AR TARGET SHEET

The following document was too large to scan as one unit, therefore, it has been broken down into sections.

EDMC#: 0069717
SECTION: 1 OF 2

DOCUMENT #: F1280

TITLE: Data Package

0069717

SAF-RC-051
100 & 300 Area Component of the RCBRA - Incremental Soil Sampling
FINAL DATA PACKAGE

COMPLETE COPY OF DATA PACKAGE TO:

Jill Thomson	H0-23	____NB 5/15/06 INITIAL/DATE
Jeanette Duncan	H9-02	___NB 5/15/06 INITIAL/DATE

COMMENTS:

SDG _F1280__ SAF-RC-051

Rad only X Chem only Rad & Chem

X Complete Partial

Including missing anions

Waste Site: Sr Sediments

RECEIVED
MAY 3 1 2006
EDMC

ELR Consulting, Inc.

PROJECT MANAGEMENT, ENGINEERING, & TECHNICAL SERVICES

RECEIVED
MAY 2006
Contracted

May 15, 2006

Ms. Joan Kessner
Subcontract Technical Representative
Washington Closure Hanford LLC
3070 George Washington Way
Richland, WA 99354

Dear Ms. Kessner:

MISSING DATA - CONTRACT NUMBER 0000X-SC-G0553

The accompanying anion data is for samples J116W7 and J116X6. I don't have an explanation as to why this information was not included in the original submittal. It is clear however that the laboratory did run the samples, since they were prompt in providing the data when it was brought to their attention that the data was missing.

I hope this meets your expectations. Please advise if there is anything else we can provide.

Should you have any questions, please feel free to call me at (509) 531-8774.

Sincerely yours,

Emmett L. Richards
President

Enclosure

F1280

CLIENT SAMPLE CROSS-REFERENCE

CH2M HILL Applied Sciences Laboratory Reference No. F1280

Sample ID	Client Sample ID	Date Collected	Time Collected
F128001	J116X2	02/27/2006	11:30
F128002	J116W9	02/27/2006	10:00
F128003	J116X0	02/27/2006	12:30
F128004	J116X1	02/27/2006	12:00
F128005	J116X3	02/27/2006	11:00
F128006	J116X6	02/27/2006	13:00
F128007	J116W7	02/27/2006	14:30
F128008	J116W8	02/27/2006	15:00

Subject: RE: [Fwd: SDG F1280 - missing some data]
From: <Mike.Stanaway@CH2M.com>
Date: Fri, 12 May 2006 15:33:04 -0600
To: <elrconsulting@bossig.com>

Hi Emmett,

Here is the report with the missing data.

Thanks
Mike

From: ELR Consulting [mailto:elrconsulting@bossig.com]
Sent: Friday, May 12, 2006 7:52 AM
To: Stanaway, Mike/CVO
Subject: [Fwd: SDG F1280 - missing some data]

Mike

Please see if you can find an answer to Joan/Rich's question. Also, since it is the middle of the month on Monday, can we expect a status report from the laboratory?

Thanks

Emmett

-------- Original Message --------
Subject:SDG F1280 - missing some data
Date: Thu, 11 May 2006 15:26:10 -0700
From: Kessner, Joan H <joan.kessner@wch-rcc.com>
To:'ELR Consulting' <elrconsulting@bossig.com>

Emmett--
We are missing anion data for samples J116W7 and J116X6. In looking at the data is looks like the lab ran the samples, but just forgot to report them. Rich thinks he may have contacted to lab about this, but really can't remember if he did. So would you mind checking with the Corvallis folks and see what you could find out???

Thanks,
Joan

F1280A.pdf	**Content-Description:**	F1280A.pdf
	Content-Type:	application/octet-stream
	Content-Encoding:	base64

CH2M HILL
Applied Sciences Laboratory
2300 NW Walnut Blvd
Corvallis, OR
97330-3538
P.O. Box 428
Corvallis, OR
97339-0428
Tel 541.752.4271
Fax 541.752.0276

CH2MHILL
Applied Sciences Laboratory

March 30, 2006

ELR Consulting
2328 S. Garfield Street
Kennewick, WA 99337

RE: Laboratory Report for ELR Consulting
Applied Sciences Laboratory Reference No. F1280

Dear Emmett Richards:

On March 02, 2006, CH2M HILL Applied Sciences Laboratory received eight samples with a request for analysis of selected parameters. All analyses were performed by CH2M HILL unless otherwise indicated below.

The analytical results and associated quality control data are enclosed. Any unusual difficulties encountered during the analysis of your samples are discussed in the case narrative. This data package meets standards requested by client and is not intended or implied to meet any other standard.

CH2M HILL Applied Sciences Laboratory appreciates your business and looks forward to serving your analytical needs again. If you should have any questions concerning the data, or if you need additional information, please call Mark Bos at (541) 758-0235, extension 3135.

Sincerely,

Mark Bos
Analytical Manager

Enclosures

CLIENT SAMPLE CROSS-REFERENCE

CH2M HILL Applied Sciences Laboratory Reference No. F1280

Sample ID	Client Sample ID	Date Collected	Time Collected
F128001	J116X2	02/27/2006	11:30
F128002	J116W9	02/27/2006	10:00
F128003	J116X0	02/27/2006	12:30
F128004	J116X1	02/27/2006	12:00
F128005	J116X3	02/27/2006	11:00
F128006	J116X6	02/27/2006	13:00
F128007	J116W7	02/27/2006	14:30
F128008	J116W8	02/27/2006	15:00

Table of Contents
CH2M HILL Laboratory Reference No. F1280

Page

Ammonia Analysis by Method EPA350.3 5
Sample Data Summary 7
QC Summary 17

Anions Analysis by Method E300.0 27
Sample Data Summary 29
QC Summary 37

Moisture Analysis by Method ASTM D2216 49

Particle Size Analysis by Method D422 58

pH Analysis by Method SW9045C 67

Total Kjeldahl Nitrogen Analysis by Method EPA351.4 77
Sample Data Summary 79
QC Summary 89

Total Organic Carbon Analysis by Method ASTM E777 99
Sample Data Summary 101
QC Summary 111

Chain of Custody/Shipping Documents 121

Applied Sciences Laboratory

Organic CLP and CLP Like Data Qualifiers

U — The analyte was analyzed for, but not detected above the reported sample quantitation limit.

J — The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

UJ — The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

N — The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification".

NJ — The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.

P — The primary and confirmation analyte result recoveries do not match.

E — The analyte was positively identified; the associated numerical value exceeded the instrument calibration range.

R — The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

Inorganic CLP and CLP Like Data Qualifiers

U — The analyte was analyzed for, but not detected above the reported sample quantitation limit.

B — The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

UJ — The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

E — The analyte was positively identified; the associated numerical value exceeded the instrument calibration range.

N — The matrix spike/matrix spike duplicate recovery for the analyte is outside of acceptance criteria—qualifier is applied to the native sample only.

R — The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

AMMONIA
METHOD EPA 350.3

CASE NARRATIVE
AMMONIA

Analytical Method: EPA 350.3 Batch No.: F1280

Lab Name: CH2M HILL Applied Sciences Lab Contract #.: 920842.OTC

Project Name: ELR Consulting Prime Contractor.: _____

I. Holding Times:
All acceptance criteria were met.

II. Analysis:

A. Calibration:
All acceptance criteria were met.

B. Blanks:
All acceptance criteria were met.

C. Matrix Spike/Matrix Spike Duplicate(MS/MSD)
All analyses were performed in accordance with standard operating procedures.

D. Laboratory Control Spike(LCS)
All acceptance criteria were met.

E. Duplicate Sample(s):
All analyses were performed in accordance with standard operating procedures.

F. Analytical Exceptions:
None.

III. Sampling Equipment:
None.

IV. Documentation Exceptions:
None

V. I certify that this data package is in compliance with the terms and conditions agreed to by the client and CH2M HILL, both tcehnically and for completeness, except for the conditions detailed above. Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or designee, as verified by the following signature.

Reported by: Elizabeth M Tepper Date: 3/14/06

Reviewed by: [illegible] Date: 3/20/06

SAMPLE DATA
SUMMARY

1A-WC

GENERAL CHEMISTRY ANALYSIS DATA SHEET

Field Sample ID:

J116X2

SDG No.: F1280

Matrix: SOIL

% Moisture: 45

Lab Name: CH2M HILL/LAB/CVO

Lab Sample ID: F128001

Date Received: 03/02/06

CAS No.	Analyte	MDL	PQL	Result	Q	Units	DF	Sample Amount	Analysis Method	Date Analyzed
7664-41-7	Ammonia-N	1.85	6.94	10.4		mg/kg	1	0.5239 G	E350.3	03/03/06

1A-WC

GENERAL CHEMISTRY ANALYSIS DATA SHEET

Field Sample ID:

J116W9

SDG No.: F1280

Lab Name: CH2M HILL/LAB/CVO

Matrix: SOIL

Lab Sample ID: F128002

% Moisture: 5

Date Received: 03/02/06

CAS No.	Analyte	MDL	PQL	Result	Q	Units	DF	Sample Amount	Analysis Method	Date Analyzed
7664-41-7	Ammonia-N	1.06	3.96	3.34	B	mg/kg	1	0.5319 G	E350.3	03/03/06

1A-WC

GENERAL CHEMISTRY ANALYSIS DATA SHEET

Field Sample ID:

J116X0

SDG No.: F1280

Matrix: SOIL

% Moisture: 49

Lab Name: CH2M HILL/LAB/CVO

Lab Sample ID: F128003

Date Received: 03/02/06

CAS No.	Analyte	MDL	PQL	Result	Q	Units	DF	Sample Amount	Analysis Method	Date Analyzed
7664-41-7	Ammonia-N	2.14	8.03	7.13	B	mg/kg	1	0.4882 G	E350.3	03/03/06

1A-WC

GENERAL CHEMISTRY ANALYSIS DATA SHEET

Field Sample ID:

J116X1

SDG No.: F1280

Lab Name: CH2M HILL/LAB/CVO

Matrix: SOIL

Lab Sample ID: F128004

% Moisture: 45

Date Received: 03/02/06

CAS No.	Analyte	MDL	PQL	Result	Q	Units	DF	Sample Amount	Analysis Method	Date Analyzed
7664-41-7	Ammonia-N	1.81	6.77	6.27	B	mg/kg	1	0.5368 G	E350.3	03/03/06

1A-WC

GENERAL CHEMISTRY ANALYSIS DATA SHEET

Field Sample ID:

J116X3

SDG No.: F1280

Matrix: SOIL

% Moisture: 9

Lab Name: CH2M HILL/LAB/CVO

Lab Sample ID: F128005

Date Received: 03/02/06

CAS No.	Analyte	MDL	PQL	Result	Q	Units	DF	Sample Amount	Analysis Method	Date Analyzed
7664-41-7	Ammonia-N	1.08	4.03	3.58	B	mg/kg	1	0.5454 G	E350.3	03/03/06

1A-WC

GENERAL CHEMISTRY ANALYSIS DATA SHEET

Field Sample ID:

J116X6

SDG No.: F1280

Lab Name: CH2M HILL/LAB/CVO

Matrix: SOIL

Lab Sample ID: F128006

% Moisture: 58

Date Received: 03/02/06

CAS No.	Analyte	MDL	PQL	Result	Q	Units	DF	Sample Amount	Analysis Method	Date Analyzed
7664-41-7	Ammonia-N	2.39	8.97	8.05	B	mg/kg	1	0.5309 G	E350.3	03/03/06

1A-WC

GENERAL CHEMISTRY ANALYSIS DATA SHEET

Field Sample ID:

J116W7

SDG No.: F1280

Lab Name: CH2M HILL/LAB/CVO

Matrix: SOIL

Lab Sample ID: F128007

% Moisture: 17

Date Received: 03/02/06

CAS No.	Analyte	MDL	PQL	Result	Q	Units	DF	Sample Amount	Analysis Method	Date Analyzed
7664-41-7	Ammonia-N	1.34	5.02	4.51	B	mg/kg	1.	0.4804 G	E350.3	03/03/06

1A-WC

GENERAL CHEMISTRY ANALYSIS DATA SHEET

Field Sample ID:

J116W8

SDG No.: F1280

Matrix: SOIL

% Moisture: 21

Lab Name: CH2M HILL/LAB/CVO

Lab Sample ID: F128008

Date Received: 03/02/06

CAS No.	Analyte	MDL	PQL	Result	Q	Units	DF	Sample Amount	Analysis Method	Date Analyzed
7664-41-7	Ammonia-N	1.34	5.02	4.62	B	mg/kg	1	0.5048 G	E350.3	03/03/06

WC

GENERAL CHEMISTRY ANALYSIS DATA SHEET

Field Sample ID:

SB1-0303

SDG No.: F1280

Matrix: SOIL

% Moisture: 0

Lab Name: CH2M HILL/LAB/CVO

Lab Sample ID: SB1-0303

Date Received: / /

CAS No.	Analyte	MDL	PQL	Result	Q	Units	DF	Sample Amount	Analysis Method	Date Analyzed
7664-41-7	Ammonia-N	0.534	2.00	1.53	B	mg/kg	1	1 G	E350.3	03/03/06

QC DATA SUMMARY

2-WC

GENERAL CHEMISTRY INITIAL CALIBRATION DATA

SDG No.: F1280

Lab Name: CH2M HILL/LAB/CVO

Analysis Method: E350.3

Initial Calibration Date: 03/03/06 1300

Instrument Name: NONE

Concentration Units: mg/L

Initial Calibration ID: 030306NH3

Analyte	Std 1	Resp 1	Std 2	Resp 2	Std 3	Resp 3	Std 4	Resp 4	Std 5	Resp 5	Std 6	Resp 6	Std 7	Resp 7
Ammonia-N	0.10	158	1.0	106	10.0	52.2	100	-4.8						

Comments:

2-WC

GENERAL CHEMISTRY INITIAL CALIBRATION DATA

SDG No.: F1280

Lab Name: CH2M HILL/LAB/CVO

Analysis Method: E350.3

Initial Calibration Date: 03/03/06 1300

Instrument Name: NONE

Concentration Units: mg/L

Initial Calibration ID: 030306NH3

Analyte	Curve Type	r	Q
Ammonia-N	LNR	0.9995	

Comments:

2B-WC

GENERAL CHEMISTRY SECOND SOURCE CALIBRATION VERIFICATION DATA

SDG No.: F1280

Lab Name: CH2M HILL/LAB/CVO

Analysis Method: E350.3

Second Source ID: ICV-0303

Instrument Name: NONE

Concentration Units: mg/L

Initial Calibration ID: 030306NH3

Analyte	Expected	Found	%D	Q
Ammonia-N	1	1.07	6.8	

Comments:

2A-WC

GENERAL CHEMISTRY CALIBRATION VERIFICATION DATA

SDG No.: F1280

Lab Name: CH2M HILL/LAB/CVO

Analysis Method: E350.3

Analytical Lot ID: 030306NH3

Instrument Name: NONE

Concentration Units: mg/L

Initial Calibration ID: 030306NH3

CCV #1 ID: CV1-0303 CCV #2 ID: CV2-0303 CCV #3 ID: CV3-0303

Analyte	Expected	Found	%D	Q	Expected	Found	%D	Q	Expected	Found	%D	Q
Ammonia-N	1	0.949	-5.1		10	9.44	-5.6		1	0.853	-14.7	

Comments:

2A-WC

GENERAL CHEMISTRY CALIBRATION VERIFICATION DATA

SDG No.: F1280

Lab Name: CH2M HILL/LAB/CVO

Analysis Method: E350.3

Analytical Lot ID: 030306NH3

Instrument Name: NONE

Concentration Units: mg/L

Initial Calibration ID: 030306NH3

CCV #4 ID: CV4-0303 CCV #5 ID: CCV #6 ID:

Analyte	Expected	Found	%D	Q	Expected	Found	%D	Q	Expected	Found	%D	Q
Ammonia-N	10	10.9	9.4									

Comments:

SOIL GENERAL CHEMISTRY METHOD BLANK SUMMARY

Field Sample ID: SB1-0303

SDG No.: F1280

Lab Name: CH2M HILL/LAB/CVO

Analysis Method: E350.3

Lab Sample ID: SB1-0303

Initial Cal ID: 030306NH3

Date Analyzed: 03/03/06

Matrix: (Soil/Water) SOIL

Time Analyzed: 1318

Instrument: NONE

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS, AND MSD:

	CLIENT SAMPLE ID	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED
05	BS1S0303	BS1S0303	03/03/06	1311
11	J116X2	F128001	03/03/06	1410
12	J116W9	F128002	03/03/06	1415
13	J116X0	F128003	03/03/06	1419
14	J116X1	F128004	03/03/06	1421
15	J116X3	F128005	03/03/06	1422
16	J116X6	F128006	03/03/06	1423
17	J116W7	F128007	03/03/06	1426
19	J116W8	F128008	03/03/06	1435

COMMENTS:

7-WC

GENERAL CHEMISTRY LABORATORY CONTROL SAMPLE

SDG No.: F1280

Lab Name: CH2M HILL/LAB/CVO

Analysis Method: E350.3

LCS ID: BS1S0303

Initial Cal ID: 030306NH3

Date Analyzed: 03/03/06

Matrix: (Soil/Water) SOIL

Time Analyzed: 1311

Instrument: NONE

Concentration Units: mg/kg

Analyte	Expected	Found	%R	QC Limits %R	Q
Ammonia-N	20	21.4	106.8	80-120	

* Values outside of QC limits

Comments:

14-WC

GENERAL CHEMISTRY ANALYTICAL SEQUENCE

SDG No.: F1280

Lab Name: CH2M HILL/LAB/CVO

Analysis Method: E350.3

Lab Code: CVO

Instrument: NONE

Analytical Lot ID: 030306NH3

	CLIENT SAMPLE ID	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED
01	LEVEL-1	LEVEL-1	03/03/06	1200
02	LEVEL-2	LEVEL-2	03/03/06	1205
03	LEVEL-3	LEVEL-3	03/03/06	1210
04	LEVEL-4	LEVEL-4	03/03/06	1215
05	CV1-0303	CV1-0303	03/03/06	1248
06	CV2-0303	CV2-0303	03/03/06	1255
07	ICV-0303	ICV-0303	03/03/06	1311
09	BS1S0303	BS1S0303	03/03/06	1311
10	SB1-0303	SB1-0303	03/03/06	1318
15	J116X2	F128001	03/03/06	1410
16	J116W9	F128002	03/03/06	1415
17	J116X0	F128003	03/03/06	1419
18	J116X1	F128004	03/03/06	1421
19	J116X3	F128005	03/03/06	1422
20	J116X6	F128006	03/03/06	1423
21	J116W7	F128007	03/03/06	1426
22	CV3-0303	CV3-0303	03/03/06	1430
23	J116W8	F128008	03/03/06	1435
26	CV4-0303	CV4-0303	03/03/06	1446

COMMENTS: _____

CH2MHILL
Applied Sciences Laboratory

CH2M HILL
Applied Sciences Labortory (ASL)
2300 NW Walnut Blvd.
P.O. Box 428
Corvallis, OR 97330-0428
Telephone: 541-752-4271
Fax: 541-752-0276

03/15/06

MDL Study Report

Analytical Method: E350.3

Matrix: Soil

Instrument ID: NONE

Concentration Units: mg/kg

Analyte	Analysis Date	Amt. Spiked	Replicates 1	2	3	4	5	6	7	8	Std. Dev.	MDL
Ammonia	08/05/05	2	2.18	1.70	1.73	1.70	1.73	1.74	1.81		0.170	0.534

ANIONS BY METHOD EPA300.0A

CASE NARRATIVE
ANIONS

Analytical Method: EPA300.0 Batch No.: F1280

Lab Name: CH2M HILL Applied Sciences Lab Contract #.: 920842.OTC

Base/Command: ELR Consulting Prime Contractor.: _____

I. Holding Times:
All acceptance criteria were met.

II. Analysis:

A. Calibration:
All acceptance criteria were met.

B. Blanks:
All acceptance criteria were met.

C. Matrix Spike/Matrix Spike Duplicate Sample(s):
Samples were analyzed in accordance with SOP.

D. Laboratory Control Spike(LCS)
All acceptance criteria were met.

E. Analytical Exception:
None.

F. Other:
None.

III. Sampling Equipment:
None.

IV. Documentation Exceptions:
None

V. I certify that this data package is in compliance with the terms and conditions agreed to by the client and CH2M HILL, both technically and for completeness, except for the conditions detailed above. Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or designee, as verified by the following signature.

