

BLANKS

Lab Name: GCAL Contract: _____
 Lab Code: LA024 Case No.: _____ SAS No.: _____ SDG No.: 211020809
 Lab Sample ID: CCB ICAL ID: 3
 Lab Sample DESC: CCB FOR HBN 450848 [ICP/6718] Preparation Blank Matrix: (soil / water) _____
 Instrument ID: ICP5 Date Analyzed: 02/17/11 Time: 1254

CONTINUING CALIBRATION BLANK

Analyte	Conc.	C	Units	MDL	PQL	Method	Type
Aluminum	0.20	U	mg/L	0.044	0.20	SW-846 6010C	P
Antimony	0.060	U	mg/L	0.0040	0.060	SW-846 6010C	P
Arsenic	0.010	U	mg/L	0.0025	0.010	SW-846 6010C	P
Barium	0.010	U	mg/L	0.00011	0.010	SW-846 6010C	P
Beryllium	0.0050	U	mg/L	0.00011	0.0050	SW-846 6010C	P
Cadmium	0.0050	U	mg/L	0.00011	0.0050	SW-846 6010C	P
Calcium	0.10	U	mg/L	0.026	0.10	SW-846 6010C	P
Chromium	0.010	U	mg/L	0.00034	0.010	SW-846 6010C	P
Cobalt	0.010	U	mg/L	0.00040	0.010	SW-846 6010C	P
Copper	0.0073	B	mg/L	0.0014	0.010	SW-846 6010C	P
Iron	0.11		mg/L	0.038	0.10	SW-846 6010C	P
Lead	0.015	U	mg/L	0.0014	0.015	SW-846 6010C	P
Magnesium	0.10	U	mg/L	0.014	0.10	SW-846 6010C	P
Manganese	0.015	U	mg/L	0.0012	0.015	SW-846 6010C	P
Nickel	0.040	U	mg/L	0.00096	0.040	SW-846 6010C	P
Potassium	0.50	U	mg/L	0.053	0.50	SW-846 6010C	P
Selenium	0.040	U	mg/L	0.0043	0.040	SW-846 6010C	P
Silver	0.010	U	mg/L	0.00060	0.010	SW-846 6010C	P
Sodium	1.00	U	mg/L	0.051	1.00	SW-846 6010C	P
Thallium	0.020	U	mg/L	0.0018	0.020	SW-846 6010C	P
Vanadium	0.020	U	mg/L	0.00082	0.020	SW-846 6010C	P
Zinc	0.017	B	mg/L	0.0027	0.020	SW-846 6010C	P

BLANKS

Lab Name: GCAL
 Lab Code: LA024 Case No.:
 Lab Sample ID: ICB
 Lab Sample DESC: ICB FOR HBN 450348 [HG/4886]
 Instrument ID: FIMS1

Contract:
 SAS No.: SDG No.: 211020809
 ICAL ID: 1
 Preparation Blank Matrix: (soil / water)
 Date Analyzed: 02/08/11 Time: 1830

INITIAL CALIBRATION BLANK

Analyte	Conc.	C	Units	MDL	PQL	Method	Type
Mercury	0.00020	U	mg/L	0.000081	0.00020	SW-846 7471B	AV

BLANKS

Lab Name: GCAL Contract: _____
 Lab Code: LA024 Case No.: _____ SAS No.: _____ SDG No.: 211020809
 Lab Sample ID: CCB ICAL ID: 1
 Lab Sample DESC: CCB FOR HBN 450348 [HG/4886] Preparation Blank Matrix: (soil / water) _____
 Instrument ID: FIMS1 Date Analyzed: 02/08/11 Time: 1834

CONTINUING CALIBRATION BLANK

Analyte	Conc.	C	Units	MDL	PQL	Method	Type
Mercury	0.00020	U	mg/L	0.000081	0.00020	SW-846 7471B	AV

BLANKS

Lab Name: GCAL

Contract: _____

Lab Code: LA024 Case No.: _____

SAS No.: SDG No.: 211020809

Lab Sample ID: 919339

ICAL ID: 1

Lab Sample DESC: MB919339

Preparation Blank Matrix: (soil / water) Solid

Instrument ID: FIMS1

Date Analyzed: 02/08/11 Time: 1843

PREPARATION BLANK

Analyte	Conc.	C	Units	MDL	PQL	Method	Type
Mercury	0.0029	U	mg/kg	0.0029	0.010	SW-846 7471B	AV

BLANKS

Lab Name: GCAL Contract: _____
 Lab Code: LA024 Case No.: _____ SAS No.: _____ SDG No.: 211020809
 Lab Sample ID: CCB ICAL ID: 1
 Lab Sample DESC: CCB FOR HBN 450348 [HG/4886] Preparation Blank Matrix: (soil / water) _____
 Instrument ID: FIMS1 Date Analyzed: 02/08/11 Time: 1900

CONTINUING CALIBRATION BLANK

Analyte	Conc.	C	Units	MDL	PQL	Method	Type
Mercury	0.00020	U	mg/L	0.000081	0.00020	SW-846 7471B	AV

BLANKS

Lab Name: GCAL Contract: _____
 Lab Code: LA024 Case No.: _____ SAS No.: _____ SDG No.: 211020809
 Lab Sample ID: CCB ICAL ID: 1
 Lab Sample DESC: CCB FOR HBN 450348 [HG/4886] Preparation Blank Matrix: (soil / water) _____
 Instrument ID: FIMS1 Date Analyzed: 02/08/11 Time: 1920

CONTINUING CALIBRATION BLANK

Analyte	Conc.	C	Units	MDL	PQL	Method	Type
Mercury	0.00020	U	mg/L	0.000081	0.00020	SW-846 7471B	AV

BLANKS

Lab Name: GCAL Contract: _____
 Lab Code: LA024 Case No.: _____ SAS No.: _____ SDG No.: 211020809
 Lab Sample ID: CCB ICAL ID: 1
 Lab Sample DESC: CCB FOR HBN 450348 [HG/4886] Preparation Blank Matrix: (soil / water) _____
 Instrument ID: FIMS1 Date Analyzed: 02/09/11 Time: 1133

CONTINUING CALIBRATION BLANK

Analyte	Conc.	C	Units	MDL	PQL	Method	Type
Mercury	0.00020	U	mg/L	0.000081	0.00020	SW-846 7471B	AV

BLANKS

Lab Name: GCAL Contract: _____
 Lab Code: LA024 Case No.: _____ SAS No.: _____ SDG No.: 211020809
 Lab Sample ID: CCB ICAL ID: 1
 Lab Sample DESC: CCB FOR HBN 450348 [HG/4886] Preparation Blank Matrix: (soil / water) _____
 Instrument ID: FIMS1 Date Analyzed: 02/09/11 Time: 1140

CONTINUING CALIBRATION BLANK

Analyte	Conc.	C	Units	MDL	PQL	Method	Type
Mercury	0.00020	U	mg/L	0.000081	0.00020	SW-846 7471B	AV

ICP INTERFERENCE CHECK SAMPLE

Lab Name: GCAL

Contract: _____

Lab Code: LA024

Case No.: _____

SAS No.: _____

SDG No.: 211020809

ICP ID Number: ICP5

ICS Source: 195-46-5 SPEX/EXAXOL~195-41-3 SPEX/EX

Concentration Units: mg/L

Analyte	True		Initial Found			Final Found		
	Sol.	Sol.	Sol.	Sol.		Sol.	Sol.	
	A	AB	A	AB	%R	A	AB	%R
Aluminum	200	200	181	183	92			
Antimony	0	1.00		1.03	103			
Arsenic	0	1.00		1.05	105			
Barium	0	0.5000		0.5079	102			
Beryllium	0	0.5000		0.5014	100			
Boron	0	1.00		1.03	103			
Cadmium	0	1.00		0.9815	98			
Calcium	200	200	190	190	95			
Chromium	0	0.5000		0.5030	101			
Cobalt	0	0.5000		0.4858	97			
Copper	0	0.5000		0.5506	110			
Iron	200	200	189	190	95			
Lead	0	1.00		0.9946	99			
Magnesium	200	200	186	186	93			
Manganese	0	0.5000		0.5066	101			
Molybdenum	0	1.00		0.9971	100			
Nickel	0	1.00		0.9853	99			
Selenium	0	1.00		0.9998	100			
Silver	0	1.00		1.08	108			
Sodium	0	1.00		1.09	109			
Thallium	0	1.00		1.03	103			
Vanadium	0	0.5000		0.5106	102			
Zinc	0	1.00		1.01	101			

ICP INTERFERENCE CHECK SAMPLE

Lab Name: GCAL

Contract: _____

Lab Code: LA024

Case No.: _____

SAS No.: _____

SDG No.: 211020809

ICP ID Number: ICP5

ICS Source: 195-46-5 SPEX/EXAXOL~195-47-1 SPEX/EX

Concentration Units: mg/L

Analyte	True		Initial Found			Final Found		
	Sol.	Sol.	Sol.	Sol.	%R	Sol.	Sol.	%R
	A	AB	A	AB		A	AB	
Aluminum	200	200	175	176	88			
Antimony	0	1.00		1.01	101			
Arsenic	0	1.00		1.01	101			
Barium	0	0.5000		0.4885	98			
Beryllium	0	0.5000		0.4873	97			
Boron	0	1.00		1.01	101			
Cadmium	0	1.00		0.9432	94			
Calcium	200	200	175	175	88			
Chromium	0	0.5000		0.4834	97			
Cobalt	0	0.5000		0.4673	93			
Copper	0	0.5000		0.5334	107			
Iron	200	200	182	182	91			
Lead	0	1.00		0.9594	96			
Magnesium	200	200	179	179	90			
Manganese	0	0.5000		0.4881	98			
Molybdenum	0	1.00		0.9678	97			
Nickel	0	1.00		0.9461	95			
Selenium	0	1.00		0.9771	98			
Silver	0	1.00		1.03	103			
Sodium	0	1.00		1.04	104			
Thallium	0	1.00		0.9797	98			
Vanadium	0	0.5000		0.4868	97			
Zinc	0	1.00		0.9500	95			

FORM IV - IN

MS/MSD RECOVERY

Lab Name: GCAL

Contract: _____

Lab Code: LA024

Case No.: _____

SAS No.: _____ SDG No.: 211020809Matrix Spike - EPA Sample No: AA10-100Method SW-846 6010CSAMPLE NO. : 919338

COMPOUND

		SPIKE UNITS ADDED	SAMPLE CONCENTRATION	MS CONCENTRATION	MS % REC	#	QC. LIMITS
Lead	mg/kg	23.6	2570	8220	23900	N	75 - 125

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD : 0 out of 0 outside limitsSpike Recovery: 1 out of 1 outside limits

FORM V (PART 1) - IN

MS/MSD RECOVERY

Lab Name: GCAL

Contract: _____

Lab Code: LA024

Case No.: _____

SAS No.: _____ SDG No.: 211020809Matrix Spike - EPA Sample No: FP06-AA9 (0-6)Method SW-846 6010CSAMPLE NO. : 921591

COMPOUND	UNITS	SPIKE ADDED	SAMPLE CONCENTRATION	MS CONCENTRATION	MS % REC	#	QC. LIMITS
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Aluminum	mg/kg	222	6280	7550	573	N	75 - 125
Antimony	mg/kg	22.2	629	1140	2310	N	75 - 125
Arsenic	mg/kg	22.2	72.4	106	151	N	75 - 125
Barium	mg/kg	22.2	70.6	79.7	41	N	75 - 125
Beryllium	mg/kg	22.2	.049	18.6	83		75 - 125
Cadmium	mg/kg	22.2	.63	18.9	82		75 - 125
Calcium	mg/kg	222	1280	1220	-30	N	75 - 125
Chromium	mg/kg	22.2	12	30	81		75 - 125
Cobalt	mg/kg	22.2	3.07	21	81		75 - 125
Copper	mg/kg	22.2	2980	3540	2540	N	75 - 125
Iron	mg/kg	222	6460	5650	-400	N	75 - 125
Lead	mg/kg	22.2	33200	34600	6460	N	75 - 125
Magnesium	mg/kg	222	423	504	36	N	75 - 125
Manganese	mg/kg	22.2	302	279	-100	N	75 - 125
Nickel	mg/kg	22.2	3.62	25	96		75 - 125
Potassium	mg/kg	444	336	624	65	N	75 - 125
Selenium	mg/kg	22.2	.35	14.5	64	N	75 - 125
Silver	mg/kg	22.2	1.87	23.1	96		75 - 125
Sodium	mg/kg	888	25.6	758	82		75 - 125
Thallium	mg/kg	22.2	0	17.7	80		75 - 125
Vanadium	mg/kg	22.2	17	33.6	75		75 - 125
Zinc	mg/kg	22.2	85.2	108	104		75 - 125

