35,538	ND	451
Main Flue	179,300	62,965	ND	8,888	2,300	774	ND	18	39,500	13,212	ND	1,147
Area Cut	30,200	8,957	12,300	610	1,100	511	900	43	22,400	7,848	15,900	911
Miscellaneous Piles	138,400	68,575	500	1,543	800	1,400	ND	46	24,700	15,183	ND	54
Switchback	110,100	50,100	12,600	2,480	900	1,146	100	59	15,400	9,436	3,400	445

Notes.
(1) Maximum/minimum concentrations were obtained from Table 4 2, Phase I Data Summary Report (Dames & Moore, February 23, 1990)
(2) This table reflects analytical results June 3, 1993 through September 7, 1993
(3) ND = Non-detect

TABLE D-5.2f

COMPARISON OF TOTAL METALS CONCENTRATIONS IN RAW FLUE DUST
REMEDIAL INVESTIGATION VERSUS SHAKEDOWN/PROVE-OUT
FLUE DUST OPERABLE UNIT
ANACONDA SMELTER NPL SITE

	Total Metals Analysis (mg/kg)											
	Arsenic				Cadmium				Lead			
	Maximum		Minimum		Maximum		Minimum		Maximum		Minimum	
Flue Dust Location	RI (1)	Shakedown	RI (1)	Shakedown	RI (1)	Shakedown	RI (1)	Shakedown	RI (1)	Shakedown	RI (1)	Shakedown
Bradley Ponds	37,800	52,854	300	410	2,600	2,554	200	13	49,300	28,571	1,900	471
Coal Pile Tracks	176,400	121,609	20100	4,050	7,500	4,628	1,000	46	82,500	69,273	1,200	859
FDS Facility	211,100	230,322	8,700	630	2,900	10,804	300	129	47,800	49,186	8,200	1,166
Iron Ponds	72,900	26,653	ND (3)	99	3,800	3,820	ND	17	58,600	35,538	ND	451
Main Flue	179,300	62,965	ND	8,880	2,300	633	ND	18	39,500	10,866	ND	1,147
Area Cut	30,200	8,957	12,300	610	1,100	511	900	43	22,400	7,848	15,900	911
Miscellaneous Piles	138,400	68,575	500	1,543	800	1,400	ND	46	24,700	15,183	ND	54
Switchback	110,100	50,100	12600	2,480	900	1,146	100	59	15,400	9,436	3,400	445
Thickener	118,400	55,960	NA (6)	202	6,200	15,213	NA	95	68,500	47,697	NA	730

Notes:
(1) Maximum/minimum concentrations were obtained from Table 4 2, Phase I Data Summary Report (Dames & Moore, February 23, 1990)
(2) This table reflects analytical results September 8, 1993 through December 24, 1993
(3) ND = Non-Detect
(4) NA = Not Available

TABLE D-5.2g

COMPARISON OF TOTAL METALS CONCENTRATIONS IN RAW FLUE DUST
REMEDIAL INVESTIGATION VERSUS SHAKEDOWN/PROVE-OUT
FLUE DUST OPERABLE UNIT
ANACONDA SMELTER NPL SITE

	Total Metals Analysis (mg/kg)											
	Arsenic				Cadmium				Lead			
	Maximum		Minimum		Maximum		Minimum		Maximum		Minimum	
Flue Dust Location	RI (1)	Shakedown	RI (1)	Shakedown	RI (1)	Shakedown	RI (1)	Shakedown	RI (1)	Shakedown	RI (1)	Shakedown
Bradley Ponds	37,800	52,854	300	410	2,600	2,554	200	13	49,300	28,571	1,900	471
Coal Pile Tracks	176,400	121,609	20,100	4,050	7,500	4,628	1,000	46	82,500	69,273	1,200	859
FDS Facility	211,100	230,322	8,700	630	2,900	10,804	300	129	47,800	49,186	8,200	1,166
Iron Ponds	72,900	26,653	ND	99	3,800	3,820	ND	17	58,600	35,538	ND	451
Main Flue	179,300	62,965	ND	8,880	2,300	633	ND	18	39,500	10,866	ND	1,147
Area Cut	30,200	8,957	12,300	610	1,100	511	900	43	22,400	7,848	15,900	911
Miscellaneous Piles	138,400	68,575	500	1,543	800	1,400	ND	46	24,700	15,183	ND	54
Switchback	110,100	50,100	12,600	2,480	900	1,146	100	59	15,400	9,436	3,400	445
Thickener	118,400	55,960	NA	202	6,200	15,213	NA	95	68,500	47,697	NA	730

Notes
(1) Maximum/minimum concentrations were obtained from Table 4 2, Phase I Data Summary Report (Dames & Moore, February 23, 1990)
(2) This table reflects final analytical results (December 25, 1993 through May 26, 1994)
(3) ND = Non-Detect
(4) NA = Not Available

TABLE D-6.1

SUMMARIZED MATERIAL QUANTITIES
FLUE DUST OPERABLE UNIT
ANACONDA SMELTER NPL SITE
ANACONDA, MONTANA

Pay Item	Unit	Estimated Quantity	Actual Quantity (1)	Survey Date	Final or Interim	Comments
Repository Excavation	CY	316,672 (2)	----	----	----	DJ&A base map modified by Canonie to account for
Base Map	----	----	----	2/11/93	----	3-inch minus stockpile removed by Washington
Pit Survey	CY	----	311,964	5/3/93	----	Construction Co.
Final Ramp Removal	CY	----	992	6/28/93	----	
Total	CY	----	312,956	----	FINAL	
Pit Bottom Liner (3)(4)	SY	44,576 (2)	----	----	----	Total original estimated quantity increased due to the
Side Slopes	SY	23,716 (2)	25,205	9/1/93 (6)	----	buildup of the north to east rim (top of slope) with
Floor	SY	20,860 (2)	20,810	9/3/93 (6)	----	excavated material.
Top of Slope to Anchor	SY	NE (5)	702	9/1/93 (6)	----	
Total	SY	----	46,717	----	FINAL	
Leachate Collection System	SY	20,860 (2)	20,810	9/3/93 (6)	FINAL	Payment quantity same as the pit bottom liner floor surface area quantity.
Expansion Area Bottom Liner (4)(7)	SY	9,238 (8)	9,278	10/14/93	FINAL	Quantities include a 2-foot overlap of existing anchor trench.
Bradley Pond 3	CY	19,715 (2)	----	----	----	Increase in BP3 backfill quantity due to increase in
Base Map	----	----	----	10/27/93	----	flue dust volume excavated (and corresponding depth
Slag Quantity	CY	NE	58,957	12/13/93	FINAL	of excavation) beyond original estimated quantity.
6" Minus Cover	CY	NE	11,356	12/22/93	FINAL	
Bradley Pond 1 Lime	CY	NE	4,207	9/12/93	FINAL	Survey quantity provided by ITEX.
Bradley Pond 1						Cover material quantity revised to include a 1/25/94
Base Map	CY	NE	----	12/1/93	----	survey of 591 cy placed on west side perimeter area
Slag Quantity	CY	NE	4,946	12/21/93	FINAL	The 1/11/94 survey of BP1 totaled 5,837 cy.
6" Minus Cover	CY	NE	6,428	1/11/94 & 1/25/94	FINAL	
Iron Ponds						
Base Map	CY	NE	----	11/2/93	----	
6" Minus Cover	CY	NE	30,792	12/21/93	FINAL	

TABLE D-6.1

SUMMARIZED MATERIAL QUANTITIES
FLUE DUST OPERABLE UNIT
ANACONDA SMELTER NPL SITE
ANACONDA, MONTANA

Pay Item	Unit	Estimated Quantity	Actual Quantity (1)	Survey Date	Final or Interim	Comments
Waste Placement	CY	648,000 (2)	796,980 (9)	5/31/94	FINAL	Waste placement operations completed 5/26/94
Interim FD Repository Cap	CY	9,043 (10)	16,024	12/22/93	FINAL	
Bradley Pond 2						
Base Map	----	----	----	1/13/94	----	
Slag Quantity	CY	NE	16,377	1/25/94 & 2/2/94	FINAL	Slag quantity is a combination of two top of slag
6" Minus Cover	CY	NE	12,183	2/11/94	FINAL	surveys.
Bradley Pond 1A						
Base Map	----	----	----	----	----	
Slag Quantity	CY	NE	4,375	Truck Count	FINAL	Slag quantity is based on Contractor truck counts.
6" Minus Cover	CY	NE	2,597	1/18/94	FINAL	
Bradley Pond 2 Lay Down Area						6" minus cover quantity includes quantity used in
Base Map	----	----	----	2/15/94	----	small triangle laydown area east of the BP2 laydown
Slag Quantity	CY	NE	1,575	Truck Count	FINAL	area. Slag quantity based on truck counts.
6" Minus Cover	CY	NE	14,582	3/2/94	FINAL	
FLUE DUST						
Area Cut	Dry Tons	3,653 (11)	7,032 (12)	NA (13)	FINAL	Final stabilization date 5/19/93.
Bradley Ponds	Dry Tons	70,227 (11)	128,855 (12)	NA	FINAL	Final stabilization date 9/23/93
Coal Pile Tracks	Dry Tons	37,171 (11)	83,394 (12)	NA	FINAL	Final stabilization date 1/07/94.
Flue Dust Storage	Dry Tons	49,815 (11)	70,300 (12)	NA	FINAL	Final stabilization date 11/15/93.
Iron Ponds	Dry Tons	54,733 (11)	82,978 (12)	NA	FINAL	Final stabilization date 10/16/93
Main Flue	Dry Tons	33,961 (11)	79,640 (12)	NA	FINAL	Final stabilization date 1/06/94.

TABLE D-6.1

SUMMARIZED MATERIAL QUANTITIES
FLUE DUST OPERABLE UNIT
ANACONDA SMELTER NPL SITE
ANACONDA, MONTANA

Pay Item	Unit	Estimated Quantity	Actual Quantity (1)	Survey Date	Final or Interim	Comments
Miscellaneous Piles	Dry Tons	5,668 (11)	13,360 (12)	NA	FINAL	Final stabilization date 5/10/93.
Switchback	Dry Tons	3,596 (11)	12,919 (12)	NA	FINAL	Final stabilization date 6/02/93.
Thickener	Dry Tons	5,283 (11)	20,715 (12)	NA	FINAL	Final stabilization date 1/07/94.
Arbiter Cap Material Quantity	SY	25,430 (14)	24,863	6/13/94	FINAL	Includes all cap components from top of waste to top of cover, based on the top of cover survey extending to the centerline of the cap anchor trench.
Beryllium Cap Material Quantity	SY	2,730 (14)	2,444	6/13/94	FINAL	Includes all cap components from top of waste to top of cover, based on the top of cover survey extending to the centerline of the cap anchor trench.
Flue Dust Cap Material Quantity	SY	64,343 (14)	56,919	6/13/94	FINAL	Includes all cap components from top of waste to top of cover, based on the top of cover survey extending 3.5 feet from the inside edge of the bottom anchor trench.

Table D-7
ITEX Contingency Test Results

Table Includes:

D-7a Bradley Ponds (6/93, 7/93, 8/93)
D-7b Coal Pile Tracks (6/93, 9/93)
D-7c Iron Ponds (7/93, 9/93)
D-7d Main Flue (7/93, 8/93, 10/93, 11/93)
D-7e Flue Dust Storage (9/93)
D-7f Thickener (10/93)
D-7g Flue Dust Storage/Thickener Retreat (12/93)
D-7h Iron Ponds/Bradley Pond 3/Main Flue/Flue Dust Storage (9/93, 10/93)

TABLE D - 7a

SUMMARY OF ITEX CONTINGENCY TEST RESULTS
BRADLEY PONDS
FLUE DUST OPERABLE UNIT
ANACONDA SMELTER NPL SITE

SAMPLE ID	pH (S U)	MOISTURE (%)	ALKALINITY as CaCO3 (mg/kg)	TCLP METALS (mg/l)			PLANT MEASUREMENT LIME (%)	PLANT MEASUREMENT CEMENT (%)	CURE TIME (days)	UCS (psi)	STABILIZATION DATE	TEST RESULT	SAMPLE STATUS
				Lead	Cadmium	Arsenic							
BRADLEY POND 2													
BP2-XI-1-249/255	11 95	45 21	215,329	6 74	ND	0.45	NA	24.82	3	NT	5-Jun-93	fail	
BP2-XI-1-249/255 (1)	NT (2)	NT	NT	0.22	ND	1.07	NA	24.82	15	NT	5-Jun-93	pass	pass
BP2-XI-1-2411/2417	11 05	36 50	150,413	1.05	11.30	ND	NA	23 65	3	NT	22-Jun-93	fail	
BP2-XI-1-2411/2417 (1)	NT	NT	NT	0 34	ND	1.15	NA	23.65	11	NT	22-Jun-93	pass	pass
BP2-XI-1-2439/2445	11 04	41 07	234,801	0 66	10 40	0 35	NA	23 65	3	NT	22-Jun-93	fail	
BP2-XI-1-2439/2445 (1)	NT	NT	NT	0 40	ND	0 90	NA	23 65	17	NT	22-Jun-93	pass	pass
BP2-XI-1-2446/2452	11.13	34.09	245,156	14.24	16.10	0 67	NA	23.65	3	NT	22-Jun-93	fail	
BP2-XI-1-2446/2452 (1)	NT	NT	NT	0.51	ND	1.51	NA	23.65	11	NT	22-Jun-93	pass	pass
BP2-XI-1-2481/2487	11.18	35 66	234,737	7 46	13.30	0.38	NA	23.65	3	NT	22-Jun-93	fail	
BP2-XI-1-2481/2487 (1)	NT	NT	NT	0.76	ND	1.78	NA	23.65	11	NT	22-Jun-93	pass	pass
BP2-XI-1-2537/2543	11.24	37.91	180,058	0 89	7.32	0.91	NA	23.65	3	NT	22-Jun-93	fail	
BP2-XI-1-2537/2543 (1)	NT	NT	NT	0.78	ND	1.71	NA	23.65	11	NT	22-Jun-93	pass	pass
BP2-XI-1-2544/2550	11 31	38 74	225,209	0.72	7.86	0.36	NA	23.65	3	NT	22-Jun-93	fail	
BP2-XI-1-2544/2550 (1)	NT	NT	NT	0 71	0.03	1.86	NA	23.65	11	NT	22-Jun-93	pass	pass
BP2-XI-1-2551/2557	11.21	34 69	211,049	64.90	13.90	0 87	NA	23.65	3	NT	22-Jun-93	fail	
BP2-XI-1-2551/2557 (1)	NT	NT	NT	0.71	ND	1.64	NA	23.65	11	NT	22-Jun-93	pass	pass
BP2-XI-1-2586/2592	11 19	36.72	208,158	ND	1.76	1.26	NA	23.65	3	NT	22-Jun-93	fail	
BP2-XI-1-2586/2592 (1)	NT	NT	NT	0 34	ND	0.94	NA	23.65	25	NT	22-Jun-93	pass	pass
BP2-XI-1-2607/2613	11.25	32 78	257,126	7 20	14.20	2 18	NA	23 65	3	NT	22-Jun-93	fail	
BP2-XI-1-2607/2613 (1)	NT	NT	NT	0 65	ND	2 17	NA	23.65	11	NT	22-Jun-93	pass	pass
				FULL-SCALE ON JUNE 23, 1993									
BP2-XI-1-2621/2867	11.14	38 58	255,624	0.79	1.25	1.71	NA	22 81	3	NT	23-Jun-93	fail	
BP2-XI-1-2621/2867 (1)	NT	NT	NT	0.55	ND	1 27	NA	22 81	16	NT	23-Jun-93	pass	pass
BRADLEY POND 3													
BP3-XI-1-3468/3474	11 38	60.58	189,621	0.26	0 93	1.64	NA	26.98	3	NT	28-Jun-93	fail	

TABLE D-7a

SUMMARY OF ITEX CONTINGENCY TEST RESULTS
BRADLEY PONDS
FLUE DUST OPERABLE UNIT
ANACONDA SMELTER NPL SITE

SAMPLE ID	pH (S U)	MOISTURE (%)	ALKALINITY as CaCO3 (mg/kg)	TCLP METALS (mg/l)			PLANT MEASUREMENT LIME (%)	PLANT MEASUREMENT CEMENT (%)	CURE TIME (days)	UCS (psi)	STABILIZATION DATE	TEST RESULT	SAMPLE STATUS
				Lead	Cadmium	Arsenic							
BP3-XI-1-3468/3474 (1)	NT	NT	NT	0.17	ND	1.64	NA	26.98	18	NT	28-Jun-93	pass	pass
BP3-XI-1-3724/3730	11.17	63 17	251,491	0.62	1 43	1.07	NA	24 93	3	NT	29-Jun-93	fail	
BP3-XI-1-3724/3730 (1)	NT	NT	NT	ND	0.48	0.78	NA	24.93	14	NT	29-Jun-93	pass	pass
BP3-XI-1-5794/5800	11.26	43.67	215,070	3 46	13.38	0.27	NA	24.70	3	11.31	13-Jul-93	fail	
BP3-XI-1-5794/5800 (1)	NT	NT	NT	ND	0.04	0.71	NA	24.70	7	NT	13-Jul-93	pass	pass
BP3-XI-1-5843/5849	11.10	51 85	188,068	0.32	3 67	0.45	NA	24 70	3	NT	13-Jul-93	fail	
BP3-XI-1-5843/5849 (1)	NT	NT	NT	ND	ND	1.57	NA	24 70	7	NT	13-Jul-93	pass	pass
BP3-XI-1-5857/5863	11.20	58.76	204,316	ND	1.26	1.65	NA	24.70	3	NT	13-Jul-93	fail	
BP3-XI-1-5857/5863 (1)	NT	NT	NT	ND	ND	1.70	NA	24.70	7	NT	13-Jul-93	pass	
BP3-XI-1-5857/5863D	11.29	53.74	229,162	0 18	1.33	2 62	NA	24.70	3	NT	13-Jul-93	fail	pass
BP3-XI-1-5857/5863D (1)	NT	NT	NT	ND	ND	1.64	NA	24.70	7	NT	13-Jul-93	pass	
BP3-XI-1-5871/5877	11 25	52 64	198,000	1.47	7.16	1.33	NA	24.70	3	NT	13-Jul-93	fail	
BP3-XI-1-5871/5877 (1)	NT	NT	NT	ND	ND	2.28	NA	24.70	7	NT	13-Jul-93	pass	pass
BP3-XI-1-5878/5884	11.22	53 95	222,992	ND	1 15	0 42	NA	24 70	3	NT	13-Jul-93	fail	
BP3-XI-1-5878/5884 (1)	NT	NT	NT	ND	ND	1.56	NA	24 70	7	NT	13-Jul-93	pass	pass
BP3-XI-1-5885/5891	11.27	53 04	225,465	ND	3 87	1 82	NA	24 70	3	NT	13-Jul-93	fail	
BP3-XI-1-5885/5891 (1)	NT	NT	NT	ND	ND	1 36	NA	24.70	7	NT	13-Jul-93	pass	pass
BP3-XI-1-5892/5898	11 09	47.31	208,343	0 60	6 06	1 28	NA	24 70	3	NT	13-Jul-93	fail	
BP3-XI-1-5892/5898 (1)	NT	NT	NT	ND	ND	1.12	NA	24.70	7	NT	13-Jul-93	pass	pass
BP3-XI-1-5913/5919	11.16	52 87	159,368	0.24	4 44	0 83	NA	24.70	3	NT	13-Jul-93	pass	
BP3-XI-1-5913/5919 (1)	NT	NT	NT	ND	ND	1.59	NA	24.70	7	NT	13-Jul-93	pass	pass
BP3-XI-1-5920/5926	11 30	57 06	191,118	4 87	11.71	0 68	NA	24.70	3	NT	13-Jul-93	fail	
BP3-XI-1-5920/5926 (1)	NT	NT	NT	ND	ND	1.89	NA	24 70	7	NT	13-Jul-93	pass	pass
BP3-XI-1-5947/5953	11.10	54.13	202,460	ND	ND	5 38	NA	23 14	3	NT	14-Jul-93	fail	
BP3-XI-1-5947/5953 (1)	NT	NT	NT	ND	4.89	1 81	NA	23 14	28	NT	14-Jul-93	fail	
BP3-XI-1-5947/5953-1	NT	NT	265,769	0.17	ND	0 27	NA	23 14	41	NT	14-Jul-93	pass	pass
BP3-XI-1-5947/5953-3	NT	NT	241,732	ND	ND	0.29	NA	23 14	41	NT	14-Jul-93	pass	
BP3-XI-1-5954/5960	11.16	56 38	183,505	ND	ND	5.31	NA	23.14	3	NT	14-Jul-93	fail	
BP3-XI-1-5954/5960 (1)	NT	NT	NT	0 20	5 24	1.85	NA	23.14	28	NT	14-Jul-93	fail	

TABLE D-7a

SUMMARY OF ITEX CONTINGENCY TEST RESULTS
BRADLEY PONDS
FLUE DUST OPERABLE UNIT
ANACONDA SMELTER NPL SITE

SAMPLE ID	pH (S U)	MOISTURE (%)	ALKALINITY as CaCO3 (mg/kg)	TCLP METALS (mg/l)			PLANT MEASUREMENT LIME (%)	PLANT MEASUREMENT CEMENT (%)	CURE TIME (days)	UCS (psi)	STABILIZATION DATE	TEST RESULT	SAMPLE STATUS
				Lead	Cadmium	Arsenic							
BP3-XI-1-5954/5960-1	NT	NT	253,305	ND	ND	0 47	NA	23.14	41	NT	14-Jul-93	pass	pass
BP3-XI-1-5954/5960-2	NT	NT	264,710	ND	ND	0.70	NA	23.14	41	NT	14-Jul-93	pass	
BP3-XI-1-5975/5981	11.22	47.42	211,223	ND	0 07	5.09	NA	23.14	3	NT	14-Jul-93	fail	
BP3-XI-1-5975/5981 (1)	NT	NT	NT	ND	ND	1.84	NA	23.14	13	NT	14-Jul-93	pass	pass
BP3-XI-1-5982/5988	11.27	56.22	193,134	0.85	7.90	1 55	NA	23 14	3	NT	14-Jul-93	fail	
BP3-XI-1-5982/5988 (1)	NT	NT	NT	0 21	ND	2.66	NA	23.14	6	NT	14-Jul-93	pass	pass
BP3-XI-1-5996/6002	11.10	49 97	221,120	ND	1.54	2.22	NA	23.14	3	NT	14-Jul-93	fail	
BP3-XI-1-5996/6002 (1)	NT	NT	NT	0.23	ND	2.35	NA	23.14	6	NT	14-Jul-93	pass	pass
BP3-XI-1-6017/6023	11.20	46 24	209,195	ND	ND	6.12	NA	23.14	3	NT	14-Jul-93	fail	
BP3-XI-1-6017/6023 (1)	NT	NT	NT	ND	ND	2.70	NA	23.14	13	NT	14-Jul-93	pass	pass
BP3-XI-1-6108/6114	11.25	54 43	208,581	ND	ND	5.55	NA	24.92	3	NT	14-Jul-93	fail	
BP3-XI-1-6108/6114 (1)	NT	NT	NT	ND	ND	2.85	NA	24.92	13	NT	14-Jul-93	pass	pass
BP3-XI-1-6143/6149	11.10	49 67	187,372	ND	1.83	1.74	NA	24.92	3	NT	14-Jul-93	fail	
BP3-XI-1-6143/6149 (1)	NT	NT	NT	ND	ND	2.47	NA	24.92	13	NT	14-Jul-93	pass	pass
BP3-XI-1-6215/6221D	11.12	56 89	194,022	0.80	10.36	0 89	NA	26.38	3	NT	15-Jul-93	fail	
BP3-XI-1-6215/6221D (1)	NT	NT	NT	ND	ND	1.41	NA	26.38	12	NT	15-Jul-93	pass	pass
BP3-XI-1-6222/6228	11.25	56.89	218,277	6.45	16.40	0.77	NA	26.38	3	NT	15-Jul-93	fail	
BP3-XI-1-6222/6228 (1)	NT	NT	NT	ND	ND	1.52	NA	26.38	12	NT	15-Jul-93	pass	pass
BP3-XI-1-6229/6235	11.20	55.07	213,805	1.24	10.53	1.20	NA	26.38	3	NT	15-Jul-93	fail	
BP3-XI-1-6229/6235 (1)	NT	NT	NT	ND	ND	1.56	NA	26.38	12	NT	15-Jul-93	pass	pass
BP3-XI-1-6236/6242	11.28	56.50	201,047	ND	8 31	0.03	NA	24 02	3	NT	15-Jul-93	fail	
BP3-XI-1-6236/6242 (1)	NT	NT	NT	ND	ND	1 86	NA	24.02	12	NT	15-Jul-93	pass	pass
BP3-XI-1-6257/6263	11.28	49.92	231,123	4.07	15.47	0 60	NA	24.02	3	NT	15-Jul-93	fail	
BP3-XI-1-6257/6263 (1)	NT	NT	NT	ND	ND	2.02	NA	24.02	12	NT	15-Jul-93	pass	pass
BP3-XI-1-6292/6298	11.17	53.11	194,941	0.30	10.81	0 28	NA	24 02	3	NT	15-Jul-93	fail	
BP3-XI-1-6292/6298 (1)	NT	NT	NT	ND	ND	2 90	NA	24.02	12	NT	15-Jul-93	pass	pass
BP3-XI-1-6306/6312	11.21	53.82	226,353	8.26	17.29	0.66	NA	24 02	3	NT	15-Jul-93	fail	
BP3-XI-1-6306/6312 (1)	NT	NT	NT	ND	ND	2.91	NA	24.02	12	NT	15-Jul-93	pass	pass

TABLE D-7a

SUMMARY OF ITEX CONTINGENCY TEST RESULTS
BRADLEY PONDS
FLUE DUST OPERABLE UNIT
ANACONDA SMELTER NPL SITE

SAMPLE ID	pH (S.U.)	MOISTURE (%)	ALKALINITY as CaCO3 (mg/kg)	TCLP METALS (mg/l)			PLANT MEASUREMENT LIME (%)	PLANT MEASUREMENT CEMENT (%)	CURE TIME (days)	UCS (psi)	STABILIZATION DATE	TEST RESULT	SAMPLE STATUS
				Lead	Cadmium	Arsenic							
BP3-XI-1-6313/6319	11 22	55.21	187,293	6.28	16.47	0 49	NA	24.02	3	NT	15-Jul-93	fail	
BP3-XI-1-6313/6319 (1)	NT	NT	NT	ND	ND	1.55	NA	24.02	12	NT	15-Jul-93	pass	pass
BP3-XI-1-6327/6335	11.12	53.48	163,396	7.29	15.41	0 44	NA	24.02	3	NT	15-Jul-93	fail	
BP3-XI-1-6327/6335 (1)	NT	NT	NT	ND	ND	2.79	NA	24.02	12	NT	15-Jul-93	pass	pass
BP3-XI-1-6336/6342	11.25	54.74	190,672	ND	2 62	1 66	NA	24.02	3	NT	15-Jul-93	fail	
BP3-XI-1-6336/6342 (1)	NT	NT	NT	15 69	10.50	1 17	NA	24.02	12	NT	15-Jul-93	fail	
BP3-XI-1-6336/6342-4	NT	NT	201,234	ND	ND	0.60	NA	24.02	40	NT	15-Jul-93	pass	pass
BP3-X1-1-6336/6342-5	NT	NT	249,553	ND	ND	0.18	NA	24.02	40	NT	15-Jul-93	pass	
BP3-XI-1-6343/6349	11.25	51.68	205,897	8.93	14.42	1.07	NA	24.02	3	NT	15-Jul-93	fail	
BP3-XI-1-6343/6349 (1)	NT	NT	NT	18.74	13.89	1.83	NA	24 02	12	NT	15-Jul-93	fail	
BP3-XI-1-6343/6349-4	NT	NT	233,003	0.15	ND	0.16	NA	24.02	40	NT	15-Jul-93	pass	pass
BP3-XI-1-6343/6349-3	NT	NT	231,627	0.18	ND	0.14	NA	24.02	40	NT	15-Jul-93	pass	
BP3-XI-1-6350/6356	11.27	55.00	188,468	ND	5.09	0.89	NA	24.02	3	NT	15-Jul-93	fail	
BP3-XI-1-6350/6356 (1)	NT	NT	NT	9.89	13.43	1.22	NA	24.02	12	NT	15-Jul-93	fail	
BP3-XI-1-6350/6356-1	NT	NT	206,917	0.22	ND	0.29	NA	24.02	40	NT	15-Jul-93	pass	pass
BP3-XI-1-6350/6356-4	NT	NT	213,593	0.24	ND	0.30	NA	24.02	40	NT	15-Jul-93	pass	
BP3-XI-1-6392/6398	11.22	51.38	227,692	11.12	16 09	1.24	NA	24.02	3	NT	15-Jul-93	fail	
BP3-XI-1-6392/6398 (1)	NT	NT	NT	24.88	14.42	0.63	NA	24.02	12	NT	15-Jul-93	fail	
BP3-XI-1-6392/6398-1	NT	NT	216,421	ND	ND	0.14	NA	24.02	40	NT	15-Jul-93	pass	pass
BP3-XI-1-6392/6398-2	NT	NT	193,182	ND	ND	0.18	NA	24.02	40	NT	15-Jul-93	pass	
BP3-XI-1-6399/6405	11.17	51.67	221,060	3.22	11 22	0.38	NA	24.02	3	NT	15-Jul-93	fail	
BP3-XI-1-6399/6405 (1)	NT	NT	NT	17.34	13.02	0.93	NA	24 02	12	NT	15-Jul-93	fail	
BP3-XI-1-6399/6405-1	NT	NT	206,658	0.34	ND	0.15	NA	24.02	40	NT	15-Jul-93	pass	pass
BP3-XI-1-6399/6405-4	NT	NT	219,026	ND	ND	0.21	NA	24.02	40	NT	15-Jul-93	pass	
BP3-XI-1-6406/6412	11.13	53 49	207,758	0.40	5.34	1 18	NA	24.02	3	NT	15-Jul-93	fail	
BP3-XI-1-6406/6412 (1)	NT	NT	NT	16.03	12 94	1.14	NA	24 02	12	NT	15-Jul-93	fail	
BP3-XI-1-6406/6412-4	NT	NT	220,272	ND	ND	0.18	NA	24 02	40	NT	15-Jul-93	pass	pass
BP3-XI-1-6406/6412-5	NT	NT	214,072	0.32	ND	0.17	NA	24.02	40	NT	15-Jul-93	pass	
BP3-XI-1-6455/6461	11.26	44.00	149,008	1.12	10.31	1.04	NA	24 02	3	NT	15-Jul-93	fail	
BP3-XI-1-6455/6461 (1)	NT	NT	NT	14.87	13.28	1.48	NA	24.02	12	NT	15-Jul-93	fail	
BP3-XI-1-6455/6461-2	NT	NT	216,854	0.17	ND	0.19	NA	24.02	40	NT	15-Jul-93	pass	pass
BP3-XI-1-6455/6461-4	NT	NT	208,158	ND	ND	0.22	NA	24.02	40	NT	15-Jul-93	pass	

TABLE D-7a

SUMMARY OF ITEX CONTINGENCY TEST RESULTS
BRADLEY PONDS
FLUE DUST OPERABLE UNIT
ANACONDA SMELTER NPL SITE

SAMPLE ID	pH (S U)	MOISTURE (%)	ALKALINITY as CaCO3 (mg/kg)	TCLP METALS (mg/l)			PLANT MEASUREMENT LIME (%)	PLANT MEASUREMENT CEMENT (%)	CURE TIME (days)	UCS (psi)	STABILIZATION DATE	TEST RESULT	SAMPLE STATUS
				Lead	Cadmium	Arsenic							
BP3-XI-1-6604/6610-3	NT	NT	184,200	ND	ND	0.47	NA	23.48	38	NT	16-Jul-93	pass	
BP3-XI-1-6611/6617	11.24	44.67	193,134	7.52	8.87	0.73	NA	23.48	3	NT	16-Jul-93	fail	
BP3-XI-1-6611/6617 (1)	NT	NT	NT	19.65	12.29	1.42	NA	23.48	11	NT	16-Jul-93	fail	
BP3-XI-1-6611/6617-2	NT	NT	237,310	0 23	ND	0.27	NA	23 48	38	NT	16-Jul-93	pass	pass
BP3-XI-1-6611/6617-3	NT	NT	239,523	0.18	ND	0 25	NA	23.48	38	NT	16-Jul-93	pass	
BP3-XI-1-6632/6638	11.27	48 14	205,333	14.14	11.64	0.91	NA	23.48	3	NT	16-Jul-93	fail	
BP3-XI-1-6632/6638 (1)	NT	NT	NT	ND	0 04	2.50	NA	23 48	11	NT	16-Jul-93	pass	pass
BP3-XI-1-6660/6666	11 42	48 88	223,142	4.58	10 63	0 83	NA	23.48	3	NT	16-Jul-93	fail	
BP3-XI-1-6660/6666 (1)	NT	NT	NT	24.57	2.86	0.55	NA	23.48	11	NT	16-Jul-93	fail	
BP3-XI-1-6660/6666-1	NT	NT	227,100	0.19	ND	0.21	NA	23 48	39	NT	16-Jul-93	pass	pass
BP3-XI-1-6660/6666-3	NT	NT	211,437	0.17	ND	0 24	NA	23.48	39	NT	16-Jul-93	pass	
BP3-XI-1-6667/6673	11.30	46 80	204,644	19.98	9.55	0 98	NA	23.48	3	NT	16-Jul-93	fail	
BP3-XI-1-6667/6673 (1)	NT	NT	NT	2.20	7.76	0 92	NA	23.48	11	NT	16-Jul-93	fail	
BP3-XI-1-6667/6673-1	NT	NT	200,126	ND	ND	0.30	NA	23.48	38	NT	16-Jul-93	pass	pass
BP3-XI-1-6667/6673-3	NT	NT	217,150	ND	ND	0.36	NA	23.48	38	NT	16-Jul-93	pass	
BP3-XI-1-6688/6694	11.26	46 67	209,195	9 98	12 31	0.58	NA	23.48	3	NT	16-Jul-93	fail	
BP3-XI-1-6688/6694 (1)	NT	NT	NT	33.29	11.21	2.03	NA	23 48	11	NT	16-Jul-93	fail	
BP3-XI-1-6688/6694-2	NT	NT	247,864	ND	ND	0.30	NA	23.48	38	NT	16-Jul-93	pass	pass
BP3-XI-1-6688/6694-4	NT	NT	180,875	0.15	ND	0 20	NA	23.48	38	NT	16-Jul-93	pass	
BP3-XI-1-6991/6997D	11 22	45 99	217,722	0.48	6.11	0.46	NA	22 62	3	NT	20-Jul-93	fail	
BP3-XI-1-6991/6997D (1)	NT	NT	NT	0.20	ND	1.43	NA	22 62	22	NT	20-Jul-93	pass	pass
BP3-XI-1-6998/7004	11.18	41.03	207,428	2 41	6.51	0.91	NA	22.62	3	NT	20-Jul-93	fail	
BP3-XI-1-6998/7004 (1)	NT	NT	NT	0.21	ND	1.95	NA	22.62	22	NT	20-Jul-93	pass	pass
BP3-XI-1-7005/7011	11.18	41.68	176,602	15.53	12.74	0.81	NA	22 62	3	NT	20-Jul-93	fail	
BP3-XI-1-7005/7011 (1)	NT	NT	NT	0.18	0.13	2.45	NA	22.62	22	NT	20-Jul-93	pass	pass
BP3-XI-1-7033/7039	11.28	45.49	244,925	ND	1.27	2.46	NA	22.62	3	NT	20-Jul-93	fail	
BP3-XI-1-7033/7039 (1)	NT	NT	NT	0.18	ND	0.46	NA	22.62	22	NT	20-Jul-93	pass	pass
BP3-XI-1-7047/7053	11.26	46.00	244,925	1.72	6.58	0.49	NA	22 62	3	NT	20-Jul-93	fail	
BP3-XI-1-7047/7053 (1)	NT	NT	NT	0.19	ND	0 68	NA	22.62	22	NT	20-Jul-93	pass	pass
BP3-XI-1-7061/7065	11.23	52.94	180,487	16.38	11.36	0.71	NA	22.62	3	NT	20-Jul-93	fail	

TABLE D-7a

SUMMARY OF ITEX CONTINGENCY TEST RESULTS
BRADLEY PONDS
FLUE DUST OPERABLE UNIT
ANACONDA SMELTER NPL SITE

SAMPLE ID	pH (S U)	MOISTURE (%)	ALKALINITY as CaCO3 (mg/kg)	TCLP METALS (mg/l)			PLANT MEASUREMENT LIME (%)	PLANT MEASUREMENT CEMENT (%)	CURE TIME (days)	UCS (psi)	STABILIZATION DATE	TEST RESULT	SAMPLE STATUS
				Lead	Cadmium	Arsenic							
BP3-XI-1-7061/7065 (1)	NT	NT	NT	0 22	ND	2.11	NA	22 62	22	NT	20-Jul-93	pass	pass
BP3-XI-1-7919/7925D	11.23	33 66	217,206	2 15	4 52	0.94	NA	25 80	3	NT	29-Jul-93	fail	
BP3-XI-1-7919/7925D (1)	NT	NT	NT	0.14	ND	1.27	NA	25.80	13	NT	29-Jul-93	pass	pass
BP3-XI-1-7926/7932	11 24	31 22	236,322	ND	3 76	0.56	NA	25.80	3	NT	29-Jul-93	fail	
BP3-XI-1-7926/7932 (1)	NT	NT	NT	2 14	ND	0.17	NA	25 80	14	NT	29-Jul-93	pass	pass
BP3-XI-1-7940/7946	11.27	29 60	194,802	5.77	ND	0 85	NA	25 80	3	NT	29-Jul-93	fail	
BP3-XI-1-7940/7946 (1)	NT	NT	NT	ND	ND	1.16	NA	25 80	13	NT	29-Jul-93	pass	pass
BP3-XI-1-7954/7960	11 28	34 35	216,502	5 05	5.42	0 73	NA	25.80	3	NT	29-Jul-93	fail	
BP3-XI-1-7954/7960 (1)	NT	NT	NT	ND	ND	1 10	NA	25 80	13	NT	29-Jul-93	pass	pass
BP3-XI-1-7996/8002	11.16	33 84	230,063	8 02	5.81	0 93	NA	25.80	3	NT	29-Jul-93	fail	
BP3-XI-1-7996/8002 (1)	NT	NT	NT	ND	ND	0.49	NA	25.80	13	NT	29-Jul-93	pass	pass
BP3-XI-1-8010/8016	11 26	34.14	238,920	0.20	3.65	0.45	NA	25.80	3	NT	29-Jul-93	fail	
BP3-XI-1-8010/8016 (1)	NT	NT	NT	ND	ND	0.74	NA	25.80	13	NT	29-Jul-93	pass	pass
BP3-XI-1-8017/8023	11.20	34.37	271,904	4.32	4.52	1.04	NA	25.80	3	NT	29-Jul-93	fail	
BP3-XI-1-8017/8023 (1)	NT	NT	NT	0.22	ND	1 11	NA	25.80	13	NT	29-Jul-93	pass	pass
BP3-XI-1-8024/8030	11.17	30.76	189,524	8.17	5.64	0 83	NA	25.80	3	NT	29-Jul-93	fail	
BP3-XI-1-8024/8030 (1)	NT	NT	NT	0.88	3.34	0.78	NA	25.80	13	NT	29-Jul-93	fail	
BP3-XI-1-8024/8030-2	NT	NT	257,557	0 91	ND	0.15	NA	25 80	24	NT	29-Jul-93	pass	pass
BP3-XI-1-8024/8030-3	NT	NT	251,418	1.11	ND	0.15	NA	25.80	24	NT	29-Jul-93	pass	
BP3-XI-1-8031/8037	11.15	36.91	224,024	1.11	5.33	0.89	NA	25.80	3	NT	29-Jul-93	fail	
BP3-XI-1-8031/8037 (1)	NT	NT	NT	ND	ND	1.18	NA	25 80	13	NT	29-Jul-93	pass	pass
BP3-XI-1-8038/8044	11 21	32 18	221,896	13 76	5 83	0 94	NA	25 80	3	NT	29-Jul-93	fail	
BP3-XI-1-8038/8044 (1)	NT	NT	NT	ND	ND	1.24	NA	25 80	13	NT	29-Jul-93	pass	pass
BP3-XI-1-8059/8065	11.26	31 66	229,325	0 29	3 10	0.49	NA	25.80	3	NT	29-Jul-93	fail	
BP3-XI-1-8059/8065 (1)	NT	NT	NT	ND	ND	1.80	NA	25.80	13	NT	29-Jul-93	pass	pass
BP3-XI-1-8080/8086	11.13	36.19	208,064	8.30	6.15	0 63	NA	25.80	3	NT	29-Jul-93	fail	
BP3-XI-1-8080/8086 (1)	NT	NT	NT	ND	ND	1 49	NA	25 80	13	NT	29-Jul-93	pass	pass
BP3-XI-1-8094/8100	11.15	38.40	234,664	16.43	6.48	0.76	NA	25.80	3	NT	29-Jul-93	fail	

TABLE D-7a

SUMMARY OF ITEX CONTINGENCY TEST RESULTS
BRADLEY PONDS
FLUE DUST OPERABLE UNIT
ANACONDA SMELTER NPL SITE

SAMPLE ID	pH (S.U.)	MOISTURE (%)	ALKALINITY as CaCO3 (mg/kg)	TCLP METALS (mg/l)			PLANT MEASUREMENT LIME (%)	PLANT MEASUREMENT CEMENT (%)	CURE TIME (days)	UCS (psi)	STABILIZATION DATE	TEST RESULT	SAMPLE STATUS
				Lead	Cadmium	Arsenic							
BP3-XI-1-8094/8100 (1)	NT	NT	NT	ND	ND	2.03	NA	25.80	13	NT	29-Jul-93	pass	pass
BP3-XI-1-8101/8107	11.15	34.16	175,820	7.92	6 02	0 95	NA	25.80	3	NT	29-Jul-93	fail	
BP3-XI-1-8101/8107 (1)	NT	NT	NT	ND	ND	1.00	NA	25.80	13	NT	29-Jul-93	pass	pass
BP3-XI-1-8108/8114	11 19	40 88	218,267	16.30	6 35	0.89	NA	25.80	3	NT	29-Jul-93	fail	
BP3-XI-1-8108/8114 (1)	NT	NT	NT	ND	ND	1 57	NA	25.80	13	NT	29-Jul-93	pass	pass
BP3-XI-1-8115/8122	11 22	35 02	198,757	17.42	5.64	0.77	NA	25.80	3	NT	29-Jul-93	fail	
BP3-XI-1-8115/8122 (1)	NT	NT	NT	ND	ND	1.54	NA	25.80	13	NT	29-Jul-93	pass	pass
BP3-XI-1-8123/8129	11.19	34 60	190,579	27.81	7.23	0 58	NA	27.27	3	12.73	30-Jul-93	fail	
BP3-XI-1-8123/8129 (1)	NT	NT	NT	0.20	ND	1 64	NA	27.27	12	NT	30-Jul-93	pass	
BP3-XI-1-8123/8129D	11.18	34.05	198,504	3.91	6.23	0.97	NA	27.27	3	NT	30-Jul-93	fail	pass
BP3-XI-1-8123/8129D (1)	NT	NT	NT	0 19	ND	1.38	NA	27.27	12	NT	30-Jul-93	pass	
BP3-XI-1-8130/8136	11.23	34.95	234,695	15.71	8 73	1.32	NA	27.27	3	NT	30-Jul-93	fail	
BP3-XI-1-8130/8136 (1)	NT	NT	NT	ND	ND	1.30	NA	27.27	12	NT	30-Jul-93	pass	pass
BP3-XI-1-8137/8143	11 22	35.85	227,976	10.87	6 59	0.94	NA	27.27	3	NT	30-Jul-93	fail	
BP3-XI-1-8137/8143 (1)	NT	NT	NT	0 20	ND	0.93	NA	27.27	12	NT	30-Jul-93	pass	pass
BP3-XI-1-8151/8157	11.19	34 47	209,772	1 82	6 64	0 38	NA	27 27	3	NT	30-Jul-93	fail	
BP3-XI-1-8151/8157 (1)	NT	NT	NT	0 27	ND	0.77	NA	27 27	12	NT	30-Jul-93	pass	pass
BP3-XI-1-8186/8192	11 22	38 82	239,610	1.41	5 68	0.37	NA	27 27	3	NT	30-Jul-93	fail	
BP3-XI-1-8186/8192 (1)	NT	NT	NT	ND	ND	1.01	NA	27.27	12	NT	30-Jul-93	pass	pass
BP3-XI-1-8193/8199	11.22	37 62	189,752	1 15	6.48	0 27	NA	27.27	3	NT	30-Jul-93	fail	
BP3-XI-1-8193/8199 (1)	NT	NT	NT	ND	ND	1.21	NA	27.27	12	NT	30-Jul-93	pass	pass
BP3-XI-1-8214/8220	11.30	37 01	221,388	ND	1 81	1.26	NA	27 27	3	NT	30-Jul-93	fail	
BP3-XI-1-8214/8220 (1)	NT	NT	NT	0.27	ND	0.55	NA	27.27	12	NT	30-Jul-93	pass	pass
BP3-XI-1-8228/8234	11.19	36.67	218,224	7.96	9 57	0.72	NA	27.27	3	NT	30-Jul-93	fail	
BP3-XI-1-8228/8234 (1)	NT	NT	NT	0.27	ND	1.10	NA	27.27	12	NT	30-Jul-93	pass	pass
BP3-XI-1-8235/8241	11.24	35 25	228,862	3.49	6.35	1.03	NA	27 27	3	NT	30-Jul-93	fail	
BP3-XI-1-8235/8241 (1)	NT	NT	NT	ND	ND	0.98	NA	27.27	12	NT	30-Jul-93	pass	pass
BP3-XI-1-8256/8262	11.36	36.79	237,779	14.77	6.58	1.04	NA	27.27	3	NT	30-Jul-93	fail	

TABLE D-7a

SUMMARY OF ITEX CONTINGENCY TEST RESULTS
BRADLEY PONDS
FLUE DUST OPERABLE UNIT
ANACONDA SMELTER NPL SITE

SAMPLE ID	pH (S U)	MOISTURE (%)	ALKALINITY as CaCO3 (mg/kg)	TCLP METALS (mg/l)			PLANT MEASUREMENT LIME (%)	PLANT MEASUREMENT CEMENT (%)	CURE TIME (days)	UCS (psi)	STABILIZATION DATE	TEST RESULT	SAMPLE STATUS
				Lead	Cadmium	Arsenic							
BP3-XI-1-8256/8262 (1)	NT	NT	NT	ND	ND	0.58	NA	27.27	12	NT	30-Jul-93	pass	pass
BP3-XI-1-8263/8269	11.25	38 82	229,940	ND	2.96	0.76	NA	27.27	3	NT	30-Jul-93	fail	
BP3-XI-1-8263/8269 (1)	NT	NT	NT	0.24	ND	0.68	NA	27.27	12	NT	30-Jul-93	pass	pass
BP3-XI-1-8270/8276	11.22	37.62	238,384	5.41	7.02	0.78	NA	27 27	3	NT	30-Jul-93	fail	
BP3-XI-1-8270/8276 (1)	NT	NT	NT	0.24	ND	0.93	NA	27.27	12	NT	30-Jul-93	pass	pass
BP3-XI-1-8291/8297	11.22	38.99	197,201	14.04	9.45	0.73	NA	27.27	3	NT	30-Jul-93	fail	
BP3-XI-1-8291/8297 (1)	NT	NT	NT	ND	ND	1.81	NA	27.27	12	NT	30-Jul-93	pass	pass
BP3-XI-1-8305/8311	11 19	35.79	193,565	21.79	10.02	0.44	NA	27.27	3	NT	30-Jul-93	fail	
BP3-XI-1-8305/8311 (1)	NT (2)	NT	NT	0.24	ND	1.52	NA	27.27	13	NT	30-Jul-93	pass	pass
BP3-XI-1-8319/8325	11.27	33.58	213,895	7.22	6.58	1.03	NA	27.27	3	NT	30-Jul-93	fail	
BP3-XI-1-8319/8325 (1)	NT	NT	NT	0.06	ND	0.17	NA	27.27	13	NT	30-Jul-93	pass	pass
BP3-XI-1-8340/8346	11.25	39.96	223,823	0.87	5.88	0.38	NA	27.27	3	NT	30-Jul-93	fail	
BP3-XI-1-8340/8346 (1)	NT	NT	NT	0.45	ND	0.21	NA	27.27	13	NT	30-Jul-93	pass	pass
BP3-XI-1-8347/8353	11.27	39.55	232,249	7 69	6.59	0.90	NA	27.27	3	NT	30-Jul-93	fail	
BP3-XI-1-8347/8353 (1)	NT	NT	NT	0.10	ND	1.87	NA	27.27	13	NT	30-Jul-93	pass	pass
BP3-XI-1-8368/8374	11.36	31.27	224,325	ND	3 69	0.65	NA	27.27	3	NT	30-Jul-93	fail	
BP3-XI-1-8368/8374 (1)	NT	NT	NT	0.17	ND	0.64	NA	27.27	13	NT	30-Jul-93	pass	pass
BP3-XI-1-8375/8381	11.31	30 92	222,338	0.66	4.45	0.67	NA	27.27	3	NT	30-Jul-93	fail	
BP3-XI-1-8375/8381 (1)	NT	NT	NT	0.31	ND	0.17	NA	27.27	13	NT	30-Jul-93	pass	pass
BP3-XI-1-8382/8386	11.45	32.94	241,855	ND	3.55	0.63	NA	27.27	3	NT	30-Jul-93	fail	
BP3-XI-1-8382/8386 (1)	NT	NT	NT	0.05	ND	0.16	NA	27.27	13	NT	30-Jul-93	pass	pass
BP3-XI-1-8387/8393	11.38	40 84	226,366	3 37	5.73	0.66	NA	28.19	3	11.31	31-Jul-93	fail	
BP3-XI-1-8387/8393 (1)	NT	NT	NT	0.50	ND	0.15	NA	28 19	12	NT	31-Jul-93	pass	
BP3-XI-1-8387/8393D	11.32	37.43	146,117	0.52	4.98	0.25	NA	28 19	3	NT	31-Jul-93	fail	pass
BP3-XI-1-8387/8393D (1)	NT	NT	NT	0 69	ND	0 23	NA	28.19	12	NT	31-Jul-93	pass	
BP3-XI-1-8394/8400	11.36	40 95	217,506	4.97	7.04	0 66	NA	28 19	3	NT	31-Jul-93	fail	
BP3-XI-1-8394/8400 (1)	NT	NT	NT	0.03	ND	0 24	NA	28 19	12	NT	31-Jul-93	pass	pass
BP3-XI-1-8401/8407	11.34	41.82	232,072	1.36	6.21	0.32	NA	28.19	3	NT	31-Jul-93	fail	

TABLE D-7a

SUMMARY OF ITEX CONTINGENCY TEST RESULTS
BRADLEY PONDS
FLUE DUST OPERABLE UNIT
ANACONDA SMELTER NPL SITE

SAMPLE ID	pH (S.U.)	MOISTURE (%)	ALKALINITY as CaCO3 (mg/kg)	TCLP METALS (mg/l)			PLANT MEASUREMENT LIME (%)	PLANT MEASUREMENT CEMENT (%)	CURE TIME (days)	UCS (psi)	STABILIZATION DATE	TEST RESULT	SAMPLE STATUS
				Lead	Cadmium	Arsenic							
BP3-XI-1-8401/8407 (1)	NT	NT	NT	ND	ND	0.23	NA	28 19	12	NT	31-Jul-93	pass	pass
BP3-XI-1-8415/8421	11.27	40.60	229,898	0.94	5.50	0.24	NA	28.19	3	NT	31-Jul-93	fail	
BP3-XI-1-8415/8421 (1)	NT	NT	NT	0.23	ND	0.19	NA	28.19	12	NT	31-Jul-93	pass	pass
BP3-XI-1-8422/8428	11.24	33 97	226,637	6.36	8.46	0 43	NA	28.19	3	NT	31-Jul-93	fail	
BP3-XI-1-8422/8428 (1)	NT	NT	NT	0.54	ND	1.73	NA	28 19	12	NT	31-Jul-93	pass	pass
BP3-XI-1-8450/8456	11 28	40 86	218,802	0.90	5 14	0 37	NA	28 19	3	NT	31-Jul-93	fail	
BP3-XI-1-8450/8456 (1)	NT	NT	NT	0.92	ND	0 26	NA	28 19	12	NT	31-Jul-93	pass	pass
BP3-XI-1-8457/8463	11 36	42 53	195,419	0.40	4.31	0.33	NA	28.19	3	NT	31-Jul-93	fail	
BP3-XI-1-8457/8463 (1)	NT	NT	NT	0.75	ND	0.21	NA	28.19	12	NT	31-Jul-93	pass	pass
BP3-XI-1-8471/8477	11 35	42.76	245,918	0.32	4.03	0 35	NA	28.19	3	NT	31-Jul-93	fail	
BP3-XI-1-8471/8477 (1)	NT	NT	NT	0.21	ND	0.37	NA	28.19	12	NT	31-Jul-93	pass	pass
BP3-XI-1-8478/8484	11.40	36.41	216,854	0.27	2.65	0.53	NA	28.19	3	NT	31-Jul-93	fail	
BP3-XI-1-8478/8484 (1)	NT	NT	NT	0.52	ND	0.21	NA	28.19	12	NT	31-Jul-93	pass	pass
BP3-XI-1-8492/8498	11.30	43.67	198,667	14.27	9.45	0 75	NA	28.19	3	NT	31-Jul-93	fail	
BP3-XI-1-8492/8498 (1)	NT	NT	NT	0.51	ND	0.47	NA	28.19	12	NT	31-Jul-93	pass	pass
BP3-XI-1-8499/8505	11.28	45.91	192,870	27.97	9.21	0.65	NA	28.19	3	NT	31-Jul-93	fail	
BP3-XI-1-8499/8505 (1)	NT	NT	NT	2.13	10.83	0.64	NA	28 19	12	NT	31-Jul-93	fail	
BP3-XI-1-8499/8505-3	NT	NT	223,124	0.27	ND	0.12	NA	28.19	25	NT	31-Jul-93	pass	pass
BP3-XI-1-8499/8505-5	NT	NT	224,463	ND	ND	0.14	NA	28.19	25	NT	31-Jul-93	pass	
BP3-XI-1-8506/8512	11.30	44 01	225,550	14.09	8.88	0 79	NA	28.19	3	NT	31-Jul-93	fail	
BP3-XI-1-8506/8512 (1)	NT	NT	NT	0.21	ND	0.73	NA	28.19	12	NT	31-Jul-93	pass	pass
BP3-XI-1-8513/8519	11.28	42 99	198,375	4.17	7.80	0.54	NA	28.19	3	NT	31-Jul-93	fail	
BP3-XI-1-8513/8519 (1)	NT	NT	NT	0.28	0.07	1.76	NA	28.19	12	NT	31-Jul-93	pass	pass
BP3-XI-1-8520/8524	11.35	41.96	224,463	0.32	4.00	0.31	NA	28.19	3	NT	31-Jul-93	fail	
BP3-XI-1-8520/8524 (1)	NT	NT	NT	0.46	ND	1.87	NA	28.19	12	NT	31-Jul-93	pass	pass
BP3-XI-1-8525/8531	11.10	45.88	250,309	2.63	8.60	0.14	NA	28 48	3	14.14	1-Aug-93	fail	
BP3-XI-1-8525/8531 (1)	NT	NT	NT	ND	ND	0.16	NA	28.48	13	NT	1-Aug-93	pass	pass
BP3-XI-1-8532/8538	10.98	42 23	239,185	24.33	11.72	0.72	NA	28.48	3	NT	1-Aug-93	fail	

TABLE D-7a

SUMMARY OF ITEX CONTINGENCY TEST RESULTS
BRADLEY PONDS
FLUE DUST OPERABLE UNIT
ANACONDA SMELTER NPL SITE

SAMPLE ID	pH (S.U.)	MOISTURE (%)	ALKALINITY as CaCO3 (mg/kg)	TCLP METALS (mg/l)			PLANT MEASUREMENT LIME (%)	PLANT MEASUREMENT CEMENT (%)	CURE TIME (days)	UCS (psi)	STABILIZATION DATE	TEST RESULT	SAMPLE STATUS
				Lead	Cadmium	Arsenic							
BP3-XI-1-8532/8538 (1)	NT	NT	NT	0.37	0.16	1 65	NA	28.48	13	NT	1-Aug-93	pass	pass
BP3-XI-1-8546/8552	11.06	42 12	217,200	14.47	9.47	0.97	NA	28.48	3	NT	1-Aug-93	fail	
BP3-XI-1-8546/8552 (1)	NT	NT	NT	1.41	6.49	0.50	NA	28.48	13	NT	1-Aug-93	fail	
BP3-XI-1-8546/8552-3	NT	NT	224,079	0 99	ND	0.17	NA	28.48	21	NT	1-Aug-93	pass	pass
BP3-XI-1-8546/8552-5	NT	NT	245,065	0 92	ND	0 23	NA	28 48	21	NT	1-Aug-93	pass	
BP3-XI-1-8567/8573	11.14	37 38	236,203	19 93	10.00	1 03	NA	28.48	3	NT	1-Aug-93	fail	
BP3-XI-1-8567/8573 (1)	NT	NT	NT	0 19	1.41	1.32	NA	28.48	13	NT	1-Aug-93	fail	
BP3-XI-1-8567/8573-1	NT	NT	244,617	0 32	ND	0.17	NA	28.48	21	NT	1-Aug-93	pass	pass
BP3-XI-1-8567/8573-2	NT	NT	226,665	ND	ND	0.17	NA	28.48	21	NT	1-Aug-93	pass	
BP3-XI-1-8581/8587	11.22	42.66	241,879	17.56	7.78	0.93	NA	28.48	3	NT	1-Aug-93	fail	
BP3-XI-1-8581/8587 (1)	NT	NT	NT	0 34	4.40	0.71	NA	28.48	13	NT	1-Aug-93	fail	
BP3-XI-1-8581/8587-3	NT	NT	208,577	0.67	ND	1.27	NA	28.48	21	NT	1-Aug-93	pass	pass
BP3-XI-1-8581/8587-4	NT	NT	249,679	0.76	ND	0.20	NA	28.48	21	NT	1-Aug-93	pass	
BP3-XI-1-8588/8594	11.14	43.32	251,326	13 23	10.63	0.82	NA	28.48	3	NT	1-Aug-93	fail	
BP3-XI-1-8588/8594 (1)	NT	NT	NT	0.23	ND	1.29	NA	28.48	13	NT	1-Aug-93	pass	pass
BP3-XI-1-8595/8601	11.24	48.13	236,368	17 37	10 26	0 86	NA	28.48	3	NT	1-Aug-93	fail	
BP3-XI-1-8595/8601 (1)	NT	NT	NT	0.16	0.04	1.53	NA	28.48	13	NT	1-Aug-93	pass	pass
BP3-XI-1-8609/8615	11.01	38.92	210,825	27 60	3 57	0.44	NA	28.48	3	NT	1-Aug-93	fail	
BP3-XI-1-8609/8615 (1)	NT	NT	NT	6.59	9.21	0.56	NA	28.48	13	NT	1-Aug-93	fail	
BP3-XI-1-8609/8615-1	NT	NT	252,823	1.02	ND	0.18	NA	28.48	21	NT	1-Aug-93	pass	pass
BP3-XI-1-8609/8615-4	NT	NT	239,633	0.93	ND	0.15	NA	28.48	21	NT	1-Aug-93	pass	
BP3-XI-1-8616/8622	11.08	40.74	240,560	23.10	12.86	1.66	NA	28 48	3	NT	1-Aug-93	fail	
BP3-XI-1-8616/8622 (1)	NT	NT	NT	ND	0 03	2.28	NA	28 48	13	NT	1-Aug-93	pass	pass
BP3-XI-1-8630/8636	11.17	38.33	237,629	16.36	10.53	0.84	NA	28.48	3	NT	1-Aug-93	fail	
BP3-XI-1-8630/8636 (1)	NT	NT	NT	0.18	ND	0.23	NA	28.48	13	NT	1-Aug-93	pass	pass
BP3-XI-1-8637/8643	11.06	41.43	239,484	16.97	9.73	0.87	NA	28 48	3	NT	1-Aug-93	fail	
BP3-XI-1-8637/8643 (1)	NT	NT	NT	0.18	0.51	2 60	NA	28.48	13	NT	1-Aug-93	pass	pass
BP3-XI-1-8658/8664	11.13	45.65	237,000	31.26	12.15	0.60	NA	28 48	3	NT	1-Aug-93	fail	
BP3-XI-1-8658/8664 (1)	NT	NT	NT	0.26	5.28	0.80	NA	28 48	13	NT	1-Aug-93	fail	
BP3-XI-1-8658/8664-1	NT	NT	218,109	0.74	ND	0.19	NA	28.48	21	NT	1-Aug-93	pass	pass
BP3-XI-1-8658/8664-4	NT	NT	240,035	0.63	ND	0.17	NA	28.48	21	NT	1-Aug-93	pass	

TABLE D-7a

SUMMARY OF ITEX CONTINGENCY TEST RESULTS
BRADLEY PONDS
FLUE DUST OPERABLE UNIT
ANACONDA SMELTER NPL SITE

SAMPLE ID	pH (S.U.)	MOISTURE (%)	ALKALINITY as CaCO3 (mg/kg)	TCLP METALS (mg/l)			PLANT MEASUREMENT LIME (%)	PLANT MEASUREMENT CEMENT (%)	CURE TIME (days)	UCS (psi)	STABILIZATION DATE	TEST RESULT	SAMPLE STATUS
				Lead	Cadmium	Arsenic							
BP3-XI-1-8693/8699	11.14	40.59	247,510	4.59	9.39	0.17	NA	28.48	3	NT	1-Aug-93	fail	
BP3-XI-1-8693/8699 (1)	NT	NT	NT	ND	ND	2.97	NA	28.48	13	NT	1-Aug-93	pass	pass
BP3-XI-1-8707/8713	11.08	41.47	262,239	26.97	12.97	0 79	NA	28 48	3	NT	1-Aug-93	fail	
BP3-XI-1-8707/8713 (1)	NT	NT	NT	0.19	ND	2 10	NA	28.48	13	NT	1-Aug-93	pass	pass
BP3-XI-1-8714/8720	11.06	44.29	250,696	19 62	10.22	0.67	NA	28 48	3	NT	1-Aug-93	fail	
BP3-XI-1-8714/8720 (1)	NT	NT	NT	0 24	ND	0 25	NA	28 48	13	NT	1-Aug-93	pass	pass
BP3-XI-1-8747/8753	11 25	45 17	210,484	17.37	12.39	1 65	NA	28.87	3	NT	2-Aug-93	fail	
BP3-XI-1-8747/8753 (1)	NT	NT	NT	ND	ND	0.25	NA	28 87	14	NT	2-Aug-93	pass	pass
BP3-XI-1-8754/8760	11.21	49.97	226,244	39.27	13.40	0.56	NA	28.87	3	NT	2-Aug-93	fail	
BP3-XI-1-8754/8760 (1)	NT	NT	NT	ND	ND	0.42	NA	28.87	14	NT	2-Aug-93	pass	pass
BP3-XI-1-8810/8816	11.21	42 19	218,646	41.09	11.25	0 44	NA	28 87	3	NT	2-Aug-93	fail	
BP3-XI-1-8810/8816 (1)	NT	NT	NT	ND	ND	0.77	NA	28.87	14	NT	2-Aug-93	pass	pass
BP3-XI-1-8873/8879	11.27	37.18	192,690	22.05	8 07	0.63	NA	28.87	3	NT	2-Aug-93	fail	
BP3-XI-1-8873/8879 (1)	NT	NT	NT	ND	ND	0.20	NA	28.87	14	NT	2-Aug-93	pass	pass
BP3-XI-1-8880/8886	11.20	34 52	169,421	46.14	12.77	1.58	NA	28 87	3	NT	2-Aug-93	fail	
BP3-XI-1-8880/8886 (1)	NT	NT	NT	ND	ND	1.24	NA	28.87	14	NT	2-Aug-93	pass	pass
BP3-XI-1-8887/8893	11.23	41 25	218,457	45.04	13.33	0 62	NA	28 87	3	NT	2-Aug-93	fail	
BP3-XI-1-8887/8893 (1)	NT	NT	NT	ND	ND	0.41	NA	28.87	14	NT	2-Aug-93	pass	pass
BP3-XI-1-8894/8900	11.24	39.76	235,849	38.71	15.39	0.69	NA	28.87	3	NT	2-Aug-93	fail	
BP3-XI-1-8894/8900 (1)	NT	NT	NT	ND	ND	0.30	NA	28.87	14	NT	2-Aug-93	pass	pass
BP3-XI-1-8901/8907	11.21	44.13	215,059	1.07	7.90	1.17	NA	28.87	3	NT	2-Aug-93	fail	
BP3-XI-1-8901/8907 (1)	NT	NT	NT	ND	ND	0 31	NA	28.87	14	NT	2-Aug-93	pass	pass
BP3-XI-1-9022/9028	11.26	37.35	191,173	2.84	6 68	0.48	NA	28 40	3	NT	3-Aug-93	fail	
BP3-XI-1-9022/9028 (1)	NT	NT	NT	0.23	ND	0.21	NA	28.40	16	NT	3-Aug-93	pass	pass
BP3-XI-1-9071/9077	11.32	37.16	196,024	10.04	8 06	0.56	NA	28 40	3	NT	3-Aug-93	fail	
BP3-XI-1-9071/9077 (1)	NT	NT	NT	ND	ND	0.20	NA	28 40	16	NT	3-Aug-93	pass	pass
BP3-XI-1-9110/9116	11.28	38.14	241,256	1.77	4.61	1.21	NA	27.20	3	NT	4-Aug-93	fail	

TABLE D - 7a

SUMMARY OF ITEX CONTINGENCY TEST RESULTS
BRADLEY PONDS
FLUE DUST OPERABLE UNIT
ANACONDA SMELTER NPL SITE

SAMPLE ID	pH (S U)	MOISTURE (%)	ALKALINITY as CaCO3 (mg/kg)	TCLP METALS (mg/l)			PLANT MEASUREMENT LIME (%)	PLANT MEASUREMENT CEMENT (%)	CURE TIME (days)	UCS (psi)	STABILIZATION DATE	TEST RESULT	SAMPLE STATUS
				Lead	Cadmium	Arsenic							
BP3-XI-1-9110/9116 (1)	NT	NT	NT	21.07	7.39	0.27	NA	27.20	16	NT	4-Aug-93	fail	
BP3-XI-1-9110/9116-2	NT	NT	231,287	ND	ND	0.19	NA	27.20	24	NT	4-Aug-93	pass	pass
BP3-XI-1-9110/9116-4	NT	NT	241,633	ND	ND	0.40	NA	27.20	24	NT	4-Aug-93	pass	
BP3-XI-1-9138/9144	11.24	35.05	198,957	ND	1 63	1 47	NA	27.20	3	NT	4-Aug-93	fail	
BP3-XI-1-9138/9144 (1)	NT	NT	NT	0.74	ND	0.18	NA	27.20	15	NT	4-Aug-93	pass	pass
BP3-XI-1-9440/9446	11.32	38 55	222,958	1.86	9 84	2.19	NA	27.87	3	NT	5-Aug-93	fail	
BP3-XI-1-9440/9446 (1)	NT	NT	NT	24.64	7.81	0.58	NA	27 87	14	NT	5-Aug-93	fail	
BP3-XI-1-9440/9446-1	NT	NT	237,698	ND	ND	0.17	NA	27.87	23	NT	5-Aug-93	pass	pass
BP3-XI-1-9440/9446-3	NT	NT	224,024	ND	ND	0 21	NA	27.87	23	NT	5-Aug-93	pass	
BP3-XI-1-9456/9462	11.32	36.90	238,310	2.42	6.43	1 17	NA	27.95	3	NT	6-Aug-93	fail	
BP3-XI-1-9456/9462 (1)	NT	NT	NT	21.66	7.43	0.47	NA	27.95	14	NT	6-Aug-93	fail	
BP3-XI-1-9456/9462-2	NT	NT	236,892	ND	ND	0 20	NA	27.95	22	NT	6-Aug-93	pass	pass
BP3-XI-1-9456/9462-5	NT	NT	203,650	ND	ND	0.21	NA	27 95	22	NT	6-Aug-93	pass	
BP3-XI-1-9470/9476	11 23	39.03	177,722	2.05	6 43	1.02	NA	27.95	3	NT	6-Aug-93	fail	
BP3-XI-1-9470/9476 (1)	NT	NT	NT	22 23	6.43	0.30	NA	27.95	14	NT	6-Aug-93	fail	
BP3-XI-1-9470/9476-3	NT	NT	258,197	ND	ND	0.14	NA	27.95	22	NT	6-Aug-93	pass	pass
BP3-XI-1-9470/9476-4	NT	NT	260,358	ND	ND	0.18	NA	27.95	22	NT	6-Aug-93	pass	
BP3-XI-1-9477/9483	11.25	37.95	249,986	2 00	5.86	1.22	NA	27.95	3	NT	6-Aug-93	fail	
BP3-XI-1-9477/9483 (1)	NT	NT	NT	0.23	ND	0 14	NA	27.95	13	NT	6-Aug-93	pass	pass
BP3-XI-1-9554/9560	11.23	37.42	216,854	2 09	6 68	1 48	NA	27.95	3	NT	6-Aug-93	fail	
BP3-XI-1-9554/9560 (1)	NT	NT	NT	0.37	ND	0 20	NA	27 95	14	NT	6-Aug-93	pass	pass
BP3-XI-1-9915/9921D	11.27	35.94	192,664	0.31	1 92	1.08	NA	28 48	3	NT	10-Aug-93	fail	
BP3-XI-1-9915/9921D (1)	NT	NT	NT	24.16	8 15	0 47	NA	28 48	10	NT	10-Aug-93	fail	
BP3-XI-1-9915/9921D-2	NT	NT	248,496	ND	ND	0.23	NA	28.48	18	NT	10-Aug-93	pass	pass
BP3-XI-1-9915/9921D-3	NT	NT	207,223	ND	ND	0.23	NA	28.48	18	NT	10-Aug-93	pass	
BP3-XI-1-9936/9942	11.28	37.39	176,083	12.72	8.61	0 64	NA	28.48	3	NT	10-Aug-93	fail	
BP3-XI-1-9936/9942 (1)	NT	NT	NT	0.18	ND	0.19	NA	28.48	9	NT	10-Aug-93	pass	pass
BP3-XI-1-9978/9984	11.38	35.86	205,984	1.97	4.50	0 29	NA	28 48	3	NT	10-Aug-93	fail	
BP3-XI-1-9978/9984 (1)	NT	NT	NT	ND	ND	0 12	NA	28.48	9	NT	10-Aug-93	pass	pass
BP3-XI-1-9999/10005	11.33	32.75	209,890	0.15	2.90	0 43	NA	28 48	3	NT	10-Aug-93	fail	
BP3-XI-1-9999/10005 (1)	NT	NT	NT	38.40	7.90	2.07	NA	28.48	10	NT	10-Aug-93	fail	

TABLE D-7a

SUMMARY OF ITEX CONTINGENCY TEST RESULTS
BRADLEY PONDS
FLUE DUST OPERABLE UNIT
ANACONDA SMELTER NPL SITE

SAMPLE ID	pH (S U)	MOISTURE (%)	ALKALINITY as CaCO3 (mg/kg)	TCLP METALS (mg/l)			PLANT MEASUREMENT LIME (%)	PLANT MEASUREMENT CEMENT (%)	CURE TIME (days)	UCS (psi)	STABILIZATION DATE	TEST RESULT	SAMPLE STATUS
				Lead	Cadmium	Arsenic							
BP3-XI-1-9999/10005-1	NT	NT	241,633	ND	ND	0.42	NA	28 48	18	NT	10-Aug-93	pass	pass
BP3-XI-1-9999/10005-3	NT	NT	247,599	ND	ND	0.30	NA	28 48	18	NT	10-Aug-93	pass	
BP3-XI-1-10034/10040	11 36	46.23	256,680	0.19	1.74	1.06	NA	28 48	3	NT	10-Aug-93	fail	
BP3-XI-1-10034/10040 (1)	NT	NT	NT	ND	ND	0.16	NA	28.48	9	NT	10-Aug-93	pass	pass
BP3-XI-1-10041/10047	11.35	42.26	250,051	0.20	2.13	1 20	NA	28.48	3	NT	10-Aug-93	fail	
BP3-XI-1-10041/10047 (1)	NT	NT	NT	0.24	ND	0.17	NA	28.48	9	NT	10-Aug-93	pass	pass
BP3-XI-1-10594/10600	11.94	43 08	236,847	ND	ND	0.22	5.17	25.77	3	NT	13-Aug-93	pass	
BP3-XI-1-10594/10600 (1)	NT	NT	NT	0.66	ND	0 46	5.17	25.77	7	NT	13-Aug-93	pass	pass
BP3-XI-1-10732/10738	11.92	37 98	229,537	11.28	5.30	0 40	4.60	26.44	3	NT	14-Aug-93	fail	
BP3-XI-1-10732/10738 (1)	NT	NT	NT	0.19	0.04	0.19	4.60	26.44	6	NT	14-Aug-93	pass	pass
BP3-XI-1-10739/10745	12 04	36 90	237,783	12.08	8.64	0.65	4 60	26 44	3	NT	14-Aug-93	fail	
BP3-XI-1-10739/10745 (1)	NT	NT	NT	0.83	ND	0.36	4.60	26.44	6	NT	14-Aug-93	pass	pass
BP3-XI-1-10775/10782	11.92	44 13	215,140	19.20	6.99	0.26	4.60	26 44	3	NT	14-Aug-93	fail	
BP3-XI-1-10775/10782 (1)	NT	NT	NT	ND	ND	0.20	4.60	26.44	6	NT	14-Aug-93	pass	pass
BP3-XI-1-11424/11430	11 44	47.68	220,852	3 10	5 11	0 41	NA	29 39	3	NT	20-Aug-93	fail	
BP3-XI-1-11424/11430 (1)	NT	NT	NT	2.29	5.41	0 50	NA	29.39	21	NT	20-Aug-93	fail	fail

Notes:
(1) These samples are re-extractions of the original sample
(2) NA indicates that the additive was not used in the mix design.
(3) ND indicates that the constituent was not detected.
(4) NT indicates that the analysis was not performed.