Reported by: _____ Date: 3/21/06

Reviewed by: _____ Date: 3/29/06

SAMPLE DATA
SUMMARY

1A-WC

GENERAL CHEMISTRY ANALYSIS DATA SHEET

Field Sample ID:

J116X2

SDG No.: F1280

Matrix: SOIL

% Moisture: 45

Lab Name: CH2M HILL/LAB/CVO

Lab Sample ID: F128001

Date Received: 03/02/06

CAS No.	Analyte	MDL	PQL	Result	Q	Units	DF	Sample Amount	Analysis Method	Date Analyzed
16887-00-6	Chloride	0.230	1.89	2.33		mg/kg	1	2.4 G	E300.0A	03/09/06
16984-48-8	Fluoride	0.206	1.89	1.89	U	mg/kg	1	2.4 G	E300.0A	03/09/06
14797-55-8	Nitrate-N	0.178	1.89	2.37		mg/kg	1	2.4 G	E300.0A	03/09/06
14797-65-0	Nitrite-N	0.170	1.89	0.553	B	mg/kg	1	2.4 G	E300.0A	03/09/06
14808-79-8	Sulfate	0.305	1.89	11.5		mg/kg	1	2.4 G	E300.0A	03/09/06

1A-WC

GENERAL CHEMISTRY ANALYSIS DATA SHEET

Field Sample ID:

J116W9

SDG No.: F1280

Matrix: SOIL

% Moisture: 5

Lab Name: CH2M HILL/LAB/CVO

Lab Sample ID: F128002

Date Received: 03/02/06

CAS No.	Analyte	MDL	PQL	Result	Q	Units	DF	Sample Amount	Analysis Method	Date Analyzed
16887-00-6	Chloride	0.112	0.923	0.763	B	mg/kg	1	2.85 G	E300.0A	03/09/06
16984-48-8	Fluoride	0.100	0.923	0.923	U	mg/kg	1	2.85 G	E300.0A	03/09/06
14797-55-8	Nitrate-N	0.0867	0.923	0.699	B	mg/kg	1	2.85 G	E300.0A	03/09/06
14797-65-0	Nitrite-N	0.0829	0.923	0.202	B	mg/kg	1	2.85 G	E300.0A	03/09/06
14808-79-8	Sulfate	0.149	0.923	0.956		mg/kg	1	2.85 G	E300.0A	03/09/06

YL060321-15:52-F1280-W

FORM I GEN CHEM

1A-WC

GENERAL CHEMISTRY ANALYSIS DATA SHEET

Field Sample ID:

J116X0

SDG No.: F1280

Matrix: SOIL

% Moisture: 49

Lab Name: CH2M HILL/LAB/CVO

Lab Sample ID: F128003

Date Received: 03/02/06

CAS No.	Analyte	MDL	PQL	Result	Q	Units	DF	Sample Amount	Analysis Method	Date Analyzed
16887-00-6	Chloride	0.233	1.91	2.43		mg/kg	1	2.56 G	E300.0A	03/09/06
16984-48-8	Fluoride	0.208	1.91	1.91	U	mg/kg	1	2.56 G	E300.0A	03/09/06
14797-55-8	Nitrate-N	0.180	1.91	3.38		mg/kg	1	2.56 G	E300.0A	03/09/06
14797-65-0	Nitrite-N	0.172	1.91	0.665	B	mg/kg	1	2.56 G	E300.0A	03/09/06
14808-79-8	Sulfate	0.309	1.91	11.0		mg/kg	1	2.56 G	E300.0A	03/09/06

1A-WC

GENERAL CHEMISTRY ANALYSIS DATA SHEET

Field Sample ID:

J116x1

SDG No.: F1280

Lab Name: CH2M HILL/LAB/CVO

Matrix: SOIL

Lab Sample ID: F128004

% Moisture: 45

Date Received: 03/02/06

CAS No.	Analyte	MDL	PQL	Result	Q	Units	DF	Sample Amount	Analysis Method	Date Analyzed
16887-00-6	Chloride	0.224	1.85	2.46		mg/kg	1	2.46 G	E300.0A	03/09/06
16984-48-8	Fluoride	0.201	1.85	1.85	U	mg/kg	1	2.46 G	E300.0A	03/09/06
14797-55-8	Nitrate-N	0.173	1.85	2.79		mg/kg	1	2.46 G	E300.0A	03/09/06
14797-65-0	Nitrite-N	0.166	1.85	0.625	B	mg/kg	1	2.46 G	E300.0A	03/09/06
14808-79-8	Sulfate	0.298	1.85	10.8		mg/kg	1	2.46 G	E300.0A	03/09/06

YL060321-15:52-F1280-W

FORM I GEN CHEM

1A-WC

GENERAL CHEMISTRY ANALYSIS DATA SHEET

Field Sample ID:

J116X3

SDG No.: F1280

Lab Name: CH2M HILL/LAB/CVO

Matrix: SOIL

Lab Sample ID: F128005

% Moisture: 9

Date Received: 03/02/06

CAS No.	Analyte	MDL	PQL	Result	Q	Units	DF	Sample Amount	Analysis Method	Date Analyzed
16887-00-6	Chloride	0.126	1.04	0.972	B	mg/kg	1	2.64 G	E300.0A	03/09/06
16984-48-8	Fluoride	0.113	1.04	1.04	U	mg/kg	1	2.64 G	E300.0A	03/09/06
14797-55-8	Nitrate-N	0.0977	1.04	1.91		mg/kg	1	2.64 G	E300.0A	03/09/06
14797-65-0	Nitrite-N	0.0934	1.04	0.199	B	mg/kg	1	2.64 G	E300.0A	03/09/06
14808-79-8	Sulfate	0.168	1.04	1.78		mg/kg	1	2.64 G	E300.0A	03/09/06

YL060329-10:46-F1280-W

FORM I GEN CHEM

1A-WC

GENERAL CHEMISTRY ANALYSIS DATA SHEET

Field Sample ID:

J116X6

SDG No.: F1280

Lab Name: CH2M HILL/LAB/CVO

Matrix: SOIL

Lab Sample ID: F128006

% Moisture: 58

Date Received: 03/02/06

CAS No.	Analyte	MDL	PQL	Result	Q	Units	DF	Sample Amount	Analysis Method	Date Analyzed
16887-00-6	Chloride	0.291	2.40	3.29		mg/kg	1	2.481 G	E300.0A	03/09/06
16984-48-8	Fluoride	0.260	2.40	2.40	U	mg/kg	1	2.481 G	E300.0A	03/09/06
14797-55-8	Nitrate-N	0.225	2.40	4.57		mg/kg	1	2.481 G	E300.0A	03/09/06
14797-65-0	Nitrite-N	0.215	2.40	0.701	B	mg/kg	1	2.481 G	E300.0A	03/09/06
14808-79-8	Sulfate	0.387	2.40	16.6		mg/kg	1	2.481 G	E300.0A	03/09/06

IA-WC

GENERAL CHEMISTRY ANALYSIS DATA SHEET

Field Sample ID:

J116W7

SDG No.: F1280

Lab Name: CH2M HILL/LAB/CVO

Matrix: SOIL

Lab Sample ID: F128007

% Moisture: 17

Date Received: 03/02/06

CAS No.	Analyte	MDL	PQL	Result	Q	Units	DF	Sample Amount	Analysis Method	Date Analyzed
16887-00-6	Chloride	0.146	1.20	1.14	B	mg/kg	1	2.509 G	E300.0A	03/09/06
16984-48-8	Fluoride	0.130	1.20	1.20	U	mg/kg	1	2.509 G	E300.0A	03/09/06
14797-55-8	Nitrate-N	0.113	1.20	5.58		mg/kg	1	2.509 G	E300.0A	03/09/06
14797-65-0	Nitrite-N	0.108	1.20	0.469	B	mg/kg	1	2.509 G	E300.0A	03/09/06
14808-79-8	Sulfate	0.194	1.20	3.35		mg/kg	1	2.509 G	E300.0A	03/09/06

-34B-

1A-WC

GENERAL CHEMISTRY ANALYSIS DATA SHEET

Field Sample ID:

J116W8

SDG No.: F1280

Matrix: SOIL

% Moisture: 21

Lab Name: CH2M HILL/LAB/CVO

Lab Sample ID: F128008

Date Received: 03/02/06

CAS No.	Analyte	MDL	PQL	Result	Q	Units	DF	Sample Amount	Analysis Method	Date Analyzed
16887-00-6	Chloride	0.127	1.04	1.37		mg/kg	1	3.03 G	E300.0A	03/09/06
16984-48-8	Fluoride	0.113	1.04	1.04	U	mg/kg	1	3.03 G	E300.0A	03/09/06
14797-55-8	Nitrate-N	0.0980	1.04	1.48		mg/kg	1	3.03 G	E300.0A	03/09/06
14797-65-0	Nitrite-N	0.0938	1.04	0.283	B	mg/kg	1	3.03 G	E300.0A	03/09/06
14808-79-8	Sulfate	0.168	1.04	4.60		mg/kg	1	3.03 G	E300.0A	03/09/06

YL060329-10:46-F1280-W

FORM I GEN CHEM

1A-WC

GENERAL CHEMISTRY ANALYSIS DATA SHEET

Field Sample ID:

SB1-0309

SDG No.: F1280

Matrix: SOIL

% Moisture: 0

Lab Name: CH2M HILL/LAB/CVO

Lab Sample ID: SB1-0309

Date Received: / /

CAS No.	Analyte	MDL	PQL	Result	Q	Units	DF	Sample Amount	Analysis Method	Date Analyzed
16887-00-6	Chloride	0.121	1.00	0.140	B	mg/kg	1	2.5 G	E300.0	03/09/06
16984-48-8	Fluoride	0.109	1.00	1.00	U	mg/kg	1	2.5 G	E300.0	03/09/06
14797-55-8	Nitrate-N	0.0939	1.00	1.00	U	mg/kg	1	2.5 G	E300.0	03/09/06
14797-65-0	Nitrite-N	0.0898	1.00	1.00	U	mg/kg	1	2.5 G	E300.0	03/09/06
14808-79-8	Sulfate	0.161	1.00	1.00	U	mg/kg	1	2.5 G	E300.0	03/09/06

YL060321-15:52-P1280-W

FORM I GEN CHEM

QC DATA SUMMARY

2-WC

GENERAL CHEMISTRY INITIAL CALIBRATION DATA

SDG No.: F1280

Lab Name: CH2M HILL/LAB/CVO

Analysis Method: E300.0

Initial Calibration Date: 01/30/06 18:27

Instrument Name: ICQ

Concentration Units: mg/L

Initial Calibration ID: 300A-013006

Analyte	Std 1	Resp 1	Std 2	Resp 2	Std 3	Resp 3	Std 4	Resp 4	Std 5	Resp 5	Std 6	Resp 6	Std 7	Resp 7
Chloride	0.020	0.0032	0.050	0.0041	0.10	0.023	0.50	0.050	1.0	0.11	5.0	0.67	10.0	1.5
Fluoride					0.10	0.0085	0.50	0.046	1.0	0.13	5.0	0.85	10.0	1.8
Nitrate-N	0.020	0.0059	0.050	0.012	0.10	0.067	0.50	0.14	1.0	0.32	5.0	1.8	10.0	4.1
Nitrite-N	0.020	0.0067	0.050	0.012	0.10	0.050	0.50	0.10	1.0	0.25	5.0	1.4	10.0	3.0
Sulfate	0.060	0.0065	0.15	0.014	0.30	0.059	1.5	0.13	3.0	0.27	15.0	1.5	30.0	3.2

Comments:

GENERAL CHEMISTRY INITIAL CALIBRATION DATA

SDG No.: F1280

Lab Name: CH2M HILL/LAB/CVO

Analysis Method: E300.0

Initial Calibration Date: 01/30/06 18:27

Instrument Name: ICQ

Concentration Units: mg/L

Initial Calibration ID: 300A-013006

Analyte	Curve Type	r	Q
Chloride	LNR	0.9985	
Fluoride	LNR	0.9988	
Nitrate-N	LNR	0.9983	
Nitrite-N	LNR	0.9988	
Sulfate	LNR	0.9991	

Comments:

2B-WC

GENERAL CHEMISTRY SECOND SOURCE CALIBRATION VERIFICATION DATA

SDG No.: F1280

Lab Name: CH2M HILL/LAB/CVO

Analysis Method: E300.0A

Second Source ID: ICV-0130

Instrument Name: ICQ

Concentration Units: mg/L

Initial Calibration ID: 300A-013006

Analyte	Expected	Found	%D	Q
Chloride	5	5.06	1.2	
Fluoride	5	4.57	-8.6	
Nitrate-N	7.19	7.13	-0.8	
Nitrite-N	1.13	1.02	-9.4	
Sulfate	5	5.14	2.8	

Comments:

2A-WC

GENERAL CHEMISTRY CALIBRATION VERIFICATION DATA

SDG No.: F1280

Lab Name: CH2M HILL/LAB/CVO

Analysis Method: E300.0A

Analytical Lot ID: 030906Q1

Instrument Name: ICQ

Concentration Units: mg/L

Initial Calibration ID: 300A-013006

CCV #1 ID: CV1-0309 CCV #2 ID: CV2-0309 CCV #3 ID: CV3-0309

Analyte	Expected	Found	%D	Q	Expected	Found	%D	Q	Expected	Found	%D	Q
Chloride	5	5.30	6.0		2.5	2.56	2.4		5	5.37	7.4	
Fluoride	5	5.31	6.2		2.5	2.72	8.7		5	4.99	-0.3	
Nitrate-N	5	5.32	6.4		2.5	2.52	0.9		5	5.27	5.3	
Nitrite-N	5	5.27	5.4		2.5	2.55	1.9		5	5.32	6.3	
Sulfate	15	16.3	8.6		7.5	7.92	5.6		16	16.3	1.6	

Comments:

3-WC

SOIL GENERAL CHEMISTRY METHOD BLANK SUMMARY

Field Sample ID: SB1-0309

SDG No.: F1280

Lab Name: CH2M HILL/LAB/CVO

Analysis Method: E300.0A

Lab Sample ID: SB1-0309

Initial Cal ID: 300A-013006

Date Analyzed: 03/09/06

Matrix: (Soil/Water) SOIL

Time Analyzed: 1043

Instrument: ICQ

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS, AND MSD:

	CLIENT SAMPLE ID	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED
17	BS1S0309	BS1S0309	03/09/06	0955
19	BS2S0309	BS2S0309	03/09/06	1014
20	BS3S0309	BS3S0309	03/09/06	1024
30	J116X2	F128001	03/09/06	1201
31	J116W9	F128002	03/09/06	1210
34	J116X0	F128003	03/09/06	1239
36	J116X1	F128004	03/09/06	1308
37	J116X3	F128005	03/09/06	1318
38	J116X6	F128006	03/09/06	1328
39	J116W7	F128007	03/09/06	1337
40	J116W8	F128008	03/09/06	1347

COMMENTS: _____

7-WC

GENERAL CHEMISTRY LABORATORY CONTROL SAMPLE

SDG No.: F1280

Lab Name: CH2M HILL/LAB/CVO

Analysis Method: E300.0A

LCS ID: BS1S0309

Initial Cal ID: 300A-013006

Date Analyzed: 03/09/06

Matrix: (Soil/Water) SOIL

Time Analyzed: 0955

Instrument: ICQ

Concentration Units: mg/kg

Analyte	Expected	Found	%R	QC Limits %R	Q
Chloride	50	53.2	106.3	70-130	
Fluoride	50	53.8	107.6	70-130	
Sulfate	50	54.4	108.7	70-130	

* Values outside of QC limits

Comments:

7-WC

GENERAL CHEMISTRY LABORATORY CONTROL SAMPLE

SDG No.: F1280

Lab Name: CH2M HILL/LAB/CVO

Analysis Method: E300.0A

LCS ID: BS2S0309

Initial Cal ID: 300A-013006

Date Analyzed: 03/09/06

Matrix: (Soil/Water) SOIL

Time Analyzed: 1014

Instrument: ICQ

Concentration Units: mg/kg

Analyte	Expected	Found	%R	QC Limits %R	Q
Nitrite-N	11.3	11.8	104.5	70-130	

* Values outside of QC limits

Comments:

7-WC

GENERAL CHEMISTRY LABORATORY CONTROL SAMPLE

SDG No.: F1280

Lab Name: CH2M HILL/LAB/CVO

Analysis Method: E300.0A

LCS ID: BS3S0309

Initial Cal ID: 300A-013006

Date Analyzed: 03/09/06

Matrix: (Soil/Water) SOIL

Time Analyzed: 1024

Instrument: ICQ

Concentration Units: mg/kg

Analyte	Expected	Found	%R	QC Limits %R	Q
Nitrate-N	71.9	77.7	108.0	70-130	

* Values outside of QC limits

Comments:

GENERAL CHEMISTRY ANALYTICAL SEQUENCE

SDG No.: F1280

Lab Name: CH2M HILL/LAB/CVO

Analysis Method: E300.0A

Lab Code: CVO

Instrument: ICQ

Analytical Lot ID: 300A-013006

	CLIENT SAMPLE ID	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED
02	LEVEL1	LEVEL1	01/30/06	1729
03	LEVEL2	LEVEL2	01/30/06	1739
04	LEVEL3	LEVEL3	01/30/06	1749
05	LEVEL4	LEVEL4	01/30/06	1758
06	LEVEL5	LEVEL5	01/30/06	1808
07	LEVEL6	LEVEL6	01/30/06	1818
08	LEVEL7	LEVEL7	01/30/06	1827
10	ICV-0130	ICV-0130	01/30/06	1846
11	ICV-0130	ICV-0130	01/30/06	1856
13	ICV-0130	ICV-0130	01/30/06	1916

COMMENTS: _____

GENERAL CHEMISTRY ANALYTICAL SEQUENCE

SDG No.: F1280

Lab Name: CH2M HILL/LAB/CVO

Analysis Method: E300.0A

Lab Code: CVO

Instrument: ICQ

Analytical Lot ID: 030906Q1

	CLIENT SAMPLE ID	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED
16	CV1-0309	CV1-0309	03/09/06	0935
17	BS1S0309	BS1S0309	03/09/06	0955
19	BS2S0309	BS2S0309	03/09/06	1014
20	BS3S0309	BS3S0309	03/09/06	1024
22	SB1-0309	SB1-0309	03/09/06	1043
30	J116X2	F128001	03/09/06	1201
31	J116W9	F128002	03/09/06	1210
34	J116X0	F128003	03/09/06	1239
35	CV2-0309	CV2-0309	03/09/06	1249
36	J116X1	F128004	03/09/06	1308
37	J116X3	F128005	03/09/06	1318
38	J116X6	F128006	03/09/06	1328
39	J116W7	F128007	03/09/06	1337
39	J116W7	F128007	03/09/06	1337
40	J116W8	F128008	03/09/06	1347
43	CV3-0309	CV3-0309	03/09/06	1416

COMMENTS: _____

CH2M HILL
Applied Sciences Laboratory

CH2M HILL
Applied Sciences Laboratory (ASL)
2300 NW Walnut Blvd.
P.O. Box 428
Corvallis, OR 97330-0428
Telephone: 541-752-4271
Fax: 541-752-0276

03/21/06

MDL Study Report

Analytical Method: E300.0

Instrument ID: ICQ

Matrix: Soil

Concentration Units: mg/kg

Analyte	Analysis Date	Amt. Spiked	Replicates 1	2	3	4	5	6	7	8	Std. Dev.	MDL
Nitrate	11/01/05	0.25	0.225	0.250	0.215	0.240	0.245	0.225	0.255		0.0149	0.0469
Nitrite-N	11/01/05	0.25	0.230	0.270	0.270	0.260	0.270	0.260	0.265		0.0143	0.0449
Sulfate	11/01/05	0.75	0.790	0.735	0.730	0.795	0.775	0.750	0.760		0.0256	0.0806
Chloride	11/01/05	0.25	0.315	0.315	0.340	0.340	0.290	0.300	0.330		0.0193	0.0607
Fluoride	11/02/05	0.5	0.505	0.480	0.500	0.470	0.490	0.485	0.455		0.0173	0.0543

PERCENT MOISTURE
ASTM D2216

1A-WC

GENERAL CHEMISTRY ANALYSIS DATA SHEET

Field Sample ID:

J116X2

SDG No.: F1280

Matrix: SOIL

Lab Name: CH2M HILL/LAB/CVO

Lab Sample ID: F128001

Date Received: 03/02/06

CAS No.	Analyte	MDL	PQL	Result	Q	Units	DF	Sample Amount	Analysis Method	Date Analyzed
MOISTURE	Moisture	0.00	0.00	45.4		%	1	11.8701 G	ASTM D2216	03/07/06

1A-WC

GENERAL CHEMISTRY ANALYSIS DATA SHEET

Field Sample ID:

J116W9

SDG No.: F1280

Matrix: SOIL

Lab Name: CH2M HILL/LAB/CVO

Lab Sample ID: F128002

Date Received: 03/02/06

CAS No.	Analyte	MDL	PQL	Result	Q	Units	DF	Sample Amount	Analysis Method	Date Analyzed
MOISTURE	Moisture	0.00	0.00	4.64		%	1	13.4092 G	ASTM D2216	03/07/06

GENERAL CHEMISTRY ANALYSIS DATA SHEET

Field Sample ID:

J116X0

SDG No.: F1280

Matrix: SOIL

Lab Name: CH2M HILL/LAB/CVO

Lab Sample ID: F128003

Date Received: 03/02/06

CAS No.	Analyte	MDL	PQL	Result	Q	Units	DF	Sample Amount	Analysis Method	Date Analyzed
MOISTURE	Moisture	0.00	0.00	48.6		%	1	11.8239 G	ASTM D2216	03/07/06

1A-WC

GENERAL CHEMISTRY ANALYSIS DATA SHEET

Field Sample ID:

J116X1

SDG No.: F1280

Matrix: SOIL

Lab Name: CH2M HILL/LAB/CVO

Lab Sample ID: F128004

Date Received: 03/02/06

CAS No.	Analyte	MDL	PQL	Result	Q	Units	DF	Sample Amount	Analysis Method	Date Analyzed
MOISTURE	Moisture	0.00	0.00	44.7		%	1	10.1731 G	ASTM D2216	03/07/06

1A-WC

GENERAL CHEMISTRY ANALYSIS DATA SHEET

Field Sample ID:

J116X3

SDG No.: F1280

Matrix: SOIL

Lab Name: CH2M HILL/LAB/CVO

Lab Sample ID: F128005

Date Received: 03/02/06

CAS No.	Analyte	MDL	PQL	Result	Q	Units	DF	Sample Amount	Analysis Method	Date Analyzed
MOISTURE	Moisture	0.00	0.00	9.43		%	1	15.2079 G	ASTM D2216	03/07/06

1A-WC

GENERAL CHEMISTRY ANALYSIS DATA SHEET

Field Sample ID:

J116X6

SDG No.: F1280

Matrix: SOIL

Lab Name: CH2M HILL/LAB/CVO

Lab Sample ID: F128006

Date Received: 03/02/06

CAS No.	Analyte	MDL	PQL	Result	Q	Units	DF	Sample Amount	Analysis Method	Date Analyzed
MOISTURE	Moisture	0.00	0.00	58.3		%	1	11.5281 G	ASTM D2216	03/07/06

1A-WC

GENERAL CHEMISTRY ANALYSIS DATA SHEET

Field Sample ID:

J116W7

SDG No.: F1280

Matrix: SOIL

Lab Name: CH2M HILL/LAB/CVO

Lab Sample ID: F128007

Date Received: 03/02/06

CAS No.	Analyte	MDL	PQL	Result	Q	Units	DF	Sample Amount	Analysis Method	Date Analyzed
MOISTURE	Moisture	0.00	0.00	17.1		%	1	14.0005 G	ASTM D2216	03/07/06

1A-WC

GENERAL CHEMISTRY ANALYSIS DATA SHEET

Field Sample ID:

J116W8

SDG No.: F1280

Matrix: SOIL

Lab Name: CH2M HILL/LAB/CVO

Lab Sample ID: F128008

Date Received: 03/02/06

CAS No.	Analyte	MDL	PQL	Result	Q	Units	DF	Sample Amount	Analysis Method	Date Analyzed
MOISTURE	Moisture	0.00	0.00	21.3		%	1	17.1361 G	ASTM D2216	03/07/06

PARTICLE SIZE
METHOD 422

Hanford

Particle Size

352.4 g sample used

Weight retained is the weight of material ON each sieve

ANALYST: KE **03/23/2006**

Lab I.D.	Client I.D.	Sieve #	Sieve Size (um)	Sieve Size (mm)	Weight Retained (g)	Weight Retained (%)	Cumulative Coarser (%)	Cumulative Finer (%)
F128001	J116X2	8	2362	2.362	6.60	1.88	1.88	98.12
		16	1180	1.180	17.20	4.89	6.77	93.23
		30	600	0.600	76.00	21.62	28.39	71.61
		50	500	0.500	87.10	24.78	53.17	46.83
		100	147	0.147	99.80	28.39	81.56	18.44
		200	75	0.075	52.00	14.79	96.36	3.64
		pan			12.80	3.64	100.00	0.00
		total			351.5			

CH2M HILL
Applied Sciences Group

2300 NW Walnut Blvd., Corvallis, OR 97330-3538
P.O. Box 428, Corvallis, OR 97339-0428
Tel 541.752.4271 Fax 541.752.0276

Hanford

Particle Size

745.8 g sample used

Weight retained is the weight of material ON each sieve

ANALYST: KE 03/23/2006

Lab I.D.	Client I.D.	Sieve #	Sieve Size (um)	Sieve Size (mm)	Weight Retained (g)	Weight Retained (%)	Cumulative Coarser (%)	Cumulative Finer (%)
F128002	J116W9	8	2362	2.362	53.70	7.21	7.21	92.79
		16	1180	1.180	77.40	10.39	17.61	82.39
		30	600	0.600	111.70	15.00	32.61	67.39
		50	500	0.500	373.00	50.09	82.70	17.30
		100	147	0.147	115.60	15.53	98.23	1.77
		200	75	0.075	10.50	1.41	99.64	0.36
		pan			2.70	0.36	100.00	0.00
		total			744.6			

CH2M HILL
Applied Sciences Group

2300 NW Walnut Blvd., Corvallis, OR 97330-3538
P.O. Box 428, Corvallis, OR 97339-0428
Tel 541.752.4271 Fax 541.752.0276

Hanford

Particle Size

314.6 g sample used

Weight retained is the weight of material ON each sieve

ANALYST: **KE** **03/23/2006**

Lab I.D.	Client I.D.	Sieve #	Sieve Size (um)	Sieve Size (mm)	Weight Retained (g)	Weight Retained (%)	Cumulative Coarser (%)	Cumulative Finer (%)
F128003	J116X0	8	2362	2.362	26.40	8.44	8.44	91.56
		16	1180	1.180	39.20	12.54	20.98	79.02
		30	600	0.600	73.10	23.38	44.36	55.64
		50	500	0.500	54.00	17.27	61.62	38.38
		100	147	0.147	55.40	17.72	79.34	20.66
		200	75	0.075	49.10	15.70	95.04	4.96
		pan			15.50	4.96	100.00	0.00
		total			312.7			

CH2M HILL
Applied Sciences Group

2300 NW Walnut Blvd., Corvallis, OR 97330-3538
P.O. Box 428, Corvallis, OR 97339-0428
Tel 541.752.4271 Fax 541.752.0276

Hanford

Particle Size

492.0 g sample used

Weight retained is the weight of material ON each sieve

ANALYST: KE 03/24/2006

Lab I.D.	Client I.D.	Sieve #	Sieve Size (um)	Sieve Size (mm)	Weight Retained (g)	Weight Retained (%)	Cumulative Coarser (%)	Cumulative Finer (%)
F128004	J116X1	8	2362	2.362	50.30	10.23	10.23	89.77
		16	1180	1.180	117.50	23.90	34.13	65.87
		30	600	0.600	67.30	13.69	47.82	52.18
		50	500	0.500	93.20	18.96	66.78	33.22
		100	147	0.147	85.60	17.41	84.19	15.81
		200	75	0.075	57.30	11.66	95.85	4.15
		pan			20.40	4.15	100.00	0.00
		total			491.6			

CH2M HILL
Applied Sciences Group

2300 NW Walnut Blvd., Corvallis, OR 97330-3538
P.O. Box 428, Corvallis, OR 97339-0428
Tel 541.752.4271 Fax 541.752.0276

Hanford

Particle Size

678.4 g sample used

Weight retained is the weight of material ON each sieve

ANALYST: KE 03/24/2006

Lab I.D.	Client I.D.	Sieve #	Sieve Size (um)	Sieve Size (mm)	Weight Retained (g)	Weight Retained (%)	Cumulative Coarser (%)	Cumulative Finer (%)
F128005	J116X3	8	2362	2.362	66.10	9.77	9.77	90.23
		16	1180	1.180	182.20	26.92	36.68	63.32
		30	600	0.600	212.00	31.32	68.00	32.00
		50	500	0.500	159.80	23.61	91.61	8.39
		100	147	0.147	45.40	6.71	98.32	1.68
		200	75	0.075	8.60	1.27	99.59	0.41
		pan			2.80	0.41	100.00	0.00
		total			676.9			

CH2M HILL
Applied Sciences Group

2300 NW Walnut Blvd., Corvallis, OR 97330-3538
P.O. Box 428, Corvallis, OR 97339-0428
Tel 541.752.4271 Fax 541.752.0276

Hanford

Particle Size

241.5 g sample used

Weight retained is the weight of material ON each sieve

ANALYST: KE 03/24/2006

Lab I.D.	Client I.D.	Sieve #	Sieve Size (um)	Sieve Size (mm)	Weight Retained (g)	Weight Retained (%)	Cumulative Coarser (%)	Cumulative Finer (%)
F128006	J116X6	8	2362	2.362	18.70	7.79	7.79	92.21
		16	1180	1.180	93.90	39.11	46.90	53.10
		30	600	0.600	36.80	15.33	62.22	37.78
		50	500	0.500	25.80	10.75	72.97	27.03
		100	147	0.147	24.20	10.08	83.05	16.95
		200	75	0.075	27.90	11.62	94.67	5.33
		pan			12.80	5.33	100.00	0.00
		total			240.1			

CH2M HILL
Applied Sciences Group

2300 NW Walnut Blvd., Corvallis, OR 97330-3538
P.O. Box 428, Corvallis, OR 97339-0428
Tel 541.752.4271 Fax 541.752.0276

Hanford

Particle Size

427.6 g sample used

Weight retained is the weight of material ON each sieve

ANALYST: KE **03/24/2006**

Lab I.D.	Client I.D.	Sieve #	Sieve Size (um)	Sieve Size (mm)	Weight Retained (g)	Weight Retained (%)	Cumulative Coarser (%)	Cumulative Finer (%)
F128007	J116W7	8	2362	2.362	66.10	15.45	15.45	84.55
		16	1180	1.180	140.10	32.75	48.20	51.80
		30	600	0.600	70.20	16.41	64.61	35.39
		50	500	0.500	86.90	20.31	84.92	15.08
		100	147	0.147	43.30	10.12	95.04	4.96
		200	75	0.075	14.60	3.41	98.46	1.54
		pan			6.60	1.54	100.00	0.00
		total			427.8			

CH2M HILL
Applied Sciences Group

2300 NW Walnut Blvd., Corvallis, OR 97330-3538
P.O. Box 428, Corvallis, OR 97339-0428
Tel 541.752.4271 Fax 541.752.0276

Hanford

Particle Size

683.5 g sample used

Weight retained is the weight of material ON each sieve

ANALYST: KE 03/24/2006

Lab I.D.	Client I.D.	Sieve #	Sieve Size (um)	Sieve Size (mm)	Weight Retained (g)	Weight Retained (%)	Cumulative Coarser (%)	Cumulative Finer (%)
F128008	J116W8	8	2362	2.362	321.00	47.00	47.00	53.00
		16	1180	1.180	88.00	12.88	59.88	40.12
		30	600	0.600	56.60	8.29	68.17	31.83
		50	500	0.500	67.40	9.87	78.04	21.96
		100	147	0.147	98.40	14.41	92.45	7.55
		200	75	0.075	37.80	5.53	97.98	2.02
		pan			13.80	2.02	100.00	0.00
		total			683.0			

CH2M HILL
Applied Sciences Group

2300 NW Walnut Blvd., Corvallis, OR 97330-3538
P.O. Box 428, Corvallis, OR 97339-0428
Tel 541.752.4271 Fax 541.752.0276

pH
METHOD SW9045C

1A-WC

GENERAL CHEMISTRY ANALYSIS DATA SHEET

Field Sample ID:

J116X2

SDG No.: F1280

Lab Name: CH2M HILL/LAB/CVO

Matrix: SOIL

Lab Sample ID: F128001

% Moisture: 45

Date Received: 03/02/06

CAS No.	Analyte	MDL	PQL	Result	Q	Units	DF	Sample Amount	Analysis Method	Date Analyzed
pH	pH	0.00	0.00	6.90		pH	1	20 G	SW9045C	03/03/06

1A-WC

GENERAL CHEMISTRY ANALYSIS DATA SHEET

Field Sample ID:

J116W9

SDG No.: F1280

Lab Name: CH2M HILL/LAB/CVO

Matrix: SOIL

Lab Sample ID: F128002

% Moisture: 5

Date Received: 03/02/06

CAS No.	Analyte	MDL	PQL	Result	Q	Units	DF	Sample Amount	Analysis Method	Date Analyzed
pH	pH	0.00	0.00	7.63		pH	1	20 G	SW9045C	03/03/06

1A-WC

GENERAL CHEMISTRY ANALYSIS DATA SHEET

Field Sample ID:

J116X0

SDG No.: F1280

Lab Name: CH2M HILL/LAB/CVO

Matrix: SOIL

Lab Sample ID: F128003

% Moisture: 49

Date Received: 03/02/06

CAS No.	Analyte	MDL	PQL	Result	Q	Units	DF	Sample Amount	Analysis Method	Date Analyzed
pH	pH	0.00	0.00	7.11		pH	1	20 G	SW904SC	03/03/06

1A-WC

GENERAL CHEMISTRY ANALYSIS DATA SHEET

Field Sample ID:

J116X1

SDG No.: F1280

Lab Name: CH2M HILL/LAB/CVO

Matrix: SOIL

Lab Sample ID: F128004

% Moisture: 45

Date Received: 03/02/06

CAS No.	Analyte	MDL	PQL	Result	Q	Units	DF	Sample Amount	Analysis Method	Date Analyzed
pH	pH	0.00	0.00	7.13		pH	1	20 G	SW9045C	03/03/06

ET060315-18:59-F1280-W

FORM I GEN CHEM

1A-WC

GENERAL CHEMISTRY ANALYSIS DATA SHEET

Field Sample ID:

J116X3

SDG No.: F1280

Matrix: SOIL

% Moisture: 9

Lab Name: CH2M HILL/LAB/CVO

Lab Sample ID: F128005

Date Received: 03/02/06

CAS No.	Analyte	MDL	PQL	Result	Q	Units	DF	Sample Amount	Analysis Method	Date Analyzed
pH	pH	0.00	0.00	7.90		pH	1	20 G	SW9045C	03/03/06

1A-WC

GENERAL CHEMISTRY ANALYSIS DATA SHEET

Field Sample ID:

J116X6

SDG No.: F1280

Lab Name: CH2M HILL/LAB/CVO

Matrix: SOIL

Lab Sample ID: F128006

% Moisture: 58

Date Received: 03/02/06

CAS No.	Analyte	MDL	PQL	Result	Q	Units	DF	Sample Amount	Analysis Method	Date Analyzed
pH	pH	0.00	0.00	7.12		pH	1	20 G	SW9045C	03/03/06

ET060315-18:59-F1280-W

FORM I GEN CHEM

1A-WC

GENERAL CHEMISTRY ANALYSIS DATA SHEET

Field Sample ID:

J116W7

SDG No.: F1280

Matrix: SOIL

% Moisture: 17

Lab Name: CH2M HILL/LAB/CVO

Lab Sample ID: F128007

Date Received: 03/02/06

CAS No.	Analyte	MDL	PQL	Result	Q	Units	DF	Sample Amount	Analysis Method	Date Analyzed
pH	pH	0.00	0.00	7.46		pH	1	20 G	SW9045C	03/03/06

1A-WC

GENERAL CHEMISTRY ANALYSIS DATA SHEET

Field Sample ID:

J116W8

SDG No.: F1280

Matrix: SOIL

% Moisture: 21

Lab Name: CH2M HILL/LAB/CVO

Lab Sample ID: F128008

Date Received: 03/02/06

CAS No.	Analyte	MDL	PQL	Result	Q	Units	DF	Sample Amount	Analysis Method	Date Analyzed
pH	pH	0.00	0.00	7.58		pH	1	20 G	SW9045C	03/03/06

ET060315-18:59-F1280-W

FORM I GEN CHEM

1A-WC

GENERAL CHEMISTRY ANALYSIS DATA SHEET

Field Sample ID:

SB1-0303

SDG No.: F1280

Lab Name: CH2M HILL/LAB/CVO

Matrix: SOIL

Lab Sample ID: SB1-0303

% Moisture: 0

Date Received: / /

CAS No.	Analyte	MDL	PQL	Result	Q	Units	DF	Sample Amount	Analysis Method	Date Analyzed
pH	pH	0.00	0.00	5.92		pH	1	20 G	SW9045C	03/03/06

TKN
METHOD EPA 351.4

CASE NARRATIVE
TKN

Analytical Method: EPA 351.4 Batch No.: F1280

Lab Name: CH2M HILL Applied Sciences Lab Contract #.: 920842.OTC

Project Name: ELR Consulting Prime Contractor.: _____

I. Holding Times:
All acceptance criteria were met.

II. Analysis:

A. Calibration:
All acceptance criteria were met.

B. Blanks:
All acceptance criteria were met.

C. Matrix Spike/Matrix Spike Duplicate(MS/MSD)
All analyses were performed in accordance with standard operating procedures.