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD : 2 out of 22 outside limitsSpike Recovery: 23 out of 44 outside limits

FORM V (PART 1) - IN

MS/MSD RECOVERY

Lab Name: GCAL

Contract:

Lab Code: LA024

Case No.:

SAS No.:

SDG No.: 211020809

Matrix Spike - EPA Sample No: FP06-AA9 (0-6)

Method SW-846 6010C

SAMPLE NO. : 921592

COMPOUND	UNITS	SPIKE ADDED	MSD CONC.	MSD % REC	#	% RPD	#	QC. LIMITS REC	RPD
Aluminum	mg/kg	222	8510	1010	N	12		75 - 125	0 - 20
Antimony	mg/kg	22.2	1300	3040	N	13		75 - 125	0 - 20
Arsenic	mg/kg	22.2	193	543	N	58	*	75 - 125	0 - 20
Barium	mg/kg	22.2	83.1	56	N	4		75 - 125	0 - 20
Beryllium	mg/kg	22.2	20.2	91		9		75 - 125	0 - 20
Cadmium	mg/kg	22.2	20.4	89		8		75 - 125	0 - 20
Calcium	mg/kg	222	1220	-30	N	2		75 - 125	0 - 20
Chromium	mg/kg	22.2	32.1	90		7		75 - 125	0 - 20
Cobalt	mg/kg	22.2	22.7	88		8		75 - 125	0 - 20
Copper	mg/kg	22.2	3690	3200	N	4		75 - 125	0 - 20
Iron	mg/kg	222	6240	-100	N	10		75 - 125	0 - 20
Lead	mg/kg	22.2	35800	12100	N	4		75 - 125	0 - 20
Magnesium	mg/kg	222	496	33	N	1		75 - 125	0 - 20
Manganese	mg/kg	22.2	323	93		14		75 - 125	0 - 20
Nickel	mg/kg	22.2	25.8	100		3		75 - 125	0 - 20
Potassium	mg/kg	444	682	78		9		75 - 125	0 - 20
Selenium	mg/kg	22.2	15.2	67	N	5		75 - 125	0 - 20
Silver	mg/kg	22.2	23.9	99		3		75 - 125	0 - 20
Sodium	mg/kg	888	822	90		8		75 - 125	0 - 20
Thallium	mg/kg	22.2	18.7	84		6		75 - 125	0 - 20
Vanadium	mg/kg	22.2	36.7	89		9		75 - 125	0 - 20
Zinc	mg/kg	22.2	136	228	N	23	*	75 - 125	0 - 20

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD : 2 out of 22 outside limits

Spike Recovery: 23 out of 44 outside limits

FORM V (PART 1) - IN

MS/MSD RECOVERY

Lab Name: GCAL

Contract: _____

Lab Code: LA024

Case No.: _____

SAS No.: _____ SDG No.: 211020809Matrix Spike - EPA Sample No: FP01-AA10 (0-6)Method SW-846 7471BSAMPLE NO. : 919342

COMPOUND	UNITS	SPIKE ADDED	SAMPLE CONCENTRATION	MS CONCENTRATION	MS % REC	#	QC. LIMITS
Mercury	mg/kg	.35	.031	.39	102		75 - 125

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD : 0 out of 0 outside limitsSpike Recovery: 0 out of 1 outside limits

FORM V (PART 1) - IN

POST DIGEST SPIKE SAMPLE RECOVERY

Lab Name: GCAL
 Lab Code: LA024 Case No.: _____
 Matrix: (soil / water) Solid
 Level: (low / med) _____
 Orig Lab Sample ID: 21102080914

Sample ID: AA10-100PDS
 Contract: _____
 SAS No.: _____ SDG No.: 211020809
 Lab Sample ID: 921513

Analyte			Spiked	Sample		Spike	% R	Q	Units	Method	Type	
	LL	UL	Result	C	Result	C						Added
Lead	75	125	2570		2570		23.6	-2	N	mg/kg	SW-846 6010C	P

POST DIGEST SPIKE SAMPLE RECOVERY

Lab Name: GCAL
 Lab Code: LA024 Case No.:
 Matrix: (soil / water) Solid
 Level: (low / med)
 Orig Lab Sample ID: 21102080904

Sample ID: FP06-AA9 (0-6)PDS
 Contract:
 SAS No.: SDG No.: 211020809
 Lab Sample ID: 922010

Analyte	LL	UL	Spiked Sample Result	C	Sample Result	C	Spike Added	% R	Q	Units	Method	Type
Aluminum	75	125	5270		6280		222	-500	N	mg/kg	SW-846 6010C	P
Antimony	75	125	586		629		22.2	-200	N	mg/kg	SW-846 6010C	P
Arsenic	75	125	90.9		72.4		22.2	83		mg/kg	SW-846 6010C	P
Barium	75	125	84.2		70.6		22.2	61	N	mg/kg	SW-846 6010C	P
Beryllium	75	125	20.2		.049	B	22.2	91		mg/kg	SW-846 6010C	P
Cadmium	75	125	20.4		.63		22.2	89		mg/kg	SW-846 6010C	P
Calcium	75	125	1460		1280		222	79		mg/kg	SW-846 6010C	P
Chromium	75	125	30.6		12		22.2	84		mg/kg	SW-846 6010C	P
Cobalt	75	125	22.6		3.07		22.2	88		mg/kg	SW-846 6010C	P
Copper	75	125	2990		2980		22.2	49	N	mg/kg	SW-846 6010C	P
Iron	75	125	6430		6460		222	-10	N	mg/kg	SW-846 6010C	P
Magnesium	75	125	602		423		22.2	81		mg/kg	SW-846 6010C	P
Manganese	75	125	317		302		22.2	66	N	mg/kg	SW-846 6010C	P
Nickel	75	125	23.1		3.62		22.2	88		mg/kg	SW-846 6010C	P
Potassium	75	125	682		336		444	78		mg/kg	SW-846 6010C	P
Selenium	75	125	20.3		.35	B	22.2	90		mg/kg	SW-846 6010C	P
Silver	75	125	22		1.87		22.2	91		mg/kg	SW-846 6010C	P
Sodium	75	125	841		25.6	B	888	92		mg/kg	SW-846 6010C	P
Thallium	75	125	19.5		0	U	22.2	88		mg/kg	SW-846 6010C	P
Vanadium	75	125	35.4		17		22.2	83		mg/kg	SW-846 6010C	P
Zinc	75	125	103		85.2		22.2	79		mg/kg	SW-846 6010C	P

POST DIGEST SPIKE SAMPLE RECOVERY

Lab Name: GCAL

Sample ID: FP06-AA9 (0-6)PDS

Lab Code: LA024

Case No.:

Contract:

Matrix: (soil / water) Solid

SAS No.:

SDG No.: 211020809

Level: (low / med)

Lab Sample ID: 922255

Orig Lab Sample ID: 21102080904

Analyte	LL	UL	Spiked Sample Result	C	Sample Result	C	Spike Added	% R	Q	Units	Method	Type
Lead	75	125	33700		33200		44.4	1110	N	mg/kg	SW-846 6010C	P

DUPLICATES

Lab Name: GCAL Sample ID: AA10-100DUP
 Lab Code: LA024 Case No.: _____ Contract: _____
 Matrix: (soil / water) Solid SAS No.: _____ SDG No.: 211020809
 % Solids for Sample: _____ Level: (low / med) _____
 % Solids for Duplicate: _____ Lab Sample ID: 919337

Analyte	LL	UL	Sample	C	Duplicate	C	RPD	Q	Units	Method	Type
Lead	0	20	2570		5060		65	*	mg/kg	SW-846 6010C	P

DUPLICATES

Lab Name: GCAL Sample ID: FP01-AA10 (0-6)DUP
 Lab Code: LA024 Case No.: _____ Contract: _____
 Matrix: (soil / water) Solid SAS No.: _____ SDG No.: 211020809
 % Solids for Sample: _____ Level: (low / med) _____
 % Solids for Duplicate: _____ Lab Sample ID: 919341

Analyte	LL	UL	Sample	C	Duplicate	C	RPD	Q	Units	Method	Type
Mercury	0	20	.031		.049		46	*	mg/kg	SW-846 7471B	AV

LABORATORY CONTROL SAMPLE

Lab Name: GCAL
 Lab Code: LA024 Case No.: _____
 Matrix: (soil / water) Solid
 Lab Sample ID: 919336

Sample ID: LCS919336
 Contract: _____
 SAS No.: _____ SDG No.: 211020809
 LCS Source: 180-47-16 INORGANIC VENTURES

<i>Analyte</i>	<i>True</i>	<i>Found</i>	<i>% R</i>	<i>LL</i>	<i>UL</i>	<i>Units</i>	<i>Method</i>	<i>Type</i>
Lead	20.0	21.7	109	80	120	mg/kg	SW-846 6010C	P

LABORATORY CONTROL SAMPLE

Lab Name: GCAL

Sample ID: LCS921590

Lab Code: LA024

Case No.:

Contract:

Matrix: (soil / water) Solid

SAS No.:

SDG No.: 211020809

Lab Sample ID: 921590

LCS Source:

180-47-16 INORGANIC VENTURES

Analyte	True	Found	% R	LL	UL	Units	Method	Type
Aluminum	200	186	93	80	120	mg/kg	SW-846 6010C	P
Antimony	20.0	18.5	92	80	120	mg/kg	SW-846 6010C	P
Arsenic	20.0	19.4	97	80	120	mg/kg	SW-846 6010C	P
Barium	20.0	19.1	96	80	120	mg/kg	SW-846 6010C	P
Beryllium	20.0	19.0	95	80	120	mg/kg	SW-846 6010C	P
Cadmium	20.0	19.2	96	80	120	mg/kg	SW-846 6010C	P
Calcium	200	182	91	80	120	mg/kg	SW-846 6010C	P
Chromium	20.0	19.3	97	80	120	mg/kg	SW-846 6010C	P
Cobalt	20.0	19.3	96	80	120	mg/kg	SW-846 6010C	P
Copper	20.0	18.9	94	80	120	mg/kg	SW-846 6010C	P
Iron	200	195	98	80	120	mg/kg	SW-846 6010C	P
Lead	20.0	19.5	97	80	120	mg/kg	SW-846 6010C	P
Magnesium	200	188	94	80	120	mg/kg	SW-846 6010C	P
Manganese	20.0	19.0	95	80	120	mg/kg	SW-846 6010C	P
Nickel	20.0	19.5	97	80	120	mg/kg	SW-846 6010C	P
Potassium	400	379	95	80	120	mg/kg	SW-846 6010C	P
Selenium	20.0	18.7	93	80	120	mg/kg	SW-846 6010C	P
Silver	20.0	19.1	95	80	120	mg/kg	SW-846 6010C	P
Sodium	800	766	96	80	120	mg/kg	SW-846 6010C	P
Thallium	20.0	18.7	94	80	120	mg/kg	SW-846 6010C	P
Vanadium	20.0	19.1	96	80	120	mg/kg	SW-846 6010C	P
Zinc	20.0	17.9	90	80	120	mg/kg	SW-846 6010C	P

FORM VII - IN

LABORATORY CONTROL SAMPLE

Lab Name: GCAL

Sample ID: LCS919340

Lab Code: LA024 Case No.:

Contract:

Matrix: (soil / water) Solid

SAS No.: SDG No.: 211020809

Lab Sample ID: 919340

LCS Source: 195-40-6 EXAXOL

Analyte	True	Found	% R	LL	UL	Units	Method	Type
Mercury	0.25	0.26	105	80	120	mg/kg	SW-846 7471B	AV

SERIAL DILUTIONS

Lab Name: GCAL
 Lab Code: LA024 Case No. _____
 Matrix: (soil / water) Solid
 Level: (low / med) _____
 Lab Sample ID: 921514

Sample ID: AA10-100SD
 Contract: _____
 SAS No.: _____ SDG No.: 211020809
 Org Lab Sample ID: 21102080914

Analyte			Initial Sample		Serial Dilution		% Diff.	Q	Units	Method	Type
	LL	UL	Result	C	Result	C					
Lead	0	10	2570		3100		20.6	E	mg/kg	SW-846 6010C	P

SERIAL DILUTIONS

Lab Name: GCAL
 Lab Code: LA024 Case No. _____
 Matrix: (soil / water) Solid
 Level: (low / med) _____
 Lab Sample ID: 922256

Sample ID: FP06-AA9 (0-6)SD
 Contract: _____
 SAS No.: _____ SDG No.: 211020809
 Org Lab Sample ID: 21102080904

Analyte			Initial Sample		Serial Dilution		% Diff.	Q	Units	Method	Type
	LL	UL	Result	C	Result	C					
Lead	0	10	33200		35700		7.5		mg/kg	SW-846 6010C	P

SERIAL DILUTIONS

Lab Name: GCAL

Sample ID: FP06-AA9 (0-6)SD

Lab Code: LA024

Case No.

