WF control
Total + WET metal

California **Environmental Protection Agency**
Department of Toxic Substances Control
Environmental Chemistry Laboratory (Inorganic Section)
700 Heinz Ave., Suite 100, Berkeley, CA 94710
Phone: (510) 540-3003

For ECL No.: AQ02186
to AQ02186
Authorization No.: 06EC0270
Page 1
of 2

ANALYTICAL LABORATORY REPORT - For Total Metal Analysis

Requestor's Name: Martin Snider
Address: 700 Heinz Ave., Suite 100
Berkleley, CA 94710
Site of Sampling: UCCE RICHMOND FIELD STATION CO STEVE QUARLES
1301 South 46th Street, Bldg. 478
Richmond, CA 94804

Date Collected: 10/26/2006
Date Received: 6/8/2007
Date Digested: 7/11/2007
Date Analyzed: 7/20/2007

Analytical Procedure: EPA-SW 846

Samples are digested with 1:1 HNO3 (and 30% H2O2, and 1:1 HCl, if applicable) over a hot plate. Digests are cooled, filtered and made to final volume with deionized H2O. Metal analysis of the digests is by ICPAES (EPA #6010B).

Method: 3050B for soilds; 3010A for liquids; 3005A for drinking water. Units: mg/Kg

ECL Number:	AQ02186					Method	Method
Collector's No.:	WFCONTROL-COMP					Blank	Detection
Sample Type:	wood						Limit
Analyte							
Arsenic-As	ND					ND	0.05
Barium-Ba	17.9					ND	0.04
Beryllium-Be	ND					ND	0.01
Cadmium-Cd	ND					ND	0.02
Chromium-Cr	ND					ND	0.04
Cobalt-Co	ND					ND	0.03
Copper-Cu	ND					ND	0.1
Lead-Pb	ND					ND	0.05
Molybdenum-Mo	ND					ND	0.05
Nickel-Ni	7.82					ND	0.05
Selenium-Se	ND					ND	0.05
Thallium-Tl	ND					ND	0.04
Vanadium-V	ND					ND	0.02
Zinc-Zn	9.63					ND	0.04

comments: ND=Not Detected

Merlyn De Guzman — 7/24/07
Staff Chemist — Date
Merlyn De Guzman

Dinesh Chand — 7/24/07
Sample Prepared By — Date
Dinesh Chand

JS Garcha — 7/24/07
Section Lead Chemist — Date
Jarnail Garcha

MS (REV.) 7/24/07

source file: C:\pe\Administrator\Reports\20july07.csv

California Department of Toxic Substances Control
Environmental Chemistry Laboratory
Inorganic Section

Quality Control Report for Metals by ICP

ECL Number: AQ02186
to AQ02186

Element	Solid Lab QC Sample		mg/kg	Continuing Calibration Verification		mg/L	Duplicate Spiked Sample			ECL No.: AQ02186		Matrix: wood		Control Limits		
							Spike results		mg/kg	Unspiked	Spike	% Recovery		Mean Rec.		
	known	found	%	known	found	%	MS	MSD	RPD	Result(mg/kg)	Added (mg/kg)	MS	MSD	Min %	Max %	RPD %
Arsenic-As	58.2	67.5	116	10.0	11.3	113	564	563	0	ND	500	113	113	70.0	130	20.0
Barium-Ba	49.5	49.8	101	10.0	10.3	103	527	528	0	17.9	500	102	102	70.0	130	20.0
Beryllium-Be	2.59	3.10	120	2.00	2.14	103	109	109	0	ND	100	109	109	70.0	130	20.0
Cadmium-Cd	17.5	18.4	105	10.0	10.9	109	529	531	0	ND	500	106	106	70.0	130	20.0
Chromium-Cr	22.6	23.2	103	10.0	10.3	103	520	522	0	ND	500	104	104	70.0	130	20.0
Cobalt-Co	19.2	20.6	107	10.0	10.8	108	529	532	0	ND	500	106	106	70.0	130	20.0
Copper-Cu	117	117	100	10.0	10.8	108	530	530	0	ND	500	106	106	70.0	130	20.0
Lead-Pb	22.7	25.2	111	10.0	10.8	108	521	521	0	ND	500	104	104	70.0	130	20.0
Molybdenum-Mo	15.7	17.3	110	10.0	10.3	103	518	520	0	ND	500	104	104	70.0	130	20.0
Nickel-Ni	20.5	22.0	107	10.0	10.8	108	527	530	0	7.82	500	104	104	70.0	130	20.0
Selenium-Se	60.7	68.1	112	10.0	11.2	112	587	587	0	ND	500	117	117	70.0	130	20.0
Thallium-Tl	82.5	94.2	114	10.0	10.8	108	531	530	0	ND	500	106	106	70.0	130	20.0
Vanadium-V	33.7	35.9	107	10.0	10.4	104	521	522	0	ND	500	104	104	70.0	130	20.0
Zinc-Zn	119	132	111	10.0	11.0	110	543	547	0	9.63	500	107	107	70.0	130	20.0