D. Laboratory Control Spike(LCS)
All acceptance criteria were met.

E. Duplicate Sample(s):
All analyses were performed in accordance with standard operating procedures.

F. Analytical Exceptions:
None.

III. Sampling Equipment:
None.

IV. Documentation Exceptions:
None

V. I certify that this data package is in compliance with the terms and conditions agreed to by the client and CH2M HILL, both technically and for completeness, except for the conditions detailed above. Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or designee, as verified by the following signature.

Reported by: Elizabeth M Tyson Date: 3/15/06

Reviewed by: [illegible] Date: 3/20/06

SAMPLE DATA
SUMMARY

1A-WC

GENERAL CHEMISTRY ANALYSIS DATA SHEET

Field Sample ID:

J116X2

SDG No.: F1280

Lab Name: CH2M HILL/LAB/CVO

Matrix: SOIL

Lab Sample ID: F128001

% Moisture: 45

Date Received: 03/02/06

CAS No.	Analyte	MDL	PQL	Result	Q	Units	DF	Sample Amount	Analysis Method	Date Analyzed
7727-37-9	Total Kjeldahl Nitrogen as N	74.6	356	1710		mg/kg	1	0.5109 G	E351.4	03/06/06

1A-WC

GENERAL CHEMISTRY ANALYSIS DATA SHEET

Field Sample ID:

J116W9

SDG No.: F1280

Matrix: SOIL

% Moisture: 5

Lab Name: CH2M HILL/LAB/CVO

Lab Sample ID: F128002

Date Received: 03/02/06

CAS No.	Analyte	MDL	PQL	Result	Q	Units	DF	Sample Amount	Analysis Method	Date Analyzed
7727-37-9	Total Kjeldahl Nitrogen as N	41.1	196	766		mg/kg	1	0.5374 G	E351.4	03/06/06

1A-WC

GENERAL CHEMISTRY ANALYSIS DATA SHEET

Field Sample ID:

J116X0

SDG No.: F1280

Lab Name: CH2M HILL/LAB/CVO

Matrix: SOIL

Lab Sample ID: F128003

% Moisture: 49

Date Received: 03/02/06

CAS No.	Analyte	MDL	PQL	Result	Q	Units	DF	Sample Amount	Analysis Method	Date Analyzed
7727-37-9	Total Kjeldahl Nitrogen as N	82.7	395	1810		mg/kg	1	0.497 G	E351.4	03/06/06

1A-WC

GENERAL CHEMISTRY ANALYSIS DATA SHEET

Field Sample ID:

J116X1

SDG No.: F1280

Lab Name: CH2M HILL/LAB/CVO

Matrix: SOIL

Lab Sample ID: F128004

% Moisture: 45

Date Received: 03/02/06

CAS No.	Analyte	MDL	PQL	Result	Q	Units	DF	Sample Amount	Analysis Method	Date Analyzed
7727-37-9	Total Kjeldahl Nitrogen as N	77.3	369	1970		mg/kg	1	0.493 G	E351.4	03/06/06

1A-WC

GENERAL CHEMISTRY ANALYSIS DATA SHEET

Field Sample ID:

J116X3

SDG No.: F1280

Lab Name: CH2M HILL/LAB/CVO

Matrix: SOIL

Lab Sample ID: F128005

% Moisture: 9

Date Received: 03/02/06

CAS No.	Analyte	MDL	PQL	Result	Q	Units	DF	Sample Amount	Analysis Method	Date Analyzed
7727-37-9	Total Kjeldahl Nitrogen as N	43.5	208	671		mg/kg	1	0.5293 G	E351.4	03/06/06

1A-WC

GENERAL CHEMISTRY ANALYSIS DATA SHEET

Field Sample ID:

J116X6

SDG No.: F1280

Matrix: SOIL

% Moisture: 58

Lab Name: CH2M HILL/LAB/CVO

Lab Sample ID: F128006

Date Received: 03/02/06

CAS No.	Analyte	MDL	PQL	Result	Q	Units	DF	Sample Amount	Analysis Method	Date Analyzed
7727-37-9	Total Kjeldahl Nitrogen as N	95.9	458	3070		mg/kg	1	0.5204 G	E351.4	03/06/06

1A-WC

GENERAL CHEMISTRY ANALYSIS DATA SHEET

Field Sample ID:

J116W7

SDG No.: F1280

Matrix: SOIL

% Moisture: 17

Lab Name: CH2M HILL/LAB/CVO

Lab Sample ID: F128007

Date Received: 03/02/06

CAS No.	Analyte	MDL	PQL	Result	Q	Units	DF	Sample Amount	Analysis Method	Date Analyzed
7727-37-9	Total Kjeldahl Nitrogen as N	49.2	235	848		mg/kg	1	0.513 G	E351.4	03/06/06

1A-WC

GENERAL CHEMISTRY ANALYSIS DATA SHEET

Field Sample ID:

J116W8

SDG No.: F1280

Lab Name: CH2M HILL/LAB/CVO

Matrix: SOIL

Lab Sample ID: F128008

% Moisture: 21

Date Received: 03/02/06

CAS No.	Analyte	MDL	PQL	Result	Q	Units	DF	Sample Amount	Analysis Method	Date Analyzed
7727-37-9	Total Kjeldahl Nitrogen as N	48.9	233	810		mg/kg	1	0.5429 G	E351.4	03/06/06

GENERAL CHEMISTRY ANALYSIS DATA SHEET

Field Sample ID:

SB1-0306

SDG No.: F1280

Lab Name: CH2M HILL/LAB/CVO

Matrix: SOIL

Lab Sample ID: SB1-0306

% Moisture: 0

Date Received: / /

CAS No.	Analyte	MDL	PQL	Result	Q	Units	DF	Sample Amount	Analysis Method	Date Analyzed
7727-37-9	Total Kjeldahl Nitrogen as N	21.0	100	51.6	B	mg/kg	1	1 G	E351.4	03/06/06

QC DATA
SUMMARY

2-WC

GENERAL CHEMISTRY INITIAL CALIBRATION DATA

SDG No.: F1280

Lab Name: CH2M HILL/LAB/CVO

Analysis Method: E351.4

Initial Calibration Date: 03/07/06 1000

Instrument Name: NONE

Concentration Units: mg/L

Initial Calibration ID: 030606TKN

Analyte	Std 1	Resp 1	Std 2	Resp 2	Std 3	Resp 3	Std 4	Resp 4	Std 5	Resp 5	Std 6	Resp 6	Std 7	Resp 7
Total Kjeldahl Nitrogen	2.0	168	20.0	112	200	54.9	2000	-2.4						

Comments:

2-WC

GENERAL CHEMISTRY INITIAL CALIBRATION DATA

SDG No.: F1280

Lab Name: CH2M HILL/LAB/CVO

Analysis Method: E351.4

Initial Calibration Date: 03/07/06 1000

Instrument Name: NONE

Concentration Units: mg/L

Initial Calibration ID: 030606TKN

Analyte	Curve Type	r	Q
Total Kjeldahl Nitrogen as N	LNR	1.0000	

Comments:

2B-WC

GENERAL CHEMISTRY SECOND SOURCE CALIBRATION VERIFICATION DATA

SDG No.: F1280

Lab Name: CH2M HILL/LAB/CVO

Analysis Method: E351.4

Second Source ID: ICV-0306

Instrument Name: NONE

Concentration Units: mg/L

Initial Calibration ID: 030606TKN

Analyte	Expected	Found	%D	Q
Total Kjeldahl Nitrogen as N	13.6	16.0	17.4	

Comments:

2A-WC

GENERAL CHEMISTRY CALIBRATION VERIFICATION DATA

SDG No.: F1280

Lab Name: CH2M HILL/LAB/CVO

Analysis Method: E351.4

Analytical Lot ID: 030606TKN

Instrument Name: NONE

Concentration Units: mg/L

Initial Calibration ID: 030606TKN

CCV #1 ID: CV1-0306 CCV #2 ID: CV2-0306 CCV #3 ID: CV3-0306

Analyte	Expected	Found	%D	Q	Expected	Found	%D	Q	Expected	Found	%D	Q
Total Kjeldahl Nitrogen as N	20	19.9	-0.6		200	198	-1.2		20	20.2	1.0	

Comments:

2A-WC

GENERAL CHEMISTRY CALIBRATION VERIFICATION DATA

SDG No.: F1280

Lab Name: CH2M HILL/LAB/CVO

Analysis Method: E351.4

Analytical Lot ID: 030606TKN

Instrument Name: NONE

Concentration Units: mg/L

Initial Calibration ID: 030606TKN

CCV #4 ID: CV4-0306 CCV #5 ID: CCV #6 ID:

Analyte	Expected	Found	%D	Q	Expected	Found	%D	Q	Expected	Found	%D	Q
Total Kjeldahl Nitrogen as N	20	19.7	-1.4									

Comments:

3-WC

SOIL GENERAL CHEMISTRY METHOD BLANK SUMMARY

Field Sample ID: SB1-0306

SDG No.: F1280

Lab Name: CH2M HILL/LAB/CVO

Analysis Method: E351.4

Lab Sample ID: SB1-0306

Initial Cal ID: 030606TKN

Date Analyzed: 03/06/06

Matrix: (Soil/Water) SOIL

Time Analyzed: 1039

Instrument: NONE

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS, AND MSD:

	CLIENT SAMPLE ID	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED
05	BS1S0306	BS1S0306	03/06/06	1028
12	J116X2	F128001	03/06/06	1121
13	J116W9	F128002	03/06/06	1125
14	J116X0	F128003	03/06/06	1129
15	J116X1	F128004	03/06/06	1133
16	J116X3	F128005	03/06/06	1138
17	J116X6	F128006	03/06/06	1149
19	J116W7	F128007	03/06/06	1203
20	J116W8	F128008	03/06/06	1207

COMMENTS:

7-WC

GENERAL CHEMISTRY LABORATORY CONTROL SAMPLE

SDG No.: F1280

Lab Name: CH2M HILL/LAB/CVO

Analysis Method: E351.4

LCS ID: BS1S0306

Initial Cal ID: 030606TKN

Date Analyzed: 03/06/06

Matrix: (Soil/Water) SOIL

Time Analyzed: 1028

Instrument: NONE

Concentration Units: mg/kg

Analyte	Expected	Found	%R	QC Limits %R	Q
Total Kjeldahl Nitrogen as N	680	798	117.4	75-125	

* Values outside of QC limits

Comments:

14-WC

GENERAL CHEMISTRY ANALYTICAL SEQUENCE

SDG No.: F1280

Lab Name: CH2M HILL/LAB/CVO

Analysis Method: E351.4

Lab Code: CVO

Instrument: NONE

Analytical Lot ID: 030606TKN

	CLIENT SAMPLE ID	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED
01	LEVEL-1	LEVEL-1	03/06/06	1000
02	LEVEL-2	LEVEL-2	03/06/06	1002
03	LEVEL-3	LEVEL-3	03/06/06	1005
04	LEVEL-4	LEVEL-4	03/06/06	1010
05	CV1-0306	CV1-0306	03/06/06	1015
06	CV2-0306	CV2-0306	03/06/06	1020
07	ICV-0306	ICV-0306	03/06/06	1028
09	BS1S0306	BS1S0306	03/06/06	1028
10	SB1-0306	SB1-0306	03/06/06	1039
16	J116X2	F128001	03/06/06	1121
17	J116W9	F128002	03/06/06	1125
18	J116X0	F128003	03/06/06	1129
19	J116X1	F128004	03/06/06	1133
20	J116X3	F128005	03/06/06	1138
21	J116X6	F128006	03/06/06	1149
22	CV3-0306	CV3-0306	03/06/06	1155
23	J116W7	F128007	03/06/06	1203
24	J116W8	F128008	03/06/06	1207
25	CV4-0306	CV4-0306	03/06/06	1214

COMMENTS: _____

CH2MHILL
Applied Sciences Laboratory

CH2M HILL
Applied Sciences Labortory (ASL)
2300 NW Walnut Blvd.
P.O. Box 428
Corvallis, OR 97330-0428
Telephone: 541-752-4271
Fax: 541-752-0276

03/15/06

MDL Study Report

Analytical Method: E351.4

Instrument ID: NONE

Matrix: Soil

Concentration Units: mg/kg

Analyte	Analysis Date	Amt. Spiked	Replicates 1	2	3	4	5	6	7	8	Std. Dev.	MDL
Total Kjeldahl Nitrogen	03/17/05	100	100	109	113	103	101	116	99.8		6.66	21.0

TOTAL ORGANIC CARBON
BY ASTM E777

CASE NARRATIVE
TOC-SOILS

Analytical Method: ASTM E-777 Batch No.: F1280

Lab Name: CH2M HILL Applied Sciences Lab Contract #.: 920842.OTC

Project Name: ELR Consulting Prime Contractor.: _____

I. Holding Times:
All acceptance criteria were met.

II. Analysis:

A. Calibration:
All acceptance criteria were met.

B. Blanks:
All acceptance criteria were met.

C. Matrix Spike/Matrix Spike Duplicate(MS/MSD)
All acceptance criteria were met.

D. Laboratory Control Spike(LCS)
All acceptance criteria were met.

E. Duplicate Sample(s):
All analyses were performed in accordance with standard operating procedures.

F. Analytical Exceptions:
None.

III. Sampling Equipment:
None.

IV. Documentation Exceptions:
None

V. I certify that this data package is in compliance with the terms and conditions agreed to by the client and CH2M HILL, both technically and for completeness, except for the conditions detailed above. Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or designee, as verified by the following signature.

Reported by: [signature] Date: 3-21-06

Reviewed by: [signature] Date: 8-21-06

SAMPLE DATA SUMMARY

GENERAL CHEMISTRY ANALYSIS DATA SHEET

Field Sample ID:

J116X2

SDG No.: F1280

Lab Name: CH2M HILL/LAB/CVO

Matrix: SOIL

Lab Sample ID: F128001

% Moisture: 0

Date Received: 03/02/06

CAS No.	Analyte	MDL	PQL	Result	Q	Units	DF	Sample Amount	Analysis Method	Date Analyzed
TOC	Total Organic Carbon	171	488	15400		mg/kg	1	0.2049 G	ASTM E-777	03/20/06

1A-WC

GENERAL CHEMISTRY ANALYSIS DATA SHEET

Field Sample ID:

J116W9

SDG No.: F1280

Lab Name: CH2M HILL/LAB/CVO

Matrix: SOIL

Lab Sample ID: F128002

% Moisture: 0

Date Received: 03/02/06

CAS No.	Analyte	MDL	PQL	Result	Q	Units	DF	Sample Amount	Analysis Method	Date Analyzed
TOC	Total Organic Carbon	31.6	90.4	849		mg/kg	1	1.1057 G	ASTM E-777	03/20/06

WC

GENERAL CHEMISTRY ANALYSIS DATA SHEET

Field Sample ID:

J116X0

SDG No.: F1280

Lab Name: CH2M HILL/LAB/CVO

Matrix: SOIL

Lab Sample ID: F128003

% Moisture: 0

Date Received: 03/02/06

CAS No.	Analyte	MDL	PQL	Result	Q	Units	DF	Sample Amount	Analysis Method	Date Analyzed
TOC	Total Organic Carbon	217	622	18800		mg/kg	1	0.1607 G	ASTM E-777	03/20/06

1A-WC

GENERAL CHEMISTRY ANALYSIS DATA SHEET

Field Sample ID:

J116X1

SDG No.: F1280

Lab Name: CH2M HILL/LAB/CVO

Matrix: SOIL

Lab Sample ID: F128004

% Moisture: 0

Date Received: 03/02/06

CAS No.	Analyte	MDL	PQL	Result	Q	Units	DF	Sample Amount	Analysis Method	Date Analyzed
TOC	Total Organic Carbon	159	455	15100		mg/kg	1	0.2198 G	ASTM E-777	03/20/06

GENERAL CHEMISTRY ANALYSIS DATA SHEET

Field Sample ID:

J116X3

SDG No.: F1280

Matrix: SOIL

% Moisture: 0

Lab Name: CH2M HILL/LAB/CVO

Lab Sample ID: F128005

Date Received: 03/02/06

CAS No.	Analyte	MDL	PQL	Result	Q	Units	DF	Sample Amount	Analysis Method	Date Analyzed
TOC	Total Organic Carbon	27.5	78.6	1670		mg/kg	1	1.2726 G	ASTM E-777	03/20/06