Contract:

Matrix: (soil / water) Solid

SAS No.:

SDG No.: 211020809

Level: (low / med)

Org Lab Sample ID: 21102080904

Lab Sample ID: 922011

Analyte	LL	UL	Initial Sample Result	C	Serial Dilution Result	C	% Diff.	Q	Units	Method	Type
Aluminum	0	10	6280		5300		15.6	E	mg/kg	SW-846 6010C	P
Antimony	0	10	629		625		.6		mg/kg	SW-846 6010C	P
Arsenic	0	10	72.4		79.4		9.7		mg/kg	SW-846 6010C	P
Barium	0	10	70.6		68.6		2.8		mg/kg	SW-846 6010C	P
Beryllium			0.049	B	0.036	B	26.5		mg/kg	SW-846 6010C	P
Cadmium	0	10	0.63		0.62	B	1.6		mg/kg	SW-846 6010C	P
Calcium	0	10	1280		1390		8.6		mg/kg	SW-846 6010C	P
Chromium	0	10	12.0		11.5		4.2		mg/kg	SW-846 6010C	P
Cobalt	0	10	3.07		3.24		5.5		mg/kg	SW-846 6010C	P
Copper	0	10	2980		3310		11.1	E	mg/kg	SW-846 6010C	P
Iron	0	10	6460		7150		10.7	E	mg/kg	SW-846 6010C	P
Magnesium	0	10	423		442		4.5		mg/kg	SW-846 6010C	P
Manganese	0	10	302		340		12.6	E	mg/kg	SW-846 6010C	P
Nickel	0	10	3.62		3.51	B	3		mg/kg	SW-846 6010C	P
Potassium	0	10	336		282		16.1	E	mg/kg	SW-846 6010C	P
Selenium			0.35	B	0	U	100		mg/kg	SW-846 6010C	P
Silver	0	10	1.87		2.14	B	14.4	E	mg/kg	SW-846 6010C	P
Sodium			25.6	B	0	U	100		mg/kg	SW-846 6010C	P
Thallium			0	U	0.63	B			mg/kg	SW-846 6010C	P
Vanadium	0	10	17.0		17.7		4.1		mg/kg	SW-846 6010C	P
Zinc	0	10	85.2		99.3		16.5	E	mg/kg	SW-846 6010C	P

FORM IX - IN

METHOD DETECTION LIMITS

Lab Name: GCAL

Sample ID:

Lab Code: LA024

SDG No.: 211020809

Study Date: (P)09/01/10 (AV)10/20/10

Instrument ID: (P) ICP5 / ICP6 (AV) FIMS1

Analyte	MDL	Units	Type
Aluminum	0.63	mg/kg	P
Antimony	0.12	mg/kg	P
Arsenic	0.088	mg/kg	P
Barium	0.011	mg/kg	P
Beryllium	0.0028	mg/kg	P
Cadmium	0.0098	mg/kg	P
Calcium	0.92	mg/kg	P
Chromium	0.012	mg/kg	P
Cobalt	0.022	mg/kg	P
Copper	0.033	mg/kg	P
Iron	0.91	mg/kg	P
Lead	0.072	mg/kg	P
Magnesium	1.34	mg/kg	P
Manganese	0.039	mg/kg	P
Mercury	0.0029	mg/kg	AV
Nickel	0.031	mg/kg	P
Potassium	1.82	mg/kg	P
Selenium	0.19	mg/kg	P
Silver	0.035	mg/kg	P
Sodium	3.51	mg/kg	P
Thallium	0.10	mg/kg	P
Vanadium	0.050	mg/kg	P
Zinc	0.33	mg/kg	P

Interfering Analytes					
Analytes	Aluminum,7429-90-5	Calcium,7440-70-2	Chromium,7440-47-3	Copper,7440-50-8	
1 Aluminum,7429-90-5	n/a	0.0703818	0.290922	0.336302	
2 Antimony,7440-36-0	-0.00358969	-0.00285579	21.7998	-0.0105027	
5 Arsenic,7440-38-2	-0.185585	-0.00733331	1.57648	-0.100035	
6 Barium,7440-39-3	0.00109581	0.0308625	-0.129201	-0.033766	
7 Beryllium,7440-41-7	0	0	-0.0196779	0.0403583	
8 Boron,7440-42-8	-0.000208804	-0.00121065	0.107194	-0.0771729	
9 Cadmium,7440-43-9	0.0223236	-0.00154583	-0.672509	-0.00343098	
10 Calcium,7440-70-2	-0.00227565	n/a	-2.62418	0.194569	
11 Chromium,7440-47-3	0.0427656	-0.0017078	n/a	0.466216	
12 Cobalt,7440-48-4	-0.000158202	0.000347333	-0.0563309	0.071454	
13 Copper,7440-50-8	0.0039835	0.0036418	-0.0866912	n/a	
14 Iron,7439-89-6	0.0531944	0.0105714	0.425363	0.0436672	
15 Lead,7439-92-1	-0.0395923	-0.0133054	-0.122405	0.4843	
16 Lithium,7439-93-2	-0.00174182	-0.0013319	-0.0229157	-0.0234712	
17 Magnesium,7439-95-4	-0.0158435	0.0126954	-0.472424	-0.541452	
18 Manganese,7439-96-5	-0.00596467	0.00306974	-0.0680362	0.00309574	
19 Molybdenum,7439-98-7	-0.0231591	-0.0102379	0.029384	0.00919095	
20 Nickel,7440-02-0	-0.0057437	-0.0887268	0.0218303	0.00820389	
21 Potassium,7440-09-7	0.00837901	0.0203766	0.0203454	0.686041	
23 Selenium,7782-49-2	-0.0311204	-0.0141936	-0.138251	-0.0802299	
24 Silicon,7440-21-3	-0.0114353	0.0140686	-0.413602	-0.339113	
25 Silver,7440-22-4	0.0014379	0.000649072	0.0111318	0.0653776	
26 Sodium,7440-23-6	0.00858629	0.0289992	0.411215	-0.316329	
27 Strontium,7440-24-6	0	0.0298382	0.00130899	-0.00174549	
28 Thallium,7440-28-0	-0.0403624	-0.00498406	0.166183	0.025876	
29 Tin,7440-31-5	-0.00759627	-0.0249539	-0.159938	-0.138905	
30 Titanium,7440-32-6	0.000109092	0	-0.00274531	-0.00110584	
31 Vanadium,7440-62-2	0.00699283	0.00516138	-0.412747	0.027047	
34 Zinc,7440-66-8	-0.000789546	-0.00147048	-0.0177214	0.616255	
35 Zirconium,7440-67-7	-0.000121688	-0.000590958	-0.0475533	0.00071689	

Interfering Analytes

	Analytes	Iron,7439-89-6	Magnesium,7439-95-4	Manganese,7439-96-5	Nickel,7440-02-0
1	Aluminum,7429-90-5	-0.0136724	0.00920256	-1.84884	0.820238
2	Antimony,7440-36-0	0.0150697	-0.000753606	-0.0118737	-0.0737211
5	Arsenic,7440-38-2	0.0336742	-0.00239232	-0.727165	-1.09603
6	Barium,7440-39-3	0.0559378	-0.00274139	-0.294454	-0.120159
7	Beryllium,7440-41-7	-0.00135812	-0.000214322	0.00834779	-0.00160175
8	Boron,7440-42-8	-2.21478	-0.00489699	1.34604	-0.0583116
9	Cadmium,7440-43-9	0.0406953	-0.00173985	0.00997799	0.0715385
10	Calcium,7440-70-2	-0.00554124	0.0234527	0.81986	0.484079
11	Chromium,7440-47-3	-0.124561	0.0335852	0.604021	0.244151
12	Cobalt,7440-48-4	0.0214149	-0.000592125	-0.00103492	0.132139
13	Copper,7440-50-8	-0.111674	0.00184036	0.0707525	0.0346217
14	Iron,7439-89-6	n/a	0.0712818	0.415593	1.84931
15	Lead,7439-82-1	0.0661355	0.00360866	0.171542	-0.178058
16	Lithium,7439-93-2	-0.00452562	-0.00306941	-0.110344	-0.0274093
17	Magnesium,7439-95-4	0.562132	n/a	-12.8356	-1.02718
18	Manganese,7439-96-5	0.00296811	0.0010328	n/a	0.0250448
19	Molybdenum,7439-98-7	-0.0744212	-0.00311187	-0.00568282	-0.0120365
20	Nickel,7440-02-0	0.011985	0.0903382	0.753348	n/a
21	Potassium,7440-09-7	-0.235594	0.0146967	1.70845	0.730555
23	Selenium,7782-49-2	-0.0135286	-0.010635	0.504826	-0.510002
24	Silicon,7440-21-3	-0.0732968	0.0827791	-0.405703	-0.609917
25	Silver,7440-22-4	-0.0104486	0.0011462	0.182715	-0.000978398
26	Sodium,7440-23-5	-0.0895262	-0.0475155	2.40088	-0.664298
27	Strontium,7440-24-6	0.00110783	0	-0.000538375	-0.00401371
28	Thallium,7440-28-0	0.0517267	0.0647979	-6.53273	-0.0274541
29	Tin,7440-31-5	-0.0210278	-0.00905734	-0.483644	-0.247959
30	Titanium,7440-32-6	0.000946312	-0.00044698	0.00654768	-0.00619035
31	Vanadium,7440-62-2	0.0825093	0.0131997	0.235484	0.0261345
34	Zinc,7440-66-8	0.0934767	0.00908564	0.251713	6.09208
35	Zirconium,7440-67-7	0.00248007	0.000191529	0.00709945	-0.0204394

	Analytes	Interfering Analytes	
		Titanium,7440-32-6	Vanadium,7440-62-2
1	Aluminum,7429-90-5	2.35833	-4.78878
2	Antimony,7440-36-0	-1.66492	-1.12569
5	Arsenic,7440-38-2	-0.212878	-25.0271
6	Barium,7440-39-3	-0.15103	0.663198
7	Beryllium,7440-41-7	-2.94028	-0.0225131
8	Boron,7440-42-8	0.0528796	-0.378966
9	Cadmium,7440-43-9	-0.00649127	-0.0121708
10	Calcium,7440-70-2	-0.282214	0.34038
11	Chromium,7440-47-3	0.347623	-0.819984
12	Cobalt,7440-48-4	2.0133	0.00182915
13	Copper,7440-50-8	-0.00945479	-0.0757582
14	Iron,7439-89-6	0.264937	0.371381
15	Lead,7439-92-1	-0.22903	-0.00537477
16	Lithium,7439-93-2	-0.0869843	-0.0252562
17	Magnesium,7439-95-4	0.312755	-0.180478
18	Manganese,7439-96-6	0.163205	0.0190889
19	Molybdenum,7439-98-7	-0.0059002	-0.347302
20	Nickel,7440-02-0	0.765485	0.269861
21	Potassium,7440-09-7	0.829972	-0.0344147
23	Selenium,7782-49-2	-0.108238	0.196861
24	Silicon,7440-21-3	0	-0.151873
25	Silver,7440-22-4	0.0364082	-1.02347
26	Sodium,7440-23-5	-1.3363	-0.465319
27	Strontium,7440-24-6	-0.00252659	0.00702834
28	Thallium,7440-28-0	-3.73811	-1.54394
29	Tin,7440-31-5	-3.65959	-0.151818
30	Titanium,7440-32-6	n/a	0.0162558
31	Vanadium,7440-62-2	0.0494522	n/a
34	Zinc,7440-68-6	-0.251367	-0.0317577
35	Zirconium,7440-67-7	0.154797	-0.00285119