Element	Liquid Lab QC Sample		mg/kg	Initial Calibration Verification		mg/L	Duplicate Spiked Sample			ECL No.:		Matrix: LIQUID		Control Limits		
							Spike results		mg/kg	Unspiked	Spike	% Recovery		Mean Rec.		
	known	found	%	known	found	%	MS	MSD	RPD	Result(mg/kg)	Added (mg/kg)	MS	MSD	Min %	Max %	RPD %
Arsenic-As				1.00	1.13	113								70.0	130	20.0
Barium-Ba				1.00	1.03	103								70.0	130	20.0
Beryllium-Be				1.00	1.06	106								70.0	130	20.0
Cadmium-Cd				1.00	1.06	106								70.0	130	20.0
Chromium-Cr				1.00	1.01	101								70.0	130	20.0
Cobalt-Co				1.00	1.04	104								70.0	130	20.0
Copper-Cu				1.00	1.03	103								70.0	130	20.0
Lead-Pb				1.00	1.06	106								70.0	130	20.0
Molybdenum-Mo				1.00	1.00	100								70.0	130	20.0
Nickel-Ni				1.00	1.04	104								70.0	130	20.0
Selenium-Se				1.00	1.09	109								70.0	130	20.0
Thallium-Tl				1.00	1.03	103								70.0	130	20.0
Vanadium-V				1.00	1.02	102								70.0	130	20.0
Zinc-Zn				1.00	1.07	107								70.0	130	20.0

Comments: ND=Not Detected

Staff Chemist: Merlyn De Guzman, Merlyn de Guzman Date: 7/24/07 Section Lead Chemist: Jarnail Garcha, J Garcha Date: 7/24/07

Sample Prepared By Dinesh Chand, Dinesh Chand Date: 07-24-07

California **Environmental Protection Agency**
Department of Toxic Substances Control
Environmental Chemistry Laboratory (Inorganic Section)
700 Heinz Ave., Suite 100, Berkeley, CA 94710
Phone: (510) 540-3003

ANALYTICAL LABORATORY REPORT - For Wet Analysis

Requestor's Name: Martin Snider
Address: 700 Heinz Ave., Suite 100
Berkleley, CA 94710
Site of Sampling: UCCE RICHMOND FIELD STATION CO STEVE QUARLES
1301 South 46th Street, Bldg. 478
Richmond, CA 94804

Date Collected: 10/26/2006
Date Received: 6/8/2007
Date Extracted: 7/11/2007
Date Analyzed: 7/20/2007

Analytical Procedure: Samples are extracted with 0.2 M Citrate buffer, pH 5.0 with constant agitation for 48 hours, followed by filtration through a 0.45 micro membrane filter. Ratio of buffer to sample is 100 ml -> 10 g. Metal analysis of the extract is by ICPAES (EPA #6010B).