1A-WC

GENERAL CHEMISTRY ANALYSIS DATA SHEET

Field Sample ID:

J116X6

SDG No.: F1280

Lab Name: CH2M HILL/LAB/CVO

Matrix: SOIL

Lab Sample ID: F128006

% Moisture: 0

Date Received: 03/02/06

CAS No.	Analyte	MDL	PQL	Result	Q	Units	DF	Sample Amount	Analysis Method	Date Analyzed
TOC	Total Organic Carbon	148	424	30400		mg/kg	1	0.236 G	ASTM E-777	03/20/06

1A-WC

GENERAL CHEMISTRY ANALYSIS DATA SHEET

Field Sample ID:

J116W7

SDG No.: F1280

Lab Name: CH2M HILL/LAB/CVO

Matrix: SOIL

Lab Sample ID: F128007

% Moisture: 0

Date Received: 03/02/06

CAS No.	Analyte	MDL	PQL	Result	Q	Units	DF	Sample Amount	Analysis Method	Date Analyzed
TOC	Total Organic Carbon	165	472	6220		mg/kg	1	0.2117 G	ASTM E-777	03/20/06

1A-WC

GENERAL CHEMISTRY ANALYSIS DATA SHEET

Field Sample ID:

J116W8

SDG No.: F1280

Matrix: SOIL

% Moisture: 0

Lab Name: CH2M HILL/LAB/CVO

Lab Sample ID: F128008

Date Received: 03/02/06

CAS No.	Analyte	MDL	PQL	Result	Q	Units	DF	Sample Amount	Analysis Method	Date Analyzed
TOC	Total Organic Carbon	60.4	173	6640		mg/kg	1	0.5791 G	ASTM E-777	03/20/06

GENERAL CHEMISTRY ANALYSIS DATA SHEET

Field Sample ID:

SB1-0320

SDG No.: F1280

Matrix: SOIL

% Moisture: 0

Lab Name: CH2M HILL/LAB/CVO

Lab Sample ID: SB1-0320

Date Received: / /

CAS No.	Analyte	MDL	PQL	Result	Q	Units	DF	Sample Amount	Analysis Method	Date Analyzed
TOC	Total Organic Carbon	35.0	100	100	U	mg/kg	1	1 G	ASTM E-777	03/20/06

QC SUMMARY

GENERAL CHEMISTRY INITIAL CALIBRATION DATA

SDG No.: F1280

Lab Name: CH2M HILL/LAB/CVO

Analysis Method: ASTM E-777

Initial Calibration Date: 10/14/05 11:48

Instrument Name: TOC Skalar

Concentration Units: mg/Kg

Initial Calibration ID: 101405S1

Analyte	Std 1	Resp 1	Std 2	Resp 2	Std 3	Resp 3	Std 4	Resp 4	Std 5	Resp 5	Std 6	Resp 6	Std 7	Resp 7
Total Organic Carbon	100	737000	200	1600000	1000	6840000	4000	2.48E+7	8000	4.79E+7				

Comments:

GENERAL CHEMISTRY INITIAL CALIBRATION DATA

SDG No.: F1280

Lab Name: CH2M HILL/LAB/CVO

Analysis Method: ASTM E-777

Initial Calibration Date: 10/14/05 11:48

Instrument Name: TOC Skalar

Concentration Units: mg/Kg

Initial Calibration ID: 101405S1

Analyte	Curve Type	r	Q
Total Organic Carbon	LNR	0.9997	

Comments:

2B-WC

GENERAL CHEMISTRY SECOND SOURCE CALIBRATION VERIFICATION DATA

SDG No.: F1280

Lab Name: CH2M HILL/LAB/CVO

Analysis Method: ASTM E-777

Second Source ID: ICV-1014

Instrument Name: TOC Skalar

Concentration Units: mg/kg

Initial Calibration ID: 101405S1

Analyte	Expected	Found	%D	Q
Total Organic Carbon	6430	6680	3.9	

Comments:

GENERAL CHEMISTRY CALIBRATION VERIFICATION DATA

SDG No.: F1280

Lab Name: CH2M HILL/LAB/CVO

Analysis Method: ASTM E-777

Analytical Lot ID: 032006TOCS

Instrument Name: TOC Skalar

Concentration Units: mg/kg

Initial Calibration ID: 101405S1

CCV #1 ID: CV1-0320 CCV #2 ID: CV2-0320 CCV #3 ID:

Analyte	Expected	Found	%D	Q	Expected	Found	%D	Q	Expected	Found	%D	Q
Total Organic Carbon	4000	4080	2.0		4000	4230	5.9					

Comments:

3-WC

SOIL GENERAL CHEMISTRY METHOD BLANK SUMMARY

Field Sample ID: SB1-0320

SDG No.: F1280

Analysis Method: ASTM E-777

Initial Cal ID: 101405S1

Matrix: (Soil/Water) SOIL

Instrument: TOC SKALAR

Lab Name: CH2M HILL/LAB/CVO

Lab Sample ID: SB1-0320

Date Analyzed: 03/20/06

Time Analyzed: 1021

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS, AND MSD:

	CLIENT SAMPLE ID	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED
02	BS1S0320	BS1S0320	03/20/06	1006
04	J116X2	F128001	03/20/06	1132
05	J116W9	F128002	03/20/06	1332
06	J116X0	F128003	03/20/06	1517
07	J116X1	F128004	03/20/06	1536
08	J116X3	F128005	03/20/06	1552
09	J116X6	F128006	03/20/06	1613
10	J116W7	F128007	03/20/06	1631
11	J116W8	F128008	03/20/06	1652

COMMENTS: _____

GENERAL CHEMISTRY LABORATORY CONTROL SAMPLE

SDG No.: F1280

Lab Name: CH2M HILL/LAB/CVO

Analysis Method: ASTM E-777

LCS ID: BS1S0320

Initial Cal ID: 101405S1

Date Analyzed: 03/20/06

Matrix: (Soil/Water) SOIL

Time Analyzed: 1006

Instrument: TOC SKALAR

Concentration Units: mg/kg

Analyte	Expected	Found	%R	QC Limits %R	Q
Total Organic Carbon	8840	9750	110.2	75-125	

* Values outside of QC limits

Comments:

14-WC

GENERAL CHEMISTRY ANALYTICAL SEQUENCE

SDG No.: F1280

Lab Name: CH2M HILL/LAB/CVO

Analysis Method: ASTM E-777

Lab Code: CVO

Instrument: TOC SKALAR

Analytical Lot ID: 032006TOCS

	CLIENT SAMPLE ID	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED
01	CV1-0320	CV1-0320	03/20/06	0950
02	BS1S0320	BS1S0320	03/20/06	1006
03	SB1-0320	SB1-0320	03/20/06	1021
04	J116X2	F128001	03/20/06	1132
05	J116W9	F128002	03/20/06	1332
06	J116X0	F128003	03/20/06	1517
07	J116X1	F128004	03/20/06	1536
08	J116X3	F128005	03/20/06	1552
09	J116X6	F128006	03/20/06	1613
10	J116W7	F128007	03/20/06	1631
11	J116W8	F128008	03/20/06	1652
14	CV2-0320	CV2-0320	03/20/06	1738

COMMENTS: _____

14-WC

GENERAL CHEMISTRY ANALYTICAL SEQUENCE

SDG No.: F1280

Lab Name: CH2M HILL/LAB/CVO

Analysis Method: ASTM E-777

Lab Code: CVO

Instrument: TOC SKALAR

Analytical Lot ID: 101405TOCS

	CLIENT SAMPLE ID	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED
02	LEVEL1	LEVEL1	10/14/05	1148
03	LEVEL2	LEVEL2	10/14/05	1158
04	LEVEL3	LEVEL3	10/14/05	1208
05	LEVEL4	LEVEL4	10/14/05	1218
06	LEVEL5	LEVEL5	10/14/05	1228
07	ICV-1014	ICV-1014	10/14/05	1252

COMMENTS: _____

CH2M HILL
Applied Sciences Laboratory

CH2M HILL
Applied Sciences Labortory (ASL)
2300 NW Walnut Blvd.
P.O. Box 428
Corvallis, OR 97330-0428
Telephone: 541-752-4271
Fax: 541-752-0276

03/21/06

MDL Study Report

Analytical Method: ASTM E-777

Instrument ID: TOC Skalar

Matrix: Soil

Concentration Units: mg/kg

Analyte	Analysis Date	Amt. Spiked	Replicates 1	2	3	4	5	6	7	8	Std. Dev.	MDL
Total Organic Carbon	08/17/05	140	31.0	14.4	8.89	29.4	32.4	27.1	6.37		11.1	35.0

CHAIN OF CUSTODY/SHIPPING DOCUMENTS

F-1280 108

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-047-80	Page 1 of 1

Collector TILLER JAMES BERNHARD	Company Contact JOAN KESSNER	Telephone No. 375-4688	Project Coordinator KESSNER, JH	Price Code 9N	Data Turnaround 21 Days
Project Designation 100 & 300 Area Component of the RCBRA Sediment and Ti	Sampling Location Sr 3 , SEDIMENT		SAF No. RC-047	Air Quality ☐	
Ice Chest No. ERC-96-014	Field Logbook No. EL-1597	COA BESRAS6520	Method of Shipment GROUND TRANSPORT		
Shipped To CH2MHILL	Offsite Property No. A060151		Bill of Lading/Air Bill No. SEE OSPC		

POSSIBLE SAMPLE HAZARDS/REMARKS
POTENTIAL RADIOACTIVE <DOT LIMITS

Special Handling and/or Storage
COOL 4C

Preservation	Cool 4C	None	None								
Type of Container	G/P	P/G	P/G								
No. of Container(s)	12 SED -27-06	1	1								
Volume	1000g	3000g	19000g								
SAMPLE ANALYSIS	See item (1) in Special Instructions.	Sediment Invertebrate Toxicity ASTM E1706	Sediment Phytotoxicity EEDP-04-11								

Sample No.	Matrix *	Sample Date	Sample Time										
J116X2	OTHER SOLID	2-27-06	1130	X	X	X							
				F1280-01	B1553-30	B6539-30							-1

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By/Removed From JAMES BERNHARD	Date/Time 1700 2-27-06	Received By/Stored In EAS LOCKED STORAGE	Date/Time 1700 2-27-06
Relinquished By/Removed From EAS LOCKED STORAGE	Date/Time 0715 03/01/06	Received By/Stored In RZ Steffler R.Z. Steffler	Date/Time 0715 3-1-06
Relinquished By/Removed From RZ Steffler R.Z. Steffler	Date/Time 1600 3-1-06	Received By/Stored In Fed Ex	Date/Time
Relinquished By/Removed From Fed Ex	Date/Time	Received By/Stored In Doug Winn	Date/Time 3-2-06 / 1230
Relinquished By/Removed From Doug Winn	Date/Time 3-2-06 / 1230	Received By/Stored In	Date/Time 3-2-06 14:00
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time

SPECIAL INSTRUCTIONS

(1) IC Anions - 300.0; Ammonia - 350.3; pH (Soil) - 9045; TOC - 9060; Moisture Content - D2216; Nitrogen by Kjeldahl - 351.2; Particle Size (Dry Sieve) - D422

Temp. upon arrival @ lab = 2.7 °C

Matrix *
S=Soil
SE=Sediment
SO=Solid
Sl=Sludge
W=Water
O=Oil
Ar=Air
DS=Drum Solids
DL=Drum Liquids
Ts=Tissue
Wi=Wipe
Li=Liquid
Ve=Vegetation
X=Other

LABORATORY SECTION	Received By	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

BHI-EE-011 (08/29/2005)

F 1280 288

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-047-77	Page 1 of 1

Collector TILLER JAMES BERNHARD	Company Contact JOAN KESSNER	Telephone No. 375-4688	Project Coordinator KESSNER, JH	Price Code 9N	Data Turnaround 21 Days
Project Designation 100 & 300 Area Component of the RCBRA Sedimentand Ti	Sampling Location Sr 1, SEDIMENT JEB 2-27-06 FULL QC		SAF No. RC-047	Air Quality ☐	
Ice Chest No. ERC-96-014	Field Logbook No. EL-1597	COA BESRAS6520	Method of Shipment GROUND TRANSPORT		
Shipped To CH2MHILL	Offsite Property No. A060151		Bill of Lading/Air Bill No. SEE OSPC		

POSSIBLE SAMPLE HAZARDS/REMARKS
POTENTIAL RADIOACTIVE <DOT LIMITS

Special Handling and/or Storage
COOL 4C

Preservation	Cool 4C	None	None								
Type of Container	G/P	P/G	P/G								
No. of Container(s)	2 JEB 2-27-06	1	1								
Volume	1000g	3000g	19000g								
SAMPLE ANALYSIS	See item (1) in Special Instructions.	Sediment Invertebrate Toxicity ASTM E1706	Sediment Phytotoxicity EEDP-04-11								

Sample No.	Matrix *	Sample Date	Sample Time										
J116W9	OTHER SOLID	2-27-06	1000	X	X	X							
				F12202	815320-31	815340-31							-2

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By/Removed From JAMES BERNHARD	Date/Time 1700 2-27-06	Received By/Stored In EAS LOCKED STORAGE	Date/Time 1700 2-27-06
Relinquished By/Removed From EAS LOCKED STORAGE	Date/Time 0715 03/01/06	Received By/Stored In RZ Stoffler R.Z. Stoffler	Date/Time 0715 3-1-06
Relinquished By/Removed From RZ Stoffler R.Z. Stoffler	Date/Time 1600 3-1-06	Received By/Stored In Fed Ex	Date/Time
Relinquished By/Removed From Fed Ex	Date/Time	Received By/Stored In Doug Winn	Date/Time 3-2-06/1230
Relinquished By/Removed From Doug Winn Robert Mulvey	Date/Time 1230 3-2-06	Received By/Stored In	Date/Time 3-20-06 14:00
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time

SPECIAL INSTRUCTIONS

(1) IC Anions - 300.0; Ammonia - 350.3; pH (Soil) - 9045; TOC - 9060; Moisture Content - D2216; Nitrogen by Kjeldahl - 351.2; Particle Size (Dry Sieve) - D422

Temp. upon arrival @ lab = 2.6°C

Matrix *
S=Soil
SE=Sediment
SO=Solid
Sl=Sludge
W = Water
O=Oil
A=Air
DS=Drum Solids
DL=Drum Liquids
T=Tissue
Wi=Wipe
L=Liquid
V=Vegetation
X=Other

LABORATORY SECTION	Received By	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

BHI-EE-011 (08/29/2005)

F1280 388

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-047-78	Page 1 of 1

Collector TILLER JAMES BERNHARD	Company Contact JOAN KESSNER	Telephone No. 375-4688	Project Coordinator KESSNER, JH
Price Code 9N	Data Turnaround 21 Days	Air Quality ☐	
Project Designation 100 & 300 Area Component of the RCBRA Sediment and Ti	Sampling Location Sr 5, SEDIMENT		SAF No. RC-047
Ice Chest No. ERC-02-002	Field Logbook No. EL-1597	COA BESRAS6520	Method of Shipment GROUND TRANSPORT
Shipped To CH2MHILL	Offsite Property No. A060151		Bill of Lading/Air Bill No. SEE OSPC

POSSIBLE SAMPLE HAZARDS/REMARKS
POTENTIAL RADIOACTIVE <DOT LIMITS

Special Handling and/or Storage
COOL 4C

Preservation	Cool 4C	None	None								
Type of Container	G/P	P/G	P/G								
No. of Container(s)	12 JEH 2-27-06	1	10 JEH 2-27-06								
Volume	1000g	3000g	19000g								
SAMPLE ANALYSIS	See item (1) in Special Instructions.	Sediment Invertebrate Toxicity ASTM E1706	Sediment Phytotoxicity EEDP-04-11								
Sample No. / Matrix * / Sample Date / Sample Time											
J116X0 / OTHER SOLID / 2-27-06 / 1230	X	X	X								
	F1280-03	0153832	N/A								3

CHAIN OF POSSESSION	Sign/Print Names	Date/Time	Received By/Stored In	Date/Time
Relinquished By/Removed From JAMES BERNHARD	[signature]	1700 2-27-06	EAS LOCKED STORAGE	1700 2-27-06
Relinquished By/Removed From EAS LOCKED STORAGE	[signature]	0715 03/01/06	RZ Stoffler	0715 3-1-06
Relinquished By/Removed From RZ Stoffler	[signature]	1600 3-1-06	Fed Ex	
Relinquished By/Removed From Fed Ex			Doug Winn	3-2-06 1230
Relinquished By/Removed From Doug Winn	Brett Morley	3-2-06 1230	[signature]	3-2-06 14:00
Relinquished By/Removed From			Received By/Stored In	

SPECIAL INSTRUCTIONS

(1) IC Anions - 300.0; Ammonia - 350.3; pH (Soil) - 9045; TOC - 9060; Moisture Content - D2216; Nitrogen by Kjeldahl - 351.2; Particle Size (Dry Sieve) - D422

Temp. upon arrival @ lab = 2.7°C

Matrix *
S=Soil
SE=Sediment
SO=Solid
Sl=Sludge
W = Water
O=Oil
A=Air
DS=Drum Solids
DL=Drum Liquids
T=Tissue
Wi=Wipe
L=Liquid
V=Vegetation
X=Other

LABORATORY SECTION	Received By	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

BHI-EE-011 (08/29/2005)

F1280 488

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-047-79	Page 1 of 1

Collector TILLER JAMES BERNHARD	Company Contact JOAN KESSNER	Telephone No. 375-4688	Project Coordinator KESSNER, JH	Price Code 9N	Data Turnaround 21 Days
Project Designation 100 & 300 Area Component of the RCBRA Sediment and Ti	Sampling Location Sr 4, SEDIMENT		SAF No. RC-047	Air Quality ☐	
Ice Chest No. ERC-02-002	Field Logbook No. EL-1597	COA BESRAS6520	Method of Shipment GROUND TRANSPORT		
Shipped To CH2MHILL	Offsite Property No. A060151		Bill of Lading/Air Bill No. SEE OSPC		

POSSIBLE SAMPLE HAZARDS/REMARKS
POTENTIAL RADIOACTIVE <DOT LIMITS

Special Handling and/or Storage
COOL 4C

Preservation	Cool4C	None	None									
Type of Container	G/P	P/G	P/G									
No. of Container(s)	12 OB 2-27-06	1	10 ED 2-27-06									
Volume	1000g	3000g	19000g									
SAMPLE ANALYSIS	See item (1) in Special Instructions.	Sediment Invertebrate Toxicity ASTM E1706	Sediment Phytotoxicity EEDP-04-11									
Sample No. / Matrix * / Sample Date / Sample Time												
J116X1 / OTHER SOLID / 2-27-06 / 1200	X	X	X									
	Field-04	3,5,34-33	N/A									-4