ICP LINEAR RANGES

Lab Name: GCAL

Sample ID:

Lab Code: LA024

SDG No.: 211020809

Study Date: 02/08/11

Instrument ID: ICP5

Analyte	Concentration	% Recovery	Units	Type	
Aluminum	60000	106	mg/kg	P	
Antimony	1000	97	mg/kg	P	
Arsenic	1000	98	mg/kg	P	
Barium	1000	94	mg/kg	P	
Beryllium	200	102	mg/kg	P	
Boron	2000	94	mg/kg	P	
Cadmium	600	97	mg/kg	P	
Calcium	80000	92	mg/kg	P	
Chromium	4800	94	mg/kg	P	
Cobalt	6000	95	mg/kg	P	
Copper	4000	93	mg/kg	P	
Iron	20000	94	mg/kg	P	
Lead	20000	96	mg/kg	P	
Lithium	800	97	mg/kg	P	
Magnesium	36000	95	mg/kg	P	
Manganese	1200	99	mg/kg	P	
Molybdenum	4000	90	mg/kg	P	
Nickel	2400	95	mg/kg	P	
Potassium	6400	99	mg/kg	P	
Selenium	600	98	mg/kg	P	
Silicon	1200	99	mg/kg	P	
Silver	600	92	mg/kg	P	
Sodium	24000	92	mg/kg	P	
Strontium	200	100	mg/kg	P	
Thallium	1000	96	mg/kg	P	
Tin	400	90	mg/kg	P	
Titanium	1600	94	mg/kg	P	
Vanadium	4000	92	mg/kg	P	
Zinc	600	91	mg/kg	P	
Zirconium	1000	100	mg/kg	P	

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ANALYSIS RUN LOG

Lab Name: GCAL Contract: Start Date: 02/15/11
 Lab Code: LA024 Case No.: SDG No.: 211020809 End Date: 02/16/11
 Instrument ID Number: ICP5 Method: SW-846 6010C Method Type: P

Sample No.	Analyte Symbols																				
	Al	Sb	As	Ba	Be	B	Cd	Ca	Cr	Co	Cu	Fe	Pb	Li	Mg	Mn	Hg	Mo	Ni	K	Se
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ANALYSIS RUN LOG

Lab Name: GCAL Contract: Start Date: 02/16/11
Lab Code: LA024 Case No.: SDG No.: 211020809 End Date: 02/17/11
Instrument ID Number: ICP5 Method: SW-846 6010C Method Type: P

Sample No.	PF	D/F	Time	Analyte Symbols																					
				Al	Sb	As	Ba	Be	B	Cd	Ca	Cr	Co	Cu	Fe	Pb	Li	Mg	Mn	Hg	Mo	Ni	K	Se	Si
ICV	*	1	1539	X			X	X		X	X	X	X	X	X	X		X	X		X	X	X	X	X
ICV2	*	1	1557		X																				
ICB	*	1	1604	X	X	X	X	X		X	X	X	X	X	X	X		X	X		X	X	X	X	X
CRDL	*	1	1611	X	X	X	X	X		X	X	X	X	X	X	X		X	X		X	X	X	X	X
CRDL2	*	1	1617																						
ICSA	*	1	1624	X	X	X	X	X		X	X	X	X	X	X	X		X	X		X	X	X	X	X
ICSAB	*	1	1631	X	X	X	X	X		X	X	X	X	X	X	X		X	X		X	X	X	X	X
CCV	*	1	1638	X	X	X	X	X		X	X	X	X	X	X	X		X	X		X	X	X	X	X
CCB	*	1	1645	X	X	X	X	X		X	X	X	X	X	X	X		X	X		X	X	X	X	X
CCV	*	1	1717	X	X	X	X	X		X	X	X	X	X	X	X		X	X		X	X	X	X	X
CCB	*	1	1723	X	X	X	X	X		X	X	X	X	X	X	X		X	X		X	X	X	X	X
MB921589	*	1	1730	X	X	X	X	X		X	X	X	X	X	X	X		X	X		X	X	X	X	X
LCS921590	*	1	1737	X	X	X	X	X		X	X	X	X	X	X	X		X	X		X	X	X	X	X
FP06-AA9 (0-6)	*	1	1744	X	X	X	X	X		X	X	X	X	X	X	X		X	X		X	X	X	X	X
FP06-AA9 (0-6)MS	*	1	1751	X	X	X	X	X		X	X	X	X	X	X	X		X	X		X	X	X	X	X
FP06-AA9 (0-6)MSD	*	1	1757	X	X	X	X	X		X	X	X	X	X	X	X		X	X		X	X	X	X	X
FP06-AA9 (0-6)PDS	*	1	1804	X	X	X	X	X		X	X	X	X	X	X	X		X	X		X	X	X	X	X
FP06-AA9 (0-6)SD	*	5	1811	X	X	X	X	X		X	X	X	X	X	X	X		X	X		X	X	X	X	X
CCV	*	1	1838	X	X	X	X	X		X	X	X	X	X	X	X		X	X		X	X	X	X	X
CCB	*	1	1845	X	X	X	X	X		X	X	X	X	X	X	X		X	X		X	X	X	X	X
SMELTING BUILDING FLOOR SAMPLE	*	10	1852	X						X	X	X	X	X	X	X		X	X		X	X	X	X	X
SMELTING BUILDING FLOOR SAMPLE	*	20	1859																						
FP01-AA10 (0-6)	*	1	1906	X	X	X	X	X		X	X	X	X	X	X	X		X	X		X	X	X	X	X
FP03-AB11 (0-6)	*	1	1913	X	X	X	X	X		X	X	X	X	X	X	X		X	X		X	X	X	X	X
FP06-Z7 (0-6)	*	1	1927	X						X	X	X	X	X	X	X		X	X		X	X	X	X	X
CCV	*	1	2002	X	X	X	X	X		X	X	X	X	X	X	X		X	X		X	X	X	X	X
CCB	*	1	2008	X	X	X	X	X		X	X	X	X	X	X	X		X	X		X	X	X	X	X

FORM XIV - IN

Lab Name:	GCAL	Contract:	Start Date:	02/08/11
Lab Code:	LA024	SAS No.:	SDG No.:	211020809
Instrument ID Number:	FIMS1	Method:	SW-846 7471B	Method Type: AV

[illegible]

Lab Name:	GCAL	Contract:		Start Date:	
Lab Code:	LA024	SAS No.:	211020809	End Date:	02/09/11
Instrument ID Number:	FIMS1	Method:	SW-846 7471B	Method Type:	AV
		Case No.:			

FORM XIV - IN

ICP SAMPLE PREPARATION FORM

EXTRACTION DATE/TIME:		Start: 12:00	End: 17:00	BATCH NO: 450304			
MATRIX:		WATER <input type="checkbox"/> SOIL <input checked="" type="checkbox"/> TCLP EXT <input type="checkbox"/> ORGANIC <input type="checkbox"/>		METHOD: 200.0 <input type="checkbox"/> 200.7 <input type="checkbox"/> 3010A <input type="checkbox"/> 3050B <input checked="" type="checkbox"/> 3051 <input type="checkbox"/>			
CLIENT	CLIENT ID	GCAL ID	INITIAL VOL/WT mL (g)	FINAL VOLUME (mL)	SAMPLE TYPE	COMMENTS	REAGENTS/ STANDARDS
1 QC ACCOUNT	MB for HBN 450304 [DIGM/25995]	919335	1.25	50	MB		HNO3
2 QC ACCOUNT	LCS for HBN 450304 [DIGM/25995]	919336	1.25		LCS		1967-16
3 4574	A08-E3 (0-6)	21102080913	1.26		SAMPLE		HCL
4 4574	AA10-100	21102080914	1.25		SAMPLE		1967-10
5 QC ACCOUNT	AA10-100(919319DUP)	919337	1.25		DUP		H2O2
6 QC ACCOUNT	AA10-100(919319MS)	919338	1.25		MS		18040-13
7 4574	FP02-AB10 (0-6)	21102080915	1.26		SAMPLE		SOLID MATERIAL:
8 4574	FP04-AC11 (0-6)	21102080916	1.25		SAMPLE		8919120
9 4574	FP05-AC10 (0-6)	21102080917	1.25		SAMPLE		
10 4574	FP07-AB9 (0-6)	21102080918	1.26		SAMPLE		
11 4574	FP09-AB7 (0-6)	21102080919	1.25		SAMPLE		
12 4574	FP11-AE10 (0-6)	21102080920	1.25		SAMPLE		
13 4574	D5-100	21102080921	1.25		SAMPLE		
14 4574	A03-D4 (0-6)	21102080922	1.25		SAMPLE		
15 4574	A04-E4 (0-6)	21102080923	1.26		SAMPLE		
16 4574	A07-D3 (0-6)	21102080924	1.25		SAMPLE		
17							
18							SPIKING SOLUTIONS (LCS/MS)
19							
20							GCAL-1 - 250uL
21							18040-16
22							GCAL-2 - 250uL
23							18040-17
24							ORGANOMETALLIC
25							ICP SPIKE 0.025g
26							
27							
28							

COMMENTS:

BALANCE ID: XS-104

TEMP: 950

BLOCK ID	TECHNICIAN	DATE
33-3-16-70	JA	7-8-01
REPIPET BOTTLES VERIFIED	REVIEW	DATE
JA	AJW	2/11/11

Revision 1, 08/10/2010

ICP SAMPLE PREPARATION FORM

Revised

EXTRACTION DATE/TIME:		Start: <i>9:50</i>	End: <i>14:50</i>	BATCH NO: 450773	
MATRIX:		WATER <input type="checkbox"/> SOIL <input checked="" type="checkbox"/> TCLP EXT <input type="checkbox"/> ORGANIC <input type="checkbox"/>		METHOD: 200.0 <input type="checkbox"/> 200.7 <input type="checkbox"/> 3010A <input type="checkbox"/> 3050B <input checked="" type="checkbox"/> 3051 <input type="checkbox"/>	

CLIENT	CLIENT ID	GCAL ID	INITIAL VOL/WT mL (g)	FINAL VOLUME (mL)	SAMPLE TYPE	COMMENTS	REAGENTS/ STANDARDS
1 QC ACCOUNT	MB for HBN 450773 [DIGM/26056]	921589	<i>1.25</i>	<i>50</i>	MB		HNO3
2 QC ACCOUNT	LCS for HBN 450773 [DIGM/26056]	921590	<i>1.25</i>		LCS		<i>1963-8</i>
3 4574	SMELTING BUILDING FLOOR SAMPLE	21102080901	<i>1.26</i>		SAMPLE		HCL
4 4574	FP01-AA10 (0-6)	21102080902	<i>1.25</i>		SAMPLE		<i>1963-9</i>
5 4574	FP03-AB11 (0-6)	21102080903	<i>1.26</i>		SAMPLE		H2O2
6 4574	FP06-AA9 (0-6)	21102080904	<i>1.25</i>		SAMPLE		<i>1854813</i>
7 QC ACCOUNT	FP06-AA9 (0-6)(919301MS)	921591	<i>1.25</i>		MS		SOLID MATERIAL:
8 QC ACCOUNT	FP06-AA9 (0-6) (919301MSD)	921592	<i>1.25</i>		MSD		<i>0919120</i>
9 4574	AA9-101	21102080905	<i>1.25</i>		SAMPLE		
10 4574	FP08-Z7 (0-6)	21102080906	<i>1.25</i>		SAMPLE		
11 4574	FP10-AE9 (0-6)	21102080907	<i>1.25</i>		SAMPLE		
12 4574	A01-B5 (0-6)	21102080908	<i>1.26</i>		SAMPLE		
13 4574	AD2-D5 (0-6)	21102080909	<i>1.25</i>		SAMPLE		
14 4574	AD5-F3 (0-6)	21102080910	<i>1.25</i>		SAMPLE		
15 4574	F3-101	21102080911	<i>1.25</i>		SAMPLE		
16 4574	A08-E3 (0-6)	21102080912	<i>1.25</i>		SAMPLE		
17 4574	A08-E3 (0-6)	21102080913	<i>1.25</i>	<i>✓</i>	SAMPLE		SPIKING SOLUTIONS (LCS/MS)
18							GCAL-1 - 250uL
19							<i>1854746</i>
20							GCAL-2 - 250uL
21							<i>1854747</i>
22							ORGANOMETALLIC
23							ICP SPIKE 0.025g
24							
25							
26							
27							
28							