Method: ECL S.O.P. 910 California Waste Extraction Test Units: mg/L

ECL Number:	AQ02186					Method	Method
Col. Sample No.:	WFCONTROL-COMP					Blank	Detection
Sample Type:	wood						Limit
Analyte							
Arsenic-As	ND					ND	0.05
Barium-Ba	1.02					ND	0.04
Beryllium-Be	ND					ND	0.01
Cadmium-Cd	ND					ND	0.02
Chromium-Cr	ND					ND	0.04
Cobalt-Co	ND					ND	0.03
Copper-Cu	ND					ND	0.1
Lead-Pb	ND					ND	0.05
Molybdenum-Mo	ND					ND	0.05
Nickel-Ni	ND					ND	0.05
Selenium-Se	ND					0.12	0.05
Thallium-Tl	ND					0.13	0.04
Vanadium-V	ND					ND	0.02
Zinc-Zn	0.80					ND	0.04

comments: ND=Not Detected

Merlyn de Guzman 7/24/07
Staff Chemist — Date
Merlyn De Guzman

Dinesh Chand 07-24-07
Sample Prepared By — Date
Dinesh Chand

JS Garcha 7/24/07
Section Lead Chemist — Date
Jarnail Garcha

MD (Rev.) 7/24/07

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California Department of Toxic Substances Control
Environmental Chemistry Laboratory
Inorganic Section

Quality Control Report for Metals by ICP

ECL Number: AQ02186
to AQ02186

Element	Solid Lab QC Sample mg/kg known	found	%	Continuing Calibration Verification mg/L known	found	%	Duplicate Spiked Sample Spike results mg/kg MS	MSD	RPD	ECL No.: Unspiked Result(mg/l)	Spike Added (mg/kg)	Matrix: SOLID % Recovery MS	MSD	Control Limits Mean Rec. Min %	Max %	RPD %
Arsenic-As				10.0	11.3	113								70.0	130	20.0
Barium-Ba				10.0	10.3	103								70.0	130	20.0
Beryllium-Be				2.00	2.14	103								70.0	130	20.0
Cadmium-Cd				10.0	10.9	109								70.0	130	20.0
Chromium-Cr				10.0	10.3	103								70.0	130	20.0
Cobalt-Co				10.0	10.8	108								70.0	130	20.0
Copper-Cu				10.0	10.8	108								70.0	130	20.0
Lead-Pb				10.0	10.8	108								70.0	130	20.0
Molybdenum-Mo				10.0	10.3	103								70.0	130	20.0
Nickel-Ni				10.0	10.8	108								70.0	130	20.0
Selenium-Se				10.0	11.2	112								70.0	130	20.0
Thallium-Tl				10.0	10.8	108								70.0	130	20.0
Vanadium-V				10.0	10.4	104								70.0	130	20.0
Zinc-Zn				10.0	11.0	110								70.0	130	20.0

Element	Liquid Lab QC Sample mg/kg known	found	%	Initial Calibration Verification mg/L known	found	%	Duplicate Spiked Sample Spike results mg/kg MS	MSD	RPD	ECL No.: AQ02186 Unspiked Result(mg/l)	Spike Added (mg/kg)	Matrix: wood % Recovery MS	MSD	Control Limits Mean Rec. Min %	Max %	RPD %
Arsenic-As				1.00	1.13	113	61.9	61.1	1.63	ND	50.0	124	122	70.0	130	20.0
Barium-Ba				1.00	1.03	103	51.0	51.1	0	1.02	50.0	100	100	70.0	130	20.0
Beryllium-Be				1.00	1.06	106	10.4	10.4	0	ND	10.0	104	104	70.0	130	20.0
Cadmium-Cd				1.00	1.06	106	52.2	52.2	0	ND	50.0	104	104	70.0	130	20.0
Chromium-Cr				1.00	1.01	101	50.3	50.4	0	ND	50.0	101	101	70.0	130	20.0
Cobalt-Co				1.00	1.04	104	52.1	52.1	0	ND	50.0	104	104	70.0	130	20.0
Copper-Cu				1.00	1.03	103	52.4	52.4	0	ND	50.0	105	105	70.0	130	20.0
Lead-Pb				1.00	1.06	106	52.5	52.0	0.96	ND	50.0	105	104	70.0	130	20.0
Molybdenum-Mo				1.00	1.00	100	52.3	52.3	0	ND	50.0	105	105	70.0	130	20.0
Nickel-Ni				1.00	1.04	104	51.6	51.6	0	ND	50.0	103	103	70.0	130	20.0
Selenium-Se				1.00	1.09	109	70.5	69.7	1.43	ND	50.0	141	139	70.0	130	20.0
Thallium-Tl				1.00	1.03	103	54.1	53.5	0.93	ND	50.0	108	107	70.0	130	20.0
Vanadium-V				1.00	1.02	102	52.0	52.1	0	ND	50.0	104	104	70.0	130	20.0
Zinc-Zn				1.00	1.07	107	55.5	55.4	0	0.80	50.0	109	109	70.0	130	20.0