CHAIN OF POSSESSION	Sign/Print Names
Relinquished By/Removed From JAMES BERNHARD Date/Time 2-27-06 1700	Received By/Stored In EAS LOCKED STORAGE Date/Time 2-27-06 1700
Relinquished By/Removed From EAS LOCKED STORAGE Date/Time 03/01/06 0715	Received By/Stored In RZ Stoffler Date/Time 3-1-06 0715
Relinquished By/Removed From RZ Stoffler Date/Time 3-1-06 1600	Received By/Stored In Fed. Ex Date/Time
Relinquished By/Removed From Fed Ex Date/Time	Received By/Stored In Doug Winn Date/Time 3-2-06 1230
Relinquished By/Removed From Date/Time 3-2-06 1230	Received By/Stored In Date/Time 3-2-06 14:00
Relinquished By/Removed From Date/Time	Received By/Stored In Date/Time

SPECIAL INSTRUCTIONS

(1) IC Anions - 300.0; Ammonia - 350.3; pH (Soil) - 9045; TOC - 9060; Moisture Content - D2216; Nitrogen by Kjeldahl - 351.2; Particle Size (Dry Sieve) - D422

Temp upon arrival @ lab = 2.7°C

Matrix *
S=Soil
SE=Sediment
SO=Solid
SI=Sludge
W = Water
O=Oil
A=Air
DS=Drum Solids
DL=Drum Liquids
T=Tissue
WI=Wipe
L=Liquid
V=Vegetation
X=Other

LABORATORY SECTION	Received By	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

BHI-EE-011 (08/29/2005)

F 1280 508

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-047-81	Page 1 of 1

Collector TILLER JAMES BERNHARD	Company Contact JOAN KESSNER	Telephone No. 375-4688	Project Coordinator KESSNER, JH
Price Code 9N	Data Turnaround 21 Days	Air Quality ☐	
Project Designation 100 & 300 Area Component of the RCBRA Sediment and Ti	Sampling Location Sr2 . SEDIMENT	SAF No. RC-047	
Ice Chest No. ERC-02-002	Field Logbook No. EL-1597	COA BESRAS6520	Method of Shipment GROUND TRANSPORT
Shipped To CH2MHILL	Offsite Property No. A060151		Bill of Lading/Air Bill No. SEE OSPC

POSSIBLE SAMPLE HAZARDS/REMARKS
POTENTIAL RADIOACTIVE <DOT LIMITS

Special Handling and/or Storage
COOL 4C

Preservation	Cool 4C	None	None								
Type of Container	G/P	P/G	P/G								
No. of Container(s)	2 2-27-06	1	10 2-27-06								
Volume	1000g	3000g	19000g								
SAMPLE ANALYSIS	See item (1) in Special Instructions.	Sediment Invertebrate Toxicity ASTM E1706	Sediment Phytotoxicity EEDP-04-11								

Sample No.	Matrix *	Sample Date	Sample Time										
J116X3	OTHER SOLID	2-27-06	1100	X	X	X							
				F12BU-05	BAS33-39	N/A							-5

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By/Removed From JAMES BERNHARD	Date/Time 2-27-06 1700	Received By/Stored In EAS LOCKED STORAGE	Date/Time 2-27-06 1700
Relinquished By/Removed From EAS LOCKED STORAGE	Date/Time 03/01/06 0715	Received By/Stored In RZ Steffler	Date/Time 3-1-06 0715
Relinquished By/Removed From RZ Steffler	Date/Time 3-1-06 1600	Received By/Stored In Fed Ex	Date/Time
Relinquished By/Removed From Fed Ex	Date/Time	Received By/Stored In Doug Winn	Date/Time 3-2-06 1230
Relinquished By/Removed From Bassett Mulkey	Date/Time 3-2-06 1230	Received By/Stored In	Date/Time 3-2-06 14:40
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time

SPECIAL INSTRUCTIONS

(1) IC Anions - 300.0; Ammonia - 350.3; pH (Soil) - 9045; TOC - 9060; Moisture Content - D2216; Nitrogen by Kjeldahl - 351.2; Particle Size (Dry Sieve) - D422

Temp. upon arrival @ lab: 2.7°C

Matrix *
S=Soil
SS=Sediment
SO=Solid
Sl=Sludge
W = Water
O=Oil
A=Air
DS=Drum Solids
DL=Drum Liquids
T=Tissue
Wi=Wipe
L=Liquid
V=Vegetation
X=Other

LABORATORY SECTION	Received By	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

BHI-EE-011 (08/29/2005)

F 1280 608

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-047-84	Page 1 of 1

Collector TILLER JAMES BERNHARD	Company Contact JOAN KESSNER	Telephone No. 375-4688	Project Coordinator KESSNER, JH	Price Code 9N	Data Turnaround 21 Days
Project Designation 100 & 300 Area Component of the RCBRA Sediment and Ti	Sampling Location Sr 6, SEDIMENT		SAF No. RC-047	Air Quality ☐	
Ice Chest No. ERC-02-002	Field Logbook No. EL-1597	COA BESRAS6520	Method of Shipment GROUND TRANSPORT		
Shipped To CH2MHILL	Offsite Property No. A060151		Bill of Lading/Air Bill No. SEE OSPC		

POSSIBLE SAMPLE HAZARDS/REMARKS

POTENTIAL RADIOACTIVE <DOT LIMITS

Special Handling and/or Storage

COOL 4C

Preservation	Cool 4C	None	None								
Type of Container	G/P	P/G	P/G								
No. of Container(s)	12 - JEB 2-27-06	1	10 JEB 2-27-06								
Volume	1000g	3000g	19000g								
SAMPLE ANALYSIS	See Item (1) in Special Instructions.	Sediment Invertebrate Toxicity ASTM E1706	Sediment Phytotoxicity EEDP-04-11								

Sample No.	Matrix *	Sample Date	Sample Time										
J116X6	OTHER SOLID	2-27-06	1300	X	X	X							
				F1280-06	K1030-35	N/A							-6

CHAIN OF POSSESSION — Sign/Print Names

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
JAMES BERNHARD	1700 2-27-06	EAS LOCKED STORAGE	1700 2-27-06
EAS LOCKED STORAGE	0715 03/01/06	RZ Steffler	0715 3-1-06
RZ Steffler	1600 WCH 3-1-06	Fed Ex	
Fed Ex		Doug Winn	3-2-06 / 1230
Matthew, Brett Mulvey	3-2-06 1230		3-2-06 14:00

SPECIAL INSTRUCTIONS

(1) IC Anions - 300.0; Ammonia - 350.3; pH (Soil) - 9045; TOC - 9060; Moisture Content - D2216; Nitrogen by Kjeldahl - 351.2; Particle Size (Dry Sieve) - D422

Temp. upon arrival @ lab = 2-6 °C

Matrix *
S=Soil
SE=Sediment
SO=Solid
Sl=Sludge
W = Water
O=Oil
A=Air
DS=Drum Solids
DL=Drum Liquids
Ti=Tissue
Wi=Wipe
L=Liquid
Vs=Vegetation
X=Other

LABORATORY SECTION	Received By	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

BHI-EE-011 (08/29/2005)

F 1280 708

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-047-75	Page 1 of 1

Collector TILLER JAMES BERNHARD	Company Contact JOAN KESSNER	Telephone No. 375-4688	Project Coordinator KESSNER, JH	Price Code 9N	Data Turnaround 21 Days
Project Designation 100 & 300 Area Component of the RCBRA Sediment and Ti	Sampling Location Sr9 , SEDIMENT		SAF No. RC-047	Air Quality ☐	
Ice Chest No. ERC-02-002	Field Logbook No. EL-1597	COA BESRAS6520	Method of Shipment GROUND TRANSPORT		
Shipped To CH2MHILL	Offsite Property No. A060151		Bill of Lading/Air Bill No. SEE OSPC		

POSSIBLE SAMPLE HAZARDS/REMARKS
POTENTIAL RADIOACTIVE <DOT LIMITS

Special Handling and/or Storage
COOL 4C

Preservation	Cool 4C	None	None								
Type of Container	G/P	P/G	P/G								
No. of Container(s)	X2 JEW 2-27-06	1	X0 JEW 2-27-06								
Volume	1000g	3000g	19000g								
SAMPLE ANALYSIS	See item (1) in Special Instructions	Sediment Invertebrate Toxicity ASTM E1706	Sediment Phytotoxicity EEDP-04-11								

Sample No.	Matrix *	Sample Date	Sample Time										
J116W7	OTHER SOLID	2-27-06	1430	X	X	X							
				F(2)-07	3,53:-36	NA							-7

CHAIN OF POSSESSION	Sign/Print Names	SPECIAL INSTRUCTIONS	Matrix.*
Relinquished By/Removed From JAMES BERNHARD Date/Time 2-27-06 1700	Received By/Stored In EAS LOCKED STORAGE Date/Time 2-27-06 1700	(1) IC Anions - 300.0; Ammonia - 350.3; pH (Soil) - 9045; TOC - 9060; Moisture Content - D2216; Nitrogen by Kjeldahl - 351.2; Particle Size (Dry Sieve) - D422	S=Soil SE=Sediment SO=Solid SL=Sludge W = Water O=Oil A=Air DS=Drum Solids DL=Drum Liquids Ts=Tissue Wi=Wipe L=Liquid V=Vegetation X=Other
Relinquished By/Removed From EAS LOCKED STORAGE Date/Time 03/01/06 0715	Received By/Stored In RZ Stoffler Date/Time 0715 3-1-06	Temp. upon arrival @ lab = 2.7°C	
Relinquished By/Removed From RZ Stoffler Date/Time 1600 3-1-06	Received By/Stored In Fed Ex Date/Time		
Relinquished By/Removed From Fed Ex Date/Time	Received By/Stored In Doug Winn 3-2-06/1230 Date/Time		
Relinquished By/Removed From Doug Winn Date/Time 3-2-06 1230	Received By/Stored In Date/Time 3-2-06 14:10		
Relinquished By/Removed From Date/Time	Received By/Stored In Date/Time		

LABORATORY SECTION	Received By	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

BHI-EE-011 (08/29/2005)

F1280 888

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-047-76	Page 1 of 1

Collector TILLER JAMES BERNHARD	Company Contact JOAN KESSNER	Telephone No. 375-4688	Project Coordinator KESSNER, JH	Price Code 9N	Data Turnaround 21 Days
Project Designation 100 & 300 Area Component of the RCBRA Sediment and Ti	Sampling Location Sr /0, SEDIMENT		SAF No. RC-047	Air Quality ☐	
Ice Chest No. ERC-02-002	Field Logbook No. EL-1597	COA BESRAS6520	Method of Shipment GROUND TRANSPORT		
Shipped To CH2MHILL	Offsite Property No. A060151		Bill of Lading/Air Bill No. SEE OSPC		

POSSIBLE SAMPLE HAZARDS/REMARKS
POTENTIAL RADIOACTIVE <DOT LIMITS

Special Handling and/or Storage
COOL 4C

Preservation	Cool 4C	None	None								
Type of Container	G/P	P/G	P/G								
No. of Container(s)	2 JEB 2-27-06	1	10 JEB 2-27-06								
Volume	1000g	3000g	19000g								
SAMPLE ANALYSIS	See item (1) in Special Instructions.	Sediment Invertebrate Toxicity ASTM E1706	Sediment Phytotoxicity EEDP-04-11								

Sample No.	Matrix *	Sample Date	Sample Time										
J116W8	OTHER SOLID	2-27-06	1500	X	X	X							
				F1280-08	D032-37	NA							-8

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By/Removed From JAMES BERNHARD	Date/Time 2-27-06 1700	Received By/Stored In EAS LOCKED STORAGE	Date/Time 2-27-06 1700
Relinquished By/Removed From EAS LOCKED STORAGE	Date/Time 03/01/06 0715	Received By/Stored In RZ Steffler	Date/Time 3-1-06 0715
Relinquished By/Removed From RZ Steffler	Date/Time 3-1-06 1600	Received By/Stored In Fed Ex	Date/Time
Relinquished By/Removed From Fed Ex	Date/Time	Received By/Stored In Doug Winn	Date/Time 3-2-06 1230
Relinquished By/Removed From BRETT Mulvey	Date/Time 3-2-06 1230	Received By/Stored In Melody Buchanan	Date/Time 3-2-06 14:10
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time

SPECIAL INSTRUCTIONS

(1) IC Anions - 300.0; Ammonia - 350.3; pH (Soil) - 9045; TOC - 9060; Moisture Content - D2216; Nitrogen by Kjeldahl - 351.2; Particle Size (Dry Sieve) - D422

Temp. upon arrival @ lab = 2.7°C

Matrix *
S=Soil
SE=Sediment
SO=Solid
Sl=Sludge
W = Water
O=Oil
A=Air
DS=Drum Solids
DL=Drum Liquids
Ti=Tissue
Wi=Wipe
Li=Liquid
Ve=Vegetation
X=Other

LABORATORY SECTION	Received By	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

BHI-EE-011 (08/29/2005)

CH2MHILL
Analytical Services

Sample Receipt Record

Batch Number: F1280 Date received: 3-2-06

Client/Project ELR Consulting

VERIFICATION OF SAMPLE CONDITIONS (verify all items) * HD = Client Hand delivered Samples

Observation	YES	NO
Radiological Screening for AFCEE		X
Were custody seals intact and on the outside of the cooler?	X	
If yes, Where? Front X Rear ____ Lt Side ____ Rt Side ____	X	
Type of packing material: Ice Blue Ice Bubble wrap	X	
Was the Chain of Custody inside the cooler?	X	
Was the Chain of Custody properly filled out?	X	
Were the sample containers in good condition?	X	
Containers supplied by ASL?		X
Any sample with < 1/2 holding time remaining? If so contact LPM		X
Was there ice in the cooler? Enter temp. 2.7 C	X	
All VOCs free of air bubbles ? N/A		

VERIFICATION OF SAMPLE PRESERVATION

Sample No	Nutrients pH <2	Metals pH <2	Volatiles pH <2	Cyanides pH >12	TOC pH <2	TOX pH <2	Other (specify)	N/A (Soils/unpres)
1								
2								
3								
4								
5								
6								
7								
8								
9								
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								

LOGIN AND pH VERIFICATIONS PERFORMED BY

Nicky Dickson
Date/Time 3-2-06 14:00

Date/Time

Rev 11/05/2003-recptrcd.xls

RECEIVED
MAY 2006

BIOASSAY REPORT
SEDIMENT BIOASSAYS
Conducted March 2 through April 11, 2006

Prepared for

ELR CONSULTING, INC.
WASHINGTON HANFORD CLOSURE
RICHLAND, WASHINGTON

Prepared by

CH2M HILL
2300 NW Walnut Boulevard
Corvallis, Oregon 97330

May 4, 2006
Lab I.D. B1539 -01 to -18, -30, -31
SDG NUMBER B1539

F1280

CONTENTS

Section	Page
INTRODUCTION	3
METHODS AND MATERIALS	3
TEST METHODS	3
TEST ORGANISMS	3
CONTROL SOIL	3
HYDRATION WATERS	3
TEST CONCENTRATIONS	3
TEST DESIGN	4
SAMPLE COLLECTION	4
SAMPLE CROSS REFERENCE TABLE	4
SAMPLE PREPARATION	5
WATERING SCHEDULE	5
TEST INITIATION	5
TEST MONITORING	5
TEST TERMINATION	6
DATA ANALYSIS	6
RESULTS AND DISCUSSION	7
CHRONIC BIOASSAYS	7
CERTIFICATION STATEMENT	9
APPENDIX A RAW DATA SHEETS AND ANALYTICAL RESULTS	
APPENDIX B CHAIN OF CUSTODY FORMS	

INTRODUCTION

CH2M HILL conducted bioassays using the Pak Choi (*Brassica chinensis*, Li-Ren-Choi variety) plant on sediment samples provided by ELR Consulting for Washington Closure Hanford, Richland, Washington. The tests were conducted from March 2 through April 11, 2006.

METHODS AND MATERIALS

TEST METHODS

The Pak Choi test method was adapted from: *Phytotoxicity of dredged sediment from urban canal as land application*, Chen et. al., Environmental Pollution 117 (2002) 233-241.

Additional guidance was provided by: *The Water-Culture Method for Growing Plants Without Soil*, California Agricultural Experiment Station Circular No. 347, Hoagland and Arnon, (1950).

TEST SEEDS

The Pak Choi seeds were obtained from Snow Seed Organic, Salinas, California.

CONTROL SEDIMENT

The control sediment used in the tests was artificial sediment comprised of 70 grade silica sand (70 percent by weight), kaolin clay (20 percent), and peat moss (10 percent). Calcium carbonate (0.4 percent of total weight) was added to adjust soil pH to 7.0 ± 0.5.

HYDRATION WATERS

The water used to hydrate the control and test sediments was de-ionized water. In accordance with the test methods, supplemental nutrients were supplied to the test chambers by the addition of half-strength Hoagland's solution.

TEST CONCENTRATIONS

The concentrations tested were 100 percent sample (i.e., no dilution of the bulk sediment samples was made) with artificial control sediment as the laboratory control. The Pak Choi test sediments were run in quadruplicate with one plant per replicate.

TEST DESIGN

Test chambers were 13 cm diameter x 13 cm deep cylindrical plastic pots with drainage holes in the bottom. Polyester fiber was used to cover the drain holes and allow moisture transfer. Approximately 1.5 kg of test sediment was placed on top of the fiber of each replicate. Each test container was placed inside an individual 3-liter (18 cm diameter x 14 cm deep) hydration chamber.

SAMPLE COLLECTION

The sediment samples were collected from February 5 through 27, 2006. The samples were stored in the dark at 4°C until test preparation and initiation occurred. Chain of Custody for sample collection is provided in Appendix C.

SAMPLE CROSS-REFERENCE TABLE

Table 1 provides a cross-reference of the client identification (ID) numbers, sampling dates, sampling locations, Pak Choi test sample identification (SDG) numbers, and Analytical SDG numbers.