TABLE D - 76

SUMMARY OF ITEX CONTINGENCY TEST RESULTS
COAL PILE TRACKS
FLUE DUST OPERABLE UNIT
ANACONDA SMELTER NPL SITE

SAMPLE ID	pH (S.U.)	MOISTURE (%)	ALKALINITY as CaCO3 (mg/kg)	TCLP METALS (mg/l)			PLANT MEASUREMENT LIME (%)	PLANT MEASUREMENT CEMENT (%)	CURE TIME (days)	UCS (psi)	STABILIZATION DATE	TEST RESULT	SAMPLE STATUS
				Lead	Cadmium	Arsenic							
CPT-XIII-1-10155/10378	12.49	46 85	335,224	0 46	ND	0.49	9.78	42 21	3	NT	5-Jun-93	pass	
CPT-XIII-1-10155/10378D	12 39	45 95	334,337	6.95	ND	0.38	9.78	42.21	3	NT	5-Jun-93	fail	pass
CPT-XIII-1-10155/10378 (1)	NT	NT	NT	0.25	ND	0.57	9.78	42.21	15	NT	5-Jun-93	pass	
CPT-XIII-1-11065/11287	12.32	45 05	320,104	5 01	ND	0.44	9.05	37.02	3	NT	10-Jun-93	fail	
CPT-XIII-1-11065/11287D	12.43	45.43	291,370	3.82	ND	0.33	9.05	37.02	3	NT	10-Jun-93	pass	pass
CPT-XIII-1-11065/11287 (1)	NT	NT	NT	0.15	ND	0 47	9.05	37.02	10	NT	10-Jun-93	pass	

Notes:
(1) Samples are re-extractions of the original sample.
(2) ND = Not Detected
(3) NT = Not Taken

TABLE 7b

SUMMARY OF ITEX CONTINGENCY TEST RESULTS
COAL PILE TRACKS
FLUE DUST OPERABLE UNIT
ANACONDS SMELTER NPL SITE

SAMPLE ID	pH (S.U.)	MOISTURE (%)	ALKALINITY as $CaCO_3$ (mg/kg)	TCLP METALS (mg/L) Lead (mg\L)	Cadmium (mg\L)	Arsenic (mg\L)	PLANT MEASUREMENT LIME (%)	PLANT MEASUREMENT CEMENT (%)	CURE TIME (days)	UCS (psi)	STABILIZATION DATE
CPT-XIII-1-24950/24959	11 38	47 81	325,777	0.92	1.30	0.58	NA (1)	48 11	3	NR (2)	14-Sep-93
CPT-XIII-1-24950/24959 (3)	NR	NR	NR	ND (4)	ND	0.58	NA	48 11	30	NR	14-Sep-93
CPT-XIII-1-24960/24969	11 41	42 13	324,904	0 92	2 30	0.53	NA	48.11	3	NR	14-Sep-93
CPT-XIII-1-24960/24969 (3)	NR	NR	NR	ND	ND	2.89	NA	48 11	30	NR	14-Sep-93
CPT-XIII-1-24980/24981	11 43	44 77	316,678	0 15	1.30	0 63	NA	48 11	3	NR	14-Sep-93
CPT-XIII-1-24980/24981 (3)	NR	NR	NR	ND	ND	0 32	NA	48 11	30	NR	14-Sep-93

Notes
(1) NA = Not Apllicable
(2) NR = Not Required
(3) Rextraction of original sample
(4) ND = Not Detected

TABLE D-7c

SUMMARY OF ITEX CONTINGENCY TEST RESULTS
IRON PONDS
FLUE DUST OPERABLE UNIT
ANACONDA SMELTER NPL SITE

SAMPLE ID	pH (S.U.)	MOISTURE (%)	ALKALINITY as CaCO3 (mg/kg)	TCLP METALS (mg/l)			PLANT MEASUREMENT LIME (%)	PLANT MEASUREMENT CEMENT (%)	CURE TIME (days)	UCS (psi)	STABILIZATION DATE	TEST RESULT	SAMPLE STATUS
				Lead	Cadmium	Arsenic							
IP-XI-1-6720/6726	11.46	58.06	166,945	54.17	5.91	0.65	NA	23.73	3	18.39	19-Jul-93	fail	
IP-XI-1-6720/6726 (1)	NT	NT	NT	2.18	11.58	0.14	NA	23.73	22	NT	19-Jul-93	fail	
IP-XI-1-6720/6726D	11.30	59.84	155,963	42.12	22.28	0.45	NA	23.73	3	NT	19-Jul-93	fail	
IP-XI-1-6720/6726D (1)	NT	NT	NT	0 67	6.08	0.16	NA	23.73	22	NT	19-Jul-93	fail	
IP-XI-1-6720/6726D-2	NT	NT	186,784	ND	ND	0.29	NA	23.73	32	NT	19-Jul-93	pass	pass
IP-XI-1-6720/6726D-3	NT	NT	168,079	98.90	19.70	0 60	NA	23.73	32	NT	19-Jul-93	fail	
IP-XI-1-6720/6726D-1	NT	NT	189,010	ND	ND	1 34	NA	23.73	40	NT	19-Jul-93	pass	
IP-XI-1-6720/6726D-2	NT	NT	189,826	ND	ND	0 80	NA	23.73	40	NT	19-Jul-93	pass	
IP-XI-1-6741/6747	11 24	50.78	174,996	0 31	1 65	0 37	NA	23.73	3	NT	19-Jul-93	fail	
IP-XI-1-6741/6747 (1)	NT	NT	NT	1.09	6 36	0 20	NA	23.73	22	NT	19-Jul-93	fail	
IP-XI-1-6741/6747-3	NT	NT	164,726	52 60	22 30	0 66	NA	23.73	32	NT	19-Jul-93	fail	
IP-XI-1-6741/6747-5	NT	NT	140,478	66.90	20 50	0 63	NA	23 73	32	NT	19-Jul-93	fail	pass
IP-XI-1-6741/6747-1	NT	NT	159,546	ND	ND	0 49	NA	23.73	40	NT	19-Jul-93	pass	
IP-XI-1-6741/6747-3	NT	NT	139,805	ND	ND	1 03	NA	23.73	40	NT	19-Jul-93	pass	
IP-XI-1-6755/6761	11.27	56.62	176,792	19.78	20.28	1 85	NA	23.73	3	NT	19-Jul-93	fail	
IP-XI-1-6755/6761 (1)	NT	NT	NT	0 32	4 22	0 23	NA	23.73	22	NT	19-Jul-93	fail	
IP-XI-1-6755/6761-2	NT	NT	128,375	ND	ND	0.43	NA	23.73	32	NT	19-Jul-93	pass	pass
IP-XI-1-6755/6761-5	NT	NT	188,912	ND	ND	0 49	NA	23.73	32	NT	19-Jul-93	pass	
IP-XI-1-6762/6768	11.35	51 85	185,877	0 19	1 55	0 32	NA	23.73	3	NT	19-Jul-93	fail	
IP-XI-1-6762/6768 (1)	NT	NT	NT	ND	0.41	0 54	NA	23 73	22	NT	19-Jul-93	pass	pass
IP-XI-1-6769/6775	11.33	56.00	139,398	16 05	19.86	0 73	NA	23 73	3	NT	19-Jul-93	fail	
IP-XI-1-6769/6775 (1)	NT	NT	NT	4.29	13.65	0.27	NA	23.73	22	NT	19-Jul-93	fail	
IP-XI-1-6769/6775-2	NT	NT	172,607	56.10	19 10	1.45	NA	23.73	32	NT	19-Jul-93	fail	
IP-XI-1-6769/6775-4	NT	NT	166,942	64.70	19.40	1.11	NA	23.73	32	NT	19-Jul-93	fail	pass
IP-XI-1-6769/6775-1	NT	NT	189,452	ND	ND	0.96	NA	23.73	40	NT	19-Jul-93	pass	
IP-XI-1-6769/6775-2	NT	NT	176,512	ND	ND	0.69	NA	23.73	40	NT	19-Jul-93	pass	
IP-XI-1-6776/6782	11.24	54.43	161,857	25 72	21.80	0 55	NA	23.73	3	NT	19-Jul-93	fail	
IP-XI-1-6776/6782 (1)	NT	NT	NT	6 35	16.44	0.88	NA	23.73	22	NT	19-Jul-93	fail	
IP-XI-1-6776/6782-1	NT	NT	199,431	0.18	ND	0.34	NA	23.73	32	NT	19-Jul-93	pass	pass
IP-XI-1-6776/6782-4	NT	NT	142,871	ND	ND	0.35	NA	23.73	32	NT	19-Jul-93	pass	
IP-XI-1-6783/6789	11.27	53.08	182,065	1 69	13 09	0.48	NA	23 73	3	NT	19-Jul-93	fail	
IP-XI-1-6783/6789 (1)	NT	NT	NT	1.20	10.23	0 25	NA	23.73	22	NT	19-Jul-93	fail	

TABLE D-7c

SUMMARY OF ITEX CONTINGENCY TEST RESULTS
IRON PONDS
FLUE DUST OPERABLE UNIT
ANACONDA SMELTER NPL SITE

SAMPLE ID	pH (S.U.)	MOISTURE (%)	ALKALINITY as CaCO3 (mg/kg)	TCLP METALS (mg/l)			PLANT MEASUREMENT LIME (%)	PLANT MEASUREMENT CEMENT (%)	CURE TIME (days)	UCS (psi)	STABILIZATION DATE	TEST RESULT	SAMPLE STATUS
				Lead	Cadmium	Arsenic							
IP-XI-1-6783/6789-3	NT	NT	215,713	54.50	21.60	1.28	NA	23.73	32	NT	19-Jul-93	fail	
IP-XI-1-6783/6789-5	NT	NT	210,243	0.21	0 03	0 44	NA	23.73	32	NT	19-Jul-93	pass	pass
IP-XI-1-6783/6789-1	NT	NT	170,824	ND	ND	0 61	NA	23.73	40	NT	19-Jul-93	pass	
IP-XI-1-6783/6789-3	NT	NT	175,792	ND	ND	0 83	NA	23.73	40	NT	19-Jul-93	pass	
IP-XI-1-6825/6831	11.28	47 93	160,454	ND	1 21	0.83	NA	23.73	3	NT	19-Jul-93	fail	
IP-XI-1-6825/6831 (1)	NT	NT	NT	0 75	6.34	0.25	NA	23.73	22	NT	19-Jul-93	fail	
IP-XI-1-6825/6831-3	NT	NT	155,775	ND	ND	0.29	NA	23.73	32	NT	19-Jul-93	pass	pass
IP-XI-1-6825/6831-4	NT	NT	159,208	0.18	ND	0.62	NA	23.73	32	NT	19-Jul-93	pass	
IP-XI-1-6832/6838	11.25	46.61	159,631	3 17	7 08	0 60	NA	23.73	3	NT	19-Jul-93	fail	
IP-XI-1-6832/6838 (1)	NT	NT	NT	0.65	5.95	0.15	NA	23.73	22	NT	19-Jul-93	fail	
IP-XI-1-6832/6838-3	NT	NT	193,819	53 60	17.40	1 08	NA	23.73	32	NT	19-Jul-93	fail	
IP-XI-1-6832/6838-4	NT	NT	163,751	ND	ND	0.43	NA	23 73	32	NT	19-Jul-93	pass	pass
IP-XI-1-6832/6838-3	NT	NT	150,510	ND	ND	0 53	NA	23.73	40	NT	19-Jul-93	pass	
IP-XI-1-6832/6838-4	NT	NT	159,961	ND	ND	0 34	NA	23.73	40	NT	19-Jul-93	pass	
IP-XI-1-6839/6845	11.28	49.02	158,156	3.71	7.31	0.84	NA	24.91	3	NT	19-Jul-93	fail	
IP-XI-1-6839/6845 (1)	NT	NT	NT	3.39	11.55	0.15	NA	24.91	22	NT	19-Jul-93	fail	
IP-XI-1-6839/6845-1	NT	NT	145,261	ND	ND	0.28	NA	24.91	32	NT	19-Jul-93	pass	
IP-XI-1-6839/6845-2	NT	NT	155,292	51 20	14.90	2 06	NA	24.91	32	NT	19-Jul-93	fail	pass
IP-XI-1-6839/6845-2	NT	NT	192,398	ND	ND	0 85	NA	24.91	40	NT	19-Jul-93	pass	
IP-XI-1-6839/6845-3	NT	NT	202,996	ND	ND	0 54	NA	24.91	40	NT	19-Jul-93	pass	
IP-XI-1-6886/6892D	11.22	46.43	114,559	36.01	3 92	0.56	NA	25 07	3	NT	20-Jul-93	fail	
IP-XI-1-6886/6892D (1)	NT	NT	NT	1.10	6.69	0.30	NA	25.07	22	NT	20-Jul-93	fail	
IP-XI-1-6886/6892D-2	NT	NT	113,385	1 02	ND	0.54	NA	25 07	33	NT	20-Jul-93	pass	pass
IP-XI-1-6886/6892D-5	NT	NT	117,525	1 06	0.08	0 40	NA	25.07	33	NT	20-Jul-93	pass	
IP-XI-1-6893/6899	11.22	45.63	157,526	13 31	16.22	0 29	NA	25 07	3	NT	20-Jul-93	fail	
IP-XI-1-6893/6899 (1)	NT	NT	NT	0 25	0 03	1.30	NA	25.07	22	NT	20-Jul-93	pass	pass
IP-XI-1-6907/6913	11.28	44.49	168,353	9.87	14.42	0 81	NA	25 07	3	NT	20-Jul-93	fail	
IP-XI-1-6907/6913 (1)	NT	NT	NT	0.28	ND	1.69	NA	25.07	22	NT	20-Jul-93	pass	pass
IP-XI-1-6914/6920	11.26	45.69	153,989	19.42	15 56	0.40	NA	25.07	3	NT	20-Jul-93	fail	
IP-XI-1-6914/6920 (1)	NT	NT	NT	0.27	0.19	0.35	NA	25.07	22	NT	20-Jul-93	pass	pass

TABLE D - 7c

SUMMARY OF ITEX CONTINGENCY TEST RESULTS
IRON PONDS
FLUE DUST OPERABLE UNIT
ANACONDA SMELTER NPL SITE

SAMPLE ID	pH (S.U.)	MOISTURE (%)	ALKALINITY as CaCO3 (mg/kg)	TCLP METALS (mg/l)			PLANT MEASUREMENT LIME (%)	PLANT MEASUREMENT CEMENT (%)	CURE TIME (days)	UCS (psi)	STABILIZATION DATE	TEST RESULT	SAMPLE STATUS
				Lead	Cadmium	Arsenic							
IP-XI-1-6928/6934	11.36	50.66	165,528	13.59	7 37	0 42	NA	25.07	3	NT	20-Jul-93	fail	
IP-XI-1-6928/6934 (1)	NT	NT	NT	0 24	0.04	0.98	NA	25.07	22	NT	20-Jul-93	pass	pass
IP-XI-1-6942/6948	11.35	47 55	171,200	11.01	14 08	0.52	NA	25.07	3	NT	20-Jul-93	fail	
IP-XI-1-6942/6948 (1)	NT	NT	NT	0 36	ND	0.96	NA	25.07	22	NT	20-Jul-93	pass	pass
IP-XI-1-6956/6962	11 27	50.79	204,488	11 42	15 65	0 63	NA	25.07	3	NT	20-Jul-93	fail	
IP-XI-1-6956/6962 (1)	NT	NT	NT	0.22	ND	0.82	NA	25.07	22	NT	20-Jul-93	pass	pass
IP-XI-1-6970/6976	11.28	47 27	198,748	8 60	16 71	0 54	NA	25.07	3	NT	20-Jul-93	fail	
IP-XI-1-6970/6976 (1)	NT	NT	NT	0 28	ND	0.85	NA	25.07	22	NT	20-Jul-93	pass	pass
IP-XI-1-6977/6983	11.19	51.48	198,667	18.84	18 04	0 56	NA	25.07	3	NT	20-Jul-93	fail	
IP-XI-1-6977/6983 (1)	NT	NT	NT	0.25	ND	1.05	NA	25.07	22	NT	20-Jul-93	pass	pass
IP-XI-1-7537/7543	11.20	52.01	243,137	1.24	7.23	0.11	NA	29.57	3	11.31	26-Jul-93	fail	
IP-XI-1-7537/7543 (1)	NT	NT	NT	0.17	ND	1.26	NA	29.57	16	NT	26-Jul-93	pass	pass
IP-XI-1-7579/7585	11.25	43.77	214,571	0.72	4.28	0 22	NA	29.57	3	NT	26-Jul-93	fail	
IP-XI-1-7579/7585 (1)	NT	NT	NT	0 18	ND	0 47	NA	29.57	16	NT	26-Jul-93	pass	pass
IP-XI-1-13956/13962	11.62	29.92	227,926	1 13	3 74	0 06	5.12	24.88	3	NT	2-Sep-93	pass	
IP-XI-1-13956/13962 (1)	NT	NT	NT	5 93	3 64	0 28	5.12	24.88	12	NT	2-Sep-93	fail	
IP-XI-1-13956/13962-2	NT	NT	184,206	6.47	5 43	0.19	5.12	24.88	28	NT	2-Sep-93	fail	fail
IP-XI-1-13956/13962-4	NT	NT	168,640	ND	ND	0.65	5.12	24.88	28	NT	2-Sep-93	pass	
IP-XI-1-14332/14338	11.39	44.60	187,467	11.18	5.99	0.57	4 42	24 43	3	NT	3-Sep-93	fail	
IP-XI-1-14332/14338 (1)	NT	NT	NT	0.27	ND	0.53	4.42	24 43	8	NT	3-Sep-93	pass	
IP-XI-1-14332/14338D	11.44	50.24	213,593	3.31	2.90	0.37	4.42	24 43	3	NT	3-Sep-93	fail	pass
IP-XI-1-14332/14338D (1)	NT	NT	NT	0.25	ND	0.73	4.42	24 43	8	NT	3-Sep-93	pass	
IP-XI-1-14346/14352	11.87	43.77	194,337	2.14	2 79	0 14	4.42	24.43	3	NT	3-Sep-93	fail	
IP-XI-1-14346/14352 (1)	NT	NT	NT	18.34	3.19	11.20	4.42	24.43	8	NT	3-Sep-93	fail	
IP-XI-1-14346/14352-3	NT	NT	218,733	0.21	ND	0 64	4.42	24 43	25	NT	3-Sep-93	pass	pass
IP-XI-1-14346/14352-5	NT	NT	215,673	0.23	ND	0.19	4.42	24.43	25	NT	3-Sep-93	pass	
IP-XI-1-14353/14359	11.79	46.31	149,619	4.57	3.06	0.52	4.42	24 43	3	NT	3-Sep-93	fail	
IP-XI-1-14353/14359 (1)	NT	NT	NT	39.70	4.50	20.80	4.42	24.43	8	NT	3-Sep-93	fail	

TABLE D-7c

SUMMARY OF ITEX CONTINGENCY TEST RESULTS
IRON PONDS
FLUE DUST OPERABLE UNIT
ANACONDA SMELTER NPL SITE

SAMPLE ID	pH (S.U.)	MOISTURE (%)	ALKALINITY as CaCO3 (mg/kg)	TCLP METALS (mg/l)			PLANT MEASUREMENT LIME (%)	PLANT MEASUREMENT CEMENT (%)	CURE TIME (days)	UCS (psi)	STABILIZATION DATE	TEST RESULT	SAMPLE STATUS
				Lead	Cadmium	Arsenic							
IP-XI-1-14353/14359-3	NT	NT	174,583	0 31	ND	0 08	4.42	24.43	25	NT	3-Sep-93	pass	pass
IP-XI-1-14353/14359-5	NT	NT	213,222	3.12	ND	0.07	4.42	24.43	25	NT	3-Sep-93	pass	
IP-XI-1-14360/14366	11.58	45.03	180,635	3 48	2.50	0.33	4.42	24.43	3	NT	3-Sep-93	fail	
IP-XI-1-14360/14366 (1)	NT	NT	NT	0.27	0.03	0 36	4.42	24.43	8	NT	3-Sep-93	pass	pass
IP-XI-1-14367/14373	11 56	44.76	190,857	4.16	1 22	0 48	4.42	24.43	3	NT	3-Sep-93	fail	
IP-XI-1-14367/14373 (1)	NT	NT	NT	13 69	2.60	5 33	4.42	24.43	8	NT	3-Sep-93	fail	
IP-XI-1-14367/14373-1	NT	NT	241,514	ND	2 51	0 07	4.42	24.43	27	NT	3-Sep-93	fail	fail
IP-XI-1-14367/14373-3	NT	NT	192,458	0.21	ND	0 43	4.42	24.43	27	NT	3-Sep-93	pass	
IP-XI-1-14374/14380	11.51	44 57	76,958	11.46	10.51	0 78	4.42	24.43	3	NT	3-Sep-93	fail	
IP-XI-1-14374/14380 (1)	NT	NT	NT	2.79	2 50	0 22	4.42	24.43	8	NT	3-Sep-93	fail	
IP-XI-1-14374/14380-3	NT	NT	163,949	0.39	ND	0.17	4.42	24.43	25	NT	3-Sep-93	pass	pass
IP-XI-1-14374/14380-4	NT	NT	161,560	0.28	ND	0.13	4.42	24.43	25	NT	3-Sep-93	pass	
IP-XI-1-14381/14387	11.76	39.82	140,483	3.00	2.51	0.47	4.42	24.43	3	NT	3-Sep-93	fail	
IP-XI-1-14381/14387 (1)	NT	NT	NT	20.97	4 00	0 52	4.42	24.43	8	NT	3-Sep-93	fail	
IP-XI-1-14381/14387-2	NT	NT	151,298	0.25	ND	0.14	4.42	24.43	25	NT	3-Sep-93	pass	pass
IP-XI-1-14381/14387-4	NT	NT	139,923	0.26	ND	0.27	4.42	24.43	25	NT	3-Sep-93	pass	
IP-XI-1-14388/14394	11 65	40.18	115,923	14 64	3 84	1.77	4.42	24.43	3	NT	3-Sep-93	fail	
IP-XI-1-14388/14394 (1)	NT	NT	NT	1.11	2.25	0 10	4.42	24.43	8	NT	3-Sep-93	fail	
IP-XI-1-14388/14394-2	NT	NT	177,952	0 38	ND	0 06	4.42	24.43	25	NT	3-Sep-93	pass	pass
IP-XI-1-14388/14394-5	NT	NT	171,339	0.32	ND	0 06	4.42	24.43	25	NT	3-Sep-93	pass	
IP-XI-1-14395/14401	11 64	41.15	156,572	2 72	3.25	0 74	4.42	24.43	3	NT	3-Sep-93	fail	
IP-XI-1-14395/14401 (1)	NT	NT	NT	0.14	ND	0.25	4 42	24.43	9	NT	3-Sep-93	pass	pass
IP-XI-1-14402/14408	11.65	39.53	167,188	2.98	2.37	0.22	4.42	24.43	3	NT	3-Sep-93	fail	
IP-XI-1-14402/14408 (1)	NT	NT	NT	0.16	ND	0.27	4.42	24.43	9	NT	3-Sep-93	pass	pass
IP-XI-1-14409/14415	11.79	39.65	181,343	2.20	2 33	0.15	4.42	24 43	3	NT	3-Sep-93	fail	
IP-XI-1-14409/14415 (1)	NT	NT	NT	0.15	ND	0.16	4.42	24.43	9	NT	3-Sep-93	pass	pass
IP-XI-1-14416/14422	11.80	44.36	161,417	4.62	2.60	0 38	4 42	24.43	3	NT	3-Sep-93	fail	
IP-XI-1-14416/14422 (1)	NT	NT	NT	0.21	0.34	0.11	4.42	24.43	8	NT	3-Sep-93	pass	pass

TABLE D-7c

SUMMARY OF ITEX CONTINGENCY TEST RESULTS
IRON PONDS
FLUE DUST OPERABLE UNIT
ANACONDA SMELTER NPL SITE

SAMPLE ID	pH (S.U.)	MOISTURE (%)	ALKALINITY as CaCO3 (mg/kg)	TCLP METALS (mg/l)			PLANT MEASUREMENT LIME (%)	PLANT MEASUREMENT CEMENT (%)	CURE TIME (days)	UCS (psi)	STABILIZATION DATE	TEST RESULT	SAMPLE STATUS
				Lead	Cadmium	Arsenic							
IP-XI-1-14423/14429	11.36	42 90	179,911	19 00	6.40	0 36	4 42	24 43	3	NT	3-Sep-93	fail	
IP-XI-1-14423/14429 (1)	NT	NT	NT	0.10	ND	0 43	4.42	24.43	9	NT	3-Sep-93	pass	pass
IP-XI-1-14430/14436	11.43	42 24	174,923	2 23	2 38	0 21	4.42	24 43	3	NT	3-Sep-93	fail	
IP-XI-1-14430/14436 (1)	NT	NT	NT	0 24	0.49	0.20	4.42	24.43	8	NT	3-Sep-93	pass	pass
IP-XI-1-14437/14443	11.71	42.86	152,113	3 29	2.52	0 28	4.42	24.43	3	NT	3-Sep-93	fail	
IP-XI-1-14437/14443 (1)	NT	NT	NT	ND	ND	0.16	4.42	24.43	9	NT	3-Sep-93	pass	pass
IP-XI-1-14444/14450	11.84	45.53	103,498	13 31	3 28	2.11	4.42	24.43	3	NT	3-Sep-93	fail	
IP-XI-1-14444/14450 (1)	NT	NT	NT	25 90	4 10	1 66	4.42	24.43	8	NT	3-Sep-93	fail	
IP-XI-1-14444/14450-1	NT	NT	146,279	6.73	ND	0 08	4.42	24.43	25	NT	3-Sep-93	fail	fail
IP-XI-1-14444/14450-4	NT	NT	158,113	0 26	ND	0 44	4.42	24.43	25	NT	3-Sep-93	pass	
IP-XI-1-14451/14457	11.66	43 49	101,444	16 12	3 40	1.68	4 42	24.43	3	NT	3-Sep-93	fail	
IP-XI-1-14451/14457 (1)	NT	NT	NT	0.16	ND	ND	4.42	24.43	9	NT	3-Sep-93	pass	pass
IP-XI-1-14458/14464	11.70	57.49	114,447	7 01	4 80	4.79	4.42	24.43	3	NT	3-Sep-93	fail	
IP-XI-1-14458/14464 (1)	NT	NT	NT	3 97	2.37	0.15	4.42	24.43	8	NT	3-Sep-93	fail	
IP-XI-1-14458/14464-3	NT	NT	183,844	0 20	ND	0.17	4.42	24.43	25	NT	3-Sep-93	pass	pass
IP-XI-1-14458/14464-4	NT	NT	184,565	0.23	ND	0.18	4.42	24.43	25	NT	3-Sep-93	pass	
IP-XI-1-14465/14470	11.44	36.26	144,545	26.70	3 31	0 89	4 42	24 43	3	NT	3-Sep-93	fail	
IP-XI-1-14465/14470 (1)	NT	NT	NT	0 59	2.36	0.14	4.42	24.43	8	NT	3-Sep-93	fail	
IP-XI-1-14465/14470-2	NT	NT	159,730	0.81	ND	0.06	4.42	24 43	25	NT	3-Sep-93	pass	fail
IP-XI-1-14465/14470-3	NT	NT	163,768	8.47	5.90	0.12	4.42	24.43	25	NT	3-Sep-93	fail	
IP-XI-1-14471/14479	11.46	51.66	177,499	5.26	4 23	0.24	3.82	24.09	3	NT	4-Sep-93	fail	
IP-XI-1-14471/14479 (1)	NT	NT	NT	23 10	3.80	6 91	3.82	24.09	7	NT	4-Sep-93	fail	
IP-XI-1-14471/14479-2	NT	NT	169,039	ND	0 47	0 08	3.82	24.09	26	NT	4-Sep-93	pass	
IP-XI-1-14471/14479-5	NT	NT	169,656	ND	ND	0.58	3 82	24.09	26	NT	4-Sep-93	pass	fail
IP-XI-1-14471/14479D	11.40	46.95	129,376	5 22	2 64	0.52	3.82	24.09	3	NT	4-Sep-93	fail	
IP-XI-1-14471/14479D (1)	NT	NT	NT	10.09	3.20	4.93	3.82	24.09	7	NT	4-Sep-93	fail	
IP-XI-1-14480/14486	11.68	43.42	190,330	3.11	3.63	0.43	3.82	24.09	3	NT	4-Sep-93	fail	
IP-XI-1-14480/14486 (1)	NT	NT	NT	0.27	ND	0.80	3.82	24.09	7	NT	4-Sep-93	pass	pass
IP-XI-1-14487/14493	11.40	42 98	169,505	9 67	5 23	0 35	3.82	24 09	3	NT	4-Sep-93	fail	

TABLE D-7c

SUMMARY OF ITEX CONTINGENCY TEST RESULTS
IRON PONDS
FLUE DUST OPERABLE UNIT
ANACONDA SMELTER NPL SITE

SAMPLE ID	pH (S.U.)	MOISTURE (%)	ALKALINITY as CaCO3 (mg/kg)	TCLP METALS (mg/l)			PLANT MEASUREMENT LIME (%)	PLANT MEASUREMENT CEMENT (%)	CURE TIME (days)	UCS (psi)	STABILIZATION DATE	TEST RESULT	SAMPLE STATUS
				Lead	Cadmium	Arsenic							
IP-XI-1-14487/14493 (1)	NT	NT	NT	1.62	2.92	0.51	3.82	24.09	8	NT	4-Sep-93	fail	
IP-XI-1-14487/14493-1	NT	NT	137,727	NT	NT	NT	3.82	24.09	26	NT	4-Sep-93	fail	fail
IP-XI-1-14487/14493-3	NT	NT	193,047	0.25	ND	0.61	3.82	24.09	26	NT	4-Sep-93	pass	
IP-XI-1-14494/14500	11.66	41.31	169,574	10 30	5.78	0 31	3.82	24.09	3	NT	4-Sep-93	fail	
IP-XI-1-14494/14500 (1)	NT	NT	NT	34 65	5 02	9 01	3.82	24 09	7	NT	4-Sep-93	fail	
IP-XI-1-14494/14500-1	NT	NT	164,071	ND	0.03	0.17	3 82	24 09	26	NT	4-Sep-93	pass	pass
IP-XI-1-14494/14500-2	NT	NT	207,984	ND	ND	0.23	3.82	24.09	26	NT	4-Sep-93	pass	
IP-XI-1-14501/14507	11.29	39.80	148,176	8.62	4 23	0.44	3.82	24.09	3	NT	4-Sep-93	fail	
IP-XI-1-14501/14507 (1)	NT	NT	NT	2 61	2.74	0.34	3.82	24.09	8	NT	4-Sep-93	fail	
IP-XI-1-14501/14507-3	NT	NT	180,900	1 04	3 17	0.13	3 82	24.09	26	NT	4-Sep-93	fail	fail
IP-XI-1-14501/14507-4	NT	NT	151,224	0.20	1 94	0.05	3.82	24.09	26	NT	4-Sep-93	fail	
IP-XI-1-14508/14514	11.60	38 60	151,209	9 08	4 50	0.73	3 82	24.09	3	NT	4-Sep-93	fail	
IP-XI-1-14508/14514 (1)	NT	NT	NT	0.95	2.76	0.14	3.82	24.09	7	NT	4-Sep-93	fail	
IP-XI-1-14508/14514-1	NT	NT	154,699	ND	3 65	0.08	3.82	24.09	26	NT	4-Sep-93	fail	fail
IP-XI-1-14508/14514-5	NT	NT	164,721	0 31	2.87	0.15	3.82	24.09	26	NT	4-Sep-93	fail	
IP-XI-1-14515/14521	11.34	35.89	151,810	11 93	6 25	0 30	3 82	24.09	3	NT	4-Sep-93	fail	
IP-XI-1-14515/14521 (1)	NT	NT	NT	9.52	5.56	0.26	3.82	24 09	8	NT	4-Sep-93	fail	
IP-XI-1-14515/14521-3	NT	NT	212,803	ND	0 24	0.20	3.82	24.09	26	NT	4-Sep-93	pass	pass
IP-XI-1-14515/14521-5	NT	NT	222,767	ND	ND	0.47	3.82	24.09	26	NT	4-Sep-93	pass	
IP-XI-1-14522/14528	11.65	42.29	176,689	10.44	6.68	0.36	3.82	24.09	3	NT	4-Sep-93	fail	
IP-XI-1-14522/14528 (1)	NT	NT	NT	0.54	2 62	0.16	3.82	24.09	8	NT	4-Sep-93	pass	
IP-XI-1-14522/14528-1	NT	NT	272,697	ND	ND	0.34	3 82	24 09	26	NT	4-Sep-93	pass	fail
IP-XI-1-14522/14528-4	NT	NT	154,390	0.90	3.29	0.03	3.82	24.09	26	NT	4-Sep-93	fail	
IP-XI-1-14529/14535	11.57	41.29	174,155	12.03	5 56	0.31	3.82	24.09	3	NT	4-Sep-93	fail	
IP-XI-1-14529/14535 (1)	NT	NT	NT	13 86	6.10	0.70	3.82	24 09	10	NT	4-Sep-93	fail	
IP-XI-1-14529/14535-2	NT	NT	240,556	ND	ND	0.24	3.82	24.09	26	NT	4-Sep-93	pass	pass
IP-XI-1-14529/14535-4	NT	NT	184,176	0.30	ND	0.29	3 82	24.09	26	NT	4-Sep-93	pass	
IP-XI-1-14536/14542	11.52	42.71	164,595	16.64	8.18	0.40	3.82	24.09	3	NT	4-Sep-93	fail	
IP-XI-1-14536/14542 (1)	NT	NT	NT	0.16	0.20	1 53	3.82	24.09	10	NT	4-Sep-93	pass	pass
IP-XI-1-14543/14549	11.69	41.13	169,241	8.37	5.84	0.27	3 82	24.09	3	NT	4-Sep-93	fail	

TABLE D-7c

SUMMARY OF ITEX CONTINGENCY TEST RESULTS
IRON PONDS
FLUE DUST OPERABLE UNIT
ANACONDA SMELTER NPL SITE

SAMPLE ID	pH (S.U.)	MOISTURE (%)	ALKALINITY as CaCO3 (mg/kg)	TCLP METALS (mg/l)			PLANT MEASUREMENT LIME (%)	PLANT MEASUREMENT CEMENT (%)	CURE TIME (days)	UCS (psi)	STABILIZATION DATE	TEST RESULT	SAMPLE STATUS
				Lead	Cadmium	Arsenic							
IP-XI-1-14543/14549 (1)	NT	NT	NT	31.70	8.10	0.88	3.82	24.09	10	NT	4-Sep-93	fail	
IP-XI-1-14543/14549-3	NT	NT	158,157	3.02	4.55	0.10	3.82	24.09	26	NT	4-Sep-93	fail	pass
IP-XI-1-14543/14549-5	NT	NT	198,176	0.21	ND	0.19	3.82	24.09	26	NT	4-Sep-93	pass	
IP-XI-1-14550/14556	11.64	39.27	161,332	9.18	6.14	0.22	3.82	24.09	3	NT	4-Sep-93	fail	
IP-XI-1-14550/14556 (1)	NT	NT	NT	35.40	6 50	12.30	3.82	24.09	10	NT	4-Sep-93	fail	
IP-XI-1-14550/14556-2	NT	NT	158,286	4.82	ND	0 24	3.82	24.09	24	NT	4-Sep-93	pass	pass
IP-XI-1-14550/14556-4	NT	NT	146,470	0 22	ND	0.32	3.82	24 09	24	NT	4-Sep-93	pass	
IP-XI-1-14557/14562	11.43	46 34	168,353	5 73	5 67	0 33	3 82	24 09	3	NT	4-Sep-93	fail	
IP-XI-1-14557/14562 (1)	NT	NT	NT	6 44	5.10	0 55	3 82	24.09	10	NT	4-Sep-93	fail	
IP-XI-1-14557/14562-2	NT	NT	190,583	0 31	ND	0 42	3.82	24.09	24	NT	4-Sep-93	pass	pass
IP-XI-1-14557/14562-3	NT	NT	152,349	0 15	ND	0 41	3.82	24 09	24	NT	4-Sep-93	pass	
IP-XI-1-14563/14569	11.36	38.16	185,960	17.73	8.19	0 34	3.82	24 09	3	NT	4-Sep-93	fail	
IP-XI-1-14563/14569 (1)	NT	NT	NT	16.51	4 90	1.50	3.82	24.09	10	NT	4-Sep-93	fail	
IP-XI-1-14563/14569-1	NT	NT	164,071	0 20	ND	0.31	3.82	24.09	24	NT	4-Sep-93	pass	fail
IP-XI-1-14563/14569-3	NT	NT	124,614	6.73	ND	0.15	3.82	24.09	24	NT	4-Sep-93	fail	
IP-XI-1-14570/14576	11.32	41.31	137,987	13.76	6.66	0 32	3 82	24.09	3	NT	4-Sep-93	fail	
IP-XI-1-14570/14576 (1)	NT	NT	NT	16.13	5.00	2.62	3.82	24.09	10	NT	4-Sep-93	fail	
IP-XI-1-14570/14576-3	NT	NT	159,590	5 62	ND	0.07	3.82	24.09	24	NT	4-Sep-93	fail	fail
IP-XI-1-14570/14576-4	NT	NT	164,071	1 31	ND	0.10	3.82	24.09	24	NT	4-Sep-93	pass	
IP-XI-1-14577/14583	11.27	43.79	170,887	26.40	10.00	0 37	3.82	24.09	3	NT	4-Sep-93	fail	
IP-XI-1-14577/14583 (1)	NT	NT	NT	7.06	5 00	0 52	3.82	24.09	10	NT	4-Sep-93	fail	
IP-XI-1-14577/14583-1	NT	NT	235,664	0.59	2.87	0 58	3.82	24 09	26	NT	4-Sep-93	fail	pass
IP-XI-1-14577/14583-2	NT	NT	317,821	ND	ND	0.36	3.82	24.09	26	NT	4-Sep-93	pass	
IP-XI-1-14584	11.31	44.01	182,744	6.75	5.84	0.80	3.82	24 09	3	NT	4-Sep-93	fail	
IP-XI-1-14584 (1)	NT	NT	NT	20 87	5.10	5.50	3.82	24.09	10	NT	4-Sep-93	fail	
IP-XI-1-14584-1	NT	NT	211,808	ND	ND	0 38	3 82	24.09	26	NT	4-Sep-93	pass	pass
IP-XI-1-14584-3	NT	NT	198,801	ND	ND	0 09	3.82	24 09	26	NT	4-Sep-93	pass	
FULL-SCALE BEGINS SEPTEMBER 7, 1993													
IP-XI-1-14586/14592	11.70	42.21	175,453	48 38	11 40	6 42	5 34	23 70	3	NT	7-Sep-93	fail	
IP-XI-1-14586/14592 (1)	NT	NT	NT	ND	ND	0 40	5.34	23 70	16	NT	7-Sep-93	pass	

TABLE D-7c

SUMMARY OF ITEX CONTINGENCY TEST RESULTS
IRON PONDS
FLUE DUST OPERABLE UNIT
ANACONDA SMELTER NPL SITE

SAMPLE ID	pH (S.U.)	MOISTURE (%)	ALKALINITY as CaCO3 (mg/kg)	TCLP METALS (mg/l)			PLANT MEASUREMENT LIME (%)	PLANT MEASUREMENT CEMENT (%)	CURE TIME (days)	UCS (psi)	STABILIZATION DATE	TEST RESULT	SAMPLE STATUS
				Lead	Cadmium	Arsenic							
IP-XI-1-14586/14592D	11.71	44.77	186,563	51 07	12.50	1.47	5.34	23.70	3	NT	7-Sep-93	fail	pass
IP-XI-1-14586/14592D (1)	NT	NT	NT	ND	ND	0.45	5.34	23.70	16	NT	7-Sep-93	pass	
IP-XI-1-14593/14599	11.61	39.30	187,848	22.33	8.40	1.68	5.34	23.70	3	NT	7-Sep-93	fail	
IP-XI-1-14593/14599 (1)	NT	NT	NT	ND	ND	1.43	5.34	23.70	16	NT	7-Sep-93	pass	pass
IP-XI-1-14600/14606	11.72	41.81	245,386	25 94	10.50	0.68	5.34	23.70	3	NT	7-Sep-93	fail	
IP-XI-1-14600/14606 (1)	NT	NT	NT	ND	ND	0.34	5.34	23.70	16	NT	7-Sep-93	pass	pass
IP-XI-1-14607/14613	11.75	41.97	232,736	61.83	19.00	0.43	5.34	23.70	3	NT	7-Sep-93	fail	
IP-XI-1-14607/14613 (1)	NT	NT	NT	ND	ND	0.39	5.34	23.70	16	NT	7-Sep-93	pass	pass
IP-XI-1-14614/14620	11.69	43.10	196,992	66 20	18 10	0 82	5 34	23 70	3	28.29	7-Sep-93	fail	
IP-XI-1-14614/14620 (1)	NT	NT	NT	ND	ND	0.53	5.34	23.70	16	NT	7-Sep-93	pass	pass
IP-XI-1-14621/14627	11.69	39.86	197,030	43 72	16.70	0.40	5 34	23.70	3	NT	7-Sep-93	fail	
IP-XI-1-14621/14627 (1)	NT	NT	NT	ND	ND	0.52	5.34	23.70	16	NT	7-Sep-93	pass	pass
IP-XI-1-14628/14634	11.62	41.34	201,646	45.07	14.70	1.60	5.34	23.70	3	NT	7-Sep-93	fail	
IP-XI-1-14628/14634 (1)	NT	NT	NT	ND	ND	0.05	5.34	23.70	16	NT	7-Sep-93	pass	pass
IP-XI-1-14635/14641	11.74	40.31	177,209	149.90	11.30	1.73	5.34	23.70	3	NT	7-Sep-93	fail	
IP-XI-1-14635/14641 (1)	NT	NT	NT	ND	ND	0.40	5.34	23.70	16	NT	7-Sep-93	pass	pass
IP-XI-1-14642/14648	11.70	38.22	202,844	86 44	16.80	12.70	5.34	23.70	3	NT	7-Sep-93	fail	
IP-XI-1-14642/14648 (1)	NT	NT	NT	ND	ND	0.55	5.34	23.70	16	NT	7-Sep-93	pass	pass
IP-XI-1-14656/14662	11 73	45.95	204,708	42 64	15.50	0.47	5.34	23.70	3	NT	7-Sep-93	fail	
IP-XI-1-14656/14662 (1)	NT	NT	NT	ND	ND	0.50	5.34	23.70	16	NT	7-Sep-93	pass	pass
IP-XI-1-14663/14668	11.62	41.34	198,769	40.93	11 80	0.74	5 34	23.70	3	NT	7-Sep-93	fail	
IP-XI-1-14663/14668 (1)	NT	NT	NT	ND	ND	0.56	5 34	23.70	16	NT	7-Sep-93	pass	pass
IP-XI-1-14669/14676	11.80	38.40	237,252	64.04	15 09	2.86	5.34	23.70	3	NT	7-Sep-93	fail	
IP-XI-1-14669/14676 (1)	NT	NT	NT	ND	ND	0.26	5.34	23.70	16	NT	7-Sep-93	pass	pass
IP-XI-1-14677/14683	11.89	43.50	187,473	51.20	13.60	2.91	5.34	23.70	3	NT	7-Sep-93	fail	
IP-XI-1-14677/14683 (1)	NT	NT	NT	ND	ND	0.47	5.34	23.70	16	NT	7-Sep-93	pass	pass

TABLE D-7c

SUMMARY OF ITEX CONTINGENCY TEST RESULTS
IRON PONDS
FLUE DUST OPERABLE UNIT
ANACONDA SMELTER NPL SITE

SAMPLE ID	pH (S.U.)	MOISTURE (%)	ALKALINITY as CaCO3 (mg/kg)	TCLP METALS (mg/l)			PLANT MEASUREMENT LIME (%)	PLANT MEASUREMENT CEMENT (%)	CURE TIME (days)	UCS (psi)	STABILIZATION DATE	TEST RESULT	SAMPLE STATUS
				Lead	Cadmium	Arsenic							
IP-XI-1-14684/14690	11.88	42.83	222,419	30 48	11.20	1.21	5.34	23.70	3	NT	7-Sep-93	fail	
IP-XI-1-14684/14690 (1)	NT	NT	NT	ND	ND	0.36	5.34	23.70	16	NT	7-Sep-93	pass	pass
IP-XI-1-14691/14697	11.88	41.37	214,400	21 54	10 50	0.59	5.34	23.70	3	NT	7-Sep-93	fail	
IP-XI-1-14691/14697 (1)	NT	NT	NT	ND	ND	0.34	5.34	23.70	16	NT	7-Sep-93	pass	pass
IP-XI-1-14698/14704	11.79	43.07	204,872	119.90	19.90	0.58	5.34	23.70	3	NT	7-Sep-93	fail	
IP-XI-1-14698/14704 (1)	NT	NT	NT	ND	ND	0.63	5.34	23.70	16	NT	7-Sep-93	pass	pass
IP-XI-1-14705/14711	11.32	43.17	164,919	68.80	11.90	8.32	5.34	23 70	3	NT	7-Sep-93	fail	
IP-XI-1-14705/14711 (1)	NT	NT	NT	17.78	ND	0.53	5.34	23.70	10	NT	7-Sep-93	fail	fail
IP-XI-1-14712/14718	11.71	43.61	204,872	69.10	17.10	5.63	5.34	23.70	3	NT	7-Sep-93	fail	
IP-XI-1-14712/14718 (1)	NT	NT	NT	ND	ND	0.31	5.34	23.70	16	NT	7-Sep-93	pass	pass
IP-XI-1-14719/14725	11.84	42 10	193,645	47 75	16.10	0 69	5.34	23.70	3	NT	7-Sep-93	fail	
IP-XI-1-14719/14725 (1)	NT	NT	NT	ND	ND	0.66	5.34	23.70	16	NT	7-Sep-93	pass	pass
IP-XI-1-14726/14732	11.74	40.33	183,920	31.08	11.60	0.92	5.34	23 70	3	NT	7-Sep-93	fail	
IP-XI-1-14726/14732 (1)	NT	NT	NT	ND	0.06	0.32	5 34	23.70	16	NT	7-Sep-93	pass	pass
IP-XI-1-14733/14739	11.87	44 72	192,133	48.41	9.40	4.67	5.34	23.70	3	NT	7-Sep-93	fail	
IP-XI-1-14733/14739 (1)	NT	NT	NT	ND	ND	0.52	5.34	23.70	16	NT	7-Sep-93	pass	pass
IP-XI-1-14740/14748	11.43	44.30	143,000	46.60	11 80	4 09	5.34	23.70	3	NT	7-Sep-93	fail	
IP-XI-1-14740/14748 (1)	NT	NT	NT	0 17	ND	0 59	5.34	23.70	16	NT	7-Sep-93	pass	pass
IP-XI-1-14749/14755	11 95	47.02	192,797	39.35	12.30	1 76	7.15	24.77	3	NT	7-Sep-93	fail	
IP-XI-1-14749/14755 (1)	NT	NT	NT	0 17	ND	0 48	7.15	24 77	16	NT	7-Sep-93	pass	pass
IP-XI-1-14756/14762	11.98	42.29	241,822	26.65	11 00	0 47	7.15	24.77	3	NT	7-Sep-93	fail	
IP-XI-1-14756/14762 (1)	NT	NT	NT	0.32	ND	0.41	7.15	24.77	16	NT	7-Sep-93	pass	pass
IP-XI-1-14763/14769	11.97	41.40	198,630	21.19	10.70	0.38	7.15	24.77	3	NT	7-Sep-93	fail	
IP-XI-1-14763/14769 (1)	NT	NT	NT	0.17	0 03	0.34	7.15	24.77	16	NT	7-Sep-93	pass	pass
IP-XI-1-14770/14776	11.55	42.92	197,725	29.29	11.00	0 81	7.15	24.77	3	NT	7-Sep-93	fail	

TABLE D-7c

SUMMARY OF ITEX CONTINGENCY TEST RESULTS
IRON PONDS
FLUE DUST OPERABLE UNIT
ANACONDA SMELTER NPL SITE

SAMPLE ID	pH (S.U.)	MOISTURE (%)	ALKALINITY as CaCO3 (mg/kg)	TCLP METALS (mg/l)			PLANT MEASUREMENT LIME (%)	PLANT MEASUREMENT CEMENT (%)	CURE TIME (days)	UCS (psi)	STABILIZATION DATE	TEST RESULT	SAMPLE STATUS
				Lead	Cadmium	Arsenic							
IP-XI-1-14770/14776 (1)	NT	NT	NT	ND	ND	0.42	7.15	24.77	16	NT	7-Sep-93	pass	pass
IP-XI-1-14777/14783	11.96	48.57	195,083	35 06	11.60	0.43	7.15	24.77	3	NT	7-Sep-93	fail	
IP-XI-1-14777/14783 (1)	NT	NT	NT	ND	ND	0.55	7.15	24 77	16	NT	7-Sep-93	pass	pass
IP-XI-1-14784/14788	11.98	43 14	171,381	28 26	13.90	2 14	7 15	24.77	3	NT	7-Sep-93	fail	
IP-XI-1-14784/14788 (1)	NT	NT	NT	ND	0.03	0.73	7.15	24.77	16	NT	7-Sep-93	pass	pass

Notes:
(1) Samples are re-extractions of the original sample
(2) NA indicates that the additive was not used in the mix design
(3) ND = Not Detected
(4) NT = Not Tested

TABLE D-7d

SUMMARY OF ITEX CONTINGENCY TEST RESULTS
MAIN FLUE
FLUE DUST OPERABLE UNIT
ANACONDA SMELTER NPL SITE

SAMPLE ID	pH (S U)	MOISTURE (%)	ALKALINITY as CaCO3 (mg/kg)	TCLP METALS (mg/l)			PLANT MEASUREMENT LIME (%)	PLANT MEASUREMENT CEMENT (%)	CURE TIME (days)	UCS (psi)	STABILIZATION DATE	TEST RESULT	SAMPLE STATUS
				Lead	Cadmium	Arsenic							
MF-XIII-1-18730/18739	11 45	51 97	290,694	ND	ND	5 65	10.13	48 16	3	NT	29-Jul-93	fail	
MF-XIII-1-18730/18739 (1)	NT	NT	NT	0 18	ND	0 54	10.13	48.16	13	NT	29-Jul-93	pass	pass
MF-XIII-1-18931/18940	11.69	50.79	282,283	0 27	0.05	8.60	9 04	44.16	3	NT	30-Jul-93	fail	
MF-XIII-1-18931/18940 (1)	NT	NT	NT	ND	ND	0.31	9.04	44.16	12	NT	30-Jul-93	pass	pass
MF-XIII-1-18951/18960	11.70	45 64	288,837	0.21	0.06	8.33	9.04	44.16	3	NT	30-Jul-93	fail	
MF-XIII-1-18951/18960 (1)	NT	NT	NT	ND	ND	0.35	9.04	44.16	12	NT	30-Jul-93	pass	pass
MF-XIII-1-18971/18980	11.80	49.48	285,335	0.28	ND	6.06	10.78	45.06	3	26.88	31-Jul-93	fail	
MF-XIII-1-18971/18980 (1)	NT	NT	NT	ND	ND	0.27	10.78	45.06	20	NT	31-Jul-93	pass	pass
MF-XIII-1-19169/19178	11 49	48 65	324,917	0 19	0 04	9 83	11 49	50 35	3	53.75	1-Aug-93	fail	
MF-XIII-1-19169/19178 (1)	NT	NT	NT	0 22	ND	0 45	11.49	50.35	13	NT	1-Aug-93	pass	pass

Notes:
(1) Samples are re-extractions of the original sample
(2) ND = Not Detected
(3) NT = Not Tested

TABLE 7a

SUMMARY OF ITEX CONTINGENCY TEST RESULTS
MAIN FLUE
FLUE DUST OPERABLE UNIT
ANACONDA SMELTER NPL SITE

SAMPLE ID	pH (SU)	MOISTURE (%)	ALKALINITY as CaCO3 (mg/kg)	TCLP METALS (mg/L) Lead (mg/L)	Cadmium (mg/L)	Arsenic (mg/L)	MEASUREMENT LIME (%)	MEASUREMENT CEMENT (%)	CURE TIME (days)	UCS (psi)	STABILIZATION DATE
MF-XIII-1-31355/31364D	11 72	30 02	205,000	0.18	1 51	4.01	9 33	36 84	3	NR (1)	1-Nov-93
MF-XIII-31355/31364D*	NR	NR	NR	0.17	1.83	3.00	9 33	36.84	15	NR	1-Nov-93
MF-XIII-1-31355/31364-3	NR	NR	270,378	0.17	13.6	0 09	9 33	36 84	58	NR	2-Nov-93
MF-XIII-1-31355/31364-5	NR	NR	324,111	0 16	17	0 08	9 33	36 84	58	NR	3-Nov-93
MF-XIV-1-15326/15335	11 73	49 86	256,000	ND (2)	ND	15 8	12 97	40 40	3	NR	29-Oct-93
MF-XIV-1-15326/15335*	NR	NR	NR	ND	0 03	38.8	12 97	40 40	11	NR	29-Oct-93
MF-XIV-1-15326/1533-2	NR	NR	342942	ND	ND	4.54	12 97	40 40	61	NR	29-Oct-93
MF-XIV-1-15326/1533-5	NR	NR	274354	ND	ND	13 2	12 97	40 40	61	NR	29-Oct-93

Notes.
* Reextraction of original sample
(1) NR = Not Required
(2) ND = Not Detected

TABLE 7e

SUMMARY OF ITEX CONTINGENCY TEST RESULTS
FLUE DUST STORAGE
FLUE DUST OPERABLE UNIT
ANACONDA SMELTER NPLS SITE

SAMPLE ID	pH (SU)	MOISTURE (%)	ALKALINITY as CaCO3 (mg/kg)	TCLP METALS (mg/L) Lead (mg/L)	Cadmium (mg/L)	Arsenic (mg/L)	MEASUREMENT LIME (%)	MEASUREMENT CEMENT (%)	UCS (psi)	CURE TIME (days)	STABILIZATION DATE
FDS-XIV-1-1/10	11 85	52 32	155,307	0 29	2.73	0 09	6 50	23 38	14 14	3	8-Sep-93
FDS-XIV-1-1/10*	NR (1)	NR	NR	0 18	11 4	0 84	6 50	23 38	NR	15	8-Sep-93
FDS-XIV-1-1/10-2	NR	NR	165,680	ND (2)	0 11	0.36	6.50	23 38	NR	72	8-Sep-93
FDS-XIV-1-1/10-4	NR	NR	166,667	ND	ND	0 75	6 50	23 38	NR	72	8-Sep-93
FDS-XIV-1-1/10D	11 76	47 66	163,459	0 38	6 43	0.10	6 50	23 38	NR	3	8-Sep-93
FDS-XIV-1-1/10D*	NR	NR	NR	ND	0 3	0 42	6 50	23 38	NR	15	8-Sep-93
FDS-XIV-1-11/20	11 72	49 68	194,978	2 50	16 10	8 76	6 50	23 38	NR	3	8-Sep-93
FDS-XIV-1-11/20*	NR	NR	NR	ND	3 69	1 87	6 50	23 38	NR	15	8-Sep-93
FDS-XIV-1-11/20-1	NR	NR	164,032	0 11	1 01	1 6	6 50	23 38	NR	72	8-Sep-93
FDS-XIV-1-11/20-3	NR	NR	175,000	ND	0.2	0 78	6 50	23 38	NR	72	8-Sep-93
FDS-XIV-1-42/51	11 78	50 76	184,527	0 32	1 98	0 46	6 50	23 38	NR	3	8-Sep-93
FDS-XIV-1-42/51*	NR	NR	NR	ND	ND	3.22	6 50	23 38	NR	15	8-Sep-93
FDS-XIV-1-93/96	11 71	52 32	179,278	0 40	3.65	0 06	6 50	23 38	NR	3	8-Sep-93
FDS-XIV-1-93/96*	NR	NR	NR	ND	ND	0.2	6 50	23 38	NR	15	8-Sep-93
FDS-XIV-1-396/405	11 03	52 55	192,664	0 99	15 38	1 11	5 87	25 69	NR	3	10-Sep-93
FDS-XIV-1-396/405*	NR	NR	NR	ND	1 99	0 06	5 87	25 69	NR	24	10-Sep-93
FDS-XIV-1-396/405-2	NR	NR	178,643	0 13	ND	0 25	5 87	25 69	NR	70	10-Sep-93
FDS-XIV-1-396/405-4	NR	NR	184,158	ND	ND	0 3	5 87	25 69	NR	70	10-Sep-93
FDS-XIV-1-396/405D	11.06	47 36	178,133	0 49	11 68	0 11	5 87	25 69	NR	3	10-Sep-93
FDS-XIV-1-396/405D*	NR	NR	NR	0 45	4 82	0 11	5 87	25 69	NR	24	10-Sep-93
FDS-XIV-1-406/415	11 07	51 36	201,114	0 87	14 99	0 06	5 87	25 69	NR	3	10-Sep-93
FDS-XIV-1-406/415*	NR	NR	NR	ND	0 05	0 21	5 87	25 69	NR	24	10-Sep-93
FDS-XIV-1-416/425	11 18	52 79	200,433	1 19	15.58	0 23	5.87	25 69	NR	3	10-Sep-93
FDS-XIV-1-416/425*	NR	NR	NR	ND	0 04	0 14	5 87	25 69	NR	24	10-Sep-93
FDS-XIV-1-426/435	11 52	50 95	224,205	0 47	12 09	0 05	5 87	25 69	NR	3	10-Sep-93
FDS-XIV-1-426/435*	NR	NR	NR	ND	0 04	0 23	5 87	25 69	NR	24	10-Sep-93
FDS-XIV-1-436/445	11 17	47.65	211,716	0 77	15 10	0 12	5 87	25 69	NR	3	10-Sep-93
FDS-XIV-1-436/445*	NR	NR	NR	ND	0 04	0 21	5 87	25 69	NR	24	10-Sep-93
FDS-XIV-1-446/456	11 05	49 30	193,348	0 73	13 32	0 11	5 87	25 69	NR	3	10-Sep-93
FDS-XIV-1-446/456*	NR	NR	NR	ND	0 04	0 33	5 87	25 69	NR	24	10-Sep-93
FDS-XIV-1-457/466	11 23	50 17	192,555	0 28	9 75	0 04	5 87	25 69	NR	3	10-Sep-93
FDS-XIV-1-457/466*	NR	NR	NR	ND	0 04	0 24	5 87	25 69	NR	24	10-Sep-93

TABLE _ - 7e

SUMMARY OF ITEX CONTINGENCY TEST RESULTS
FLUE DUST STORAGE
FLUE DUST OPERABLE UNIT
ANACONDA SMELTER NPLS SITE

SAMPLE ID	pH (SU)	MOISTURE (%)	ALKALINITY as CaCO3 (mg/kg)	TCLP METALS (mg/L) Lead (mg/L)	Cadmium (mg/L)	Arsenic (mg/L)	MEASUREMENT LIME (%)	MEASUREMENT CEMENT (%)	UCS (psi)	CURE TIME (days)	STABILIZATION DATE
FDS-XIV-1-467/476	11 14	48 31	196,801	0 92	16 25	0 07	5 87	25 69	NR	3	10-Sep-93
FDS-XIV-1-467/476*	NR	NR	NR	ND	0 04	0.2	5 87	25 69	NR	24	10-Sep-93
FDS-XIV-1-477/486	11 15	52 16	228,982	0 50	13 92	0 10	5 87	25 69	NR	3	10-Sep-93
FDS-XIV-1-477/486*	NR	NR	NR	ND	0 04	0 21	5 87	25 69	NR	24	10-Sep-93
FDS-XIV-1-487/496	11 16	48 63	196,111	0 82	16 79	0.11	5 87	25 69	NR	3	10-Sep-93
FDS-XIV-1-487/496*	NR	NR	NR	ND	0.04	0 23	5 87	25 69	NR	24	10-Sep-93
FDS-XIV-1-507/516	11 20	49.18	214,733	ND	5 22	0.07	5 87	25.69	NR	3	10-Sep-93
FDS-XIV-1-507/516*	NR	NR	NR	ND	0.04	0.2	5 87	25 69	NR	24	10-Sep-93
FDS-XIV-1-517/526	11 43	49 33	194,105	0 38	13 94	0 08	5 87	25 69	NR	3	10-Sep-93
FDS-XIV-1-517/526*	NR	NR	NR	ND	0 04	0 19	5 87	25 69	NR	24	10-Sep-93
FDS-XIV-1-527/536	11 47	51 09	213,020	0 27	1 08	0 04	5 87	25 69	NR	3	10-Sep-93
FDS-XIV-1-527/536*	NR	NR	NR	ND	0 04	0 24	5 87	25 69	NR	24	10-Sep-93
FDS-XIV-1-547/556	11 45	50 28	201,824	0 24	5 02	0 62	5 87	25 69	NR	3	10-Sep-93
FDS-XIV-1-547/556*	NR	NR	NR	0 63	0 03	0 39	5 87	25 69	NR	31	10-Sep-93
FDS-XIV-1-557/566	11 19	54 08	195,971	0 25	3 74	0 15	5 87	25 69	NR	3	10-Sep-93
FDS-XIV-1-557/566*	NR	NR	NR	0 78	ND	0 32	5 87	25 69	NR	31	10-Sep-93
FDS-XIV-1-577/586-2	NR	NR	180,279	ND	1 71	1.63	5 87	25 69	NR	70	10-Sep-93
FDS-XIV-1-577/586-3	NR	NR	199,000	ND	0 8	0 87	5 87	25 69	NR	70	10-Sep-93
FDS-XIV-1-587/594	11 09	51 17	168,836	0 73	10 19	0 77	5 87	25 69	NR	3	10-Sep-93
FDS-XIV-1-587/594*	NR	NR	NR	0 63	ND	0 46	5 87	25 69	NR	31	10-Sep-93
FDS-XIV-1-595/604	11 08	49 92	182,753	0 42	4 25	2 45	5 87	25 69	NR	3	10-Sep-93
FDS-XIV-1-595/604*	NR	NR	NR	0 22	ND	2 6	5 87	25 69	NR	31	10-Sep-93
FDS-XIV-1-605/614-2	NR	NR	182,087	ND	ND	33 9	5 87	25 69	NR	70	10-Sep-93
FDS-XIV-1-605/614-3	NR	NR	176,529	0 11	ND	40 1	5 87	25 69	NR	70	10-Sep-93
FDS-XIV-1-615/624-3	NR	NR	169,000	ND	0 61	139	5 87	25 69	NR	70	10-Sep-93
FDS-XIV-1-615/624-4	NR	NR	160,040	0 16	0 53	169	5 87	25 69	NR	70	10-Sep-93
FDS-XIV-1-625/634-3	NR	NR	170,923	0 11	0 51	167	5 87	25 69	NR	70	10-Sep-93
FDS-XIV-1-625/634-4	NR	NR	142,012	ND	0 27	92 1	5 87	25 69	NR	70	10-Sep-93
FDS-XIV-1-635/644	11 30	53 01	197,331	1 12	11 80	70 90	4 75	27 06	NR	3	11-Sep-93

TABLE 7a

SUMMARY OF ITEX CONTINGENCY TEST RESULTS
FLUE DUST STORAGE
FLUE DUST OPERABLE UNIT
ANACONDA SMELTER NPLS SITE

SAMPLE ID	pH (SU)	MOISTURE (%)	ALKALINITY as CaCO3 (mg/kg)	TCLP METALS (mg/L) Lead (mg/L)	Cadmium (mg/L)	Arsenic (mg/L)	MEASUREMENT LIME (%)	MEASUREMENT CEMENT (%)	UCS (psi)	CURE TIME (days)	STABILIZATION DATE
FDS-XIV-1-635/644*	NR	NR	NR	0 18	ND	2 93	4 75	27 06	NR	30	11-Sep-93
FDS-XIV-1-635/644-2	NR	NR	158,416	ND	0 3	179	4 75	27 06	NR	69	11-Sep-93
FDS-XIV-1-635/644-5	NR	NR	165,339	ND	0 79	164	4 75	27 06	NR	69	11-Sep-93
FDS-XIV-1-635/644D	11 14	52 58	173,224	0 88	10 45	60 10	4 75	27 06	NR	3	11-Sep-93
FDS-XIV-1-635/644D*	NR	NR	NR	0 2	0.08	21 1	4 75	27 06	NR	30	11-Sep-93
FDS-XIV-1-645/654	11 63	47 05	188,358	1 01	14 45	18 30	4 75	27 06	16 97	3	11-Sep-93
FDS-XIV-1-645/654*	NR	NR	NR	0 31	ND	0.91	4 75	27 06	NR	28	11-Sep-93
FDS-XIV-1-655/664	11 23	43 47	194,809	1 17	9 25	343 00	4 75	27 06	NR	3	11-Sep-93
FDS-XIV-1-655/664*	NR	NR	NR	0 34	ND	34 4	4 75	27 06	NR	28	11-Sep-93
FDS-XIV-1-655/664-2	NR	NR	191,700	0 45	ND	0 65	4 75	27 06	NR	70	11-Sep-93
FDS-XIV-1-655/664-5	NR	NR	274,704	ND	ND	0 58	4 75	27 06	NR	69	11-Sep-93
FDS-XIV-1-665/674	11 15	45 60	147,270	1 29	10 80	198 00	4 75	27 06	NR	3	11-Sep-93
FDS-XIV-1-665/674*	NR	NR	NR	0 32	0 04	7 39	4 75	27 06	NR	28	11-Sep-93
FDS-XIV-1-665/674-3	NR	NR	185,039	ND	0 14	39 8	4 75	27 06	NR	69	11-Sep-93
FDS-XIV-1-665/674-4	NR	NR	151,485	ND	0 92	55 8	4 75	27 06	NR	69	11-Sep-93
FDS-XIV-1-675/683	11 73	45 22	208,986	0 92	10 90	10 70	4 75	27 06	NR	3	11-Sep-93
FDS-XIV-1-675/683*	NR	NR	NR	0 33	ND	1 37	4 75	27 06	NR	28	11-Sep-93
FDS-XIV-1-684/693	11 59	46 30	159,492	0 87	10 50	43 70	4 75	27 06	NR	3	11-Sep-93
FDS-XIV-1-684/693*	NR	NR	NR	0 37	ND	1 51	4 75	27 06	NR	28	11-Sep-93
FDS-XIV-1-694/703	11 64	45 34	204,499	2 94	22 70	0 79	4 75	27 06	NR	3	11-Sep-93
FDS-XIV-1-694/703*	NR	NR	NR	0 4	0 03	1 32	4 75	27 06	NR	28	11-Sep-93
FDS-XIV-1-704/713	11 70	47 20	227,244	0 70	9 20	26 10	4 75	27 06	NR	3	11-Sep-93
FDS-XIV-1-704/713*	NR	NR	NR	0 38	0 04	1 61	4 75	27 06	NR	28	11-Sep-93
FDS-XIV-1-714/723	11 45	47 60	184,169	0 80	8 10	66 80	4 75	27 06	NR	3	11-Sep-93
FDS-XIV-1-714/723*	NR	NR	NR	0 31	0 03	5 22	4 75	27 06	NR	28	11-Sep-93
FDS-XIV-1-714/723-4	NR	NR	303,748	ND	ND	2.53	4.75	27 06	NR	69	11-Sep-93
FDS-XIV-1-714/723-5	NR	NR	224,551	ND	ND	2 5	4 75	27 06	NR	69	11-Sep-93
FDS-XIV-1-724/733	11 47	51 92	140,226	0 62	9 80	35 50	4 75	27 06	NR	3	11-Sep-93
FDS-XIV-1-724/733*	NR	NR	NR	0 39	0 08	2 53	4 75	27 06	NR	28	11-Sep-93
FDS-XIV-1-734/743	10 67	46 97	160,265	0 74	9 70	108 00	4 75	27 06	NR	3	11-Sep-93
FDS-XIV-1-734/743*	NR	NR	NR	ND	4 6	29 8	4 75	27 06	NR	28	11-Sep-93
FDS-XIV-1-734/743-4	NR	NR	188,492	ND	4 4	17 1	4 75	27 06	NR	69	11-Sep-93
FDS-XIV-1-734/743-5	NR	NR	188,976	ND	ND	4 2	4 75	27 06	NR	69	11-Sep-93

TABLE 7c

SUMMARY OF ITEX CONTINGENCY TEST RESULTS
FLUE DUST STORAGE
FLUE DUST OPERABLE UNIT
ANACONDA SMELTER NPLS SITE

SAMPLE ID	pH (SU)	MOISTURE (%)	ALKALINITY as CaCO3 (mg/kg)	TCLP METALS (mg/L) Lead (mg/L)	Cadmium (mg/L)	Arsenic (mg/L)	MEASUREMENT LIME (%)	MEASUREMENT CEMENT (%)	UCS (psi)	CURE TIME (days)	STABILIZATION DATE
FDS-XIV-1-744/753	11 50	44 88	182,118	0 79	9 80	62 20	4 75	27 06	NR	3	11-Sep-93
FDS-XIV-1-744/753*	NR	NR	NR	ND	ND	1 95	4 75	27 06	NR	28	11-Sep-93
FDS-XIV-1-754/763	11 29	48 53	188,925	1 06	14 80	2 15	4 75	27 06	NR	3	11-Sep-93
FDS-XIV-1-754/763*	NR	NR	NR	ND	ND	0 51	4 75	27 06	NR	28	11-Sep-93
FDS-XIV-1-764/773	11 15	48 79	171,550	0 64	17 00	0 12	4 75	27 06	NR	3	11-Sep-93
FDS-XIV-1-764/773*	NR	NR	NR	ND	ND	0.37	4 75	27 06	NR	28	11-Sep-93
FDS-XIV-1-774/783	11 15	49 15	186,801	1 40	16 20	1 09	4 75	27 06	NR	3	11-Sep-93
FDS-XIV-1-774/783*	NR	NR	NR	ND	ND	0 45	4 75	27 06	NR	28	11-Sep-93
FDS-XIV-1-784/793	11 20	53 12	180,654	1 78	17 30	2 02	4 75	27 06	NR	3	11-Sep-93
FDS-XIV-1-784/793*	NR	NR	NR	ND	ND	0 49	4 75	27.06	NR	28	11-Sep-93
FDS-XIV-1-794/803	11 16	46 61	179,713	0 74	10 90	20.00	4 75	27 06	NR	3	11-Sep-93
FDS-XIV-1-794/803*	NR	NR	NR	ND	ND	0 18	4 75	27 06	NR	28	11-Sep-93
FDS-XIV-1-804/813	11 34	54 11	217,506	1.94	17 80	0 99	4 75	27 06	NR	3	11-Sep-93
FDS-XIV-1-804/813*	NR	NR	NR	ND	0 03	0 39	4 75	27 06	NR	28	11-Sep-93
FDS-XIV-1-814/823	11 57	43 53	177,361	0 84	16 00	1 56	4 75	27 06	NR	3	11-Sep-93
FDS-XIV-1-814/823*	NR	NR	NR	ND	0 03	0.53	4 75	27 06	NR	28	11-Sep-93
FDS-XIV-1-824/828	11 43	51 64	189,766	1 49	18 00	0 72	4 75	27 06	NR	3	11-Sep-93
FDS-XIV-1-824/828*	NR	NR	NR	ND	0 13	0.15	4 75	27 06	NR	28	11-Sep-93
FDS-XIV-1-829/838	11 45	50 06	166,734	0 28	11.60	0 45	4 66	26 92	42 44	3	12-Sep-93
FDS-XIV-1-829/838*	NR	NR	NR	0 3	ND	0 24	4 66	26 92	NR	27	12-Sep-93
FDS-XIV-1-829/838D	10 76	51 36	195,580	0 55	14 00	0 51	4 66	26 92	NR	3	12-Sep-93
FDS-XIV-1-829/838D*	NR	NR	NR	0 48	ND	0.41	4 66	26 92	NR	27	12-Sep-93
FDS-XIV-1-849/858	10 57	47 11	163,150	1 61	1 11	614 00	4 66	26 92	NR	3	12-Sep-93
FDS-XIV-1-849/858*	NR	NR	NR	0 28	1.65	438	4 66	26 92	NR	27	12-Sep-93
FDS-XIV-1-849/858-1	NR	NR	215,551	ND	ND	423	4 66	26 92	NR	68	12-Sep-93
FDS-XIV-1-849/858-4	NR	NR	172,584	0 17	0 1	508	4 66	26 92	NR	68	12-Sep-93
FDS-XIV-1-859/868	10 26	50 86	155,345	1 87	0 65	877 00	4 66	26 92	NR	3	12-Sep-93
FDS-XIV-1-859/868*	NR	NR	NR	0 23	0.08	499	4 66	26 92	NR	27	12-Sep-93
FDS-XIV-1-859/868-1	NR	NR	191,617	ND	ND	108	4 66	26 92	NR	68	12-Sep-93
FDS-XIV-1-859/868-4	NR	NR	199,405	ND	0 03	95 3	4 66	26 92	NR	68	12-Sep-93

TABLE 7c

SUMMARY OF ITEX CONTINGENCY TEST RESULTS
FLUE DUST STORAGE
FLUE DUST OPERABLE UNIT
ANACONDA SMELTER NPLS SITE

SAMPLE ID	pH (SU)	MOISTURE (%)	ALKALINITY as CaCO3 (mg/kg)	TCLP METALS (mg/L) Lead (mg/L)	Cadmium (mg/L)	Arsenic (mg/L)	MEASUREMENT LIME (%)	MEASUREMENT CEMENT (%)	UCS (psi)	CURE TIME (days)	STABILIZATION DATE
FDS-XIV-1-869/879	10 24	47 36	160,105	0 60	1 01	375 00	4 66	26 92	NR	3	12-Sep-93
FDS-XIV-1-869/879*	NR	NR	NR	0 35	ND	35 8	4 66	26 92	NR	27	12-Sep-93
FDS-XIV-1-869/879-3	NR	NR	213,018	ND	ND	2 97	4 66	26 92	NR	68	12-Sep-93
FDS-XIV-1-869/879-5	NR	NR	202,170	ND	0.11	93 1	4 66	26 92	NR	68	12-Sep-93
FDS-XIV-1-880/889	11 56	50 32	204,421	0 29	5 61	108 00	4 66	26 92	NR	3	12-Sep-93
FDS-XIV-1-880/889*	NR	NR	NR	ND	ND	3 96	4 66	26 92	NR	27	12-Sep-93
FDS-XIV-1-890/899	10 45	49 87	159,471	0 79	3 90	451 00	4 66	26 92	NR	3	12-Sep-93
FDS-XIV-1-890/899*	NR	NR	NR	ND	0 54	219	4 66	26 92	NR	27	12-Sep-93
FDS-XIV-1-890/899-3	NR	NR	193,227	ND	0 38	2 57	4 66	26 92	NR	68	12-Sep-93
FDS-XIV-1-890/899-4	NR	NR	203,340	ND	0 75	2 08	4 66	26 92	NR	68	12-Sep-93
FDS-XIV-1-900/909	10 29	53 64	126,427	1 04	0 60	586 00	4 66	26 92	NR	3	12-Sep-93
FDS-XIV-1-900/909*	NR	NR	NR	ND	0 23	320	4 66	26.92	NR	27	12-Sep-93
FDS-XIV-1-900/909-2	NR	NR	210,216	ND	ND	0 46	4 66	26 92	NR	68	12-Sep-93
FDS-XIV-1-900/909-4	NR	NR	179,563	ND	1.6	1.33	4 66	26 92	NR	68	12-Sep-93
FDS-XIV-1-920/929	11 46	50 64	235,350	ND	0 11	12 20	4 66	26 92	NR	3	12-Sep-93
FDS-XIV-1-920/929*	NR	NR	NR	ND	ND	1 5	4 66	26 92	NR	27	12-Sep-93
FDS-XIV-1-930/940	11 19	51 56	215,609	ND	0 08	14 10	4 66	26 92	NR	3	12-Sep-93
FDS-XIV-1-930/940*	NR	NR	NR	ND	ND	4 16	4 66	26 92	NR	27	12-Sep-93
FDS-XIV-1-941/950	11 17	47.62	279,625	ND	1.56	33 60	4 66	26 92	NR	3	12-Sep-93
FDS-XIV-1-941/950*	NR	NR	NR	ND	ND	4 08	4 66	26 92	NR	27	12-Sep-93
FDS-XIV-1-951/960	11 54	52.50	215,787	ND	2 31	73 90	4 66	26 92	NR	3	12-Sep-93
FDS-XIV-1-951/960*	NR	NR	NR	ND	ND	6 77	4 66	26 92	NR	27	12-Sep-93
FDS-XIV-1-951/960-1	NR	NR	217,131	0 41	3	90 4	4 66	26 92	NR	70	12-Sep-93
FDS-XIV-1-951/960-4	NR	NR	192,308	0 27	3 9	58.9	4 66	26 92	NR	70	12-Sep-93
FDS-XIV-1-961/970	11 62	49 03	192,982	0 23	2 92	193 00	4 66	26 92	NR	3	12-Sep-93
FDS-XIV-1-961/970*	NR	NR	NR	ND	ND	63 7	4 66	26 92	NR	27	12-Sep-93
FDS-XIV-1-961/970-3	NR	NR	202,381	0 32	3 7	77 9	4 66	26 92	NR	70	12-Sep-93
FDS-XIV-1-961/970-5	NR	NR	215,569	ND	ND	5 77	4 66	26 92	NR	70	12-Sep-93
FDS-XIV-1-971/980	11 46	44 35	178,780	0 50	1 70	4 93	4 66	26 92	NR	3	12-Sep-93
FDS-XIV-1-971/980*	NR	NR	NR	ND	ND	2 49	4 66	26 92	NR	27	12-Sep-93
FDS-XIV-1-981/986	11 52	46 16	161,535	0 38	7 88	0 37	4 66	26 92	NR	3	12-Sep-93
FDS-XIV-1-981/986*	NR	NR	NR	ND	ND	1 14	4 66	26 92	NR	27	12-Sep-93
FDS XIV-1-987/996	11 52	50 05	176,800	ND	3 01	64 30	4 51	26 46	NR	3	13-Sep-93