COMMENTS:

BALANCE ID: *18404*

TEMP: *95*

BLOCK ID	TECHNICIAN	DATE
<i>33-11-4-10</i>	<i>SM</i>	<i>2-16-11</i>
REPIPET BOTTLES VERIFIED	REVIEW	DATE
<i>SM</i>	<i>SMC</i>	<i>2-21-11</i>

Revision 1, 08/10/2010

HG SAMPLE PREPARATION FORM

EXTRACTION DATE/TIME:		Start: <u>12:00</u> End: <u>12:30</u>		BATCH NO: 450305	
MATRIX:		WATER <input type="checkbox"/> SOIL <input checked="" type="checkbox"/> TCLP EXT <input type="checkbox"/> ORGANIC <input type="checkbox"/>		METHOD: 245.2 <input type="checkbox"/> 7470A <input type="checkbox"/> 7471A <input checked="" type="checkbox"/>	
CLIENT	CLIENT ID	GCAL ID	INITIAL VOL/WT mL (g)	FINAL VOLUME (mL)	SAMPLE TYPE
1 QC ACCOUNT	MB for HBN 450305 [DIGM/25998]	919339	0.10	30	MB
2 QC ACCOUNT	LCS for HBN 450305 [DIGM/25998]	919340	0.10		LCS
3 4574	SMELTING BUILDING FLOOR SAMPLE	21102080901	0.50		SAMPLE
4 4574	FP01-AA10 (0-6)	21102080902	0.50		SAMPLE
5 QC ACCOUNT	FP01-AA10 (0-6) (919295DUP)	919341	0.50		DUP
6 QC ACCOUNT	FP01-AA10 (0-6) (919295MS)	919342	0.50		MS
7 4574	FP03-AB11 (0-6)	21102080903	0.50		SAMPLE
8 4574	FP06-AA9 (0-8)	21102080904	0.51		SAMPLE
9 4574	AA9-101	21102080905	0.50		SAMPLE
10 4574	FP08-Z7 (0-6)	21102080906	0.50		SAMPLE
11 4574	FP10-AE9 (0-8)	21102080907	0.50		SAMPLE
12 4574	A01-B5 (0-6)	21102080908	0.50		SAMPLE
13 4574	AD2-D5 (0-6)	21102080909	0.51		SAMPLE
14 4574	AD5-F3 (0-3)	21102080910	0.51		SAMPLE
15 4574	F3-101	21102080911	0.50		SAMPLE
16 4574	A08-E3 (0-8)	21102080912	0.50		SAMPLE
17 4574	A08-E3 (0-6)	21102080913	0.51		SAMPLE
18					
19					
20					
21					
22					
23					
24					
25					
26					
					REAGENTS/ STANDARDS
					HNO3
					H2SO4
					Aqua Regia
					KMN04
					K2S2O8
					Hg Calib ID
					0.1 ppm CCV Working Solution
					0.1 ppm ICV Working Solution
					Hg ICV
					SPIKE SOLUTIONS (LCS/MS)
					Hg Spike 100uL / 150uL
					ORGANOMETALLIC HG SPIKE 0.025g
					SOLID MATERIAL:
					0919120

Hg Solid Calibration			
Calib Blk	Conc (ug/L)	0.1ppm Spk Added	Final Volume
Standard 1	0.20	60 uL	30mL
Standard 2	0.50	150 uL	30 mL
Standard 3	2.00	600 uL	30 mL
Standard 4	5.00	1500 uL	30 mL
Standard 5	10.0	3000 uL	30 mL
ICV	5.00	1500 uL	30 mL

Hg Water Calibration			
Calib Blk	Conc (ug/L)	0.1ppm Spk Added	Final Volume
Standard 1	0.20	40 uL	20 mL
Standard 2	0.50	100 uL	20 mL
Standard 3	2.00	400 uL	20 mL
Standard 4	5.00	1000 uL	20 mL
Standard 5	10.0	2000 uL	20 mL
ICV	5.00	1000 uL	20 mL

BLOCK ID	TECHNICIAN	DATE
A2-33-116-10	JY	7-8-11
REPIPET BOTTLES VERIFIED	REVIEW	DATE
JY	AJW	2/11/11

BALANCE ID: X5104

TEMP: 950



GCAL ANALYTICAL LABORATORIES, INC.
7979 GSRI Avenue, Baton Rouge, Louisiana 70820-7402
Phone 225.769.4900 • Fax 225.767.5717

CHAIN OF CUSTODY RECORD

Lab use only

OTC/ids

4574

211020309

2-15-11

Client Name

Client #

Workorder #

Due Date

Report to:

Client: OTIE
Address: 1220 KENNEDY LANE
MAHOMETTA, GA 30060
Contact: JERRY PATIAP
Phone: 678-727-3073
Fax:

Bill to:

Client: OTIE
Address:
Contact:
Phone:
Fax:

P.O. Number Project Name/Number 201148-1306
WELLS ENVIRONMENTAL GROUP - FAAL PLAY, SC

Sampled By:

Jerry Patiap

Matrix	Date	Time (2400)	Sample Description	Preservatives	No. Containers
S	2/3/11	1645	X	SMELTING BUILDING FLOOR SAMPLE	2
S	2/1/11	1407	X	FPD1-AA10(0-6")	2
S	2/1/11	1408	X	AA10-100	2
S	2/1/11	1321	X	FP02-AB10(0-6")	1
S	2/1/11	1359	X	FP03-AB11(0-6")	2
S	2/1/11	1346	X	FP04-AC11(0-6")	1
S	2/1/11	1532	X	FP05-AC10(0-6")	1
S	2/1/11	1619	X	FP06-AA9(0-6")	2
S	2/1/11	1620	X	AA9-101	1
S	2/1/11	1117	X	FP07-AB9(0-6")	1
S	2/1/11	0943	X	FP08-Z7(0-6")	2
S	2/1/11	1107	X	FP09-AB7(0-6")	1
S	2/3/11	1235	X	FP10-AE9(0-6")	2
S	2/3/11	1418	X	FP11-AE10(0-6")	1

Turn Around Time: ☐ 24-48 hrs. ☐ 3 days ☒ 1 week ☐ Standard ☐ Other

Relinquished by: (Signature)

Received by: (Signature)

Date:

Note:

Relinquished by: (Signature)

Received by: (Signature)

Date:

Note:

Relinquished by: (Signature)

Received by: (Signature)

Date:

Note:

By submitting these samples, you agree to the terms and conditions contained in our most recent schedule of services.

WHITE: CLIENT FINAL REPORT - CANARY LABORATORY - PINK: CLIENT

GCAL-06 11/98



SAMPLE RECEIVING CHECKLIST

Workorder: 211020809

Client: 4574 - Oneida Total Integrated Enterpri

Profile: 204217 - Feltman Farm

Line Item: 4 - Pb Soil

Received by: Raborn, Michelle

Received Date/Time: 2/8/2011 9:05:00 AM

Samples Received via: FEDEX

Number of Coolers Received: 1

Cooler tracking numbers(s): 795 754777660

Cooler temperature(s): 4.7

Were all coolers received at a temperature of 0 - 6° C?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
Were all custody seals intact?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
Were all samples received in proper containers?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
Were all samples properly preserved?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
Was preservative added to any container at the lab?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> N/A
Were all containers received in good condition?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
Were all VOA vials received with no head space?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> N/A
Do all sample labels match the Chain of Custody?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
Was the client notified about any discrepancies?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A

Notes/Comments: _____

ATTACHMENT E
SCDHEC Referral Letter



December 22, 2010

Via email and US Mail

Mr. Jim McGuire, Chief,
Removal Operations Section
US EPA, Region IV
61 Forsythe Street
Atlanta, Georgia 30303-3104

RE: Welch Environmental Group Sites
Welch – Fair Play, SC Site
Welch – Belton, SC Site

Dear Mr. McGuire:

The purpose of this letter is to formally refer the Welch/Fair Play site and the Welch/Belton sites to EPA's Emergency Response and Removal Branch for consideration of a CERCLA removal action. The Welch/Fair Play Site, is located at 170 Feltman Farm Rd. Fair Play, SC (34.523322°N, -82.991355°W) and the Welch/Belton site is located at 5043 Belton Hwy, Anderson, SC 29621(34.483261°N, -82.563679°W).

The PRP, Welch Environmental Group, operates a business that recovers lead and other metals (copper primarily) from spent munitions at firing ranges gathered from ranges around the southeastern U.S., and then melting the lead into ingots. The melting operations took place at the Welch/Fair Play site. Slag materials are present there as well as at the Belton site. The Belton site was where separation operations were carried out. In addition several hundred drums of salt formulations from a different business venture of Mr. Welch's are present, many of which are uncovered.

These activities were being conducted without any DHEC issued permits.

Blood lead levels in employees at both sites (not including Mr. Welch whom declined) were collected and all 10 were found to have significantly elevated lead levels.

The PRP has been told to shut down all lead recovery operations as of December 2, 2010.

The State Superfund Program is requesting that EPA perform a removal site evaluation at each of these sites to determine if either site qualifies for a federal removal action. The Department would like to participate in any activities and requests that you or your OSC provide us notice of any site visits and removal activities, or any community engagement..

Attached is some supporting information. Attachment I is a timeline of DHEC events as they unfolded with photos of both sites. Attachment 2 has site maps for each. We have additional site photos and field and lab analytic data available as you may need it. DHEC has also conducted some limited soil sampling at surrounding properties to the Fair Play site.

Thank you for your consideration of our request. If you would like to discuss this request or need

additional information, please contact me at (803) 896-4054 or Ken Taylor, Division Director, at (803)896-4011 (taylorgk@dhec.sc.gov).

Sincerely,

R. Gary Stewart, P.E., Manager
State Remediation Section
Bureau of Land and Waste Management

Enclosure

cc: Ken Taylor, Director SARR, BLWM, DHEC
Jonathan McInnis
Chris McCluskey, Region 1 EQC Director,
Rick Caldwell, ABC, EQC Bur. Environmental Services
File

Attachment 1:
MEMO: Welch Group Environmental

Written By: Tyler Smith – Anderson EQC

10/13/2010

- Received phone call & email from Susie Makison (Reg I - Anderson Epidemiologist) about Welch Group Environmental employee with blood lead level (BLL) of 97 ppm.
- Susie Makison (864) 202-1390
- Welch Group Environmental has website... <http://hotleadinc.com>. Recycle lead bullets from gun ranges.
- Glenn Welch – owner of Welch Group Environmental (864) 314-3803.
- EFIS – Glenn Welch issued permit Aug. 06, 2007 for Air - asbestos demolition permit at 103 Rice St. Belton, SC 29627 (103 Rice St. Belton – does not exist on Anderson County Tax Assessor)

10/14/2010

- Spoke with Karen Sprayberry (SC DHEC) about Welch Group Environmental. She also spoke with Phyllis Copeland (SC DHEC) about Welch – no air permit. Karen said she would try and contact the Welch employee that had BLL of 97 to find out how he was exposed.

10/15/2010

- Stephanie Smith-Strack (SC DHEC) and I drove around Rice Rd. in Belton – could not locate a facility.

10/26/2010

- Called Scott Hanks (City of Belton – Director of Utilities) to see if he knew about Welch Group Environmental. He said that Welch Group Environmental at one time was operating in a warehouse on Rice Rd. in Belton. He said the warehouse isn't actually on Rice Rd. it is on Palmetto Parkway. Mr. Hanks said he did respond to a fire at this facility and to call Allen Simms with the Fire Department. Mr. Hanks also mentioned that Cummings Gary owns the property at 103 Rice Rd. Belton.
- Allison McCullough (SC DHEC) emailed me Allen Simms (City of Belton Fire Department – Chief) phone number (864) 338-7048.
- I spoke with Chief Simms about Welch Group Environmental. He said that the fire department did receive an emergency call to 103 Rice Rd. Belton, SC about a year to a

year and a half ago for explosion/fire and that a man was burned in the incident. He said that facility did contain a large amount of brass shell casings.