Table 1
Sample Cross-Reference

Client ID	Sample Date	Sample Location	Pak Choi test SDG	Analytical Lab SDG
J11143	2/5/2006	REF #16	B1539-01	F1162-01
J11146	2/8/2006	U-2	B1539-02	F1187-01
J11144	2/8/2006	300-2	B1539-03	F1187-02
J11145	2/8/2006	U-1	B1539-04	F1187-03
J116N1	2/9/2006	REF 12, SEDIMENT	B1539-05	F1192-01
J116N3	2/9/2006	REF 13, SEDIMENT	B1539-06	F1192-02
J112B7	2/12/2006	Cr 5, SEDIMENT	B1539-07	F1192-03
J116N2	2/9/2006	REF 12, SEDIMENT	B1539-08	F1192-04
J116M4	2/12/2006	Cr 9, SEDIMENT	B1539-09	F1192-05
J116N0	2/9/2006	REF14, SEDIMENT	B1539-10	F1192-06
J11731	2/9/2006	REF11, SEDIMENT FULL QC	B1539-11	F1192-07
J116M5	2/12/2006	Cr10, SEDIMENT	B1539-12	F1192-08
J116M8	2/12/2006	Cr 6, SEDIMENT FULL QC	B1539-13	F1192-09
J11752	2/13/2006	U 5, SEDIMENT	B1539-14	F1207-01
J11745	2/13/2006	U 6, SEDIMENT	B1539-15	F1207-02
J11750	2/13/2006	U 8, SEDIMENT	B1539-16	F1207-03
J11751	2/13/2006	U 3, SEDIMENT	B1539-17	F1207-04
J11753	2/13/2006	U 7, SEDIMENT	B1539-18	F1207-05
J116X2	2/27/2006	Sr 3, SEDIMENT	B1539-30	F1280-01
J116W9	2/27/2006	Sr 1, SEDIMENT FULL QC	B1539-31	F1280-02

SAMPLE PREPARATION

Test sediments were homogenized prior to allocation to each replicate. For each replicate, approximately 1.5 kg wet weight of sediment was added to each test chamber. The sediments were initially hydrated with Milli-Q equivalent de-ionized water via subirrigation. In addition, a sub sample of the sediment was added to a surrogate chamber and hydrated for pH measurements.

WATERING SCHEDULE

Test chambers were hydrated with deionized water prior to test initiation and daily thereafter for the first 10 days via subirrigation. Test sediments were hydrated by placing the test chamber into a hydration chamber containing deionized water and allowing the water to percolate into the bottom of the chamber. After a minimum of 15 minutes, the test chambers were lifted, excess water removed from the hydration chamber, and the test chamber placed back into the hydration chamber.

Starting 11 days after planting, test soils were supplemented with nutrients by the addition of 50 ml of half strength Hoagland's solution three days a week (Monday, Wednesday, and Fridays). The half strength Hoagland's solution was applied directly to the sediment surface. Hydration with deionized water via subirrigation was performed on Sunday, Tuesday, Thursday, and Saturdays.

TEST INITIATION

Following sample preparation, four Pak Choi seeds were planted into each test chamber. Seeds were planted at a depth of 1 ½ times the seeds diameter (approx. 1 mm) and covered gently with sediment. A small amount of hydration water (approx. 10 ml) was sprayed onto the sediment surface to ensure seeds received moisture.

TEST MONITORING

Sediment pH was taken at test initiation and termination by placing approximately 30 g of sediment into a specimen cup, adding 100 ml of hydration water, and mixing. The slurry was allowed to settle for one hour and the supernatant pH was determined.

Temperature was monitored in the incubator continuously throughout the testing period.

The Pak Choi tests were monitored on Day 12, Day 18, and Day 22 for germination.

On Day 18, seedlings were transplanted in those test concentrations that had one or more test replicates with no germinated seeds and at least one replicate with more than one germinated seed. Transplant details are noted on the bench sheets included in Appendix A.

On Day 22, test chambers that had more than one seedling growing were thinned to reduce the number of seedlings to one.

TEST TERMINATION

For each test chamber, all of the above ground biomass (i.e. "shoots") from the single plant was collected and placed into tared aluminum tins. The shoots were weighed to determine the wet weight immediately following removal from the test chamber. The shoots were then dried in an oven at 70 °C for a minimum of 48 hours. The shoots were then placed into a desiccator for a minimum of 2 hours and weighed to determine dry weight.

DATA ANALYSIS

For each test chamber, the following endpoints were calculated:

- Average Above Ground Biomass (Wet)
  (Calculated as the total wet weight of the shoots in each replicate test chamber)
- Average Above Ground Biomass (Dry)
  (Calculated as the total dry weight of the shoots in each replicate test chamber)

Statistical analysis for each endpoint listed comprised of entering the data obtained from each replicate chamber of a test sediment and comparing the result to the data from the replicate chambers of the laboratory control. For each endpoint, a single tailed t-test from the CETIS (version 1.1.2, Tidepool software) program was used to determine whether statistically significant reductions were observed in the test sediments when compared with the lab control. The Equal Variance t Two-Sample test was used as the primary default statistical measure. However, when the assumptions of equality of variance or normality necessary for Equal Variance t Two-Sample test was not met, the Unequal Variance t Two-Sample test or Wilcoxon Rank Sum Two Sample test was used.

The endpoint data and the results statistical analysis are summarized in Table 2. The data represents the average value of all replicates within each test sediment.

RESULTS AND DISCUSSION

Table 2 summarizes the results of the Pak Choi tests initiated on March 2, 2006.

The results for samples J11143, J11731, J116X2 indicated a statistically significant reduction in both wet weight and dry weight above ground biomass when compared to the laboratory control.

The results for sample J116N3 indicated no statistically significant reduction in wet weight above ground biomass, however a statistically significant reduction in dry weight above ground biomass was observed when compared to the laboratory control.

With the exception of samples J11143, J116N3, J11731, and J116X2 (as listed above), all other sediment samples tested indicated no statistically significant reduction in wet weight or dry weight above ground biomass when compared to the laboratory control.

Table 2:
***Pak choi* Chronic Test Results**
for Washington Closure Hanford
Initiated on March 2, 2006

E, significantly different from lab control by use of Equal Variance t Two-Sample Test

ns indicates a non statisticaly significant result; [5], indicates significant at alpha (p) = 0.05;

--, indicates no statistical test performed.

Lab ID:	Sample Number:	*Pak choi* Above Ground Biomass (Wet Wt.) Endpoint (g)	Statistically significant difference when compared to Lab Control?	*Pak choi* Above Ground Biomass (Dry Wt.) Endpoint (g)	Statistically significant difference when compared to Lab Control?
Tests initiated on March 2, 2006					
Laboratory Control		5.81	--	0.317	--
B1539-01	J11143	0.43	E [5]	0.025	E [5]
B1539-02	J11146	3.46	ns	0.186	ns
B1539-03	J11144	4.76	ns	0.262	ns
B1539-04	J11145	5.01	ns	0.281	ns
B1539-05	J116N1	8.85	ns	0.425	ns
B1539-06	J116N3	2.58	ns	0.137	E [5]
B1539-07	J112B7	9.32	ns	0.455	ns
B1539-08	J116N2	8.81	ns	0.423	ns
B1539-09	J116M4	3.37	ns	0.172	ns
B1539-10	J116N0	4.71	ns	0.236	ns
B1539-11	J11731	2.07	E [5]	0.115	E [5]
B1539-12	J116M5	4.55	ns	0.219	ns
B1539-13	J116M8	6.51	ns	0.326	ns
B1539-14	J11752	6.73	ns	0.339	ns
B1539-15	J11745	4.72	ns	0.227	ns
B1539-16	J11750	8.54	ns	0.408	ns
B1539-17	J11751	6.89	ns	0.338	ns
B1539-18	J11753	5.60	ns	0.328	ns
B1539-30	J116X2	1.25	E [5]	0.090	E [5]
B1539-31	J116W9	3.68	ns	0.191	ns

CERTIFICATION STATEMENT

I certify that this data package is in compliance with the Statement of Work, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hard copy data package has been authorized by the Laboratory Manager or a designee, as verified by the following signature:

APPENDIX A
RAW DATA SHEETS

Pak Choi GROWTH TEST

Client ELR Consulting - Washington Closure Hanford Project

Test Start Date 3/2/2006

Day 0 Initials [illegible] Day 12 Initials [illegible] Day 18 Initials [illegible]/MS Day 22 Initials [illegible]

Number of seedlings planted per rep = 4 Seedlings thinned to 1 plant on Day 22

CONC.	REP.	Seeds germinated ? (Y / N) DAY 12	DAY 18	DAY 22	pH DAY 0	DAY 40
Control	A	Y	Y	Y	6.6	7.2
	B	Y	Y	Y		
	C	Y	Y	Y		
	D	Y	Y	Y		
B1539-01 100 %	A	N	QN	N	6.7	6.9
	B	N	N	N		
	C	N	N	N		
	D	N	Y (1)	Y		
B1539-02 100 %	A	Y	Y	Y	6.5	6.8
	B	Y	Y	Y		
	C	Y	Y	Y		
	D	N	N	N		
B1539-03 100 %	A	N	N	Y	6.4	6.6
	B	Y	Y	Y		
	C	N	N	Y		
	D	Y	Y	Y		
B1539-04 100 %	A	Y	Y	Y	6.3	7.1
	B	N	N	Y		
	C	N	N	Y		
	D	Y	Y	Y		
B1539-05 100 %	A	Y	Y	Y	6.5	7.0
	B	Y	Y	Y		
	C	Y	Y	Y		
	D	Y	Y	Y		

Day 40 1 plant just sprouting

Initials [illegible] Date 3-31-06	Initials MS Date 4-11-06	Initials [illegible] Date 4-13-06
Tare Weight (g)	Total Wet Weight (g)	Total Dry Weight (g)
3.80825	11.16570	4.22156
3.83486	7.36134	4.05215
3.83167	7.07674	4.00236
3.81356	12.94072	4.28210
3.83243	4.03801	3.84548
3.82970	3.87465	3.83153
3.82816	No plant	NO PLANT
3.83589	4.87463	3.89699
3.89000	7.62857	4.07967
3.78938	5.64807	3.89342
3.75440	8.53004	4.01787
3.77055	No Plant	NO PLANT
3.76635	8.09082	4.00790
3.76189	8.81041	4.02268
3.76560	6.98899	3.96468
3.79941	10.23545	4.14668
3.83582	11.35976	4.27188
3.82796	7.68739	4.02406
3.81085	8.27324	4.04450
3.82881	8.03181	4.08621
3.81186	12.05970	4.21499
3.79979	12.60790	4.20307
3.78951	13.15001	4.25364
4.00516	12.99363	4.43617

Comments: Day 18 [illegible] - Transplanted 1 from -03 B to A, 1 from -03 B to C
-04: 1 plant from D to B, 1 from D to C - rep C also had 1 plant just germinating

Pak Choi GROWTH TEST

Client ELR Consulting - Washington Closure Hanford Project

Test Start Date 3/2/2006

Day 0 Initials Dr Day 12 Initials Dr Day 18 Initials Bu/ms Day 22 Initials Dr

Number of seedlings planted per rep = 4 Seedlings thinned to 1 plant on Day 22

CONC.	REP.	Seeds germinated ? (Y / N) DAY 12 (3-14-06)	DAY 18	DAY 22	pH DAY 0	DAY 40
B1539-06 100 %	A	Y	Y	Y	6.6	7.0
	B	N	Y	Y		
	C	Y	Y	Y		
	D	Y	Y	Y		
B1539-07 100 %	A	Y	Y	Y	6.6	7.1
	B	Y	Y	Y		
	C	Y	Y	Y		
	D	Y	Y	Y		
B1539-08 100 %	A	Y	Y	Y	6.5	6.9
	B	Y	Y	Y		
	C	Y	Y	Y		
	D	Y	Y	Y		
B1539-09 100 %	A	Y	Y	Y	6.7	7.4
	B	Y	Y	Y		
	C	N	N	Y		
	D	Y	Y	Y		
B1539-10 100 %	A	Y	Y	Y	6.6	6.7
	B	Y	Y	Y		
	C	Y	Y	Y		
	D	Y	Y	Y		
B1539-11 100 %	A	Y	Y	Y	6.3	7.1
	B	N	N	Y		
	C	N	Y	Y		
	D	N	N	Y		

Initials DW, Date 3-31-06	Initials Bu/ms, Date 4-11-06	Initials NJ, Date 4-19-06
Tare Weight (g)	Total Wet Weight (g)	Total Dry Weight (g)
3.80011	6.52813	3.929~~x~~78
3.81481	4.25781	3.84206
3.82185	8.39032	4.07631
3.82797	6.39948	3.96541
3.81212	13.94406	4.30478
3.81767	13.87888	4.31360
3.83148	15.18302	4.38835
3.83998	9.58856	4.11534
3.83502	13.36019	4.29128
3.81135	11.49645	4.19226
3.79878	14.77086	4.31553
3.81021	10.86518	~~4.14~~ 4.15 001
3.81703	7.32146	3.99321
3.81287	5.68931	3.91583
3.81586	7.13022	3.98919
3.84209	8.60826	4.07645
3.78606	10.65026	4.13272
3.80274	7.45848	3.98875
3.80613	7.29634	NJ ~~3.99~~ 3.99182
3.80602	8.61858	4.03023
3.82302	6.10828	3.95395
3.80976	7.44417	3.99813
3.83009	4.48955	3.87745
3.74590	5.40205	3.83860

Comments: -06 B: One plant w/ 3 leaves - obviously not Pak choi seedling Day 12
-09: 2 from B to C
-11: 1 plant from A to B, 1 plant from A to D

Pak Choi GROWTH TEST

Client ELR Consulting - Washington Closure Hanford Project

Test Start Date 3/2/2006

Day 0 Initials Bm Day 12 Initials Bm Day 18 Initials Bm/ms Day 22 Initials Bm

Number of seedlings planted per rep = 4 Seedlings thinned to 1 plant on Day 22

CONC.	REP.	Seeds germinated ? (Y / N) DAY 12	DAY 14	DAY 22	pH DAY 0	DAY 40
B1539-12 100 %	A	Y	Y	Y	6.7	6.8
	B	N	Y	Y		
	C	Y	Y	Y		
	D	Y	Y	Y		
B1539-13 100 %	A	N	N	N	6.6	6.9
	B	Y	Y	Y		
	C	Y	Y	Y		
	D	Y	Y	Y		
B1539-14 100 %	A	Y	Y	Y	6.5	7.2
	B	Y	Y	Y		
	C	Y	Y	Y		
	D	Y	Y	Y		
B1539-15 100 %	A	Y	Y	Y	6.4	6.7
	B	N	N	Y		
	C	N	N	Y		
	D	Y	Y	Y		
B1539-16 100 %	A	Y	Y	Y	6.5	6.9
	B	Y	Y	Y		
	C	Y	Y	Y		
	D	Y	Y	Y		
B1539-17 100 %	A	Y	Y	Y	6.5	6.8
	B	Y	Y	Y		
	C	Y	Y	Y		
	D	Y	Y	Y		

Initials [illegible] Date 3-31-06	Initials Bm/ms Date 4-11-06	Initials [illegible] Date 4-17-06
Tare Weight (g)	Total Wet Weight (g)	Total Dry Weight (g)
3.78304	7.48637	3.95136
3.76281	5.37300	3.83832
3.76475	10.31660	4.07492
3.75680	10.07572	4.07831
3.75145	No Plant	—
3.76189	9.99373	4.07760
3.74675	7.71655	3.95557
3.83288	13.14622	4.28618
3.85557	10.92254	4.21696
3.85405	11.55612	4.24229
3.82533	9.98135	4.12505
3.82175	9.83373	4.12660
3.81147	10.14142	4.11961
3.82478	9.03781	4.06999
3.81312	7.11565	3.96480
4.27122	8.31226	4.47253
4.26498	12.81465	4.65781
4.27792	11.55094	4.62200
4.28303	11.81586	4.65202
4.27919	15.08474	4.80551
4.27332	10.21140	4.55605
4.26840	12.19364	4.64929
4.26112	9.93260	4.53112
4.22869	12.26542	4.64589

Comments: -15- 1 from D to Reps B & C

~~-13- 1 from C to A.~~ the 2 plants in rep C are too intertwined.

Pak Choi GROWTH TEST

Client ELR Consulting - Washington Closure Hanford Project

Test Start Date 3/2/2006

Day 0 Initials Bm Day 12 Initials Bm Day 18 Initials Bm/MS Day 22 Initials Bm

Number of seedlings planted per rep = 4 Seedlings thinned to 1 plant on Day 22

CONC.	REP.	Seeds germinated ? (Y / N) DAY 12	DAY 18	DAY 22	pH DAY 0	DAY 40
B1539-18 100 %	A	Y	Y	Y	6.4	7.1
	B	N	N	Y		
	C	Y	Y	Y		
	D	Y	Y	Y		
B1539-30 100 %	A	Y	Y	Y	6.2	7.1
	B	Y	Y	Y		
	C	Y	Y	Y		
	D	Y	Y	Y		
B1539-31 100 %	A	N	N	Y	6.6	7.0
	B	N	Y	Y		
	C	Y	Y	Y		
	D	Y	Y	Y		
	A					
	B					
	C					
	D					
	A					
	B					
	C					
	D					
	A					
	B					
	C					
	D					

Initials [illegible] Date 3-31-06	Initials Bm/MS Date 4-4-06	Initials [illegible] Date 4-14-06
Tare Weight (g)	Total Wet Weight (g)	Total Dry Weight (g)
4.18501	13.01045	4.68923
4.23608	7.01349	4.38575
4.25454	11.91664	4.70382
4.20796	7.35840	4.41735
4.25127	5.06486	4.31295
4.28046	5.86428	4.40799
4.24301	5.94206	4.34917
4.32187	5.21250	4.38561
4.32800	7.31201	4.47291
4.28805	6.96000	4.42959
4.17971	10.36465	4.49656
4.31241	7.19884	4.47215

Comments: 3-20-06 Bm/MS 31: 1 plant from B to A
- 18: 2 from D to B.