TABLE -7e

SUMMARY OF ITEX CONTINGENCY TEST RESULTS
FLUE DUST STORAGE
FLUE DUST OPERABLE UNIT
ANACONDA SMELTER NPLS SITE

SAMPLE ID	pH (SU)	MOISTURE (%)	ALKALINITY as CaCO3 (mg/kg)	TCLP METALS (mg/L) Lead (mg/L)	Cadmium (mg/L)	Arsenic (mg/L)	MEASUREMENT LIME (%)	MEASUREMENT CEMENT (%)	UCS (psi)	CURE TIME (days)	STABILIZATION DATE
FDS-XIV-1-987/996*	NR	NR	NR	ND	0 04	27.4	4 51	26 46	NR	29	13-Sep-93
FDS-XIV-1-987/996-3	NR	NR	148,406	ND	2 03	7 49	4 51	26 46	NR	67	13-Sep-93
FDS-XIV-1-987/996-4	NR	NR	181,637	0 11	ND	0 67	4 51	26 46	NR	67	13-Sep-93
FDS-XIV-1-987/996D	11 16	52 89	156,700	0 25	13 55	0 05	4 51	26 46	NR	3	13-Sep-93
FDS-XIV-1-987/996D*	NR	NR	NR	ND	0 03	0 17	4 51	26 46	NR	29	13-Sep-93
FDS-XIV-1-997/1006	11 65	47 24	165,054	ND	1 90	0 28	4 51	26 46	NR	3	13-Sep-93
FDS-XIV-1-997/1006*	NR	NR	NR	ND	6 48	0 66	4 51	26 46	NR	29	13-Sep-93
FDS-XIV-1-997/1006-1	NR	NR	187,873	ND	ND	0 63	4 51	26 46	NR	67	13-Sep-93
FDS-XIV-1-997/1006-4	NR	NR	174,303	0 11	3 3	2 43	4 51	26 46	NR	67	13-Sep-93
FDS-XIV-1-1007/1016	11 54	49 20	156,082	0 47	12 30	0 10	4 51	26 46	NR	3	13-Sep-93
FDS-XIV-1-1007/1016*	NR	NR	NR	0 41	2 3	0 23	4 51	26 46	NR	29	13-Sep-93
FDS-XIV-1-1007/1016-2	NR	NR	162,402	ND	0 13	0 88	4 51	26 46	NR	67	13-Sep-93
FDS-XIV-1-1007/1016-4	NR	NR	181,818	ND	0 23	5 92	4 51	26 46	NR	67	13-Sep-93
FDS-XIV-1-1017/1026	11 50	45 12	168,897	0.15	12 40	0 26	4 51	26 46	NR	3	13-Sep-93
FDS-XIV-1-1017/1026*	NR	NR	NR	0 39	0 24	0 66	4 51	26 46	NR	29	13-Sep-93
FDS-XIV-1-1037/1046	11 50	48 47	160,464	0 18	17 20	0 05	4 51	26 46	NR	3	13-Sep-93
FDS-XIV-1-1037/1046*	NR	NR	NR	0 53	5 82	0 13	4 51	26 46	NR	29	13-Sep-93
FDS-XIV-1-1037/1046-2	NR	NR	200,990	ND	7 4	0 8	4 51	26 46	NR	67	13-Sep-93
FDS-XIV-1-1037/1046-3	NR	NR	164,370	ND	ND	0 67	4 51	26 46	NR	67	13-Sep-93
FDS-XIV-1-1047/1056	10 96	52 47	165,075	0 28	5 30	0 18	4 51	26 46	NR	3	13-Sep-93
FDS-XIV-1-1047/1056*	NR	NR	NR	0 53	0 43	0 06	4 51	26 46	NR	29	13-Sep-93
FDS-XIV-1-1057/1066	11 44	50 95	137,727	0 25	7 4	0 45	4 51	26 46	NR	3	13-Sep-93
FDS-XIV-1-1057/1066-1	NR	NR	214,712	ND	ND	3 51	4 51	26 46	NR	80	13-Sep-93
FDS-XIV-1-1057/1066-3	NR	NR	273,715	ND	0 03	1 44	4 51	26 46	NR	80	13-Sep-93
FDS-XIV-1-1067/1076	11 42	51 56	167,473	ND	12 70	0 09	4 51	26 46	NR	3	13-Sep-93
FDS-XIV-1-1067/1076*	NR	NR	NR	0 53	ND	0.08	4 51	26 46	NR	29	13-Sep-93
FDS-XIV-1-1077/1086	11 40	48 42	159,850	0 36	11 20	0 03	4 51	26 46	NR	3	13-Sep-93
FDS-XIV-1-1077/1086*	NR	NR	NR	0 55	0 04	0 03	4 51	26 46	NR	29	13-Sep-93
FDS-XIV-1-1087/1096	11 49	46 51	172,930	0 52	13 90	0 06	4 51	26 46	NR	3	13-Sep-93
FDS-XIV-1-1087/1096*	NR	NR	NR	0 49	1 25	1 14	4 51	26 46	NR	29	13-Sep-93
FDS-XIV-1-1087/1096-4	NR	NR	144,841	0 9	14 3	0 87	4 51	26 46	NR	69	13-Sep-93
FDS-XIV-1-1087/1096-5	NR	NR	163,065	0 46	11 3	1 03	4 51	26 46	NR	69	13-Sep-93
FDS-XIV-1-1097/1106	11 38	49 05	162,386	0 18	4 50	0 04	4 51	26 46	NR	3	13-Sep-93

TABLE - 7e

SUMMARY OF ITEX CONTINGENCY TEST RESULTS
FLUE DUST STORAGE
FLUE DUST OPERABLE UNIT
ANACONDA SMELTER NPLS SITE

SAMPLE ID	pH (SU)	MOISTURE (%)	ALKALINITY as CaCO3 (mg/kg)	TCLP METALS (mg/L) Lead (mg/L)	Cadmium (mg/L)	Arsenic (mg/L)	MEASUREMENT LIME (%)	MEASUREMENT CEMENT (%)	UCS (psi)	CURE TIME (days)	STABILIZATION DATE
FDS-XIV-1-1097/1106*	NR	NR	NR	0 37	0 04	0 04	4 51	26 46	NR	29	13-Sep-93
FDS-XIV-1-1107/1116	11 40	46 86	149,592	0 25	14 30	0 06	4 51	26 46	NR	3	13-Sep-93
FDS-XIV-1-1107/1116*	NR	NR	NR	0 38	0 05	0 04	4 51	26 46	NR	29	13-Sep-93
FDS-XIV-1-1117/1126	11.15	41 57	147,677	ND	15 30	0 03	4 51	26 46	NR	3	13-Sep-93
FDS-XIV-1-1117/1126*	NR	NR	NR	0 31	1 3	0 05	4 51	26 46	NR	29	13-Sep-93
FDS-XIV-1-1117/1126-2	NR	NR	168,986	ND	ND	0 14	4 51	26 46	NR	67	13-Sep-93
FDS-XIV-1-1117/1126-4	NR	NR	152,087	ND	ND	0 11	4 51	26 46	NR	67	13-Sep-93
FDS-XIV-1-1127/1136	11 18	48 66	154,807	ND	14 30	0 03	4 51	26 46	NR	3	13-Sep-93
FDS-XIV-1-1127/1136*	NR	NR	NR	0 44	0 04	0 06	4 51	26 46	NR	29	13-Sep-93
FDS-XIV-1-1137/1146	11 23	47 87	168,266	0 21	11 30	0 09	4 51	26 46	NR	3	13-Sep-93
FDS-XIV-1-1137/1146*	NR	NR	NR	0 18	ND	0 21	4 51	26 46	NR	29	13-Sep-93
FDS-XIV-1-1157/1166	11 27	49 46	200,700	ND	3 20	0 06	4 51	26 46	NR	3	13-Sep-93
FDS-XIV-1-1157/1166*	NR	NR	NR	0 39	ND	0 19	4 51	26 46	NR	29	13-Sep-93
FDS-XIV-1-1167/1176	11 27	53 76	175,400	0 21	10 70	0 07	4 51	26 46	NR	3	13-Sep-93
FDS-XIV-1-1167/1176*	NR	NR	NR	0 38	ND	0 35	4 51	26 46	NR	29	13-Sep-93
FDS-XIV-1-1187/1197	11 16	52 95	166,489	ND	4 30	0 06	4 51	26 46	NR	3	13-Sep-93
FDS-XIV-1-1187/1197*	NR	NR	NR	0 42	ND	0 09	4 51	26 46	NR	29	13-Sep-93
FDS-XIV-1-1198/1207	11 15	51 79	161,741	0 22	14.10	ND	4 51	26 46	NR	3	13-Sep-93
FDS-XIV-1-1198/1207*	NR	NR	NR	0 57	ND	0 06	4 51	26 46	NR	29	13-Sep-93
FDS-XIV-1-1208/1217	11 20	51 85	168,897	0 39	13 40	0 07	4 51	26 46	NR	3	13-Sep-93
FDS-XIV-1-1208/1217*	NR	NR	NR	ND	ND	0 2	4 51	26 46	NR	29	13-Sep-93
FDS-XIV-1-1227/1236	11 69	56 70	186,407	0 47	16 80	0 07	5 11	25 38	31 12	3	13-Sep-93
FDS-XIV-1-1227/1236*	NR	NR	NR	ND	ND	0 28	5 11	25 38	NR	29	13-Sep-93
FDS-XIV-1-1227/1236D	11 62	57 58	181,619	0 87	17 90	0 09	5 11	25 38	NR	3	13-Sep-93
FDS-XIV-1-1227/1236D*	NR	NR	NR	ND	ND	0 26	5 11	25 38	NR	29	13-Sep-93
FDS-XIV-1-1237/1246	11 22	57 86	158,586	0 31	11.50	0 04	5 11	25 38	NR	3	13-Sep-93
FDS-XIV-1-1237/1246*	NR	NR	NR	ND	ND	0 15	5 11	25 38	NR	29	13-Sep-93
FDS-XIV-1-1247/1256	11 16	55 25	162,063	1 04	21 20	0 39	5 11	25 38	NR	3	13-Sep-93
FDS-XIV-1-1247/1256*	NR	NR	NR	ND	ND	0 13	5 11	25 38	NR	29	13-Sep-93
FDS-XIV-1-1257/1266	11 17	53 01	223,220	0 46	15 70	0 05	5 11	25 38	NR	3	13-Sep-93

TABL. -7a

SUMMARY OF ITEX CONTINGENCY TEST RESULTS
FLUE DUST STORAGE
FLUE DUST OPERABLE UNIT
ANACONDA SMELTER NPLS SITE

SAMPLE ID	pH (SU)	MOISTURE (%)	ALKALINITY as CaCO3 (mg/kg)	TCLP METALS (mg/L) Lead (mg/L)	Cadmium (mg/L)	Arsenic (mg/L)	MEASUREMENT LIME (%)	MEASUREMENT CEMENT (%)	UCS (psi)	CURE TIME (days)	STABILIZATION DATE
FDS-XIV-1-1257/1266*	NR	NR	NR	ND	ND	0 2	5 11	25 38	NR	29	13-Sep-93
FDS-XIV-1-1267/1276	11 24	51 97	186,400	1 00	21 00	0 50	5 11	25 38	NR	3	13-Sep-93
FDS-XIV-1-1267/1276*	NR	NR	NR	ND	ND	0 2	5 11	25 38	NR	29	13-Sep-93
FDS-XIV-1-1277/1286	11 34	52 74	180,875	1 33	19 40	0 23	5 11	25 38	NR	3	13-Sep-93
FDS-XIV-1-1277/1286*	NR	NR	NR	ND	ND	0 25	5 11	25 38	NR	29	13-Sep-93
FDS-XIV-1-1287/1297	11 25	56 17	187,153	1 06	21 80	0 27	5 11	25 38	NR	3	13-Sep-93
FDS-XIV-1-1287/1297*	NR	NR	NR	ND	ND	0 23	5 11	25 38	NR	29	13-Sep-93
FDS-XIV-1-1298/1307	11 09	53 73	170,325	0 89	19 70	2 73	5 11	25 38	NR	3	13-Sep-93
FDS-XIV-1-1298/1307*	NR	NR	NR	ND	ND	0 52	5 11	25 38	NR	29	13-Sep-93
FDS-XIV-1-1308/1317	11 28	42 33	217,439	0.98	18.30	0 14	5 11	25 38	NR	3	13-Sep-93
FDS-XIV-1-1308/1317*	NR	NR	NR	ND	ND	0 37	5 11	25 38	NR	29	13-Sep-93
FDS-XIV-1-1318/1327	11 18	53 04	183,473	1 00	20 00	0.26	5 11	25 38	NR	3	13-Sep-93
FDS-XIV-1-1318/1327*	NR	NR	NR	ND	ND	0 37	5 11	25 38	NR	29	13-Sep-93
FDS-XIV-1-1328/1337-1	NR	NR	195,866	ND	2 6	0 49	5 11	25 38	NR	67	13-Sep-93
FDS-XIV-1-1328/1337-3	NR	NR	193,676	ND	12 2	0 67	5 11	25 38	NR	67	13-Sep-93
FDS-XIV-1-1338/1348	11 54	53 78	189,301	0 99	18 70	0.10	5 11	25 38	NR	3	13-Sep-93
FDS-XIV-1-1338/1348*	NR	NR	NR	ND	ND	0 29	5 11	25 38	NR	29	13-Sep-93
FDS-XIV-1-1359/1368	11 21	52 81	166,271	0 15	6 85	0 07	5 11	25 38	NR	3	13-Sep-93
FDS-XIV-1-1359/1368*	NR	NR	NR	ND	0 2	0 06	5 11	25 38	NR	30	13-Sep-93
FDS-XIV-1-1369/1378	11 17	54 03	179,018	ND	2 60	0 05	5 11	25 38	NR	3	13-Sep-93
FDS-XIV-1-1369/1378*	NR	NR	NR	ND	2 73	0 12	5 11	25 38	NR	30	13-Sep-93
FDS-XIV-1-1369/1378-2	NR	NR	190,099	ND	ND	0 21	5 11	25 38	NR	67	13-Sep-93
FDS-XIV-1-1369/1378-5	NR	NR	162,722	ND	13 6	0 44	5 11	25 38	NR	67	13-Sep-93
FDS-XIV-1-1379/1388	11 25	61 18	174,364	0 15	9 00	0 04	5 11	25 38	NR	3	13-Sep-93
FDS-XIV-1-1379/1388*	NR	NR	NR	ND	0 04	0 09	5 11	25 38	NR	30	13-Sep-93
FDS-XIV-1-1389/1398	11 53	54 48	183,820	ND	3 00	0 05	5 11	25 38	NR	3	13-Sep-93
FDS-XIV-1-1389/1398*	NR	NR	NR	0.43	ND	0 19	5 11	25 38	NR	30	13-Sep-93
FDS-XIV-1-1399/1405	11 32	52 32	178,661	1 31	19 30	0 17	5 11	25 38	NR	3	13-Sep-93
FDS-XIV-1-1399/1405*	NR	NR	NR	ND	0 6	0.14	5.11	25.38	NR	30	13-Sep-93
FDS-XIV-1-1406/1415	11 65	59 18	79,416	0 25	9 40	0 05	7 43	26 14	28 29	3	14-Sep-93

TABLE 7a

SUMMARY OF ITEX CONTINGENCY TEST RESULTS
FLUE DUST STORAGE
FLUE DUST OPERABLE UNIT
ANACONDA SMELTER NPLS SITE

SAMPLE ID	pH (SU)	MOISTURE (%)	ALKALINITY as CaCO3 (mg/kg)	TCLP METALS (mg/L) Lead (mg/L)	Cadmium (mg/L)	Arsenic (mg/L)	MEASUREMENT LIME (%)	MEASUREMENT CEMENT (%)	UCS (psi)	CURE TIME (days)	STABILIZATION DATE
FDS-XIV-1-1406/1415*	NR	NR	NR	ND	ND	0 18	7 43	26 14	NR	29	14-Sep-93
FDS-XIV-1-1457/1466	11 86	61 72	205,021	1 36	13 20	1 64	7 43	26 14	NR	3	14-Sep-93
FDS-XIV-1-1457/1466*	NR	NR	NR	0 72	ND	0 18	7 43	26 14	NR	29	14-Sep-93
FDS-XIV-1-1467/1476	11 13	58 81	141,804	0 75	21 00	0 28	7 43	26 14	NR	3	14-Sep-93
FDS-XIV-1-1467/1476*	NR	NR	NR	0 92	15 5	0.21	7 43	26 14	NR	29	14-Sep-93
FDS-XIV-1-1467/1476-2	NR	NR	204,183	ND	9 2	0 27	7 43	26 14	NR	68	14-Sep-93
FDS-XIV-1-1467/1476-5	NR	NR	178,000	ND	8 9	0 41	7 43	26 14	NR	68	14-Sep-93
FDS-XIV-1-1477/1486	11 94	55 07	224,393	0 25	20 80	0 08	7.43	26 14	NR	3	14-Sep-93
FDS-XIV-1-1477/1486*	NR	NR	NR	0 65	0 42	0 08	7 43	26 14	NR	29	14-Sep-93
FDS-XIV-1-1487/1496	11 41	59 91	164,022	0 38	16 80	ND	7 43	26 14	NR	3	14-Sep-93
FDS-XIV-1-1487/1496*	NR	NR	NR	0 68	0 18	0 14	7 43	26 14	NR	29	14-Sep-93
FDS-XIV-1-1497/1506	11 62	54 30	161,095	0 30	12 10	0 03	7 43	26 14	NR	3	14-Sep-93
FDS-XIV-1-1497/1506*	NR	NR	NR	1 31	15 1	1 32	7 43	26 14	NR	29	14-Sep-93
FDS-XIV-1-1497/1506-3	NR	NR	189,621	ND	0 03	0 26	7 43	26 14	NR	66	14-Sep-93
FDS-XIV-1-1497/1506-4	NR	NR	169,980	ND	0 34	0 28	7 43	26 14	NR	66	14-Sep-93
FDS-XIV-1-1517/1526	11 68	52 41	195,638	1 37	16 80	1 49	7 43	26 14	NR	3	14-Sep-93
FDS-XIV-1-1517/1526/*	NR	NR	NR	0 76	8 3	0 1	7 43	26 14	NR	29	14-Sep-93
FDS-XIV-1-1517/1526-3	NR	NR	228,261	ND	0 26	0.1	7 43	26 14	NR	68	14-Sep-93
FDS-XIV-1-1517/1526-4	NR	NR	253,465	0.13	6 4	0 25	7 43	26 14	NR	68	14-Sep-93
FDS-XIV-1-1527/1536	11 84	61 09	197,487	0 51	15 00	0.07	7 43	26 14	NR	3	14-Sep-93
FDS-XIV-1-1527/1536*	NR	NR	NR	ND	0 43	0 13	7 43	26 14	NR	29	14-Sep-93
FDS-XIV-1-15371546	11 50	56 66	216,211	0 40	14 70	0 08	7 43	26 14	NR	3	14-Sep-93
FDS-XIV-1-1537/1546*	NR	NR	NR	ND	2 18	0 07	7 43	26 14	NR	29	14-Sep-93
FDS-XIV-1-1537/1546-2	NR	NR	234,714	ND	ND	0 12	7.43	26 14	NR	66	14-Sep-93
FDS-XIV-1-1537/1546-3	NR	NR	246,548	ND	ND	0.17	7 43	26 14	NR	66	14-Sep-93
FDS-XIV-1-1547/1557	11 19	48 36	208,250	1 11	15.10	0.83	7 43	26 14	NR	3	14-Sep-93
FDS-XIV-1-1547/1557*	NR	NR	NR	ND	4,87	0 06	7 43	26 14	NR	29	14-Sep-93
FDS-XIV-1-1547/1556-1	NR	NR	209,325	ND	ND	0.29	7 43	26.14	NR	66	14-Sep-93
FDS-XIV-1-1547/1556-2	NR	NR	201,375	ND	ND	0.19	7.43	26.14	NR	66	14-Sep-93
FDS-XIV-1-1558/1567	11 51	46 10	187,060	0 16	5 04	0 17	4 93	24 34	45 98	3	14-Sep-93
FDS-XIV-1-1558/1567*	NR	NR	NR	ND	0 36	0 07	4 93	24 34	NR	29	14-Sep-93
FDS-XIV-1-1568/1577	10 97	50 06	161,095	0 22	16 08	0 10	4 93	24 34	NR	3	14-Sep-93
FDS-XIV-1-1568/1577*	NR	NR	NR	ND	15	0 12	4 93	24 34	NR	29	14-Sep-93

TABLE 7-7a

SUMMARY OF ITEX CONTINGENCY TEST RESULTS
FLUE DUST STORAGE
FLUE DUST OPERABLE UNIT
ANACONDA SMELTER NPLS SITE

SAMPLE ID	pH (SU)	MOISTURE (%)	ALKALINITY as CaCO3 (mg/kg)	TCLP METALS (mg/L) Lead (mg/L)	Cadmium (mg/L)	Arsenic (mg/L)	MEASUREMENT LIME (%)	MEASUREMENT CEMENT (%)	UCS (psi)	CURE TIME (days)	STABILIZATION DATE
FDS-XIV-1-1568/1577-2	NR	NR	175,835	0 2	10 3	0 05	4 93	24 34	NR	68	14-Sep-93
FDS-XIV-1-1568/1577-4	NR	NR	195,866	0 15	9 3	0 05	4 93	24 34	NR	68	14-Sep-93
FDS-XIV-1-1578/1587	11 11	52 84	179,537	0 26	16 10	0 05	4 93	24 34	NR	3	14-Sep-93
FDS-XIV-1-1578/1587*	NR	NR	NR	ND	5 14	0 12	4 93	24 34	NR	29	14-Sep-93
FDS-XIV-1-1578/1587-3	NR	NR	274,802	ND	0 07	69 2	4 93	24 34	NR	78	14-Sep-93
FDS-XIV-1-1578/1587-5	NR	NR	295,000	ND	0 03	64.9	4 93	24 34	NR	78	14-Sep-93
FDS-XIV-1-1588/1597	11 08	46 81	143,897	1 25	17 30	2 05	4 93	24 34	NR	3	14-Sep-93
FDS-XIV-1-1588/1597*	NR	NR	NR	ND	20.9	0 34	4 93	24 34	NR	29	14-Sep-93
FDS-XIV-1-1588/1597-2	NR	NR	157,738	ND	11 3	0 12	4 93	24 34	NR	66	14-Sep-93
FDS-XIV-1-1588/1597-4	NR	NR	206,693	ND	8.3	0 12	4 93	24 34	NR	68	14-Sep-93
FDS-XIV-1-1598/1607	11 20	45 25	184,208	1.27	17 40	1 16	4 93	24 34	NR	3	14-Sep-93
FDS-XIV-1-1598/1607*	NR	NR	NR	ND	0 37	0.12	4 93	24 34	NR	29	14-Sep-93
FDS-XIV-1-1608/1617	10 97	49 92	178,115	ND	9 30	0 04	4 93	24.34	NR	3	14-Sep-93
FDS-XIV-1-1608/1617*	NR	NR	NR	ND	6 46	0 09	4 93	24 34	NR	29	14-Sep-93
FDS-XIV-1-1608/1617-2	NR	NR	195,437	0 3	9 5	0 23	4 93	24 34	NR	68	14-Sep-93
FDS-XIV-1-1608/1617-4	NR	NR	198,225	ND	9 2	0 35	4 93	24 34	NR	66	14-Sep-93
FDS-XIV-1-1618/1627	11 11	48 38	215,767	ND	8 30	0 05	4 93	24 34	NR	3	14-Sep-93
FDS-XIV-1-1618/1627*	NR	NR	NR	ND	11	0.14	4 93	24 34	NR	29	14-Sep-93
FDS-XIV-1-1618/1627-2	NR	NR	177,866	0 23	11.8	0 18	4.93	24.34	NR	68	14-Sep-93
FDS-XIV-1-1618/1627-4	NR	NR	196,252	ND	4.8	0.07	4 93	24.34	NR	66	14-Sep-93
FDS-XIV-1-1638/1647	11 10	47 69	163,799	0 65	26 00	0 46	4 93	24 34	NR	3	14-Sep-93
FDS-XIV-1-1638/1647*	NR	NR	NR	ND	18 6	0 04	4 93	24 34	NR	29	14-Sep-93
FDS-XIV-1-1638/1647-3	NR	NR	187,623	0 33	11 6	0 16	4 93	24 34	NR	68	14-Sep-93
FDS-XIV-1-1638/1647-4	NR	NR	216,270	ND	12 3	0 04	4 93	24 34	NR	66	14-Sep-93
FDS-XIV-1-1648/1657	11 64	51 43	159,819	1 03	25 50	0 46	4 93	24 34	NR	3	14-Sep-93
FDS-XIV-1-1648/1657*	NR	NR	NR	0 18	8 06	0 05	4 93	24 34	NR	29	14-Sep-93
FDS-XIV-1-1648/1657-1	NR	NR	147,525	ND	ND	0 21	4.93	24 34	NR	66	14-Sep-93
FDS-XIV-1-1648/1657-2	NR	NR	226,471	ND	ND	0 15	4 93	24 34	NR	66	14-Sep-93
FDS-XIV-1-1668/1678	11 10	54 56	213,167	0.21	16 00	0.11	4 93	24.34	NR	3	14-Sep-93
FDS-XIV-1-1668/1678*	NR	NR	NR	ND	ND	0 08	4 93	24 34	NR	29	14-Sep-93
FDS-XIV-1-1678/1688	11 29	50 54	190,709	ND	2 55	0 07	4.93	24 34	NR	3	14-Sep-93
FDS-XIV-1-1678/1688*	NR	NR	NR	ND	0 72	0 06	4 93	24 34	NR	29	14-Sep-93
FDS-XIV-1-1689/1698	11 66	54 61	187,762	0 32	17 55	0 14	4 93	24 34	NR	3	14-Sep-93
FDS-XIV-1-1689/1698*	NR	NR	NR	ND	1 22	0 07	4 93	24 34	NR	29	14-Sep-93

TABLE L-7a

SUMMARY OF ITEX CONTINGENCY TEST RESULTS
FLUE DUST STORAGE
FLUE DUST OPERABLE UNIT
ANACONDA SMELTER NPLS SITE

SAMPLE ID	pH (SU)	MOISTURE (%)	ALKALINITY as CaCO3 (mg/kg)	TCLP METALS (mg/L) Lead (mg/L)	Cadmium (mg/L)	Arsenic (mg/L)	MEASUREMENT LIME (%)	MEASUREMENT CEMENT (%)	UCS (psi)	CURE TIME (days)	STABILIZATION DATE
FDS-XIV-1-1689/1698-1	NR	NR	187,500	ND	ND	0.17	4.93	24 34	NR	66	14-Sep-93
FDS-XIV-1-1689/1698-3	NR	NR	194,280	ND	ND	0 18	4 93	24 34	NR	66	14-Sep-93
FDS-XIV-1-1699/1708	11 93	53 33	194,644	0 35	12 10	0 24	4 93	24 34	NR	3	14-Sep-93
FDS-XIV-1-1699/1708*	NR	NR	NR	ND	ND	0 12	4 93	24 34	NR	29	14-Sep-93
FDS-XIV-1-1709/1718	11.82	58 87	196,502	0.70	15 20	0 19	4.93	24 34	NR	3	14-Sep-93
FDS-XIV-1-1709/1718*	NR	NR	NR	ND	ND	0 26	4 93	24 34	NR	29	14-Sep-93
FDS-XIV-1-1749/1758	11 79	54 81	215,336	1 39	16.80	0 27	4 93	24 34	NR	3	14-Sep-93
FDS-XIV-1-1749/1758*	NR	NR	NR	ND	0 3	0 25	4 93	24 34	NR	31	14-Sep-93
FDS-XIV-1-1766/1775	11 47	52 99	187,762	ND	4.40	0 08	5 25	24 44	NR	3	15-Sep-93
FDS-XIV-1-1766/1775*	NR	NR	NR	ND	ND	0 12	5 25	24 44	NR	30	15-Sep-93
FDS-XIV-1-1766/1775D	11 42	55.58	211,239	0 58	14 00	0 24	5 25	24 44	NR	3	15-Sep-93
FDS-XIV-1-1766/1775D*	NR	NR	NR	ND	ND	0 22	5 25	24 44	NR	30	15-Sep-93
FDS-XIV-1-1776/1785	11 78	52 27	202,467	0 91	13 20	0.69	5 25	24 44	NR	3	15-Sep-93
FDS-XIV-1-1776/1785*	NR	NR	NR	ND	0 03	0 28	5.25	24 44	NR	30	15-Sep-93
FDS-XIV-1-1806/1815	11 22	61 64	217,941	1.03	8.40	110 00	5 25	24.44	NR	3	15-Sep-93
FDS-XIV-1-1806/1815*	NR	NR	NR	ND	0.06	14	5 25	24.44	NR	30	15-Sep-93
FDS-XIV-1-1806/1815-1	NR	NR	164,047	ND	16.8	5.23	5 25	24 44	NR	65	15-Sep-93
FDS-XIV-1-1806/1815-3	NR	NR	143,849	ND	9 8	11	5 25	24 44	NR	65	15-Sep-93
FDS-XIV-1-1816/1825	11 12	51 30	171,259	0 88	12 20	69 60	5 25	24 44	NR	3	15-Sep-93
FDS-XIV-1-1816/1825*	NR	NR	NR	ND	0 81	2 47	5 25	24 44	NR	30	15-Sep-93
FDS-XIV-1-1826/1835	11 54	52 67	179,203	ND	9 30	7 30	5 25	24 44	NR	3	15-Sep-93
FDS-XIV-1-1826/1835*	NR	NR	NR	ND	0 03	0 44	5.25	24 44	NR	30	15-Sep-93
FDS-XIV-1-1836/1845	11 52	49 83	138,547	0 47	13 20	13 30	5 25	24 44	NR	3	15-Sep-93
FDS-XIV-1-1836/1845*	NR	NR	NR	ND	7 7	1 17	5 25	24 44	NR	30	15-Sep-93
FDS-XIV-1-1836/1845-2	NR	NR	157,371	ND	ND	3 73	5 25	24 44	NR	65	15-Sep-93
FDS-XIV-1-1836/1845-3	NR	NR	166,337	ND	ND	2 98	5 25	24 44	NR	65	15-Sep-93
FDS-XIV-1-1846/1855	11 14	47 57	135,333	1 79	12 30	215 00	5 25	24 44	NR	3	15-Sep-93
FDS-XIV-1-1846/1855*	NR	NR	NR	ND	3 83	42 4	5 25	24 44	NR	30	15-Sep-93
FDS-XIV-1-1846/1855-1	NR	NR	146,654	ND	3 4	40 3	5 25	24 44	NR	65	15-Sep-93
FDS-XIV-1-1846/1855-2	NR	NR	150,198	ND	ND	2 95	5 25	24 44	NR	65	15-Sep-93
FDS-XIV-1-1856/1865	11 62	48 65	157,840	0 43	6 00	127 00	5 25	24 44	NR	3	15-Sep-93
FDS-XIV-1-1856/1865*	NR	NR	NR	ND	3 82	66 1	5 25	24 44	NR	30	15-Sep-93

TABLE 7e

SUMMARY OF ITEX CONTINGENCY TEST RESULTS
FLUE DUST STORAGE
FLUE DUST OPERABLE UNIT
ANACONDA SMELTER NPLS SITE

SAMPLE ID	pH (SU)	MOISTURE (%)	ALKALINITY as CaCO3 (mg/kg)	TCLP METALS (mg/L) Lead (mg/L)	Cadmium (mg/L)	Arsenic (mg/L)	MEASUREMENT LIME (%)	MEASUREMENT CEMENT (%)	UCS (psi)	CURE TIME (days)	STABILIZATION DATE
FDS-XIV-1-1856/1865-2	NR	NR	268,849	ND	ND	5 36	5 25	24 44	NR	65	15-Sep-93
FDS-XIV-1-1856/1865-4	NR	NR	185,516	ND	ND	2 19	5 25	24 44	NR	65	15-Sep-93
FDS-XIV-1-1866/1875	10 85	45 45	140,447	0 58	5 70	250 00	5 25	24 44	18 77	3	15-Sep-93
FDS-XIV-1-1866/1875*	NR	NR	NR	ND	3.7	115	5 25	24 44	NR	30	15-Sep-93
FDS-XIV-1-1866/1875-3	NR	NR	156,126	ND	ND	0 34	5 25	24 44	NR	66	15-Sep-93
FDS-XIV-1-1866/1875-4	NR	NR	166,667	ND	0 06	69 6	5 25	24 44	NR	65	15-Sep-93
FDS-XIV-1-1876/1885	11.28	51 74	175,931	2.17	7 30	386.00	5 25	24 44	NR	3	15-Sep-93
FDS-XIV-1-1876/1885*	NR	NR	NR	ND	ND	56.8	5 25	24 44	NR	30	15-Sep-93
FDS-XIV-1-1876/1885-3	NR	NR	209,581	ND	ND	2 23	5 25	24 44	NR	65	15-Sep-93
FDS-XIV-1-1876/1885-4	NR	NR	181,188	ND	ND	1 44	5 25	24 44	NR	65	15-Sep-93
FDS-XIV-1-1886/1895	11 83	51 03	130,981	ND	3 90	88 20	5 25	24 44	NR	3	15-Sep-93
FDS-XIV-1-1886/1895*	NR	NR	NR	ND	ND	25 2	5 25	24 44	NR	30	15-Sep-93
FDS-XIV-1-1886/1895-4	NR	NR	167,665	ND	ND	3 15	5 25	24 44	NR	65	15-Sep-93
FDS-XIV-1-1886/1895-5	NR	NR	167,000	ND	ND	3 64	5 25	24 44	NR	65	15-Sep-93
FDS-XIV-1-1896/1903	11 82	47 96	177,014	2 54	7 20	285 00	5 25	24 44	NR	3	15-Sep-93
FDS-XIV-1-1896/1903*	NR	NR	NR	ND	0 04	6 54	5 25	24 44	NR	30	15-Sep-93
FDS-XIV-1-1896/1903-2	NR	NR	268,245	ND	ND	0 69	5 25	24 44	NR	77	15-Sep-93
FDS-XIV-1-1896/1903-4	NR	NR	249,501	ND	ND	0 35	5 25	24 44	NR	77	15-Sep-93
FDS-XIV-1-1904/1913	11 10	51 01	177,367	ND	0 11	89.90	7 35	28 10	12 47	3	15-Sep-93
FDS-XIV-1-1904/1913*	NR	NR	NR	ND	ND	48 3	7 35	28 10	NR	30	15-Sep-93
FDS-XIV-1-1904/1913-3	NR	NR	245,020	ND	ND	0.39	7 35	28 10	NR	77	15-Sep-93
FDS-XIV-1-1904/1913-5	NR	NR	228,797	ND	ND	0 43	7 35	28 10	NR	77	15-Sep-93
FDS-XIV-1-1904/1913D	11 27	49 68	172,683	ND	ND	61 60	7 35	28 10	NR	3	15-Sep-93
FDS-XIV-1-1904/1913D*	NR	NR	NR	ND	ND	47 5	7 35	28 10	NR	30	15-Sep-93
FDS-XIV-1-2115/2124	10 69	41 10	147,688	0 48	23.50	0 08	NA (3)	27 93	NR	3	15-Sep-93
FDS-XIV-1-2115/2124*	NR	NR	NR	ND	3 45	0 21	NA	27 93	NR	30	15-Sep-93
FDS-XIV-1-2115/2124-3	NR	NR	174,000	ND	5.7	0 15	NA	28 93	NR	77	15-Sep-93
FDS-XIV-1-2115/2124-4	NR	NR	200,787	ND	0 66	0 09	NA	29 93	NR	77	15-Sep-93
FDS-XIV-1-2125/2135	11 02	44 46	142,882	ND	6 20	0 05	NA	27 93	NR	3	15-Sep-93
FDS-XIV-1-2125/2135*	NR	NR	NR	ND	10 5	0.17	NA	27 93	NR	30	15-Sep-93
FDS-XIV-1-2125/2135-1	NR	NR	251,491	ND	ND	2 17	NA	28 93	NR	77	15-Sep-93
FDS-XIV-1-2125/2135-5	NR	NR	238,523	ND	0 04	8 15	NA	29 93	NR	77	15-Sep-93
FDS-XIV-1-2162/2171	11 40	51 42	192,600	ND	ND	6 18	5 53	24 02	NR	3	16-Sep-93
FDS-XIV-1-2162/2171*	NR	NR	NR	ND	ND	4 38	5 53	24 02	NR	29	16-Sep-93

TABLE 7a

SUMMARY OF ITEX CONTINGENCY TEST RESULTS
FLUE DUST STORAGE
FLUE DUST OPERABLE UNIT
ANACONDA SMELTER NPLS SITE

SAMPLE ID	pH (SU)	MOISTURE (%)	ALKALINITY as CaCO3 (mg/kg)	TCLP METALS (mg/L) Lead (mg/L)	Cadmium (mg/L)	Arsenic (mg/L)	MEASUREMENT LIME (%)	MEASUREMENT CEMENT (%)	UCS (psi)	CURE TIME (days)	STABILIZATION DATE
FDS-XIV-1-2202/2211	11 46	48 58	218,267	ND	ND	44 80	5 53	24 02	NR	3	16-Sep-93
FDS-XIV-1-2202/2211*	NR	NR	NR	0 33	6 03	117	5 53	24 02	NR	32	16-Sep-93
FDS-XIV-1-2202/2211-2	NR	NR	164,016	ND	0 12	25 7	5 53	24 02	NR	76	16-Sep-93
FDS-XIV-1-2202/2211-4	NR	NR	239,173	ND	ND	2 92	5 53	24 02	NR	76	16-Sep-93
FDS-XIV-1-2212/2221	11 63	52 65	225,732	ND	ND	48 20	5 53	24 02	NR	3	16-Sep-93
FDS-XIV-1-2212/2221*	NR	NR	NR	ND	ND	80.3	5 53	24 02	NR	32	16-Sep-93
FDS-XIV-1-2212/2221-1	NR	NR	215,139	ND	ND	0 95	5 53	24 02	NR	76	16-Sep-93
FDS-XIV-1-2212/2221-4	NR	NR	225,198	ND	ND	2 45	5 53	24 02	NR	76	16-Sep-93
FDS-XIV-1-2222/2231	11 51	50 96	221,896	ND	ND	36 30	5 53	24 02	NR	3	16-Sep-93
FDS-XIV-1-2222/2231*	NR	NR	NR	ND	0 77	125	5 53	24 02	NR	32	16-Sep-93
FDS-XIV-1-2222/2231-1	NR	NR	209,581	ND	5 2	0 27	5 53	24 02	NR	76	16-Sep-93
FDS-XIV-1-2222/2231-2	NR	NR	216,135	ND	0 16	0 05	5 53	24 02	NR	76	16-Sep-93
FDS-XIV-1-2232/2241	11 09	47 77	182,828	ND	ND	127 00	5 53	24 02	NR	3	16-Sep-93
FDS-XIV-1-2232/2241*	NR	NR	NR	ND	0 54	152	5 53	24 02	NR	32	16-Sep-93
FDS-XIV-1-2232/2241-2	NR	NR	233,000	ND	ND	0 18	5 53	24 02	NR	76	16-Sep-93
FDS-XIV-1-2232/2241-4	NR	NR	239,604	ND	ND	0 89	5 53	24 02	NR	76	16-Sep-93
FDS-XIV-1-2242/2251	10 88	50 08	233,063	ND	0.08	182.00	5 53	24 02	NR	3	16-Sep-93
FDS-XIV-1-2242/2251*	NR	NR	NR	ND	ND	164	5 53	24 02	NR	32	16-Sep-93
FDS-XIV-1-2242/2251-1	NR	NR	231,151	ND	ND	3 97	5 53	24 02	NR	76	16-Sep-93
FDS-XIV-1-2242/2251-3	NR	NR	211,462	ND	ND	9 25	5 53	24 02	NR	76	16-Sep-93
FDS-XIV-1-2252/2261	10 92	48 42	177,916	ND	ND	71 60	5 53	24 02	NR	3	16-Sep-93
FDS-XIV-1-2252/2261*	NR	NR	NR	ND	1 41	44 7	5 53	24 02	NR	32	16-Sep-93
FDS-XIV-1-2252/2261-2	NR	NR	290,675	ND	0.03	1 04	5 53	24 02	NR	76	16-Sep-93
FDS-XIV-1-2252/2261-3	NR	NR	258,449	ND	0 03	2 51	5 53	24 02	NR	76	16-Sep-93
FDS-XIV-1-2262/2271	11 02	49 68	199,289	ND	ND	17 90	5 53	24 02	NR	3	16-Sep-93
FDS-XIV-1-2262/2271*	NR	NR	NR	ND	3 89	25 2	5 53	24 02	NR	32	16-Sep-93
FDS-XIV-1-2262/2271-1	NR	NR	258,893	ND	0 03	3 12	5 53	24 02	NR	76	16-Sep-93
FDS-XIV-1-2262/2271-5	NR	NR	225,394	ND	0 06	11 8	5 53	24 02	NR	76	16-Sep-93
FDS-XIV-1-2272/2282	10 98	45 44	206,587	ND	ND	11 00	5 53	24 02	NR	3	16-Sep-93
FDS-XIV-1-2272/2282*	NR	NR	NR	ND	0 03	12 4	5 53	24 02	NR	32	16-Sep-93
FDS-XIV-1-2272/2282-1	NR	NR	256,487	ND	0 03	14 9	5 53	24 02	NR	76	16-Sep-93
FDS-XIV-1-2272/2282-3	NR	NR	275,896	ND	0 04	42 2	5 53	24 02	NR	76	16-Sep-93
FDS-XIV-1-2311/2320	11 65	50 50	238,443	ND	ND	26 10	8 29	29 96	11 43	3	16-Sep-93
FDS-XIV-1-2311/2320*	NR	NR	NR	ND	0 06	6 45	8 29	29 96	NR	32	16-Sep-93
FDS-XIV-1-2311/2320-2	NR	NR	269,685	ND	0 02	0 37	8 29	29 96	NR	76	16-Sep-93
FDS-XIV-1-2311/2320-3	NR	NR	250,988	ND	ND	0 34	8 29	29 96	NR	76	16-Sep-93

TABLE -7a

SUMMARY OF ITEX CONTINGENCY TEST RESULTS
FLUE DUST STORAGE
FLUE DUST OPERABLE UNIT
ANACONDA SMELTER NPLS SITE

SAMPLE ID	pH (SU)	MOISTURE (%)	ALKALINITY as CaCO3 (mg/kg)	TCLP METALS (mg/L) Lead (mg/L)	Cadmium (mg/L)	Arsenic (mg/L)	MEASUREMENT LIME (%)	MEASUREMENT CEMENT (%)	UCS (psi)	CURE TIME (days)	STABILIZATION DATE
FDS-XIV-1-2311/2320D	11 95	38 10	11,135	ND	ND	30 70	8 29	29 96	NR	3	16-Sep-93
FDS-XIV-1-2311/2320D*	NR	NR	NR	0 56	26 3	27 6	9 26	32 81	NR	31	17-Sep-93
FDS-XIV-1-2931/2941	11 24	43 88	190,006	0 77	15 50	0 05	9 26	32 81	NR	3	17-Sep-93
FDS-XIV-1-2931/2941*	NR	NR	NR	0 67	16 6	0.45	9 26	32 81	NR	17	17-Sep-93
FDS-XIV-1-2931/2941-2	NR	NR	240,631	ND	0 03	21.7	9 26	32 81	NR	75	17-Sep-93
FDS-XIV-1-2931/2941-4	NR	NR	202,170	ND	0 03	1.04	9 26	32 81	NR	75	17-Sep-93
FDS-XIV-1-4045/4054	11 86	54.49	279,341	0 26	3.82	0.04	8 85	31 07	NR	3	21-Sep-93
FDS-XIV-1-4045/4054*	NR	NR	NR	ND	ND	0 26	8 85	31 07	NR	13	21-Sep-93
FDS-XIV-1-4065/4074	11 71	52 21	251,218	0 32	4 72	0 06	8 85	31 07	NR	3	21-Sep-93
FDS-XIV-1-4065/4074*	NR	NR	NR	0 16	ND	0 35	8 85	31 07	NR	13	21-Sep-93
FDS-XIV-1-4675/4684D	11 30	53.43	443,091	0 83	16 10	0.22	9 59	32 12	NR	3	24-Sep-93
FDS-XIV-1-4675/4684D*	NR	NR	NR	ND	0 05	0 28	9 59	32 12	NR	10	24-Sep-93
FDS-XIV-1-4685/4694	11 96	44 32	485,092	0 34	8 60	0 11	9 59	32 12	NR	3	24-Sep-93
FDS-XIV-1-4685/4694*	NR	NR	NR	ND	0 06	0.2	9 59	32 12	NR	10	24-Sep-93
FDS-XIV-1-4695/4704	11 93	51 33	463,296	0 39	7 19	0 07	9 59	32 12	NR	3	24-Sep-93
FDS-XIV-1-4695/4704*	NR	NR	NR	ND	0 06	0 19	9 59	32 12	NR	10	24-Sep-93
FDS-XIV-1-4725/4734	12 04	54 34	451,409	0 37	9 10	0 06	9 59	32 12	NR	3	24-Sep-93
FDS-XIV-1-4725/4734*	NR	NR	NR	ND	0 06	0 21	9 59	32 12	NR	10	24-Sep-93
FDS-XIV-1-4765/4774	11 95	55 89	447,103	ND	7 33	0 09	9 59	32 12	NR	3	24-Sep-93
FDS-XIV-1-4765/4774*	NR	NR	NR	ND	0 05	0 16	9.59	32 12	NR	10	24-Sep-93
FDS-XIV-1-4825/4834	11 98	55 75	407,020	ND	10 00	0 09	9 59	32 12	NR	3	24-Sep-93
FDS-XIV-1-4825/4834*	NR	NR	NR	ND	0 06	0 16	9 59	32 12	NR	10	24-Sep-93
FDS-XIV-1-4885/4894	11 97	58 98	438,601	ND	5 34	0 16	9 59	32 12	NR	3	24-Sep-93
FDS-XIV-1-4885/4894*	NR	NR	NR	ND	0 07	0 24	9 59	32 12	NR	10	24-Sep-93
FDS-XIV-1-4902/4911	11 56	44 95	387,373	ND	13 50	0 33	10 30	33 27	NR	3	25-Sep-93
FDS-XIV-1-4902/4911*	NR	NR	NR	ND	0 47	0 44	10 30	33 27	NR	14	25-Sep-93
FDS-XIV-1-4952/4961	11 73	56 78	438,701	0 90	12 00	0 59	10 30	33 27	NR	3	25-Sep-93
FDS-XIV-1-4952/4961*	NR	NR	NR	ND	0 05	0 38	10 30	33 27	NR	9	25-Sep-93
FDS-XIV-1-4962/4971	11 75	48 75	468,318	0 84	9 10	0 85	10 30	33 27	NR	3	25-Sep-93
FDS-XIV-1-4962/4971*	NR	NR	NR	0 67	9 8	0 37	10 30	33 27	NR	9	25-Sep-93

TABLE -7e

SUMMARY OF ITEX CONTINGENCY TEST RESULTS
FLUE DUST STORAGE
FLUE DUST OPERABLE UNIT
ANACONDA SMELTER NPLS SITE

SAMPLE ID	pH (SU)	MOISTURE (%)	ALKALINITY as CaCO3 (mg/kg)	TCLP METALS (mg/L) Lead (mg/L)	Cadmium (mg/L)	Arsenic (mg/L)	MEASUREMENT LIME (%)	MEASUREMENT CEMENT (%)	UCS (psi)	CURE TIME (days)	STABILIZATION DATE
FDS-XIV-1-4962/4971-4	NR	NR	239,645	ND	ND	0.27	10 30	33 27	NR	67	25-Sep-93
FDS-XIV-1-4962/4971-5	NR	NR	245,059	ND	ND	0 32	10 30	33 27	NR	67	25-Sep-93
FDS-XIV-1-5002/5011	12 03	52 63	476,808	ND	4 02	0 21	10 30	33 27	NR	3	25-Sep-93
FDS-XIV-1-5002/5011*	NR	NR	NR	ND	0 09	0 76	10 30	33 27	NR	9	25-Sep-93
FDS-XIV-1-5002/5011-4	NR	NR	239,645	ND	ND	0 27	10 30	33 27	NR	67	25-Sep-93
FDS-XIV-1-5002/5011-5	NR	NR	245,059	ND	ND	0 32	10 30	33 27	NR	67	25-Sep-93
FDS-XIV-1-5022/5031	12 05	48 83	500,206	ND	6 28	0 15	10 30	33 27	NR	3	25-Sep-93
FDS-XIV-1-5022/5031*	NR	NR	NR	ND	0 06	0 31	10 30	33 27	NR	9	25-Sep-93
FDS-XIV-1-5042/5051	12 08	39 91	497,391	ND	2 46	0 27	10 30	33 27	NR	3	25-Sep-93
FDS-XIV-1-5042/5051*	NR	NR	NR	ND	0 06	0 2	10 30	33 27	NR	9	25-Sep-93
FDS-XIV-1-5052/5061	11 94	49 56	446,937	ND	6 10	0 08	10 30	33 27	NR	3	25-Sep-93
FDS-XIV-1-5052/5061*	NR	NR	NR	ND	0 06	0 22	10 30	33 27	NR	9	25-Sep-93

Notes
* Reextraction of original sample
(1) NR = Not Required
(2) ND = Not Detected
(3) Not Applicable

TABLE -7f

SUMMARY OF ITEX CONTINGENCY TEST RESULTS
THICKENER
FLUE DUST OPERABLE UNIT
ANACONDA SMELTER NPL SITE

SAMPLE ID	pH (SU)	MOISTURE (%)	ALKALINITY as CaCO3 (mg/kg)	TCLP METALS (mg/L) Lead (mg/L)	Cadmium (mg/L)	Arsenic (mg/L)	MEASUREMENT LIME (%)	MEASUREMENT CEMENT (%)	CURE TIME (days)	UCS (psi)	STABILIZATION DATE
THICK XIII-1-27114/27123	11 65	42.17	197,000	0 19	18 5	0.09	4 87	28 22	3	NR (1)	11-Oct-93
THICK-XIII-1-27114/27123 (2)	NR	NR	NR	ND (3)	0.021	0.2	4 87	28 22	16	NR	11-Oct-93
THICK XIII-1-27114/27123D	11.57	43 58	186,000	0 26	11 2	0.88	4.87	28 22	3	NR	11-Oct-93
THICK-XIII-1-27114/27123D (2)	NR	NR	NR	0 04	0.014	0 09	4.87	28 22	16	NR	11-Oct-93
THICK XIII-1-27124/27133	11 64	49 48	184,000	ND	7 9	0.09	4 87	28 22	3	NR	11-Oct-93
THICK-XIII-1-27124/27133 (2)	NR	NR	NR	ND	0.024	0 41	4 87	28 22	16	NR	11-Oct-93
THICK XIII-1-27134/27143	11 36	43.22	174,000	ND	25.6	0 07	4 87	28 22	3	NR	11-Oct-93
THICK-XIII-1-27134/27143 (2)	NR	NR	NR	0 25	19	0 08	4 87	28 22	16	NR	11-Oct-93
THICK XIII-1-27144/27153	11 33	43 96	166,000	ND	27 6	0 08	4 87	28 22	3	NR	11-Oct-93
THICK-XIII-1-27144/27153 (2)	NR	NR	NR	0 19	19 4	0.07	4.87	28 22	16	NR	11-Oct-93
THICK XIII-1-27154/27163	11.37	44 4	184,000	0 87	29 5	0.06	4 87	28 22	3	NR	11-Oct-93
THICK-XIII-1-27154/27163 (2)	NR	NR	NR	0 24	20.2	ND	4 87	28 22	16	NR	11-Oct-93
THICK XIII-1-27164/27173	10 65	41 44	157,000	1 25	45 1	ND	4 87	28 22	3	NR	11-Oct-93
THICK-XIII-1-27164/27173 (2)	NR	NR	NR	0 73	31 7	0 03	4 87	28 22	16	NR	11-Oct-93
THICK XIII-1-27174/27183	10 45	42 45	102,000	9 09	46 5	0 08	4 87	28 22	3	NR	11-Oct-93
THICK-XIII-1-27174/27183 (2)	NR	NR	NR	10 4	39	ND	4 87	28 22	16	NR	11-Oct-93
THICK XIII-1-27184/27193	11 29	40 9	155,000	0 65	33 1	0 05	4 87	28 22	3	NR	11-Oct-93
THICK-XIII-1-27184/27193 (2)	NR	NR	NR	0 43	30 1	0 12	4 87	28 22	16	NR	11-Oct-93
THICK XIII-1-27194/27203	11 20	42 06	177,000	0 32	32 5	0 04	4 87	28 22	3	NR	11-Oct-93
THICK-XIII-1-27194/27203 (2)	NR	NR	NR	0 48	27 2	0 04	4 87	28 22	16	NR	11-Oct-93
THICK XIII-1-27204/27213	11 04	44 09	165,000	0 81	34 1	0 06	4 87	28 22	3	NR	11-Oct-93
THICK-XIII-1-27204/27213 (2)	NR	NR	NR	0 97	30	0 04	4 87	28 22	16	NR	11-Oct-93
THICK XIII-1-27214/27223	11 69	45 98	179,000	0 78	29 4	0 06	4 87	28 22	3	NR	11-Oct-93
THICK-XIII-127214/27223 (2)	NR	NR	NR	0 04	0 281	ND	4 87	28 22	16	NR	11-Oct-93
THICK XIII-1-27224/27233	11.62	45 35	219,000	ND	25 9	0 04	4 87	28 22	3	NR	11-Oct-93
THICK-XIII-1-27224/27233 (2)	NR	NR	NR	0 16	17 9	ND	4 87	28 22	16	NR	11-Oct-93

TABLE -7f

SUMMARY OF ITEX CONTINGENCY TEST RESULTS
THICKENER
FLUE DUST OPERABLE UNIT
ANACONDA SMELTER NPL SITE

SAMPLE ID	pH (SU)	MOISTURE (%)	ALKALINITY as CaCO3 (mg/kg)	TCLP METALS (mg/L) Lead (mg/L)	Cadmium (mg/L)	Arsenic (mg/L)	MEASUREMENT LIME (%)	MEASUREMENT CEMENT (%)	CURE TIME (days)	UCS (psi)	STABILIZATION DATE
THICK XIII-1-27234/27243	11 44	42 47	164,000	ND	29 3	0.08	4 87	28 22	3	NR	11-Oct-93
THICK-XIII-1-27234/27243 (2)	NR	NR	NR	0 3	21 7	ND	4 87	28 22	16	NR	11-Oct-93
THICK XIII-1-27244/27253	11 66	45 86	185,000	0 81	29 3	0 04	4 87	28 22	3	NR	11-Oct-93
THICK-XIII-1-27244/27253 (2)	NR	NR	NR	0 13	16 5	0 05	4 87	28 22	16	NR	11-Oct-93
THICK XIII-1-27254/27263	11 57	42 66	174,000	ND	29 6	0 05	4 87	28 22	3	NR	11-Oct-93
THICK-XIII-1-27254/27263 (2)	NR	NR	NR	0 1	13 3	ND	4 87	28 22	16	NR	11-Oct-93
THICK XIII-1-27264/27274	11 71	48 15	218,000	0 29	28 4	0 06	4 87	28 22	3	NR	11-Oct-93
THICK-XIII-1-27264/27274 (2)	NR	NR	NR	ND	0 011	0 04	4 87	28 22	16	NR	11-Oct-93
THICK XIII-1-27275/27284	11 32	53 47	166,000	0 53	29 70	0.07	5 56	29 81	3	18 39	12-Oct-93
THICK-XIII-1-27275/27284 (2)	NR	NR	NR	ND	20 85	ND	5 56	29 81	20	NR	12-Oct-93
THICK XIII-1-27275/27284D	11 36	53 80	174,000	0 73	27 50	0 06	5 56	29 81	3	NR	12-Oct-93
THICK-XIII-1-27275/27284D (2)	NR	NR	NR	ND	17 6	0 03	5 56	29 81	20	NR	12-Oct-93
THICK XIII-1-27285/27294	10 85	49 97	149,000	0 90	29 20	ND	5 56	29 81	3	NR	12-Oct-93
THICK-XIII-1-27285/27294 (2)	NR	NR	NR	ND	21 4	ND	5 56	29 81	20	NR	12-Oct-93
THICK XIII-1-27295/27304	10 74	49 52	143,000	0 60	31 50	0.04	5 56	29 81	3	NR	12-Oct-93
THICK-XIII-1-27295/27304 (2)	NR	NR	NR	ND	14	ND	5 56	29 81	20	NR	12-Oct-93
THICK XIII-1-27305/27314	11 23	48 16	159,000	0 36	28.40	0 03	5 56	29 81	3	NR	12-Oct-93
THICK-XIII-1-27305/27314 (2)	NR	NR	NR	ND	12 5	0 04	5 56	29 81	20	NR	12-Oct-93
THICK XIII-1-27315/27324	10 91	51 64	168,000	0 79	32 10	0 05	5 56	29 81	3	NR	12-Oct-93
THICK-XIII-1-27315/27324 (2)	NR	NR	NR	ND	25 6	0 05	5 56	29 81	20	NR	12-Oct-93
THICK XIII-1-27325/27334	11 24	46 73	191,000	0 52	29 80	ND	5 56	29 81	3	NR	12-Oct-93
THICK-XIII-1-27325/27334 (2)	NR	NR	NR	ND	15 9	0 06	5 56	29 81	20	NR	12-Oct-93
THICK XIII-1-27335/27344	11 32	47 46	161,000	0 69	27 00	0 07	5 56	29 81	3	NR	12-Oct-93
THICK-XIII-1-27335/27344 (2)	NR	NR	NR	ND	20 1	ND	5 56	29 81	20	NR	12-Oct-93
THICK XIII-1-27345/27354	11 49	46 60	176,000	0 46	29 80	ND	5 56	29 81	3	NR	12-Oct-93
THICK-XIII-1-27345/27354 (2)	NR	NR	NR	ND	13 1	0 04	5 56	29 81	20	NR	12-Oct-93

TABLE 7F

SUMMARY OF ITEX CONTINGENCY TEST RESULTS
THICKENER
FLUE DUST OPERABLE UNIT
ANACONDA SMELTER NPL SITE

SAMPLE ID	pH (SU)	MOISTURE (%)	ALKALINITY as CaCO3 (mg/kg)	TCLP METALS (mg/L) Lead (mg/L)	Cadmium (mg/L)	Arsenic (mg/L)	MEASUREMENT LIME (%)	MEASUREMENT CEMENT (%)	CURE TIME (days)	UCS (psi)	STABILIZATION DATE
THICK XIII-1-27355/27364	11 42	50 71	198,000	0 38	30 60	0 06	5 56	29 81	3	NR	12-Oct-93
THICK-XIII-1-27355/27364 (2)	NR	NR	NR	ND	0.53	0 02	5 56	29 81	20	NR	12-Oct-93
THICK XIII-1-27375/27384	11 63	48 38	209,000	1 15	27 40	0 04	5 56	29 81	3	NR	12-Oct-93
THICK-XIII-1-27375/27384(2)	NR	NR	NR	1 28	25 8	0 03	5 56	29 81	36	NR	12-Oct-93
THICK XIII-1-27385/27394	11 72	51 02	200,000	ND	29 00	0 03	5 56	29 81	3	NR	12-Oct-93
THICK-XIII-1-27385/27394 (2)	NR	NR	NR	0.17	30.7	ND	5 56	29 81	27	NR	12-Oct-93
THICK XIII-1-27395/27404	11 35	50 58	198,000	ND	28.10	0.05	5 56	29 81	3	NR	12-Oct-93
THICK-XIII-1-27395/27404 (2)	NR	NR	NR	0 31	30 1	0.07	5 56	29 81	27	NR	12-Oct-93
THICK XIII-1-27405/27414	11 31	47 80	168,000	ND	32.50	0 03	5 56	29 81	3	NR	12-Oct-93
THICK-XIII-1-27405/27414 (2)	NR	NR	NR	0 13	37 7	0 13	5 56	29 81	27	NR	12-Oct-93
THICK XIII-1-27415/27424	11 61	47 68	165,000	ND	32 00	0 04	5 56	29 81	3	NR	12-Oct-93
THICK-XIII-1-27415/27424 (2)	NR	NR	NR	0 14	28 4	ND	5 56	29 81	27	NR	12-Oct-93
THICK XIII-1-27425/27434	8 86	57 65	174,000	ND	31 10	ND	5 56	29 81	3	NR	12-Oct-93
THICK-XIII-1-27425/27434 (2)	NR	NR	NR	0 15	33 9	ND	5 56	29 81	27	NR	12-Oct-93
THICK XIII-1-27435/27444	8.02	49 24	148,000	ND	43.50	0.03	5.56	29 81	3	NR	12-Oct-93
THICK-XIII-1-27435/27444 (2)	NR	NR	NR	ND	42	0 05	5 56	29 81	27	NR	12-Oct-93
THICK XIII-1-27445/27454	11 22	52 59	103,000	ND	46 40	0.07	5 56	29 81	3	NR	12-Oct-93
THICK-XIII-1-27445/27454 (2)	NR	NR	NR	ND	37 4	0.03	5 56	29 81	27	NR	12-Oct-93
THICK XIII-1-27455/27463	11 97	48 76	148,000	ND	28 60	0 05	5 56	29 81	3	NR	12-Oct-93
THICK-XIII-1-27455/27463 (2)	NR	NR	NR	0 32	19 6	0 48	5 56	29 81	27	NR	12-Oct-93
THICK XIII-1-27464/27473	10 90	50 30	126,000	0 67	51 40	0 27	5 26	29 28	3	NR	13-Oct-93
THICK-XIII-1-27464/27473 (2)	NR	NR	NR	ND	40 4	0 08	5 26	29 28	26	NR	13-Oct-93
THICK XIII-1-27464/27473D	9 97	54 73	141,000	0 85	52 90	0 11	5 26	29 28	3	NR	13-Oct-93
THICK-XIII-1-27464/27473D (2)	NR	NR	NR	0 2	41 7	ND	5 26	29 28	26	NR	13-Oct-93
THICK XIII-1-27474/27483	8 99	53 01	136,000	1 68	52.90	0.09	5 26	29 28	3	NR	13-Oct-93
THICK-XIII-1-27474/27483 (2)	NR	NR	NR	ND	38 8	0 04	5 26	29 28	26	NR	13-Oct-93

TABLE 1f

SUMMARY OF ITEX CONTINGENCY TEST RESULTS
THICKENER
FLUE DUST OPERABLE UNIT
ANACONDA SMELTER NPL SITE

SAMPLE ID	pH (SU)	MOISTURE (%)	ALKALINITY as CaCO3 (mg/kg)	TCLP METALS (mg/L) Lead (mg/L)	Cadmium (mg/L)	Arsenic (mg/L)	MEASUREMENT LIME (%)	MEASUREMENT CEMENT (%)	CURE TIME (days)	UCS (psi)	STABILIZATION DATE
THICK XIII-1-27484/27493	11 08	56 79	158,000	1 07	48.30	0.09	5 26	29.28	3	NR	13-Oct-93
THICK-XIII-1-27484/27493 (2)	NR	NR	NR	ND	35.9	0 04	5 26	29 28	26	NR	13-Oct-93
THICK XIII-1-27494/27503	10 60	58 27	141,000	1 03	46 20	0 12	5 26	29 28	3	NR	13-Oct-93
THICK-XIII-1-27494/27503 (2)	NR	NR	NR	0 11	38 3	0 04	5 26	29 28	26	NR	13-Oct-93
THICK XIII-1-27504/27513	10 46	57 07	147,000	1 17	51.60	0.09	5 26	29 28	3	NR	13-Oct-93
THICK-XIII-1-27504/27513 (2)	NR	NR	NR	ND	40.4	ND	5 26	29 28	26	NR	13-Oct-93
THICK XIII-1-27514/27523	11 02	58.26	151,000	1 43	47.40	0.09	5 26	29 28	3	NR	13-Oct-93
THICK-XIII-1-27514/27523 (2)	NR	NR	NR	ND	37 7	0 07	5 26	29 28	26	NR	13-Oct-93
THICK XIII-1-27524/27533	10 18	45 16	141,000	1 15	50 00	0 10	5 26	29 28	3	NR	13-Oct-93
THICK-XIII-1-27524/27533 (2)	NR	NR	NR	ND	39	0 04	5 26	29 28	26	NR	13-Oct-93
THICK XIII-1-27534/27544	10 69	54 11	137,000	1 73	49 70	0 23	5 26	29 28	3	NR	13-Oct-93
THICK-XIII-1-27534/27544 (2)	NR	NR	NR	ND	45 6	0 08	5 26	29 28	26	NR	13-Oct-93
THICK XIII-1-27545/27554	10 89	47 98	180,000	0 59	31 40	0 07	6 13	31 64	3	25 46	14-Oct-93
THICK-XIII-1-27545/27554 (2)	NR	NR	NR	0 8	34.2	0 16	6 13	31 64	23	NR	14-Oct-93
THICK XIII-1-27545/27554D	10 55	49 48	157,000	0 99	23.95	0.06	6 13	31 64	3	NR	14-Oct-93
THICK-XIII-1-27545/27554D (2)	NR	NR	NR	1 49	36 8	0 08	6 13	31 64	23	NR	14-Oct-93
THICK XIII-1-27555/27564	11 28	45 71	199,000	ND	25 60	0 03	6 13	31 64	3	NR	14-Oct-93
THICK-XIII-1-27555/27564 (2)	NR	NR	NR	0 47	29 3	0 05	6 13	31 64	23	NR	14-Oct-93
THICK XIII-1-27615/27624	11 24	47.01	180,000	0 25	28 20	0 05	6 13	31 64	3	NR	14-Oct-93
THICK-XIII-1-27615/27624 (2)	NR	NR	NR	0 43	30	0.03	6 13	31 64	23	NR	14-Oct-93
THICK XIII-1-27625/27634	11 65	48 79	209,000	ND	4.77	0 08	6 13	31 64	3	NR	14-Oct-93
THICK-XIII-1-27625/27634 (2)	NR	NR	NR	1 46	32.4	0.05	6 13	31 64	23	NR	14-Oct-93
THICK XIII-1-27635/27644	11 61	44 00	176,000	0.35	26.30	0 04	6 13	31 64	3	NR	14-Oct-93
THICK-XIII-1-27635/27644 (2)	NR	NR	NR	1.69	34.9	0 03	6 13	31 64	23	NR	14-Oct-93
THICK XIII-1-27665/27674	11 41	46 06	181,000	ND	25.00	0 09	6 13	31 64	3	NR	14-Oct-93
THICK-XIII-1-27665/27674 (2)	NR	NR	NR	0 41	29 2	0.04	6 13	31 64	23	NR	14-Oct-93

TABLE 7f

SUMMARY OF ITEX CONTINGENCY TEST RESULTS
THICKENER
FLUE DUST OPERABLE UNIT
ANACONDA SMELTER NPL SITE

SAMPLE ID	pH (SU)	MOISTURE (%)	ALKALINITY as CaCO3 (mg/kg)	TCLP METALS (mg/L) Lead (mg/L)	Cadmium (mg/L)	Arsenic (mg/L)	MEASUREMENT LIME (%)	MEASUREMENT CEMENT (%)	CURE TIME (days)	UCS (psi)	STABILIZATION DATE
THICK XIII-1-27675/27684	9.10	36 83	42,000	0 94	88 20	17 90	6 13	31 64	3	NR	14-Oct-93
THICK-XIII-1-27675/27684 (2)	NR	NR	NR	1 27	73 4	23 6	6 13	31 64	23	NR	14-Oct-93
THICK XIII-1-27685/27697	11 59	48 80	187,000	ND	28 10	0 06	6 13	31 64	3	NR	14-Oct-93
THICK-XIII-1-27685/27697 (2)	NR	NR	NR	0 31	22 7	0.03	6 13	31 64	23	NR	14-Oct-93
THICK XIII-1-27698/27706	11 38	47 45	196,000	0 56	40.40	0 00	5 73	29 97	3	NR	15-Oct-93
THICK-XIII-1-27698/27706 (2)	NR	NR	NR	ND	0 26	0 04	5 73	29 97	22	NR	15-Oct-93
THICK XIII-1-27698/27706D	11 49	50 96	218,000	0 91	42 90	0 03	5 73	29 97	3	NR	15-Oct-93
THICK-XIII-1-27698/27706D (2)	NR	NR	NR	ND	21 2	0 03	5 73	29 97	22	NR	15-Oct-93
THICK XIII-1-27707/27716	10 85	47 88	187,000	1 66	41 20	0 07	5 73	29 97	3	NR	15-Oct-93
THICK-XIII-1-27707/27716 (2)	NR	NR	NR	0 45	28 9	0 06	5 73	29 97	22	NR	15-Oct-93
THICK XIII-1-27717/27726	11 28	49 31	213,000	1 40	43 10	0 03	5 73	29 97	3	NR	15-Oct-93
THICK-XIII-1-27717/27726 (2)	NR	NR	NR	0.11	23	0 06	5 73	29 97	22	NR	15-Oct-93
THICK XIII-1-27727/27736	11 57	52 61	204,000	0.65	35.20	ND	5 73	29 97	3	NR	15-Oct-93
THICK-XIII-1-27727/27736 (2)	NR	NR	NR	0 37	23.5	0.04	5.73	29 97	22	NR	15-Oct-93
THICK XIII-1-27737/27745	11 64	47 83	212,000	0 26	27 50	ND	5 73	29 97	3	NR	15-Oct-93
THICK-XIII-1-27737/27745 (2)	NR	NR	NR	ND	12 3	0 06	5 73	29 97	22	NR	15-Oct-93
THICK XIII-1-27746/27755	11 66	47.37	203,000	0 63	31 20	ND	5 73	29 97	3	NR	15-Oct-93
THICK-XIII-1-27746/27755 (2)	NR	NR	NR	ND	0.76	0 3	5 73	29 97	22	NR	15-Oct-93
THICK XIII-1-27756/27765	11 50	45 77	219,000	1 42	31 90	ND	5 73	29 97	3	NR	15-Oct-93
THICK-XIII-1-27756/27765 (2)	NR	NR	NR	0 18	18 1	0 04	5 73	29 97	22	NR	15-Oct-93
THICK XIII-1-27766/27775	11 73	51 12	189,000	0 60	28 90	ND	5 73	29 97	3	NR	15-Oct-93
THICK-XIII-1-27766/27775 (2)	NR	NR	NR	0 33	23 4	0 06	5 73	29 97	22	NR	15-Oct-93
THICK XIII-1-27776/27785	11 68	48 99	204,000	0 44	30 40	ND	5 73	29 97	3	NR	15-Oct-93
THICK-XIII-1-27776/27785 (2)	NR	NR	NR	0 19	12 3	0 06	5 73	29 97	22	NR	15-Oct-93
THICK XIII-1-27786/27795	11 70	53 01	197,000	0 41	29 40	0 03	5 73	29 97	3	NR	15-Oct-93
THICK-XIII-1-27786/27795 (2)	NR	NR	NR	ND	2 46	ND	5 73	29 97	22	NR	15-Oct-93

TABLE 7f

SUMMARY OF ITEX CONTINGENCY TEST RESULTS
THICKENER
FLUE DUST OPERABLE UNIT
ANACONDA SMELTER NPL SITE

SAMPLE ID	pH (SU)	MOISTURE (%)	ALKALINITY as CaCO3 (mg/kg)	TCLP METALS (mg/L) Lead (mg/L)	Cadmium (mg/L)	Arsenic (mg/L)	MEASUREMENT LIME (%)	MEASUREMENT CEMENT (%)	CURE TIME (days)	UCS (psi)	STABILIZATION DATE
THICK XIII-1-27796/27805	11 84	48 90	184,000	0.49	31.50	ND	5.73	29 97	3	NR	15-Oct-93
THICK-XIII-1-27796/27805 (2)	NR	NR	NR	0 77	26	0 05	5.73	29 97	22	NR	15-Oct-93
THICK XIII-1-27806/27815	11 59	48.39	190,000	0 45	31.10	0.05	5.73	29 97	3	NR	15-Oct-93
THICK-XIII-1-27806/27815 (2)	NR	NR	NR	0.75	29.9	0 08	5 73	29 97	22	NR	15-Oct-93
THICK XIII-1-27816/27825	11.59	50 05	182,000	0 53	37 70	ND	5 73	29 97	3	NR	15-Oct-93
THICK-XIII-1-27816/27825 (2)	NR	NR	NR	1 81	31	0 1	5 73	29 97	22	NR	15-Oct-93
THICK XIII-1-27826/27835	11 85	47 80	224,000	0 75	25.80	ND	5 73	29 97	3	NR	15-Oct-93
THICK-XIII-1-27826/27835 (2)	NR	NR	NR	0 62	17 5	0 05	5 73	29 97	22	NR	15-Oct-93
THICK XIII-1-27836/27845	11 60	51 63	224,000	0 78	25 10	ND	5 73	29 97	3	NR	15-Oct-93
THICK-XIII-1-27836/27845 (2)	NR	NR	NR	ND	7 5	0 03	5 73	29 97	22	NR	15-Oct-93
THICK XIII-1-27856/27869	11 80	48 68	181,000	1 97	30 80	0.03	5 73	29 97	3	NR	15-Oct-93
THICK-XIII-1-27856/27869 (2)	NR	NR	NR	0 02	0 09	0 07	5 73	29 97	22	NR	15-Oct-93
THICK XIII-1-27870/27879	11 41	46 24	123,000	0 18	63 00	0 03	5 65	31 97	3	28 29	16-Oct-93
THICK-XIII-1-27870/27879 (2)	NR	NR	NR	ND	ND	0 21	5 65	31 97	22	NR	16-Oct-93
THICK XIII-1-27870/27879D	11 55	49 94	180,000	ND	20 90	ND	5 65	31 97	3	NR	16-Oct-93
THICK-XIII-1-27870/27879D (2)	NR	NR	NR	ND	1 56	0 05	5 65	31 97	22	NR	16-Oct-93
THICK XIII-1-27970/27974	11 40	48 71	197,000	ND	1 45	0.06	5 65	31 97	3	NR	16-Oct-93
THICK-XIII-1-27970/27974 (2)	NR	NR	NR	ND	ND	0 18	5 65	31 97	22	NR	16-Oct-93
THICK XIII-1-27975/27984	11 25	51.40	182,000	ND	3 40	0 04	0 00	37 74	3	NR	16-Oct-93
THICK-XIII-1-27975/27984 (2)	NR	NR	NR	ND	ND	0.09	0 00	37 74	22	NR	16-Oct-93
THICK XIII-1-27985/27994	11 29	58 90	160,000	0 45	36 00	0 03	0 00	37 74	3	NR	16-Oct-93
THICK-XIII-1-27985/27994 (2)	NR	NR	NR	ND	ND	0 06	0 00	37 74	22	NR	16-Oct-93
THICK XIII-1-27995/28004	11 26	61 14	165,000	0 30	32 20	0.05	0 00	37 74	3	NR	16-Oct-93
THICK-XIII-1-27995/28004 (2)	NR	NR	NR	ND	15	0 03	0 00	37 74	22	NR	16-Oct-93
THICK XIII-1-28005/28013	11.25	53 84	170,000	0 38	33.90	0.06	0.00	37 74	3	NR	16-Oct-93
THICK-XIII-1-28005/28013 (2)	NR	NR	NR	ND	1.03	0 04	0 00	37.74	22	NR	16-Oct-93

TABLE 7F

SUMMARY OF ITEX CONTINGENCY TEST RESULTS
THICKENER
FLUE DUST OPERABLE UNIT
ANACONDA SMELTER NPL SITE

SAMPLE ID	pH (SU)	MOISTURE (%)	ALKALINITY as CaCO3 (mg/kg)	TCLP METALS (mg/L) Lead (mg/L)	Cadmium (mg/L)	Arsenic (mg/L)	MEASUREMENT LIME (%)	MEASUREMENT CEMENT (%)	CURE TIME (days)	UCS (psi)	STABILIZATION DATE
THICK XIII-1-28014/28023	11 32	52 69	196,000	0 18	25.50	0 04	0 00	37 40	3	25 46	18-Oct-93
THICK-XIII-1-28014/28023 (2)	NR	NR	NR	ND	ND	0 03	0 00	37 40	20	NR	18-Oct-93
THICK XIII-1-28014/28023D	11 28	56 02	180,000	ND	8.91	0 04	0 00	37 40	3	NR	18-Oct-93
THICK-XIII-1-28014/28123D (2)	NR	NR	NR	ND	0 05	0.08	0 00	37 40	20	NR	18-Oct-93
THICK XIII-1-28024/28033	11 13	50 78	147,000	0 53	29.50	0.11	0 00	37 40	3	NR	18-Oct-93
THICK-XIII-1-28024/28033 (2)	NR	NR	NR	ND	18 2	ND	0 00	37 40	20	NR	18-Oct-93
THICK XIII-1-28034/28043	11 21	48 28	163,000	0 36	29 60	0 02	0 00	37 40	3	NR	18-Oct-93
THICK-XIII-1-28034/28043 (2)	NR	NR	NR	0 16	25 9	ND	0 00	37 40	20	NR	18-Oct-93
THICK XIII-1-28044/28053	11 21	49 32	166,000	0 40	31 50	0.04	0 00	37 40	3	NR	18-Oct-93
THICK-XIII-1-28044/28053 (2)	NR	NR	NR	ND	0 74	0 07	0 00	37 40	20	NR	18-Oct-93
THICK XIII-1-28054/28063	11 19	50 81	198,000	ND	15 80	0 04	0 00	37 40	3	NR	18-Oct-93
THICK-XIII-1-28054/28063 (2)	NR	NR	NR	ND	0 16	0 04	0 00	37 40	20	NR	18-Oct-93
THICK XIII-1-28064/28073	11 23	51.26	195,000	ND	29.30	0.05	0 00	37 40	3	NR	18-Oct-93
THICK-XIII-1-28064/28073 (2)	NR	NR	NR	ND	ND	0 1	0 00	37 40	20	NR	18-Oct-93
THICK XIII-1-28074/28083	11.29	52.08	210,000	ND	18 50	ND	0 00	37.40	3	NR	18-Oct-93
THICK-XIII-1-28074/28083 (2)	NR	NR	NR	ND	ND	0.1	0 00	37.40	20	NR	18-Oct-93
THICK XIII-1-28084/28093	11 26	53 20	207,000	ND	25.30	0.03	0 00	37 40	3	NR	18-Oct-93
THICK-XIII-1-28084/28093 (2)	NR	NR	NR	ND	ND	0 1	0 00	37 40	20	NR	18-Oct-93
THICK XIII-1-28094/28103	11 27	50 72	190,000	ND	34 60	0 05	0 00	37 40	3	NR	18-Oct-93
THICK-XIII-1-28094/28103 (2)	NR	NR	NR	ND	ND	0 08	0 00	37 40	20	NR	18-Oct-93
THICK XIII-1-28114/28123	11 26	53 75	188,000	ND	31 20	0 04	0 00	37 40	3	NR	18-Oct-93
THICK-XIII-1-28114/28123 (2)	NR	NR	NR	ND	1.33	0 04	0 00	37 40	20	NR	18-Oct-93
THICK XIII-1-28124/28133	11 03	55 49	185,000	ND	25 80	0 05	0 00	37 40	3	NR	18-Oct-93
THICK-XIII-1-28124/28133 (2)	NR	NR	NR	ND	ND	0 11	0 00	37 40	20	NR	18-Oct-93
THICK XIII-1-28134/28143	10 95	52 05	198,000	ND	29.70	0 06	0 00	37 40	3	NR	18-Oct-93
THICK-XIII-1-28134/28143 (2)	NR	NR	NR	0 14	22	ND	0 00	37 40	20	NR	18-Oct-93