10/28/2010

- Received email from Karen Sprayberry with contact information for Welch Group Environmental employee and that OSHA had been contacted.
 - Earnest Colton
 - Jackson, Mississippi
 - 601-573-7140

10/29/2010

- I spoke with Earnest Colton and he said that he was exposed to the lead from using a leaf blower to separate the brass and lead from dirt and rocks inside the facility. He said that Welch Group Environmental does not melt lead and that he didn't think Welch was operating anymore. Mr. Colton said that he did wear a respirator, but it would clog up while he was wearing it. I asked where the facility was located and he said Belton.

11/2/2010

- Karen Sprayberry called and said that OSHA did an investigation and that Welch Group Environmental was operating in Belton, SC and Fair Play, SC. The Fair Play site is where the lead is melted. Karen gave me the OSHA Contact - Terry Heightbar (803) 896-7728 and (803) 206-0467.
- I called Terry with OSHA – LLR and he described the operation to me.
- Glenn Welch is the owner of Welch Group Environmental and has a processing facility in Belton, located on Belton Hwy. The facility is a white building with 3 bay doors. Brass and lead are processed here and then taken to Fair Play facility to be melted. The Fair Play facility is located on Feltman Farm Rd. The melting is done an open air, 40' x 40' block building with a metal roof. There is a 3'x 3' x 1'deep melting pot located inside the facility. The melting pot is heated by kerosene at 650 degrees Fahrenheit. Impurities are skimmed off and put into a 55 gal container. The melting operation, generally does a minimum of 2500 lbs of lead and could do as much as 25000 lbs in one night. Lead is brought in from other states and is hauled to a site in Tennessee with rental trucks.
- Paul Wilkie (SC DHEC) and I made a site visit to the Welch Group Environmental site located on Belton Hwy. The facility address is 5034 Belton Hwy. There is no business sign/name on the building. It appeared that only sorting is occurring at this address during our visit. No owners were present, only three workers. We spoke with one person who told us that Welch ran the business and his phone number (864) 314-3803.

- During the site visit we estimated there to be around 400-500, 55 gal drums on-site. Many drums are not properly closed. None of the drums are labeled. Many of the open 55 gal drums contained a fine gray metallic dust. The same dust was found in gaylord boxes, these were labeled 2211 9. The majority of the drums are located on the backside of the property.
- I called Chris McCluskey (SC DHEC) and told him what Paul and I found at the site.
- I also called Steve Burdick (SC DHEC) and described the site to him. Steve said he had spoken with Chris McCluskey and they were available to make a site visit tomorrow morning.

11/3/2010

- I called Glenn Welch and asked if he could meet us at his business located on Belton Hwy. He said he wouldn't be available, but for us (SC DHEC) to go ahead and take a look around the site and to take any samples that we needed. Mr. Welch said he would call Felix to let him know we were heading to the site and to open up any drums for us.
- Steve Burdick, Dana Cook (SC DHEC), Chuck Arnold (SC DHEC), Stephanie Smith-Strack and myself made a site visit to the Welch Group Environmental site located on Belton Hwy.
- Upon arrival at the site, I went to the bay door that was open and asked for Felix. Felix came outside and I asked if he would unlock the gate and open a few drums for us. He opened the gate and opened two 55 gal drums for us. Felix stated that the material inside the drum was "salt".
- Steve Burdick used the XRF gun to analyze a representative number of drums on-site that contained what appeared to be different types of material.
- I called Glenn Welch once again asked if our department could take samples. Mr. Welch agreed and said he would be on-site in 20 minutes.
- 68, 55 gal drums (black with white lids) were located behind the main building.
- Glenn Welch arrived at the site around 12:15 pm.
- I asked Glenn Welch what type of material was in the drums. Mr. Welch said that the majority of the drums contained "salt". I asked where the material came from and Mr. Welch said from Fisher/Barton in Fountain Inn and that the company makes lawn mower blades and the salt came from the "quench tanks." Mr. Welch said he had the "salt" analyzed by an independent lab and the 'salt' material wasn't hazardous. Mr. Welch said he would have his assistant Kasey Whitfield send me an email documenting the results.
- I asked Glenn Welch what the fine gray metallic dust was and he said left over material from processing the bullets. He also said that the material that was left over would be returned to the gun ranges in approximately 6-8 months.
- Five split samples were taken from the site. Five samples were given to Glenn Welch on-site.
- I then told Glenn Welch that our department was aware of the melting site in Fair Play and we would like to take a look at the site today. Mr. Welch said he didn't have a key

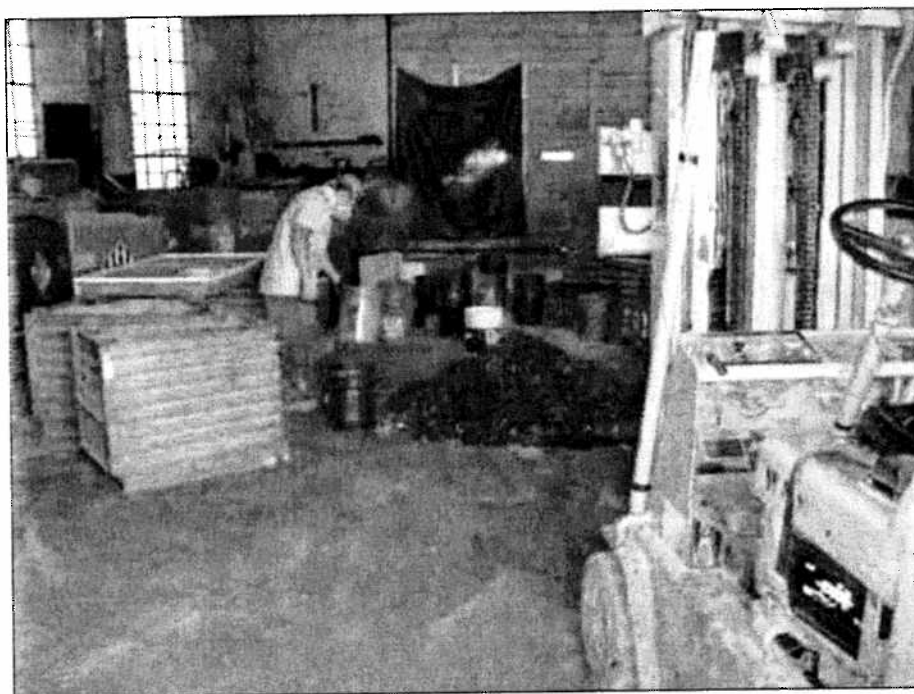
and he didn't own the property and he would have to call the property owner to see if we could get access. Mr. Welch called the property owner and the property owner said he was in Talledega, AL and he couldn't let us on the property until Monday. I then called Chris McCluskey and told him about the property owner in Fair Play refusing to give us access until Monday. Chris McCluskey then spoke with Stephanie Smith-Strack about obtaining the property owner's name and phone number to speak with him about gaining access to the Fair Play property. Mr. Welch told us the property owner's name in Fair Play was James Feltman and he could be reached at home (864) 647-4157. Stephanie called the number and the phone number that was called had a recording that said this phone is not accepting phone calls. Stephanie asked Mr. Welch if that was the correct number and Mr. Welch said, "yes, I just reached him on it." Stephanie called the number again and once again she received a recording. Stephanie then asked Mr. Welch for another number that Mr. Feltman could be reached. Mr. Welch went to his truck to get another number to call (864) 346-1160. Stephanie did reach Mr. Feltman with this number and Stephanie asked multiple times if our department could be granted access to the property today. She explained that SC DHEC wanted to look at both properties as part of the inspection process. Mr. Feltman was reluctant each time and said he was not in town and we could come on Monday. Stephanie told Mr. Feltman that if our department were not granted access today, our department would begin the process of obtaining a search warrant from the local magistrate in order to gain access. At that time Mr. Feltman said he would call someone to allow our department on the property and he would call Mr. Welch back to let him know who would meet us at property (phone call was made at 1:30 pm). We then left the Belton Hwy site to head to the Fair Play site. Stephanie received a phone call (1:46 pm) from Mr. Welch saying he would meet us at the property in Fair Play.

- We arrived at the Fair Play site around 3:22 pm, where we met Glenn Welch and James Feltman. The site is located at Feltman Farm Rd. in Fair Play, SC.
- Glenn Welch described the process at the facility. Mr. Welch said that lead is placed in the "re-melting pot" (3' x 3' x 1' deep – surrounded by brick). The lead is heated to 675 degrees Fahrenheit. Stephanie Smith-Strack asked how do you know when you have reached that temperature. Mr. Welch said I used to have a thermostat, but we don't have one anymore, he said that the way he tells that it's at the right temperature is when there are just fumes and not smoke. Once the lead is melted, the copper and slag is skimmed off the top and placed in a 55 gal drum. The molten lead is poured into ingot molds utilizing 1 gal paint buckets. Once the skimmed material dries it is screened. The copper is sold and the other "material" is put back into 55 gal drums. 50 drums of this "material" were sitting outside the facility, not labeled or closed. There is an accumulation of gray dust that was swept outside the facility entrance onto the ground. The facility is 42' x 42' in size. Mr. Welch said that the lead ingots are sold to O. G. Kelley in Johnston City, TN. www.ogkelley.com No samples were taken at this facility, but the XRF gun was used. The material at this site was representative of what was at the Welch Group Environmental site in Belton. Stephanie told Mr. Welch that he would receive an Air Quality violation for operating without a permit. If Mr. Welch had any documentation from BAQ to send it to Stephanie by 11/8/2010. We then exited the facility at 4:30 pm.

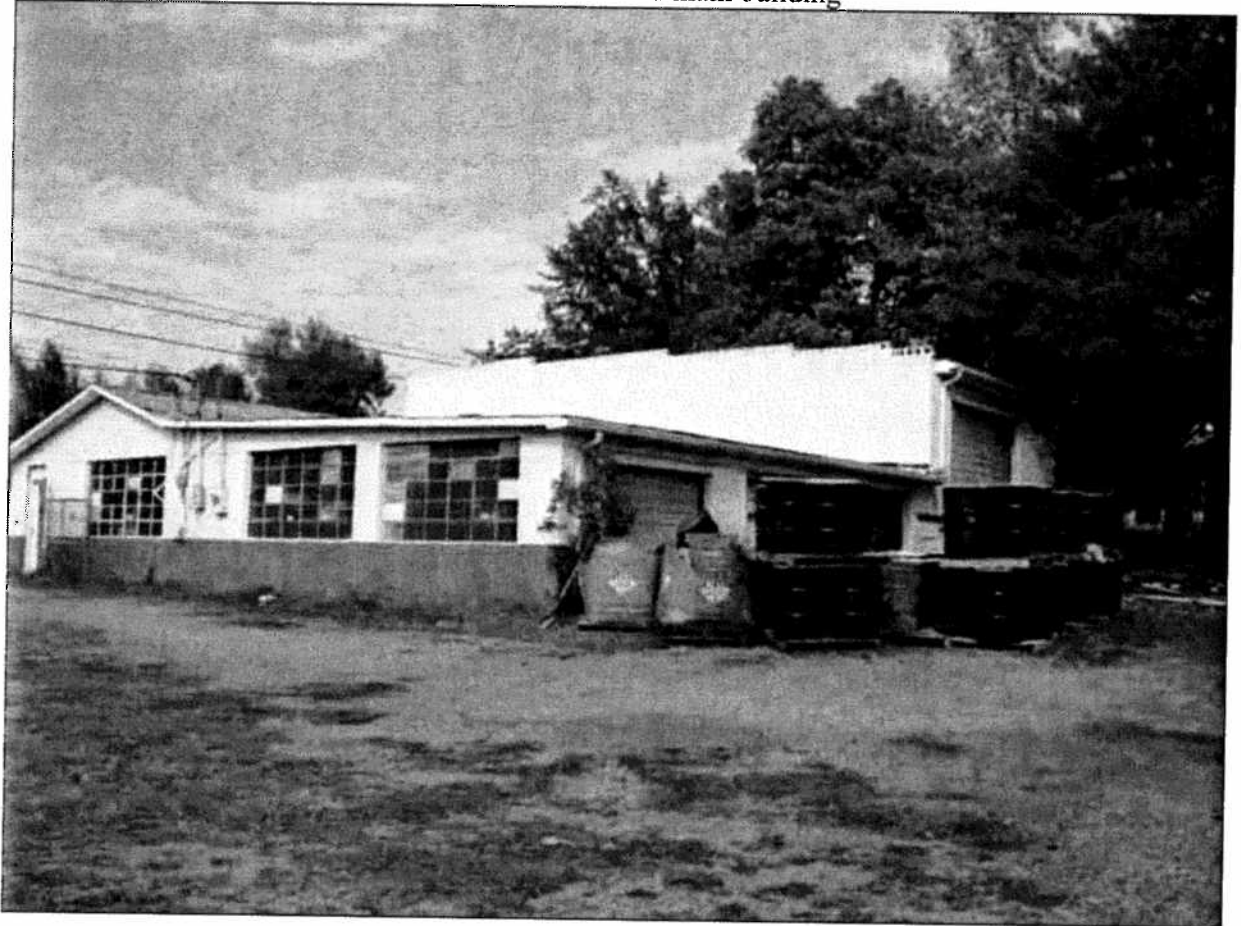
11/4/2010

- Documents concerning the air permit were faxed today. Documents that were supplied to Stephanie were communication between Welch group and SC DHEC Small Business. There was no determination of exemption. A construction permit application has not been submitted. Also included was communication between Welch group and an engineering firm. The description of the system that the submitted to the engineering firm for the requirements to complete the air permit does not match what is actually on site.