Comments: ND=Not Detected

Staff Chemist: Merlyn De Guzman, Date:

Section Lead Chemist: Jarnail Garcha, Date: 7/24/07

Sample Prepared By Dinesh Chand, Date: 04-24-07

State of California
California Environmental Protection Agency

Department of Toxic Substances Control
Environmental Chemistry Laboratory

ENVIRONMENTAL CHEMISTRY LABORATORY
SAMPLE ANALYSIS REQUEST

1. Authorization Number: 06EC0270

ECL No.: AQ02186 **To** AQ02186

2. Page 1 of 1

3. Requestor: (to Receive Results)
a. Name: Martin Snider
b. Address: 700 Heinz Ave., Suite 100 (street number)
Berkeley, CA 94710 (city, state, zip)
c. Phone: (510) 849-5258 (area code first) d. Fax: (area code first)
e. Email: msnider @dtsc.ca.gov

4. Program/Activity: HWM-RPD

5. TAT Level: 2

*Unit Chief's Signature: *(if TAT level = 1)*

6. Sampling Information:
a. Date/Time Sampled: 10/26/06 (mm/dd/yy) (#:## AM/PM)
b. Location: EPA ID No.
Site: UCCE Richmond Field Station c/o Steve Quarles
Address: 1301 South 46th Street, Bldg. 478 (street number)
Richmond, CA 94804 (city, state, zip)
GPS-Lat: GPS-Long:
GPS-Alt: GPS-Depth:

7. Codes (select from drop down list or fill in if applicable)
a. Office
b. INDEX
c. PCA 22090
d. MPC
e. SITE
f. County

8. Samples:

a.ID	b. Collector's No.	c. ECL No.	d. Matrix	e. Container Size	f. Number of containers	g. Preservative / Field Information
1	WFCONTROL-Comp	AQ02186	wood	1 gallon glass jar	1	milled to <2 mm at ECL-Berkeley
2						(on 5/30/07)
3						
4						
5						
6						
7						
8						
9						

9. Analysis Requested: Enter sample IDs and sample ID ranges separated by commas. For example, 1-3, 5-7, 9

a. Inorganic Analysis	Sample(s) ID	b. Organic Analysis	Sample(s) ID
WET (do WET regardless) (ECL910-S)	1		
Metals Scan (ICP-AES, 6010B)	1		
Other Metals:			
c. TCLP Analysis		d. Other Analysis	
			1

e. Comments for Multiphasic Samples/Analysis Priority:

10. Analysis Objective: Waste Characterization

11. Detection Limit Requirements: (Check ECL User's Manual to assure default DL is sufficient.)

12. Supplemental Requests: Enter sample IDs as described in Item 9

Desired Analysis	Sample(s) ID

Initials:

Date:

ECL

13. ECL Lab Remarks: White Fir Control

FIELD

LAB

14. Chain of Custody:

	Name	Title	Signature	Inclusive Dates of Custody		
a.	Martin Snider	Res. Sci. II	Martin R Snider	10/26/2006	to	6/11/07
b.					to	
c.					to	
d.					to	

COC

Department of Toxic Substances Control
Environmental Chemistry Laboratory

SUPPLEMENTAL ☐
(Check if Supplemental Requested)

AUTHORIZATION REQUEST FORM (ARF)

PART A : (By Requestor - PLEASE PRINT)

TAT Level : ☐ 1* ☒ 2 ☐ 3 ☐ 4

Requestor's Name	Martin Snider	Email	msnider @dtsc.ca.gov	Phone (510)	849-5258
Region	02--Berkeley	Unit		Fax ( )	
Back-up Requestor	Li Tang HWMP-Sacramento HQ			Phone ( )	
Site Name	UCCE-Richmone Field Station c/o Steve Quarles			AREA CODE	

PART B: Analytical Requests (By Requestor) (Lab uses default methods listed below. Please specify all other requests.)