TABLE -7f

SUMMARY OF ITEX CONTINGENCY TEST RESULTS
THICKENER
FLUE DUST OPERABLE UNIT
ANACONDA SMELTER NPL SITE

SAMPLE ID	pH (SU)	MOISTURE (%)	ALKALINITY as CaCO3 (mg/kg)	TCLP METALS (mg/L) Lead (mg/L)	Cadmium (mg/L)	Arsenic (mg/L)	MEASUREMENT LIME (%)	MEASUREMENT CEMENT (%)	CURE TIME (days)	UCS (psi)	STABILIZATION DATE
THICK-XIII-1-28144/28153	11 13	52 62	200,000	ND	30 10	ND	0 00	37 40	3	NR	18-Oct-93
THICK-XIII-1-28144/28153 (2)	NR	NR	NR	ND	ND	0 15	0 00	37 40	20	NR	18-Oct-93
THICK XIII-1-28154/18163	11 08	54 16	224,000	ND	29 50	0 05	0 00	37 40	3	NR	18-Oct-93
THICK-XIII-1-28154/28163 (2)	NR	NR	NR	ND	4.67	0.02	0 00	37 40	20	NR	18-Oct-93
THICK XIII-1-28164/28173	11 28	54 02	225,000	ND	2 00	0.07	0 00	37 40	3	NR	18-Oct-93
THICK-XIII-1-28164/28173 (2)	NR	NR	NR	ND	ND	0 18	0 00	37 40	20	NR	18-Oct-93
THICK XIII-1-28174/28183	11 24	54 45	188,000	0 18	20 10	0 03	0 00	37 40	3	NR	18-Oct-93
THICK-XIII-1-28174/28183 (2)	NR	NR	NR	ND	ND	0 13	0 00	37 40	20	NR	18-Oct-93
THICK XIII-1-28184/28193	11 31	50 92	227,000	ND	1.20	ND	0 00	37 40	3	NR	18-Oct-93
THICK-XIII-1-28184/28193 (2)	NR	NR	NR	ND	ND	0 25	0 00	37 40	20	NR	18-Oct-93
THICK XIII-1-28194/28202	11 27	52 46	210,000	4 65	21 90	0 03	0 00	37 40	3	NR	18-Oct-93
THICK-XIII-1-28194/28202 (2)	NR	NR	NR	ND	0 03	0 06	0 00	37 40	20	NR	18-Oct-93
THICK XIII-1-28215/28224	11 43	56 39	217,000	ND	18 60	0 05	0 00	37 67	3	NR	18-Oct-93
THICK-XIII-1-28215/28224 (2)	NR	NR	NR	ND	ND	0 26	0 00	37 67	20	NR	18-Oct-93
THICK XIII-1-28335/28344	11 49	64 43	150,000	ND	27 90	ND	0 00	37 67	3	NR	18-Oct-93
THICK-XIII-1-28335/28344 (2)	NR	NR	NR	ND	6 6	0 02	0 00	37 67	20	NR	18-Oct-93
THICK XIII-1-28355/28364	11.45	69 24	188,000	4 27	6 67	ND	0 00	37 67	3	NR	18-Oct-93
THICK-XIII-1-28355/28364 (2)	NR	NR	NR	0 11	ND	0.07	0 00	37 67	20	NR	18-Oct-93
THICK XIII-1-28375/28382	11.49	45 03	235,000	ND	1 19	0 21	0 00	37 67	3	NR	18-Oct-93
THICK-XIII-1-28375/28382 (2)	NR	NR	NR	ND	ND	0 15	0 00	37 67	20	NR	18-Oct-93
THICK XIII-1-28413/28422	11 30	50 14	168,000	ND	25 40	0 03	0 00	36 07	3	NR	19-Oct-93
THICK-XIII-1-28413/28422 (2)	NR	NR	NR	0 17	20 3	0 04	0 00	36 07	20	NR	19-Oct-93
THICK XIII-1-28433/28442	11 22	48 13	172,000	ND	21 90	ND	0 00	36 07	3	NR	19-Oct-93
THICK-XIII-1-28433/28442 (2)	NR	NR	NR	0 31	1 05	0 05	0 00	36 07	20	NR	19-Oct-93
THICK XIII-1-28463/28472	11 39	54 05	145,000	ND	15 60	0 03	0 00	36 07	3	NR	19-Oct-93
THICK-XIII-1-28463/28472 (2)	NR	NR	NR	0 13	4 06	0 03	0 00	36 07	20	NR	19-Oct-93

TABLE 7f

SUMMARY OF ITEX CONTINGENCY TEST RESULTS
THICKENER
FLUE DUST OPERABLE UNIT
ANACONDA SMELTER NPL SITE

SAMPLE ID	pH (SU)	MOISTURE (%)	ALKALINITY as CaCO3 (mg/kg)	TCLP METALS (mg/L) Lead (mg/L)	Cadmium (mg/L)	Arsenic (mg/L)	MEASUREMENT LIME (%)	MEASUREMENT CEMENT (%)	CURE TIME (days)	UCS (psi)	STABILIZATION DATE
THICK XIII-1-28483/28492	11 34	51 66	167,000	ND	11 70	ND	0 00	36 07	3	NR	19-Oct-93
THICK-XIII-1-28483/28492 (2)	NR	NR	NR	0 14	0 06	ND	0 00	36 07	20	NR	19-Oct-93
THICK XIII-1-28493/28502	11 32	52 78	176,000	ND	1 33	0.03	0 00	36 07	3	NR	19-Oct-93
THICK-XIII-1-28493/28502 (2)	NR	NR	NR	0 15	0 06	0 06	0 00	36 07	20	NR	19-Oct-93
THICK XIII-1-28503/28512	11 37	52 58	186,000	ND	17 70	0 06	0 00	36 07	3	NR	19-Oct-93
THICK-XIII-1-28503/28512 (2)	NR	NR	NR	ND	1.71	ND	0 00	36 07	20	NR	19-Oct-93
THICK XIII-1-28640/28649	11 32	52 59	140,000	ND	11 50	0 07	0 00	34 41	3	NR	20-Oct-93
THICK-XIII-1-28640/28649 (2)	NR	NR	NR	ND	18 9	0 03	0 00	34 41	19	NR	20-Oct-93
THICK XIII-1-28660/28669	11 29	55.19	128,000	ND	21.00	ND	0 00	34 41	3	NR	20-Oct-93
THICK-XIII-1-28660/28669 (2)	NR	NR	NR	0 32	5 78	ND	0 00	34 41	19	NR	20-Oct-93
THICK XIII-1-28670/28679	11 24	54 04	109,000	ND	20 90	0 04	0 00	34 41	3	NR	20-Oct-93
THICK-XIII-1-28670/28679 (2)	NR	NR	NR	ND	13 8	0 04	0 00	34 41	19	NR	20-Oct-93
THICK XIII-1-28680/28689	11 34	54 84	156,000	ND	6 56	0 04	0 00	34 41	3	NR	20-Oct-93
THICK-XIII-1-28680/28689 (2)	NR	NR	NR	0 2	12	ND	0 00	34 41	19	NR	20-Oct-93
THICK XIII-1-28700/28709	11 35	57 09	164,000	ND	14.90	0 90	0 00	34 41	3	NR	20-Oct-93
THICK-XIII-1-28700/28709 (2)	NR	NR	NR	ND	ND	0 16	0 00	34 41	19	NR	20-Oct-93
THICK XIII-1-28710/28719	11 32	53 41	159,000	ND	11.40	ND	0 00	34 41	3	NR	20-Oct-93
THICK-XIII-1-28710/28719 (2)	NR	NR	NR	ND	12 9	0 03	0 00	34 41	19	NR	20-Oct-93
THICK XIII-1-28760/28769	11 38	51 39	197,000	ND	12 70	0 06	0 00	34 41	3	NR	20-Oct-93
THICK-XIII-1-28760/28769 (2)	NR	NR	NR	0 11	ND	0 29	0 00	34 41	19	NR	20-Oct-93
THICK XIII-1-28960/28969	11 30	59 94	135,000	ND	22.10	ND	0 00	34 20	3	NR	20-Oct-93
THICK-XIII-1-28960/28969 (2)	NR	NR	NR	ND	17 9	ND	0 00	34 20	19	NR	20-Oct-93
THICK XIII-1-29020/29029	11 27	62 06	159,000	ND	9.40	ND	0 00	34 20	3	NR	20-Oct-93
THICK-XIII-1-29020/29029 (2)	NR	NR	NR	ND	0 03	0.16	0 00	34 20	19	NR	20-Oct-93
THICK XIII-1-29069/29078	11 32	53 21	161,000	ND	3.40	ND	0.00	34 63	3	NR	21-Oct-93
THICK-XIII-1-29069/29078 (2)	NR	NR	NR	ND	0.04	0 14	0 00	34 63	18	NR	21-Oct-93

TABLE 7F

SUMMARY OF ITEX CONTINGENCY TEST RESULTS
THICKENER
FLUE DUST OPERABLE UNIT
ANACONDA SMELTER NPL SITE

SAMPLE ID	pH (SU)	MOISTURE (%)	ALKALINITY as CaCO3 (mg/kg)	TCLP METALS (mg/L) Lead (mg/L)	Cadmium (mg/L)	Arsenic (mg/L)	MEASUREMENT LIME (%)	MEASUREMENT CEMENT (%)	CURE TIME (days)	UCS (psi)	STABILIZATION DATE
THICK XIII-1-29099/29108	11 36	51 90	144,000	ND	5.74	0.03	0 00	34 63	3	NR	21-Oct-93
THICK-XIII-1-29099/29108 (2)	NR	NR	NR	ND	ND	0 4	0 00	34 63	18	NR	21-Oct-93
THICK XIII-1-29666/29675	11 25	51 12	157,000	ND	15 30	0 07	0 00	33 60	3	NR	23-Oct-93
THICK-XIII-1-29666/29675 (2)	NR	NR	NR	ND	5.3	0 06	0 00	33 60	16	NR	23-Oct-93
THICK XIII-1-29676/29685	11 19	51 19	158,000	ND	7.97	0 09	0 00	33 60	3	NR	23-Oct-93
THICK-XIII-1-29676/29685 (2)	NR	NR	NR	ND	0 03	0 34	0 00	33 60	16	NR	23-Oct-93
THICK XIII-1-29746/29755	11 29	55 04	164,000	ND	4.57	0 10	0 00	33 60	3	NR	23-Oct-93
THICK-XIII-1-29746/29755 (2)	NR	NR	NR	ND	ND	0 56	0 00	33 60	16	NR	23-Oct-93
THICK XIII-1-29766/29775	11 26	51 28	176,000	ND	3.61	0 06	0 00	33 60	3	NR	23-Oct-93
THICK-XIII-1-29766/29775 (2)	NR	NR	NR	ND	0.14	0 13	0 00	33 60	16	NR	23-Oct-93
THICK XIII-1-29776/29785	11 23	51 63	155,000	ND	2 31	0 05	0 00	33 60	3	NR	23-Oct-93
THICK-XIII-1-29776/29785 (2)	NR	NR	NR	ND	ND	0.48	0 00	33 60	16	NR	23-Oct-93
THICK XIII-1-29786/29790	11.26	46.97	190,000	ND	4 52	0 15	0 00	33 60	3	NR	23-Oct-93
THICK-XIII-1-29786/29795 (2)	NR	NR	NR	ND	0 05	0.33	0 00	33 60	16	NR	23-Oct-93
THICK XIII-1-29914/29923	11.85	46 01	311,000	1.77	6 22	0 87	4 81	29 38	3	NR	25-Oct-93
THICK-XIII-1-29914/29923 (2)	NR	NR	NR	ND	ND	0 19	4 81	29 38	14	NR	25-Oct-93

Notes
(1) NR = Not Required
(2) Reextraction of original sample
(3) ND = Not Detected

TABLE 7g

SUMMARY OF ITEX CONTINGENCY TEST RESULTS
FLUE DUST STORAGE/THICKENER RETREAT
FLUE DUST OPERABLE UNIT
ANACONDA SMELTER NPL SITE

SAMPLE ID	pH (SU)	MOISTURE (%)	ALKALINITY as CaCO3 (mg/kg)	TCLP METALS (mg/L) Lead (mg/L)	Cadmium (mg/L)	Arsenic (mg/L)	MEASUREMENT LIME (%)	MEASUREMENT CEMENT (%)	CURE TIME (days)	STABILIZATION DATE
FDS-RERUN-XIV-26308/26317	11 37	63 77	221,000	ND (1)	3 400	2 31	NA (2)	9 98%	3	13-Dec-93
FDS-RETREAT-XIV-26308/26317 (3)	NR (4)	NR	NR	ND	ND	0 15	NA	9 98%	17	13-Dec-93
FDS-RERUN-XIV-26404/26413D	11 33	59 91	223,000	0 16	7 000	0 06	NA	9 69%	3	14-Dec-93
FDS-RETREAT-XIV-26404/26413D (3)	NR	NR	NR	ND	ND	0 39	NA	9 69%	16	14-Dec-93
FDS-RERUN-XIV-26434/26443	11 36	56 30	217,000	ND	5.040	0 06	NA	9 69%	3	14-Dec-93
FDS-RETREAT-XIV-26434/26443 (3)	NR	NR	NR	ND	ND	0 93	NA	9 69%	16	14-Dec-93
FDS-RERUN-XIV-26787/26796	11 41	53.68	254,000	0.49	12 700	0 16	NA	10 08%	3	15-Dec-93
FDS-RETREAT-XIV-26787/26796 (3)	NR	NR	NR	ND	ND	0.31	NA	10 08%	15	15-Dec-93
FDS-RERUN-XIV-26807/26816	11.48	63.80	205,000	0.48	12 700	0 08	NA	10.08%	3	15-Dec-93
FDS-RETREAT-XIV-26807/26816 (3)	NR	NR	NR	ND	ND	0 26	NA	10 08%	15	15-Dec-93
FDS-RERUN-XIV-26837/26846	11 38	56 27	265,000	0 27	9 400	0.04	NA	10 08%	3	15-Dec-93
FDS-RETREAT-XIV-26837/26846 (3)	NR	NR	NR	ND	ND	0.26	NA	10 08%	15	15-Dec-93
FDS-RERUN-XIV-26907/26916	11 53	55 91	319,000	0 50	10.600	0 09	NA	10 08%	3	15-Dec-93
FDS-RETREAT-XIV-26907/26916 (3)	NR	NR	NR	ND	ND	0 30	NA	10 08%	15	15-Dec-93
FDS-RERUN-XIV-26917/26926	11 41	58 39	244,000	0 31	8 900	0 04	NA	10 08%	3	15-Dec-93
FDS-RETREAT-XIV-26917/26926 (3)	NR	NR	NR	ND	ND	0 69	NA	10 08%	15	15-Dec-93
FDS-RERUN-XIV-26957/26966	11 57	54 36	238,000	0 57	11 100	0 37	NA	10 08%	3	15-Dec-93
FDS-RETREAT-XIV-26957/26966 (3)	NR	NR	NR	ND	ND	1.51	NA	10 08%	15	15-Dec-93
FDS-RERUN-XIV-26967/26976	11 47	55 12	256,000	0 64	12.800	0.54	NA	10 08%	3	15-Dec-93
FDS-RETREAT-XIV-26967/26976 (3)	NR	NR	NR	ND	ND	0.22	NA	10 08%	15	15-Dec-93
FDS-RERUN-XIV-27027/27036	11 38	54 57	222,000	0.14	9.200	0 12	NA	10 08%	3	15-Dec-93
FDS-RETREAT-XIV-27027/27036 (3)	NR	NR	NR	ND	ND	1 57	NA	10 08%	15	15-Dec-93
FDS-RERUN-XIV-27057/27066	11 37	53 22	255,000	0 17	6 500	0 17	NA	10 08%	3	15-Dec-93
FDS-RETREAT-XIV-27057/27066 (3)	NR	NR	NR	ND	ND	0 14	NA	10 08%	15	15-Dec-93
FDS-RERUN-XIV-27067/27074	11 47	53 29	221,000	ND	6 400	0 15	NA	10 08%	3	15-Dec-93
FDS-RETREAT-XIV-27067/27074 (3)	NR	NR	NR	ND	ND	0 26	NA	10 08%	15	15-Dec-93

Notes
(1) ND = Not Detected
(2) NA = Not Applicable
(3) Reextraction of original sample
(4) NR = Not Required

TABLE 7h

SUMMARY OF ITEX FULL SCALE CONTINGENCY TEST RESULTS
IRON PONDS/BRADLEY POND 3/MAIN FLUE/FLUE DUST STORAGE
FLUE DUST OPERABLE UNIT
ANACONDA SMELTER NPL SITE

IRON PONDS

SAMPLE ID	pH (SU)	MOISTURE (%)	ALKALINITY as CaCO3 (mg/kg)	TCLP METALS (mg/L) Lead (mg/L)	Cadmium (mg/L)	Arsenic (mg/L)	MEASUREMENT LIME (%)	MEASUREMENT CEMENT (%)	CURE TIME (days)	STABILIZATION DATE
IP-XI-1-16028/16164	11 46	38 82	310,097	NR (1)	NR	NR	NA (2)	30 60	3	14-Sep-93
IP-XI-1-16028/16164-1	NR	NR	NR	0 2	ND(3)	0 2	NA	30 60	56	14-Sep-93
IP-XI-1-16028/16164-2	NR	NR	NR	ND	ND	0 14	NA	30 60	56	14-Sep-93
IP-XI-1-16028/16164-3	NR	NR	NR	ND	ND	0 13	NA	30 60	56	14-Sep-93
IP-XI-1-16028/16164-4	NR	NR	NR	ND	ND	0.25	NA	30 60	56	14-Sep-93
IP-XI-1-16028/16164-5	NR	NR	NR	ND	ND	0 25	NA	30 60	56	14-Sep-93
IP-XI-1-16313/16496	11 36	40 92	173,466	NR	NR	NR	NA	26 02	3	15-Sep-93
IP-XI-1-16313/16496-1	NR	NR	NR	0 38	ND	0 33	NA	26 02	55	15-Sep-93
IP-XI-1-16313/16496-2	NR	NR	NR	ND	ND	0 2	NA	26 02	55	15-Sep-93
IP-XI-1-16313/16496-3	NR	NR	NR	ND	ND	0 31	NA	26 02	55	15-Sep-93
IP-XI-1-16313/16496-4	NR	NR	NR	ND	ND	0 15	NA	26 02	55	15-Sep-93
IP-XI-1-16313/16496-5	NR	NR	NR	ND	ND	0 18	NA	26 02	55	15-Sep-93
IP-XI-1-16497/16641	11 33	38 30	132,361	NR	NR	NR	NA	24 21	3	16-Sep-93
IP-XI-1-16497/16641-1	NR	NR	NR	ND	ND	0 17	NA	24 21	54	16-Sep-93
IP-XI-1-16497/16641-2	NR	NR	NR	ND	ND	0.07	NA	24 21	54	16-Sep-93
IP-XI-1-16497/16641-3	NR	NR	NR	ND	ND	0.09	NA	24 21	54	16-Sep-93
IP-XI-1-16497/16641-4	NR	NR	NR	ND	ND	0 25	NA	24 21	54	16-Sep-93
IP-XI-1-16497/16641-5	NR	NR	NR	ND	ND	0 17	NA	24 21	54	16-Sep-93
IP-XI-1-16642/16858	11 49	51 87	182,709	NR	NR	NR	NA	25 13	3	16-Sep-93
IP-XI-1-16642/16858-1	NR	NR	NR	ND	ND	1 33	NA	25 13	54	16-Sep-93
IP-XI-1-16642/16858-2	NR	NR	NR	ND	ND	0 24	NA	25 13	54	16-Sep-93
IP-XI-1-16642/16858-3	NR	NR	NR	ND	ND	0 31	NA	25 13	54	16-Sep-93
IP-XI-1-16642/16858-4	NR	NR	NR	ND	ND	0 58	NA	25 13	54	16-Sep-93
IP-XI-1-16642/16858-5	NR	NR	NR	ND	ND	0 17	NA	25.13	54	16-Sep-93
IP-XI-1-18201/18328	11 71	38.16	383,663	NR	NR	NR	NA	28 63	3	21-Sep-93
IP-XI-1-18201/18320-1	NR	NR	NR	ND	ND	0 34	NA	28 63	49	21-Sep-93
IP-XI-1-18201/18320-2	NR	NR	NR	ND	ND	0 24	NA	28.63	49	21-Sep-93
IP-XI-1-18201/18320-3	NR	NR	NR	ND	ND	0 52	NA	28 63	49	21-Sep-93
IP-XI-1-18201/18320-4	NR	NR	NR	ND	ND	0.4	NA	28 63	49	21-Sep-93
IP-XI-1-18201/18320-5	NR	NR	NR	0 31	ND	0 24	NA	28 63	49	21-Sep-93
IP-XI-1-18869/19026	11 84	51 37	435,756	NR	NR	NR	NA	28 27	3	27-Sep-93
IP-XI-1-18869/19026 (4)	NR	NR	NR	0 58	ND	0 18	NA	28 27	43	27-Sep-93
IP-XI-1-19027/19242	11 36	38.38	375,378	NR	NR	NR	NA	26 78	3	28-Sep-93
IP-XI-1-19027/19242 (4)	NR	NR	NR	0 16	ND	0 31	NA	26 78	42	28-Sep-93

TABLE 7h

SUMMARY OF ITEX FULL SCALE CONTINGENCY TEST RESULTS
IRON PONDS/BRADLEY POND 3/MAIN FLUE/FLUE DUST STORAGE
FLUE DUST OPERABLE UNIT
ANACONDA SMELTER NPL SITE

IRON PONDS

SAMPLE ID	pH (SU)	MOISTURE (%)	ALKALINITY as CaCO3 (mg/kg)	TCLP METALS (mg/L) Lead (mg/L)	Cadmium (mg/L)	Arsenic (mg/L)	MEASUREMENT LIME (%)	MEASUREMENT CEMENT (%)	CURE TIME (days)	STABILIZATION DATE
IP-XI-1-19243/19346	11 37	50 03	372,024	NR	NR	NR	NA	28 26	3	29-Sep-93
IP-XI-1-19243/19346 (4)	NR	NR	NR	0 28	ND	0.19	NA	28 26	41	29-Sep-93
IP-XI-1-19347/19598	11 46	41.89	417,000	NR	NR	NR	NA	30 69	3	30-Sep-93
IP-XI-1-19347/19598 (4)	NR	NR	NR	0 12	ND	0 16	NA	30 69	40	30-Sep-93
IP-XI-1-19599/19805	11 41	45 72	395,000	NR	NR	NR	NA	30 77	3	1-Oct-93
IP-XI-1-19599/19805 (4)	NR	NR	NR	0 12	ND	0.15	NA	30 77	39	1-Oct-93
IP-XI-1-19806/20037	11 29	46 50	436,000	NR	NR	NR	NA	29 07	3	2-Oct-93
IP-XI-1-19806/20037 (4)	NR	NR	NR	0 38	ND	0 12	NA	29 07	38	2-Oct-93
IP-XI-1-20038/20248	11 67	44 81	457,000	NR	NR	NR	NA	30 33	3	3-Oct-93
IP-XI-1-20038/20248 (4)	NR	NR	NR	0 15	ND	0 11	NA	30 33	37	3-Oct-93
IP-XI-1-20249/20458	11 52	41.52	488,000	NR	NR	NR	NA	30 76	3	4-Oct-93
IP-XI-1-20249/20458 (4)	NR	NR	NR	ND	ND	0.09	NA	30 76	36	4-Oct-93
IP-XI-1-20459/20589	11.99	37 18	396,000	NR	NR	NR	NA	32 84	3	6-Oct-93
IP-XI-1-20459/20589 (4)	NR	NR	NR	ND	ND	0 04	NA	32.84	34	6-Oct-93
IP-XI-1-20590/20649	11 80	36.27	363,000	NR	NR	NR	NA	32 60	3	7-Oct-93
IP-XI-1-20590/20649 (4)	NR	NR	NR	ND	ND	0 09	NA	32 60	33	7-Oct-93
IP-XI-1-20650/20834	11.71	41 13	362,000	NR	NR	NR	NA	29.23	3	8-Oct-93
IP-XI-1-20650/20834 (4)	NR	NR	NR	ND	ND	0 12	NA	29 23	32	8-Oct-93
IP-XI-1-20835/21064	11 47	35.87	429,000	NR	NR	NR	NA	28 63	3	9-Oct-93
IP-XI-1-20835/21064 (4)	NR	NR	NR	ND	ND	0 39	NA	28.63	31	9-Oct-93
IP-XI-1-21065/21266	11 38	42 91	406,436	NR	NR	NR	NA	26 56	3	10-Oct-93
IP-XI-1-21065/21266 (4)	NR	NR	NR	ND	ND	0.05	NA	26 56	30	10-Oct-93
IP-XI-1-21267/21464	11 65	42 24	444,032	NR	NR	NR	NA	29 20	3	11-Oct-93
IP-XI-1-21267/21464 (4)	NR	NR	NR	ND	ND	0 1	NA	29 20	29	11-Oct-93
IP-XI-1-21465/21692	11 86	38 71	501,490	NR	NR	NR	NA	27 91	3	12-Oct-93
IP-XI-1-21465/21692 (4)	NR	NR	NR	ND	ND	0 14	NA	27 91	28	12-Oct-93

TABLE 7h

SUMMARY OF ITEX FULL SCALE CONTINGENCY TEST RESULTS
IRON PONDS/BRADLEY POND 3/MAIN FLUE/FLUE DUST STORAGE
FLUE DUST OPERABLE UNIT
ANACONDA SMELTER NPL SITE

SAMPLE ID	pH (SU)	MOISTURE (%)	ALKALINITY as CaCO3 (mg/kg)	TCLP METALS (mg/L) Lead (mg/L)	Cadmium (mg/L)	Arsenic (mg/L)	MEASUREMENT LIME (%)	MEASUREMENT CEMENT (%)	CURE TIME (days)	STABILIZATION DATE
IRON PONDS										
IP-XI-1-21693/21906	11 41	41 12	488,728	NR	NR	NR	NA	28 88	3	13-Oct-93
IP-XI-1-21693/21906 (4)	NR	NR	NR	ND	ND	0 16	NA	28 88	27	13-Oct-93
IP-XI-1-21907/22116	11 57	41.24	442,825	NR	NR	NR	NA	28 22	3	14-Oct-93
IP-XI-1-21907/22116 (4)	NR	NR	NR	ND	ND	0 05	NA	28 22	26	14-Oct-93
IP-XI-1-22117/22292	11 45	46 85	422,177	NR	NR	NR	NA	30 51	3	15-Oct-93
IP-XI-1-22117/22792 (4)	NR	NR	NR	ND	ND	0.11	NA	30 51	25	15-Oct-93
IP-XI-1-22293/22311	11 40	44.69	405,633	NR	NR	NR	NA	31 90	3	16-Oct-93
IP-XI-1-22293/22311 (4)	NR	NR	NR	ND	ND	0 43	NA	31 90	24	16-Oct-93
BRADLEY POND 3										
BP3-XI-1-18128/18200	12 00	39 95	444,030	NR	NR	NR	4 13	25 56		21-Sep-93
BP3-XI-1-18128/18200-1	NR	NR	NR	ND	ND	0 22	4 13	25 56		21-Sep-93
BP3-XI-1-18128/18200-2	NR	NR	NR	ND	ND	0 45	4 13	25 56		21-Sep-93
BP3-XI-1-18128/18200-3	NR	NR	NR	0 38	ND	0 15	4 13	25 56		21-Sep-93
BP3-XI-1-18128/18200-4	NR	NR	NR	ND	ND	0 2	4 13	25 56		21-Sep-93
BP3-XI-1-18128/18200-5	NR	NR	NR	0 24	ND	0 14	4 13	25 56		21-Sep-93
BP3-XI-1-18690/18868	11 98	37 40	330,989	NR	NR	NR	4 24	24 49		23-Sep-93
BP3-XI-1-18690/18868-1	NR	NR	NR	ND	ND	0 13	4 24	24 49		23-Sep-93
BP3-XI-1-18690/18868-2	NR	NR	NR	0 24	ND	0 2	4 24	24 49		23-Sep-93
BP3-XI-1-18690/18868-3	NR	NR	NR	ND	ND	0 16	4 24	24 49		23-Sep-93
BP3-XI-1-18690/18868-4	NR	NR	NR	0 51	ND	0 19	4 24	24 49		23-Sep-93
BP3-XI-1-18690/18868-5	NR	NR	NR	0.36	ND	0 26	4 24	24 49		23-Sep-93
MAIN FLUE										
MF-XIV-1-15167/15305	11 81	66 91	224,000	NR	NR	NR	10 25	40 66	3	28-Oct-93
MF-XIV-1-15167/15305 (4)	11 81	66 91	224,000	0 4	ND	0 66	10 25	40 66	34	28-Oct-93
MF-XIV-1-15395/15487	11 47	50 76	210,000	NR	NR	NR	14 02	42 84	3	30-Oct-93
MF-XIV-1-15395/15487 (4)	11 47	50 76	210,000	0 12	ND	0 65	14 02	42 84	21	30-Oct-93
MF-XIV-1-15742/15888	11 73	63 49	197,000	NR	NR	NR	10 54	40 75	3	1-Nov-93
MF-XIV-1-15742/15888 (4)	11 73	63 49	197,000	ND	ND	0 73	10 54	40 75	30	1-Nov-93
MF-XIV-1-17622/17764	11 96	38 94	381,000	NR	NR	NR	11 63	40 88	3	8-Nov-93
MF-XIV-1-17622/17764 (4)	11 96	38 94	381,000	ND	0 03	0 88	11 63	40 88	9	8-Nov-93

TABLE 7h

SUMMARY OF ITEX FULL SCALE CONTINGENCY TEST RESULTS
IRON PONDS/BRADLEY POND 3/MAIN FLUE/FLUE DUST STORAGE
FLUE DUST OPERABLE UNIT
ANACONDA SMELTER NPL SITE

IRON PONDS

SAMPLE ID	pH (SU)	MOISTURE (%)	ALKALINITY as CaCO3 (mg/kg)	TCLP METALS (mg/L) Lead (mg/L)	Cadmium (mg/L)	Arsenic (mg/L)	MEASUREMENT LIME (%)	MEASUREMENT CEMENT (%)	CURE TIME (days)	STABILIZATION DATE
MF-XIV-1-17765/17915	11 99	47 8	416,000	NR	NR	NR	11 51	40 84	3	8-Nov-93
MF-XIV-1-17765/17915 (4)	11.99	47 8	416,000	ND	ND	0 63	11 51	40 84	23	8-Nov-93
MF-XIV-1-18214/18361	12 09	43 13	379,000	NR	NR	NR	11 16	40.05	3	10-Nov-93
MF-XIV-1-18214/18361 (4)	12 09	43 13	379,000	0 38	ND	0 6	11 16	40 05	21	10-Nov-93
MF-XIV-1-18337/18406 (5)	11 96	NA	351,000	ND	ND	0 41	•	•	7	10-Nov-93
MF-XIV-1-19453/19654	11 45	41 65	277,000	ND	ND	10.2	11 91	42 15	3	14-Nov-93
MF-XIV-1-19453/19654-1	12 03	33 12	360,000	0 38	ND	0.33	11 91	42 15	19	14-Nov-93
MF-XIV-1-19453/19654-2	11 76	18 87	288,000	ND	ND	0.2	11 91	42 15	19	14-Nov-93
MF-XIV-1-19453/19654-3	11 77	14 91	330,000	ND	ND	0.67	11 91	42 15	19	14-Nov-93
MF-XIV-1-19453/19654-4	11 7	33 4	327,000	ND	ND	0 33	11 91	42 15	19	14-Nov-93
MF-XIV-1-19453/19654-5	11 68	23 8	305,000	ND	ND	0 23	11 91	42 15	19	14-Nov-93
MF-XIII-1-33035/33165	11 95	34 45	439,000	NR	NR	NR	11 22	43 59	3	8-Nov-93
MF-XIII-1-33035/33165 (4)	11 95	34 45	439,000	ND	0.05	0.15	11 22	43 59	9	8-Nov-93
MF-XIII-1-33166/33303	11 89	39 92	449,000	NR	NR	NR	10 54	41 57	3	8-Nov-93
MF-XIII-1-33166/33303 (4)	11.89	39 92	449,000	ND	ND	0 35	10 54	41 57	23	8-Nov-93
MF-XIII-1-33304/33468	11 94	40 59	417,000	NR	NR	NR	10 24	41 24	3	9-Nov-93
MF-XIII-1-33304/33468 (4)	11 94	40 59	417,000	0 43	ND	0 43	10 24	41 24	22	9-Nov-93
MF-XIII-1-33808/33889	11 92	50 44	269,000	NR	NR	NR	10 77	40 27	3	10-Nov-93
MF-XIII-1-33808/33846 (4)	NR	NR	NR	ND	ND	0 45	10 77	40 27	10	10-Nov-93

FLUE DUST STORAGE

FDS-XIV-1-6761/6770	11 09	52 77	349,000	NR	NR	NR	9 26	32 84	3	2-Oct-93
FDS-XIV-1-6761/6770 (4)	NR	NR	NR	ND	ND	1 62	9 26	32 84	39	2-Oct-93
FDS-XIV-1-6801/6810	11 55	47 10	349,000	NR	NR	NR	9 26	32 84	3	2-Oct-93
FDS-XIV-1-6801/6810-3	NR	NR	239,044	ND	5 1	0 11	9 26	32 84	60	2-Oct-93
FDS-XIV-1-6801/6810-4	NR	NR	198,020	ND	8 1	1 24	9 26	32 84	60	2-Oct-93
FDS-XIV-1-7044/7053	11 87	45 31	432,000	NR	NR	NR	9 28	30 94	3	2-Oct-93
FDS-XIV-1-7044/7053 (4)	NR	NR	NR	0 25	ND	0 53	9 28	30 94	39	2-Oct-93

TABLE 7h

SUMMARY OF ITEX FULL SCALE CONTINGENCY TEST RESULTS
IRON PONDS/BRADLEY POND 3/MAIN FLUE/FLUE DUST STORAGE
FLUE DUST OPERABLE UNIT
ANACONDA SMELTER NPL SITE

IRON PONDS

SAMPLE ID	pH (SU)	MOISTURE (%)	ALKALINITY as CaCO3 (mg/kg)	TCLP METALS (mg/L) Lead (mg/L)	Cadmium (mg/L)	Arsenic (mg/L)	MEASUREMENT LIME (%)	MEASUREMENT CEMENT (%)	CURE TIME (days)	STABILIZATION DATE
FDS-XIV-1-7287/7296	11 09	49.27	427,000	NR	NR	NR	11 31	32 8	3	3-Oct-93
FDS-XIV-1-7287/7296 (4)	NR	NR	NR	ND	ND	0 77	11 31	32 98	38	3-Oct-93
FDS-XIV-1-7341/7350	11 65	49.12	410,000	NR	NR	NR	9 23	32 81	3	3-Oct-93
FDS-XIV-1-7341/7350 (4)	NR	NR	NR	0 24	ND	0 37	9 23	32 81	41	3-Oct-93
FDS-XIV-1-7361/7370	11 67	47 07	445,000	NR	NR	NR	9 23	32 81	3	3-Oct-93
FDS-XIV-1-7361/7370 (4)	NR	NR	NR	0 16	ND	0 58	9 23	32 81	38	3-Oct-93
FDS-XIV-1-7391/7400	11.91	47.87	403,000	NR	NR	NR	9 23	32 81	3	3-Oct-93
FDS-XIV-1-7391/7400 (4)	NR	NR	NR	0.13	ND	0 49	9 23	32.81	38	3-Oct-93
FDS-XIV-1-7421/7430	11 89	54 97	433,000	NR	NR	NR	9 23	32 81	3	3-Oct-93
FDS-XIV-1-7421/7430 (4)	NR	NR	NR	0 22	ND	0 57	9 23	32 81	38	3-Oct-93
FDS-XIV-1-7431/7440	11 9	54 81	417,000	NR	NR	NR	9 23	32 81	3	3-Oct-93
FDS-XIV-1-7431/7440 (4)	NR	NR	NR	0 17	ND	0.62	9 23	32 81	41	3-Oct-93
FDS-XIV-1-7441/7450	11.78	51 96	406,000	NR	NR	NR	9 23	32 81	3	3-Oct-93
FDS-XIV-1-7441/7450 (4)	NR	NR	NR	0 4	ND	0 5	9 23	32 81	41	3-Oct-93
FDS-XIV-1-7451/7460	11 97	59 95	459,000	NR	NR	NR	9 23	32 81	3	3-Oct-93
FDS-XIV-1-7451/7460 (4)	NR	NR	NR	0 5	ND	0.59	9 23	32 81	38	3-Oct-93
FDS-XIV-1-7461/7470	11 77	50 38	466,000	NR	NR	NR	9 23	32 81	3	3-Oct-93
FDS-XIV-1-7461/7470 (4)	NR	NR	NR	0 13	ND	0 59	9 23	32 81	38	3-Oct-93
FDS-XIV-1-7541/7550	11 76	70 91	439,000	NR	NR	NR	9 23	32 81	3	3-Oct-93
FDS-XIV-1-7541/7550 (4)	NR	NR	NR	ND	ND	0 73	9 23	32.81	38	3-Oct-93
FDS-XIV-1-7561/7570D	11 52	52 65	405,000	NR	NR	NR	8 82	31 06	3	4-Oct-93
FDS-XIV-1-7561/7570D (4)	NR	NR	NR	ND	ND	0 66	8 82	31 06	37	4-Oct-93
FDS-XIV-1-7571/7580	11 47	50 08	422,000	NR	NR	NR	8 82	31 06	3	4-Oct-93
FDS-XIV-1-7571/7580 (4)	NR	NR	NR	ND	ND	0 58	8 82	31 06	37	4-Oct-93
FDS-XIV-1-7601/7610	11 08	51 67	395,000	NR	NR	NR	8 82	31 06	3	4-Oct-93
FDS-XIV-1-7601/7610 (4)	NR	NR	NR	ND	ND	1 3	8 82	31 06	37	4-Oct-93
FDS-XIV-1-7893/7902D	11 11	43 22	438,000	NR	NR	NR	8 86	30 52	3	6-Oct-93

TABLE 7h

SUMMARY OF ITEX FULL SCALE CONTINGENCY TEST RESULTS
IRON PONDS/BRADLEY POND 3/MAIN FLUE/FLUE DUST STORAGE
FLUE DUST OPERABLE UNIT
ANACONDA SMELTER NPL SITE

IRON PONDS

SAMPLE ID	pH (SU)	MOISTURE (%)	ALKALINITY as CaCO3 (mg/kg)	TCLP METALS (mg/L) Lead (mg/L)	Cadmium (mg/L)	Arsenic (mg/L)	MEASUREMENT LIME (%)	MEASUREMENT CEMENT (%)	CURE TIME (days)	STABILIZATION DATE
FDS-XIV-1-7893/7902D (4)	NR	NR	NR	ND	ND	2 49	8 86	30 52	35	6-Oct-93
FDS-XIV-1-7893/7902-2	NR	NR	332,000	ND	ND	0 18	8 86	30 52	56	6-Oct-93
FDS-XIV-1-7893/7902-5	NR	NR	195,825	ND	ND	0 65	8 86	30 52	56	6-Oct-93
FDS-XIV-1-7913/7922	10 76	49 36	440,000	NR	NR	NR	8 86	30 52	3	6-Oct-93
FDS-XIV-1-7913/7922 (4)	NR	NR	NR	ND	ND	0 73	8 86	30 52	35	6-Oct-93
FDS-XIV-1-8451/8460	11 6	56 42	411,000	NR	NR	NR	11 48	34 19	3	7-Oct-93
FDS-XIV-1-8451/8460 (4)	NR	NR	NR	ND	ND	1.51	11 48	34 19	34	7-Oct-93
FDS-XIV-1-8461/8470	10 75	43.86	414,000	NR	NR	NR	11 48	34 19	3	7-Oct-93
FDS-XIV-1-8461/8470 (4)	NR	NR	NR	ND	ND	4 31	11 48	34 19	34	7-Oct-93
FDS-XIV-1-8546/8555	11 88	68 57	450,000	NR	NR	NR	10 01	32.85	3	7-Oct-93
FDS-XIV-1-8546/8555 (4)	NR	NR	NR	ND	ND	0 78	10 01	32 85	34	7-Oct-93
FDS-XIV-1-8626/8635	12 04	66 43	479,000	NR	NR	NR	10 01	32 85	3	7-Oct-93
FDS-XIV-1-8626/8635 (4)	NR	NR	NR	0 67	ND	0 96	10 01	32 85	34	7-Oct-93
FDS-XIV-1-10082/10284	11 50	64 89	468,000	NR	NR	NR	10 55	34 68	3	13-Oct-93
FDS-XIV-1-10082/10284 (4)	NR	NR	NR	0 34	ND	1 09	10 55	34 68	28	13-Oct-93
FDS-XIV-1-10984/11157	11 52	71 13	441,000	NR	NR	NR	10 61	34.09	3	15-Oct-93
FDS-XIV-1-10984/11157 (4)	NR	NR	NR	ND	ND	1 26	10 61	34.09	26	15-Oct-93
FDS-XIV-1-11824/11978	11 65	71 23	183,000	NR	NR	NR	11 71	31 69	3	18-Oct-93
FDS-XIV-1-11824/11978 (4)	NR	NR	NR	ND	ND	1 76	11 71	31 69	23	18-Oct-93
FDS-XIV-1-11259/12343	11 61	67 06	189,000	NR	NR	NR	11 04	32 91	3	19-Oct-93
FDS-XIV-1-12259/12343 (4)	NR	NR	NR	ND	ND	4 59	11 04	32 91	22	19-Oct-93

Notes
(1) NR = Not Required
(2) NA = Not Applicable
(3) ND = Not Detected
(4) Rextraction of original sample
(5) This sample represents a low reagent QAQC interval check

APPENDIX E

PREFINAL INSPECTION REPORT AND RESPONSE

TABLE E-1
PREFINAL INSPECTION FORM
COMPLETED - SIGNOFF ITEMS

Work Item Completed	Inspection Signoff			
	ARCO Representative		EPA Representative	
	Name	Date	Name	Date
1. Upper Coal Pile Track West of Archon XIII Source Area	Steve Jones (Canonie)	4/14/93	Don Campbell (USBR)	4/15/93
2. Southeast End of Coal Pile Track (Approx. last 250 ft.) Source Area	Steve Jones (Canonie)	5/6/93	Don Campbell (USBR)	5/6/93
3. Small Miscellaneous Pile North of Archon XIII Source Area	Steve Jones (Canonie)	4/14/93	Don Campbell (USBR)	4/15/93
4. Two Miscellaneous Piles near Coal Pile Track Source Area	Steve Jones (Canonie)	4/14/93	Don Campbell (USBR)	4/15/93
5. Switchback Flue Dust Source Area	Steve Jones (Canonie)	6/1/93	Don Campbell (USBR)	6/1/93
6. The Iron Ponds Flue Dust Source Area	Steve Jones (Canonie)	11/11/93	Don Campbell (USBR)	11/11/93
7. Bradley Ponds 3 Flue Dust Source Area	Steve Jones (Canonie)	11/11/93	Don Campbell (USBR)	11/11/93
8. The Main Flue Source Area	Steve Jones (Canonie)	12/13/93	Don Campbell (USBR)	12/13/93
9. The Thickener Pond Source Area	Bart Richardson (ARCO)	12/14/93	Don Campbell (USBR)	12/14/93
10. The Area Cut Flue Dust Source Area	Bart Richardson (ARCO)	12/14/93	Don Campbell (USBR)	12/14/93

TABLE E-1
PREFINAL INSPECTION FORM
COMPLETED - SIGNOFF ITEMS

Work Item Completed	Inspection Signoff			
	ARCO Representative		EPA Representative	
	Name	Date	Name	Date
11. The Bradley Pond 1 Source Area & Adjacent Laydown Area	Bart Richardson (ARCO)	12/15/93	Don Campbell (USBR)	12/15/93
12. The Bradley Pond 2 South Laydown Area	Bart Richardson (ARCO)	2/3/94	Don Campbell (USBR)	2/3/94
13. Coal Pile Tracks Source Area	Bart Richardson (ARCO)	2/3/94	Don Campbell (USBR)	2/3/94
14. Triangular Laydown Area Between Bradley Ponds 2 & 3	Bart Richardson (ARCO)	2/3/94	Don Campbell (USBR)	2/3/94
15. Viewing Laydown Area	Bart Richardson (ARCO)	3/1/94	Don Campbell (USBR)	3/1/94
16. Bradley Ponds 2 Source Area	Bart Richardson (ARCO)	3/1/94	Don Campbell (USBR)	3/1/94
17. Flue Dust Storage and Surrounding Areas	Bart Richardson (ARCO)	7/29/94	Don Campbell (USBR)	7/29/94
18. Miscellaneous Pile Laydown Area	Bart Richardson (ARCO)	7/29/94	Don Campbell (USBR)	7/29/94

TAI E-2
PREFINAL INS TION FORM
COMPLETED CONSTRUCTION ITEMS - NOT SIGNED OFF

Work Item Completed	Inspection Signoff			
	ARCO Representative		EPA Representative	
	Name	Date	Name	Date
1. Repository Excavation Complete (April 9, 1993)	Bart Richardson	Spring 93	Don Campbell	Spring 93
2. Bottom Liner/Leachate Collection System Complete (June 21, 1993)	Bart Richardson	Summer 93	Don Campbell	Summer 93
3. ARCHON™ XI processing Completed (October 16, 1993)	Bart Richardson	Fall 93	Don Campbell	Fall 93
4. Flue Dust Repository Expansion Completed [October 19, 1993]	Bart Richardson	Fall 93	Ken Brockman Don Campbell	Fall 93
5. ARCHON™ XII processing Completed (December 23, 1993)	Bart Richardson	Winter 93	Don Campbell	Winter 93
6. Repository Interim Cover Placed (December 23, 1993)	Bart Richardson	Winter 93	Don Campbell	Winter 93
7. ARCHON™ XIV processing Completed (January 7, 1994)	Bart Richardson	Early 94	Don Campbell	Early 94
8. Placement of Waste Material in Repository Complete (May 26, 1994)	Bart Richardson	Spring 94	Don Campbell	Spring 94
9. Decontamination/Demobilization Complete (July 13, 1994)	Bart Richardson	Summer, 94	Don Campbell	Summer 94

1. () = Projected Date
2. [] = Actual Date

TAB[illegible]-2
PREFINAL INS[illegible]TION FORM
COMPLETED CONSTRUCTION ITEMS - NOT SIGNED OFF

Work Item Completed	Inspection Signoff			
	ARCO Representative		EPA Representative	
	Name	Date	Name	Date
10. Final Cap System Completed (August 19, 1994)	Bart Richardson	Late Summer 94	Don Campbell	Late Summer 94
11. Final Cap Mulching Completed (November 8, 1994)	Bart Richarson	Fall 94	Don Campbell	Fall 94
12. Precertification of RA Completion				
13. Prefinal Inspection (PI) FDR Hydraulic Control Facilities Completed				
14. Final Cap Seeding Completed	Bart Richardson	Initial Fall 95 Final Fall 96		
15. PI Iron Ponds Grade Work Completed	Bart Richardson	Winter 93	Don Campbell	Winter 93
16. PI Coal Pile Tracks Grade Work Completed				
17. PI FDS Facility Grade Work Completed				
18. PI Miscellaneous Piles Grade Work Completed				
19. PI Switch Back Grade Work Completed				

1. () = Projected Date
2. [] = Actual Date

TABLE E-2
PREFINAL INSPECTION FORM
COMPLETED CONSTRUCTION ITEMS - NOT SIGNED OFF

Work Item Completed	Inspection Signoff			
	ARCO Representative		EPA Representative	
	Name	Date	Name	Date
20. PI Area Cut Grade Work Completed				
21. PI Thickener Grade Work Completed				
22. PI Main Flue Grade Work Completed				
23. Main Flue Erosion Control Facilities Completed				
24. PI Bradley Ponds Grade Work Completed				

1. () = Projected Date
2. [] = Actual Date

APPENDIX F

STANDARD OPERATING PROCEDURES FOR TREATING FLUE DUST WASTE WITH ARCHON UNITS

APPENDIX F-1

ARCHON XIII PLANT ADDITIVE PROCESS CONTROL MAIN FLUE PILE

STANDARD OPERATING PROCEDURES FOR TREATING FLUE DUST WASTE WITH ARCHON UNITS

ARCHON XIII PLANT ADDITIVE PROCESS CONTROL

The following procedures are designed to be used during the operation of the ARCHON XIII Plant for the Main Flue Pile at 40% cement and 10% lime per dry ton of flue dust.

1.0 INTRODUCTION

Prior to stabilization, raw flue dust to be processed with a full scale mix design shall be characterized by an analytical survey of the material including pH, % moisture, and total metals. Once characterized, stabilization of the raw flue dust begins with an initial screening operation through a 4" READ Screen-All. A backhoe then begins feeding the flue dust through a 6 inch grizzly screen into the homogenizer (Homo). Water is then added in the Homo via a metering pump. The amount of water added is programmed into the unit (approximately 140 gal/min), however the operator can add more water should the slurry become too dry. While the raw flue dust/homo water slurry is mixing in the Homo, reagent (lime) is being added via the Homo reagent auger. This slurry mixture continues to mix until the Homo has been charged to a half to three quarter level. A hydraulic gate is opened and the slurry is gravity fed into the mixer. Reagent and water are again added and the slurry is mixed again for 1.5 minutes before being dumped into a truck.

2.0 FLUE DUST PILE CHARACTERIZATION

2.1 Screen the raw flue dust to 4 inch minus using a Reed Screen All Vibratory Screen.

2.2 Stockpile screened flue dust into piles equalling one or more days production.

2.3 Collect one random composite sample from 0" to 36" inches deep in each stockpile.

2.4 All pertinent field quality assurance/quality control documentation shall be completed prior to submitting the sample(s) to the ITEX lab.

2.5 Analyze each sample for pH, % moisture and total arsenic, lead and cadmium. Analysis will comply with applicable portions of the Clark Fork River LAP.

2.6 ITEX QA/QC personnel shall document in the ARCHON XIII QA/QC plant logbook, the results and compliance thereof each stockpile's analytical results as specified in the following table.

2.7 If the stockpiles raw sample results for pH, moisture, or metals concentration fall outside of the specified raw parameter bands, the stockpile is remixed and then resampled in accordance with the Final Design Report, Section 3.3 (ARCO, June, 1993).

RAW MATERIAL					
	pH (SU)	Moisture %	Total Metals (mg/kg)		
			Lead	Cadmium	Arsenic
Min	3.86	13.73	1,147	32	8,888
Max	6.62	32.41	10,866	663	43,398

Treated Material			
	pH (su)	**Moisture (%)**	**Alkalinity as $CaCO_3$ (mg/kg)**
Min	11.54	27.60	206.000
Max	12.13	61.23	374,000

3.0 HOMOGENIZER ADDITIVE CONTROL

3.1 Feed flue dust to the ARCHON XIII unit by backhoe to the homogenizer

3.2 Feed the flue dust into the Homo at an average rate of 90 dry tons per hour

3.3 Add 10% lime (on a dry basis) to the Homo via a calibrated auger.

3.5 Calibrate the lime auger weekly

3.5 (a) Auger calibration is performed as follows:

. Manually start the auger and run for 5 seconds while filling a 5 gallon bucket

Weigh the bucket using a certified scale (WT).

. Calculate the lime addition rate [(WTx60)/5]=lb/min lime addition rate

Repeat step 3.5 (a) in triplicate and average the results to obtain the weekly addition rate

3.6 The automatic timer logs the amount of time which the lime was fed to the Homo

3.7 The timer is set using the previous days data to determine the amount of time the auger should be on each minute.

3.7(a) Calculation of Auger timer setting:

DT_B = Dry Tons/Batch [Tons/Batch]

t_B = Average batch time [Min/Batch]

MD = Homo mix design expressed per 100 lbs Dry Flue Dust [lbs] (i.e 10%Lime = 10# Lime required per 100# Dry Flue Dust)

Q_{HA} = Homo auger flow rate given from auger calibration [#Homo Additive/Min]

$$\frac{DTB \times MD \times 1200\ lbs.sec}{t_B \quad Q_{HA}\ ton.min.lbs\ Dry\ FD} = \frac{Auger\ Run\ Time}{Plant\ Run\ Time}\ [sec/min]$$

3.8 If the plant becomes non-operational, the plant operator will manually shut down the feed auger Upon completion of maintenance, the plant operator will manually restart the lime feed auger once flue dust enters the Homo

3.9 The auger run time can be adjusted to maintain a 10% lime addition using the procedure in section 3.7a.

4.0 CONFIRMATION OF ADDITIVES

4.1 Calculate the weight of dry flue dust in the Homo and % additives per dry ton of flue dust as follows:

W_C = Weight Batcher Cement Addition (lbs) {from computer printout

W_L = Homo Lime Addition (lbs) {from auger calibration and timer log}

W_W = Water Addition (lbs) {from water meter}

W_S = Slurry Weight (lbs) {from computer printout}

W = % flue dust moisture (%) {from pre-treatment lab analysis}

W_{FD} = Dry Flue Dust (lbs)

M = Wet Moisture of Flue Dust

$(W_S - W_L - W_W)/(1+M) = W_{FD}$

(W_L/W_{FD}) = % Lime Addition/Dry Flue Dust

(W_C/W_{FD}) = % Cement Addition/Dry Flue Dust

5.0 WATER ADDITION

5 1 Add sufficient water to the Homo to maintain the amperage of the Homo drive motors to within the range of 35-45 amps

5 2 Add sufficient water to the batch mixer to maintain the amperage of the mixer drive motor to within the range of 20-25 amps

6.0 DETERMINING CEMENT TO SLURRY RATIO

6 1 Process test batches at different water to flue dust ratios

6.2 Select water ratio that allows efficient operation of all plant components as described in section 5.0

6 3 Process 5 test batches at the selected ratio.

6.4 Collect process data as described in section 4.0

6 5 Calculate cement to slurry ratio by calculating dry flue dust (WFD) as described in section 4.1 and then multiplying dry flue dust (W_{FD}) by proposed mix design (40%)

6 6 Determine cement to slurry ratio by dividing value calculated in 6.5 into slurry weight (Ws).

6.7 A chart is posted in the control room for the determined cement to slurry ratio for various batch sizes using 200 pound batch increments.

6.8 Ratios are adjusted during QAQC interval checks from +/- 0.25% to +/- 1.0% to achieve the 40% mix design +/- 1 requirement.

7.0 QA/QC CHECKS

7.1 Perform interval checks on the reagent additive systems 4 times per shift

7.2 Interval checks include the following procedures:

. For each time interval check call up from the ARCHON XIII computer the printout on

- total amount of slurry,
- total additive weighed in weigh batcher, and
- total water weighed in the weigh batcher.

Record the Homo additive timer count in seconds and convert the seconds to pounds of lime added as described in step 3 5.

. Record the Homo water addition rate in gallons and convert to pounds.

. Calculate, and record in the ARCHON XIII QA/QC logbook, the mix ratio as described in section 4.1.

. Interval checks are performed 4 times a day to keep reagent addition within +\- 1% of the established 40%:10% mix design during an interval check and no less than a 40% 10% minimum average at the end of the shift

8.0 MIX TIME

8.1 The mix time for the ARCHON XIII unit is defined as the time required to achieve adequate mixing (once the slurry, cement and water have been added) within the weigh batcher to achieve the stipulated performance criteria.

8.2 The mix time established for ARCHON XIII for Flue Dust Storage is 1 5 minutes.

8.3 Set and verify on daily basis that the ARCHON XIII has a mix time of 1.5 minutes programmed into the computer

9.0 BATCH TIME

9.1 The average batch time for the ARCHON XIII unit is defined as the time that it takes for material to pass from the conveyor through the Homo and mixer into the haul truck.

9.2 The average batch time established for ARCHON XIII is 3.10 minutes. This number represents a Homo slurry retention time of approximately 1.60 minutes, and mixer slurry retention time of 1.5 minute

APPENDIX F-2

ARCHON XIV PLANT ADDITIVE PROCESS CONTROL
FLUE DUST STORAGE PILE

STANDARD OPERATING PROCEDURES FOR TREATING FLUE DUST WASTE WITH ARCHON UNITS

ARCHON XIV PLANT ADDITIVE PROCESS CONTROL

The following procedures are designed to be used during the operation of the ARCHON XIV Plant for the Flue Dust Storage Pile at 32% cement and 9% lime per dry ton of flue dust.

1.0 INTRODUCTION

Prior to stabilization, raw flue dust to be processed with a full scale mix design shall be characterized by an analytical survey of the material including pH, % moisture, and total metals Once characterized, stabilization of the raw flue dust begins with a backhoe feeding a dozer trap with a conveyor. The conveyor dumps the flue dust through a 6 inch grizzly screen into the homogenizer (Homo). Water is then added in the Homo via a metering pump The amount of water added is programmed into the unit (approximately 140 gal/min), however the operator can add more water should the slurry become too dry. While the raw flue dust/homo water slurry is mixing in the Homo, reagent (lime) is being added via the Homo reagent auger. This slurry mixture continues to mix until the Homo has been charged to a half to three quarter level A hydraulic gate is opened and the slurry is gravity fed into the mixer. Reagent and water are again added and the slurry is mixed again for 1.0 minutes before being dumped into a truck

2.0 FLUE DUST PILE CHARACTERIZATION

2.1 Screen the raw flue dust to 6 inch minus using a Reed Screen All vibratory screen

2.2 Stockpile screened flue dust into piles equalling one or more days production.

2.3 Collect one random composite sample from 0" to 36" inches deep in each stockpile

2.4 All pertinent field quality assurance/quality control documentation shall be completed prior to submitting the sample(s) to the ITEX lab

2.5 Analyze each sample for pH, % moisture and total arsenic, lead and cadmium. Analysis will comply with applicable portions of the Clark Fork River LAP.

2.6 ITEX QA/QC personnel shall document in the ARCHON XIV QA/QC plant logbook, the results and compliance thereof each stockpile's analytical results as specified in the following table.

2.7 If the stockpiles raw sample results for pH, moisture, or metals concentration fall outside of the specified raw parameter bands, the stockpile is remixed and then resampled in accordance with the Final Design Report, Section 3.3 (ARCO, June, 1993).

RAW MATERIAL					
	pH (SU)	Moisture %	Total Metals (mg/kg)		
			Lead	Cadmium	Arsenic
Min	2.65	7.50	1,166	129	1,709
Max	11.58	45.44	40,851	5,643	146,447

TREATED MATERIAL			
	pH (SU)	Moisture %	Alkalinity as CaCO3 (mg/kg)
Min	11.13	36.18	136.000
Max	12.02	64.17	535.000

3.0 HOMOGENIZER ADDITIVE CONTROL

3.1 Feed flue dust to the ARCHON XIV unit by backhoe to the dozer trap.

3.2 The flue dust is dropped onto a grizzly screen where the flue dust is screened to 6 inch minus for a second time then dropped onto the feed conveyor.

3.3 Feed the flue dust into the Homo at an average rate of 105 dry tons per hour.

3.4 Add 9% lime (on a dry basis) to the Homo via a calibrated auger.

3.5 Calibrate the lime auger weekly.

3.5 (a) Auger calibration is performed as follows

- Manually start the auger and run for 5 seconds while filling a 5 gallon bucket.
- Weigh the bucket using a certified scale (WT)
- Calculate the lime addition rate [(WTx60)/5]=lb/min lime addition rate
- Repeat step 3.5 (a) in triplicate and average the results to obtain the weekly addition rate.

3.6 The automatic timer logs the amount of time which the lime was fed to the Homo.

3.7 The timer is set using the previous days data to determine the amount of time the auger should be on each minute.

3.7(a) Calculation of Auger timer setting:

DT_B = Dry Tons/Batch [Tons/Batch]

t_B = Average batch time [Min/Batch]

MD = Homo mix design expressed per 100 lbs Dry Flue Dust [lbs] (i.e.

9%Lime = 9# Lime required per 100# Dry Flue Dust)

Q_{HA} = Homo auger flow rate given from auger calibration. [#Homo Additive/Min]

$$\frac{DTB \times MD \times 1200\ lbs.sec}{Q_{HA}\ ton.min.lbs\ Dry\ FD} = \frac{\text{Auger Run Time}}{\text{Plant Run Time}}\ [sec/min] \qquad t_B$$

3.8 If the plant becomes non-operational, the plant operator will manually shut down the feed auger. Upon completion of maintenance, the plant operator will manually restart the lime feed auger once flue dust enters the Homo.

3.9 The auger run time can be adjusted to maintain a 9% lime addition using the procedure in section 3.7a.

4.0 CONFIRMATION OF ADDITIVE RATES

4.1 Calculate the weight of dry flue dust in the Homo and % additives per dry ton of flue dust as follows

W_C = Weight Batcher Cement Addition (lbs) {from computer printout

W_L = Homo Lime Addition (lbs) {from auger calibration and timer log}

W_W = Water Addition (lbs) {from water meter}

W_S = Slurry Weight (lbs) {from computer printout}

W = % flue dust moisture (%) {from pre-treatment lab analysis}

W_{FD} = Dry Flue Dust (lbs)

M = Wet Moisture of Flue Dust

$(W_S - W_L - W_W)/(1+M) = W_{FD}$

(W_L/W_{FD}) = % Lime Addition/Dry Flue Dust

(W_C/W_{FD}) = % Cement Addition/Dry Flue Dust

5.0 WATER ADDITION

5.1 Add sufficient water to the Homo to maintain the amperage of the Homo drive motors to within the range of 35-45 amps.

5.2 Add sufficient water to the batch mixer to maintain the amperage of the mixer drive motor to within the range of 2-20 amps

6.0 DETERMINING CEMENT TO SLURRY RATIO

6.1 Process test batches at different water to flue dust ratios.

6.2 Select water ratio that allows efficient operation of all plant components as described in section 5 0.

6.3 Process 5 test batches at the selected ratio.

6.4 Collect process data as described in section 4.0

6 5 Calculate cement to slurry ratio by calculating dry flue dust (W_{FD}) as described in section 4 1 and then multiplying dry flue dust (W_{FD}) by proposed mix design (32%)

6.6 Determine cement to slurry ratio by dividing value calculated in 6.5 into slurry weight (Ws).

6.7 A chart is posted in the control room for the determined cement to slurry ratio for various batch sizes using 200 pound batch increments.

6 8 Ratios are adjusted during QA/QC interval checks from +/- 0.25% to +/- 1 0% to achieve the 32% mix design +/- 1 requirement.

7.0 QA/QC CHECKS

7.1 Perform interval checks on the reagent additive systems 4 times per shift

7.2 Interval checks include the following procedures

- For each time interval check call up from the ARCHON XIV computer the printout on.
  - total amount of slurry.
  - total additive weighed in weigh batcher, and
  - total water weighed in the weigh batcher.
- Record the Homo additive timer count in seconds and convert the seconds to pounds of lime added as described in step 3.5.
- Record the Homo water addition rate in gallons and convert to pounds
- Calculate, and record in the ARCHON XIV QA/QC logbook, the mix ratio as described in section 4.1.
- Interval checks are performed 4 times a day to keep reagent addition within +\- 1% of the established 32%:9% mix design during an interval check and no less than a 32%:9% minimum average at the end of the shift.

8.0 MIX TIME

8 1 The mix time for the ARCHON XIV unit is defined as the time required to achieve adequate mixing (once the slurry, cement and water have been added) within the weigh batcher to achieve the stipulated performance criteria.

8.2 The mix time established for ARCHON XIV for Flue Dust Storage is 1 minute

8 3 Set and verify on daily basis that the ARCHON XIV has a mix time of 1 minute programmed into the computer.

9.0 BATCH TIME

9.1 The average batch time for the ARCHON XIV unit is defined as the time that it takes for material to pass from the conveyor through the Homo and mixer into the haul truck

9.2 The average batch time established for ARCHON XIV is 2.65 minutes. This number represents a Homo slurry retention time of approximately 1.65 minutes, and mixer slurry retention time of 1.0 minute

APPENDIX F-3

ARCHON XIV PLANT ADDITIVE PROCESS CONTROL MAIN FLUE

STANDARD OPERATING PROCEDURES FOR TREATING FLUE DUST WASTE WITH ARCHON UNITS

ARCHON XIV PLANT ADDITIVE PROCESS CONTROL

The following procedures are designed to be used during the operation of the ARCHON XIV Plant for the Main Flue at 40% cement and 10% lime per dry ton of flue dust.

1.0 INTRODUCTION

Prior to stabilization, raw flue dust to be processed with a full scale mix design shall be characterized by an analytical survey of the material including pH, % moisture, and total metals. Once characterized, the stabilization process begins by screening the raw flue dust through a 4" REED Screen-All A backhoe then feeds the screened 4 inch minus raw flue dust material through a dozer trap with a conveyor. The conveyor dumps the flue dust through a 6 inch grizzly screen into the homogenizer (Homo). Water is then added in the Homo via a metering pump. The amount of water added is programmed into the unit (approximately 140 gal/min), however the operator can add more water should the slurry become too dry While the raw flue dust/homo water slurry is mixing in the Homo, reagent (lime) is being added via the Homo reagent auger. This slurry mixture continues to mix until the Homo has been charged to a half to three quarter level. A hydraulic gate is opened and the slurry is gravity fed into the mixer. Reagent and water are again added and the slurry is mixed again for 1.5 minutes before being dumped into a truck.

2.0 FLUE DUST PILE CHARACTERIZATION

2.1 Screen the raw flue dust to 4 inch minus using a Reed Screen All Vibratory Screen.

2.2 Stockpile screened flue dust into piles equalling one or more days production.

2.3 Collect one random composite sample from 0" to 36" inches deep in each stockpile

2.4 All pertinent field quality assurance/quality control documentation shall be completed prior to submitting the sample(s) to the ITEX lab.

2.5 Analyze each sample for pH, % moisture and total arsenic, lead and cadmium. Analysis will comply with applicable portions of the Clark Fork River LAP.

2.6 ITEX QA/QC personnel shall document in the ARCHON XIV QA/QC plant logbook, the results and compliance thereof each stockpile's analytical results as specified in the following table.

2.7 If the stockpiles raw sample results for pH, moisture, or metals concentration fall outside of the specified raw parameter bands, the stockpile is remixed and then resampled in accordance with the Final Design Report, Section 3.3 (ARCO, June, 1993)

RAW MATERIAL					
	pH (SU)	Moisture %	Total Metals (mg/kg)		
			Lead	Cadmium	Arsenic
Min	3.86	13.73	1,147	32	8,888
Max	6.62	32.41	10,866	663	43,398

TREATED MATERIAL			
	pH (SU)	Moisture %	Alkalinity as CaCO3 (mg/kg)
Min	11 54	27.60	206.000
Max	12 13	61.23	374.000

3.0 HOMOGENIZER ADDITIVE CONTROL

3.1 Feed flue dust to the ARCHON XIV unit by backhoe to the dozer trap.

3.2 The flue dust is dropped onto a grizzly screen where the flue dust is screened to 6 inch minus for a second time then dropped onto the feed conveyor.

3.3 Feed the flue dust into the Homo at an average rate of 125 dry tons per hour.

3.4 Add 10% lime (on a dry basis) to the Homo via a calibrated auger.

3.5 Calibrate the lime auger weekly.

3.5 (a) Auger calibration is performed as follows:

- Manually start the auger and run for 5 seconds while filling a 5 gallon bucket.
- Weigh the bucket using a certified scale (WT).
- Calculate the lime addition rate [(WTx60)/5]=lb/min lime addition rate.
- Repeat step 3.5 (a) in triplicate and average the results to obtain the weekly addition rate.

3.6 The automatic timer logs the amount of time which the lime was fed to the Homo

3.7 The timer is set using the previous days data to determine the amount of time the auger should be on each minute.

3.7(a) Calculation of Auger timer setting:

DTB = Dry Tons/Batch [Tons/Batch]

t_B = Average batch time [Min/Batch]

MD = Homo mix design expressed per 100 lbs Dry Flue Dust [lbs]
(i.e. 10%Lime = 10# Lime required per 100# Dry Flue Dust)

Q_{HA} = Homo auger flow rate given from auger calibration. [#Homo Additive/Min]

$$\frac{DTB \times MD \times 1200\ lbs.sec}{Q_{HA}\ ton.min.lbs\ Dry\ FD} = \frac{Auger\ Run\ Time}{Plant\ Run\ Time}\ [sec/min]\ t_B$$

3.8 If the plant becomes non-operational, the plant operator will manually shut down the feed auger Upon completion of maintenance, the plant operator will manually restart the lime feed auger once flue dust enters the Homo

3.9 The auger run time can be adjusted to maintain a 10% lime addition using the procedure in section 3.7a.

4.0 CONFIRMATION OF ADDITIVE RATES

4.1 Calculate the weight of dry flue dust in the Homo and % additives per dry ton of flue dust as follows:

W_C = Weight Batcher Cement Addition (lbs) {from computer printout

W_L = Homo Lime Addition (lbs) {from auger calibration and timer log}

W_W = Water Addition (lbs) {from water meter}

W_S = Slurry Weight (lbs) {from computer printout}

W = % flue dust moisture (%) {from pre-treatment lab analysis}

W_{FD} = Dry Flue Dust (lbs)

M = Wet Moisture of Flue Dust

$(W_S - W_L - W_W)/(1+M) = W_{FD}$

(W_L/W_{FD}) = % Lime Addition/Dry Flue Dust

(W_C/W_{FD}) = % Cement Addition/Dry Flue Dust

5.0 WATER ADDITION

5.1 Add sufficient water to the Homo to maintain the amperage of the Homo drive motors to within the range of 40-50 amps.

5.2 Add sufficient water to the batch mixer to maintain the amperage of the mixer drive motor to within the range of 5-15 amps.

6.0 DETERMINING CEMENT SLURRY RATIO

6.1 Process test batches at different water to flue dust ratios.

6.2 Select water ratio that allows efficient operation of all plant components as described in section 5.0.

6.3 Process 5 test batches at the selected ratio.

6.4 Collect process data as described in section 4.0

6.5 Calculate cement to slurry ratio by calculating dry flue dust (W_{FD}) as described in section 4.1 and then multiplying dry flue dust (W_{FD}) by proposed mix design (40%).

6.6 Determine cement to slurry ratio by dividing value calculated in 6.5 into slurry weight (Ws).

6.7 A chart is posted in the control room for the determined cement to slurry ratio for various batch sizes using 200 pound batch increments

6.8 Ratios are adjusted during QA/QC interval checks from +/- 0.25% to +/- 1.0% to achieve the 40% mix design +/- 1 requirement

7.0 QA/QC CHECKS

7.1 Perform interval checks on the reagent additive systems 4 times per shift

7.2 Interval checks include the following procedures

- For each time interval check call up from the ARCHON XIV computer the printout on:

  - total amount of slurry,
  - total additive weighed in weigh batcher, and
  - total water weighed in the weigh batcher,

- Record the Homo additive timer count in seconds and convert the seconds to pounds of lime added as described in step 3.5.

- Record the Homo water addition rate in gallons and convert to pounds

- Calculate, and record in the ARCHON XIV QA/QC logbook, the mix ratio as described in section 4 1.

- Interval checks are performed 4 times a day to keep reagent addition within +\- 1% of the established 40%.10% mix design during an interval check and no less than a 40% 10% minimum average at the end of the shift.

8.0 MIX TIME

8.1 The mix time for the ARCHON XIV unit is defined as the time required to achieve adequate mixing (once the slurry, cement and water have been added) within the weigh batcher to achieve the stipulated performance criteria

8.2 The mix time established for ARCHON XIV for Flue Dust Storage is 1.5 minutes

8.3 Set and verify on daily basis that the ARCHON XIV has a mix time of 1.5 minute programmed into the computer

9.0 BATCH TIME

9 1 The average batch time for the ARCHON XIV unit is defined as the time that it takes for material to pass from the conveyor through the Homo and mixer into the haul truck.

9.2 The average batch time established for ARCHON XIV is 3.15 minutes This number represents a Homo slurry retention time of approximately 1.65 minutes, and mixer slurry retention time of 1.5 minute.

APPENDIX F-4

ARCHON XI PLANT ADDITIVE PROCESS CONTROL
BRADLEY PONDS 2

SOP
December, 1993
Revision 0

STANDARD OPERATING PROCEDURE

ARCHON™ XI PLANT ADDITIVE PROCESS CONTROL BRADLEY PONDS 2

The following procedures are designed to be used during the operation of the ARCHON™ XI Plant for the Bradley Ponds 2 material at 24 percent cement per dry ton of raw flue dust.

1.0 INTRODUCTION

Prior to stabilization, raw flue dust, which is to be processed with a full-scale mix design, shall be characterized by an analytical survey of the material including pH, percent moisture, and total metals. Once the material is characterized, stabilization of the raw flue dust begins with a backhoe feeding a 6-inch REED Screen-All mounted to a dozer trap with a conveyor. The conveyor dumps the flue dust through another 6-inch grizzly screen, which is in the homogenizer (Homo). Water is added in the Homo using a metering pump. The amount of water to be added is programmed into the unit [approximately 140 gallons per minute (gal/min)]; however, the operator can add more water should the slurry become too dry. While the raw flue dust/Homo water slurry is mixing in the Homo, reagent (cement) is being added through the Homo reagent auger. This slurry mixture continues to mix until the Homo has been charged to a half to three-quarter level. A hydraulic gate is opened and the slurry is gravity fed into the mixer. Reagent and water are again added in the mixer, and the slurry is mixed for 45 seconds before being dumped into a haul truck.

2.0 FLUE DUST PILE CHARACTERIZATION

2.1 The raw flue dust shall be screened to 6-inch minus using a REED Screen-All vibratory screen.

2.2 The processed flue dust shall be deposited into stockpiles equalling one or more days of production.

2.3 One random composite sample ranging in depth from 0 to 36 inches shall be collected from each pile.

2.4 All pertinent field quality assurance/quality control (QA/QC) documentation shall be completed prior to submitting the sample(s) to the ITEX lab.

2.5 All samples shall be analyzed for pH, percent moisture, and total metals for arsenic, lead, and cadmium. Analyses shall comply with applicable portions of the Clark Fork River Laboratory Analytical Protocol.

2.6 ITEX QA/QC personnel shall document in the ARCHON™ XI QA/QC plant logbook the results and compliance of each stockpile's analytical results, as specified in Table 2.1.

2.7 If the stockpile's raw sample results for pH, percent moisture or total metals concentrations fall outside of the specified raw parameter bands, the stockpile shall be remixed and resampled in accordance with the Final Design Report, Section 3.3 [Canonie Environmental Services Corp. (Canonie), April 1993].

TABLE 2.1

Raw Material					
	pH (su)	Moisture (%)	Total Metals (mg/kg)		
			Lead	Cadmium	Arsenic
Min	7.96	21.65	657	55	481
Max	11.98	51.33	22,440	2,221	20,263

Treated Material			
	pH (su)	Moisture (%)	Alkalinity as $CaCO_3$ (mg/kg)
Min	11.15	21.25	127,000
Max	12.25	50.44	357,000

3.0 HOMOGENIZER ADDITIVE CONTROL

3.1 The flue dust shall be fed to the ARCHON™ XI unit using a backhoe through a 6-inch REED Screen-All mounted to a dozer trap.

3.2 The flue dust shall be dropped onto the feed conveyor and shall be screened again to 6-inch minus as the material is fed into the Homo.

3.3 The flue dust shall be fed into the Homo at an average rate of 135 dry tons per hour.

3.4 Five percent cement (calculated as a percentage of dry flue dust weight) shall be added to the Homo using a calibrated auger.

3.5 The Homo reagent auger shall be calibrated weekly. Auger calibration shall be performed as follows:

- Start the auger manually and run for five seconds while filling a five-gallon bucket.
- The bucket shall be weighed (WT) using a certified scale.
- The cement addition rate (lb/min) shall be calculated using the equation:

$$[(WT \times 60)/5]$$

- Step 3.5 shall be repeated three times, and the results shall be averaged to obtain the weekly addition rate.

3.6 The automatic timer shall log the time required to feed the cement into the Homo.

3.7 The timer shall be set using the previous day's data to regulate the time of auger operation. Calculation of the auger timer setting shall be as follows:

- DT_B = Dry Tons/Batch (Tons/Batch)

- t_B = Average batch time (Min/Batch)

- MD = Homo mix design expressed as a value per 100 lbs of dry flue dust (lbs) (i.e., 5 percent cement = 5 lbs cement required per 100 lbs dry flue dust)

- Q_{HA} = Homo auger flow rate as determined from auger calibration (lbs Homo Additive/Min)

$$\frac{DTB}{t_B} \times \frac{MD}{Q_{HA}} \times \frac{1200\ (lbs/sec)}{Dry\ FD\ (ton/min/lbs)} = \frac{Auger\ Run\ Time\ (sec/min)}{Plant\ Run\ Time}$$

3.8 If the plant becomes nonoperational, the plant operator shall manually shut down the feed auger. Upon completion of maintenance, the plant operator shall manually restart the Homo reagent feed auger when flue dust enters the Homo.