WELCH GROUP ENVIRONMENTAL – BELTON FACILITY



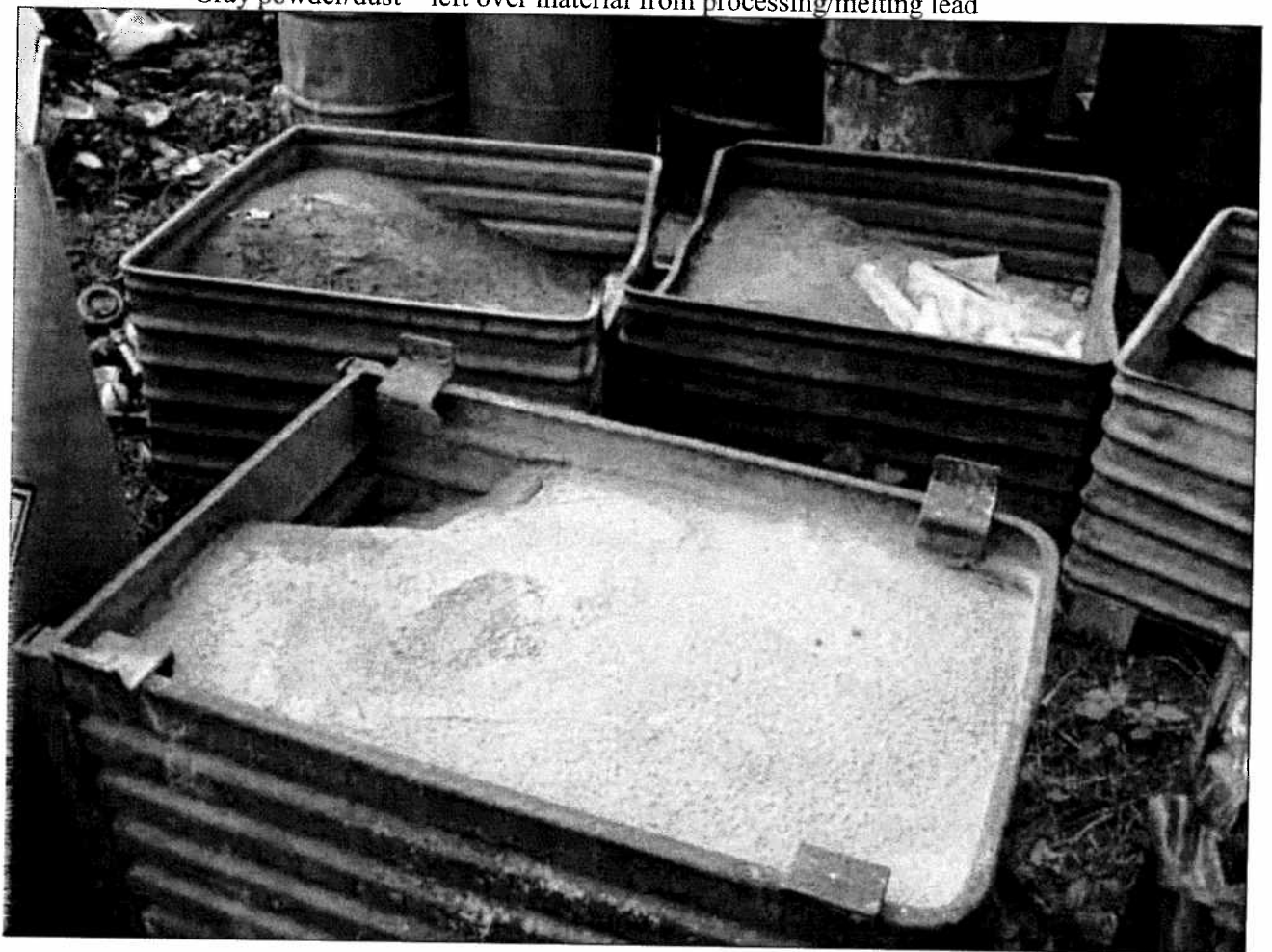
68 drums located behind main building



Estimated 350-400 drums located on backside of facility



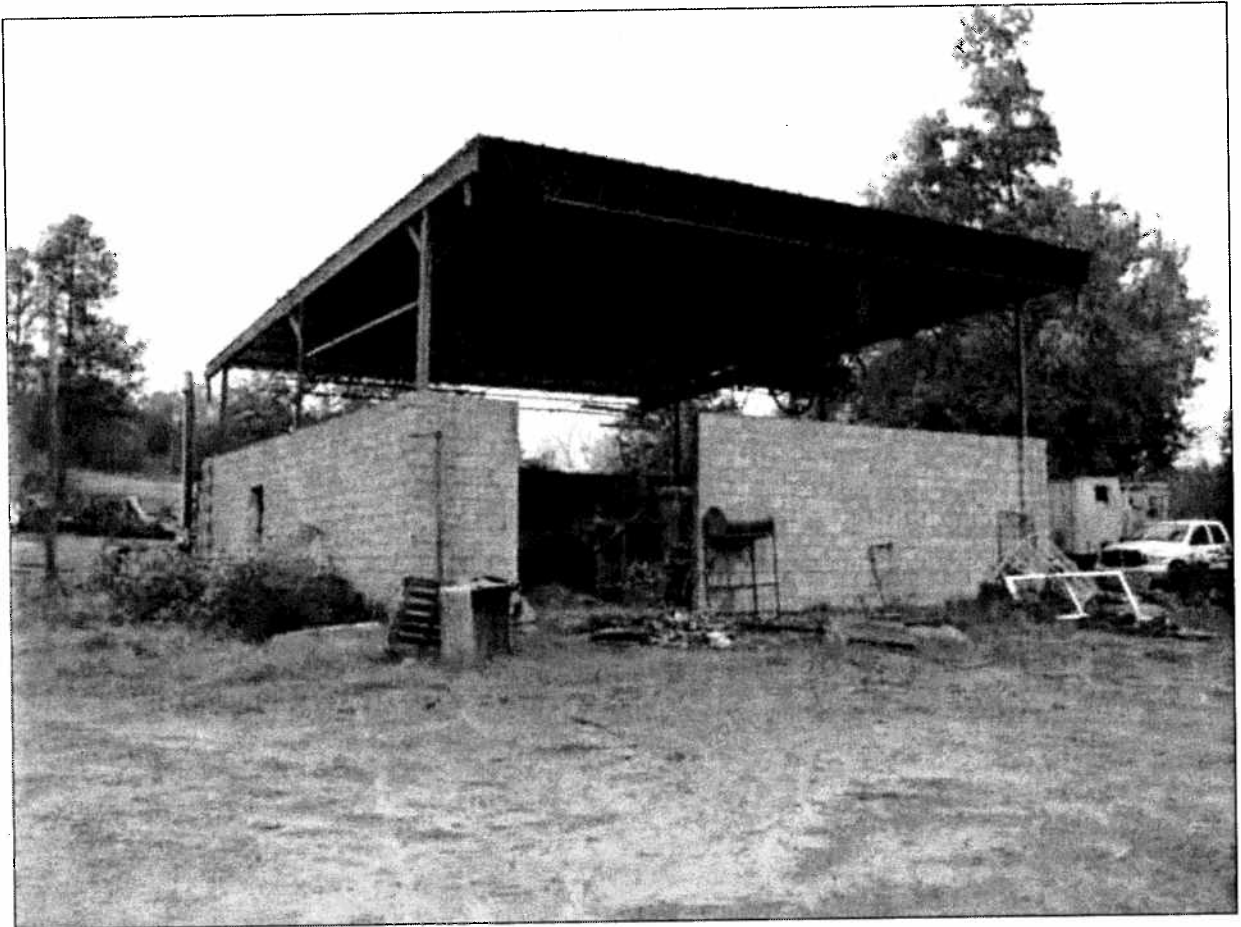
Gray powder/dust – left over material from processing/melting lead