Inorganic Analysis	Number of Samples/Type: Solid	Liquid	Water	Other
% Dry Solids (ECL730-S)				
Acidity (305-1)				
Alkalinity (310-1)				
Anions by IC (9056)				
Chromium VI(Cr^{6+}) by Colorimetric (7196A)				
Chromium VI(Cr^{6+}) in Water by IC (7199)				
Cyanides for Wastes,Leachates (9010B)				
Hardness (130-2)				
Mercury(Hg) in (Semi)Solid Waste (7471A)				
Mercury(Hg) in Liquid Waste (7470A)				
Metals Scan (6010B, for As,Ba,Cu,Pb, etc)	1			
Metals Scan (for Drinking water, 6020A)				
OrganoLead in Waste (ECL938-M)				
rticle Size (ECL740-S)				
erchlorate for Soil,Sludge (ECL955-M)				
Perchlorate for Water (314-0)				
pH (9040B, 9045C)				
Total Dissolved Solids (160-1)				
WET(ECL910-S) ☐ Only if necessary ☑ Do it regardless	1			
(others, type in)				

Organic Analysis		Number of Samples/Type: Solid	Liquid	Water	Other
GRO (Gasoline, 8015B)					
DRO(Diesel) only (ECL816-M)					
Motor Oil only (ECL816-M)					
DRO(Diesel) & Motor Oil (ECL816-M)					
EthyleneGlycol (ECL772-M)					
PBDEs (ECL750-M)					
PCBs (8082)					
Pesticides - Chlorinated (8081A)					
Pesticides - Organophosphate (8141A)					
1,4-Dioxane (ECL830-S)					
GC/MS	Semivolatiles (8270C)				
	Volatiles (8260B)				
HPLC	Carbonyl Compounds (8315A)				
	Explosives (8330)				
	PAHs (8310)				
Dioxins/Furans by HRGC/HRMS (ECL880-M)					
Flash Point (1020A)					
n-Hexane Extractables/TPH (1664)					
TXO-Total Halogens in Oil (ECL792-S)					
(others, type in)					

TCLP Analysis**					
Metals ☐ Only if necessary ☐ Do it regardless					
Mercury ☐ Only if necessary ☐ Do it regardless					
Volatiles ☐ Only if necessary ☐ Do it regardless					
Semivolatiles ☐ Only if necessary ☐ Do it regardless					
(others, type in)					

Other Analysis					
Fish Bioassay (Title 22)					
Congener PCBs (ECL-CG-PCB)					
Congener PBDEs (ECL-CG-PBDE)					
(others,type in)					
(others, type in)					

Analysis Objective: Waste Characterization

Detection Limit Requirements: (Check ECL User's Manual to assure default DL is sufficient.)
STLC, TTLC, T22 LC50

Other Comments: White Fir control

Expected Date of Sample Arrival at Lab 10/26/06 (mm/dd/yy)

PART C : (By SMO - ECL)

Authorization Number (AN): 0 6 E C 0 2 7 0

ARF's Revision No. ____ Initials: ____ Date: ____

Lab to Receive Sample(s): ECL - Berk.

ARF's Revision No. ____ Initials: ____ Date: ____

Sample Management Officer (SMO): Gpz

☐ Check box if cancelled
Initials: ____ Date: ____

Today's Date 06/07/07 (mm/dd/yy)

Expiration Date 06/13/07 (mm/dd/yy)

TAT Level : *1 = 10-15 days (requires unit chief's signature on SAR) 2 = 16 - 30 days 3 = 31 - 45 days 4 = when possible

**TCLP : If time permits and sample matrix type is appropriate, lab may analyze or screen the sample(s) first to determine if TCLP is needed.