3.9 The auger run time shall be adjusted to maintain a 5-percent cement addition using the procedure described in Step 3.7.

4.0 CONFIRMATION OF ADDITIVE RATES

4.1 Calculate the weight of dry flue dust in the Homo and percent additives per dry ton of flue dust, as follows

- W_C = Weight Batcher Cement Addition (lbs) {from computer printout}
- W_{HC} = Homo Cement Addition (lbs) {from auger calibration and timer log}
- W_W = Water Addition (lbs) {from water meter}
- W_S = Slurry Weight (lbs) {from computer printout}
- W = Flue Dust Moisture (%) {from pre-treatment lab analysis}
- W_{FD} = Dry Flue Dust Weight (lbs)
- M = Wet Moisture of Flue Dust

$(W_S - W_{HC} - W_W)/(1+M) = W_{FD}$

- (W_{HC}/W_{FD}) = percent Homo Cement Addition/Dry Flue Dust Weight
- (W_C/W_{FD}) = percent Cement Addition/Dry Flue Dust Weight

5.0 WATER ADDITION

5.1 Sufficient water shall be added to the Homo to maintain the amperage of the Homo drive motors to within 25 to 35 amps.

5.2 Sufficient water shall be added to the batch mixer to maintain the amperage of the mixer drive motor to within 25 to 40 amps.

6.0 DETERMINING CEMENT TO SLURRY RATIO

6.1 Test batches shall be processed using different water to flue dust ratios.

6.2 The water ratio that allows efficient operation of all plant components, as described in Section 5.0, shall be selected

6.3 Five test batches shall be processed at the selected ratio

6.4 Process data shall be collected as described in Section 4.0

6.5 The cement to slurry ratio shall be calculated by first calculating the dry flue dust weight (W_{FD}), as described in Section 4.0 Step 4.1, then multiplying the dry flue dust weight (W_{FD}) by the proposed mix design minus the reagent added in the Homo (19 percent).

6.6 The cement to slurry ratio shall be determined by dividing the slurry weight (Ws) by the value calculated in Step 6.5.

6.7 The chart posted in the control room shall be used for the determined cement to slurry ratios for various batch sizes using 200-pound batch increments.

6.8 Ratios shall be adjusted during QA/QC interval checks from ± 0.25 percent to ± 1.0 percent to achieve the 24 percent mix design ± 1 percent requirement.

7.0 QUALITY ASSURANCE/QUALITY CONTROL CHECKS

7.1 Interval checks shall be performed on the reagent additive systems four times per shift.

7.2 The interval checks shall include the following procedures:

- For each time interval a printout listing the following items shall be generated from the ARCHON™ XI computer:
  - Total amount of slurry
  - Total additive weighed in the weigh batcher
  - Total water weighed in the weigh batcher
- The Homo additive timer count shall be recorded in seconds, and the seconds shall be converted to pounds of cement added, as described in Section 3.0, Step 3.5.
- The Homo water addition rate shall be recorded in gallons and converted to pounds.
- The mix ratio, as described in Section 4.0, Step 4.1, shall be calculated and recorded in the ARCHON™ XI QA/QC logbook.
- Interval checks shall be performed four times per day to maintain the reagent addition within ± 1 percent of the established 24 percent mix design during an interval check and not less than a 24 percent minimum average at the end of the shift.

8.0 MIX TIME

8.1 The mix time for the ARCHON™ XI unit is defined as the time required to achieve adequate mixing (once the slurry, cement, and water have been added) within the weigh batcher to achieve the stipulated performance criteria.

8.2 The mix time established for ARCHON™ XI for Bradley Ponds 2 is 45 seconds.

8.3 A mix time of 45 seconds shall be programmed into the ARCHON™ XI computer and verified on a daily basis.

9.0 BATCH TIME

9.1 The average batch time for the ARCHON™ XI unit is defined as the time required for the material to pass from the conveyor through the Homo and mixer and into the haul truck.

9.2 The average batch time established for ARCHON™ XI is 2.25 minutes. This number represents a Homo slurry retention time of approximately 1.5 minutes and a mixer slurry retention time of 45 seconds.

APPENDIX F-5

ARCHON XI PLANT ADDITIVE PROCESS CONTROL
BRADLEY PONDS 3

SOP
December, 1993
Revision 0

STANDARD OPERATING PROCEDURE

ARCHON™ XI PLANT ADDITIVE PROCESS CONTROL
BRADLEY PONDS 3

The following procedures are designed to be used during the operation of the ARCHON™ XI Plant for the Bradley Ponds 3 material at a 24/4 (percent cement/percent lime) design mix per dry ton of raw flue dust.

1.0 INTRODUCTION

Prior to stabilization, raw flue dust, which is to be processed with a full-scale mix design, shall be characterized by an analytical survey of the material including pH, percent moisture, and total metals. Once the material is characterized, stabilization of the raw flue dust begins with a backhoe feeding a 6-inch REED Screen-All mounted to a dozer trap with a conveyor. The conveyor dumps the flue dust through another 6-inch grizzly screen, which is in the homogenizer (Homo). Water is then added in the Homo using a metering pump. The amount of water added is programmed into the unit [approximately 130 gallons/minute (gal/min)]; however, the operator can add more water should the slurry become too dry. While the raw flue dust/Homo water slurry is mixing in the Homo, reagent (lime) is being added through the Homo reagent auger. This new slurry mixture continues to mix until the Homo has been charged to a half to three-quarter level. A hydraulic gate is opened and the slurry is gravity fed into the mixer. Reagent (cement) and water are also added into the mixer, and the slurry is mixed for 45 seconds before being dumped into a haul truck.

2.0 FLUE DUST PILE CHARACTERIZATION

2.1 The raw flue dust shall be screened to 6-inch minus using a REED Screen-All vibratory screen.

2.2 The processed flue dust shall be deposited into stockpiles equalling one or more days of production.

2.3 One random composite sample ranging in depth from 0 to 36 inches shall be collected from each pile.

2.4 All pertinent field quality assurance/quality control (QA/QC) documentation shall be completed prior to submitting the sample(s) to the ITEX lab.

2.5 All samples shall be analyzed for pH, percent moisture and total metals for arsenic, lead, and cadmium. Analyses shall comply with applicable portions of the Clark Fork River Laboratory Analytical Protocol.

2.6 ITEX QA/QC personnel shall document in the ARCHON™ XI QA/QC plant logbook the results and compliance of each stockpile's analytical results, as specified in Table 2.1.

2.7 If the stockpile's raw sample results for pH, percent moisture or total metals concentrations fall outside of the specified raw parameter bands, the stockpile shall be remixed and resampled in accordance with the Final Design Report, Section 3.3 [Canonie Environmental Services Corp. (Canonie), April 1993].

TABLE 2.1

Raw Material					
	pH (su)	Moisture (%)	Total Metals (mg/kg)		
			Lead	Cadmium	Arsenic
Min	7.82	4.1	863	15	1,904
Max	11.00	40.03	8,575	846	5,600

Treated Material			
	pH (su)	Moisture (%)	Alkalinity as $CaCO_3$ (mg/kg)
Min	11.45	32.45	124,000
Max	12.21	61.25	312,000

3.0 HOMOGENIZER ADDITIVE CONTROL

3.1 The flue dust shall be fed to the ARCHON™ XI unit using a backhoe through the 6-inch REED Screen-All mounted to a dozer trap.

3.2 The flue dust shall be dropped onto the feed conveyor and shall be screened again to 6-inch minus as the material is fed into the Homo.

3.3 The flue dust shall be fed into the Homo at an average rate of 125 dry tons per hour.

3.4 Four percent lime (calculated as a percentage of dry flue dust weight) shall be added to the Homo using a calibrated auger.

3.5 The Homo reagent auger shall be calibrated weekly. Auger calibration shall be performed as follows:

- Start the auger manually and run for five seconds while filling a five-gallon bucket.
- The bucket shall be weighed (WT) using a certified scale.
- The lime addition rate (lb/min) shall be calculated using the equation:

$$[(WT \times 60)/5]$$

- Step 3.5 shall be repeated three times, and the results shall be averaged to obtain the weekly addition rate.

3.6 The automatic timer shall log the time required to feed the lime into the Homo.

3.7 The timer shall be set using the previous day's data to regulate the time of auger operation. Calculation of the auger timer setting shall be as follows:

- DT_B = Dry Tons/Batch (Tons/Batch)
- t_B = Average batch time (Min/Batch)
- MD = Homo mix design expressed as a value per 100 pounds of dry flue dust (lbs) (i.e., 4 percent lime = 4 lbs lime required per 100 lbs dry flue dust)
- Q_{HA} = Homo auger flow rate as determined from auger calibration (lbs Homo additive/min)

$$\frac{DTB}{t_B} \times \frac{MD}{Q_{HA}} \times \frac{1200\ (lbs/sec)}{(ton/min/lbs)\ Dry\ FD} = \frac{\text{Auger Run Time (sec/min)}}{\text{Plant Run Time}}$$

3.8 If the plant becomes nonoperational, the plant operator shall manually shut down the feed auger. Upon completion of maintenance, the plant operator shall manually restart the Homo reagent feed auger when flue dust enters the Homo.

3.9 The auger run time shall be adjusted to maintain a 4 percent lime addition using the procedure described in Step 3.7.

4.0 CONFIRMATION OF ADDITIVE RATES

4.1 Calculate the weight of dry flue dust in the Homo and percent additives per dry ton of flue dust, as follows

- W_C = Weight Batcher Cement Addition (lbs) {from computer printout}
- W_L = Homo Lime Addition (lbs) {from auger calibration and timer log}
- W_W = Water Addition (lbs) {from water meter}
- W_S = Slurry Weight (lbs) {from computer printout}
- W = Flue Dust Moisture (%) {from pre-treatment lab analysis}
- W_{FD} = Dry Flue Dust Weight (lbs)
- M = Wet Moisture of Flue Dust

$$(W_S - W_L - W_W)/(1+M) = W_{FD}$$

- (W_L/W_{FD}) = percent Homo Lime Addition/Dry Flue Dust Weight
- (W_C/W_{FD}) = percent Cement Addition/Dry Flue Dust Weight

5.0 WATER ADDITION

5.1 Sufficient water shall be added to the Homo to maintain the amperage of the Homo drive motors to within 25 to 35 amps

5.2 Sufficient water shall be added to the batch mixer to maintain the amperage of the mixer drive motor to within 25 to 40 amps

6.0 DETERMINING CEMENT TO SLURRY RATIO

6.1 Test batches shall be processed using different water to flue dust ratios.

6.2 The water ratio that allows efficient operation of all plant components, as described in Section 5.0, shall be selected.

6.3 Five test batches shall be processed at the selected ratio

6.4 Process data shall be collected as described in Section 4.0

6.5 The cement to slurry ratio shall be calculated by first calculating the dry flue dust weight (W_{FD}), as described in Section 4.0, Step 4.1, then multiplying the dry flue dust weight (W_{FD}) by the proposed mix design (24 percent).

6.6 The cement to slurry ratio shall be determined by dividing the slurry weight (Ws) by the value calculated in Step 6.5.

6.7 The chart posted in the control room shall be used for the determined cement to slurry ratios for various batch sizes using 200 pound batch increments.

6.8 Ratios shall be adjusted during QA/QC interval checks from ± 0.25 percent to ± 1.0 percent to achieve the 24 percent cement: 4 percent lime mix design ± 1 percent requirement.

7.0 QUALITY ASSURANCE/QUALITY CONTROL CHECKS

7.1 Interval checks shall be performed on the reagent additive systems four times per shift.

7.2 The interval checks shall include the following procedures

- For each time interval check, a printout listing the following items shall be generated from the ARCHON™ XI computer.
  - Total amount of slurry
  - Total additive weighed in the weigh batcher
  - Total water weighed in the weigh batcher
- The Homo additive timer count shall be recorded in seconds, and the seconds shall be converted to pounds of lime added, as described in Section 3.0, Step 3.5
- The Homo water addition rate shall be recorded in gallons and converted to pounds.
- The mix ratio shall be calculated and recorded in the ARCHON™ XI QA/QC logbook, as described in Section 4.0, Step 4.1.
- Interval checks shall be performed four times per day to maintain the reagent addition within a ± 1 percent of the established 24 percent cement: 4 percent lime mix design ratio during an interval check and not less than a 24 percent cement: 4 percent lime minimum average at the end of the shift.

8.0 MIX TIME

8.1 The mix time for the ARCHON™ XI unit is defined as the time required to achieve adequate mixing (once the slurry, cement, and water have been added) within the weigh batcher to achieve the stipulated performance criteria.

8.2 The mix time established for ARCHON™ XI for Bradley Ponds 3 is 45 seconds

8.3 A mix time of 45 seconds shall be programmed into the ARCHON™ XI computer and verified on a daily basis.

9.0 BATCH TIME

9.1 The average batch time for the ARCHON™ XI unit is defined as the time required for the material to pass from the conveyor through the Homo and mixer and into the haul truck

9.2 The average batch time established for ARCHON™ XI is 2.25 minutes This number represents a Homo slurry retention time of approximately 1.5 minutes and a mixer slurry retention time of 45 seconds

APPENDIX F-6

ARCHON XIII PLANT ADDITIVE PROCESS CONTROL
COAL PILE TRACKS

SOP
December, 1993
Revision 0

STANDARD OPERATING PROCEDURE

ARCHON™ XIII PLANT ADDITIVE PROCESS CONTROL COAL PILE TRACKS

The following is a standard operating procedure (SOP) designed for operation of the ARCHON™ XIII Plant when processing coal pile tracks raw material at a 40/10 (percent cement/percent lime) design mix per dry ton of raw flue dust.

1.0 INTRODUCTION

Prior to stabilization, raw flue dust, which is to be processed with a full-scale mix design, shall be characterized by an analytical survey of the material including pH, percent moisture, and total metals. Once the material is characterized, the stabilization process begins by screening the raw flue dust through a 6-inch REED Screen-All vibratory screen. A backhoe then feeds screened material through another 6-inch grizzly screen, which is in the homogenizer (Homo). Water is then added in the Homo using a metering pump. The amount of water to be added is programmed into the unit [approximately 140 gallon per minute (gal/min)]; however, the operator can add more water should the slurry become too dry. While the raw flue dust/Homo water slurry is mixing in the Homo, reagent (lime) is being added through the Homo reagent auger. This new slurry mixture continues to mix until the Homo has been charged to a half to three-quarter level. A hydraulic gate is opened and the slurry is gravity fed into the mixer. Reagent (cement) and water are also added into the mixer, and the slurry is mixed for 1.5 minutes before being dumped into a haul truck.

2.0 FLUE DUST PILE CHARACTERIZATION

2.1 The raw flue dust shall be screened to 6-inch minus using a REED Screen-All vibratory screen.

2.2 The processed flue dust shall be deposited into stockpiles equalling one or more days of production.

2.3 One random composite sample ranging in depth from 0 to 36 inches shall be collected from each pile.

2.4 All pertinent field Quality Assurance/Quality Control (QA/QC) documentation shall be completed prior to submitting the sample(s) to the ITEX lab.

2.5 All samples shall be analyzed for pH, percent moisture, and total metals for arsenic, lead, and cadmium. Analyses shall comply with applicable portions of the Clark Fork River Laboratory Analytical Protocol.

2.6 ITEX QA/QC personnel shall document in the ARCHON™ XIII QA/QC plant logbook the results and compliance of each stockpile's analytical results, as specified in Table 2.1.

2.7 If the stockpile's raw sample results for pH, percent moisture, or total metals concentrations fall outside of the specified raw parameter bands, the stockpile shall be remixed and resampled in accordance with the Final Design Report, Section 3.3 [Canonie Environmental Services Corp. (Canonie), April 1993].

TABLE 2.1

Raw Material					
	pH (su)	Moisture (%)	Total Metals (mg/kg)		
			Lead	Cadmium	Arsenic
Min	2.60	29.70	14,109	590	18,027
Max	5.10	81.80	69,273	4,628	121,609

Treated Material			
	pH (su)	Moisture (%)	Alkalinity as $CaCO_3$ (mg/kg)
Min	9.6	29.70	148.804
Max	12.20	81.80	599.923

3.0 HOMOGENIZER ADDITIVE CONTROL

3.1 The flue dust shall be fed using a backhoe into the Homo of the ARCHON™ XIII unit through a 6-inch REED Screen-All vibratory screen mounted to a dozer trap.

3.2 The flue dust shall be dropped onto a feed conveyor and screened again to 6-inch minus as the material is fed into the Homo.

3.3 The flue dust shall be fed into the Homo at an average rate of 100 dry tons per hour.

3.4 Ten percent lime (calculated as a percentage of dry flue dust weight) shall be added to the Homo using a calibrated auger.

3.5 The Homo reagent auger shall be calibrated weekly. Auger calibration shall be performed as follows:

- Start the auger manually and run for five seconds while filling a five gallon bucket.
- The bucket shall be weighed (WT) using a certified scale.
- The lime addition rate (lb/min) shall be calculated using the equation [(WT x 60)/5].
- Step 3.5 shall be repeated three times, and the results shall be averaged to obtain the weekly addition rate.

3.6 The automatic timer shall log the time required to feed the lime into the Homo.

3.7 The timer shall be set using the previous days data to regulate the time of auger operation. Calculation of the auger timer setting shall be as follows:

- DTB = Dry Tons/Batch (Tons/Batch)

- t_B = Average batch time (Min/Batch)

- MD = Homo mix design expressed as a value per 100 lbs dry flue dust (lbs) (i.e., 10 percent lime = 10 lbs lime required per 100 lbs dry flue dust)

- Q_{HA} = Homo auger flow rate given from auger calibration (lbs Homo Additive/Min)

$$\frac{DTB}{t_B} \times \frac{MD}{Q_{HA}} \times \frac{1200 \text{ (lb x sec)}}{\text{(ton x min x lbs) Dry FD}} = \frac{\text{Auger Run Time}}{\text{Plant Run Time}} \text{ [sec/min]}$$

3.8 If the plant becomes nonoperational, the plant operator shall manually shut down the feed auger. Upon completion of maintenance, the plant operator shall manually restart the Homo reagent feed auger when flue dust enters the Homo.

3.9 The auger run time shall be adjusted to maintain a 10 percent lime addition using the procedure described in Step 3.7.

4.0 CONFIRMATION OF ADDITIVE RATES

4.1 Calculate the weight of dry flue dust in the Homo and percent additives per dry ton of flue dust as follows

- W_C = Weight Batcher Cement Addition (lbs) {from computer printout}
- W_L = Homo Lime Addition (lbs) {from auger calibration and timer log}
- W_W = Water Addition (lbs) {from water meter}
- W_S = Slurry Weight (lbs) {from computer printout}
- W = Flue Dust Moisture (%) {from pre-treatment lab analysis}
- W_{FD} = Dry Flue Dust Weight (lbs)
- M = Wet Moisture of Flue Dust
- $(W_S - W_L - W_W)/(1+M) = W_{FD}$
- (W_L/W_{FD}) = Percent Homo Lime Addition/Dry Flue Dust Weight

(W_C/W_{FD}) = Percent Cement Addition/Dry Flue Dust Weight

5.0 WATER ADDITION

5.1 Sufficient water shall be added to the Homo to maintain the amperage of the Homo drive motors to within 35 to 45 amps.

5.2 Sufficient water shall be added to the batch mixer to maintain the amperage of the mixer drive motor to within 20 to 25 amps.

6.0 DETERMINING CEMENT TO SLURRY RATIO

6.1 Test batches shall be processed using different water to flue dust ratios.

6.2 The water ratio that allows efficient operation of all plant components, as described in Section 5.0, shall be selected.

6.3 Five test batches shall be processed at the selected ratio.

6.4 Process data shall be collected as described in Section 4.0.

6.5 The cement to slurry ratio shall be calculated by first calculating dry flue dust weight (W_{FD}), as described in Section 4.0 Step 4.1, and then multiplying the dry flue dust weight (W_{FD}) by the proposed mix design (40 percent).

6.6 The cement to slurry ratio shall be determined by dividing the slurry weight (Ws) by the value calculated in Step 6.5.

6.7 The chart posted in the control room shall be used for the determined cement to slurry ratios for various batch sizes using 200 pound batch increments.

6.8 Ratios shall be adjusted during QA/QC interval checks from ± 0.25 percent to ± 1.0 percent to achieve the 40 percent mix design ± 1 percent requirement.

7.0 QUALITY ASSURANCE/QUALITY CONTROL CHECKS

7.1 Interval checks shall be performed on the reagent additive systems four times per shift

7.2 The interval checks shall include the following procedures:

- For each time interval check, a printout listing the following items shall be generated from the ARCHON™ XIII computer:
  - Total amount of slurry
  - Total additive weighed in the weigh batcher
  - Total water weighed in the weigh batcher
- The Homo additive timer count shall be recorded in seconds, and the seconds shall be converted to pounds of lime added, as described in Section 3.0, Step 3.5.
- The Homo water addition rate shall be recorded in gallons and converted to pounds
- The mix ratio shall be calculated and recorded in the ARCHON™ XIII QA/QC logbook, as described in Section 4.0, Step 4.1.
- Interval checks shall be performed four times per day to maintain the reagent addition within a ± 1 percent of the established 40 percent cement:10 percent lime mix design ratio during an interval check and not less than a 40 percent cement:10 percent lime minimum average at the end of the shift.

8.0 MIX TIME

8.1 The mix time for the ARCHON™ XIII unit is defined as the time required to achieve adequate mixing (once the slurry, cement, and water have been added) within the weigh batcher to achieve the stipulated performance criteria.

8.2 The mix time established for ARCHON™ XIII for Coal Pile Tracks is 1.5 minutes

8.3 A mix time of 1.5 minutes shall be programmed into the ARCHON™ XIII computer and verified on a daily basis.

9.0 BATCH TIME

9.1 The average batch time for the ARCHON™ XIII unit is defined as the time required for the material to pass from the conveyor through the Homo and mixer and into the haul truck.

9.2 The average batch time established for ARCHON™ XIII is 3.0 minutes. This number represents a Homo slurry retention time of approximately 1.5 minutes and a mixer slurry retention time of 1.5 minutes.

APPENDIX F-7

ARCHON XI PLANT ADDITIVE PROCESS CONTROL
IRON PONDS

SOP
December, 1993
Revision 0

STANDARD OPERATING PROCEDURE

ARCHON™ XI PLANT ADDITIVE PROCESS CONTROL
IRON PONDS

The following procedures are designed to be used during the operation of the ARCHON™ XI Plant for the Iron Ponds material at 28 percent cement per dry ton of raw flue dust

1.0 INTRODUCTION

Prior to stabilization, raw flue dust, which is to be processed with a full-scale mix design, shall be characterized by an analytical survey of the material including pH, percent moisture, and total metals. Once the material is characterized, stabilization of the raw flue dust begins with a backhoe feeding a 6-inch REED Screen-All mounted to a dozer trap with a conveyor The conveyor dumps the flue dust through a 6-inch grizzly screen into the homogenizer (Homo) Water is then added in the Homo using a metering pump. The amount of water added is programmed into the unit [approximately 140 gallons per minute (gal/min)]; however, the operator can add more water should the slurry become too dry. While the raw flue dust/Homo water slurry is mixing in the Homo. reagent (cement) is being added through the Homo reagent auger. This slurry mixture continues to mix until the Homo has been charged to a half to three-quarter level. A hydraulic gate is opened and the slurry is gravity fed into the mixer. Reagent and water are again added, and the slurry is mixed for 45 seconds before being dumped into a haul truck.

2.0 FLUE DUST PILE CHARACTERIZATION

2.1 The raw flue dust shall be screened to 6-inch minus using a REED Screen-All vibratory screen

2.2 The processed flue dust shall be deposited into stockpiles equalling one or more days of production

2.3 One random composite sample ranging in depth from 0 to 36 inches shall be collected from each pile.

2.4 All pertinent field Quality Assurance/Quality Control (QA/QC) documentation shall be completed prior to submitting the sample(s) to the ITEX lab.

2.5 All samples shall be analyzed for pH, percent moisture and total metals for arsenic, lead, and cadmium. Analyses shall comply with applicable portions of the Clark Fork River Laboratory Analytical Protocol.

2.6 ITEX QA/QC personnel shall document in the ARCHON™ XI QA/QC plant logbook, the results and compliance of each stockpile's analytical results, as specified in Table 2.1.

2.7 If the stockpile's raw sample results for pH, percent moisture, or total metals concentrations fall outside of the specified raw parameter bands, the stockpile shall be remixed and resampled in accordance with the Final Design Report, Section 3.3 [Canonie Environmental Services Corp. (Canonie), April 1993].

TABLE 2.1

RAW MATERIAL					
	pH (SU)	Moisture (%)	Total Metals (mg/kg)		
			Lead	Cadmium	Arsenic
Min	3.27	20 27	1,450	60	775
Max	10.57	61 50	18,445	1,445	16,161

TREATED MATERIAL			
	pH (SU)	Moisture (%)	Alkalinity as CaCO3 (mg/kg)
Min	11.14	39 80	186,000
Max	11.38	48.47	256,000

3.0 HOMOGENIZER ADDITIVE CONTROL

3.1 The flue dust shall be fed using a backhoe into the ARCHON™ XI unit through a 6-inch REED Screen-All vibratory screen mounted to a dozer trap

3.2 The flue dust shall be dropped onto a feed conveyor and screened to 6-inch minus as the material is fed into the Homo

3.3 The flue dust shall be fed into the Homo at an average rate of 125 dry tons per hour

3.4 Four percent cement (calculated as a percentage of dry flue dust weight) shall be added to the Homo using a calibrated auger

3.5 The Homo reagent auger shall be calibrated weekly Auger calibration shall be performed as follows:

- Start the auger manually and run for five seconds while filling a five gallon bucket
- The bucket shall be weighed (WT) using a certified scale
- The cement addition rate (lb/min) shall be calculated using the equation [(WT x 60)/5]
- Step 3.5 shall be repeated three times, and the results shall be averaged to obtain the weekly addition rate.

3.6 The automatic timer shall log the time required to feed the cement into the Homo.

3.7 The timer shall be set using the previous days data to regulate the time of auger operation Calculation of the auger time setting shall be as follows:

- DT_B = Dry Tons/Batch (Tons/Batch)
- t_B = Average batch time (Min/Batch)
- MD = Homo mix design expressed as a value per 100 lbs Dry Flue Dust (lbs) (i.e. 4 percent Cement = 4 lbs Cement required per 100 lbs Dry Flue Dust)
- Q_{HA} = Homo auger flow rate given from auger calibration (lbs Homo Additive/Min)

$$\frac{DTB}{t_B} \times \frac{MD}{Q_{HA}} \times \frac{1200 \text{ (lb x sec)}}{\text{(ton x min x lbs) Dry FD}} = \frac{\text{Auger Run Time (sec/min)}}{\text{Plant Run Time}}$$

3.8 If the plant becomes nonoperational, the plant operator shall manually shut down the feed auger. Upon completion of maintenance, the plant operator shall manually restart the Homo reagent feed auger when flue dust enters the Homo.

3.9 The auger run time shall be adjusted to maintain a 4 percent cement addition using the procedure described in Step 3.7.

4.0 CONFIRMATION OF ADDITIVE RATES

4.1 Calculate the weight of dry flue dust in the Homo and percent additives per dry ton of flue dust as follows

- W_C = Weight Batcher Cement Addition (lbs) {from computer printout}
- W_{HC} = Homo Cement Addition (lbs) {from auger calibration and timer log}
- W_W = Water Addition (lbs) {from water meter}
- W_S = Slurry Weight (lbs) {from computer printout}
- W = Flue Dust Moisture (%) {from pre-treatment lab analysis}
- W_{FD} = Dry Flue Dust Weight (lbs)
- M = Wet Moisture of Flue Dust

$(W_S - W_{HC} - W_W)/(1+M) = W_{FD}$

- (W_{HC}/W_{FD}) = percent Homo Cement Addition/Dry Flue Dust Weight
- (W_C/W_{FD}) = percent Cement Addition/Dry Flue Dust Weight

5.0 WATER ADDITION

5.1 Sufficient water shall be added to the Homo to maintain the amperage of the Homo drive motors to within 25 to 35 amps.

5.2 Sufficient water shall be added to the batch mixer to maintain the amperage of the mixer drive motor to within 25 to 40 amps.

6.0 DETERMINING CEMENT TO SLURRY RATIO

6.1 Test batches shall be processed using different water to flue dust ratios

6.2 The water ratio that allows efficient operation of all plant components, as described in Section 5.0, shall be selected.

6.3 Five test batches shall be processed at the selected ratio.

6.4 Process data shall be collected as described in Section 4.0.

6.5 The cement to slurry ratio shall be calculated by first calculating dry flue dust weight (W_{FD}), as described in Section 4.0, Step 4.1, then multiplying the dry flue dust weight (W_{FD}) by the proposed mix design (24 percent).

6.6 The cement to slurry ratio shall be determined by dividing the slurry weight (Ws) by the value calculated in Step 6.5

6.7 The chart posted in the control room shall be used for the determined cement to slurry ratio for various batch sizes using 200-pound batch increments.

6.8 Ratios shall be adjusted during QA/QC interval checks from ± 0.25 percent to ± 1.0 percent to achieve the 28 percent mix design ± 1 percent requirement

7.0 QUALITY ASSURANCE/QUALITY CONTROL CHECKS

7.1 Interval checks shall be performed on the reagent additive systems four times per shift

7.2 The interval checks shall include the following procedures.

- For each time interval check, a printout listing the following items shall be generated from the ARCHON™ XI computer:
  - Total amount of slurry
  - Total additive weighed in the weigh batcher
  - Total water weighed in the weigh batcher
- The Homo additive timer count shall be recorded in seconds and the seconds shall be converted to pounds of cement added, as described in Section 3.0, Step 3.5
- The Homo water addition rate shall be recorded in gallons and converted to pounds
- The mix ratio shall be calculated and recorded in the ARCHON™ XI QA/QC logbook, as described in Section 4.0, Step 4.1.
- Interval checks shall be performed four times per day to maintain the reagent addition within ±1 percent of the established 28 percent mix design during an interval check, and not less than a 28 percent minimum average at the end of the shift.

8.0 MIX TIME

8.1 The mix time for the ARCHON™ XI unit is defined as the time required to achieve adequate mixing (once the slurry, cement, and water have been added) within the weigh batcher to achieve the stipulated performance criteria

8.2 The mix time established for ARCHON™ XI for Iron Ponds is 45 seconds

8.3 A mix time of 45 seconds shall be programmed into the ARCHON™ XI computer and verified on a daily basis.

9.0 BATCH TIME

9 1 The average batch time for the ARCHON™ XI unit is defined as the time required for the material to pass from the conveyor through the Homo and mixer and into the haul truck.

9 2 The average batch time established for ARCHON™ XI is 2 25 minutes This number represents a Homo slurry retention time of approximately 1.5 minutes and a mixer slurry retention time of 45 seconds.

APPENDIX G

MONITORING WELL CONSTRUCTION DATA

APPENDIX G-1

MONITORING WELL NO. W-1

Canonie Environmental

BORING LOG

PROJECT No. 92-214-01
BORING No. MW-1
LOGGED BY kss
PAGE No 1 of 4

PROJECT NAME Flue Dust Repository Monitoring Wells
BORING LOCATION NE Corner of FDR SURFACE ELEVATION 5326.59
DRILLER O'Keefe Drilling (Dan Duran) DATE: START 7/27/94 FINISH 8/4/94

DEPTH	SAMPLE No	SAMPLE TYPE	SAMPLE INTERVAL FRO	SAMPLE INTERVAL TO	BLOW COUNT 0" 6"	BLOW COUNT 6" 12"	BLOW COUNT 12" 18"	BLOW COUNT 18" 24"	REC (in)	USCS SOIL TYPE	WC (%)	qu (TSF	LAYER DEPTH	SOIL DESCRIPTION AND REMARKS	PIEZO
0														Brown gray silt with clay and traces of coarse sand	
5		Cut											7'	*Fill material*	
10		Cut												Light brownish gray silt, sand, with boulders. Fill material	
15		Cut											15'		
20		Cut											21'	Light brown, creamy traventine (hard to drill)	
													23'	Light brown gray sand gravel with traces of silt	
25		Cut												Light brown, grayish vulcanic tuff with traces of vulcanic rocks.	
30		Cut													
35		Cut											35'		
40		Cut												Light gray and brown silt with some sand, traces of clay and small rock fragments	

Formation is dry

Canonie Environmental

BORING LOG

PROJECT No. 92-214-01
BORING No. MW-1
LOGGED BY kss
PAGE No. 2 of 4

PROJECT NAME Flue Dust Repository Monitoring Wells
BORING LOCATION NE Corner of FDR SURFACE ELEVATION 5326.59
DRILLER O'Keefe Drilling (Dan Duran) DATE: START 7/27/94 FINISH 8/4/94

DEPTH	SAMPLE No	SAMPLE TYPE	INTERVAL FRO	INTERVAL TO	BLOW COUNT 0" 6"	BLOW COUNT 6" 12"	BLOW COUNT 12" 18"	BLOW COUNT 18" 24"	REC (in)	USCS SOIL TYPE	WC (%)	qu (TSF	LAYER DEPTH	SOIL DESCRIPTION AND REMARKS	PIEZO
45		Cut												Light gray and brown silt with some sand traces of clay and small rock fragments	
50		Cut													
55		Cut											56'		
60		Cut									Formation is dry			Brown hard clay with traces of small rock fragments	
65		Cut													
70		Cut													
75		Cut											78'		
80		Cut												Light brown hard clay with traces of sand and rock fragments.	

Canonie Environmental

BORING LOG

PROJECT No. 92-214-01
BORING No. MW-1
LOGGED BY kss
PAGE No. 3 of 4

PROJECT NAME Flue Dust Repository Monitoring Wells
BORING LOCATION NE Corner of FDR SURFACE ELEVATION 5326.59
DRILLER O'Keefe Drilling (Dan Duran) DATE: START 7/27/94 FINISH 8/4/94

DEPTH	SAMPLE No	SAMPLE TYPE	INTERVAL FRO	INTERVAL TO	BLOW COUNT 0" 6"	BLOW COUNT 6" 12"	BLOW COUNT 12" 18"	BLOW COUNT 18" 24"	REC (in)	USCS SOIL TYPE	WC (%)	qu (TSF	LAYER DEPTH	SOIL DESCRIPTION AND REMARKS	PIEZO
														Light brown hard clay with traces of sand and rock fragments	
85		Cut													
90		Cut													
·5		Cut													
100		Cut													
105		Cut													
110		Cut													
115		Cut											115'		
														Brown clay with traces of sand (coarse) and small rock fragments.	
0		Cut													

Formation is dry

Canonie Environmental

BORING LOG

PROJECT No 92-214-01
BORING No. MW-1
LOGGED BY kss
PAGE No. 4 of 4

PROJECT NAME Flue Dust Repository Monitoring Wells
BORING LOCATION NE Corner of FDR SURFACE ELEVATION 5326.59
DRILLER O'Keefe Drilling (Dan Duran) DATE. START 7/27/94 FINISH 8/4/94

DEPTH	SAMPLE No.	SAMPLE TYPE	INTERVAL FRO	INTERVAL TO	BLOW COUNT 0" 6"	BLOW COUNT 6" 12"	BLOW COUNT 12" 18"	BLOW COUNT 18" 24"	REC (in)	USCS SOIL TYPE	WC (%)	qu (TSF	LAYER DEPTH	SOIL DESCRIPTION AND REMARKS	PIEZO
125		Cut										Formation is dry		Brown clay with traces of sand (coarse) and small rock fragments	
130													130'		
												Formation carries some water		Brown clay with traces of rock fragments	
135											▽	135'			
140													140'		
														Brown clay with some rock fragments and traces of coarse sand Very little water is coming to the hole since 135' Total depth 150	
145															
150									T.D 150'						
155															
160															

Canonie Environmental

WELL/PIEZOMETER INSTALLATION SHEET

PROJECT NAME	FDR Monitoringt Wells	PROJECT NUMBER	92-214-01	BORING NUMBER	MW 01
BORING LOCATION	NORTHING	SURFACE ELEVATION, FEET	5326 59		
	EASTING	LOGGED BY	kss	CHECKED BY	

DRILLING SUMMARY

DRILLER	O'Keefe Drilling	DATE START	7/27/94	FINISH	8/5/94
DRILLING METHOD	Rotary air with hammer casing	TOTAL DEPTH, FEET		CASING TOP ELEV , FT	
DRILLING FLUID	None	BIT SIZE, INCHES	8¾"	CONDUCTOR-SURFACE CASING SIZE	10" DEPTH 10'
WATER LEVEL	DURING DRILLING None	AFTER COMPLETION	110'		
DRILLING OBSERVATIONS	Formation dry to 135'				

WELL/PIEZOMETER DESCRIPTION

CASING TYPE AND SIZE	4½" OD PVC Schedule 40	DEPTH	0	TO	126	BELOW SURFACE
TYPE AND SIZE		DEPTH		TO		BELOW SURFACE
TYPE AND SIZE		DEPTH		TO		BELOW SURFACE
SCREEN TYPE AND SIZE	4½" OD PVC, slotted 0.020" Schedule 40	DEPTH	126	TO	146	BELOW SURFACE
TYPE AND SIZE		DEPTH		TO		BELOW SURFACE
JOINT TYPE	Threaded, flush joint					
CENTRALIZERS TYPE	Stainless steel	AT	145, 124, 75, 25			BELOW SURFACE
REMARKS						

ER PACK

E AND SIZE	Colorado silica sand 10-20	FROM	121	TO	150	BELOW SURFACE
METHOD OF INSTALLATION	Tremie Line	VOLUME USED	70 7 gals			
REMARKS						

SEAL

TYPE	Silica sand mesh 100	DEPTH: FROM	121	TO	117 8	FT.	VOLUME USED	7 gals	CU FT
TYPE	BenSeal (bentonite seal)	DEPTH: FROM	117.8	TO	0.0	FT	VOLUME USED	270 gals	CU FT
TYPE		DEPTH: FROM		TO		FT	VOLUME USED		CU FT
TYPE		DEPTH: FROM		TO		FT.	VOLUME USED		CU FT.
METHOD OF INSTALLATION	Tremie Line								
REMARKS	Concrete 10-0 BGL - Surface Casing								

WELL/PIEZOMETER DEVELOPMENT

METHOD		DURATION: FROM		TO	
METHOD		DURATION: FROM		TO	
WATER LEVEL: BEFORE	AFTER	WATER CLARITY:	BEFORE		AFTER
DATE	REMARKS				

SAMPLES TAKEN

GEOPHYSICAL LOGS RUN

HER REMARKS

Concrete surface pad 6'x6' with guard pipes
1.5 cy of concrete.

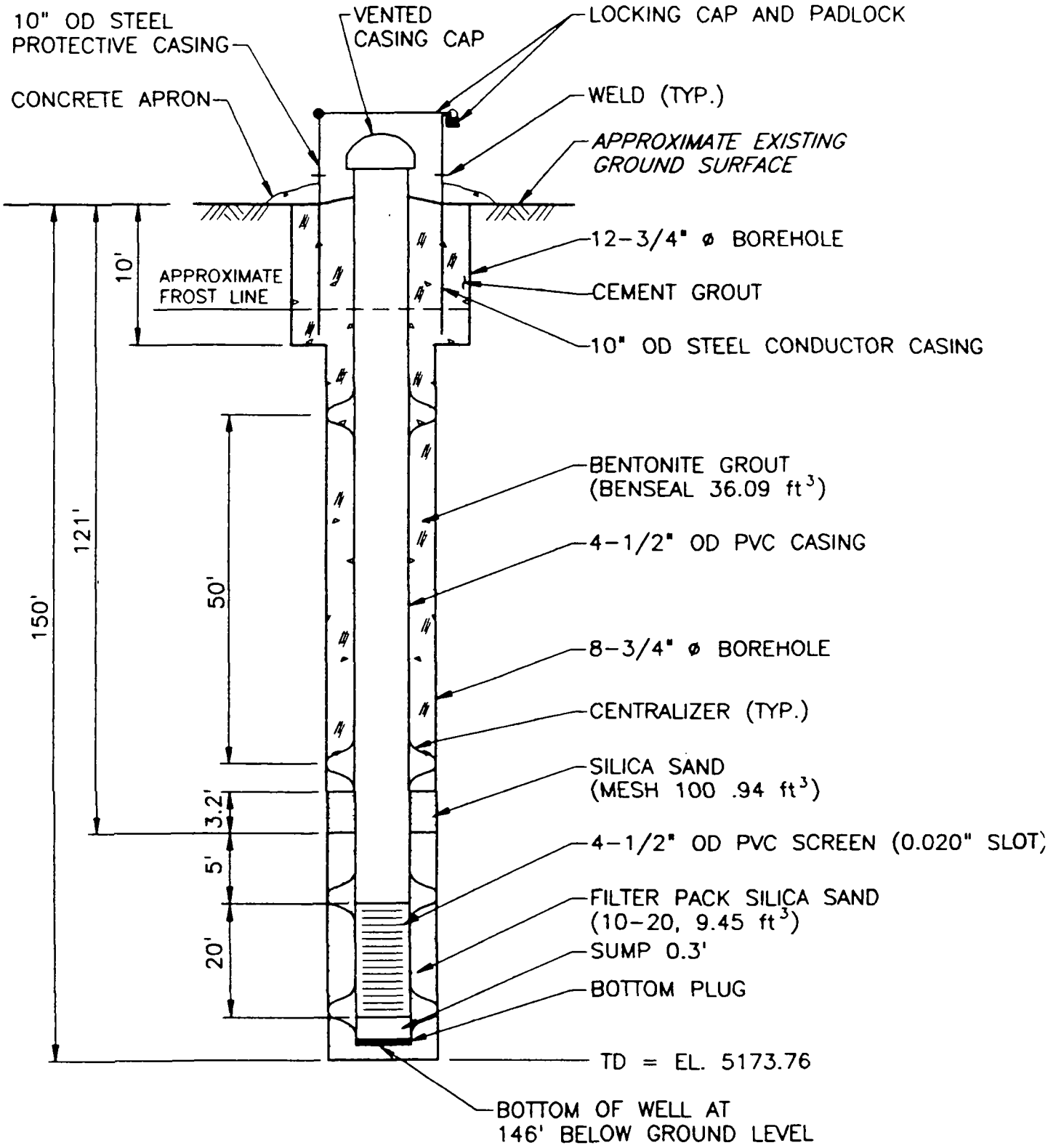
2-241-A50

Canonie

Well/Piezometer Completion Detail

PROJECT NAME FLUE DUST REPOSITORY MONITORING WELLS PROJECT No 92-214-01

BORING LOCATION NE CORNER OF FLUE DUST WELL No MW-1



Canonie

Field Sample Data

PROJECT No 922/401
PAGE 1 OF 1

PROJECT NAME ARCO FDOU Smelter Hill. SAMPLED BY SEJ
STATION No./LOCATION MW1 DATE 8-23-94

SKETCH ON BACK YES ☐ NO ☒ PHOTOGRAPHS YES ☐ NO ☒ ROLL No /EXPOSURE No. N/A.

FIELD DATA

TIME 8:10 AIR TEMP. F 54° WEATHER Clear, Moderate breeze

WELL DEPTH 149.0 WATER DEPTH 114.2 SAMPLE DEPTH 148.0 SAMPLE METHOD Grab from pump tubing

VOL PURGED 85.6 SAMPLE TEMP. ____ °C ☐ IN SITU ☐ IN BOTTLE SP. COND. ____ / — AT 25° C ☐ IN SITU ☒ IN BOTTLE

pH — ☐ IN SITU ☒ IN BOTTLE Eh — ☐ IN SITU ☐ IN BOTTLE DISSOLVED O_2 — ppm ☐ IN SITU ☐ IN BOTTLE

BOTTLE ID	LAB ID	VOL	MATERIAL	FILTERED	PRES./VOL.	ANALYSIS REQUESTED
MW1 82294		1000ML	Water (Ground)	yes.		Metals. As Cd Pb Be.
MW1 82294T		1000ML	Ground water	no.		Turbidity.

FIELD PARAMETERS.

21.5	GALLON	pH-	7.8	Cond. EH-	16.73	TEMP	56.4
53.5	GALLON	pH-	7.8	Cond. EH-	16.61	TEMP.	56.3
85.6	GALLON	pH-	7.8	Cond. EH-	16.67	TEMP	56.7

REMARKS: ____

FIELD EQUIPMENT QUALITY ASSURANCE CHECKLIST

pH METER BUFFER CHECK pH 4 ____ pH 7 ✓ pH 10 ✓

SP. COND. METER STANDARDS CHECK 1000 MHOS Eh PROBE —

SAMPLER BLANK —

Canonie Environmental

WELL
DEVELOPMENT
LOG
PROJECT NO 92-2140J
WELL NO MW 1
FIELD
ENGINEER Steve Jones
PAGE 1 OF 1

PROJECT NAME ARCO - FDOU Smelter Hill. DATE 8-23-94

DIAMETER OF WELL (d), INCHES 4½"

TOTAL DEPTH OF WELL FROM T.O.C., FEET 149.0'

HEIGHT OF GROUND WATER COLUMN IN WELL (W), FEET 114.2'

MINIMUM QUANTITY OF GROUND WATER TO BE PURGED
(Vw, WHERE Vw = 0.12(D), W), GALLONS = 2.43 84.56

PUMPING EQUIPMENT USED O'Keefe - Portable well pump.

WEATHER Cool, Clear, Moderate Wind.

TIME	PUMPING RATE (GPM)	TOTAL VOLUME (GAL)	pH	TEMP °F	SPECIFIC CONDUCTANCE µMHOS	NOTES
8:30	1.07	21.5	7.8	56.4	16.73	
9:00	1.07	53.5	7.8	56.3	16.61	
9:30	1.07	85.6	7.8	56.7	16.67	

APPENDIX G-2

MONITORING WELL NO. W-2

Canonie Environmental

BORING LOG

PROJECT No. 92-214-01
BORING No. MW-2
LOGGED BY kss
PAGE No. 1 of 4

PROJECT NAME Flue Dust Repository Monitoring Wells
BORING LOCATION MW-2 SE FDR Corner SURFACE ELEVATION 5330.20
DRILLER O'Keefe Drilling (Dan Duran) DATE: START 7/27/91 FINISH 8/5/94

DEPTH	SAMPLE No	SAMPLE TYPE	SAMPLE INTERVAL FRO	SAMPLE INTERVAL TO	BLOW COUNT 0" 6"	BLOW COUNT 6" 12"	BLOW COUNT 12" 18"	BLOW COUNT 18" 24"	REC (in)	USCS SOIL TYPE	WC (%)	qu (TSF	LAYER DEPTH	SOIL DESCRIPTION AND REMARKS	FIELD
0														Brown gray silt with traces of clay and coarse sand	
5														Fill material	
														Light brown silt with traces of clay and some rocks.	
10															
15												Formation is dry			
20															
25															
30													30'		
														Light brown silt with some clay and traces of rock fragments. Start injecting water	
35															
													39'		
0															

Canonie Environmental

BORING LOG

PROJECT No. 92-214-01
BORING No. MW-2
LOGGED BY kss
PAGE No. 2 of 4

PROJECT NAME Flue Dust Repository Monitoring Wells
BORING LOCATION MW-2 SE FDR Corner SURFACE ELEVATION 5330.20
DRILLER O'Keefe Drilling (Dan Duran) DATE: START 7/27/91 FINISH 8/5/94

DEPTH	SAMPLE No	SAMPLE TYPE	SAMPLE INTERVAL FRO	SAMPLE INTERVAL TO	BLOW COUNT 0" 6"	BLOW COUNT 6" 12"	BLOW COUNT 12" 18"	BLOW COUNT 18" 24"	REC (in)	USCS SOIL TYPE	WC (%)	qu (TSF	LAYER DEPTH	SOIL DESCRIPTION AND REMARKS	PIEZO
														Brown silt with some rock fragments traces of clay.	
45													45'		
														Brown silt and clay with traces of rock fragments	
50															
55															
60															
65															
70													70'		
														Brown clay with traces of small rock fragments.	
75													76'		
														Brown clay with some silt and rock fragments.	
80															

Canonie Environmental

BORING LOG

PROJECT No 92-214-01
BORING No. MW-2
LOGGED BY kss
PAGE No. 3 of 4

PROJECT NAME Flue Dust Repository Monitoring Wells
BORING LOCATION MW-2 SE FDR Corner SURFACE ELEVATION 5330.20
DRILLER O'Keefe Drilling (Dan Duran) DATE: START 7/27/91 FINISH 8/5/94

DEPTH	SAMPLE No	SAMPLE TYPE	SAMPLE INTERVAL FRO	SAMPLE INTERVAL TO	BLOW COUNT 0"-6"	BLOW COUNT 6"-12"	BLOW COUNT 12"-18"	BLOW COUNT 18"-24"	REC (in)	USCS SOIL TYPE	WC (%)	qu (TSF	LAYER DEPTH	SOIL DESCRIPTION AND REMARKS	PIEZO
														Brown clay with some silt and rock fragments	
85															
90															
95															
													99'		
100														Boulders, rock fragments with some clay and silt (very hard drilling).	
105															
110															
115												Formation is dry	▽ 115'		
120															

Canonie Environmental

BORING LOG

PROJECT No. 92-214-01
BORING No. MW-2
LOGGED BY kss
PAGE No. 4 of 4

PROJECT NAME Flue Dust Repository Monitoring Wells
BORING LOCATION MW-2 SE FDR Corner SURFACE ELEVATION 5330.20
DRILLER O'Keefe Drilling (Dan Duran) DATE: START 7/27/91 FINISH 8/5/94

DEPTH	SAMPLE No	SAMPLE TYPE	SAMPLE INTERVA FRO	SAMPLE INTERVA TO	BLOW COUNT 0" 6"	BLOW COUNT 6" 12"	BLOW COUNT 12" 18"	BLOW COUNT 18" 24"	REC (in)	USCS SOIL TYPE	WC (%)	qu (TSF	LAYER DEPTH	SOIL DESCRIPTION AND REMARKS	PIEZO
												Water is coming	Well to the 130'	Boulders, rock fragments with some clay and silt (very hard drilling)	
125															
130															
												Dry	Formation	Brown clay with traces of rock fragments	
135															
140														Total depth 140	
145															
150															
155															
.60															

Canonie Environmental

WELL/PIEZOMETER INSTALLATION SHEET

PROJECT NAME	FDR Monitoringt Wells	PROJECT NUMBER	92-214-01	BORING NUMBER	MW 2
BORING LOCATION·	NORTHING	SURFACE ELEVATION, FEET	5330 20		
	EASTING	LOGGED BY	kss	CHECKED BY	

DRILLING SUMMARY

DRILLER	O'Keefe Drilling	DATE· START	7/27/94 FINISH 8/5/94
DRILLING METHOD		TOTAL DEPTH, FEET	140 CASING TOP ELEV , FT
DRILLING FLUID	BIT SIZE, INCHES	CONDUCTOR-SURFACE CASING SIZE	10" DEPTH 10
WATER LEVEL	DURING DRILLING 115' BGL	AFTER COMPLETION	118' BGL
DRILLING OBSERVATIONS			

WELL/PIEZOMETER DESCRIPTION

CASING TYPE AND SIZE	4½" OD PVC Schedule 40	DEPTH	0	TO	114	BELOW SURFACE
TYPE AND SIZE		DEPTH		TO		BELOW SURFACE
TYPE AND SIZE		DEPTH		TO		BELOW SURFACE
SCREEN TYPE AND SIZE	4½" OD PVC, slotted 0.020"	DEPTH	134	TO	114	BELOW SURFACE
TYPE AND SIZE		DEPTH		TO		BELOW SURFACE
JOINT TYPE	Threaded, flush joint					
CENTRALIZERS TYPE	Stainless steel	AT	134, 114, 65, 15			BELOW SURFACE
REMARKS						

TER PACK

ᵖE AND SIZE	Colorado silica sand 10-20	FROM	140	TO	112.0 BELOW SURFACE
METHOD OF INSTALLATION	Tremie Line	VOLUME USED	70 gals		
REMARKS					

SEAL

TYPE	Silica Sand #100	DEPTH: FROM	112.0	TO	108.5	FT	VOLUME USED	7 0 gals	CU. FT
TYPE	BenSeal (bentonite seal)	DEPTH· FROM	108.5	TO	0.0	FT	VOLUME USED	240 gals	CU FT
TYPE		DEPTH: FROM		TO		FT.	VOLUME USED		CU. FT
TYPE		DEPTH: FROM		TO		FT	VOLUME USED		CU FT

METHOD OF INSTALLATION Tremie Line

REMARKS Concrete 10-0 BGL - Surface Casing

VOLUME USED: Sand #100 - 70 gals Bentonite 240

WELL/PIEZOMETER DEVELOPMENT

METHOD		DURATION· FROM		TO	
METHOD		DURATION: FROM		TO	
WATER LEVEL: BEFORE	AFTER	WATER CLARITY:	BEFORE		AFTER
DATE	REMARKS				

SAMPLES TAKEN

GEOPHYSICAL LOGS RUN

ᵒTHER REMARKS

Concrete surface pad 6'x6' with guard pipes.

1.5 cy of concrete.

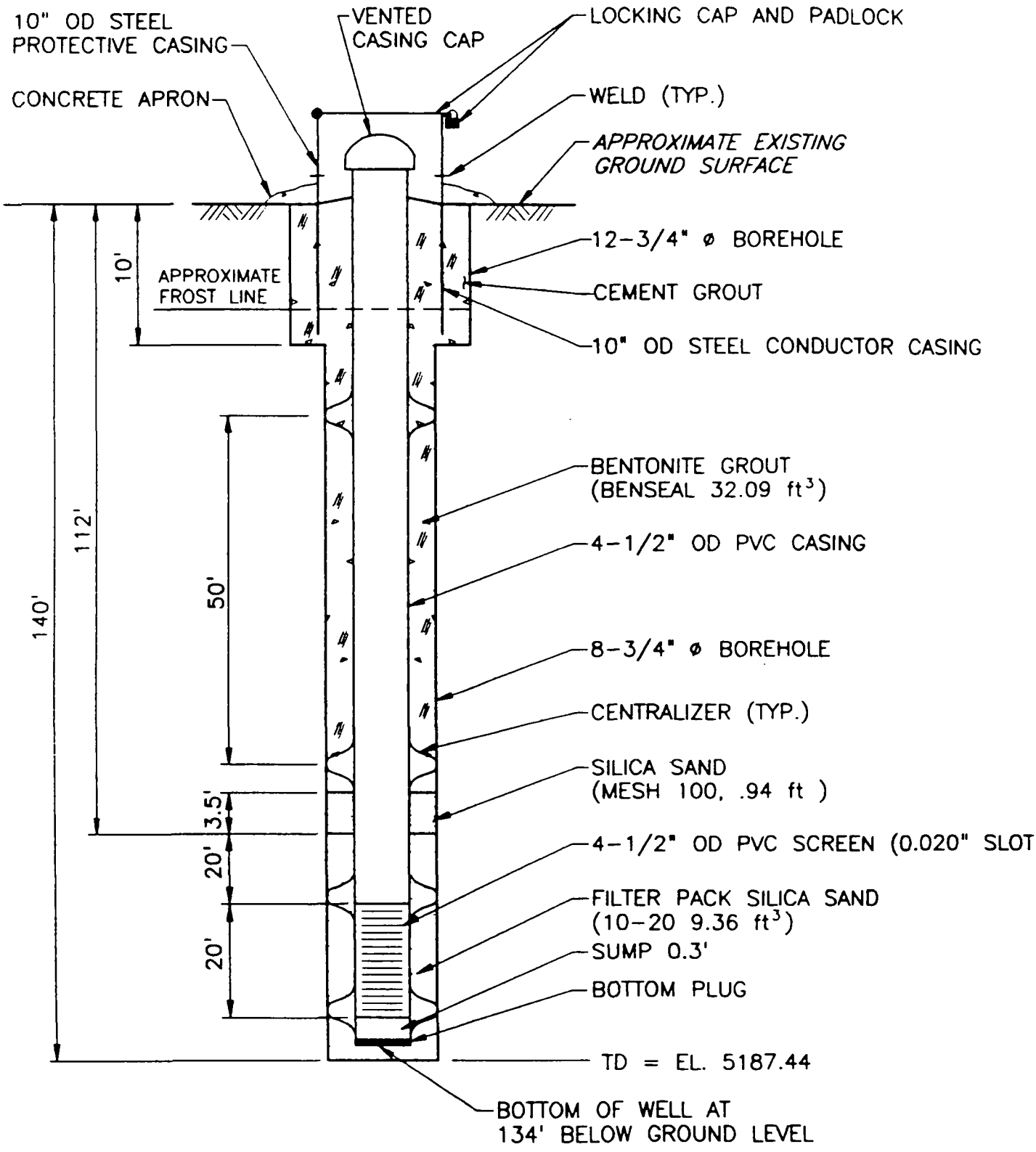
92-241-A49

Canonie

Well/Piezometer Completion Detail

PROJECT NAME FLUE DUST REPOSITORY MONITORING WELLS PROJECT No 92-241-01

BORING LOCATION BETWEEN FLUE DUST AND ARBITER REPOSITORY WELL No MW-2



Canonie

Field Sample Data

PROJECT No 922401
PAGE 1 OF 1

PROJECT NAME ARCO - EDOU Smelter Hill SAMPLED BY SEJ
STATION No./LOCATION MW 2 DATE 8-23.

SKETCH ON BACK YES ☐ NO ☒ PHOTOGRAPHS YES ☐ NO ☒ ROLL No /EXPOSURE No. N/A.

FIELD DATA

TIME 12:30 pm AIR TEMP. F 78° WEATHER Clear Moderate Wind.

WELL DEPTH 139 WATER DEPTH 115.5 SAMPLE DEPTH 139.5 SAMPLE METHOD Comb from Pump Tubing.

VOL PURGED 75 SAMPLE TEMP. ____ °C ☐ IN SITU ☐ IN BOTTLE SP. COND. ____ / — AT 25° C ☐ IN SITU ☒ IN BOTTLE

pH ____ ☐ IN SITU ☒ IN BOTTLE Eh — ☐ IN SITU ☐ IN BOTTLE DISSOLVED O_2 — ppm ☐ IN SITU ☐ IN BOTTLE

BOTTLE ID	LAB ID	VOL	MATERIAL	FILTERED	PRES./VOL.	ANALYSIS REQUESTED
MW2 82294		1000mL.	Ground Water.	yes		Metals. As, Pb, Cd, Be.
MW2 82294T		1000mL.	Ground Water	no		Turbidity

FIELD PARAMETERS:

25	GALLON	pH-	8.4	Cond. EH-	7.91	TEMP	61.4
25	GALLON	pH-	8.2	EH-	7.66	TEMP	61.2
25	GALLON	pH-	8.0	EH-	7.71	TEMP	61.2

REMARKS: ____

FIELD EQUIPMENT QUALITY ASSURANCE CHECKLIST

pH METER BUFFER CHECK pH 4 ____ pH 7 ✓ pH 10 ✓

SP. COND. METER STANDARDS CHECK 1000 MHOS Eh PROBE ____

SAMPLE TUBING RINSED W-S CHANGED NO SAMPLER BLANK —

Canonie Environmental

WELL DEVELOPMENT LOG

PROJECT NO 9221401
WELL NO MW2
FIELD
ENGINEER Steve Jones
PAGE 1 OF 1

PROJECT NAME ARCO - FDOU Smelter Hill DATE 8-23-94

DIAMETER OF WELL (d), INCHES 4 1/2

TOTAL DEPTH OF WELL FROM T.O.C., FEET 139'

HEIGHT OF GROUND WATER COLUMN IN WELL (W), FEET 115.5'

MINIMUM QUANTITY OF GROUND WATER TO BE PURGED (Vw, WHERE Vw = 0.12(D), W), GALLONS = 2.43 57.1

PUMPING EQUIPMENT USED ~~O~~Keefe Portable Well Pump.

WEATHER ~~Warm~~, Clear, Moderate Wind.

TIME	PUMPING RATE (GPM)	TOTAL VOLUME (GAL)	pH	TEMP °F	SPECIFIC CONDUCTANCE µMHOS	NOTES
12:10	2.5	Start.				
12:20	2.5	25	8.4	61.4	7.91	
12:30	2.5	25	8.2	61.2	7.66	
12:40	2.5	25	8.0	61.2	7.71	

APPENDIX G-3

INITIAL MONITORING WELL SAMPLING DATA

REPORT DATE: September 1, 1994

CLIENT: Canonie Environmental

DATE SAMPLES: 08-23-94

DATE RECEIVED: 08-23-94

Results in mg/L

FIELD ID	MSE, INC. LAB NO.	Turbidity (NTU)	Diss. As	Diss. Be	Diss. Cd	Diss. Pb
MW1 82294	WR185	34	0.005	0.0003	<0.0001	0.002
MW2 82294	WR186	0.6	0.003	0.0001	<0.0001	<0.001

GFW
view

APPENDIX H

AIR MONITORING DATA

ITEX-ANACONDA FLUE DUST REMEDIATION PROJECT #320
AIR MONITORING SAMPLE RESULTS

DATE COLLECTED	SAMPLE I.D. #	EMPLOYEE'S NAME SSN	LOCATION	JOB TITLE	EMPLOYEE TASK	SAMPLE COLLECTED BY	AIHA/NVLAP LABORATORY	SAMPLE RESULTS As (ug/m3)	Pb (ug/m3)	Cd (ug/m3)
10/14/92	001	D Raasakka 517-68-9086	Exclussion Zone Bottom of Conveyor	Laborer	Raking Screen	M Brindley	Chemtex	1 20	0 40	0 30
10/14/92	002	J Potvin 516-48-2942	Exclussion Zone Cab-Front End Ldr	Operator	Loading Material	M Brindley	Chemtex	1 70	0 40	0 30
10/15/92	003	D Raasakka 517-68 9086	Exclussion Zone Bottom of Conveyor	Laborer	Shoveling Flue Dust (BP2)	M Brindley	Chemtex	6 80	7 70	2 20
10/15/92	004	D. Ohren 516-11-9948	Exclussion Zone Bottom of Conveyor	Laborer	Shoveling Flue Dust	M Brindley	Chemtex	1 60	0 50	0 40
10/19/92	005	J. Potvin 516 48-2942	Exclussion Zone Inside	Operator	Loading Material	M Brindley	Chemtex	3 00	10 00	0 90
10/19/92	006	D Raasakka 517-68-9086	Exclussion Zone Inside	Laborer	Feeding Material	M Brindley	Chemtex	2.60	7 00	0 50
10/19/92	007	D. Ohren 516-11-9948	Exclussion Zone Inside (BP2)	Operator	Moving Material w/ Bobcat	M. Brindley	Chemtex	0 70	3 00	0 30
10/19/92	008	Area Sample	Control Room	N/A	N/A	M. Brindley	Chemtex	0 80	3 00	0 40
10/19/92	009	Area Sample	Decon Trailer Inside	N/A	N/A	M. Brindley	Chemtex	1 00	3 00	0 40
10/21/92	010	D. Ohren 516-11-9948	Exclussion Zone Inside	Laborer	Maintaining Conveyor	M Brindley	Chemtex	0 50	2 00	0 20
10/21/92	011	G Fisher 513-62-6619	Exclussion Zone Inside	Laborer	Raking Screen at Conveyor	M. Brindley	Chemtex	0 50	1 00	0 20
10/21/92	012	D. Raasakka 517 68-9086	Exclussion Zone Inside	Laborer		M Brindley	Chemtex	1 00	6 00	0 50
10/23/92	013	Area Sample	Mixer Area	N/A	N/A	M Brindley	Chemtex	0 50	2 00	0 10
10/23/92	014	Duenat 467 82-2680				M Brindley	Chemtex	0 70	2 00	0 10
10/25/92	015	Area Sample	Decon Trailer Dirty Room	N/A	N/A	M Brindley	Chemtex	0 50	1 00	0 10

NOTE (As A L = 5.0 ug/m3 P E L = 10 ug/m3) (Pb A L = 30 ug/m3 P E L = 50 ug/m3) (Cd P E L = 20 ug/m3)

ITEX-ANACONDA FLUE DUST REMEDIATION PROJECT #320
AIR MONITORING SAMPLE RESULTS

DATE COLLECTED	SAMPLE I.D. #	EMPLOYEE'S NAME SSN	LOCATION	JOB TITLE	EMPLOYEE TASK	SAMPLE COLLECTED BY	AIHA/NVLAP LABORATORY	SAMPLE RESULTS		
								As [ug/m3]	Pb [ug/m3]	Cd [ug/m3]
10/25/92	016	Area Sample	Decon Trailer Clean Room	N/A	N/A	M Brindley	Chemtex	0 50	2 00	0 10
10/27/92	017	D Burgeson 474-62-6339	Exclusion Zone BP2	Operator	Operating Back Hoe	M. Brindley	Chemtex	1 40	4 00	0 30
10/28/92	018	R Cassagrande 517-36-7292	Laydown Area	Laborer	Directing Sample in Laydown Area	M. Brindley	Chemtex	4 00	8 00	0 60
10/28/92	019	K Bethke 517-04-9284	Laydown Area	QA/QC	Taking Samples in Laydown Area	M. Brindley	Chemtex	1 20	3 00	0 30
10/29/92	020	D Reasakka 517-68-9086	Exclusion Zone Inside	Laborer	Repair Work on Conveyor	M. Brindley	Chemtex	1 10	3 00	0 20
10/29/92	999	John W Konda 516-96-5648	Job Site Exclusion Zone - All Around	Laborer	Working with Material in Exclusion Zone	M. Brindley	Chemtex	17 00	24 00	1 60
10/29/92	021	Area Sample	Control Room	N/A	N/A	M. Brindley	Chemtex	42.60	23.00	1.60
10/19/92	022	Blank		N/A	N/A	M Brindley	Chemtex	<0 5	<2 0	<0 2
10/21/92	023	Blank		N/A	N/A	M Brindley	Chemtex	<0 5	<2 0	<0 1
10/28/92	024	Blank		N/A	N/A	M Brindley	Chemtex	<0 5	<2.0	<0 1
10/30/92	025	D Reasakka 517-68-9086	Exclusion Zone	Laborer	Operating Conveyor	Terry Brindley	Chemtex	13.60	18 00	1 40
10/30/92	026	L Bellon 517-66-9534	Exclusion Zone	Driver	Driving Truck	Terry Brindley	Chemtex	0 50	2 00	0 20
10/30/92	027	K Bethke 517-04-9284	Bradley Pond Laydown Area	QA/QC	Taking Samples	Terry Brindley	Chemtex	0 80	5 00	0 30
10/30/92	028	Blank		N/A	N/A	Terry Brindley	Chemtex	<0 5	<2 0	<0 1
10/30/92	029	Blank		N/A	N/A	Terry Brindley	Chemtex	<0 5	<2 0	<0 1
10/31/92	030	M Quick 517 88-8853	Exclusion Zone	Laborer	Operating Conveyor	Terry Brindley	Chemtex	0 70	4 00	0 20

NOTE (As A L = 5.0 ug/m3 P E L = 10 ug/m3) (Pb A L = 30 ug/m3 P E L = 50 ug/m3) (Cd P E L = 20 ug/m3)

ITEX-ANACONDA FLUE DUST REMEDIATION PROJECT #320
AIR MONITORING SAMPLE RESULTS

DATE COLLECTED	SAMPLE I.D. #	EMPLOYEE'S NAME SSN	LOCATION	JOB TITLE	EMPLOYEE TASK	SAMPLE COLLECTED BY	AIHA/NVLAP LABORATORY	SAMPLE RESULTS		
								As [ug/m3]	Pb [ug/m3]	Cd [ug/m3]
10/31/92	031	Area Sample	Control Room	N/A	N/A	Terry Brindley	Chemtex	1.20	7.00	0.30
10/31/92	032	B. Nelson 531-74-0664	Exclusion Zone	Operator	Loading Material	Terry Brindley	Chemtex	2.20	8.00	0.30
10/31/92	033	Area Sample	Decon Area	N/A	N/A	Terry Brindley	Chemtex	0.50	2.00	0.20
10/31/92	034	Balnk		N/A	N/A	Terry Brindley	Chemtex	<0.5	<2.0	<0.2
10/31/92	035	Blank		N/A	N/A	Terry Brindley	Chemtex	<0.5	<2.0	<0.2
11/02/92	036	Area Sample	Inside Decon Trailer	N/A	N/A	Terry Brindley	Chemtex	0.50	2.00	0.20
11/02/92	037	P. Cassidy 516 56 9428	Laydown Area #2	Driver	Hauling Treated Material	Terry Brindley	Chemtex	1.20	8.00	0.50
11/02/92	038	Area Sample	Control Room	N/A	N/A	Terry Brindley	Chemtex	1.20	6.00	0.20
11/02/92	039	L. Bellon 517 66-9534	BP3 and Exclusion Zone	Driver	Hauling Soil from BP3 to E.Z	Terry Brindley	Chemtex	1.10	5.00	0.20
11/02/92	040	Blank		N/A	N/A	Terry Brindley	Chemtex	<0.5	<3.0	<0.2
11/02/92	041	Blank		N/A	N/A	Terry Brindley	Chemtex	<0.5	<3.0	<0.2
11/03/92	042	D. Raasakka 517-66-9086	Exclusion Zone Conveyor	Laborer	Operating Conveyor	Terry Brindley	Chemtex	11.40	19.00	1.50
11/03/92	043	Blank		N/A	N/A	Terry Brindley	Chemtex	< 20	< 20	< 20
11/03/92	044	Blank		N/A	N/A	Terry Brindley	Chemtex	< 20	< 20	< 20
11/04/92	045	Area Sample	Bradley Pond Decon	N/A	N/A	Terry Brindley	Chemtex	0.40	2.00	0.20

NOTE (As A.L. = 5.0 ug/m3 P.E.L. = 10 ug/m3) (Pb A.L. = 30 ug/m3 P.E.L. = 50 ug/m3) (Cd P.E.L. = 20 ug/m3)

ITEX-ANACONDA FLUE DUST REMEDIATION PROJECT #320
AIR MONITORING SAMPLE RESULTS

DATE COLLECTED	SAMPLE I.D. #	EMPLOYEE'S NAME SSN	LOCATION	JOB TITLE	EMPLOYEE TASK	SAMPLE COLLECTED BY	AIHA/NVLAP LABORATORY	SAMPLE RESULTS As (ug/m3)	Pb (ug/m3)	Cd (ug/m3)
11/04/92	046	Area Sample	Control	N/A	N/A	Terry Brindley	Chemtex	0.39	8.00	0.70
11/04/92	047	B Nelson 531-74-0684	BP2 Exclusion Zone	Operator	Loading Material	Terry Brindley	Chemtex	0.40	2.00	0.30
11/04/92	048	J Konda 516-52-3576	BP3	Driver	Trucking Material	Terry Brindley	Chemtex	0.60	5.00	0.40
11/04/92	049	Blank		N/A	N/A	Terry Brindley	Chemtex	< 20	< 20	< 20
11/04/92	050	Blank		N/A	N/A	Terry Brindley	Chemtex	< 20	< 20	< 20
11/05/92	051	K Bethke 517-04-9294	Laydown Area #2	QA/QC	Sampler	Terry Brindley	Chemtex	4.20	8.00	0.80
11/05/92	052	H Green 517-70-1090	Plant to Laydown Area #2	Driver	Hauling Treated Material	Terry Brindley	Chemtex	3.40	9.00	0.70
11/05/92	053	Blank		N/A	N/A	Terry Brindley	Chemtex	< 20	< 20	< 20
11/05/92	054	Blank		N/A	N/A	Terry Brindley	Chemtex	< 20	< 20	< 20
11/06/92	055	D Ohren 516-11-9948	Exclusion Zone Top of Plant	Operator	Pushing Material thru Homogenizer	Terry Brindley	Chemtex	6.60	15.00	1.20
11/06/92	056	B Nelson 531-74-0684	Exclusion Zone BP1	Operator	Loading Material	Terry Brindley	Chemtex	0.60	4.00	0.40
11/06/92	057	Blank		N/A	N/A	Terry Brindley	Chemtex	< 20	< 20	< 20
11/06/92	058	Blank		N/A	N/A	Terry Brindley	Chemtex	< 20	< 20	< 20
11/07/92	059	T Pinnell 516-50-0841	Iron Pond	Operator	Loading Material	Terry Brindley	Chemtex	0.20	2.00	0.30
11/07/92	060	Ed McCarthy 517-88-5641	BP3 Decon	Laborer	Equipment Decontamination	Terry Brindley	Chemtex	1.50	8.00	0.70

NOTE (As A.L. = 5.0 ug/m3 P.E.L. = 10 ug/m3) (Pb A.L. = 30 ug/m3 P.E.L. = 50 ug/m3) (Cd P.E.L. = 20 ug/m3)

ITEX-ANACONDA FLUE DUST REMEDIATION PROJECT #320
AIR MONITORING SAMPLE RESULTS

DATE COLLECTED	SAMPLE I.D. #	EMPLOYEE'S NAME SSN	LOCATION	JOB TITLE	EMPLOYEE TASK	SAMPLE COLLECTED BY	AIHA/NVLAP LABORATORY	SAMPLE RESULTS As [ug/m3]	Pb [ug/m3]	Cd [ug/m3]
11/07/92	061	B Wasley 517-08-4378	Exclussion Zone Iron Pond	Laborer	Gross Decon w/ Shovel	Terry Brindley	Chemtex	0 30	3 00	0 40
11/07/92	062	D Foster 517-44-3779	Iron Pond to Bradley Pond	Driver	Hauling Material	Terry Brindley	Chemtex	0 20	3 00	0 30
11/07/92	063	Blank		N/A	N/A	Terry Brindley	Chemtex	< 20	< 20	< 20
11/07/92	064	Blank		N/A	N/A	Terry Brindley	Chemtex	< 20	< 20	< 20
11/08/92	065	B Wasley 517 08 4378	Iron Ponds	Laborer	Gross Decon w/ Shovel	Terry Brindley	Chemtex	6 50	14 00	1 '0
11/08/92	066	Tom Pinnell 516 50 0841	Iron Ponds	Operator	Loading Trucks	Terry Brindley	Chemtex	0 70	5 00	0 50
11/08/92	067	Ed McCarthy 517 88-5841	BP3	Laborer	Decon Trucks	Terry Brindley	Chemtex	0 70	5 00	0 50
11/08/92	068	B Delonancour 517 62-6533	Iron Ponds to Plant	Driver	Hauling Material	Terry Brindley	Chemtex	0 40	3 00	0 30
11/08/92	069	Blank		N/A	N/A	Terry Brindley	Chemtex	< 20	< 20	< 20
11/08/92	070	Blank		N/A	N/A	Terry Brindley	Chemtex	< 20	< 20	< 20
11/09/92	071	D Rasasakka 517-68 9086	Bradley Ponds	Laborer	Operating Conveyor	Terry Brindley	Chemtex	5.99	8 06	C 839
11/09/92	072	Steven Reychler 517-54 1306	Plant at Bradley Ponds	Driver	Hauling Treated Material	Terry Brindley	Chemtex	4 35	6 52	0 408
11/09/92	073	Blank	Bradley Ponds	N/A	N/A	Terry Brindley	Chemtex	<0 05	<1 25	<0 13
11/09/92	074	Blank	Bradley Ponds	N/A	N/A	Terry Brindley	Chemtex	<0 05	<1 25	<0 13
11/10/92	075	Gil Fisher 517-82 8619	Exclussion Zone Plant at BP2	Operator	Loading Untreated Material	Terry Brindley	Chemtex	5 57	6 34	0 543

NOTE (As A L = 5 0 ug/m3 P E L = 10 ug/m3) (Pb A L = 30 ug/m3, P E L = 50 ug/m3) (Cd P E L = 20 ug/m3)