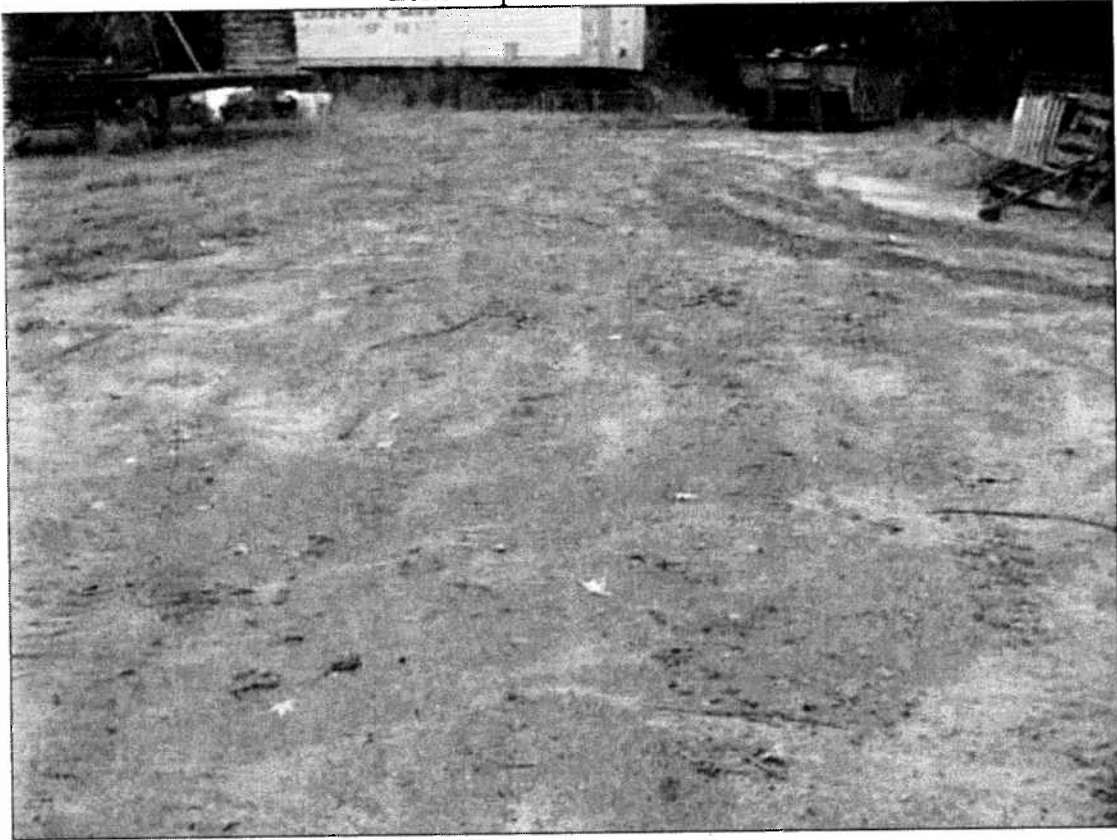


WELCH GROUP ENVIRONMENTAL – FAIR PLAY FACILITY





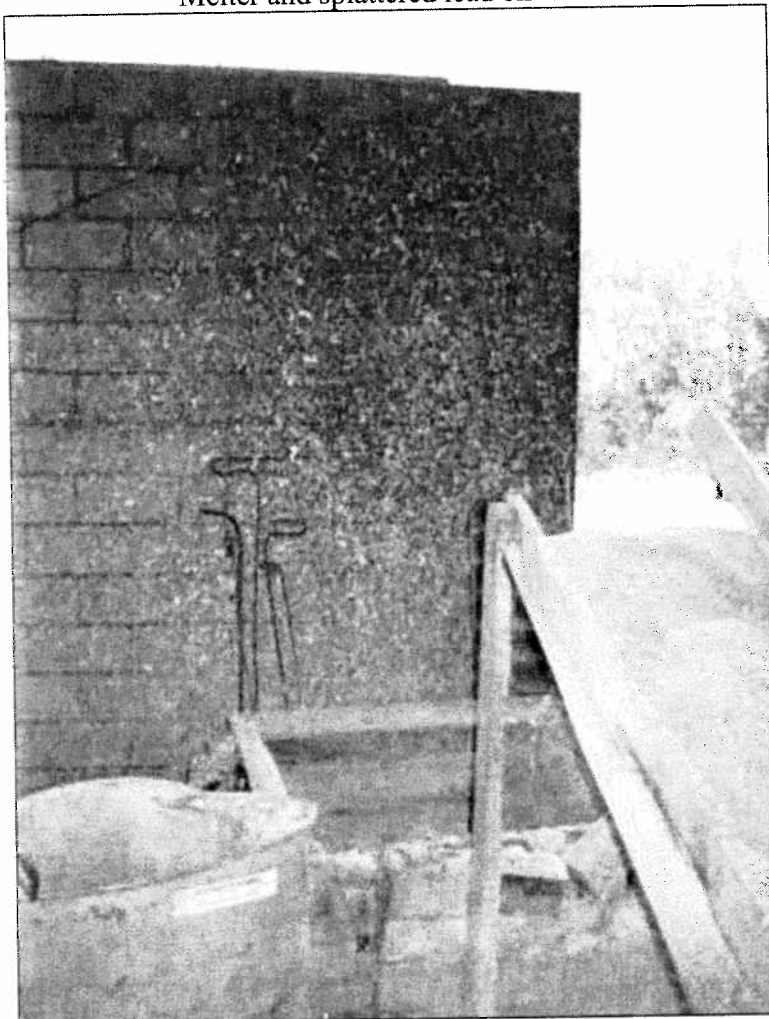
Leftover processed material



Melter (3' x 3' x 1' deep)



Melter and splattered lead on wall



Processed material swept outside



Processed material/slag inside facility



More processed material swept outside



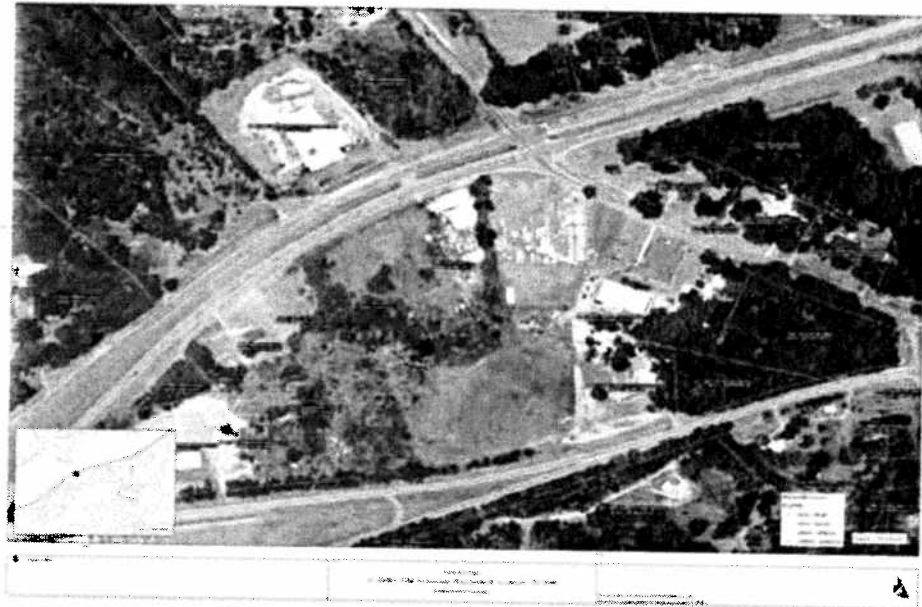
Total of 42 drums in this area – processed material



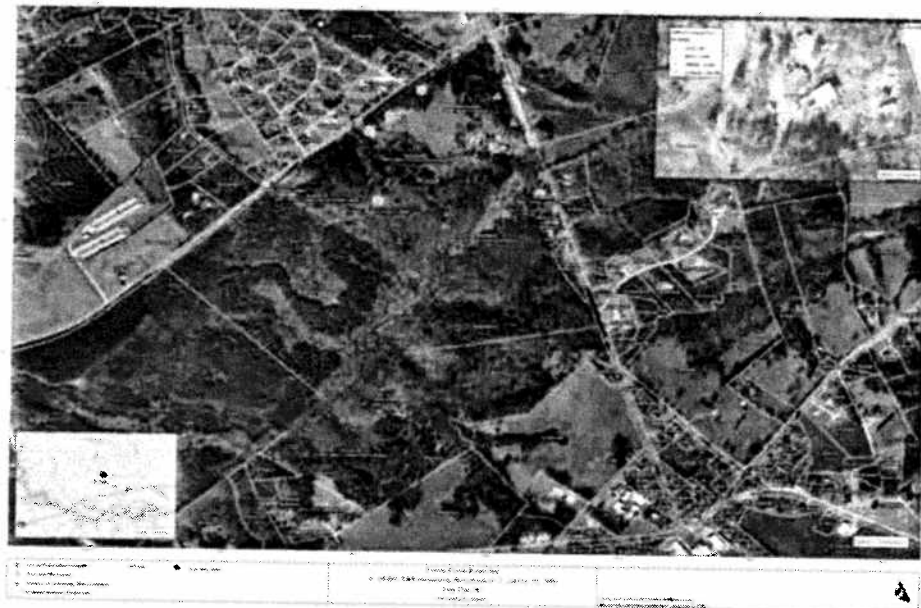
Attachment 2

Site Maps:

Belton



Fair Play:



ATTACHMENT F
WGE Daily Progress Report

PROGRESS NOTES

Date: February 10, 2011



COMPLETED ACTION:

1. Continue to Repack Drums and move to secure area.

PRI repacked additional 5 drums of material into new drums.



2. Move liquid drums and buckets for Hazardous Categorization into building

PRI moved the 11 drums of liquid material into the covered shelter area. PRI also moved 10 buckets of material into the covered shelter area as well.

PRI obtained samples of material from each of these drums and buckets totaling 21 for haz cat testing to determine material classification.

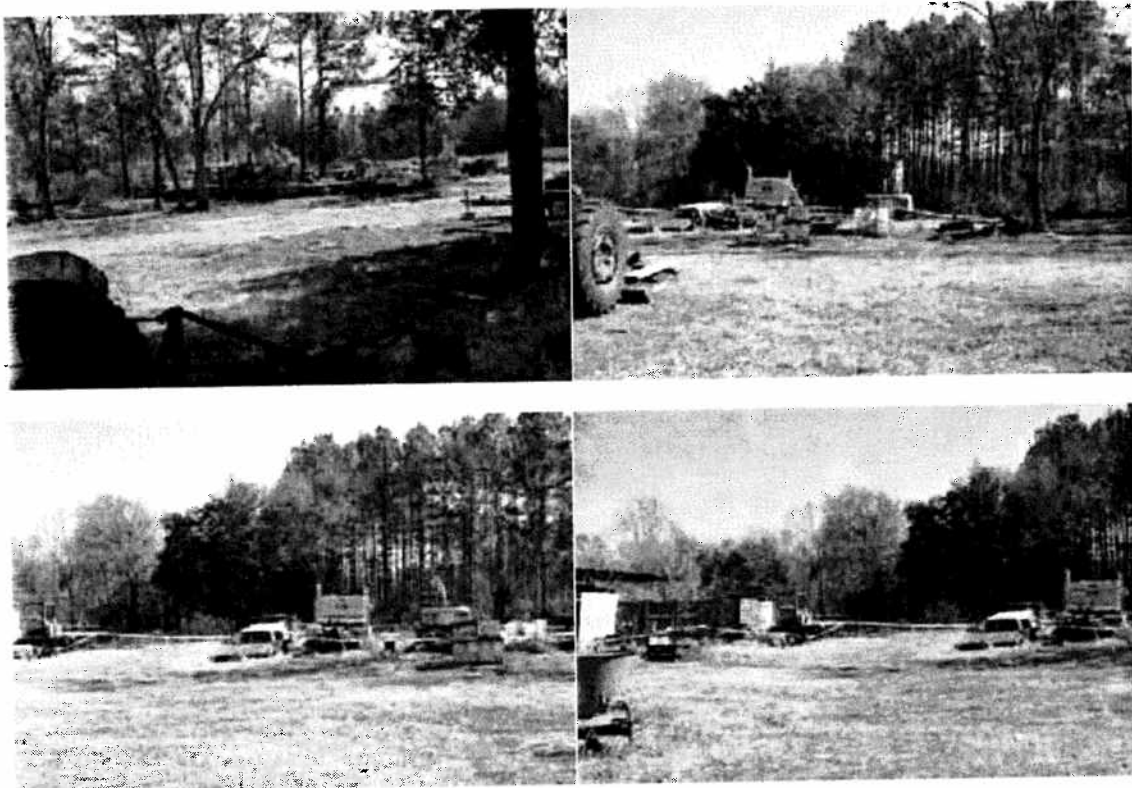
There are a total of 41 drums of contaminated material, and an additional 11 drums and 10 buckets for hazardous categorization, 2 steel boxes of lead material and 1 drum of trash in the EXZ.

WGE FAIR PLAY SITE

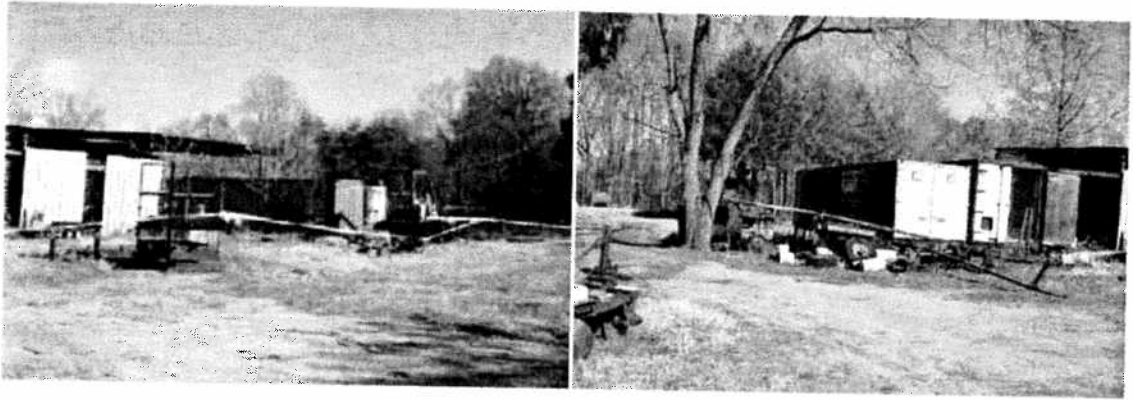


3. Secure area and equipment behind shelter and building area.

Approximately 656 ft caution tape was placed around perimeter of this area, also around center section housing equipment with high lead levels.



WGE FAIR PLAY SITE



- 4. Utilize Decontamination storage area for contaminated equipment (i.e. skid loader)**



Site Supervisor

Michael Mraovich