ITEX-ANACONDA FLUE DUST REMEDIATION PROJECT #320
AIR MONITORING SAMPLE RESULTS

DATE COLLECTED	SAMPLE I.D. #	EMPLOYEE'S NAME SSN	LOCATION	JOB TITLE	EMPLOYEE TASK	SAMPLE COLLECTED BY	AIHA/NVLAP LABORATORY	SAMPLE RESULTS As (ug/m3)	Pb (ug/m3)	Cd (ug/m3)
11/10/92	076	Kevin Bethke 517-04 9284	Bradley Ponds Laydown Area #2	QA/QC	Taking Samples for Lab	Terry Brindley	Chemtex	5 71	7 70	0 535
11/10/92	077	Blank	Plant at BP	N/A	N/A	Terry Brindley	Chemtex	<0 05	<1 25	<0 13
11/10/92	078	Blank	Plant at BP	N/A	N/A	Terry Brindley	Chemtex	<0 05	<1 25	<0 13
11/11/92	079	Steve Reychler 517 54-1306	Exclusion Zone Flue Dust Storage	Laborer	Gross Decon of Trucks w/ Shovel	Terry Brindley	Chemtex	0 64	2 38	0 150
11/11/92	080	Tom Pinnell 516-50-0841	Exclusion Zone Flue Dust Storage	Operator	Loading Untreated Material	Terry Brindley	Chemtex	1 55	2 92	0 282
11/11/92	081	John A Konda 516-52-3576	FDS, Plant @ BP & BP3 Decon Area	Driver	Hauling Untreated Material	Terry Brindley	Chemtex	3.25	4 49	0 365
11/11/92	082	Blank	Flue Dust Storage	N/A	N/A	Terry Brindley	Chemtex	<0 05	<1 25	<0 13
11/11/92	083	Blank	Flue Dust Storage	N/A	N/A	Terry Brindley	Chemtex	<0 05	<1 25	<0 13
11/12/92	084	Steve Reychler 517-54-1306	Smelter Hill Flue Dust Storage	Laborer	Gross Decon of Trucks w/ Shovel	Terry Brindley	Chemtex	3 26	4 17	0 361
11/12/92	085	John Schnabel 517-70-0708	Smelter Hill BP3 Eqipment Decon	Laborer	Decon Trucks w/ High Pressure Water	Terry Brindley	Chemtex	3 57	3 50	0 262
11/12/92	086	Tom Pinnell 516-50-0841	Smelter Hill Flue Dust Storage	Operator Frnt End L	Loading Untreated Material	Terry Brindley	Chemtex	4 09	5 29	0 382
11/12/92	087	John Will 516-50 7954	Smelter Hill BP Plant to FDS	Driver	Hauling Contaminate Mater to BP Plant	Terry Brindley	Chemtex	1.00	3 12	0 206
11/12/92	088	Blank	Flue Dust Storage	N/A	N/A	Terry Brindley	Chemtex	<0 05	<1 25	<0 13
11/12/92	089	Blank	Flue Dust Storage	N/A	N/A	Terry Brindley	Chemtex	<0 05	<1 25	<0 13
11/14/92	090	Steve Reychler 517-54 3779	Exclusion Zone Flue Dust Storage	Laborer	Truck Decon Dry	Terry Brindley	Chemtex	7 50	2 25	0 225

NOTE (As A L = 5 0 ug/m3 P E L = 10 ug/m3) (Pb A L = 30 ug/m3, P E L = 50 ug/m3) (Cd P E L = 20 ug/m3)

ITEX-ANACONDA FLUE DUST REMEDIATION PROJECT #320
AIR MONITORING SAMPLE RESULTS

DATE COLLECTED	SAMPLE I.D. #	EMPLOYEE'S NAME SSN	LOCATION	JOB TITLE	EMPLOYEE TASK	SAMPLE COLLECTED BY	ADHA/NVLAP LABORATORY	SAMPLE RESULTS		
								As [ug/m3]	Pb [ug/m3]	Cd [ug/m3]
11/14/92	091	Blank	Bradley Ponds	N/A	N/A	Terry Brindley	Chemtex	<0.05	<1.25	<0.13
11/14/92	092	Blank	Bradley Ponds	N/A	N/A	Terry Brindley	Chemtex	<0.05	<1.25	<0.13
11/14/92	093	Dick Coughlin 517-68-9930	Smelter Hill FDS to BP Plant	Driver	Hauling Untrtd Mater & Dry Grs Decon-Trk	Terry Brindley	Chemtex	4.51	5.16	0.486
11/14/92	094	Bob Detonencour 517-62-6533	Smelter Hill FDS to BP Plant	Driver	Hauling Untrtd Mater & Dry Grs Decon Trk	Terry Brindley	Chemtex	3.42	5.26	0.361
11/15/92	095	Dan Walsh 517-38-5572	Smelter Hill FDS to BP Plant	Driver	Hauling Untrtd Mater & Dry Grs Decon-Trk	Terry Brindley	Chemtex	7.73	3.02	0.269
11/15/92	096	Blank	Smelter Hill	N/A	N/A	Terry Brindley	Chemtex	<0.05	<1.25	<0.13
11/15/92	097	Blank	Smelter Hill	N/A	N/A	Terry Brindley	Chemtex	<0.05	<1.25	<0.13
11/16/92	098	Daryle Reasakka 517-68-9086	Smelter Hill BP Plant	Laborer	Cleanup w/ Loader Cleaning Equipment	Terry Brindley	Chemtex	8.98	15.30	0.84
11/16/92	099	Kevin Bethke 517-04-9284	Smelter Hill Laydown Area	QA/QC En	Taking Samples	Terry Brindley	Chemtex	1.59	7.10	0.24
11/16/92	100	Brian Nelson 531-74-0684	Smelter Hill BP Plant	Operator	Loading Material	Terry Brindley	Chemtex	0.43	2.50	<0.13
11/16/92	101	Blank	Smelter Hill	N/A	N/A	Terry Brindley	Chemtex	<0.05	<2.0	<0.13
11/16/92	102	Blank	Smelter Hill	N/A	N/A	Terry Brindley	Chemtex	<0.05	<2.0	<0.13
11/17/92	103	Area Sample	Smelter Hill Worker Decon Area	N/A	N/A	Terry Brindley	Chemtex	4.34	8.90	0.47
11/17/92	104	Dana Burgeson 417-82-6339	Smelter Hill BP Exclussion Zone	Operator	Loading Backhoe Hopper	Terry Brindley	Chemtex	0.46	3.70	0.19
11/17/92	105	John W. Konde 516-96-5648	Smelter Hill BP Plant	Truck Drive	Water Trk & Gen Labor in & out of E.Z.	Terry Brindley	Chemtex	15.84	23.50	1.16

NOTE (As A.L. = 5.0 ug/m3 P.E.L. = 10 ug/m3) (Pb A.L. = 30 ug/m3 P.E.L. = 50 ug/m3) (Cd P.E.L. = 20 ug/m3)

ITEX-ANACONDA FLUE DUST REMEDIATION PROJECT #320
AIR MONITORING SAMPLE RESULTS

DATE COLLECTED	SAMPLE I.D. #	EMPLOYEE'S NAME SSN	LOCATION	JOB TITLE	EMPLOYEE TASK	SAMPLE COLLECTED BY	AIHA/NVLAP LABORATORY	SAMPLE RESULTS		
								As [ug/m3]	Pb [ug/m3]	Cd [ug/m3]
11/17/92	106	Area Sample	Smelter Hill Control Room	N/A	N/A	Terry Brindley	Chemtex	0 52	3 60	<0 13
11/17/92	107	Blank	Smelter Hill	N/A	N/A	Terry Brindley	Chemtex	<0 05	<2 0	<0 13
11/17/92	108	Blank	Smelter Hill	N/A	N/A	Terry Brindley	Chemtex	<0 05	<2 0	<0 13
11/18/92	109	Doug Ohren 516-11-9946	Smelter Hill In & out B P. Exclusion Zone	Laborer	Feeding Material from Sep. to Homogenizer	Terry Brindley	Chemtex	3 07	7 60	0 18
11/18/92	110	Daryle Rassakka 517-68-9086	Smelter Hill-Conv Top B P. Exclusion Zone	Laborer	Wearing full face resp Operating Conveyor	Terry Brindley	Chemtex	7 32	12 70	0 52
11/18/92	111	Blank	Smelter Hill B.P	N/A	N/A	Terry Brindley	Chemtex	<0 05	<2 0	<0 13
11/18/92	112	Blank	Smelter Hill B P	N/A	N/A	Terry Brindley	Chemtex	<0 05	<2 0	<0 13
11/19/92	113	Charles Tuss 516-06-5891	Smelter Hill Laydown #3	QA/QC Te	Taking Samples	Terry Brindley	Chemtex	13 01	19 80	1 18
11/19/92	114	Gil Fisher 517-82-8619	Smelter Hill B.P Plant Excl. Zone	Operator	Loading Material	Terry Brindley	Chemtex	1 14	5 90	0 36
11/19/92	115	Blank	Smelter Hill	N/A	N/A	Terry Brindley	Chemtex	<0 05	<2 0	<0 13
11/19/92	116	Blank	Smelter Hill	N/A	N/A	Terry Brindley	Chemtex	<0 05	<2 0	<0 13
11/20/92	117	Area Sample	Smelter Hill B P Control Room	N/A	N/A	Madeline Brin	Chemtex	2 11	3 90	0 20
11/20/92	118	Blank	Smelter Hill	N/A	N/A	Madeline Brin	Chemtex	<0 05	<2 0	<0 13
11/20/92	119	Blank	Smelter Hill	N/A	N/A	Madeline Brin	Chemtex	<0 05	<2 0	<0 13
11/20/92	120	Bob DeTonancour 517-62-6533	Smelter Hill B.P Plant	Driver	Hauling Treated Material	Terry Brindley	Chemtex	0 96	3.60	0 20

NOTE (As A L = 5 0 ug/m3, P E L = 10 ug/m3) (Pb A L = 30 ug/m3, P E L = 50 ug/m3) (Cd P E L = 20 ug/m3)

ITEX-ANACONDA FLUE DUST REMEDIATION PROJECT #320
AIR MONITORING SAMPLE RESULTS

DATE COLLECTED	SAMPLE I.D. #	EMPLOYEE'S NAME SSN	LOCATION	JOB TITLE	EMPLOYEE TASK	SAMPLE COLLECTED BY	AIHA/NVLAP LABORATORY	SAMPLE RESULTS		
								As [ug/m3]	Pb [ug/m3]	Cd [ug/m3]
11/20/92	121	Area Sample	Smelter Hil Decon Trailer	N/A	N/A	Terry Brindley	Chemtex	1.27	5.20	0.30
11/20/92	122	Blank	Smelter Hil	N/A	N/A	Terry Brindley	Chemtex	<0.05	<2.0	<0.13
11/20/92	123	Blank	Smelter Hil	N/A	N/A	Terry Brindley	Chemtex	<0.05	<2.0	<0.13
11/22/92	124	Charles Tusa 516-06-5891	Smelter Hil Laydown Area #3	QA/QC	Taking Samples	Terry Brindley	Chemtex	31.17	37.00	1.98
11/22/92	125	Area Sample	Smelter Hill Decon Trailer	N/A	N/A	Terry Brindley	Chemtex	0.47	4.00	<0.17
11/22/92	126	Blank	Smelter Hill	N/A	N/A	Terry Brindley	Chemtex	<0.05	<2.0	<0.13
11/22/92	127	Blank	Smelter Hill	N/A	N/A	Terry Brindley	Chemtex	<0.05	<2.0	<0.13
11/23/92	128	Area Sample	Smelter Hill So side LD#3-Downwin	N/A	N/A	Terry Brindley	Chemtex	<0.05	2.65	0.26
11/23/92	129	Area Sample	Smelter Hill East side LD #3	N/A	N/A	Terry Brindley	Chemtex	<0.05	<1.66	<0.20
11/23/92	130	Area Sample	Smelter Hill No side LD #3-Upwind	N/A	N/A	Terry Brindley	Chemtex	<0.05	1.98	<0.20
11/23/92	131	Area Sample	Smelter Hill West side LD #3	N/A	N/A	Terry Brindley	Chemtex	<0.05	<1.66	<0.20
11/23/92	132	Blank	Smelter Hill	N/A	N/A	Terry Brindley	Chemtex	<0.05	<1.25	<0.20
11/23/92	133	Blank	Smelter Hill	N/A	N/A	Terry Brindley	Chemtex	<0.05	<1.25	<0.20
11/27/92	134	Peter Cassidy 516-56-9428	Smelter Hill BP Plant to LD #3	Driver	Hauling Trid Material	Terry Brindley	Chemtex	3.10	7.90	0.63
11/27/92	135	Bob Delonardour 517-62-8533	Smelter Hill BP Plant to LD #3	Driver	Hauling Trid Material	Terry Brindley	Chemtex	3.62	8.99	0.68

NOTE (As A.L. = 5.0 ug/m3, P.E.L. = 10 ug/m3) (Pb A.L. = 30 ug/m3, P.E.L. = 50 ug/m3) (Cd P.E.L. = 20 ug/m3)

ITEX-ANACONDA FLUE DUST REMEDIATION PROJECT #320
AIR MONITORING SAMPLE RESULTS

DATE COLLECTED	SAMPLE I.D. #	EMPLOYEE'S NAME SSN	LOCATION	JOB TITLE	EMPLOYEE TASK	SAMPLE COLLECTED BY	AIHA/NVLAP LABORATORY	SAMPLE RESULTS		
								As (ug/m3)	Pb (ug/m3)	Cd (ug/m3)
11/27/92	136	Charles Tuss 516-06-5891	Smelter Hill LD #3	QA/QC	Taking Samples	Terry Brindley	Chemtex	5.83	14.71	1.06
11/27/92	137	Area Sample	Smelter Hill Decon	N/A	N/A	Terry Brindley	Chemtex	0.70	3.34	0.36
11/27/92	138	Blank	Smelter Hill	N/A	N/A	Terry Brindley	Chemtex	<0.05	<1.25	<0.20
11/27/92	139	Blank	Smelter Hill	N/A	N/A	Terry Brindley	Chemtex	<0.05	<4.00	<0.20

NOTE: (As A: = [illegible] PEL = 10ug/m3) (Pb A = [illegible]ug/m3 PEL = 50ug/m3) (Cd PEL = 20 ug/m3)

ITEX-ANACONDA FLUE DUST REMEDIATION PROJECT #320
AIR MONITORING SAMPLE RESULTS

DATE COLLECTED	SAMPLE I.D. #	EMPLOYEE'S NAME SSN	LOCATION	JOB TITLE	EMPLOYEE TASK	SAMPLE COLLECTED B	AIHA/NVLAP LABORATOR	SAMPLE RESULTS As [ug/m3]	Pb [ug/m3]	Cd [ug/m3]
DATE COLLECTED	SAMPLE I.D. #	EMPLOYEE'S NAME SSN	LOCATION	JOB TITLE	EMPLOYEE TASK	SAMPLE COLLECTED B	AIHA/NVLAP LABORATOR	SAMPLE RESULTS As [ug/m3]	Pb [ug/m3]	Cd [ug/m3]
12/11/92	140	Jim Mantell 287-46-7661	Smelter Hill	Operator	Move mater w/ loader	Terry Brindley	Chemtex	6.70	4.00	0.50
01/12/93	141	AREA SAMPLE	Control Room CPT	N/A	N/A	Terry Brindley	Chemtex	0.40	<0.2	<0.2
01/12/93	142	AREA SAMPLE	Top level plant-near CR CPT	N/A	N/A	Terry Brindley	Chemtex	3.80	3.00	0.30
01/14/93	143	AREA SAMPLE	Plant-ground level below silos - CPT	N/A	N/A	Terry Brindley	Chemtex	0.30	<0.2	0.20
01/14/93	144	Clodfelter, Jeremy 516-88-1705	Laydown Area CPT	QA/QC	Sample Takor	Terry Brindley	Chemtex	0.90	<0.2	<0.2
01/14/93	145	Jim Mantell 287 46-7661	CPT	Frntend ldr Operator	Loading material into plant	Terry Brindley	Chemtex	8.20	8.00	0.50
01/14/93	146	Burgeson, Dan 474 82-6339	CPT	Operator	Operating Hoe	Terry Brindley	Chemtex	0.40	2.00	0.30
01/18/93	147	AREA SAMPLE	Percent Cement Lab CPT	N/A	Technical	Terry Brindley	Chemtex	0.30	<0.2	<0.2
01/18/93	148	AREA SAMPLE	Sample Storage Area CPT	N/A	N/A	Terry Brindley	Chemtex	<0.2	<0.2	<0.2
01/18/93	149	AREA SAMPLE	Mid-Lab Trailer CPT	N/A	Technical	Terry Brindley	Chemtex	3.00	<0.2	0.20
01/25/93	150	AREA SAMPLE	Decon Trailer CPT	N/A	N/A	Terry Brindley	Chemtex	3.00	<0.2	0.20
01/25/93	151	AREA SAMPLE	Control Room CPT	N/A	N/A	Terry Brindley	Chemtex	4.00	3.00	0.20
01/25/93	152	AREA SAMPLE	Near guppies at EZ Fence - CPT	N/A	N/A	Terry Brindley	Chemtex	0.30	<0.2	<0.2
01/25/93	153	AREA SAMPLE	Lunch Trailer CPT	N/A	N/A	Terry Brindley	Chemtex	<0.2	<0.2	<0.2

KORTEM STORAGE AREA PM 10 AIR SAMPLING RESULTS

	Filter ID	Micrograms analyte per filter					Volume m3	Micrograms analyte per cubic meter					Notes/Processed Flue Dust (PFD) wet wt.
		PM-10	Arsenic	Cadmium	Lead	Zinc		PM-10	Arsenic	Cadmium	Lead	Zinc	
5-Oct-92	1-0049A	9800	2 1	1 8	6 1	19 1	1395	7.0251	0 0015	0 0013	0.0044	0 0137	Background samples, no operations
6 Oct 92	1 0051B	12200	3 5	1 8	4 8	18 8	1414	8.6280	0 0025	0 0013	0 0034	0 0132	Background samples, no operations
8 Oct-92	1 0055B	28000	5 5	1 8	56 8	22 8	1380	20.2899	0 0040	0 0013	0.0412	0.0165	Background samples, no operations
9-Oct 92	1 0057A	26900	3 7	1 0	4 1	15 8	1387	19.3944	0 0027	0 0013	0.0030	0.0114	Background samples, no operations
8 Oct-92													Archon unit set up, testing
19-Oct 92	1-0003A	15600	5 2	1 8	10 4	38 6	1380	11 3043	0 0038	0 0013	0.0075	0.0280	Very windy, no FD processed
20 Oct-92	1-0005B	32000	48 1	4 6	90 1	93 9	1363	23 4776	0 0353	0 0034	0.0661	0.0689	Windy, 400 tons PFD, began FD screening
21 Oct-92	1-0007A	21700	8 4	1 8	13 9	38 6	1334	16 2669	0 0063	0 0013	0 0104	0.0289	Windy, 628 tons PFD
22-Oct 92	1-0009B	28800	9 7	1 8	12 6	54 9	1389	20 7343	0 0070	0 0013	0.0091	0 0395	Windy, 800 tons PFD
22-Oct-92	1 0011A	5800	8 1	1 8	10 2	42 8	1387	4 1817	0 0044	0 0013	0.0074	0 0309	
23-Oct-92	1-0013A	15100	6 2	4 6	11 5	82 3	1390	10.8633	0 0045	0 0033	0.0083	0 0448	250 tons PFD
24-Oct-92	1-0014B	31700	44 5	5 1	64 3	85 6	1377	23 0211	0 0323	0 0037	0.0467	0.0622	680 tons PFD
27-Oct-92	1-0022A	22200	5 7	1 8	11 8	40 9	1448	15.3315	0 0039	0 0012	0.0081	0 0282	PFD = 220 tons BP2, 435 tons BP1
29-Oct-92	1-0028A	10200	7 1	5 1	24 2	77 7	1364	7.4780	0 0052	0 0037	0 0177	0 0570	1035 tons PFD, cleared BP1 for laydown area
30-Oct-92	1-0029B	4700	4 2	2 3	8 4	24 8	1373	3.4232	0 0031	0 0017	0.0061	0.0179	Rain, 637 tons PFD, haul FD from BP1 and 2
31-Oct-92	1-0034A	9900	4 9	1 8	13 7	25 8	1381	7 1687	0 0035	0 0013	0.0099	0 0185	508 tons BP1 & 71 tons BP2 PFD 30 loads BP3
1-Nov-92	1-0036B	3900	8.1	2 3	13 4	73 2	1297	3.0069	0 0047	0.0018	0 0103	0 0564	Haul 30 loads from BP3, no PFD
2-Nov-92	1-0037A	5500	3 5	2 3	3 3	16 2	1396	3.9398	0 0025	0 0016	0.0024	0.0116	PFD = 277 tons from BP2 &3
3-Nov-92	1-0041B	22400	2 9	2 3	7 6	38 4	1436	15.5989	0.0020	0.0016	0.0053	0.0267	PFD = 549 tons from BP3, continue haul from BP3
4-Nov-92	1-0043A	37300	4 9	2 3	9	22 8	1427	26.1388	0 0034	0.0016	0.0063	0 0160	Hauled 1000 + tons BP3, excavate in BP2, no PFD
5-Nov-92	1-0061B	16100	3 9	2 3	7 6	31 2	1413	11.3942	0.0028	0 0016	0.0054	0.0221	Stockpiled 1500 tons BP3, 550 tons PFD BP3
6-Nov-92	1-0065A	22500	4 7	2 4	10	40 2	1452	15.4959	0 0032	0.0017	0.0069	0.0277	900 tons PFD BP3, consolidate BP2 material
7-Nov-92	1-0067B	7500	2 6	2 3	7 5	19 2	1413	5.3079	0 0018	0 0016	0.0053	0.0136	Stockpile Iron Ponds material, maintenance
9-Nov-92	1-0072B	13900	4 7	2 3	4 5	30 6	1351	10.2887	0 0035	0 0017	0.0033	0 0226	800 tons PFD BP, cleared area in BP2
0-Nov-92	1-0076A	12700	8 8	2 3	9 2	31 2	1384	9.3109	0 0065	0 0017	0.0067	0.0229	F Dup. of # 70 590 tons PFD BP, conveyor down
0-Nov-92	1-0070B	17400	13 6	2 3	15 9	38 4	1441	12 0749	0 0094	0 0016	0.0110	0.0266	Field duplicate of #16
1-Nov-92	1 0060B	81000	331	35 4	402	939	1428	42.7171	0 2318	0 0248	0 2815	0.3775	PFD = 300 tons BP, 300 tons IP Haul 80 FDSF lds
2-Nov-92	1-0075A	19100	6	2 3	10 2	28 8	1386	13 7807	0 0043	0 0017	0 0074	0.0208	PFD = 375 tons IP
3 Nov-92	1-0078B	23900	9 3	2 3	12 2	38 4	1433	16.6783	0 0065	0 0016	0 0085	0 0268	Hauled 114 loads from FDSF, Plant down
4-Nov-92	1-0044A	24500	9 8	2 3	15 5	42 6	1343	18.2427	0 0073	0 0017	0 0115	0.0317	PFD = 304 tons IP, 42 tons FDSF haul 120 FDSF lds
5-Nov-92	1-0047B	23500	19 4	3	26 5	87 6	1396	16.8338	0 0139	0 0021	0 0190	0 0628	PFD = 222 tons FDSF, haul material from FDSF
6-Nov-92	1-0085A	29700	12 8	3	20 9	66	1364	21.7742	0 0094	0 0022	0.0153	0.0484	Haul FDSF mat , consolidate mat in laydown 1
7-Nov-92	1-0081B	72300	39 1	9	54 9	80	1430	50 5594	0 0273	0 0063	0 0384	0 1259	PFD = 330 tons FDSF, set up at coal pile tracks
8 Nov-92	1-0080A	12400	6 9	3 6	11 9	57	1358	9 1311	0 0051	0 0027	0.0088	0 0420	PFD = 400 tons FDSF, constructed new laydn area
9-Nov-92	1-0084B	33000	65 9	6	84 1	16	1434	23 0126	0 0460	0 0042	0.0586	0.0809	Duplicate of 87 PFD = 950 tons FDSF, stkpl mat
9 Nov-92	1-0087A	21900	26 6	2 3	38 9	84 6	1359	16 1148	0 0196	0 0017	0 0286	0 0623	Duplicate of 84 Place mat in new laydn area
0 Nov-92	1 0062A	10200	12 9	2 3	14 3	36 6	1383	7 3753	0 0093	0 0017	0 0103	0 0265	FDSF 550 tons PFD
1 Nov-92	1 0092B	154500	1331	114	1474	1129	1435	107.6655	0 9275	0 0794	1 0272	1 2746	Haul & stkpl CPT (wet mtl), FDSF 325 tons PFD
2-Nov-92	1-0095A	8400	15	2 3	19 9	42	1378	6 0958	0 0109	0 0017	0.0144	0 0305	PFD = 1125 tons FDSF
3 Nov-92	1-0098B	6800	3 8	2 3	3 6	22 2	1474	4 6133	0 0026	0 0016	0.0024	0.0151	350 tons FDSF PFD
4 Nov 92	1-0101A	41800	5 6	2 3	10 5	53 4	1418	29.4781	0 0039	0 0016	0.0074	0 0377	200 tons FDSF PFD, stop ops due to weather
5-Nov-92	1-0103B	68600	75 7	10 2	95	245	1493	45 9478	0 0507	0 0068	0 0636	0 1641	Plant maintenance
0-Nov-92	1-0105A	30400	385	39	398	735	1372	22 1574	0 2806	0 0284	0.2901	0 5357	PFD = 650 tons BP3, filled laydown area
1-Dec-92	1 0106B	27700	36 5	2 3	37 1	146	1430	19.3706	0 0255	0 0016	0.0259	0 1021	PFD = 210 tons BP3, wash homo plant shut down
2-Dec-92	1-0109A	14800	10 3	2 3	17 7	53 4	1377	10 7480	0 0075	0 0017	0 0129	0 0388	Plant shut down for maintenance
3-Dec-92	1-0113B	29500	40 1	2 8	42 4	144	1483	19 8921	0 0270	0 0019	0 0286	0 0971	Plant shut down for maintenance
4-Dec-92	1-0116A	32900	5 3	1 8	13 4	61 8	1447	22.7367	0 0037	0 0012	0 0093	0 0565	Plant shut down for maintenance
lant Air Quality Criteria (ug/m3)								150 00	none	none	1 50	none	

		Mill Creek Station PM 10 Air Sampling Results											
Date	Sample ID	Micrograms analyte per filter					Volume m3	Micrograms analyte per cubic mete					Notes/Processed Flue Dust (PFD) wet wt
		PM-10	Arsenic	Cadmium	Lead	Zinc		PM-10	Arsenic	Cadmium	Lead	Zinc	
5-Oct-92	1 0048-1	6500	4 2	1 9	5 8	53	1585	4.1009	0 0026	0.0012	0.0037	0 0334	Background samples, no operations
6-Oct-92	1-0052-2	7000	2	1 8	3 6	14 4	1637	4.5543	0 0013	0.0012	0.0023	0.0094	Background samples, no operations
8-Oct-92	1-0056-2	8500	4 2	3 3	5	32 1	1502	5 6591	0 0028	0 0022	0.0033	0.0214	Background samples, no operations
9-Oct-92	1-0058 1	24200	34 2	1 8	35 9	159	1412	17.1388	0 0242	0 0013	0 0254	0.1126	Background samples, no operations
10-18-Oct-92													ARCHON unit set up, testing
19-Oct 92	1-0024 FB	5700	0 8	1 0	1 2	6 5	0						PM-10 field blank
19-Oct-92	1-0004 1	6700	1 6	1 8	2	10 7	1407	4 7619	0 0011	0.0013	0 0014	0 0076	Plant maintonance
20-Oct-92	1-0006 2	5400	1 2	1 8	4 7	20 9	1434	3.7657	0 0008	0.0013	0 0033	0 0146	Windy, 400 tons PFD
21-Oct-92	1-0008 1	13400	2 7	1 8	5 9	42 8	1395	9.6057	0 0019	0.0013	0 0042	0.0307	Windy, 628 tons PFD
22-Oct-92	1-0010 2	2700	2 6	1 8	3 3	17 2	1510	1.7881	0 0017	0.0012	0.0022	0 0114	Windy, 600 tons PFD
23-Oct-92	1-0012 1	4700	2 5	7	3 6	55 3	1422	3.3052	0 0018	0.0049	0.0025	0 0389	250 tons PFD
24-Oct-92	1-0015 2	3000	2 4	1 9	4 1	31 6	1493	2.0094	0 0016	0 0013	0 0027	0 0212	680 tons PFD
25-Oct 92													Plant shut down for maintenance
26-Oct-92													500 tons PFD, PM-10 malfunction
27-Oct 92	1-0023 1	9200	2 8	2 3	5 3	38 1	1471	6 2542	0 0019	0 0016	0.0036	0 0259	PFD = 220 tons BP2, 435 tons BP1
28-Oct 92													926 tons PFD, PM 10 malfunction (battery failure)
29-Oct-92	1-0027 1	6300	4 7	6	7 9	60 9	1501	4 1972	0 0031	0 0040	0 0053	0 0406	1035 tons PFD from BP1, cleared BP1 for laydown
30-Oct-92	1-0031-2	4100	2	5 1	2 8	24 2	1479	2.7721	0 0014	0 0034	0 0019	0 0164	Rain, 637 tons PFD, haul FD from BP1 to BP2
31-Oct-92	1-0033-1	2600	0 8	1 8	1 5	8 8	1412	1 8414	0 0004	0.0013	0 0011	0.0062	PFD = 508 tons BP1, 71 tons BP2 Haul 30 loads BP3
1-Nov-92	1 0035 2	3900	0 8	2 3	7 5	13 8	1408	2.7699	0 0006	0 0016	0.0053	0 0098	Haul 30 loads from BP3, no PFD
2-Nov-92	1-0038-1	3100	0 8	2 3	1 7	7 8	1424	2 1770	0 0006	0.0016	0.0012	0 0055	PFD = 277 tons from BP2 & 3
3-Nov-92	1-0039 2	10400	0 8	2 3	2 4	13 8	1657	6.2764	0 0005	0.0014	0.0014	0 0083	PFD = 549 tons from BP3, continue haul from BP3
4-Nov-02	1-0042-1	7700	2 8	2 3	2 6	17 4	1453	5.2994	0 0019	0.0016	0.0018	0.0120	Haul 1000 + tons BP3, excavate in BP2, no PFD
5-Nov-92	1-0064-2	11900	0 8	2 3	1 8	9.6	1580	7.5316	0 0005	0.0015	0.0011	0.0061	Stockpile 1500 tons BP3, 550 tons PFD BP3
6-Nov-92	1-0066-1	11100	2 6	2 3	4.1	18 6	1475	7.5254	0.0018	0.0016	0.0028	0.0126	900 tons PFD BP3, consolidate BP2 material
7-Nov-92	1-0068-2	6900	3 8	2 3	2 4	10.8	1545	4.4660	0 0025	0.0015	0.0016	0.0070	Stockpile Iron Ponds material, maintenance
8-Nov-92	1-0069-1	1100	3 5	2 3	2 1	12	1441	0.7634	0.0024	0 0016	0 0015	0.0083	PFD BP3, shutdown, consolidate mat in laydown
9-Nov-92	1-0073 2	4900	2 8	2 3	2 7	25 8	1574	3.1131	0 0018	0 0015	0 0017	0 0164	800 tons PFD BP, cleared area in BP2
10-Nov 92	1 0032 1	700	1 4	2 3	2 2	10 8	1454	0 4814	0 0010	0 0016	0.0015	0 0074	590 tons PFD BP, conveyor down
10-Nov-92	1 0077	1600	0 8	2 3	1 6	3 4	0						Field blank
11-Nov 92	1-0050 2	8600	6 1	2 3	6 4	38 4	1548	5 5556	0 0039	0 0015	0 0041	0 0248	PFD = 300 tons BP 300 tons IP Haul 80 FDSF loads
12-Nov 92	1 0078 1	5700	2	2 3	2 6	13 8	1472	3 8723	0 0014	0 0016	0 0018	0 0094	PFD = 375 tons IP
13 Nov 92	1 0079 2	4900	2 9	2 3	2 7	15	1575	3.1111	0 0018	0 0015	0 0017	0 0095	Haul 114 loads from FDSF plant shut down
14-Nov-92	1 0045 1	400	2 4	2 3	2 9	47 4	1428	0.2805	0 0017	0 0016	0 0020	0 0332	PFD = 304 tons IP, 42 tons FDSF haul 120 FDSF lds
15 Nov 92	1-0046 2	7800	3 1	2 4	2 9	20 4	1515	5 1485	0 0020	0 0016	0 0019	0 0135	PFD = 222 tons FDSF, haul material from FDSF
16-Nov 92	1-0074 1	6900	2 7	2 3	5 7	31 8	1449	4.7619	0 0019	0 0016	0 0039	0.0219	Haul FDSF, consolidate material in laydown 1
17 Nov-92	1 0083 2	14600	8 3	7 8	11 6	93 6	1548	9 4315	0 0054	0 0050	0 0075	0 0605	PFD = 330 tons FDSF, set up at coal pile tracks
18-Nov 92	1 0082 1	12400	9 1	3 8	10 9	64 8	1481	8 4873	0 0082	0 0025	0 0075	0 0444	PFD = 400 tons FDSF, construct new laydown area
19-Nov 92	1-0086 2	9300	2 1	2 3	4 5	16 2	1571	5 9198	0 0013	0 0015	0 0029	0 0103	PFD = 950 tons FDSF, stkpl and place mat in laydn
20-Nov-92	1-0091 1	15600	25 4	2 3	27 9	135	1465	10 6485	0 0173	0 0016	0 0190	0.0922	PFD = 550 tons FDSF
21-Nov-92	1-0093 2	4100	5 5	2 3	6 5	40 2	1573	2.6065	0 0035	0 0015	0 0041	0 0256	Haul & stkpl CPT (wet mat), FDSF 325 tons PFD
22-Nov-92	1 0094 1	7300	5 7	2 3	5 5	21 6	1444	5 0554	0 0039	0 0016	0 0038	0 0150	PFD = 1125 tons FDSF
22-Nov-92	1-0096	200	0 8	2 3	3 9	15	0						Field blank
23-Nov-92	1-0097 2	33300	13 3	2 3	18 5	61 8	1593	20 9040	0 0083	0 0014	0 0116	0 0388	350 tons FDSF PFD
24-Nov 92	1 0099 1	9200	3 3	2 3	3 5	29 4	1502	6 1252	0 0022	0 0015	0 0023	0 0196	200 tons FDSF PFD, stop work due to cold weather
25-Nov-92	1 0102 2	16700	9 4	11 4	12 8	84	1629	10.2517	0 0058	0 0070	0 0079	0 0516	Plant maintenance
30-Nov 92	1-0104 1	15400	40 1	2 3	26 8	49 8	1470	10.4762	0 0273	0 0016	0 0182	0.0339	PFD = 650 tons BP3, filled laydown area
1-Dec-92	1-0107 2	8500	32 7	3	18	61 8	2272	3.7412	0 0144	0 0013	0.0079	0 0272	PFD = 210 tons BP3, wash homo plant shut down
2-Dec-92	1-0108 1	5900	6 6	3	6 3	47 4	1471	4 0109	0 0045	0 0020	0 0043	0 0322	Plant shut down for maintenance
3-Dec-92	1-0114 2	5400	2 7	1 8	1 4	14 4	1611	3 3520	0 0017	0 0011	0 0009	0 0089	Plant shut down for maintenance
4-Dec-92	1-0115 1	8200	2 1	1 0	4 8	43 2	1539	4 0280	0 0014	0 0030	0 0031	0 0281	Plant shut down for maintenance
mbient Air Quality Criteria								150 00	none	none	1 50	none	

APPENDIX I

FLUE DUST REPOSITORY LEACHATE

Canonie

TELEPHONE CALL RECORD

DATE 6-10-94 TIME 10:00 ~~AM~~ PROJECT NO 9221401.

NAME _____ TELEPHONE NO _____

TO Steve Jones OF Canonie.

FROM Bart Richardson OF ARCO

Bart stated he had received word from Ken Brockman EPA To discharge water from the Flue Dust Repository Collection sump to the Anaconda Ponds. We will set up a tank to discharge from the Sump to the tank then transport water with a Truck To the Anaconda Ponds.

Steve Jones.

NOTE: THIS RECORD IS TO BE RETAINED IN THE FILE

Memo

TO: Bart Richardson

February 11, 1994

FROM: Jon Bronson
Joe Flynn

SUBJECT: Sump Pumping Volumes

The following summarizes the quantities of water removed from the Flue Dust Repository collection sump (FDR), the Arbiter Repository collection sump (ARB - C), and detection sump (ARB - D), and the Beryllium Repository collection sump (BR - C)

The total quantities removed to date from each sump and the quantities removed in July through December 1993, and in January 1994 are as follows:

SUMP	TOTAL TO DATE	TOTAL FOR JULY	TOTAL FOR AUG.	TOTAL FOR SEPT.	TOTAL FOR OCT	TOTAL FOR NOV	TOTAL FOR DEC	TOTAL FOR JAN.
	(gallons)	(gallons)	(gallons)	(gallons)	(gallons)	(gallons)	(gallons)	(gallons)
FDR	218,734	0	177,164	38,560	3,010	0	0	0
ARB - C	1,659,263	186,092	160,640	90,167	101,036	56,899	12,067	24,495
ARB - D	1,470	0	600	0	0	270	0	0
BR - C	60,238	9,000	12,398	9,000	0	8,964	2,628	0

Memo

TO. Bart Richardson — October 27, 1993

FROM Joe Flynn
Jon Bronson — 92-214-01

SUBJECT: Water Level Measurements and Analytical Results

Enclosed are the tables summarizing the water level measurements and analytical results for the Flue Dust Repository collection sump (FDR), the Arbiter Repository collection sump (AR - C) and detection sump (AR - D), and the Beryllium Repository collection sump (BR - C).

The total quantities removed from each sump and the quantities removed in July, August and September are as follows:

SUMP	TOTAL TO DATE (gallons)	TOTAL FOR JULY (gallons)	TOTAL FOR AUGUST (gallons)	TOTAL FOR SEPTEMBER (gallons)
FDR	218,732	0	177,164	38,556
AR - C	1,564,055	186,092	160,640	90,167
AR - D	1,200	0	600	0
BR - C	48,646	9,000	12,398	9,000

October to date pumping volumes are included in the attachments.

cc: Don Booth
Robin Bullock
Steve Jones
Jack Marjerison

3

FLUE DU!)SITORY
LEACHATE COLL ,N SYSTEM SUMP
WATER LEVEL MEASUREMENTS AND ANALYTICAL RESULTS

DATE	HEIGHT OF WATER COLUMN (FT) (1)	PUMPING RATE (GPM) (2)	PUMPING PERIOD (HRS)	VOLUME PUMPED (GAL)	TOTAL CUMULATIVE VOLUME PUMPED (GAL)(8)	SAMPLE ROUND(9)	CUMULATIVE VOLUME PUMPED FOR ROUND (GAL)	SAMPLE DESIGNATION (3)	ANALYTICAL RESULTS (MG/L)	pH (S.U.) (4)
5/28/93	NT	NP	NP	NP	NP	NA	NP	Rep Water @ Sump - 1	Arsenic - 2 27 Cadmuim - ND Lead - ND	8 85
5/28/93	NT	NP	NP	NP	NP	NA	NP	Rep Water @ Sump - 2	Arsenic - ND Cadmuim - ND Lead - ND	8 89
6/1/93	NT	NP	NP	NP	NP	NA	NP	Rep Water @ Sump - 1	Arsenic - 4 0 Cadmuim - ND Lead - ND	8 3
6/28/93	NT	NP	NP	NP	NP	NA	NP	Rep - H2O - @ Sump	Arsenic - 14 Cadmuim - ND Lead - ND	7 25
7/24/93	NT	NP	NP	NP	NP	NA	NA	Rep - Sump - H2O	Arsenic - 21 Cadmuim - ND Lead - ND	7 63
8/1/93	NT	18 6	10 00	11 148	11,148	NA	NA	NC	NC	NC
8/2/93	NT	18 6	9 00	10,033	21,181	NA	NA	NC	NC	NC
8/3/93	NT	18 6	9 00	10 033	31,214	NA	NA	NC	NC	NC
8/4/93	NT	18 6	10 50	11,705	42,920	NA	NA	NC	NC	NC
8/9/93	NT	20 0	11 92	14,304	57,224	NA	NA	NC	NC	NC
8/10/93	NT	20 0	7 91	9,492	66,716	NA	NA	NC	NC	NC
8/11/93	NT	20 0	13 70	16,440	83,156	NA	NA	NC	NC	NC
8/12/93	NT	20 0	6 41	7,692	90,848	NA	NA	NC	NC	NC
8/13/93	NT	20 0	11 76	14,112	104,960	NA	NA	NC	NC	NC
8/14/93	NT	20 0	5 13	6,156	111,116	NA	NA	NC	NC	NC
8/16/93	NT	20 0	6 77	8,124	119,240	NA	NA	NC	NC	NC
8/17/93	NT	20 0	11 72	14 064	133,304	NA	NA	NC	NC	NC
8/18/93	NT	20 0	18 59	22,308	155,612	NA	NA	NC	NC	NC
8/28/93	NT	20 0	7 38	8,856	164,468	NA	NA	NC	NC	NC
8/29/93	NT	20 0	10 58	12,696	177,164	NA	NA	NC	NC	NC
9/11/93	NT	20 0	4 73	5 676	182,840	NA	NA	NC	NC	NC
9/12/93	NT	20 0	7 41	8 892	191,732	NA	NA	NC	NC	NC
9/13/93	NT	20 0	8 21	9,852	201,584	NA	NA	NC	NC	NC
9/14/93	NT	20 0	11 78	14,136	215,720	NA	NA	NC	NC	NC
10/15/93	NT	20 0	2 51	3,012	218,732	NA	NA	NC	NC	NC

Notes
1 Water levels were electronically measured with a Solinst Water Level Indicator from the top of the riser pipe
2 Pumping rate measured by an in-line flow meter
3 Samples were collected and analyzed by the on-site ITEX laboratory for dissolved arsenic, cadmium and lead and also pH
4 pH was measured with an Orion 250A pH meter
5 NT indicates measurement not taken
6 NP indicates not pumped
7 NC indicates sample not collected
8 First pumping event occurred on 5/28/93

4

Canonie

Field Sample Data

PROJECT No 92-214-01
PAGE 1 OF 7

PROJECT NAME Anaconda Smelter Rep. Complex SAMPLED BY Dave Griffis
STATION No./LOCATION Flue Dust Collection Sump DATE 6/20/95

SKETCH ON BACK YES ☐ NO ☒ PHOTOGRAPHS YES ☐ NO ☒ ROLL No /EXPOSURE No

FIELD DATA

TIME 3:30 p.m. AIR TEMP °F 60° WEATHER Cloudy, light breeze

WELL DEPTH 74.92 WATER DEPTH 68.95 SAMPLE DEPTH — SAMPLE METHOD grab from pump

VOL PURGED ±100 gal SAMPLE TEMP. 84.6 °C ☒ IN SITU ☐ IN BOTTLE SP. COND. 3.08 / AT 25° C ☒ IN SITU ☐ IN BOTTLE

pH 11.05 ☒ IN SITU ☒ IN BOTTLE Eh — ☒ IN SITU ☐ IN BOTTLE DISSOLVED O_2 — ppm ☐ IN SITU ☐ IN BOTTLE

1.97

BOTTLE ID	LAB ID	VOL	MATERIAL	FILTERED	PRES./VOL	ANALYSIS REQUESTED
Flue Dust C-Sump 06209501		1 L	leachate	YES (45 min)	HNO_3	Pb, Cd, As, (Dissolved)

Results to Bart Richardson

FIELD PARAMETERS:

40	GALLON	pH- 10.93	Cond. ~~EH~~ 3940 ~~3597~~	TEMP.	87.1°F
80	GALLON	pH- 10.99	Cond. ~~EH~~ 3090 ~~3509~~	TEMP.	85.8
110	GALLON	pH- 11.05	Cond. ~~EH~~ 3080 ~~3[illegible]~~	TEMP.	84.6

REMARKS:

FIELD EQUIPMENT QUALITY ASSURANCE CHECKLIST

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pH METER BUFFER CHECK pH 4 ✓ pH 7 ✓ pH 10 ~~[illegible]~~

SP. COND. METER STANDARDS CHECK 1000 Mhos/cm Eh PROBE

PUMP TUBING RINSED CHANGED ✓ SAMPLER BLANK

FILTRATION BLANK WITH PRES. FILTERS ACID WASHED

CANONIE ENVIRONMENTAL
DISSOLVED METALS IN WATER
RESULTS IN mg/L

LAB ID	FIELD ID	As	Cd	Pb
IDL		0.001	0.0001	0.001
WP914	FLUE DUST COLL. 05119401	0.131	0.0008	0.021

GFW
REVIEW

anomic

Field Sample Data

PROJECT No 92-214-01
PAGE 1 OF 1

PROJECT NAME Anaconda Smelter NPL Site SAMPLED BY M. Cachovic
STATION No./LOCATION Flue Dust Collection Sump DATE 5-11-94

SKETCH ON BACK YES ☐ NO ☒ PHOTOGRAPHS YES ☐ NO ☒ ROLL No./EXPOSURE No —

FIELD DATA

TIME 10:20am AIR TEMP. F 60-65° WEATHER Clear/Sunny

WELL DEPTH 72.5 WATER DEPTH 66.4' SAMPLE DEPTH see sample method SAMPLE METHOD sample water from hose running off pump while ru

VOL PURGED ≈ 18,000 gal SAMPLE TEMP. 77.3 °C ☒ IN SITU ☐ IN BOTTLE SP. COND. 3140 @ 77.3° / ____ AT 25° C ☒ IN SITU ☐ IN BOTTLE

pH 11.57 ☐ IN SITU ☐ IN BOTTLE Eh — ☐ IN SITU ☐ IN BOTTLE DISSOLVED O_2 — ppm ☐ IN SITU ☐ IN BOTTLE

(preserved to 1.24)

BOTTLE ID	LAB ID	VOL	MATERIAL	FILTERED	PRES./VOL.	ANALYSIS REQUESTED
05119401		≈ 450ml	leachate	yes 45um	X ≈ 10ml	Dissolved Pb, Cd, As, [redacted]
Note: MCL's for As = 0.050 mg/l						
Pb = 0.015 mg/l						
Cd = 0.005 mg/l						

FIELD PARAMETERS:

_____ GALLON pH- _____ EH- _____ TEMP _____

_____ GALLON pH- _____ EH- _____ TEMP. _____

_____ GALLON pH- _____ EH- _____ TEMP. _____

REMARKS: Pump starting and stopping automatically @ ≈ 20-30 second intervals. Pump runs for ≈ 20-25 seconds and then shuts off for 20-30 seconds.

FIELD EQUIPMENT QUALITY ASSURANCE CHECKLIST

18

pH METER BUFFER CHECK pH 4 ✓ pH 7 ✓ pH 10 ✓

SP. COND. METER STANDARDS CHECK ✓ Eh PROBE —

PUMP TUBING RINSED ✓ CHANGED _____ SAMPLER BLANK _____

FILTRATION BLANK WITH PRES. _____ FILTERS ACID WASHED _____

CANONIE ENVIRONMEN[illegible]L SERVICES CORP.
INTERIM OPERATIONS AND MONITORING
ARBITER AND BERYLLIUM REPOSITORY LEACHATE SYSTEM
ANACONDA SMELTER NPL SITE

Flue Dust Repository

Date	Depth to Water[1] (Ft)		Dipstick Reading (Ft)	Sump Water Depth[2] (Ft)			Water Removal			Volume Pumped[4] (gallons)	Safety & Decon per SOP	Performed by (Initials)
	~~Arbiter~~ FD Repository ~~Collection~~	Arbiter Detection	Beryllium Collection	~~Arbiter~~ FD Repository ~~Collection~~	Arbiter Detection	Beryllium Collection	Time Pump On	Time Pump Off	Flow Rate (GPM)			
7/19/94	72.4'			2.52'								SEJ
8/23/94	71.8'			3.12'								SEJ
12/27/94	70.4'			4.52'							Yes	DSG
2/ /95	71.1?			3.82'?								Mike Lasher (ARCO)
3/28/95 *	70.68'			4.24'							Yes	DSG
4/24/95	69.70'			5.22'							yes	DSG
6/20/95	68.95'			5.97'						105 gal. for sample	yes	DSG

Notes:
(1) Depth to water measured from top of riser pipe. Total length of sump riser pipes are 89.2 feet (leachate collection riser) and 89.8 feet (leak detection riser).
(2) Arbiter collection and detection water depth calculated by subtracting depth to water from total riser pipe length. Beryllium collection water depth measured using a dip stick, converted to vertical water depth based on riser scope of 3H:1V.
(3) Flow rate measured by filling a 5-gallon bucket per unit time
(4) Estimated by average flow rate (GPM) x pumping duration (minutes).

Flue Dust Repository - Riser pipe (PVC) Total Depth 74.92'
7-19-94

* - measured from west side of PVC

CANONIE ENVIRONMENTAL SERVICES CORP.
INTERIM OPERATIONS AND MONITORING
ARBITER AND BERYLLIUM REPOSITORY LEACHATE SYSTEM
ANACONDA SMELTER NPL SITE

Date	Depth to Water[1] (Ft)		Dipstick Reading (Ft)	Sump Water Depth[2] (Ft)			Water Removal			Volume Pumped[4] (gallons)	Safety & Decon per SOP	Performed by (Initials)
	Flue Dust ~~Arbiter Collection~~	Arbiter Detection	Beryllium Collection	Flue Dust ~~Arbiter Collection~~	Arbiter Detection	Beryllium Collection	Time Pump On	Time Pump Off	Flow Rate (GPM)			
5-10-94	66.4			6.1'						13,000		
① 5-11-94	66.6			5.9'						~~16,000~~ 18,000		
5-12-94	66.7			5.8			~~[illegible]~~			NP		
5-13	66.7			5.8*						8,000		
5-16	66.75			5.7'						NP		
6-20	69.6*				* ITEX welded on a 3.1 ft chunk of pipe onto the existing riser pipe							
② [illegible]	[illegible] 8			5.5	New depth of well [illegible] to bottom = 75.6					15,500		mc
~~6/[illegible]~~/94	*				* Jordan Truck - 3500 gal Hauled Approx 3100 gal per Load To Keep from Splashing out. Hauled 31 Loads Total					12,400		SEJ
7/7/94	*									37,200		SEJ
7/8/94	* ~~[illegible]~~									27,900		SEJ
7/9/94	* 71.0									15,500		SEJ
7/11/94	*									3100		SEJ.

Notes:
(1) Depth to water measured from top of riser pipe. Total length of sump riser pipes are 89.2 feet (leachate collection riser) and 89.8 feet (leak detection riser).
(2) Arbiter collection and detection water depth calculated by subtracting depth to water from total riser pipe length. Beryllium collection water depth measured using a dip stick, converted to vertical water depth based on riser scope of 3H:1V.
(3) Flow rate measured by filling a 5-gallon bucket per unit time.
(4) Estimated by average flow rate (GPM) x pumping duration (minutes).

② Flue Dust Well Depth = ~~72.5~~ 75.6 From Top of Riser Pipe
① ITEX and Degustan Construction Doing the pumping - not possible to get accurate records on pumping times (off / on)

20

82/9221402/O&M 1 FRM/REV2 (May 13, 93)

INTERIM OPERATION AND MAINTENANCE MONITORING REPORT
FOURTH QUARTER 1994
ARBITER AND BERYLLIUM ACCELERATED REMOVAL ERA & FLUE DUST REMEDIAL ACTION
ANACONDA SMELTER NPL SITE
ANACONDA, MONTANA

1.0 Groundwater Sampling and Analysis

Groundwater samples were collected from each of the five monitoring wells on December 21, 1994. Table 1 summarizes the results of the sampling event, including monitoring well water level data, field pH values and analytical results.

2.0 Leachate Management

2.1 Arbiter Repository

The Arbiter Repository leachage collection and leak detection sump water levels were monitored during the fourth quarter of 1994. During this monitoring period, 50,200 gallons of water were removed from the leachate collection sump (Table 2). Water was discharged, with EPA's approval, to the adjacent surface water diversion ditch. A plot of the cumulative amount of water pumped versus time is shown on Figure 1. A decreasing trend in recharge rate is indicated by the flattening of the curve with time.

No water was removed from the leak detection sump during the monitoring period. The water level was measured at 1.38' and did not significantly exceed the maximum practical pumping depth (1.2').

2.2 Beryllium Repository

The beryllium repository leachate collection sump water level has not changed since April, 1994; the level remains at the maximum pratical pumping depth of 1.2'.

2.3 Flue Dust Repository

The flue dust repository sump was measured on December 27, 1994. The depth of leachate was measured at 4.52' in the sump collection pipe. The leachate level is still below the top of the sump in the repository and therefore was not pumped.

3.0 Settlement Monitoring

Settlement monument survey data and cummulative settlement for the Arbiter repository are summarized in Tables 3 and 4. During the October 19, 1994 survey it was noticed that PT 91 had been altered. The survey monument was taken from the top of the pipe on the monument due to the collar at the top of

the monument being removed. In addition to the collar being removed, both monuments were disturbed by reseeding equipment during maintenance of the final soil cover on the repository. Because of disturbance to the monuments in October, total settlement shown for PT 90 and PT 91 was negative since the survey performed on September 14, 1994. The results of the survey performed on December 14, 1994 showed an appropriate settlement for the increased load on the repository produced from construction of the final cap/liner system. Figures 2 and 3 illustrates the results of the settlement surveys.

4.0 Surface Water Diversion Ditch System

The surface water diversion ditch system was inspected for signs of erosion or degradation. No significant erosion or degradation of the ditch system was noted during the inspection.

5.0 Site Security

Site security and access in the Smelter Hill area are provided by the use of warning signs, fences, gates and roving security personnel. No security related incidents occurred in this quarter.

TABLE 1

GROUND WATER SAMPLING AND ANALYSIS SUMMARY
FOURTH QUARTER 1994 - INTERIM OPERATION AND MONITORING
ACCELERATED REMOVALS EXPEDITED RESPONSE ACTION
ANACONDA SMELTER NPL SITE

Well No.(1)	T.O.C. Elevation (ft MSL)(2)	Depth to Water (ft) (3)	Water Surface Elevation (ft MSL)	Field pH (SU)	Constituent Analysis (mg/L) (4)				
					Method (5)	Arsenic	Beryllium	Cadmium	Lead
MW-1	5,326.59	113.80	5,212.79	8.14	GF	0.003	<0.0001	0.0002	<0.001
MW-2	5,330.20	115.00	5,215.20	7.88	GF	0.005	<0.0001	<0.0001	<0.001
MW-3	5,325 80	122.50	5,203.30	6.64	GF	0.007	<0.0001	0.0001	<0.001
MW-4	5,335.25	128.00	5,207.25	6.36	GF	0.003	<0.0001	0.0001	<0.001
W-65	5,337.83	97.20	5,240.63	8.53	GF	<0.001	<0.0001	0.0001	<0.001

Notes:

(1) Ground water samples were collected on December 21, 1994
(2) T.O.C. = Top of well casing. T.O C. elevation surveyed by Druyvestein, Johnson and Anderson.
(3) Water levels were electronically measured with a Solinst Water Level Indicator from the T O.C during respective events
(4) Instrument detection limits are reported (e.g <0 0001) if the constituent was not detected above this concentration.
(5) GF = graphite furnace (EPA Method 200 9).

AUG-22-'96 THU 10:36M ID:ARCO ANACONDA MONT TEL NO:4065637318 #460 P05

TABLE 2

ARBITER REPOSITORY LEACHATE COLLECTION SYSTEM PUMPING, SAMPLING, AND ANALYSIS SUMMARY FOURTH QUARTER 1994 - INTERIM OPERATION AND MONITORING ACCELERATED REMOVALS EXPEDITED REPONSE ACTION ANACONDA SMELTER NPL SITE

	Total Metal Concentrations (mg/L)			pH	Volume Pumped
Date(1)	Arsenic	Cadmium	Lead	(SU)	(gal)
12/20/94	0.011	0.00008	0.001	8.05	6,000(3)
12/21/94	NR(2)	NR	NR	NR	12,000(3)
12/22/94	NR	NR	NR	NR	27,600(3)
12/23/94	NR	NR	NR	NR	18,000(3)
12/24/94	NR	NR	NR	NR	9,600(3)
12/25/94	NR	NR	NR	NR	8,160(3)
12/26/94	NR	NR	NR	NR	5,280(3)
					86,640(3)
Total Volume Pumped This Quarter:					50,200(4)

Notes:

(1) Indicates data that pumping event ended.

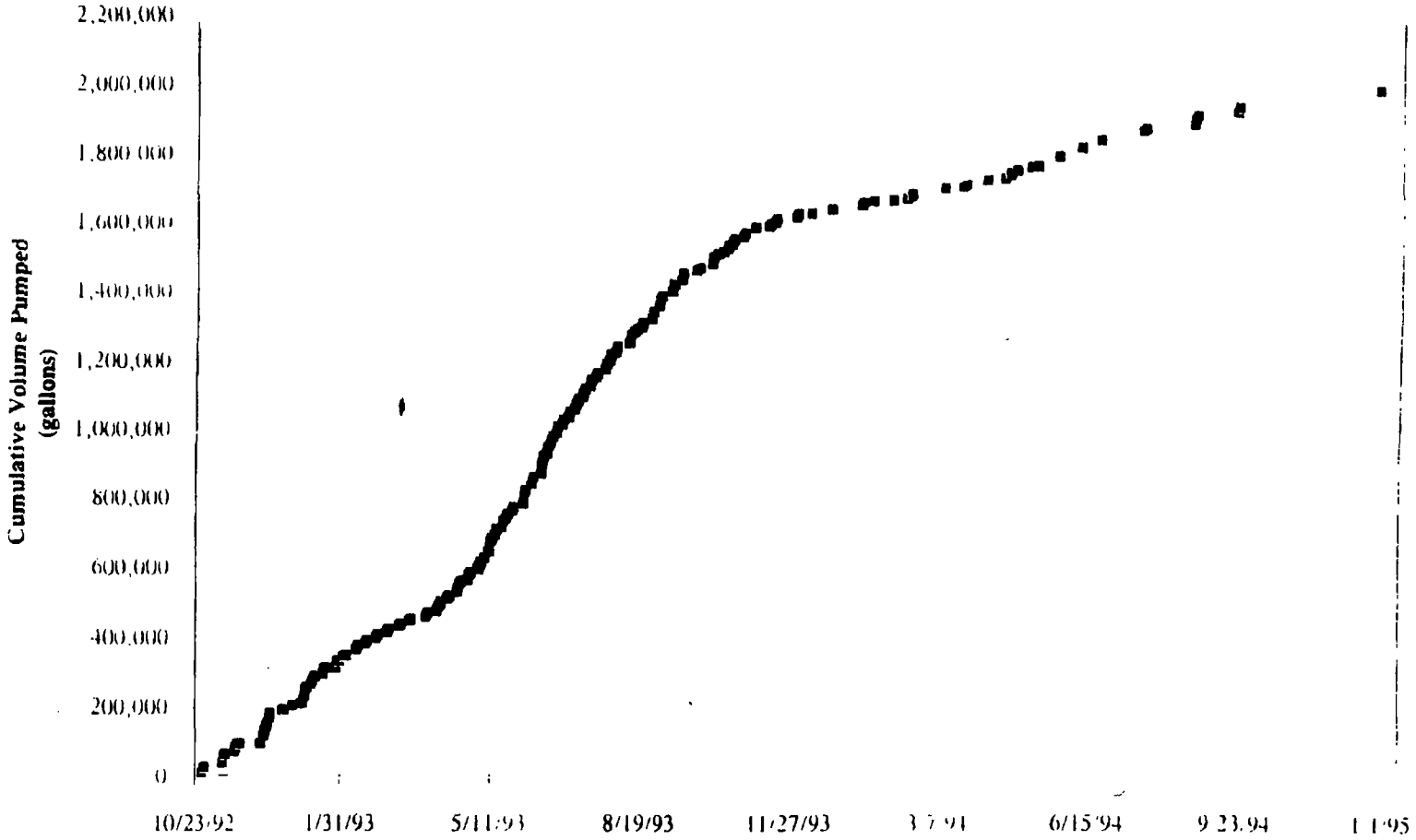
(2) NR indicates that sample collection and analysis were not required.

(3) Volumes based on field data by measuring pump rate with a five-gallon bucket and multiplying by the total time the pump was in operation.

(4) Estimate from performing least-squares regression calculation.

FIGURE 1

ARBITER REPOSITORY LEACHATE COLLECTION SUMP RECHARGE ANALYSIS
ACCELERATED REMOVALS EXPEDITED RESPONSE ACTION
ANACONDA SMELTER NPL SITE



Notes: (1) Day one is October 28, 1992 (assumed)
(2) Pumping data collected from October 28, 1992 through the end of the Fourth Quarter 1994 was presented in the corresponding quarterly reports

AUG-22-'96 THU 10:36M ID:ARCO ANACONDA MONT TEL NO:4065637318 #460 P09

INTERIM OPERATION AND MAINTENANCE MONITORING REPORT
THIRD QUARTER 1994
ARBITER AND BERYLLIUM ACCELERATED REMOVAL ERA & FLUE DUST REMEDIAL ACTION
ANACONDA SMELTER NPL SITE
ANACONDA, MONTANA

1.0 Groundwater Sampling and Analysis

Groundwater samples were collected from each of the five monitoring wells on September 22, 1994. Table 1 summarizes the results of the sampling event, including monitoring well water level data, field pH values and analytical results.

2.0 Leachate Management

2.1 Arbiter Repository

The Arbiter Repository leachate collection and leak detection sump water levels were monitored during the third quarter of 1994. During this monitoring period, 96,300 gallons of water were removed from the leachate collection sump (Table 2). Water was discharged, with EPA's approval, to the adjacent surface water diversion ditch. A plot of the cumulative amount of water pumped versus time is shown on Figure 1. A decreasing trend in recharge rate is indicated by the flattening of the curve with time.

No water was removed from the leak detection sump during the monitoring period. The water level was measured at 1.1' and did not exceed the maximum practical pumping depth (1.2').

2.2 Beryllium Repository

The beryllium repository leachate collection sump water level has not changed since April, 1994; the level remains at the maximum pratical pumping depth of 1.2'.

2.3 Flue Dust Repository

The Flue Dust Repository leachate collection sump water level was monitored during the third quarter of 1994. Immediately following the final cap system installation, 96,100 gallons of water were removed from the leachate collection sump. A representative water sample was obtained and analyzed from the Flue Dust sump, the analytical results were as follows: total arsenic 0.131 ppm; cadmium 0.0008 ppm; and lead 0.021 ppm. With EPA's approval, water was pumped and transported to the Anaconda Ponds in 3,500 gallon water trucks.

3.0 Settlement Monitoring

Settlement monument survey data and cummulative settlement for the Arbiter repository are summarized in Tables 3 and 4. The settlement monuments were removed during construction of the final cap/liner system and reinstalled and surveyed after the construction was completed on July 29, 1994. The settlement monuments were renamed PT 90 (West monument, formerly Monument 1001) and PT 91 (East monument, formerly Monument 1002/1003). A second survey of te monuments was performed on September 14, 1994. Figures 2 and 3 illustrates the results of the settlement surveys.

4.0 Surface Water Diversion Ditch System

The surface water diversion ditch system was inspected for signs of erosion or degradation. No significant erosion or degradation of the ditch system was noted during the inspection.

5.0 Site Security

Site security and access in the Smelter Hill area are provided by the use of warning signs, fences, gates and roving security personnel. No security related incidents occurred in this quarter.

TABLE 1

GROUND WATER SAMPLING AND ANALYSIS SUMMARY
THIRD QUARTER 1994 - INTERIM OPERATION AND MONITORING
ACCELERATED REMOVALS EXPEDITED RESPONSE ACTION
ANACONDA SMELTER NPL SITE

Well No.(1)	T.O.C. Elevation (ft MSL)(2)	Depth to Water (ft) (3)	Water Surface Elevation (ft MSL)	Field pH (SU)	Constituent Analysis (mg/L) (4)				
					Method (5)	Arsenic	Beryllium	Cadmium	Lead
MW-1	5,326.59	114 50	5,212.09	7.01	GF	0 008	0.0001	<0.0001	0.002
MW-2	5,330 20	114.50	5,215.70	7.52	GF	0.003	0.0001	<0.0001	<0.001
MW-3	5,325.80	120.00	5,205.80	7.60	GF	0.009	0.0001	<0 0001	0.001
MW-4	5,335 25	124 00	5,211 25	7.14	GF	0.002	0.0001	<0.0001	<0.001
W-65	5,337.83	978.05	5,239 78	7.95	GF	0 002	0.0001	<0.0001	0.001

Notes

(1) Ground water samples were collected on September 22, 1994
(2) T O C. = Top of well casing. T O C. elevation surveyed by Druyvestein, Johnson and Anderson.
(3) Water levels were electronically measured with a Solinst Water Level Indicator from the T.O C. during respective events
(4) Instrument detection limits are reported (e g <0 0001) if the constituent was not detected above this concentration.
(5) GF = graphite furnace (EPA Method 200 9).

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TABLE 2

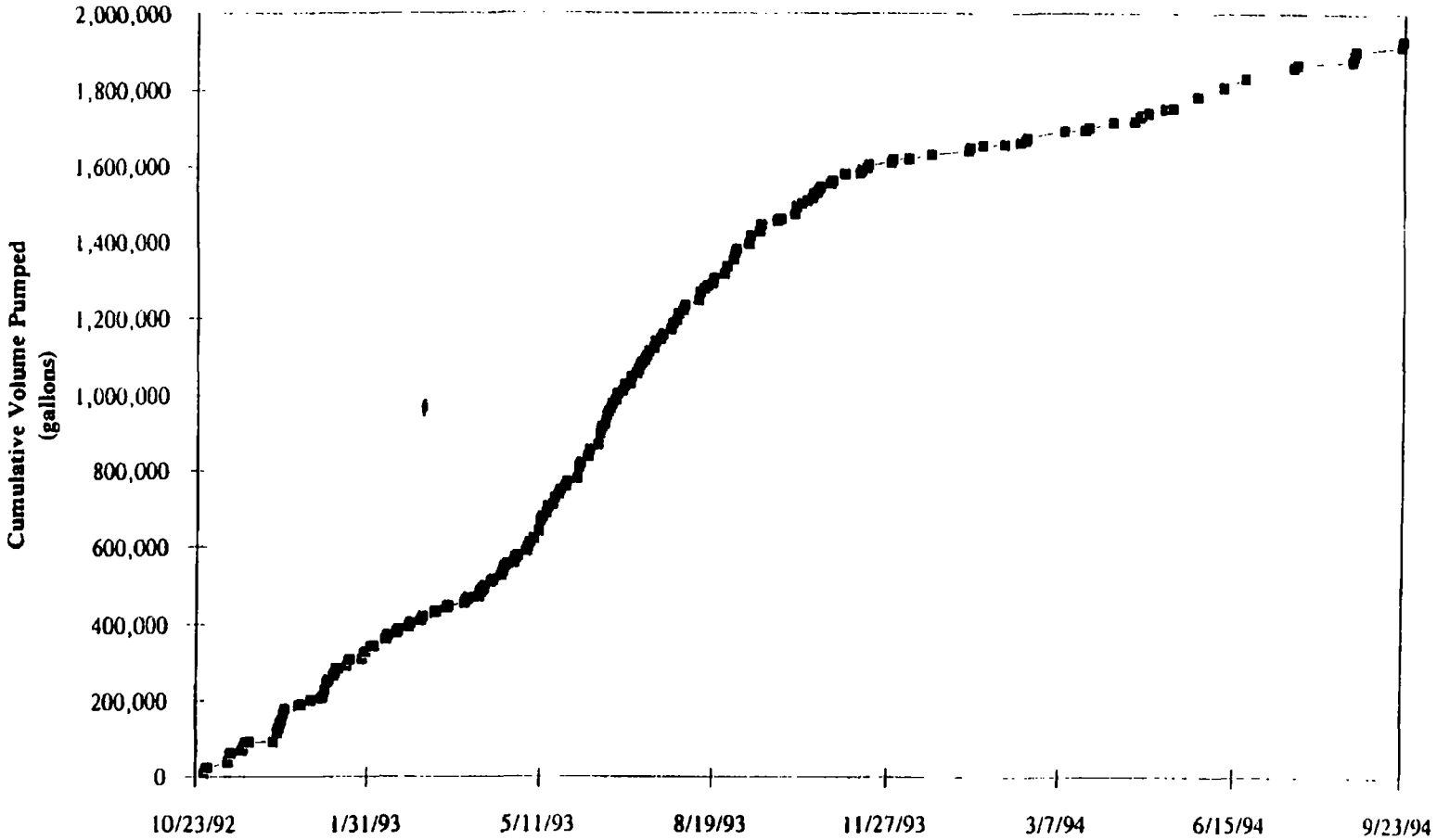
ARBITER REPOSITORY LEACHATE COLLECTION SYSTEM PUMPING, SAMPLING, AND ANALYSIS SUMMARY THIRD QUARTER 1994 - INTERIM OPERATION AND MONITORING ACCELERATED REMOVALS EXPEDITED RESPONSE ACTION ANACONDA SMELTER NPL SITE

Date (1)	Total Metal Concentrations (mg/L)			pH (SU)	Volume Pumped (gal)
	Arsenic	Cadmium	Lead		
7/19/94	NR (2)	NR	NR	NR	28,800
7/21/94	NR	NR	NR	NR	6,000
8/23/94	NR	NR	NR	NR	11,700
8/24/94	NR	NR	NR	NR	14,400
8/25/94	NR	NR	NR	NR	9,600
9/21/94	NR	NR	NR	NR	12,000
9/22/94	NR	NR	NR	NR	13,800
Total Volume Pumped This Quarter:					96,300

Notes:
1. Indicates date that pumping event ended.
2. NR indicates that sample collection and analysis were not required.

FIGURE 1

ARBITER REPOSITORY LEACHATE COLLECTION SUMP RECHARGE ANALYSIS
ACCELERATED REMOVALS EXPEDITED RESPONSE ACTION
ANACONDA SMELTER NPL SITE



Notes (1) Day one is October 28, 1992 (assumed)
(2) Pumping data collected from October 28 1992 through the end of the Fourth Quarter 1994 was presented in the corresponding quarterly reports

AUG-22-'96 THU 10:36M ID:ARCO ANACONDA MONT TEL NO:4065637318 #460 P18

INTERIM OPERATION AND MAINTENANCE MONITORING REPORT
1995
ARBITER AND BERYLLIUM ACCELERATED REMOVAL ERA & FLUE DUST REMEDIAL ACTION
ANACONDA SMELTER NPL SITE
ANACONDA, MONTANA

1.0 Groundwater Sampling and Analysis

Groundwater samples were collected from each of the five monitoring wells on June 24, 1995 and December 3, 1995. Table 1 summarizes the results of the sampling event, including monitoring well water level data, field pH values and analytical results. The analytical results show all constituents were consistent with historical background levels detected during previous sampling events.

2.0 Leachate Management

2.1 Arbiter Repository

The Arbiter Repository leachate collection and leak detection sump water levels were monitored during the second and fourth quarters of 1995. During the period of June 20, 1995 and June 22, 1995, 40,100 gallons of water were removed from the leachate collection sump (Table 2). Water was discharged, with EPA's approval, to the adjacent surface water diversion ditch. A plot of the cumulative amount of water pumped versus time is shown on Figure 1. A decreasing trend in recharge rate is indicated by the flattening of the curve with time.

No water was removed from the leak detection sump during the monitoring period. The water level was measured at 1.1' and did not exceed the maximum practical pumping depth (1.2').

2.2 Beryllium Repository

The beryllium repository leachate collection sump water level has not changed since April, 1994; the level remains at the maximum practical pumping depth of 1.2'. No leachate was removed from the beryllium repository during 1995.

2.3 Flue Dust Repository

The Flue Dust Repository leachate collection sump water level was monitored during the fourth quarter of 1995. A total of 101,000 gallons of water were removed from the leachate collection sump. A representative water sample was obtained and analyzed from the Flue Dust sump, the analytical results were as follows: total arsenic 0.268 ppm; cadmium <0.0001 ppm; and lead <0.001 ppm. With EPA's approval, water was pumped and transported to the Anaconda Ponds in 3,500 gallon water trucks.

3.0 Settlement Monitoring

Settlement monument survey data and cumulative settlement for the Arbiter repository are summarized in Tables 3 and 4. The settlement monuments were removed during construction of the final cap/liner system and reinstalled and surveyed after the construction was completed on July 29, 1994. The settlement monuments were renamed PT 90 (West monument, formerly Monument 1001) and PT 91 (East monument, formerly Monument 1002/1003). A survey of the monuments was performed on October 25, 1995. Figures 2 and 3 illustrates the results of the settlement surveys.

4.0 Surface Water Diversion Ditch System

The surface water diversion ditch system was inspected for signs of erosion or degradation. No significant erosion or degradation of the ditch system was noted during the inspection.

5.0 Site Security

Site security and access in the Smelter Hill area are provided by the use of warning signs, fences, gates and roving security personnel. Security related incidents this year were limited to injury of a guard and vandalism to the guard house in the same event.

APPENDIX J

MAIN FLUE REGRADING AND DRAINAGE CONTROL PLAN

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION VIII, MONTANA OFFICE
FEDERAL BUILDING, 301 S. PARK, DRAWER 10096
HELENA, MONTANA 59626-0096

Jack
Bob M
C:
FYI

Ref: 8MO

October 21, 1994

Ms. Robin Bullock
Atlantic Richfield Company
307 E. Park St., Suite 400
Anaconda, Montana 59711

Dear Robin:

This is a follow up of my October 13, 1994 letter to you regarding the Main Flue Regrading and Drainage Control Plan. As discussed with you, the regrading portion of the plan for the Main Flue area appears to be acceptable, with our seeding suggestions, and is approved. As indicated by our October 13, 1994 comments, the drainage control portion is not complete and can not be approved at this time. However, as we discussed, it may not have been the intention of this plan to provide final drainage plans for this area and it is anticipated that this will be completed as part of the overall Smelter Hill drainage plan.

You may proceed with the work as outlined in the plan with the understanding that the drainage work is to be considered interim and that final drainage will be evaluated for the entire Smelter Hill area in a future plan. If you have any questions, please give me a call.

Sincerely,

Charles Coleman
Anaconda Project Manager

cc: Andy Lensink, 8RC
Julie DalSoglio, 8MO
Andy Young, ERD
Doug Dollhopf, MSU
Ken Brockman, BOR
Bart Richardson, ARCO

72.01.110.1
&
72.01.160.1

1/37

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION VIII, MONTANA OFFICE
FEDERAL BUILDING, 301 S. PARK, DRAWER 10096
HELENA, MONTANA 59626-0096

RECEIVED
OCT 14 1994
RMER
MONTANA FACILITIES

Ref: 8MO

72.01.110.1

October 13, 1994

Ms. Robin Bullock
Atlantic Richfield Company
307 E. Park St., Suite 400
Anaconda, Montana 59711

Dear Robin:

Enclosed are EPA's comments to your September 6, 1994 regrading and drainage control plan for the main flue. As discussed in the comments, additional information is necessary to determine that appropriate velocities have been calculated for the proposed drainages. Channel design needs to consider both excess erosion in steep areas as well as sediment buildup in flat areas. Current design plans are not adequate to complete this review.

Also, enclosed are suggested seed mix changes. Also for your information, enclosed is a soil erosion control plan for Smelter Hill that was developed by a civil engineering student at MSU.

Please provide EPA and MSU the requested information, as soon as possible, in order to complete this review. If you have any questions, please give Doug Dollhopf or myself a call.

Sincerely,

Charles Coleman
Anaconda Project Manager

Enclosures

cc: Andy Lensink, 8RC
Kevin Kirley, ERD
Ken Brockman, BOR

2/37

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Reclamation Research Unit
Montana State University
Bozeman, MT 59717-0280
Telephone 406-994-4821

REHABILITATI

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To Charlie Coleman	From Andy Young
Co. EPA	Co. MDHES
Dept.	Phone #
Fax #	Fax #

September 30, 1994

Kevin Kirley
MDHES
2209 Phoenix Ave.
P.O. Box 200901
Helena, MT 59620-0901

Re: Anaconda Smelter NPL Site, Smelter Hill regrading and drainage plan, ARCO, September 6, 1994

Dear Kevin:

Several points need clarification with this plan. The calculated runoff volumes appear correct, although these were only spot checked. The velocities were not calculated for any of the proposed drainages, nor were any drainage cross-sections included so such calculations could be made. It is also unclear if the dozer basin treatment is to be applied sitewide.

Velocities will likely be high on steeper portions of Roads C, D and F (8 to 10.7% slope). These "channels" will no doubt need rip-rap and possibly geofabric to prevent excess erosion. There is, again, no mention of channel design. There will likely be severe sediment problems within the channels if proper design precautions are not taken. These will be in the form of deposition now clearly evident at the intersection of Roads C and D where a sediment fan accumulates. Such an accumulation will decrease channel capacity and, during a storm, could cause breaching with the resultant gully formation downslope to the next drainage channel. The scenario could be replayed at that intersection.

The designs of the discharge points for Road B and D should be presented. The calculated 16 and 46 cfs, respectively, can be expected to create a large gully system down to existing channels with the associated sediment loading (which could, in time, destroy the wetland system).

It would appear desirable to design the channel on Road A to allow access for any maintanence on the Silver Lake Pipe Line (and also ARTS Site 9).

The proposed seed mix (Seed Mix A) is a sound basic mixture. However, we had a surprising amount of *Poa ampla* (Big bluegrass) on the ARTS plots and suggest adding two pounds of this species to the mix. We also suggest increasing the rate of *Elymus cinereus* (Basin wildrye) from four pounds to six pounds PLS/acre.

3/37

In summary, the proposed channel designs, with associated velocities, need to be presented before a final evaluation of the plan. It is apparent that the proposed plan can be successful but that success will be highly dependent upon proper design and construction of the actual channels. Although the proposed seed mix is good, the suggested changes may improve it.

Sincerely,

Douglas J. Dollhopf, Ph.D.
Research Soil Scientist

John D. Goering
Hydrogeologist

JDG/dmm

4/37

ARCO

307 East Park Street. Suite 400
Anaconda Montana 59711
Telephone 406 563 5211
Facsimile 406 563 8269

September 6, 1994

Mr.Charles Coleman
Environmental Protection Agency
Region VIII, Montana Office
Federal Building
301 S. Park, Drawer 10096
Helena, Montana 59626-0096

Mr. Kevin Kirley
Montana Department of Health
and Environmental Sciences
2209 Pheonix Ave
P.O. Box 200901
Helena, Montana 59620

Dear Gentlemen:

Enclosed please find one copy each of the regrading and drainage control plan for the main flue. The drainage flows to be routed on the main flue as well as the construction road system, were designed to convey a 25-year, 24-hour storm event. Velocities and back-up calculations are attached.

The main flue will maintain the roads as water conveyance mechanisms and will have the designated number of dozer basins as shown on the attached drawing. The main flue and surrounding construction disturbed area (approximately 22 acres) will then be revegetated with a drought-resistant, native seed mixture (see Attachment). The work as shown on the attached drawings is scheduled to be initiated by late September-early October.

If you have any comments or questions, please call.

Yours truly,

Robin J. Bullock
Superfund Coordinator

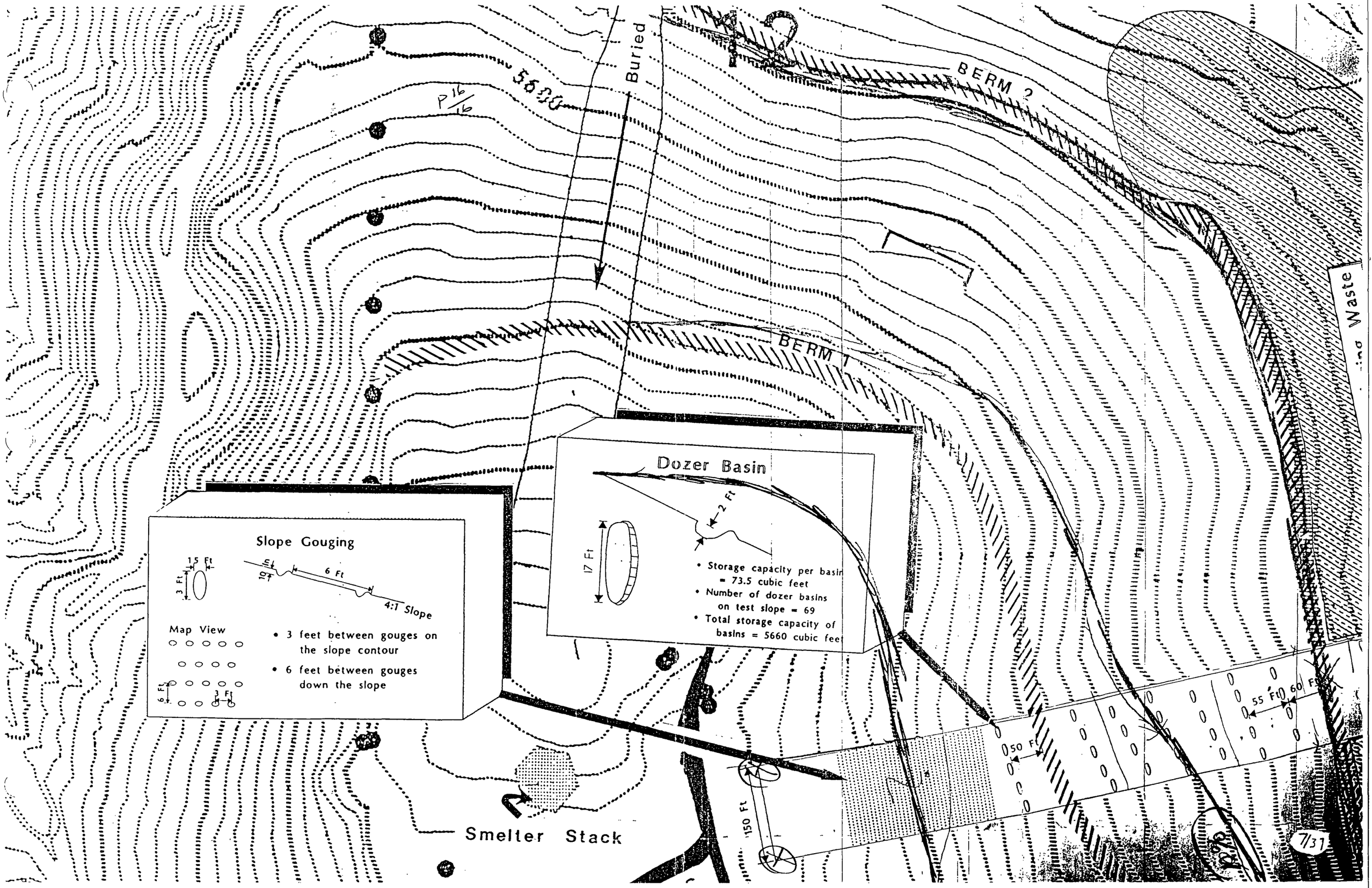
c: R. Ziegler
P. S. Sbar, Esq. (w/o attach)
R. W. Lawrence, Esq. (w/o attach)
J. A. Marjerison
B. D. Richardson
R. J. Montgomery
S. Jones/Canonie (w/o attach)
K. Brockman/USBOR
D. Dollhoff/MSU

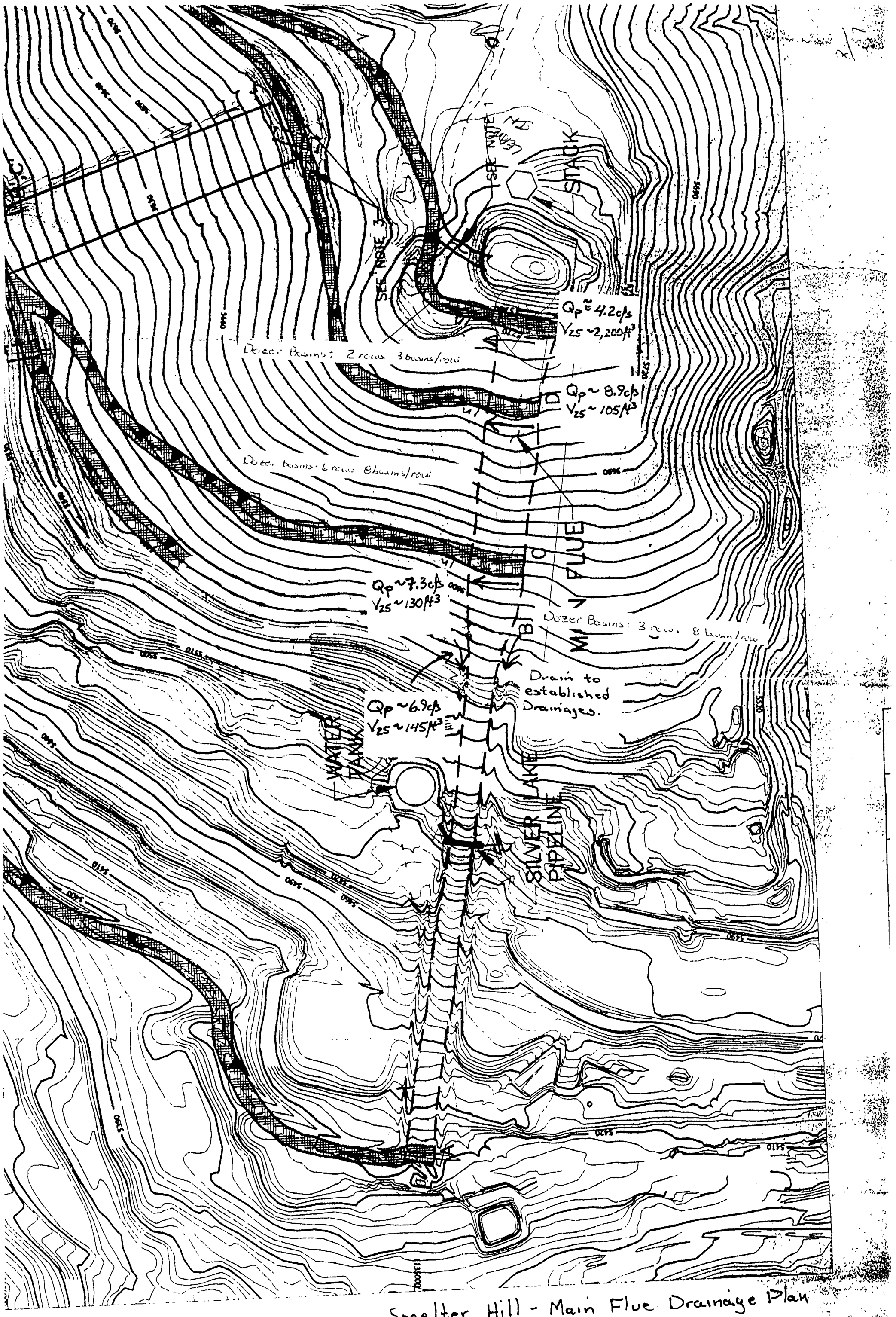
File: 72.01.110.1

5/37

SEED MIX A
WARM SPRINGS AND SMELTER UPLANDS

SPECIES	# PLS/ACRE
Grasses	
Intermediate Wheatgrass (Agropyron intermedium)	4
Western Wheatgrass (Agropyron smithii)	4
Slender Wheatgrass (Agropyron trachycalum)	4
Basin Wildrye (Elymus cinereus)	4
Sheep Fescue (Festuca ovina)	2
Forbs	
Alphagraze alfalfa (Medicago sativa)	1
TOTAL	**19**


Buried
BERM 2
BERM 1
5650
P 16/16
Dozer Basin
2 Ft
17 Ft
• Storage capacity per basin = 73.5 cubic feet
• Number of dozer basins on test slope = 69
• Total storage capacity of basins = 5660 cubic feet
Slope Gouging
1.5 Ft
3 Ft
6 Ft
4:1 Slope
Map View
• 3 feet between gouges on the slope contour
• 6 feet between gouges down the slope
Smelter Stack
150 Ft
50 Ft
55 Ft
60 Ft
7/31



Smelter Hill - Main Flue Drainage Plan

1" ~ 200'

Canonie Environmental

(A)

By RAM Date 8/2/94 Subject Areas for Rational & SCS Method for Runoff rate & amount Sheet No. 1 of 35

Chkd by ____ Date ____ Proj No ____

1/4" x 1/4"

Area of Main Flue Excavation

Area 1

	1	b = 360	h = 220	* 1/2	= 39,600 ft²
	2	b = 640	h = 180	* 1/2	= 57,600 ft²
Rocky	3	b = 440	h = 140	* 1/2	= 30,800 ft²
	4	b = 650	h = 170	* 1/2	= 55,250 ft²
	5	b = 800	h = 160	* 1/2	= 64,000 ft²
	6	b = 800	h = 350	* 1/2	= 140,000 ft²

Total = 387,250 = 8.9 acres

Area 2

	1	b = 500'	h = 200'	* 1/2	= 50,000 ft²
	2	b = 490	h = 200	* 1/2	= 49,000 ft²
	3	b = 460	h = 400	* 1/2	= 92,000 ft²
Rocky	4	b = 450	h = 390	* 1/2	= 87,750 ft²
	5	b = 480	h = 410	* 1/2	= 98,400 ft²
	6	b = 860	h = 400	* 1/2	= 172,000 ft²

Total 549,150 ft² = 12.6 acres

Area 3

	1	b = 300'	h = 210	* 1/2	= 31,500 ft²
	2	b = 410'	h = 120'	* 1/2	= 24,600 ft²
	3	b = 410'	h = 130'	* 1/2	= 26,650 ft²
	4	b = 710'	h = 210'	* 1/2	= 74,550 ft²
Rocky	5	b = 620'	h = 140'	* 1/2	= 43,400 ft²
	6	b = 490'	h = 180'	* 1/2	= 44,100 ft²
	7	b = 390'	h = 160'	* 1/2	= 31,200 ft²
	8	b = 420'	h = 70'	* 1/2	= 14,700 ft²
	9	b = 250'	h = 90'	* 1/2	= 11,250 ft²

Total 301,950 ft² = 6.9 acres

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A

By RAM Date 8/4/94 Subject Main Flue Drainage Sheet No. 2 of 5

Chkd by ____ Date ____ Proj No ____

1/4" x 1/4"

Area of Main Flue cont

Area 4

1	b = 500'	h = 240'	* 1/2	=	60,000 ft² ✓
2	b = 540	h = 375	* 1/2	=	101,250 ft² ✓
3	b = 450	h = 170	* 1/2	=	38,250 ft² ✓
4	b = 535	h = 330	* 1/2	=	88,275 ft² ✓
5	b = 890'	h = 340'	* 1/2	=	151,300 ft² ✓
6	b = 1130'	h = 590'	* 1/2	=	333,350 ft² ✓
7	b = 1090	h = 150'	* 1/2	=	81,750 ft² ✓
8	b = 240	h = 80'	* 1/2	=	9,600 ft² ✓
9	b = 1190'	h = 620'	* 1/2	=	368,900 ft² ✓
10	b = 770	h = 200	* 1/2	=	77,000 ft² ✓
11	b = 740	h = 250	* 1/2	=	92,500 ft² ✓
12	b = 700'	h = 200'	* 1/2	=	70,000 ft² ✓
13	b = 1130	h = 70'	* 1/2	=	39,550 ft² ✓

✓ ✓
Total = 1,511,725 = 34.7 acres

Area 5

1	b = 640'	h = 170'	* 1/2	=	54,400 ft² ✓
2	b = 640'	h = 180	* 1/2	=	57,600 ft² ✓
3	b = 190	h = 170	* 1/2	=	16,150 ft² ✓
4	b = 420'	h = 210'	* 1/2	=	44,100 ft² ✓
5	b = 435	h = 130'	* 1/2	=	28,275 ft² ✓
6	b = 585'	h = 190'	* 1/2	=	55,575 ft² ✓

✓ ✓
Total 256,100 ft² = 5.9 acres

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A

Page 5 is Map Work Sheet

By RAM Date 8/4/94 Subject Main Flue Drainage Sheet No. 3 of 5

Chkd by _____ Date _____ Proj No _____

1/4" x 1/4"

Area 6

1	b = 720	h = 435	* 1/2	=	156,600 ft² ✓
2	b = 720	h = 165	* 1/2	=	59,400 ft² ✓
3	b = 290	h = 190	* 1/2	=	27,550 ft² ✓
4	b = 290	h = 110	* 1/2	=	15,950 ft² ✓
5	b = 500	h = 110	* 1/2	=	27,500 ft² ✓

Total 287,000 ✓ = 6.6 ✓ acres

Area 7

1	b = 1290'	h = 215	* 1/2	=	138,675 ft² ✓
2	b = 810	h = 440	* 1/2	=	178,200 ft² ✓
3	b = 920	h = 340	* 1/2	=	156,400 ft² ✓
4	b = 650	h = 195	* 1/2	=	63,375 ft² ✓
5	b = 920	h = 420	* 1/2	=	193,200 ft² ✓
6	b = 950	h = 540	* 1/2	=	256,500 ft² ✓
7	b = 950	h = 175	* 1/2	=	83,125 ft² ✓
8	b = 780	h = 470	* 1/2	=	183,300 ft² ✓
9	b = 980	h = 660	* 1/2	=	323,400 ft² ✓
10	b = 980	h = 370	* 1/2	=	181,300 ft² ✓
11	b = 1370	h = 710	* 1/2	=	486,350 ft² ✓
12	b = 1370	h = 1270	* 1/2	=	869,950 ft² ✓

Total 3 113 775 ✓ = 71.5 ✓ acres.

Total Area = 147.1 acres.

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A

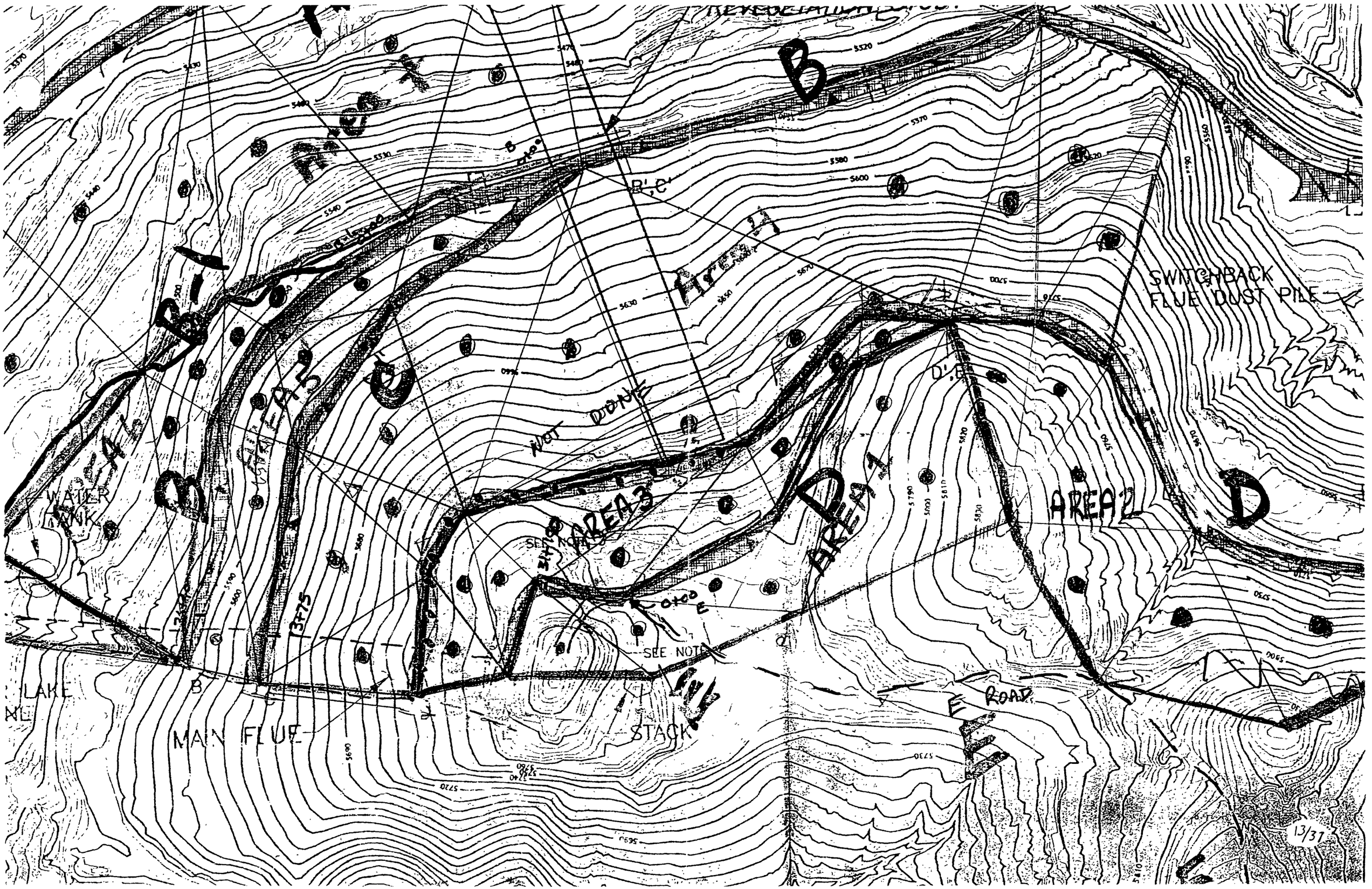
By RAM Date _____ Subject Road Grades Based on Sheet No. 4 of 5

Chkd by _____ Date _____ DJ & A's Survey Proj No _____

1/4" x 1/4"

Road	Station	Length	Grade
A	0.0 - 2750	2750'	1.0%
	2750 - 2950	220'	46%
	2970 - 3275	305'	1.3%
	3275 - 3760	485'	2.7%
B	0 - 925	925'	0.6%
	925 - 1025	100'	1.0%
	1025 - 2800'	1775	1 0%
	2800 - 3640	840'	Re-establish ≤ 2%
B-1	0 - 100	100'	12%
	100 - 670	570'	8.6%
	670 - 1250'	580'	1.9%
C	0 - 75	75'	4.1 %
	75 - 770	695	10.7%
	770 - 1375	605'	3.9%
D	100 - 550	450'	0.5%
	550 - 900	350'	2.1%
	900 - 2225	1325'	3.0%
	2225 - 3010	785'	3.2%
	3010 - 3110	100'	8.0%
F	50 - 220	170'	2.6%
	220 - 380	160'	0% basin
	380 - 950	570'	3.7%
	950 - 1160	210'	0.3%
	1160 - 1500	340'	9.0%

12/37


SWITCHBACK
FLUE DUST PILE
AREA 1
AREA 2
AREA 3
WATER TANK
LAKE
MAIN FLUE
STACK
ROAD
SEE NOTE
SEE NOTE
13/37

Road A → Area 7 & 6

Concentration Time) TR-55

sheet flow portion

travel time

$$T_t = \frac{.007(nL)^{0.8}}{(P_{10})^{0.5} S^{0.4}} = \frac{.007(.011 \cdot 300)^{0.8}}{(2.2)^{0.5}(.083)^{0.4}}$$

$n = .011$ $= .032$ hr ~ 1.9 min

$L = 300'$

$S = 8.3\%$

T_t = travel time in hours

$P_{25} = 2.2$ inches

Shallow Swale/Ditch Runoff

$\frac{185(2.7) + 305(1.3) + 220(4.6) + 2750(10)}{3760} = 1.45$ Table 3.1 TR-55 ~2'/s

$$T_{t_2} = \frac{L}{3600V} = \frac{3760}{3600(2)} = 0.52 \text{ hrs}$$

Time of Concentration $t_c = .036 + 0.52 = 0.556$ hrs

SCS) $D = .133\, t_c = 0.556(.133) = .074$

$$t_l = \frac{L^{0.8}(S+1)^{0.7}}{1900\, Y^{0.5}} = \frac{3760^{0.8}(6.95+1)^{0.7}}{1900(1.5)^{0.5}} = 1.3 \text{ hrs}$$

$$S = \frac{1000}{59} - 10 = 6.95$$

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Q_p

By _____ Date _____ Subject _____ Sheet No. 12 of 16

Chkd by _____ Date _____ _____ Proj No _____

1/4" x 1/4"

Area 7 cont)

$$t_p = \frac{D}{2} + t_l = \frac{.074}{2} + 1.3 = 1.4$$

$$Q_p = \frac{484\left(\frac{71.5}{640}\right)}{1.4} = 38.6 \text{ cfs.}$$

Rational Method

$$\frac{0.556(60)}{30} = \frac{x}{0.79} \qquad x = 0.878$$

$0.878(0.75") = 0.6"$ $\quad$ Area = 71.5 + 6.6 = 78.1

$$i = 0.66" / 0.556 \text{ hrs.} = 1.19 \text{ in/hr}$$

$$Q = CiA = 0.3(1.19)(78.1) = 27.9 \text{ cfs}$$

C = 0.3 for Unimproved Area

$$\text{Avg Flow} = \frac{27.9 + 38.6}{2} = 33.2 \text{ cfs.}$$

CanonieEnvironmental

Qp

By RAM Date 8/31/24 Subject Drainage Est Smelter Hill Sheet No. 3 of ____

Chkd by ____ Date ____ Time of Conc / Peak Flow Proj No ____

1/4" x 1/4"

Road B&C) Areas 4 & 5

$$\text{Avg Slope} = \frac{1775(1.0) + 100(1.0) + 925(0.6) + 840(2.0)}{1775 + 100 + 925 + 840} = 1.1\%$$

L = 3640

Travel time

$$\text{Sheetflow } T_t = \frac{.007\,(nL)^{0.8}}{(P_{25})^{0.5}\, S^{0.4}} = \frac{.007\,(.011 \cdot 300)^{0.8}}{(2.2)^{0.5}\,(0.3)^{0.4}} = .02$$

Road V ~ 1.7 f/s Fig 3.1 TR-55

$$T_{t_2} = \frac{L}{3600\,V} = \frac{3640}{3600(1.7)} = 0.59 \text{ hrs}$$

$$t_c = 0.02 + 0.59 \text{ hrs} = 0.61 \text{ hrs}$$

SCS) $D = .133\ t_c = .133(0.6) = .08$

$$t_e = \frac{L^{0.8}\,(S+1)^{0.7}}{1900\,Y^{0.5}} = \frac{3640^{0.8}\,(6.95+1)^{0.7}}{1900\,(1.1)^{0.5}} = 1.51 \text{ hr}$$

L = 3640

S = 6.95

Y = 1.1

16/37

CanonieEnvironmental

Qp

By RAM Date 8/31 Subject Peak Flow Est Road D&F Sheet No. 5 of ____

Chkd by ____ Date ____ Proj No ____

1/4" x 1/4"

Road D & F) Areas 1, 2 & 3 Rocky Cover

$$\text{Avg Slope} = \frac{100(8.0) + 785(3.2) + 1325(3.0) + 350(2.1) + 450(0.5)}{3110}$$

$$= 2.7\%$$

$L = 3110'$

slope travel

$$T_t = \frac{.007(nL)^{0.8}}{P_{25}^{0.5} S^{0.4}} = \frac{.007(.011 \cdot 200)^{0.8}}{(2.2)^{0.5}(0.2)^{0.4}} = .02$$

$n = .011$
$L = 200$
$S = 20\%$
$P_{25} = 2.2$

Road Travel time $S \sim 2.7\%$ $v \sim 2.6$ f/s

$$T_{t_2} = \frac{L}{3600(v)} = \frac{3110}{3600(2.6)} = 0.33 \text{ hrs}$$

$$t_c = 0.02 + 0.33 = 0.35 \text{ hrs}$$

SCS Peak Flow)

$$D = .133\, t_c = .133(0.33) = .04$$

Canonie Environmental

Q_p

By RAM Date _____ Subject Road 13 Areas 4&5 Sheet No. 4 of _____

Chkd by _____ Date _____ Proj No _____

1/4" x 1/4"

SCS cont)

$$t_p = D/2 + t_r = \frac{.02}{2} + 1.51 = 1.52$$

$$\text{Area} = 5.9 \text{ acres} + 34.7 \text{ acres} = 40.6 \text{ acres}$$

$$Q_p = \frac{484\,A}{t_p} = \frac{484\,(40.6/640)}{1.52} = 20.2 \text{ cfs}$$

Rational Method

$$\frac{60 - 0.61(60)}{60 - 30} = \frac{1 - x}{1 - .79} \qquad x = 0.83$$

P $0.83\,(0.75")$ = $0.63"$

$i = 0.63/0.61 = 1.02"/hr$

$Q = C \cdot A = 0.3(1.02)(40.6) = 12.4$ cfs

$C \sim 0.3$ unimproved

$$\text{Avg } Q_p = \frac{12.4 + 20.2}{2} = 16.3 \text{ cfs}$$

CanonieEnvironmental

Qp

By RAM Date 8/31/94 Subject Peak Flow Est Road D&F Sheet No. 6 of ____

Chkd by ____ Date ____ Proj No ____

1 1/4" x 1/4"

SCS Peak Flow) cont

$$t_c = \frac{L^{0.8}(S+1)^{0.8}}{1900(Y)^{0.5}} = \frac{3110^{0.8}(1.36+1)^{0.7}}{1900(2.7)^{0.5}} = 0.36$$

$S = 1.36 = \frac{1000}{88} - 10$

$Y = 2.7$

$n = .011$

$L = 3110$

$A_{tot} = 8.9 + 12.6 + 6.9 = 28.4$ acres

$$t_p = D/2 + t_c = \frac{.04}{2} + 0.36 = 0.38$$

$$Q_p = \frac{484(A)}{t_p} = \frac{484(28.4/640)}{0.38} = 56.5 \text{ cfs.}$$

Rational Method

$$\frac{30 - 0.42(60)}{30 - 15} = \frac{0.79 - x}{0.79 - 0.57} \qquad x = 0.72$$

$P = 0.72(0.75) = 0.54"$

$i = 0.54/0.42 = 1.29$ "/hr

$Q = CiA = 1(1.29)(28.4) = 36.5$ cfs

$$Q_{p\,mix} = \frac{56.5 + 36.5}{2} = 46.5 \text{ cfs.}$$

CanonieEnvironmental

Qp

By RAM Date 8/31 Subject Estimated Volume of Sheet No. 7 of

Chkd by Date Runoff Proj No

1/4" x 1/4"

→ Assume Dozer Basins are used around Smelter Hill from the Main Flue Excav Area to the ARTS test area for Roads B & C only - CN = 59

n_{avg} 0.60 (0.50% of drainage area) = 0.3%

∴ for $P_{25,24\,hr}$ = 0.08 (1 - 0.3) = .06

for $P_{10,24\,hr}$ = 0.02* (1 - 0.3) = .01

*note: $P_{10,24} = \frac{(1.8 - 0.2(6.95))^2}{18 + 0.8(6.95)} = .02"$

→ for Rocky Cover CN = 88

$P_{e_{25,24}}$ = 1.13" from MFD p. 5

$P_{e_{10,24}} = \frac{(1.8 - 0.2(1.36))^2}{1.8 + 0.8(1.36)} = 0.81"$

Volumes)

Road A) $V_{25} = \frac{.08"}{12"/ft}$ (78.1 acres)(43560 ft³/acre) = 22,680 ft³

~ 23,000 ft³

$V_{10} = \frac{.02"}{12}$ (78.1)(43560) = 5,670 ft³

~ 5700 ft³

20/37

CanonieEnvironmental

By RAM Date 8/31/94 Subject _____ Sheet No. 8 of _____

Chkd by _____ Date _____ Proj No _____

1/4" x 1/4"

Road B) $V_{25} = \frac{.06"}{12"/ft}(406)(43560) = 8,842.7\ ft^3$

$\sim 8,800\ ft^3$

$V_{10} = \frac{.01}{12"/ft}(40.6)(43560) = 1473\ 8$

$\sim 1500\ ft^3$

Road D) $V_{25} = \frac{1.13"}{12"/ft}(28.4\ acres)(43,560) = 116,493\ ft^3$

$\sim 116,000\ ft^3$

$V_{10} = \frac{0.81}{12"/ft}(28.4\ acres)(43,560) = 83,504$

$\sim 83,500\ ft^3$

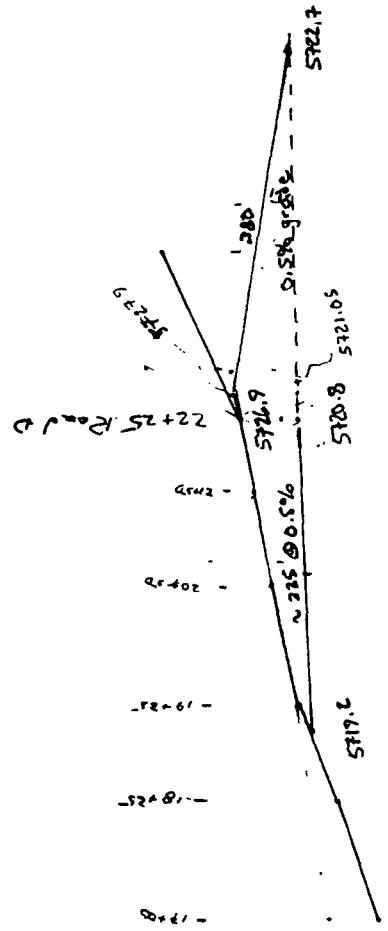
CanonieEnvironmental

By _____ Date _____ Subject _____ Sheet No. _____ of _____

Chkd by _____ Date _____ _____ Proj No _____

1/4" x 1/4"

Road F joins Road U @ 22+25



Elev 5746 5730 5720 5710 5700 5690 5680 5670

y) $h = 6.85'$ $b_1 = 320'$ $b_2 = 350'$ assume = 12'

$V_1 = \frac{6.85 * 320}{2}(12') \cdot 27 = 487\ yds^3$

$V_2 = \frac{6.85' * 350}{2}(12') \cdot 27 = 532\ yds^3$

Total = $1019\ yds^3 \sim 1020\ yds^3$

CanonieEnvironmental

MFD

By RAM Date 8/30 Subject Peak Flows Sheet No. 1 of 15

Chkd by ____ Date ____ Slopes & Lengths Proj No ____

1/4" x 1/4"

Area 1

	Length	Grade
Slope	100'	20%
Road	200'	8%

Area 2

Slope	200'	22.5
Road	200'	9.0%

Area 3

Slope	370'	27%
Road	260'	1.0%

Area 4

Slope	270'	25.9%
	170'	1.0%

Canonie Environmental

MFD

By RAM Date 8/30/94 Subject MF Drainage Calculations Sheet No. 2 of 15

Chkd by _____ Date _____ Proj No _____

1/4" x 1/4"

Area 1

	b	h	Area ft²	Area Acres.
①	220	90	9900	0.23
②	220	120	13,200	0.30
				SubT: 0.53

Area 2

①	290'	125	18,125	0.42
②	290'	160	23,200	0.53
				0.95

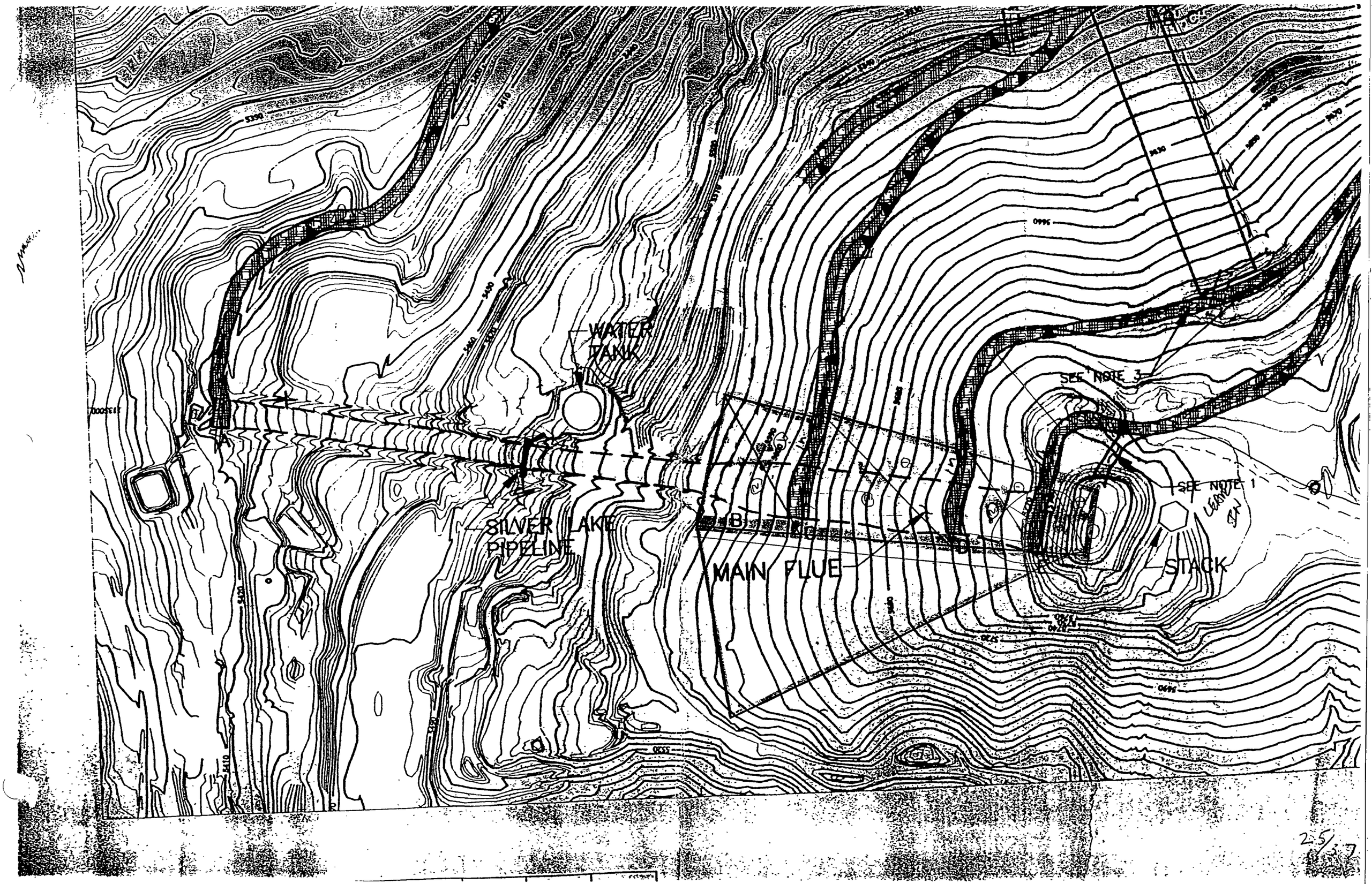
Area 3

①	470	190	44650	1.03
②	470	240	56,400	1.29
				2.32

Area 4

①	390'	180'	35,100	0.81
②	390'	210'	40,950	0.94
				1.75

5.55 acres.


WATER TANK
SILVER LAKE PIPELINE
MAIN FLUE
STACK
SEE NOTE 3
SEE NOTE 1
LEADING EDGE

CanonieEnvironmental

MFD

By RAM Date 8/31/94 Subject Curve Numbers and excess runoff 25, 24hr Sheet No. 4 of 15

Chkd by ____ Date ____ Proj No ____

1/4" x 1/4"

Curve Numbers $P_{25\,24} = 2.2"$.

Areas w/ Rocky Type Soil - Area 1

Type D, AMC II
Range, Poor Condition
Contoured CN = 88

$$S = \frac{1000}{CN} - 10 = \frac{1000}{88} - 10 = 1.36$$

$$P_e = \frac{(2.2 - 0.2(1.36))^2}{2.2 + 0.8(1.36)} = 1.13"$$

Areas w/ Soil Cover - Silty Gravel

Type B, AMC II
Range, Fair Condition
Contoured CN = 59

$$S = \frac{1000}{CN} - 10 = \frac{1000}{59} - 10 = 6.95$$

$$P_e = \frac{(2.2 - 0.2(6.95))^2}{2.2 + 0.8(6.95)} = .08"$$

$P_{10,24} = 1.8"$

Areas w/ Rocky Soil

$CN = 88 \quad S = 1.36$

$$P_e = \frac{(1.8 - 0.2(1.36))^2}{1.8 + 0.8(1.36)} = 0.81"$$

Areas w/ Soil Cover

$CN = 59 \quad S = 6.95$

$$P_e = \frac{(1.8 - 0.2(6.95))^2}{1.8 + 0.8(6.95)} = 0.02"$$

CanonieEnvironmental

MFD

By RAM Date 8/30 Subject Peak Flows Sheet No. 6 of 16

Chkd by ____ Date ____ Peak Flow Proj No ____

1/4" x 1/4"

Area 1

$$D = 0.133(t_c) = .1133(.021) = .003$$

$$t_c = \frac{L^{0.8}(S+1)^{0.7}}{1900\ Y^{0.5}} = \frac{200^{0.8}(6.95+1)^{0.7}}{1900\ (8)^{0.5}} = .055$$

$S = 6.95$
$L = 200'$
$Y = 8\%$

$$t_p = \frac{.003}{2} + .055 = .057$$

$$Q_p = \frac{484(A)}{t_p} = \frac{484 * .00083}{.057} = 7.0 cfs$$

$$A = 0.53/640 = .00083 m.^2$$

Rational Method

$$\frac{.021(60)}{5} = \frac{x}{0.29} \qquad x = .07$$

$$.07(.75") = .055"$$

$$i = .055"/.021 hr = 2.61"$$

$$Q = CiA = 1.0\ (2.61)(0.53 acres) = 1.4 cfs$$

$$Q_{AVG} = \frac{1.4 + 7.0}{2} = 4.2 cfs.$$

CanonieEnvironmental

MFD

By RAM Date 8/30/04 Subject Peak Flows Sheet No. 7 of 16

Chkd by _____ Date _____ Times of Concentration Proj No _____

1/4" x 1/4"

Area 1

Sheet Flow

$$T_t = \frac{.007\,(nL)^{0.8}}{(P_{25})^{0.5}\,S^{0.4}} = \frac{.007(.011*100)^{0.8}}{(2.2)^{0.5}\,(0.20)^{0.4}} = .009 \text{ hrs}$$

$L = 100'$

$S = .20$

$P_{25} = 2.2''$

$n = .011$

Road Flow

$S = 8\%$ TR-55 Fig 3.1 $V \sim 4.6$ f/s

$$T_{t_2} = \frac{L}{3600\,V} = \frac{200'}{3600(4.6)} = .012 \text{ hr}$$

t_c =

$t_c = .009 + .012 = .021$ hrs $\sim$ 1.3 min

CanonieEnvironmental

MFD

By RAM Date 8/31/94 Subject Peak Flows Sheet No. 8 of 16

Chkd by ____ Date ____ Proj No ____

1/4" x 1/4"

Area 2 Silty Gravel Soil

$$D = .133(t_c) = .133(.028) = .004$$

$$t_l = \frac{L^{0.8}(S+1)^{0.7}}{1900\ Y^{0.5}} = \frac{200^{0.8}(6.95+1)^{0.7}}{1900\ (9.0)^{0.5}} = .052$$

$L = 200'$
$S = 6.95$
$Y = 9.0\%$

$$t_p = \frac{.004}{2} + .052 = .054$$

$$Q_p = \frac{484\left(\frac{0.95}{240}\right)}{.054} = 13.3 \text{ cfs.}$$

Rational Method

$$\frac{.052(60)}{5} = \frac{x}{0.29} \qquad x = .18'$$

$$P = .18(.75") = .135"$$

$$i = .135/.028 = 4.85"$$

$$Q = CiA = (1)(4.85)(0.95) = 4.6 \text{ cfs}$$

$$Avg = \frac{4.6 + 13.3}{2} = 8.9 \text{ cfs.}$$

CanonieEnvironmental

MFD

By RAM Date 8/30 Subject Peak Flows Sheet No. 9 of 16

Chkd by ____ Date ____ Times of Conc. Proj No ____

1/4" x 1/4"

Area 2

Sheet Flow

$$T_t = \frac{.007(nL)^{0.8}}{(P_{25})^{0.5} S^{0.4}} = \frac{.007(.011 * 200)^{0.8}}{(2.2)^{0.5}(.225)^{0.4}} = .016 \text{ hrs}$$

$L = 200$
$S = .225$
$P_{25} = 2.2$
$n = .011$

Road Flow

$S = 9\%$ Fig 3.1 TR-55 $V \sim 4.8$ '/s, $L = 200'$

$$T_{t_2} = \frac{L}{3600 V} = \frac{200}{3600(4.8)} = .01157$$

$$t_c = .016 + .012 = .028$$

CanonieEnvironmental

MFD

By RAM Date 8/30 Subject Peak Flows Sheet No. 10 of 16

Chkd by ____ Date ____ Time of Conc. Proj No ____

1/4" x 1/4"

Area 3

Sheet Flow

$$T_t = \frac{.007\,(nL)^{0.8}}{(P_{25})^{0.5}\,S^{0.4}} = \frac{.007\,(370 * .011)^{0.8}}{(2.2)^{0.5}\,(.27)^{0.4}} = .02$$

$L = 370'$

$S = .27$

$P = 2.2$

$n = .011$

Road Flow

$S = 1.0\%$ $L = 260'$ $v \sim 0.6$ f/s (Fig 3.1, TR-55)

$$T_{t_2} = \frac{L}{3600(v)} = \frac{260}{3600(0.6)} = .12 \text{ hrs}$$

$$t_c = .02 + .12 \text{ hrs} = .14 \text{ hrs}$$

CanonieEnvironmental

MFD

By RAM Date 8/31/04 Subject Peak Flow Sheet No. 11 of 16

Chkd by ____ Date ____ Proj No ____

1/4" x 1/4"

Area 3

$$D = t_c(.133) = .133(.14) = .019$$

$$t_e = \frac{L^{0.8}(S+1)^{0.7}}{1900\ Y^{0.5}} = \frac{260^{0.8}(6.95+1)^{0.7}}{1900\ (1.0)^{0.5}} = .192$$

$L = 260$
$Y = 1.0$
$S = 6.95$

$$t_p = \frac{.019}{2} + .192 = .202$$

$$Q_p = \frac{484(A)}{t_p} = \frac{484\left(\frac{2.32}{640}\right)}{0.202} = 8.7 \text{ cfs.}$$

Rational Method

$$\frac{.14(60)}{5} = \frac{x}{0.29} \qquad x = 0.49$$

$$P = 0.49(0.75) = 0.365$$

$$i = 0.365/0.14 = 2.61 \text{ "/hr}$$

$$Q = C \cdot A = (1)(2.61)(2.32) = 6.0 \text{ cfs}$$

$$Q_{paving} = \frac{6.0 + 8.7}{2} = 7.3 \text{ cfs}$$

CanonieEnvironmental

MFD

By RAM Date 8/30 Subject Peak Flows Sheet No. 12 of 16

Chkd by ____ Date ____ Time of Conc. Proj No ____

1/4" x 1/4"

Area 4

Sheet Flow

$$T_t = \frac{.007(nL)^{0.8}}{(P_{25})^{0.5} S^{0.4}} = \frac{.007(.011 * 270)^{0.8}}{(2.2)^{0.5} (.259)^{0.4}} = .02$$

$n = .011$
$P = 2.2$
$L = 270$
$S = .259$

Berm/Ditch Flow

$S = 1.0\%$ $L \sim 170'$ $v \sim 0.6$ f/s (Fig 3.1 TR-55)

$$T_{t_2} = \frac{L}{3600(v)} = \frac{170}{3600(0.6)} = .08$$

$$t_c = .08 + .02 = 0.10$$

CanonieEnvironmental

MFD

By RAM Date 8/31/94 Subject Peak Flows. Sheet No. 13 of 16

Chkd by ____ Date ____ Proj No ____

1/4" x 1/4"

Area 4

$$D = .133(t_c) = .133(.10) = .013$$

$$t_c = \frac{L^{0.8}(S+1)^{0.7}}{1900\ Y^{0.5}} = \frac{170^{0.8}(6.95+1)^{0.7}}{1900\ (1.0)^{0.5}} = 0.137$$

$L = 170'$
$S = 6.95$
$Y = 1.0\%$

$$t_p = \frac{.013}{2} + .137 = .143$$

$$Q_p = \frac{484\left(\frac{1.75}{640}\right)}{.143} = 9.3 \text{ cfs}$$

Rational Method

$$\frac{.10(60)}{.5} = \frac{x}{0.29} \qquad x = .348$$

$$P = 0.348(0.75") = 0.261$$

$$i = 0.261"/.10 = 2.61"/hr$$

$$Q = C_1 A = (1)(2.61)(1.75) = 4.6 \text{ cfs}$$

$$Q_{p_{AVG}} = \frac{4.6 + 9.3}{2} = 6.9 \text{ cfs.}$$

CanonieEnvironmental

MFD

by RAM Date 8/31 Subject Runoff Volume Est. Sheet No. 14 of 16

Chkd by ____ Date ____ 25yr. 24 hr. Proj No ____

1/4" x 1/4"

Estimate Vol Area 1 Rocky Cover

$$\left(\frac{1.13''}{12''/ft}\right)(0.53 \text{ acres})(43{,}560) = 2174$$

$\sim 2{,}200\ ft^3$

No subtraction for depression storage

Est. Vol Area 2 Soil Cover

$$\frac{.08''}{12''/ft}(0.95)(43560) = 275.9$$

$\sim \underline{300\ ft^3}$

Depression Storage

Storage: 2 rows · 3 basins/row · 73.5 ft^3/basin = 441 ft^3

Coverage $n = \frac{6 * 17'(150')}{0.53(43560)} = 0.66 \sim 0.65$

Total Runoff = Total - D. Storage

$= 300 - 0.65(300) = \underline{105\ ft^3}$

Canonie Environmental

MFD

By RAM Date 8/31 Subject Runoff Vol. Est Sheet No. 15 of 16

Chkd by ____ Date ____ 25, 24 hr Proj No ____

1/4" x 1/4"

Est Vol. Area 3 Soil Cover

$\frac{.08}{12"/ft}(2.31)(43560) = 670.8\ ft^3$

Depression Storage

Storage 6 rows * 8 basins/row * $73.5\ ft^3/basin$ = $3,528\ ft^3$

Coverage $\frac{16(17') \cdot 300'}{2.31(43560')} = 0.81$

Total Runoff $670.8 - 0.81(670.8) = 126.7$

$\sim 130\ ft^3$

Est Vol Area 4 - Soil

$\frac{.08}{12"}(1.75\ acres)(43,560\ ft^3/acre) = 508.2\ ft^3$

Depression Storage

Storage 3 rows (8 basins/row)($73.5\ ft^3/basin$) = $1,764\ ft^3$

Coverage $\frac{16(17'/basin)(200')}{1.75\ (43,560)} = 0.71$

Total Runoff = $508.2\ (1-0.71) = 147.4\ ft^3$

$\sim 150\ ft^3$

37/37

APPENDIX K

Interim Post-Closure Operation and Monitoring Plan

SMELTER HILL REPOSITORY COMPLEX

Interim Post-Closure Operation and Monitoring Plan

Prepared for:

ARCO

307 East Park Street, Suite 400
Anaconda, MT 59711

August 1996

S \6103\FLUEDUST\POSTCLOS SND

SMELTER HILL REPOSITORY COMPLEX

Interim Post-Closure Operation and Monitoring Plan

Prepared for:

ARCO
307 East Park Street, Suite 400
Anaconda, Montana 59711

Prepared by:

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Bozeman, Montana 59715

August 1996

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SMELTER HILL REPOSITORY COMPLEX
INTERIM POST-CLOSURE OPERATION AND MONITORING PLAN
ANACONDA, MONTANA

1.0 INTRODUCTION

1.1 Smelter Hill Repository Complex

The Smelter Hill Repository Complex (SHRC) is the result of two separate remedial actions: Arbiter and Beryllium Expedited Response Action (ERA) Administrative Order on Consent (AOC) [U.S. Environmental Protection Agency (EPA) Docket No. Comprehensive Environmental Response, Compensation and Liability Act (CERCLA)-VIII-92-12], and the Flue Dust Operable Unit (FDOU) Consent Decree (Civil Action Number 92-76-BU-PGH). The ERA consisted of removal of Arbiter and Beryllium wastes which were placed in separate Resource Conservation and Recovery Act (RCRA), Subtitle C repositories. The FDOU remedial action consisted of excavation, stabilization and placement of stabilized material in an EPA approved repository. This Post Closure Operation and Maintenance (O&M) Plan provides guidelines for assessing facility performance throughout the post-closure period.

1.2 Accelerated Removals (Arbiter/Beryllium) ERA Project

The ERA consisted of removal and disposal of waste from the Arbiter Ponds and Bunkers, the Old Works tailings ponds, the Beryllium B-2 Pond, and the Weather Hill beryllium disposal sites into two separate engineered repositories. Details of the design criteria and approach for the ERA are provided in the "Final Design Report for Arbiter and Beryllium Expedited Response Action" (TD&H, 1992a) and "Arbiter and Beryllium Expedited Response Action Work Plan." (TD&H, 1992b).

The Arbiter/Beryllium ERA repository excavation was initiated in July 1992. Waste removal and placement in the repositories began in September 1992, following completion of bottom liner and leachate collection and detection system installations. Construction of the final cap systems for the Arbiter and Beryllium Repositories began in May 1994 and was completed in June 1994.

1.3 Flue Dust Operable Unit Remedial Action

The Flue Dust Repository excavation activities began March 2, 1993 and continued through April 9, 1993. The repository leachate drainage ditches and collection sump were included in this excavation. The repository bottom liner and leachate collection system installation began April 28, 1993 and finished June 21, 1993. The bottom liner system construction consisted of placing a geosynthetic clay liner on a prepared subgrade followed by a geocomposite drainage fabric. The drain fabric was covered with ¾ inch drain rock.

Stabilization activities began April 23, 1993 and were completed along with final source cleanups by July 10, 1994.

The installation of the final cap system began May 31, 1994, and was completed August 19, 1994. Construction of the final cap system consisted of placing a geosynthetic clay liner (GCL) over the repository final subgrade, placing a non-woven drain fabric over the GCL, and covering the synthetic materials with 2.2 feet of three-inch minus material. After all materials were in place the top 12 inches of soil was prepared for soil revegetation.

1.4 Purpose and Scope of the Post-Closure Operation and Maintenance Plan

This plan describes the monitoring and maintenance activities to be conducted at the SHRC following final closure of the repositories. The general objectives of post closure operation and monitoring are to:

- Maintain and monitor the SHRC ground water monitoring system;
- Continue to operate the repository leachate collection and removal systems;
- Maintain the function and integrity of the repository final cap systems and monitor settlement and slope stability;
- Maintain surface water diversion structures in the SHRC area to control erosion and;
- Continue with applicable site security measures.

The specific inspection, monitoring, maintenance and record keeping procedures that will be performed to accomplish the above objectives are detailed in the following sections. O&M requirements for the SHRC may be re-evaluated in the site-wide final monitoring plan to be prepared for the Anaconda Regional Water, Wastes, and Soils Operable Unit.

2.0 GROUND WATER MONITORING

The SHRC post-closure ground water monitoring system consists of five monitoring wells. Wells MW-3 located immediately downgradient of the Arbiter Repository and MW-4 located immediately downgradient of the Beryllium Repository, along with existing Well W-65 located upgradient of the two repositories, comprise the Arbiter and Beryllium Repository ground water monitoring system. Wells MW-1 (North-East side) and MW-2 (South-East corner) located immediately downgradient of the Flue Dust Repository will be utilized to monitor the Flue Dust Repository.

The five wells that comprise the ground water monitoring system will be monitored for water elevation and ground water quality on an annual basis. The purpose of water elevation monitoring is to verify that ground water flow directions remains consistent with the hydrogeologic regime identified in the Post-Closure Ground Water Well Locations Report, (Canonie, 1992).

Ground water quality monitoring will include collection and analysis for dissolved arsenic, beryllium, cadmium and lead concentrations in ground water samples from each of the five wells. Sampling and analysis procedures will be consistent with Clark Fork River Superfund Site Investigation (CFRSSI) and Standard Operating Procedure (SOP) GW-1 with the exception that analysis will be limited to filtered samples for screening quality dissolved metals. Unfiltered samples will not be analyzed. Sample packaging and shipping, sample custody and equipment decontamination procedures will be performed according to CFRSSI SOPs G-5, G-7 and G-8, respectively.

3.0 LEACHATE MANAGEMENT

3.1 Arbiter Repository

Water elevation and depth of water in the Arbiter Repository detection and collection sumps will be monitored on an quarterly basis in accordance with CFRSSI SOP GW-5 until the Anaconda Regional Water, Waste and Soils Remedial Action (ARWWS RA) is complete or leachate generation stops. Once the work is complete or leachate generation stops, monitoring will be performed on an annual basis.

If the level of the water in the leachate collection sump is one foot above the bottom elevation of the repository, the water will be removed. If the water level in the leak detection riser pipe is above the top of the sump, the water will be removed.

If removal is necessary, the disposition will depend on analysis of the water. Samples will be collected if 100,000 gallons of water have been removed from the sump since the last water sample was analyzed. A representative sample will be collected and analyzed to determine if the concentrations are below the Maximum Contaminant Level (MCL) for arsenic, cadmium and lead and the pH is between 2 and 12.5 standard units. Attainment of these limits will be documented by the results of laboratory analyses on a filtered sump water sample. If the MCL limits and pH range are not exceeded, the water will be pumped to the diversion ditch at the site. If the representative sample exceeds MCL limits but is below Toxicity Characteristic Leaching Procedure (TCLP) limits and the pH is within the specified range, the water will be pumped into a water truck and sprayed on the Anaconda Tailings Ponds. Because the water samples have consistently been below MCLs, EPA will be notified if a sample exceeds MCLs. If the sample exceeds the TCLP limits or is outside the specified pH range, then ARCO will consult with EPA regarding appropriate management procedures for the water.

In all cases, water will be removed from the sumps to the lowest level achievable with a submersible pumping system (approximately 1.2 feet).

If the water level has dropped since the last quarterly measurement, ARCO will consult with EPA to determine if additional measures are required.

3.2 Flue Dust Repository

Water elevation and depth of water in the Flue Dust Repository detection and collection sumps will be monitored on an quarterly basis in accordance with CFRSSI SOP GW-5 until the ARWWS RA is complete or leachate generation stops. Once the work is complete or leachate generation stops, monitoring will be performed on an annual basis.

If the level of the water in the leachate collection sump is one foot above the bottom elevation of the repository, the water will be removed. Prior to removal, a representative sample will be collected and analyzed to determine if the concentrations are below the Maximum Contaminant Level (MCL) for arsenic, cadmium and lead and the pH is between 2 and 12.5 standard units. Meeting these limits will be documented by the results of laboratory analyses on a filtered sump water sample. If the MCL limits and pH range are not exceeded, the water will be pumped to the diversion ditch at the site. If the representative sample exceeds MCL limits but is below TCLP limits and the pH is within the specified range, the water will be pumped into a water truck and sprayed on the Anaconda Tailings Ponds. Because the water samples have consistently been below MCLs, EPA will be notified if a sample exceeds MCLs. If the sample exceed the TCLP limits or is outside the specified pH range, then ARCO will consult with EPA regarding appropriate management procedures for the water.

In all cases, it will be removed from the sumps to the lowest level achievable with a submersible pumping system (approximately 1.2 feet).

If the water level has dropped since the last quarterly measurement ARCO will consult with EPA to determine if additional measures are required.

3.3 Beryllium Repository

The Beryllium Repository collection sump water depth will be monitored on a quarterly basis until the ARWWS RA is complete or leachate generation stops. Once the work is complete or leachate generation stops, monitoring will be performed on an annual basis.

Because the sump riser pipe is angled, a dip stick will be used to measure water depth rather than the electronic-type water level indicator specified in SOP GW-5.

If the water level has dropped since the last quarterly measurement, ARCO will consult with EPA to determine if additional measures are required.

Prior to removal, a representative sample will be collected and submitted for beryllium analysis. If beryllium concentrations do not exceed 0.003 mg/l or the upgradient water sample obtained from Well W-65, whichever is higher, the accumulated water will be removed from the sump to the lowest level achievable with a suction pumping system and pumped to the diversion ditch. If beryllium concentrations in the representative sample exceed 0.003 mg/l and the upgradient well sample, ARCO will consult with EPA regarding appropriate management procedures for the collected water.

The Beryllium Repository leak detection sump is currently inaccessible due to a kinked or broken riser pipe. Therefore, monitoring will be limited to the leachate collection sump. The water must not accumulate above the top of the sump due to the inability to monitor the leak detection sump. Water will be pumped from the leachate collection pump once it reaches one foot above the bottom of the sump. Water will be removed to the bottom of the sump with a suction pump.

4.0 POST-CLOSURE COVER INSPECTION AND MONITORING

4.1 Monitoring for Local Instability of Repository Slopes

All repository slopes will be inspected quarterly until the ARWWS RA is complete or vegetation has been established. Once the ARWWS RA is complete or vegetation established, monitoring for slope stability (i.e., slumping or sliding), degradation of the final cover and settlement will be performed on an annual basis. The Arbiter Repository will be checked for horizontal cracks in the cover soil, in order to determine if slumping or sliding is occurring on the slopes.

Selected locations on each of the repositories will be photographed and compared to detect any localized movement. Surveyed observations will be documented to determine the location, rate and extent of any movement. Corrective actions will be commensurate with the distress that is observed.

4.2 Monitoring for Degradation of the Final Cover

Because the final cover is a long-term installation, erosion protection will be included in the post-closure care of the SHRC. Repairs to the repository final covers may be necessary due to the effects of surface runoff, settlement, subsidence, erosion or other events. Quarterly inspections, until the ARWWS RA is complete or vegetation is established, of the final covers, reclaimed borrow areas and any other disturbed areas will be performed to monitor any deficiencies. Inspection forms are attached.

If severe erosion occurs, then the affected area will be filled and regraded and local erosion control may be installed. Eroded rills will be repaired and drainage basin berms or ditches which accumulate significant sediment will be cleaned. The repository caps will be monitored and bare spots reseeded, fertilizer applied and weeds sprayed as necessary to maintain a sufficient vegetative cover.

4.3 Settlement Monitoring

Settlement monitoring on the Arbiter and Flue Dust Repositories will continue on a quarterly basis until no significant settlement occurs (i.e., any settlement that could damage the cover

system components) or the ARWWS RA is complete. Benchmarks will be protected and maintained.

Settlement will be evaluated for potential damage to underlying cover materials. The cover systems of all three repositories will be inspected for any localized settlement that could cause ponding of water. Depressions will be filled and reseeded.

5.0 SURFACE WATER DIVERSION SYSTEM MAINTENANCE

Maintenance of the drainage system should be minimal, since the perimeter runoff diversion ditches were designed to control peak flow from 25-year, 24-hour storm event. The drainage system is further protected by the installation of riprap at designated locations to mitigate erosion potential. However, inspection of the runoff diversion ditches will occur annually and after significant runoff events to verify that the ditches are not eroding and can accommodate peak flow. Additional riprap will be placed in areas where erosion of the ditches is observed.

6.0 SITE SECURITY

Site security in the Smelter Hill Area is currently provided by the use of fences, gates and periodic inspections. Similar site security will continue during the interim operation and monitoring period.

7.0 RECORD KEEPING AND REPORTING

Results of all inspections, monitoring and maintenance activities will be documented according to CFRSSI SOPs G-2, G-3 and G-4. The results of these activities will be submitted annually to EPA and kept on file through post-closure operation.

ATTACHMENT A

INSPECTION FORMS

DESCRIPTION of FORMS

1.0 Purpose of the Annual Inspection Forms

The Annual Inspection Forms are the basic reporting instrument for the OW/EADA and the Flue Dust operable units Operations and Maintenance Plans. It is essentially a checklist of inspection items developed to help maximize the use of the inspector's field time by providing a guide which includes the most critical items of a field evaluation. The forms are a means to communicate the inspector's observations to the Anaconda-Deer Lodge County, the Environmental Protection Agency, the Montana Department of Health and Environmental Sciences and ARCO, along with a list of recommendations for potential problem areas at the site.

2.0 Use of Forms

The top of each form requests certain information to properly identify the subarea or structure. It is imperative that this information be correct in order to facilitate any follow-up work. Although these items are straightforward, some general comments may be of assistance.

Included in the first items at the top of each form is the area designation or sedimentation basin number. The area designation was assigned and utilized during the Remedial Design/Remedial Actions. The remaining portion of the forms are for recording

actual inspection observations. In many instances, few critical changes will be observed and limited action may be taken by the inspector. However, adverse changes to certain items and comments should be made in the spaces provided on the forms. Major adverse changes can lead to unstable, unsafe or unvegetated conditions, and should be reported promptly to the responsible party for a more technical on-site evaluation.

EVALUATION OF VEGETATION ON RECLAIMED AREAS

Subarea: _____

Date: _____

Inspector: _____

1. OVERALL VEGETATIVE COVER **[Fall only]**
   __Excellent __Good __Fair __Poor __Very Poor

2. UNIFORMITY OF VEGETATIVE COVER **[Fall only]**
   __Very Uniform __Cover density varies but no significant barren areas __Barren areas present __Small __Large __Infrequent __Frequent

3. EVIDENCE OF REPRODUCTION **[Fall only]**
   __Young plants common __Few young plants observed __No young plants observed

4. WEED SPECIES PRESENT **[Spring only]**
   __None observed __Infrequent __Frequent __Dominant

   Species identified_____

5. SPECIES PRESENT **[Fall only]**
   __Stand dominated by 1 species __Stand dominated by 2 species __4 or more species common

6. EVIDENCE OF SILTATION IN DIVERSION DITCHES
   __None observed __Deposition areas infrequent and/or shallow (<3 in.) __Deposition areas common and/or 3 in. deep

7. DEBRIS/GARBAGE PRESENT ON SITE
   __No material present __Small amount, easily removed
   __Significant amount of material to be removed __Material requiring immediate removal (detail below)

8. EVIDENCE OF EROSION POTENTIAL
   __ Stable __ Moderate __ Severe

9. EVIDENCE OF DISTURBANCE
   __ No significant disturbance ___ Evidence of domestic livestock grazing
   __ Vehicle tracks on site surface __ Evidence of wildlife use
   __ Foot/bike path __ Apparent vandalism at site

   Specific information_____

EVALUATION OF EROSION AND COVER DISTURBANCE

Subarea: _____

Date: _____

Inspector: _____

1. EVIDENCE OF SOIL MOVEMENT

__None observed __Deposition areas infrequent and/or shallow (<3 in.) __Deposition areas common and/or 3 in. deep

2. EVIDENCE OF SURFACE ROCK FRAGMENT MOVEMENT

__None observed __Less than 25% of rock fragments translocated and redeposited __More than 25% of rock fragments translocated and redeposited

3. PRESENCE OF RILLS

__None observed __Infrequent and less than 1 inch in depth __At intervals 10 ft and 1 to 1.5inch in depth and width __At intervals <10 ft and 1.5 inch in depth and width

4. PRESENCE OF GULLIES

__None observed __Gullies present, not actively eroding __Gullies present, actively eroding

5. MASS INSTABILITY

__None observed __Significant tension cracks present __Saturated area present

__Significant depressions/ subsidence present

6. EVIDENCE OF RIPRAP FAILURE OR TRANSPORT

__None observed __Small amount of movement

__Significant amount of riprap failure __Riprap requiring immediate replacement/repair

Specific information/location _____

_____

_____

7. PROVIDE SKETCH OF AREA OF CONCERN ON BACK OF FORM

SITE SECURITY

Subarea: _____

Date: _____

Inspector: _____

1. SIGNS

__All signs present __One or more signs missing

__All signs in good condition __One or more signs damaged or needing maintenance

Specific information: _____

2. FENCES

__All fencing in good condition

__Fencing requires maintenance

__Fencing material missing, replacement needed

Specific information: _____

3. TYPE OF DISTURBANCE PRESENT

__No significant disturbance observed

__Vehicle tracks on site surface

__Evidence of livestock grazing

__Evidence of wildlife usage

__Apparent vandalism at site

Specific information: _____

OPERATIONS AND MAINTENANCE EVALUATION SUMMARY

Date: _____

Inspector: _____

1. INSTITUTIONAL CONTROLS COMPLIANCE CHECKLIST COMPLETE? __Yes __No

   * ICs problem identified? __Yes __No
   * County Planner notified? __Yes __No

2. INSTITUTIONAL CONTROLS SITE-SPECIFIC CHECKLIST COMPLETE? __Yes __No

   * ICs problem identified? __Yes __No
   * County Planner notified? __Yes __No

3. SITE SECURITY CHECKLIST COMPLETE? __Yes __No

   * Site security problem identified? __Yes __No
   * County Planner notified? __Yes __No

4. VEGETATION EVALUATION CHECKLIST COMPLETE? __Yes __No

   * Vegetation problems noted? __Yes __No
   * County Planner notified? __Yes __No

5. EROSION/COVER DISTURBANCE CHECKLIST COMPLETE? __Yes __No

   * Significant disturbance noted? __Yes __No
   * County Planner notified? __Yes __No

6. SEDIMENTATION BASINS CHECKLIST COMPLETE? __Yes __No

   * Significant instability noted? __Yes __No
   * County Planner notified? __Yes __No

7. DEBRIS AND GARBAGE CHECKLIST COMPLETE? __Yes __No

   * Debris/garbage problems identified? __Yes __No
   * County Planner notified? __Yes __No

Comments: _____

DEFINITIONS

Acid-Base Accounting - A calculation of active and reserve acidity soils, which includes analyses for sulfur for (Total, Sulfate, Sulfide and Residual) and t soils neutralization potential by the SMP buff test.

Acre-foot - A term used in measuring the volume of water, equ to the quantity required to cover 1 acre a foot depth (43,560 cubic feet or 325,850 gallons).

Bank - The elevated ground along the sides of a strea lake or channel; any ridge of earth slope formed trimmed to a definite shape.

Barren Area (vegetation) - Area, usually measured in square yards, in whi vegetation does not exist. (a) small = less than sq. yd.; (b) large = greater than 1 sq. yd.; (Infrequent = less than 10%; and (d) Frequent greater than 10% of the total area evaluated.

Commercial Land Use - Includes all land uses in Standard Land Use Co (SLUC) 4923 and 4924, 52-59, 61-69, 71-79, a 8221, except for SLUC 637.

Crest - (a) The top of a dam, weir, spillway or ban often restricted to the overflow portion. (Peak of a flood or wave.

Culvert - A closed conduit for the free passage of surfa drainage water under a highway, railroad, canal, other embankment.

Dam - A barrier constructed across a watercourse for t purpose of (a) creating a reservoir, (b) diverti water into a conduit or channel, or (c) for t retention of debris or slurry.

Dam, toe - (a) The downstream edge of the base of a dam. (The line of a fill slope or dam where it intersec the natural ground, and the lowest edge of backslope of a cut where it intersects the roadbe

Development Permit System - The permit system established and adopted by t Anaconda-Deer Lodge county on December 2, 199 provides the county's purpose and intent

planning and zoning activities.

Dike - An embankment to continue or control water, especially one built along the banks of a river to prevent overflow of low lands or to deflect water away from a structure.

Drainage area- The area tributary to a lake, stream, sewer, or drain. Also catchment area, watershed, and river basin.

Drainage tile- The removal of surplus water by means of buried pipes. Water enters through the unsealed joints or through perforations in the pipes.

Drain pipe - Pipe which discharges water collected in a drain zone.

Drain zone - An area which collects and transmits seepage water. Usually constructed of coarse gravel or rock.

Engineered Cover - A soil, asphalt, rock or equivalent material cap of a minimum thickness of 2 inches, which is installed to minimize potential exposure to underlying materials.

Electrical Conductivity- A measure of salinity. A physical quantity that measures the readiness with which a medium conducts electricity.

Erodability- The relative ease with which one soil erodes under specified conditions as compared with other soils under the same conditions; this applies to both sheet and gully erosion.

Flood,100 year-The flow of a stream which has been equaled or exceeded, on the average of once in 100 years. The 1 percent chance that it will occur on a given stream at a selected site.

Freeboard - The vertical distance between the level of the surface or the liquid in a conduit, reservoir, tank, canal, etc., and the top of the sides of an open conduit, the top of a dam or levee, etc., which is provided so that waves and other movements of the liquid will not overtop the confining structure.

Gabions - Steel wire cages filled with weather-resistant rock and used to control erosional forces at hydraulic

structures.

Geotextiles - A fabric used as a medium for particle filtration; generally constructed of nylon, finely woven wire mesh or glass thread.

Grade - (a) The inclination or slope of a stream channel, conduit, or natural ground surface, usually expressed in terms of the ratio or percentage of the number of units of vertical rise or fall per unit of horizontal distance. (b) The elevation of the invert of the bottom of a pipeline, canal, culvert, sewer, etc. (c) The finished surface of a canal bed, roadbed, top of an embankment, or bottom of an excavation. (d) To establish a profile by cuts and fills or earthwork.

Gully - A ditch, gutter, or channel cut by water along which water usually flows after heavy rainfall or melting of snow or ice.

Head - The potential energy of water due to its height above a given elevation, usually given in feet.

Hydrograph - A graph showing the discharge of water against time.

Impervious Materials - Such as clays, shales, or massive unbroken rock strata that does not permit the penetration of water, petroleum or natural gas under ordinary hydrostatic pressure, or pressures and conditions found naturally in subsurface water. The material may be porous like clay, but the pores are too small to admit water except by very slow capillary action.

Industrial Land Use - Includes all land uses in SLUC 21-51, 637, and 82-89.

Inlet - The upstream end of a conduit or structure carrying water.

Infiltration- The slow movement of water through, or into, the pores of soil; the absorption of water by the soil.

Institutional Controls - Non-engineered measures that may be employed in a CERCLA remedy to restrict future access to a site, or to control future land uses, drainage or ground water utilization, or to otherwise control, limit, restrict, protect or manage future activities on or

around a site or remedial facilities installed on or around the site in order to protect public health and the environment.

Monitoring Well - A well installed to measure ground water fluctuations and water quality.

Outlet - Downstream opening or discharge end of a pipe, culvert, sewer or canal.

Recreational Land Use - Any use in SLUC 71-79.

Restrictive Covenants - Written restrictions contained in grants of estates in real property that pass with such estates to bind the assigns of the covenantor and vest in the assigns of the covenantee, in the same manner as if they had been personally entered into.

Repository - To be located within the Opportunity Ponds.

Rill - Small channel formed by flowing water.

Riprap - Broken stone or boulders placed on dams, levees, dikes, etc., for protection against erosion by the action of water.

Runoff - That part of precipitation which flows from a drainage area and finds its way into streams, lakes, etc. The amount of runoff is affected by (a) condition and nature of soil or rock; (b) intensity of precipitation; (c) slope; (d) vegetation and (e) wind.

Sediment - Solid material settled from suspension in a liquid.

Settlement - The gradual downward movement of an embankment or dam due to the compression, exerted by gravitational forces, of the deposited material and/or the soil below the foundation.

Spillway - A waterway in or adjacent to a dam or other retention structure for the escape of excess water.

Stability - The ability of an engineering structure, such as a dam, retaining wall, etc., to resist movement when loads are applied to it.

Storage - Space in a reservoir utilized to retain water, sediment, or slurry.

Subsidence - The general lowering in elevation of a considerable area of land surface due to the removal of the underlying supporting material either by artificial causes or removal of soluble material by means of water.

Tension Cracks-Cracks caused by strain, traversing the slope surface or paralleling the crest.

Toe - The point of contact between the base of an embankment and the foundation surface.

Trash Rack - A wire screen basket or parallel metal bars placed across the inlet of a decant pipe, culvert, or similar structure in order to intercept floating debris and to prevent internal damage or blockage or the pipe.

Vegetative Cover - An ocular estimate made of revegetation success. Excellent cover is indicated by uniform vegetative cover; little or no noxious weeds present; and healthy, reproducing plants. Good cover is indicated by generally uniform cover with small, random bare spots evident; little or no noxious weeds present; and healthy, reproducing plants. Fair cover is indicated by marginally uniform cover; large, random bare spots; presence of noxious weeds; and stressed plants with little or no reproduction evident. Poor cover is indicated by bare areas exceeding vegetated areas; where vegetation is present, plants are sparse, stressed and no reproduction is evident.

Weed - Plants listed as noxious as defined by the Montana Weed Board.

SITE EVALUATION FLOWCHART

SITE SECURITY

Inspection Item	Trigger Level/Resolution
Check condition of signs and fences	If one or more signs or fences are missing or damaged=repair or replacement is required
Check for signs of disturbance, vehicle tracks, livestock grazing	Assess problem=repair fence or sign if applicable/document damage/re-evaluate site security needs
Check for garbage /debris on site	If any debris or garbage is present =remove material

SITE EVALUATION FORM

EROSION AND COVER DISTURBANCE

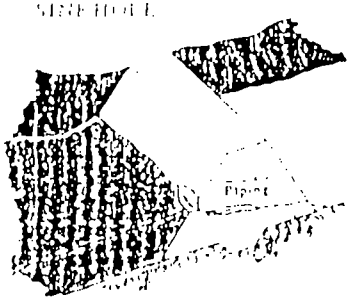
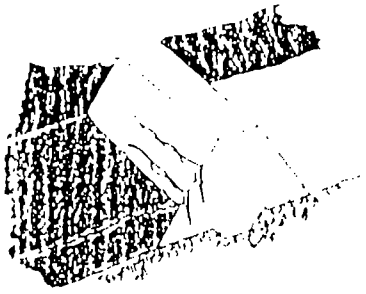
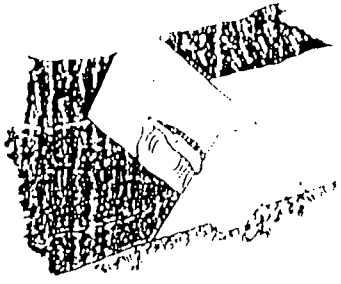
Inspection Item	Trigger Level/Resolution
Check for evidence of soil movement	If deposition areas are greater than 3 inches in depth=perform site evaluation[2]
Check for evidence of rock fragment movement	If more than 25% of rock fragments are redeposited=perform site evaluation[2] and repair as necessary
Check for presence of rills	If rills are observed at intervals of less than 10 ft. and 1.5 inches or greater in depth and width= perform site evaluation[2] and recontour/regrade as necessary to obtain non-eroding topography
Check for presence of gullies	If gullies are present and actively eroding= perform site evaluation[2] and recontour/regrade as necessary to obtain non-eroding topography
Check for signs of mass instability	If a saturated area or significant depressions are observed=perform site evaluation[3]
Check for evidence of riprap failure	If a significant or greater amount of riprap has failed=perform site evaluation[3] and repair as necessary to meet the 100-year flood protection criteria

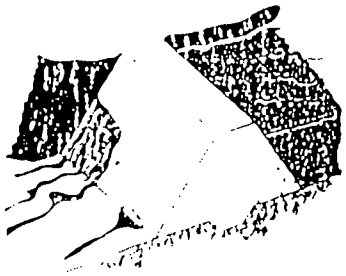
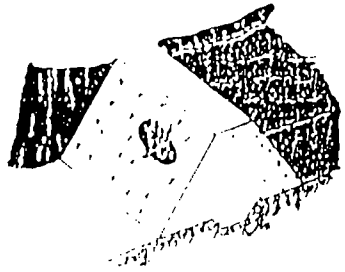
[1]Vegetation Site Evaluation: The site vegetation evaluation will include collection of soil samples within the area of concern. Composite soil samples will be obtained according to the attached soil sampling protocol. The soil samples will be submitted to a certified soils laboratory facility where they will be analyzed for nitrogen:phosphorous:potassium ratio, pH, EC and acid-base accounting. Based upon the results of these analyses the area of concern may receive further treatment. The treatment may include one or more of the following: lime amendment, application of fertilizer, and/or additional application of seed (if insufficient species are present). A qualified person should be contacted for recommendations based upon the analytical soil results.

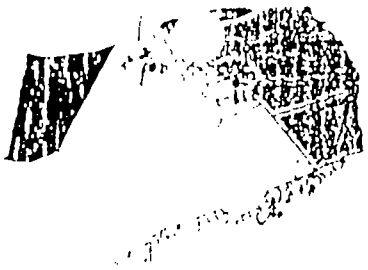
[2]Erosion and Cover Disturbance Evaluation: The site erosion and cover disturbance evaluation will include an observation of the site conditions (i.e. ponding of water, subsidence or undercutting) which may be causing or contributing to the failure and performance of work as necessary to correct the problem.

[3]Erosion Control Structure Evaluation: See Appendix E.

EMBANKMENT OR DAM SLOPE

PROBLEM	PROBABLE CAUSE	POSSIBLE CONSEQUENCES	RECOMMENDED ACTION
SINKHOLE 	Piping or internal erosion of embankment materials or foundation causes a sinkhole. The cave in of an eroded cavern can result in a sink hole. A small hole in the wall of an outlet pipe can develop a sink hole. Dirty water at the exit indicates erosion of the dam.	HAZARDOUS Piping can empty a reservoir through a small hole in the wall or can lead to failure of a dam as soil pipes erode through the foundation or a pervious part of the dam.	- Inspect other parts of the dam for seepage or more sink holes. Identify exact cause of sink holes. Check seepage and leakage outflows for dirty water. A qualified engineer should inspect the conditions and recommend further actions to be taken. ENGINEER REQUIRED
LARGE CRACKS 	A portion of the embankment has moved because of loss of strength, or the foundation may have moved, causing embankment movement.	HAZARDOUS Indicates onset of massive slide or settlement caused by foundation failure.	Depending on embankment involved, draw reservoir level down. A qualified engineer should inspect the conditions and recommend further actions to be taken. ENGINEER REQUIRED
SETTLE, SLUMP OR SLIP 	Earth or rocks move down the slope along a slippage surface because of too steep a slope, or the foundation moves. Also, look for slides movement in reservoir basin.	HAZARDOUS A series of slides can lead to obstruction of the outlet or failure of the dam.	Evaluate extent of the slide. Monitor slide (See Chapter 6.) Draw the reservoir level down if safety of dam is threatened. A qualified engineer should inspect the conditions and recommend further actions to be taken. ENGINEER REQUIRED
SCARPS, BENCHES OR OVERSTEEP AREAS	Wave action, local settlement or ice action cause soil and rock to erode and slide to the lower part of the slope forming a bench.	Erosion lessens the width and possible height of the embankment and could lead to increased seepage or overtopping of the dam.	Determine exact cause of scarps. Do necessary earthwork, restore embankment to original slope and provide adequate protection (bedding and riprap). See Chapter 7.

SEEPAGE [illegible] ABUTMENT [illegible] TACT	1 Water flowing through pathways in the abutment 2 Water flowing through the embankment	AZARDOUS n lead to erosion of embankment materials and failure of the dam	1 Study leakage area to determine [illegible]ty of flow and extent of saturation 2 Inspect daily for developing slides 3 Water level in reservoir may need to be lowered to assure the safety of the embankment 4 A qualified engineer should inspect the conditions and recommend further actions to be taken ENGINEER REQUIRED
LARGE AREA WET OR PRODUCING FLOW 	A seepage path has developed through the abutment or embankment materials and failure of the dam can occur	HAZARDOUS 1 Increased flows could lead to erosion of embankment material and failure of the dam 2 Saturation of the embankment can lead to local slides which could cause failure of the dam	1 Stake out the saturated area and monitor for growth or shrinking 2 Measure any outflows as accurately as possible 3 Reservoir level may need to be lowered if saturated areas increase in size at a fixed storage level or if flow increases 4 A qualified engineer should inspect the condition and recommend further actions to be taken ENGINEER REQUIRED
MARKED CHANGE IN VEGETATION 	1 Embankment material are supplying flows paths 2 Natural seeding by wind 3 Change in seed type during early post construction seeding	Can show a saturated area	1 Use probe and shovel to establish if the materials in this area are wetter than surrounding areas 2 If areas shows wetness when surrounding areas do not a qualified engineer should inspect the condition and recommend further actions to be taken ENGINEER REQUIRED
BULGE IN LARGE WET AREA	Downstream embankment materials have begun to move	HAZARDOUS Failure of the embankment result from massive sliding can follow these early movements	1 Compare embankment cross section to the end of construction condition to see if observed condition may reflect end of construction 2 Stake out affected area and accurately measure outflow 3 A qualified engineer should inspect the condition and recommend further actions to be taken ENGINEER REQUIRED



all parts of the dam. Problems which threaten the integrity of the dam can develop remain undetected until they progress to a point that threatens the dam's safety.
2. Associated root systems develop and penetrate into the dam's cross section. When the vegetation dies, the decaying root systems can provide paths for seepage. This reduces the effective seepage path through the embankment and could lead to possible piping situations.
3. Prevents easy access to all parts of the dam for operation, maintenance, and inspection.
4. Provides habitat for rodents.

bushes, brush, conifers, and growth other than grass. Grass should be encouraged on all segments of the dam to prevent erosion by surface runoff. Root systems should not be removed to the maximum practical extent. The void which results from removing the root system should be backfilled with well-competent, well-compacted material.
2. Future undesirable growth should be removed by cutting or spraying as part of an annual maintenance program. (See Chapter 7.)
3. All cutting or debris resulting from the vegetative removal should be immediately taken from the dam and properly disposed of outside the reservoir basin.

RODENT ACTIVITY

Burrowing animals

1. Entrance point for surface runoff to enter dam. Could saturate adjacent portions of the dam.
2. Especially dangerous if hole penetrates dam below phreatic line. During periods of high storage, seepage path through the dam would be greatly reduced and a piping situation could develop.

1. Completely backfill the hole with competent, well-compacted material.
2. Initiate a rodent control program to reduce the burrowing animal population and to prevent future damage to the dam. (See Chapter 7.)

SUBSIDENCE OF CREST

1. Poor grading and improper drainage of crest. Improper drainage causes surface runoff to collect and drain of crest at low point in upstream or downstream shoulder.
2. Inadequate spillway capacity which has caused dam to overtop.

1. Can reduce available freeboard.
2. Reduces cross sectional area of dam.
3. Inhibits access to all parts of the crest and dam.
4. Can result in a hazardous condition if due to overtopping.

1. Restore freeboard to dam by adding fill material in low area, using proper construction techniques. (See Chapter 7.)
2. Regrading crest to provide proper drainage of surface runoff.
3. If gully was caused by overtopping, provide adequate spillway which meets current design standards. This should be done by engineer.
4. Re-establish protective cover.

RUTS IN CREST

Heavy vehicle traffic without adequate or proper maintenance or proper crest surfacing.

1. Inhibits easy access to all parts of crest.
2. Allows continued development of rutting.
3. Allows standing water to collect and saturate crest of dam.
4. Operating and maintenance vehicles can get stuck.

1. Drain standing water from ruts.
2. Regrade and recompact crest to restore integrity and provide proper drainage to upstream slope. (See Chapter 7.)
3. Provide gravel or roadbase material to accommodate traffic.
4. Do periodic maintenance and regrading to prevent reformation of ruts.

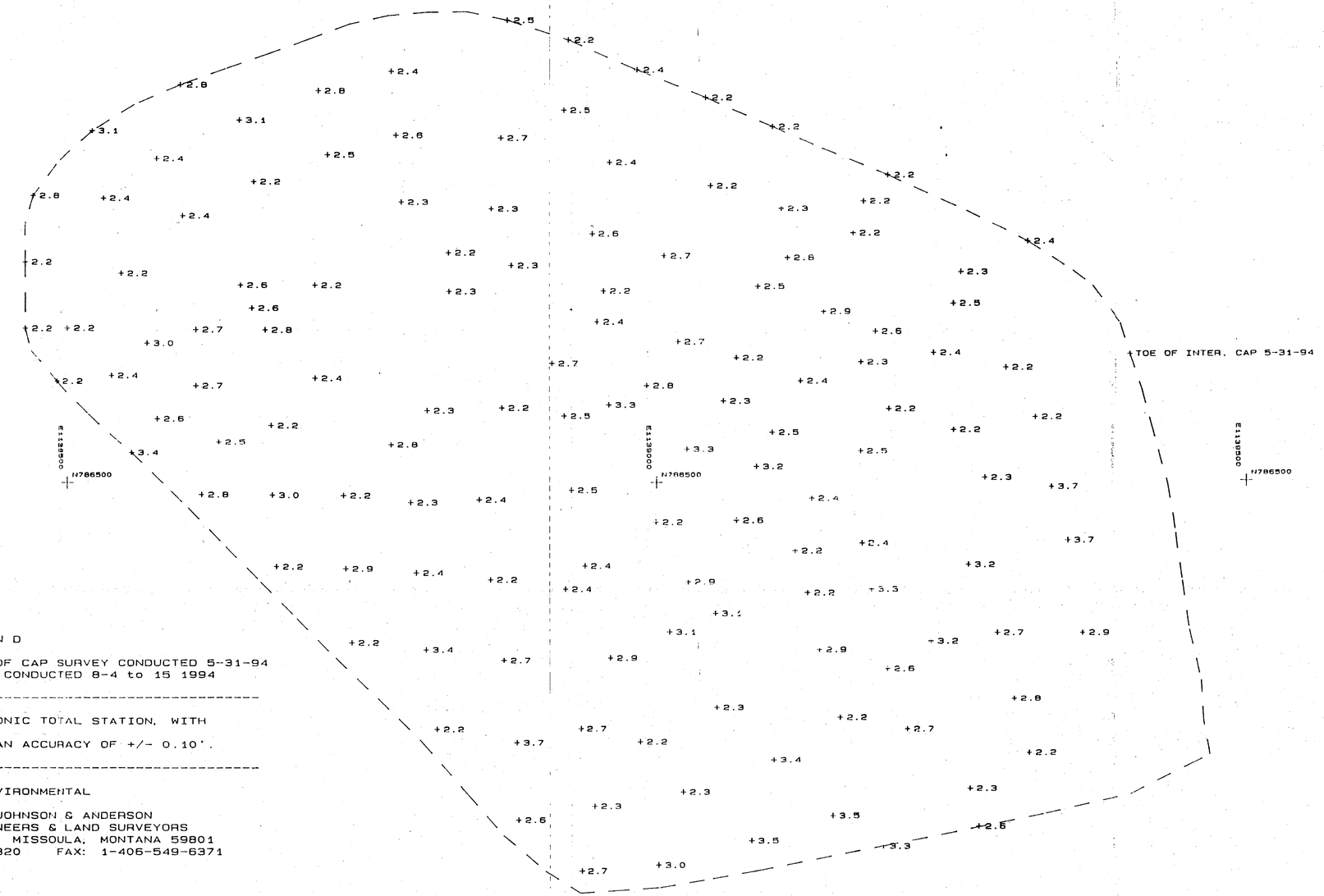
	PROBABLE CAUSE	POSSIBLE CONSEQUENCES	RECOMMENDED ACTIONS
PUDDLING ON CREST FOR DRAINAGE	1 Poor grading and improper drainage of crest 2 Localized consolidation or settlement on crest allows puddles to develop	Cause localized saturation of the crest 2 Inhibits access to all parts of the dam and crest 3 Becomes progressively worse if not corrected	1 Drain standing water from pud 2 Regrade and recompact crest to restore integrity and provide proper drainage to upstream slope (See Chapter 7) 3 Provide gravel or roadbase material to accommodate traffic 4 Do periodic maintenance and regrading to prevent reformation of low areas
OPEN CRACKS	Material on the crest of dam expands and contracts with alternate wetting and drying of weather cycles Drying cracks are usually short, shallow, narrow, and many	Provides point of entrance for surface runoff and surface moisture, causing saturation of adjacent embankment areas This saturation, and later drying of the dam, could cause further cracking	1 Seal surface of cracks with a tight, impervious material (See Chapter 7) 2 Routinely grade crest to provide proper drainage and fill cracks OR 3 Cover crest with non plastic (not clay) material to prevent large moisture content variations

APPENDIX L

SOIL COVER SURVEY AND COVER THICKNESS DATA

FLU DUST REPOSITORY - CAP DEPTH INFO. 1" = 50'

SURVEYS= INTERUM CAP 5-31-94, FINAL CAP 8-4 to 15-94



L E G E N D

+ 2.3 ELEVATION DIFFERENCE OF CAP SURVEY CONDUCTED 5-31-94 AND FINAL CAP SURVEYS CONDUCTED 8-4 to 15 1994

SURVEY DATA TAKEN WITH ELECTRONIC TOTAL STATION, WITH POINTS ON EACH LAYER, HAVING AN ACCURACY OF +/- 0.10'.

PREPARED FOR: CANONIE ENVIRONMENTAL

PREPARED BY: DRUYVESTEIN JOHNSON & ANDERSON
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Appendix M
Anaconda Smelter NPL Site
Flue Dust, Remedial Action Revegetation Plan

Scope

This Revegetation Plan covers areas within the Flue Dust Operable Unit that require supplemental or new reclamation activities. Those areas are outlined on attached Figure 1 and are described as:

Table 1. Areas addressed by this Revegetation Plan, Smelter Hill, Anaconda, Montana

Area Description	Acreage
Coal Pile Tracks	6
East Anaconda Yards	10
East of Repository Complex	28
Flue Dust Storage	9
Switchback (upper)	1
Switchback (lower)	3
Upper Portion Main Flue, Smelter Hill	3

Soil Sampling

The following soils data have been collected pertinent to these areas.

Table 2. Soils data for Areas described in Table 1. Samples were collected May 29-31, 1996

		*Total Arsenic and Metals**																	*Soil Classification*			
Sample Location	Sample ID	As (mg/kg)	Cu (mg/kg)	Pb (mg/kg)	Zn (mg/kg)	pH	Cond (mmhos/cm)	Sat %	SAR	N (ug/g)	P (ug/g)	K (ug/g)	Org Mtr %	Lime Req**	Lime %$CaCO_3$	Acid/Base Pot ***	HCl S %	HNO_3 S %	Resid S %	Sand %	Silt %	Clay %	Texture
Arbiter Repository	ARB-X	112	856	91	652	7 9	3 3	29.3	0 92	13.9	12 2	251	0.3	<0.1	16.1	159	0 01	0 05	<0.01	70	18	12	SL
Arbiter Repository	ARB-XS	229	2270	207	1580																		
Beryllium Repository	BE-1D	4200	11500	2680	3000	6 8	15 4	36 7	0 64	653	106	802	3.4	<0 1	6 3	56	0 07	0.08	0 05	40	35	25	L
Beryllium Repository	BE-1L	163	957	212	797	7 7	2 91	25 8	0 38	4.4	47 7	435	0 3	<0.1	19	188	<0 01	0 06	<0 01	69	20	11	SL
Coal Pile Tracks	CPT-X	991	3560	411	2270	7.7	3 15	32 8	0.67	8 5	47 1	265	0 7	<0 1	18 5	182	0 02	0 06	0 02	58	27	15	SL
Coal Pile Tracks	CPT-XS	980	3250	439	2350																		
East Anaconda Yards	EAY-X	820	6550	902	2100	8 1	2 88	27 5	0 54	<1	22 4	190	0 7	<0 1	18 3	174	0 06	0 11	0 09	70	21	9	SL
East Anaconda Yards	EAY-XD	850	7660	922	2410	7 8	2 79	24.2	0 44	<1	44 4	118	0 9	<0.1	16.4	152	0 08	0 18	0 14	70	21	9	SL
East of Repositories	EOR-X	1020	3680	264	4020	7.8	2 8	26 6	0 34	<1	35.4	125	0 7	<0 1	19 2	188	0 01	0 1	0 02	70	17	13	SL
East of Repositories	EOR-XS	1020	3150	365	3820																		
Flue Dust Repository	FD-D	917	2740	488	1360	7 3	4 04	38 4	0 69	64 5	49 1	397	2 4	<0 1	9 8	96	0 01	0 04	<0 01	52	31	17	L
Flue Dust Repository	FD-DS	1010	2040	423	1390																		
Flue Dust Repository	FD-L	161	1110	100	1090	7 8	2.69	24 8	0 32	<1	32 2	224	0 3	<0.1	19 6	194	<0 01	0 05	<0 01	72	17	11	SL
Flue Dust Repository	FD-LS	211	1390	178	1140																		
Flue Dust Storage Area	FDS-X	345	710	103	349	7 9	3 23	28 5	0.44	9 1	8 8	81	0 3	<0 1	43 2	432	<0 01	<0 01	<0 01	56	29	15	SL
Flue Dust Storage Area	FDS-XS	484	1110	154	818																		
Iron Ponds	IP-X	49	411	46 7	271	8 1	0 53	21 9	0 86	<1	5 7	219	0 3	<0 1	20 1	201	<0 01	<0 01	<0 01	78	14	8	S
Below Road Switch	SB-D	3390	3500	612	1260	6 4	3 14	31	0 37	2	115	197	1 4	<0 1	1 2	11	0 01	0 03	<0 01	64	19	17	SL
Below Road Switch	SB-X	980	1910	160	755	6.5	3 21	36.9	0 14	8 9	71 8	380	1 6	<0 1	3 1	30	0 01	0 01	<0 01	54	27	19	SL
Below Road Switch	SB-XS	1080	1250	181	616																		
Thickener	THK-X	220	1460	189	1210	7 8	2 73	25 1	0.34	2 9	18.9	197	0 3	<0 1	17 5	174	<0 01	0.04	<0.01	74	17	9	SL

* These arsenic and metals analyses represent total values, not water-soluble values

** Lime Requirement tested using SMP Buffer with units of Tons $CaCO_3$/1000 Tons

*** Units expressed in Tons $CaCO_3$/1000 Tons

1.) All samples ending with an "S" are composite samples taken from 0-2". These samples were only analyzed for arsenic and the three metals

2) The remaining samples were composite samples taken from 0-12" These samples were analyzed for metals and nutrients.

3) Samples from the same area, i e , Flue Dust Repository with "L" and "D" in their sample IDs were taken from areas with light-colored soil (designated with an "L"). and dark soils (designated with a "D").

4) Most samples were composted from 3-4 separate sampling points in the sampling area

5) An "X" in the sample ID shows that the area was not separated into light and dark soil regions

Table 3. Texture, Organic Matter, and Lime Requirements in soil samples from Smelter Hill, Anaconda, MT. Additional analyses requested 6-17-96 for samples collected May 29-31, 1996.

Sample Location	Sample ID	Org Mtr %	Lime Req*	Lime %$CaCO_3$	Acid/Base Pot **	HCl S %	HNO_3 S %	Resid S %	% Sand	% Clay	% Silt	Texture
Arbiter Repository	ARB-X	0 3	<0.1	16 1	159	0 01	0 05	<0 01	70	18	12	SL
Arbiter Repository	ARB-XS											
Beryllium Repository	BE-1D	3 4	<0.1	6 3	56	0 07	0 08	0 05	40	35	25	L
Beryllium Repository	BE-1L	0 3	<0 1	19	188	<0 01	0 06	<0 .01	69	20	11	SL
Coal Pile Tracks	CPT-X	0 7	<0.1	18 5	182	0 02	0 06	0 02	58	27	15	SL
Coal Pile Tracks	CPT-XS											
East Anaconda Yards	EAY-X	0 7	<0 1	18 3	174	0 06	0 11	0 09	70	21	9	SL
East Anaconda Yards	EAY-XD	0 9	<0 1	16 4	152	0 08	0 18	0 14	70	21	9	SL
East of Repositories	EOR-X	0 7	<0.1	19 2	188	0 01	0 1	0 02	70	17	13	SL
East of Repositories	EOR-XS											
Flue Dust Repository	FD-D	2.4	<0 1	9 8	96	0 01	0 04	<0 01	52	31	17	L
Flue Dust Repository	FD-DS											
Flue Dust Repository	FD-L	0 3	<0.1	19 6	194	<0.01	0 05	<0 01	72	17	11	SL
Flue Dust Repository	FD-LS											
Flue Dust Storage Area	FDS-X	0 3	<0 1	43 2	432	<0.01	<0.01	<0 01	56	29	15	SL
Flue Dust Storage Area	FDS-XS											
Iron Ponds	IP-X	0 3	<0 1	20 1	201	<0 01	<0 01	<0 01	78	14	8	S
Below Road Switch Back	SB-D	1 4	<0.1	1 2	11	0 01	0 03	<0.01	64	19	17	SL
Below Road Switch Back	SB-X	1 6	<0 1	3 1	30	0 01	0 01	<0 01	54	27	19	SL
Below Road Switch Back	SB-XS											
Thickener	THK-X	0 3	<0 1	17 5	174	<0 01	0 04	<0 01	74	17	9	SL

* Lime Requirement tested using SMP Buffer with units of Tons $CaCO_3$/1000 Tons

** Units expressed in Tons $CaCO_3$/1000 Tons

1) All samples ending with an "S" are composite samples taken from 0-2". These samples were only analyzed for the four total metals

2) The remaining samples were composite samples taken from 0-12" These samples were analyzed for arsenic, metals and nutrients.

3) Samples from the same area, i e., Flue Dust Repository with "L" and "D" in their sample IDs were taken from areas with light-colored soil --"L", and dark soils --"D"

4) Most samples were composted from 3-4 separate sampling points in the sampling area

5) An "X" in the sample ID shows that the area was not separated into light and dark soil regions

6) Sample EAY-XD is a re-sample of EAY-X taken from the 0-12" depth interval EAY-X was sampled from the 0-6" depth interval

In addition, water soluble arsenic and metals analyses were performed for soil samples FDS-XS and EOR-X. The results are as follows:

Table 4. Water soluble arsenic and metals analyses for Flue Dust Storage (FDS) and East of Repositories (EOR) Areas, Smelter Hill, Anaconda, Montana.

Metals*	FDS-XS (ppm)	EOR-X (ppm)
Arsenic	1.1	1.2
Copper	0.15	0.14
Lead	<0.02	<0.02
Manganese	0.30	0.41
Zinc	0.06	0.22

*Saturated Paste Extract. Samples submitted 6/21/96, analyzed 7/6/96.

Tempe Cell work was proposed to determine if liming rates would be helpful in improving revegetation attempts at the Smelter Hill Repository Complex. To facilitate that effort, the following data were collected (Note: previously presented May 29-31, 1996, June 21, 1996 and July 16 samples are presented for comparison ease):

Table 5. Comparison of arsenic and metals analyses for Flue Dust Storage and East of Repositories Areas, Smelter Hill, Anaconda, Montana.

Parameter	EOR-XS May 29-31 Sample (Total Metals)	EOR-X June 21 Sample (Water Soluble)	EOR-XS July 16 Sample (Total metals)	EOR-XS July 16 Sample (Water Soluble)	FDS-XS May 29-31 Sample (Total Metals)	FDS-XS June 21 Sample (Water Soluble)	FDS-XS July 16 Sample (Total metals)	FDS-XS July 16 Sample (Water Soluble)
pH (s.u.)				7.6				7.6
Cond., mmhos/cm				3.18				5.64
Arsenic (ppm)	1020	1.2	670	1.4	484	1 1	470	2 8
Copper (ppm)	3150	0.14	3980	0.17	1110	0 15	2060	0.23
Lead (ppm)	365	<0.02	500	<0.01	154	<0.02	170	0.01
Zinc (ppm)	3820	0.22	2610	0.27	818	0.06	1260	0.15

Data Interpretation/Planning

The analytical results seem to generally indicate that total arsenic and metals levels in some of these areas may be elevated, but that water soluble levels are low. Soil pH levels are near neutral and also do not appear to be limiting. The soil textures are on the sandier end of the spectrum and organic matter contents are relatively low, indicating that water holding capacities may be an important factor in vegetation growth. Lime requirements are also low, due in large part to the near neutral pH values. The SAR values also do not appear to be limiting.

A May 20, 1996 Review of Reclamation - Anaconda Old Works Smelter Hill, prepared by Montana State University, Reclamation Research Unit (MSU-RRU) is attached (Attachment 1) to this regevetation plan. This document describes the areas addressed in this plan and indicates that soil removal may be needed on the dark soils that were used as partial capping for the repositories.

A June 26, 1996 correspondence (Attachment 2) from MSU-RRU regarding "Sample Analyses - Repository Caps" also indicates localized new cap construction may be needed to correct the revegetation failures where dark soils were used as capping materials. This removal and replacement of soils occurred at the repositories during the July-August, 1996 time frame. Replacement soils were obtained from a borrow site on Smelter Hill (near the Aspen Hills work location) and the analytical data pertaining to this replacement soil appears in Table 7.

Additionally Tempe Cell tests were proposed in a June 26, 1996 MSU-RRU Scope of Work (Attachment 3). The water soluble metals results presented above (Table 5) were used to determine that for the EOR and FDS areas, liming would probably not result in a significant vegetative response. Although liming may not be helpful for these areas, the Smelter Hill area may benefit from lime applications, and Tempe Cell work has occurred for that site. Tempe Cell work was also done for the FDS-XS soil, to confirm that the lime application will likely not greatly benefit revegetation efforts on areas removed from the Hill.

Results of the Tempe Cell work are presented as Attachment 4. These results indicate that for Smelter Hill soils, the water soluble arsenic content should be lowered by application of 70% $Ca(OH)_2$ and 30% $CaCO_3$ at a rate of 30 tons/1000 tons soil.

Based on the soil analytical work presented above, treatments for each area described in Table 1 can be prescribed. In general, the lime is not expected to be much help, but organic matter, in combination with fertilization is deemed to be needed.

1. Coal Pile Tracks, East Anaconda Yards, East of Repositories, and Flue Dust Storage Areas.

Organic Matter

These areas will receive 4% organic matter on a dry weight basis (composted livestock or wood waste) in the top 6-inch soil slice. Application of 100% of the required compost (total compost required is 40 tons dry material per acre) will be disked into the top 6-inches. This step is expected to occur during Fall 1996.

Fertilizer

A standard fertilizer application developed for this area will be applied. This mixture will be applied and incorporated into the upper six inches at a minimum rate of 60 lb./ac Nitrogen (N) available nutrient, 80 lb./acre Phosphorous (P) available nutrient, and 150 lb./acre Potassium (K) available nutrient. The fertilization step will occur at the same time the compost is applied and mixed into the surface of the seedbed if a fall seeding is anticipated, or delayed until near the time of seeding if a spring seeding is chosen.

Seeding and Mulching

Seeding the subject areas as outlined on Figure 1 will occur as a dormant seeding in the Fall of 1996 or Spring of 1997 using the seed mix described in Table 6. Mulching with 2 tons per acre of straw will occur as determined by schedule and logistics. Crimping of the straw mulch will occur after application.

Table 6. Seed Mix for Smelter Uplands

SPECIES	# PLS/ACRE
Grasses	
Intermediate wheatgrass (*Agropyron intermedium*)	4
Western wheatgrass (*Agropyron smithii*)	4
Slender wheatgrass (*Agropyron trachycalum*)	4
Basin wildrye (*Elymus cinereus*)	4
Sheep fescue (*Festuca ovina*)	2
Forbs	
Alphagraze alfalfa (*Medicago sativa*)	1
TOTAL	19

2. Switchback, Upper and Lower Areas.

Lime

This area is closer in proximity to the Smelter Hill area where the likelihood of lime addition benefiting the revegetation is greater. Also, the pH of the soils sampled is lower than other areas, although it is still greater than 6 standard units. Based on the possibility that lime may help, 5-10 tons $CaCO_3$/2000 tons soil (incorporated into the 0-12 inch soil increment) will be applied at the Upper and Lower Switchback areas. This application will be made in Fall 1996 time-frame to allow for mellowing prior to either a Fall 1996 or Spring 1997 seeding.

Organic Matter

These areas will receive 4% organic matter on a dry weight basis (composted livestock or wood waste) in the top 6-inch soil slice. Application of 100% of the required compost (total compost required is 40 tons dry material per acre) will be disked into the top 6-inches. This step is expected to occur during Fall 1996.

Fertilizer

The standard fertilizer application developed for this area will be applied. This mixture will be applied and incorporated into the upper six inches at a minimum rate of 60 lb./ac Nitrogen (N) available nutrient, 80 lb./acre Phosphorous (P) available nutrient, and 150 lb./acre Potassium (K) available nutrient. The fertilization step will occur at the same time the compost is applied and mixed into the surface of the seedbed if a fall seeding is anticipated, or delayed until near the time of seeding if a spring seeding is chosen.

Seeding and Mulching

Seeding the areas outlined on Figure 1 will occur as a dormant seeding in the Fall of 1996 or Spring of 1997 using the seed mix described in Table 6. Mulching with 2 tons per acre of straw will occur as determined by schedule and logistics. Crimping of the straw mulch will occur after application.

3. Repository Areas.

As previously described, dark soils were replaced with new capping soils to correct the revegetation failures on the three repositories. This removal and replacement of soils occurred during the July-August, 1996 time frame. Treatments for the newly placed capping materials are proposed as follows.

Lime

The new capping materials are not expected to require lime treatment, based on the results obtained from test pits in the borrow source (Results in Table 7).

Organic Matter

These areas will receive 4% organic matter on a dry weight basis (composted livestock or wood waste) in the top 6-inch soil slice. Application of 100% of the required compost

(total compost required is 40 tons dry material per acre) will be disked into the top 6-inches as one application. This step is expected to occur during Fall 1996.

Fertilizer

The standard fertilizer application developed for this area will be applied. This mixture will be applied and incorporated into the upper six inches at a minimum rate of 60 lb./ac Nitrogen (N) available nutrient, 80 lb./acre Phosphorous (P) available nutrient, and 150 lb./acre Potassium (K) available nutrient. The fertilization step will occur at the same time the compost is applied and mixed into the surface of the seedbed if a fall seeding is anticipated, or delayed until near the time of seeding if a spring seeding is chosen.

Seeding and Mulching

Seeding the areas with new capping material and those areas where seeding was disturbed by placement of the new capping materials will occur as a dormant seeding in the fall of 1996 or Spring of 1997 using the seed mix described in Table 6. Mulching with 2 tons per acre of straw will occur as determined by schedule and logistics. Crimping of the straw mulch will occur after application.

4. Upper Main Flue.

This area is a small (3 acre) area on the top of Smelter Hill. Previous revegetation success has been less than expected and attempts to improve this are described below.

Lime

The revegetation success is expected to improve in response to liming, based on the Tempe Cell results (Attachment 4). These results indicate that the water soluble arsenic content should be lowered by application of 70% $Ca(OH)_2$ and 30% $CaCO_3$ at a rate of 30 tons/1000 tons soil.

The area will receive lime treatment at a rate of 30 tons $CaCO_3$/2000 tons soil (incorporated into the 0-12 inch soil increment). This application is expected to occur in Fall 1996.

Organic Matter

This areas will receive 4% organic matter on a dry weight basis (composted livestock or wood waste) in the top 6-inch soil slice. Application of 100% of the required compost (total compost required is 40 tons dry material per acre) will be disked into the top 6-inches as one application. This step is expected to occur during Fall 1996, subsequent to lime application.

Fertilizer

The standard fertilizer application developed for this area will be applied. This mixture will be applied and incorporated into the upper six inches at a minimum rate of 60 lb./ac Nitrogen (N) available nutrient, 80 lb./acre Phosphorous (P) available nutrient, and 150 lb./acre Potassium (K) available nutrient. The fertilization step will occur at the same

time the compost is applied and mixed into the surface of the seedbed if a fall seeding is anticipated, or delayed until near the time of seeding if a spring seeding is chosen.

Seeding and Mulching

Seeding will occur as a dormant seeding in the Fall of 1996 or Spring of 1997 using the seed mix described in Table 6. Mulching with 2 tons per acre of straw will occur as determined by schedule and logistics. Crimping of the straw mulch will occur after application.

Table 7. Texture, pH, Conductivity, Organic Matter, and Lime Requirements for test pit samples of Smelter Hill Borrow Source Materials, Anaconda, MT.

Sample Location	Sample ID	pH (std units)	Cond (mmhos/ cm)	Org Mtr %	Lime Req*	Lime %$CaCO_3$	Acid/Base Pot **	HCl S %	HNO_3 S %	Resid S %	% Sand	% Clay	% Silt	Texture
Test Pit #1	31324	7 9	0 87	0 5	<0 1	17 2	172	ND	ND	ND	56	18	26	SL
Test Pit #2	31925	7 8	0 63	0 7	<0 1	15 9	159	ND	ND	ND	54	18	28	SL
Test Pit #3	31926	7 9	1 07	0 3	<0 1	10 1	101	ND	ND	ND	56	20	24	SCL
Test Pit #4	31927	8 0	2 57	0 3	<0 1	16 2	162	ND	ND	ND	62	14	24	SL

* Lime Requirement tested using SMP Buffer with units of Tons $CaCO_3$/1000 Tons

** Units expressed in Tons $CaCO_3$/1000 Tons

1) All samples ending with an "S" are composite samples taken from 0-2" These samples were only analyzed for the four total metals

2) The remaining samples were composite samples taken from 0-12" These samples were analyzed for arsenic, metals and nutrients

3) Samples from the same area, i e , Flue Dust Repository with "L" and "D" in their sample IDs were taken from areas with light-colored soil --"L", and dark soils --"D"

4) Most samples were composted from 3-4 separate sampling points in the sampling area

5) An "X" in the sample ID shows that the area was not separated into light and dark soil regions

6) Sample EAY-XD is a re-sample of EAY-X taken from the 0-12" depth interval EAY-X was sampled from the 0-6" depth interval

ATTACHMENT 1

MONTANA STATE UNIVERSITY BOZEMAN

Reclamation Research Unit
Animal & Range Sciences Department
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May 20, 1996

Post-it® Fax Note 7671	Date 6-17	# of pages ▶ 7
To Lisa Schrack	From Dave Oathout	
Co./Dept. ARCO	Co. RRU / MSU	
Phone #	Phone #	
Fax #	Fax # 994-4876	

Mr. Andy Young
MDEQ
2209 Phoenix Ave.
Helena, MT 59620

Mr. Charles Coleman
U.S. EPA
301 S. Park, Rm 102
Fed. Bldg., Drawer 10096
Helena, MT 59626

RE: Review of Reclamation - Anaconda Old Works/Smelter Hill

Gentlemen:

Technical oversight of ARCO reclamation activities was conducted during May 14 and 15. You and members of the ARCO staff were present on May 14 during our review of the East Knob borrow area. On May 15, ARCO staff (Richardson, Ferry and Schrack) and Jensen (Western Reclamation) and I reviewed reclamation atop Smelter Hill, Smelter Hill repository area, Aspen Hills area and on Stucky Ridge. Mr. Ken Brockman (Bureau of Reclamation) was also present. The following synopsis brings forth key findings for each of the locations visited.

1) East Knob Soil Borrow Area

Numerous pits were excavated to the 20 foot depth and materials reviewed as to their rock content and suitability for use as capping material. This exercise served to form an understanding as to the visual appearance of suitable and unsuitable material. Visual estimates of rock content were made at each pit and four samples from selected Pits 9, 4, 16 and 13 were collected to perform a sieve analysis at MSU. Results of these analyses and the field estimates are displayed in Table 1.

Table 1. Estimated and measured rock volumes.

Pit	Field Estimate: Rock Vol. Basis	Field Estimate: Soil Texture	Lab Determined Rock Content Volume Basis	Estimated[1] Large Rock Vol. Basis	Actual[2] Rock Vol. Basis
9	35%	Sandy loam	33.7	10%	43.7
4	30%	Sandy loam	41.1	10%	51.1
16	65%	Sand	62.8	10%	72.8
13	50%	Sandy loam	60.4	10%	70.4

A/c suitable
A/c suitable
unsuitable
B suitable

[1] Samples collected for lab analysis did not include the fraction of rock greater than four inches in diameter. This large rock fraction was estimated in the field and added to the lab determined value which represents the 2 mm to the 4 inch diameter fraction.

[2] Sum of lab determined rock content (Vol. Basis) and estimated large rock content (Vol. Basis).

Specifically, materials from Pits 9 and 4 are considered suitable as A or C cap material after rocks greater than six inches in diameter are removed with a rock picker. Material at Pit 16 are not suitable for either the A or B cap. Its high rock content and sand texture in the soil fraction would be unacceptable for plant growth. Materials from Pit 13 had a high rock content, but the soil texture was suitable. In this case, this material would be suitable for the B cap after rocks greater than six inches in diameter are removed.

Attached to this memorandum is the Old Works Soil Substitute Rock Content Unsuitability Criteria (Appendix I). These criteria should be feasible to implement with a notable level of technical oversight during initial earthmoving activities.

2) East Anaconda Yards

pH 8
Cu 7000ppm
As 850ppm
Pb 980ppm
Zn 2400ppm

In the vicinity of where ITEX conducted its flue dust treatment activity, a several acre portion of land has failed to establish plant growth. ARCO (B. Richardson) indicated they would collect several samples across the unvegetated reach for laboratory analysis. The analytical schedule should include pH, total As, Zn, Cu, acid-base account and SMP lime requirement. Reseeding and/or additional fertilizer management would likely fail without implementation of soil remediation procedures. These additional data may reveal the plant growth limiting factor and enable a treatment recommendation.

3) Smelter Hill Lime Stockpile

The quality of material in this stockpile has deteriorated notably relative to that used in past years. ARCO staff were advised to carefully characterize the quality of this material,

i.e. calcium carbonate equivalence and particle size suitability, before using it for soil remediation. They acknowledged this problem and will adjust application rates in proportion to lime quality.

Iron Pond As 49 Zn 271 Nc1 ug/g
Cu 411 pH 8.1 P 5.7
Pb 47 K 219

4) Iron Ponds and Thickener Site

Plant productivity at these locations is presently poor and is less than desired by ARCO and the agencies. The capping material pH is 7 to 8 so metal phytotoxicity is unlikely. The capping material is composed of approximately 50% rock fragments and the remaining soil is a sand to loamy sand texture. Therefore, the physical nature of the cap is very poor for plant establishment and growth.

Thickener
As 220
Cu 1460
Pb 189
Zn 1210
pH 7.8
N 2.9
P 19
K 200

In lieu of recapping these sites with suitable plant growth medium, an enhanced fertilizer program is the most feasible site management tool. ARCO agreed to fertilize these areas, perhaps several light applications, during the 1996 growth season. Reseeding is recommended in localized areas where plant establishment is absent for distances of 20 feet or more.

5) Flue Dust Storage Area, Coal Pile Tracks Areas, Areas North and Between Repositories

These areas were seeded two to four years ago and plant growth is almost completely absent. The soil pH of all these areas is 7 to 8. These areas were used to store arsenic laden flue dust during repository construction. On a visual basis, efforts were made to remove all flue dust from these areas and surficial soil that may have been contaminated as a result of stockpiling. The possibility exists that the remaining soil is contaminated with arsenic.

ARCO (B. Richardson) agreed that these areas need to be sampled and analyzed. It is recommended that these samples be analyzed for total levels of As, Cu, Zn and Mn and also water soluble As, Cu, Zn and Mn (saturated paste extract). Samples should also be analyzed for pH and electrical conductivity.

If samples indicate arsenic is the key factor limiting plant growth, then the remediation options to attain plant establishment may be two-fold. These areas may need to be capped (18 inches) with suitable soil. A more feasible first step would be to conduct bench top Tempe Cell leachate tests with these contaminated soils. In this case, the soil could be treated in the lab with different types and amounts of chemical amendments, e.g. lime, phosphate, organic matter, in an effort to make the contaminant solubility approach zero concentration. In this manner, a specification for the field treatment would be designed.

Total Metals

	As	Cu	Pb	Zn	pH	cond.
Arbiter	112	856	91	652	7.9	3.3
Arbiter surface	229	2270	207	1580		
Be dark	4200	11600	2680	3000	6.8	15.4
Be light	163	957	212	797	7.7	2.91
CPT	991	3560	411	2270		
CPT surface	980	3250	439	2350		

6) Beryllium and Arbiter Repositories

Vegetative growth has been slow to establish on these repositories which are capped with 18 to 24 inches of soil subsitute material. ARCO (B. Richardson) indicated capping material was derived from a deep earthen excavation so it is unlikely that contaminants are present. The pH of these materials is 7 to 8. The rock content of these capping materials is large and the remaining soil ranges into the loamy sand texture which is not suitable for plant growth.

ARCO agreed (B. Richardson) to implement enhanced fertilizer management practices and to reseed localized areas where plant growth was absent for distances of 20 feet or more. ARCO also indicated it would collect one composite soil sample from each repository and have it analyzed. This step would serve to demonstrate whether or not contaminants are present. These samples should be analyzed for pH, electrical conductivity, total As, Cu, Zn and Mn.

7) Flue Dust Repository

Similarly, vegetation has been slow to establish on this capped repository. Fertilizer management should be implemented.

Localized, dark colored soil areas present in the cap failed to support plant growth. ARCO sampled and analyzed material from these dark colored soils as well as surrounding light colored soil material in the cap. In the dark soil, total As was present at 1100 ppm. In the light colored soil, total As was present as 168 ppm. It is likely that As is the key limiting factor for plant growth in these dark colored soil zones in the cap.

Methodology to amend the dark soil is not apparent. ARCO and Western Reclamation (Jensen) offered to apply high rates of phosphorus fertilizer in an attempt to decrease the soluble component of As in these soils. This may help but a true treatment application rate is unknown.

One option is to excavate these dark soil areas and backfill with suitable soil material. Another option is to implement a benchtop Tempe Cell leachate test with these contaminated soils in order to design a field treatment that will decrease the contaminant solubility to near zero.

8) Smelter Hill

ARCO seeded the Smelter flue area in late spring 1995. Except for the top 20% of the project area, plant establishment and growth is progressing very well. Slope stability is excellent to date.

Much of the upper most 20% of the project area failed to support plant growth. It is probable that very high As levels are limiting plant establishment. Levels of Cu, Zn and Mn are also very high.

All of this project area was again seeded in May 1996. There is little or no hope that plant growth will result from this second seeding in the top 20% of this project area.

It is recommended that this contaminated soil be evaluated using bench top Tempe Cell leachate methodology. In this manner, the contaminant level in the soil solution, i.e. that available to plants, can be measured and hopefully a treatment designed to decrease these contaminant levels. In this manner, a field treatment can be implemented in the upper most 20% of the project area.

9) Stucky Ridge

Areas revegetated by ARCO on Stucky Ridge were remapped with the help of Western Reclamation (Figure 1). Most areas that received a lime application had acceptable plant growth. Areas where no lime had been applied had poor to no plant establishment.

Based on our mapping efforts, approximately 34.8 acres of land received 100 t of lime from the stockpile located on Smelter Hill. The quality of this lime material was such that perhaps only half of it was available for soil reaction. Thus, as little as several tons per acre lime made a notable improvement pertaining to plant establishment.

Laboratory analysis of Stucky Ridge soils collected by MSU in early 1996 indicated the field lime application requirement was approximately 12.5 t $CaCO_3$/1000 t soil. Since these were composite samples collected over a large area, the actual field application rate should be somewhat greater to account for those areas with greater lime requirements. It is recommended that ARCO apply 15 t $CaCO_3$/1000 t soil on all areas that were not limed and on areas that were limed but plant growth is poor. Incorporation to the 12 inch depth is recommended, meaning 30 t $CaCO_3$/2000 t soil.

No further laboratory or greenhouse investigative work is recommended.

Sincerely,

Douglas J. Dollhopf, Ph.D.
Research Soil Scientist

DJD/dmm

Figure 1. Location of revegetation areas on Stucky Ridge, Anaconda, MT.

APPENDIX I

OLD WORKS SOIL SUBSTITUTE ROCK CONTENT UNSUITABILITY CRITERIA
— Volume Basis —

Criteria	Final In-Place Rock Content[1/]	
	Type A and C	Type B
Unsuitable Rock Content[2/]	> 45%	> 60%
Unsuitable Soil Texture[3/]	Sand, loamy sand, clay	Same

1/ Following placement of capping materials and removal of large rock with a mechanical picker, the in-place rock content should not exceed the specified criteria for A, B and C caps.

2/ Rock content is defined as that portion volume basis) of the soil composed of consolidated particles, rock fragments, or rocks that fail to pass a Number 10 sieve (2 mm).

3/ Soil is defined as those particles less than 2 mm in diameter, meaning that portion passing a Number 10 sieve. The soil fraction must not have these soil textures based on the U.S. Department of Agriculture soil textural triangle.

ATTACHMENT 2

MONTANA STATE UNIVERSITY
BOZEMAN

Reclamation Research Unit
Animal & Range Sciences Department
106 Linfield Hall, Bozeman, MT 59717-0290
Phone: 406/994-4821 FAX: 406/994-4876

June 26, 1996

Mr. Andy Young
MDEQ
2209 Phoenix Ave.
Helena, MT 59620

Mr. Charles Coleman
U.S. EPA
301 S. Park, Rm 102
Fed. Bldg., Drawer 10096
Helena, MT 59626

RE: Sample Analyses - Repository Caps

Gentlemen:

My letter dated May 20, 1996 summarized plant establishment problems at numerous locations in the vicinity of the Flue Dust Repository. Subsequently, staff from ARCO sampled these areas and the analytical results are presented in the attached table. Additional analytical work is in progress including acid-base account, SMP buffer lime requirement, particle size distribution and water extractable metal concentrations.

Flue Dust, Arbiter and Beryllium Repository Caps

The Flue Dust Repository cap had maximum total levels of As (1010 mg/kg), Cu (2740 mg/kg) and Zn (1360 mg/kg) that indicate plant phytotoxicity is possible. However, the cap pH (7.3 to 7.8) may be high enough to minimize water soluble levels of these elements. At present, water soluble chemistry is a data gap.

The Arbiter Repository cap had maximum total levels of Cu (2270 mg/kg) and Zn (1580 mg/kg) that may be limiting plant growth. The pH was greater than 7.0 and water soluble metal levels have not yet been determined.

The Beryllium Repository cap had total levels as high as 4200 mg/kg As, 11,500 mg/kg Cu, 2680 mg/kg Pb, and 3000 mg/kg Zn. It is possible these contaminant levels preclude plant growth.

RECEIVED
JUN 28 1996
Montana Department of
Environmental Quality
ERD/Superfund

The physical nature of these materials is poor pertaining to the water holding capacity for plant growth. Saturation percentages averaged 31% and ranged from 24.8 to 36.7%. In general, when the saturation percentage is less than 25% for a soil system, the site is likely to be droughty relative to plant growth. Site reconnaissance indicated these capping soils had 40-70% rock content (particles >2 mm diameter). Therefore, the combination of low to moderately low saturation percentages and high rock content result in a poor water holding capacity. This characteristic will not preclude plant growth, but serves to limit plant productivity.

The sodicity level, i.e. SAR, was very low in all samples so an excess sodium problem does not exist. I do not know which analytical methods were used to attain N, P and K levels. Therefore, interpretation is difficult. In general, nitrogen levels were often low and P and K levels may be adequate.

Other Sampled Locations

The Thickener remediation area, East Anaconda Yards, Coal Pile Trucks area, area East of Repositories and area Below Road Switch Back (i.e. about halfway up Smelter Hill) all had high metal levels and As was often enriched above 1000 mg/kg. These areas also had moderately low saturation percentages in combination with high rock content. These key physicochemical characteristics are likely limiting plant productivity.

Metal and arsenic levels were not high in samples collected from the Iron Ponds cap. However, the saturation percentage was low (21.9%) and this was in combination with a high rock content which was observed during site reconnaissance.

Smelter Hill

The upper 20% of Smelter Hill, where plant establishment was very poor, was not sampled by ARCO staff.

Corrective Options

1) No Action - These areas will likely support a very small level of plant production in the long term. Some areas will be devoid of vegetation due to phytotoxicity.

2) New Cap Construction - A two foot thick cap placed atop these areas would support a much greater level of plant production. Although most borrow materials in the Anaconda area have high rock content, materials are present that have suitable textures in the associated soil fraction ($\leq$ 2 mm particle diameter). In addition, the new cap should not be contaminated with arsenic and metals.

3) Localized New Cap Construction - Areas devoid of plant growth could be recapped with suitable material. At present, this includes dark soil areas on repositories, Flue Dust Storage Areas, areas East of Repositories, and localized areas of the East Anaconda Yards.

4) Diagnostic Tests - If metals and arsenic are key factors limiting plant establishment and growth, then a soil amendment may mitigate the problem. Although soil pH levels range from 6.4 to 8.1, contaminant levels in the soil solution may be notable. Recently, we studied (Dollhopf et al. 1996)[1/] a contaminated soil that had a pH of 6.1 and water soluble levels of Zn (1360 mg/L) and Mn (241 mg/L) that were phytotoxic.

   Bench-top Tempe cell tests are recommended. This test will evaluate whether a liming procedure can decrease contaminants in solution to levels that approach zero. The lime application would function to drive the soil pH to 10 or higher which will optimize contaminant precipitation. Tempe cell tests would be conducted on key contaminated soils, not the full suite of locations sampled (attached Table). A Scope of Work and Budget for this work are attached.

Meeting

A meeting with Jim Schrack (ARCO) has been scheduled for July 1, 1996 at 10:00 am at ARCO's office. The purpose of this meeting is to discuss these findings and implement sample collection for Tempe cell work.

[1/] Dollhopf, D.J., J.D. Outlaw and D.R. Neuman. 1996. Effect of dolomitic industrial by-product on metal precipitation and pH in Bunker Hill tailings. Reclamation Research Unit Publ. No. 9604, Montana State Univ., Bozeman, MT. 78 p.

Sincerely,

D. J. Dollhopf

Douglas J. Dollhopf, Ph.D.
Professor, Research Soil Scientist

Smelter Hill Revegetatation Sampling

(Sampled 5/29 - 5/31)

		Metals							*Nutrients*			
Sample Location	Sample ID	As (mg/kg)	Cu (mg/kg)	Pb (mg/kg)	Zn (mg/kg)	pH	Cond. (mmhos/cm)	Sat. %	SAR	N (ug/g)	P (ug/g)	K (ug/g)
Arbiter Repository	ARB-X	112	856	91	652	7.9	3.3	29.3	0.92	13.9	12.2	251
Arbiter Repository	ARB-XS	229	2270	207	1580							
Beryllium Repository	BE-1D	4200	11500	2680	3000	6.8	15.4	36.7	0.64	653	106	802
Beryllium Repository	BE-1L	163	957	212	797	7.7	2.91	25.8	0.38	4.4	47.7	435
Coal Pile Tracks	CPT-X	991	3560	411	2270							
Coal Pile Tracks	CPT-XS	980	3250	439	2350							
East Anaconda Yards	EAY-X	820	6550	902	2100	8.1	2.88	27.5	0.54	<1	22.4	190
East Anaconda Yards	EAY-XD	850	7660	922	2410	7.8	2.79	24.2	0.44	<1	44.4	118
East of Repositories	EOR-X	1020	3680	264	4020	7.8	2.8	26.6	0.34	<1	35.4	125
East of Repositories	EOR-XS	1020	3150	365	3820							
Flue Dust Repository	FD-D	917	2740	488	1360	7.3	4.04	38.4	0.69	64.5	49.1	397
Flue Dust Repository	FD-DS	1010	2040	423	1390							
Flue Dust Repository	FD-L	161	1110	100	1090	7.8	2.69	24.8	0.32	<1	32.2	224
Flue Dust Repository	FD-LS	211	1390	178	1140							
Flue Dust Storage Area	FDS-X	345	710	103	349	7.9	3.23	28.5	0.44	9.1	8.8	81
Flue Dust Storage Area	FDS-XS	484	1110	154	818							
Iron Ponds	IP-X	49	411	46.7	271	8.1	0.53	21.9	0.86	<1	5.7	219
Below Road Switch Back	SB-D	3390	3500	612	1260	6.4	3.14	31	0.37	2	115	197
Below Road Switch Back	SB-X	980	1910	160	755	6.5	3.21	36.9	0.14	8.9	71.8	380
Below Road Switch Back	SB-XS	1080	1250	181	616							
Thickener	THK-X	220	1460	189	1210	7.8	2.73	25.1	0.34	2.9	18.9	197

Sampling Notes:

1.) All samples ending with an "S" are composite samples taken from 0-2". These samples were only analyzed for the four metals.

2.) The remaining samples were composite samples taken from 0-12". These samples were analyzed for metals and nutrients.

3.) Samples from the same area, i.e. Flue Dust Repository with "L" and "D" in their Sample ID's were taken from areas with light colored soil--"L", and dark soils--"D"

4.) Most samples were composited from 3 to 4 separate sampling points in the sampling area.

5.) An "X" in the sample ID shows that the area was not separated into light and dark soil regions.

ATTACHMENT 3

DETERMINATION OF AN AMENDMENT PROCEDURE FOR CONTAMINATED SOILS. I. TEMPE CELL TESTS

SCOPE OF WORK

Prepared For:

Montana Department of Environmental Quality
Superfund Program
Capitol Station
Helena, MT 59620

Prepared By:

Reclamation Research Unit
Montana State University
106 Linfield Hall
Bozeman, MT 59717-0290

MONTANA STATE UNIVERSITY
BOZEMAN

June 26, 1996

1.0 INTRODUCTION

Although ARCO has instituted successful revegetation efforts at numerous locations in the Anaconda project area, these following areas are either devoid of plant growth or sustain poor plant productivity.

- Localized area in the East Anaconda Yards
- Iron Ponds
- Thickener Site
- Flue Dust Storage Area
- Coal Pile Tracks Area
- Areas North and Between Repositories
- Flue Dust, Beryllium and Arbiter Repositories
- Upper 20% of Smelter Hill

These areas were seeded within the past one to three year period. Some areas were capped with borrow material. Other areas, e.g. Flue Dust Storage Area, had the upper contaminated profile removed and the remaining subsoil was seeded. In June 1996, ARCO staff collected samples from these locations. Analytical results indicated total levels of As ranged from 112 to 4200 mg/kg, Cu 411 to 11,500 mg/kg, Pb 91-2680 mg/kg and Zn 616 to 3000 mg/kg. The pH ranged from 6.4 to 8.1. Saturation percentages ranged from 21.9 to 38.4% and rock content was estimated to be 40 to 70%.

The enriched contaminant level in these soils in combination with its low water holding capacity has resulted in poor or no plant establishment.

It may be possible to institute special liming procedures to precipitate contaminants out of the soil solution. This step could provide a rooting medium more suitable for plant establishment and growth. The objectives of this investigation are as follows:

- Determine water leachable As and metal levels in soil materials.
- Evaluate the effect of lime applications on As and metal solubility.
- Recommend a lime application procedure for field implementation.

2.0 SCOPE OF WORK

2.1 Sample Collection

These following samples shall be collected for Tempe cell tests:

- Beryllium Repository - Composite sample of dark colored soil from the 0 to 12 inch depth increment. This will be similar to Sample BE-1D.

- East of Repositories - A composite sample from the 0 to 12 inch depth increment. Similar to Sample EOR-X.

- Flue Dust Storage Area - A composite of surface soil, i.e. 0 to 2 inch depth increment. Similar to Sample FDS-XS

- Upper Reach of Smelter Hill - A composite of the 0 to 12 inch depth increment from areas that failed to support adequate plant growth.

A five gallon sample will be collected from each site.

2.2 Sample Analysis

Each sample will be air dried and disaggregated into portions less than- and greater than-2 mm particle diameters. The less than 2 mm fraction will be analyzed for total lime requirement (acid-base account + SMP buffer lime requirement), pH, electrical conductivity, saturation percentage, total and water extractable As, Cu, Pb and Zn (Table 1).

2.3 Tempe Cell Treatments

These following Tempe cell tests will be implemented.

- Beryllium Repository
  1) Control
  2) Total Lime Application

- East of Repositories
  3) Control
  4) Total Lime Application

- Flue Dust Storage Area
  5) Control
  6) Total Lime Application

- Upper Reach of Smelter Hill
  7) Control
  8) Total Lime Application

These Tempe cell tests will not be replicated. The total lime application will be based on Equation [1].

$$\text{Total } CaCO_3 \text{ Required, t/1000 t} = (\%\ HNO_3 \text{ ext. S} + \%\ \text{Residual S})\ 31.25 + 23.44\ (\text{HCL ext. S}) + \text{t/1000 t Active Acidity} \quad [1]$$

Table 1. Laboratory procedures used to analyze soils.

Analytical Measurement	Procedure Reference
Sulfur Fractionation (Total, Ext. H_2O-HCl-HNO_3, Residual)	Schafer and Associates and Reclamation Research Unit. 1987. Laboratory analytical protocol for the Streambank Tailings and Revegetation Study, Silver Bow Creek RI/FS, EPA Region VIII, Doc. No. SBC-STARS-LAP-F-R1-121187
Neutralization Potential (NP)	EPA 600/2-78-054. Method 3.2.3, p. 47-50.
pH	Agron. Soc. Amer., Monograph No. 9, Methods of Soil Analysis, 1965. Method 62-1.
Electrical Conductivity	Agron. Soc. Amer., Monograph No. 9, Methods of Soil Analysis, 1965. Method 62-2.2. Procedure 62-2.2.3, p. 938.
Water Soluble As, Cu, Pb, Zn	Agron. Soc. Amer., Monograph No. 9, Methods of Soil Analysis, 1965. Method 62-1.3.2.1, p. 935.
Total As, Cu, Pb, Zn	Test Methods for Evaluating Solid Waste, 1986. Method 3050 (HNO_3 and H_2O_2 digestion).
Active Acidity	SMP Single Buffer Method, Method 12-3.4.4.1 In: Methods of Soil Analysis, Part 2. 1982. Page 215, Soil Sci. Soc. Amer., Inc., Madison, WI.

A Tempe pressure cell (Soil Moisture Equipment Company, Model No. 1450) will be used to attain leachates from treated and untreated samples. Either five or six leachates will be collected during a Tempe cell test, and the sum of these leachate volumes represented three pore volumes. One pore volume is the volume of water that can be held by a given mass of tailings at saturation.

Prior to testing, Tempe cell porous plates were rinsed with 1) tap water, 2) deionized water, 3) 3 50 ml aliquots of 10% HCl, 4) 50 ml of 0.01 M $CaCl_2$, and 6) 3 50 ml aliquots of deionized water. This step served to prevent cross-contamination between samples. A tailings mass of 200 g (dry wt.) will be used in each Tempe cell. One pore volume of deionized water will be mixed with each sample and allowed to equilibrate for at least 24 hours prior to initiation

of leaching.

Leachate volumes will be collected from the Tempe cell by exerting ½ bar of pressure in the chamber. A leach cycle will be considered complete when the flow of extract out of the Tempe cell slows to 1 to 2 drops per minute. After each leach cycle, leachates will be tested promptly for pH and electrical conductivity. A portion of each leachate will be preserved in nitric acid and refrigerated for metal analysis. Following each leach cycle, a volume of deionized water equivalent to the leachate collected will be stirred into each Tempe cell in order to resaturate the sample to one pore volume. These were allowed to equilibrate for at least 30 minutes before the next leach cycle was started. This procedure was repeated until approximately three pore volumes of leachate were collected from each 200 g sample of tailings. Leachates preserved with nitric acid will be analyzed for As, Cu, Zn and Pb using an ICP spectrophotometer.

Quicklime (CaO) will be used for lime treatments.

3.0 TECHNICAL REPORT

A brief technical report will be prepared that summarizes all methods, results and recommendations. All data will be presented in Tables and Figures.

4.0 SCHEDULE

Once samples have been collected from field sites, the technical report will be submitted within a seven week period.

5.0 BUDGET

Salaries	
Principal Investigator	$ 900.00
Lab Technician	1,100.00
Benefits @ 25%	500.00
Secretary	350.00
Benefits @ 32%	112.00
	$2,962.00
Travel - Sample collection trip to Anaconda	
235 miles @ $0.43/mile	$ 101.00
Per diem	15.00
Field equipment rental (phone, sampling equipment)	12.00
	$ 128.00
Laboratory/Equipment Fees and Supplies	
Physicochemical characterization of four soils	$1,000.00
Tempe leachate analysis on 8 samples @ 5 leachate/sample	560.00
QC sample analyses	150.00
Laboratory materials/supplies	200.00
Report reproduction/computer time	80.00
Communications (FAX, telephone, mail)	50.00
	$2,040.00
Total Direct Costs	$5,130.00
Indirect Costs @ 39%	2,001.00
TOTAL PROJECT AMOUNT	$7,131.00

ATTACHMENT 4

MONTANA STATE UNIVERSITY
BOZEMAN

Reclamation Research Unit
Animal & Range Sciences Department
106 Linfield Hall, Bozeman, MT 59717-0290
Phone: 406/994-4821 FAX: 406/994-4876

Jason - check analytical calculation for Cu on treated smelter Hill sample.
Doug Dollhopf

Technical Memorandum

To: Jim Schrack/ARCO
Andy Young/MDEQ
Charlie Coleman/EPA

From: Jason Outlaw/RRU
Doug Dollhopf/RRU

Date: August 13, 1996

Re: Tempe cell results for FDS-XS and Smelter Hill soils.

This study was conducted in order to investigate the effects of lime amendment on FDS-XS and Smelter Hill soils. Response variables analyzed were pH, electrical conductivity and water soluble As, Cu, Pb and Zn. Details of the tempe cell procedure are provided in the ARTS Phase II Study Operations Plan (RRU 1993). Exactly 200g of sample were used in each tempe cell. Samples were treated with a mixture of 70% $Ca(OH)_2$ and 30% $CaCO_3$ at a rate of 30t/1000t.

The results of this tempe cell study are shown in Table 1 and in Figures 1 and 2. In the FDS-XS soil, the lime treatment raised the pH of the extract from a 8 to 9 range to the 9 to 12 range. In addition, treatment increased the electrical conductivity of the soil approximately 3 mmhos/cm. The solubility of Arsenic was not greatly affected by treatment, except in the final three leachates where Arsenic in the control sample is shown to be 0.94 to 1.37 mg/L. Water soluble copper actually increased in the treated soil. This could be attributed to a common phenomenon where copper solubility is increased at higher pH levels. Lead levels were below the detectable limit for both treated and untreated FDS-XS soils. Finally, water soluble Zinc was not greatly affected by the addition of treatment.

In the Smelter Hill soil, treatment raised the hydrogen ion concentration two to three orders of magnitude. Electrical conductivity of both the control and treated samples gradually decreased in a manner which is easily attributed to the effects of dilution. Most notably, treatment of the Smelter Hill soil greatly decreased the solubility of Arsenic by as much as 142 mg/L. As with the FDS-XS soil, copper solubility also increased with treatment in the Smelter Hill soil. This again can be attributed to the higher pH levels induced by treatment. Lead levels were below the detectable limit for both treated and control Smelter Hill soils. Finally, as in the FDS-XS soil, treatment is shown to not have a great affect on the solubility of Zinc.

References

Reclamation Research Unit. 1993. Final Phase II Study Operations Plan. Greenhouse Investigation. Anaconda Revegetation Treatability Studies (ARTS). Montana State Univ., Bozeman, MT. Document No.: ASSS-ARTS-II-F-R1-061193.

Table 1. Tempe cell study results.

FDS-XS (Treated)

Leach Number	Volume (ml)	Pore Volume	pH	EC (mmhos/cm)	As (mg/L)	Cu (mg/L)	Pb (mg/L)	Zn (mg/L)
F1-1	17	0.28062067	11.35	1.79	0.029	0.21	<0.01	0.8
F1-2	18.5	0.58600198	10.81	3.26	0.069	0.37	<0.01	0.14
F1-3	29	1.06470782	10.06	5.95	0.074	0.49	<0.01	0.14
F1-4	24	1.46087818	11.72	5.98	0.042	0.39	<0.01	0.19
F1-5	22.5	1.83228788	11.94	5.58	0.095	0.39	<0.01	0
F1-6	23	2.21195114	9.52	5.9	0.052	0.34	<0.01	0.27
F1-7	25	2.62462859	9.48	6.31	0.04	0.32	<0.01	0.18
F1-8	25	3.03730604	9.08	6.16	0.167	0.28	<0.01	0.22

FDS-XS (Control)

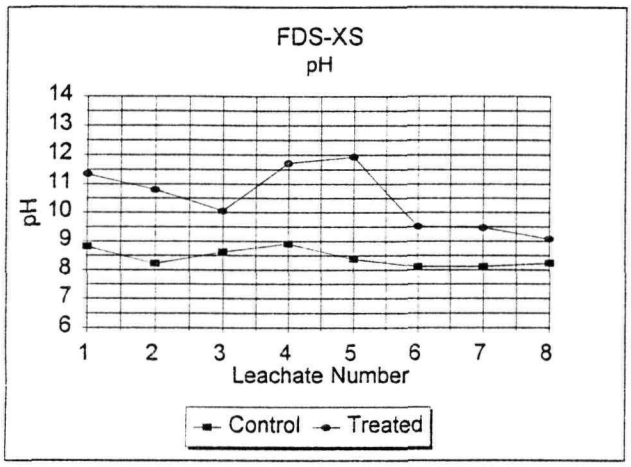
Leach Number	Volume (ml)	Pore Volume	pH	EC (mmhos/cm)	As (mg/L)	Cu (mg/L)	Pb (mg/L)	Zn (mg/L)
F2-1	25	0.41267745	8.82	2.21	0.059	0.03	<0.01	0.18
F2-2	22	0.77583361	8.22	3.69	0.064	0.08	<0.01	0.17
F2-3	16.5	1.04820073	8.63	3.11	0.087	0.08	<0.01	0.08
F2-4	21	1.39484979	8.91	2.92	0.26	0.04	<0.01	0.09
F2-5	15	1.64245626	8.38	0.61	0.041	0.04	<0.01	0.07
F2-6	15	1.89006273	8.12	0.39	0.94	0.03	<0.01	0.06
F2-7	14	2.1211621	8.12	0.03	1.32	0.06	<0.01	0.11
F2-8	26	2.55034665	8.24	2.66	1.37	0.03	<0.01	0.06

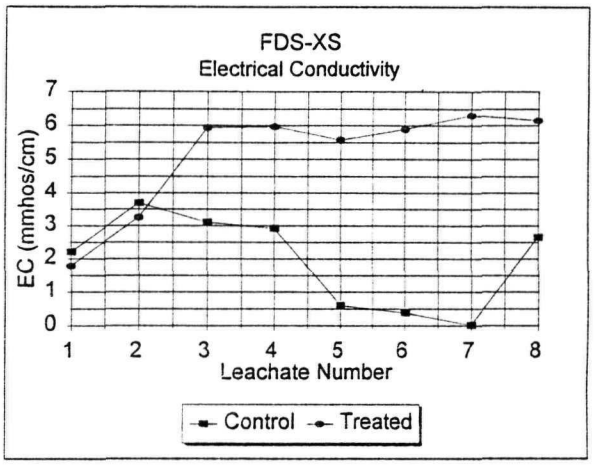
Smelter Hill (Treated)

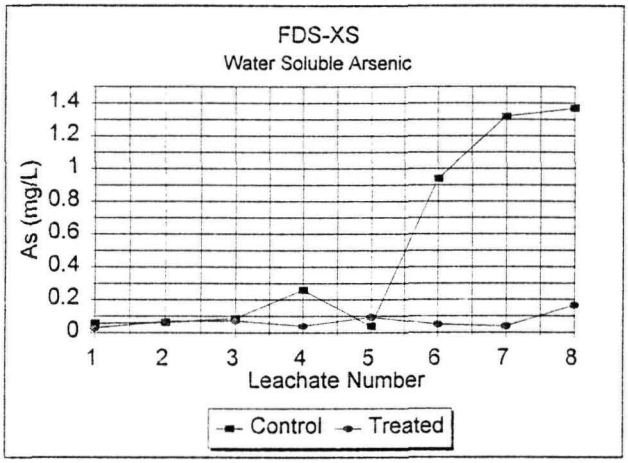
Leach Number	Volume (ml)	Pore Volume	pH	EC (mmhos/cm)	As (mg/L)	Cu (mg/L)	Pb (mg/L)	Zn (mg/L)
S1-1	26	0.2333094	7.56	3.25	1.12	4.01	<0.01	0.27
S1-2	35	0.54737976	7.96	4.12	4.4	10.9	<0.01	0.13
S1-3	39	0.89734386	9.16	3.98	5.69	15.8	<0.01	0.14
S1-4	33	1.19346734	10.37	3.51	4.95	14.9	<0.01	0.15
S1-5	35.5	1.51202441	10.03	3.26	4.77	12.2	<0.01	0.12
S1-6	32	1.79917444	10.82	3.14	4.39	12.6	<0.01	0
S1-7	34	2.10427136	10.17	2.84	3.15	11.1	<0.01	0.02
S1-8	46	2.51704953	10.12	2.9	2.2	10.9	<0.01	0

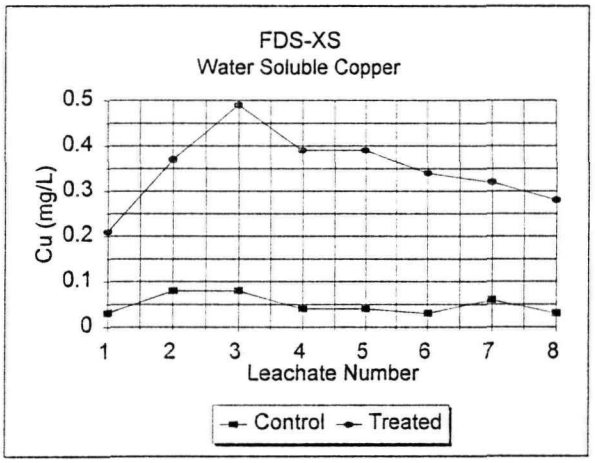
Smelter Hill (Control)

Leach Number	Volume (ml)	Pore Volume	pH	EC (mmhos/cm)	As (mg/L)	Cu (mg/L)	Pb (mg/L)	Zn (mg/L)
S2-1	26	0.2333094	7.23	3.83	108	0.96	<0.01	0.65
S2-2	37	0.56532663	7.27	3.93	119	0.81	<0.01	0.21
S2-3	33	0.86145011	7.45	4.29	151	0.88	<0.01	0.05
S2-4	33	1.15757358	8.19	3.91	147	0.78	<0.01	0.01
S2-5	26	1.39088299	7.67	3.44	127	0.67	<0.01	0.02
S2-6	29	1.65111271	7.43	3.32	113	0.6	<0.01	0.02
S2-7	27	1.89339555	7.41	2.99	103	0.53	<0.01	0.01
S2-8	36	2.21643934	7.45	2.93	101	0.51	<0.01	0.1









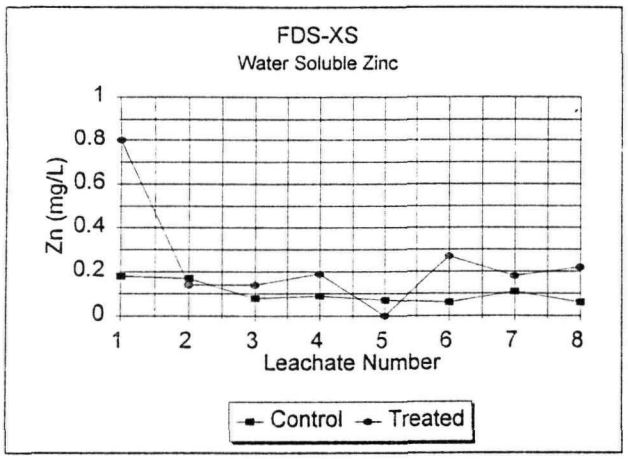
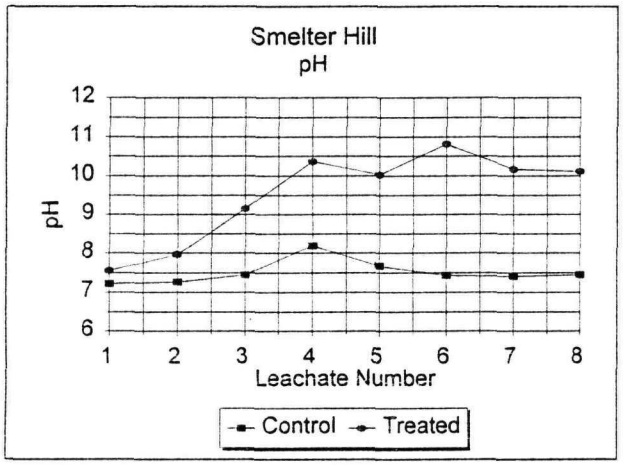
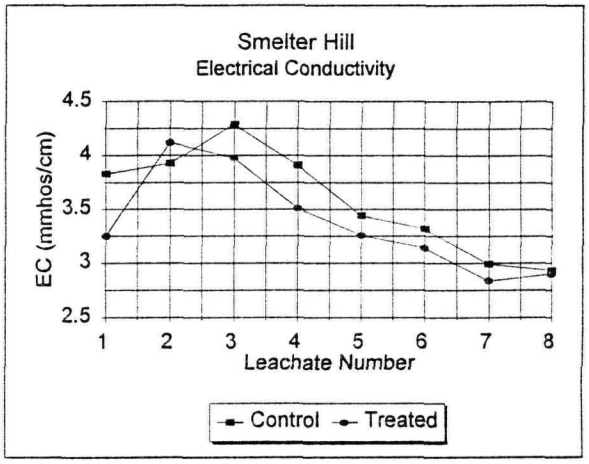
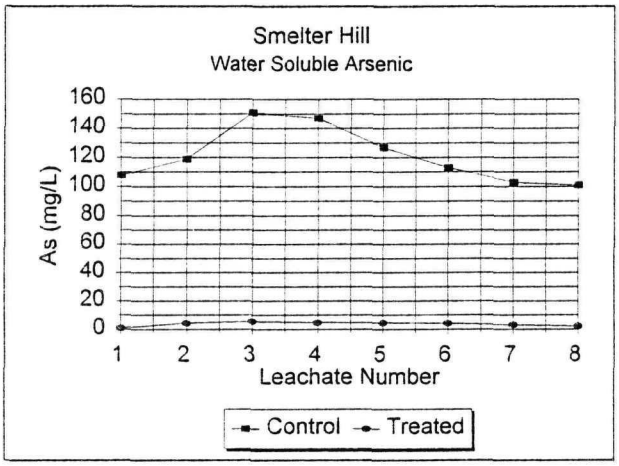
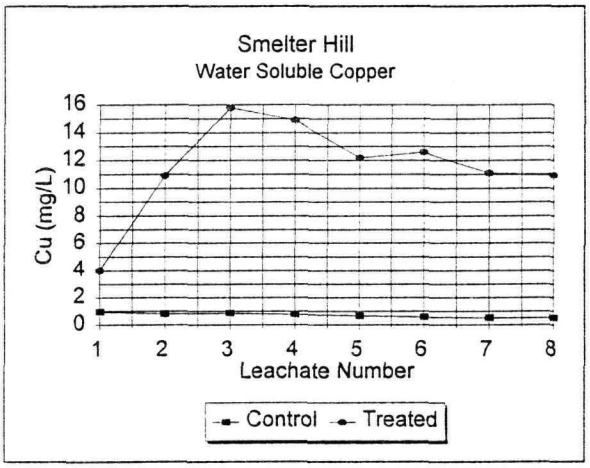


Figure 1. Leachate chemistry from FDS-XS soil.









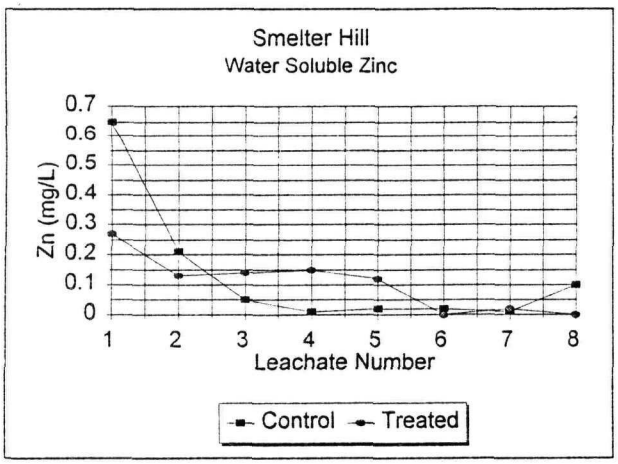


Figure 2. Leachate chemistry from Smelter Hill soil.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION VIII, MONTANA OFFICE
FEDERAL BUILDING, 301 S. PARK, DRAWER 10096
HELENA, MONTANA 59626-0096

Ref: 8MO

May 13, 1997

MEMORANDUM

SUBJECT: CBI

FROM: Charlie Coleman

TO: File

In reference to correspondence contained in the Flue Dust Remedial Action Construction Completion Report, specifically liner specifications from Amoco, dated April 15, 1994, the confidentiality claim is not valid. ARCO originally received the correspondence with claim, included it in the above mentioned report, and submitted it to EPA. In a discussion with Robin Bullock, ARCO, on May 13, 1997, she indicated that the claim was not valid.

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