Pak Choi GROWTH TEST

Client ELR Consulting - Washington Closure Hanford Project

Test Start Date 3/2/2006

Day 0 Initials _____ Day___ Initials _____ Day___ Initials _____ Day___ Initials _____

Number of seedlings planted per rep = 4 Seedlings thinned to 1 plant on Day _____

CONC.	REP.	Seeds germinated ? (Y / N) DAY	DAY	DAY	pH DAY 0	DAY 40	Initials _____ Date _____ Tare Weight (g)	Initials _____ Date _____ Total Wet Weight (g)	Initials _____ Date _____ Total Dry Weight (g)
Control	A						3.80825	11.16570	4.22156
	B						3.83486	7.36134	4.05215
	C						3.83167	7.07674	4.00236
	D						3.81356	12.94072	4.28210
B1539-01 100 %	A						3.83243	4.03801	3.84548
	B						3.82970	3.87465	3.83153
	C								
	D						3.83589	4.87463	3.89699
B1539-02 100 %	A						3.89000	7.62857	4.07967
	B						3.78938	5.64807	3.89342
	C						3.75440	8.53004	4.01787
	D								
B1539-03 100 %	A						3.76635	8.09082	4.00790
	B						3.76189	8.81041	4.02268
	C						3.76560	6.98899	3.96468
	D						3.79941	10.23545	4.14668
B1539-04 100 %	A						3.83582	11.35976	4.27188
	B						3.82796	7.68739	4.02406
	C						3.81085	8.27324	4.04450
	D						3.82881	8.03181	4.08621
B1539-05 100 %	A						3.81186	12.05970	4.21499
	B						3.79979	12.60790	4.20307
	C						3.78951	13.15001	4.25364
	D						4.00516	12.99363	4.43617

Comments: Weight data inputted by Bm. April 24, 2006

Pak Choi GROWTH TEST

Client ELR Consulting - Washington Closure Hanford Project

Test Start Date 3/2/2006

Day 0 Initials _____ Day ___ Initials _____ Day ___ Initials _____ Day ___ Initials _____

Number of seedlings planted per rep = 4 Seedlings thinned to 1 plant on Day _____

CONC.	REP.	Seeds germinated ? (Y / N) DAY	DAY	DAY	pH DAY 0	DAY 40	Initials _____ Date _____ Tare Weight (g)	Initials _____ Date _____ Total Wet Weight (g)	Initials _____ Date _____ Total Dry Weight (g)
B1539-06 100 %	A						3.80011	6.52813	3.92978
	B						3.81481	4.25781	3.84206
	C						3.82185	8.39032	4.07631
	D						3.82797	6.39948	3.96541
B1539-07 100 %	A						3.81212	13.94406	4.30478
	B						3.81767	13.87888	4.31360
	C						3.83148	15.18302	4.38835
	D						3.83998	9.58856	4.11534
B1539-08 100 %	A						3.83502	13.36019	4.29128
	B						3.81135	11.49645	4.19226
	C						3.79878	14.77086	4.31553
	D						3.81021	10.86518	4.15001
B1539-09 100 %	A						3.81703	7.32146	3.99321
	B						3.81287	5.68931	3.91583
	C						3.81586	7.13022	3.98919
	D						3.84209	8.60826	4.07645
B1539-10 100 %	A						3.78606	10.65026	4.13272
	B						3.80274	7.45848	3.98875
	C						3.80613	7.29634	3.99182
	D						3.80602	8.61858	4.03023
B1539-11 100 %	A						3.82302	6.10828	3.95395
	B						3.80976	7.48417	3.99813
	C						3.83009	4.48955	3.87745
	D						3.74590	5.40205	3.83860

Comments: _____

Pak Choi GROWTH TEST

Client ELR Consulting - Washington Closure Hanford Project

Test Start Date 3/2/2006

Day 0 Initials _____ Day ___ Initials _____ Day ___ Initials _____ Day ___ Initials _____

Number of seedlings planted per rep = 4 Seedlings thinned to 1 plant on Day _____

		Seeds germinated ? (Y / N)			pH		Initials _____ Date _____	Initials _____ Date _____	Initials _____ Date _____
CONC.	REP.	DAY	DAY	DAY	DAY 0	DAY 40	Tare Weight (g)	Total Wet Weight (g)	Total Dry Weight (g)
B1539-12 100 %	A						3.78304	7.48637	3.95136
	B						3.76281	5.37300	3.83832
	C						3.76475	10.31660	4.07492
	D						3.75680	10.07572	4.07831
B1539-13 100 %	A								
	B						3.76189	9.99373	4.07760
	C						3.74675	7.71665	3.95557
	D						3.83288	13.14622	4.28618
B1539-14 100 %	A						3.85557	10.92254	4.21696
	B						3.85405	11.55612	4.24229
	C						3.82533	9.98135	4.12505
	D						3.82175	9.83373	4.12660
B1539-15 100 %	A						3.81147	10.14142	4.11961
	B						3.82478	9.03781	4.06999
	C						3.81312	7.11565	3.96480
	D						4.27122	8.31226	4.47253
B1539-16 100 %	A						4.26498	12.81465	4.65781
	B						4.27792	11.55094	4.62200
	C						4.28303	11.81586	4.65202
	D						4.27919	15.08474	4.80551
B1539-17 100 %	A						4.27332	10.21140	4.55605
	B						4.26840	12.19364	4.64929
	C						4.26112	9.93260	4.53112
	D						4.22869	12.26542	4.64589

Comments: _____

Pak Choi GROWTH TEST

Client ELR Consulting - Washington Closure Hanford Project

Test Start Date 3/2/2006

Day 0 Initials _____ Day ___ Initials _____ Day ___ Initials _____ Day ___ Initials _____

Number of seedlings planted per rep = 4 Seedlings thinned to 1 plant on Day _____

CONC.	REP.	Seeds germinated ? (Y / N) DAY	DAY	DAY	pH DAY 0	DAY 40	Initials _____ Date _____ Tare Weight (g)	Initials _____ Date _____ Total Wet Weight (g)	Initials _____ Date _____ Total Dry Weight (g)
B1539-18 100 %	A						4.18501	13.01045	4.68923
	B						4.23608	7.01349	4.38575
	C						4.25454	11.91664	4.70382
	D						4.20796	7.35840	4.41735
B1539-30 100 %	A						4.25127	5.06486	4.31295
	B						4.28046	5.86428	4.40799
	C						4.24301	5.94206	4.34917
	D						4.32187	5.21250	4.38561
B1539-31 100 %	A						4.32800	7.31201	4.47291
	B						4.28805	6.96000	4.42959
	C						4.17971	10.36465	4.49656
	D						4.31241	7.19884	4.47215
	A								
	B								
	C								
	D								
	A								
	B								
	C								
	D								
	A								
	B								
	C								
	D								

Comments: _____

CETIS Test Summary

Report Date: 24 Apr-06 4:45 PM
Test Link: 04-4830-4313/B153901pcc

Plant Chronic test — **CH2M HILL**

Test No:	20-3232-0308	**Test Type:**	Plant Chronic test	**Duration:**	40d 0h
Start Date:	02 Mar-06	**Protocol:**	ASTM E1963-02 (2002)	**Species:**	Pak Choi
Ending Date:	11 Apr-06	**Dil Water:**		**Source:**	
Setup Date:	02 Mar-06 12:00 AM	**Brine:**			

Sample No:	03-1056-8558	**Code:**	B1539-01	**Client:**	
Sample Date:	05 Feb-06	**Material:**	Sediment	**Project:**	
Receive Date:		**Source:**	Hanford		
Sample Age:	25d 0h	**Station:**			

Comments: J11143

Comparison Summary

Analysis	Endpoint	NOEL	LOEL	ChV	PMSD	Method
12-1505-8980	AG Average Dry Wt.	< 100	100	N/A	55.52%	Equal Variance t Two-Sample
04-3055-2855	AG Average Wet Wt.	< 100	100	N/A	60.08%	Equal Variance t Two-Sample

AG Average Dry Wt. Summary

Conc-%	Control Type	Reps	Mean	Minimum	Maximum	SE	SD	CV
0	Dilution Sedim	4	0.31746	0.17069	0.46854	0.07279	0.14559	45.86%
100		4	0.02533	0.00183	0.06110	0.01818	0.03148	124.31

AG Average Wet Wt. Summary

Conc-%	Control Type	Reps	Mean	Minimum	Maximum	SE	SD	CV
0	Dilution Sedim	4	5.81404	3.24507	9.12716	1.44889	2.89778	49.84%
100		4	0.42976	0.04495	1.03874	0.30800	0.53348	124.13

AG Average Dry Wt. Detail

Conc-%	Control Type	Rep 1	Rep 2	Rep 3	Rep 4
0	Dilution Sedim	0.41331	0.21729	0.17069	0.46854
100		0.01305	0.00183	Missing	0.06110

AG Average Wet Wt. Detail

Conc-%	Control Type	Rep 1	Rep 2	Rep 3	Rep 4
0	Dilution Sedim	7.35745	3.52648	3.24507	9.12716
100		0.20558	0.04495	Missing	1.03874

CETIS Analysis Detail

Plant Chronic test — CH2M Hill

Endpoint	Analysis Type	Sample Link	Control Link	Date Analyzed	Version
AG Average Dry Wt.	Comparison	04-4830-4313	04-4830-4313	20 Apr-06 11:52 AM	CETISv1.1.2

Method	Alt H	Data Transform	Zeta	NOEL	LOEL	Toxic Units	ChV	PMSD
Equal Variance t Two-Sample	C > T	Untransformed		<100	100		N/A	55.52%

Group Comparisons

Control	vs	Conc-%	Statistic	Critical	P-Value	MSD	Decision(0.05)
Dilution Sediment		100	3.34002	2.01505	0.0103	0.17624	Significant Effect

ANOVA Table

Source	Sum of Squares	Mean Square	DF	F Statistic	P-Value	Decision(0.05)
Between	0.1462977	0.146298	1	11.16	0.02055	Significant Effect
Error	0.0655706	0.013114	5			
Total	0.21186831	0.1594119	6			

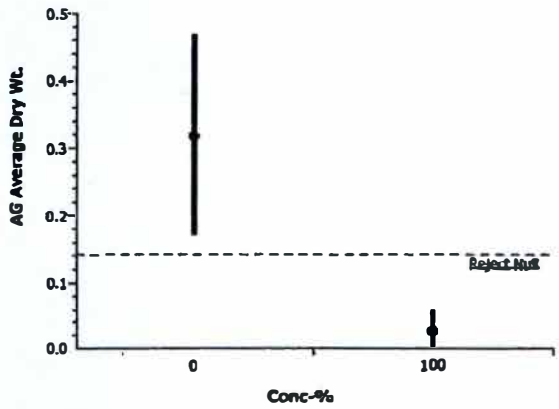
ANOVA Assumptions

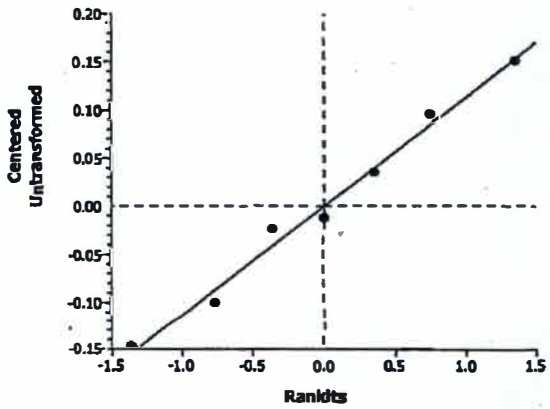
Attribute	Test	Statistic	Critical	P-Value	Decision(0.01)
Variances	Variance Ratio F	21.38274	199.16640	0.09002	Equal Variances
Distribution	Shapiro-Wilk W	0.97893		0.95418	Normal Distribution

Data Summary

			Original Data				Transformed Data			
Conc-%	Control Type	Count	Mean	Minimum	Maximum	SD	Mean	Minimum	Maximum	SD
0	Dilution Sedim	4	0.31746	0.17069	0.46854	0.14559				
100		3	0.02533	0.00183	0.06110	0.03148				

Graphics





CETIS Analysis Detail

Plant Chronic test — **CH2M Hill**

Endpoint	Analysis Type	Sample Link	Control Link	Date Analyzed	Version
AG Average Wet Wt.	Comparison	04-4830-4313	04-4830-4313	24 Apr-06 4:45 PM	CETISv1.1.2

Method	Alt H	Data Transform	Zeta	NOEL	LOEL	Toxic Units	ChV	PMSD
Equal Variance t Two-Sample	C > T	Untransformed		<100	100		N/A	60.08%

Group Comparisons

Control	vs	Conc-%	Statistic	Critical	P-Value	MSD	Decision(0.05)
Dilution Sediment		100	3.10582	2.01505	0.0133	3.49331	Significant Effect

ANOVA Table

Source	Sum of Squares	Mean Square	DF	F Statistic	P-Value	Decision(0.05)
Between	49.69801	49.69801	1	9.65	0.02668	Significant Effect
Error	25.7606	5.152121	5			
Total	75.4586086	54.850126	6			

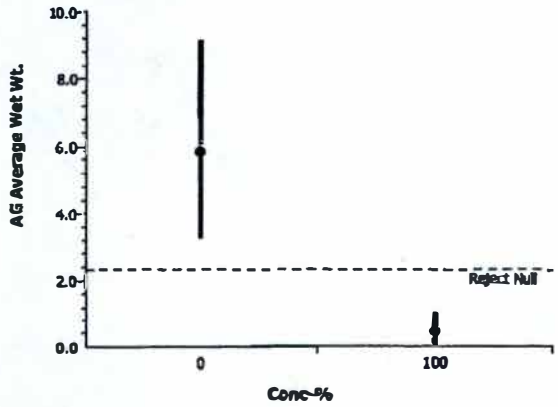
ANOVA Assumptions

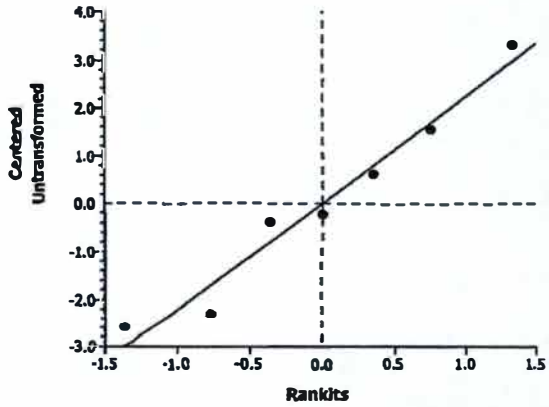
Attribute	Test	Statistic	Critical	P-Value	Decision(0.01)
Variances	Variance Ratio F	29.50547	199.16640	0.06592	Equal Variances
Distribution	Shapiro-Wilk W	0.95743		0.79640	Normal Distribution

Data Summary

			Original Data				Transformed Data			
Conc-%	Control Type	Count	Mean	Minimum	Maximum	SD	Mean	Minimum	Maximum	SD
0	Dilution Sedim	4	5.81404	3.24507	9.12716	2.89778				
100		3	0.42976	0.04495	1.03874	0.53348				

Graphics





CETIS Test Summary

Report Date: 24 Apr-06 3:12 PM
Test Link: 05-4354-2065/B153902pcc

Plant Chronic test — CH2M Hill

Test No:	19-1435-8517	Test Type:	Plant Chronic test	Duration:	40d 0h
Start Date:	02 Mar-06	Protocol:	ASTM E1963-02 (2002)	Species:	Pak Choi
Ending Date:	11 Apr-06	Dil Water:		Source:	
Setup Date:	02 Mar-06 12:00 AM	Brine:			

Sample No:	09-8130-6916	Code:	B1539-02	Client:	
Sample Date:	08 Feb-06	Material:	Sediment	Project:	
Receive Date:		Source:	Hanford		
Sample Age:	22d 0h	Station:			

Comments: J11146

Comparison Summary

Analysis	Endpoint	NOEL	LOEL	ChV	PMSD	Method
03-7107-5057	AG Average Dry Wt.	100	> 100	N/A	59.90%	Equal Variance t Two-Sample
18-0393-6141	AG Average Wet Wt.	100	> 100	N/A	64.37%	Equal Variance t Two-Sample

AG Average Dry Wt. Summary

Conc-%	Control Type	Reps	Mean	Minimum	Maximum	SE	SD	CV
0	Dilution Sedim	4	0.31746	0.17069	0.46854	0.07279	0.14559	45.86%
100		4	0.18573	0.10404	0.26347	0.04607	0.07979	42.96%

AG Average Wet Wt. Summary

Conc-%	Control Type	Reps	Mean	Minimum	Maximum	SE	SD	CV
0	Dilution Sedim	4	5.81404	3.24507	9.12716	1.44889	2.89778	49.84%
100		4	3.45763	1.85869	4.77564	0.85369	1.47863	42.76%

AG Average Dry Wt. Detail

Conc-%	Control Type	Rep 1	Rep 2	Rep 3	Rep 4
0	Dilution Sedim	0.41331	0.21729	0.17069	0.46854
100		0.18967	0.10404	0.26347	Missing

AG Average Wet Wt. Detail

Conc-%	Control Type	Rep 1	Rep 2	Rep 3	Rep 4
0	Dilution Sedim	7.35745	3.52648	3.24507	9.12716
100		3.73857	1.85869	4.77564	Missing

CETIS Analysis Detail

Plant Chronic test — **CH2M Hill**

Endpoint	Analysis Type	Sample Link	Control Link	Date Analyzed	Version
AG Average Dry Wt.	Comparison	05-4354-2065	05-4354-2065	24 Apr-06 3:11 PM	CETISv1.1.2

Method	Alt H	Data Transform	Zeta	NOEL	LOEL	Toxic Units	ChV	PMSD
Equal Variance t Two-Sample	C > T	Untransformed		100	>100	1	N/A	59.90%

Group Comparisons

Control	vs	Conc-%	Statistic	Critical	P-Value	MSD	Decision(0.05)
Dilution Sediment		100	1.39603	2.01505	0.1108	0.19014	Non-Significant Effect

ANOVA Table

Source	Sum of Squares	Mean Square	DF	F Statistic	P-Value	Decision(0.05)
Between	0.0297480	0.029748	1	1.95	0.22152	Non-Significant Effect
Error	0.0763203	0.015264	5			
Total	0.10606837	0.0450121	6			

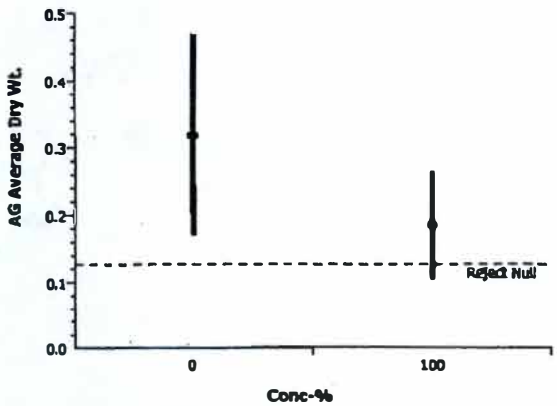
ANOVA Assumptions

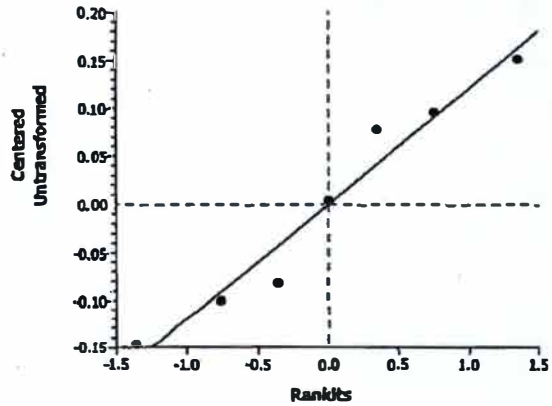
Attribute	Test	Statistic	Critical	P-Value	Decision(0.01)
Variances	Variance Ratio F	3.32949	199.16640	0.47899	Equal Variances
Distribution	Shapiro-Wilk W	0.93751		0.61643	Normal Distribution

Data Summary

			Original Data				Transformed Data			
Conc-%	Control Type	Count	Mean	Minimum	Maximum	SD	Mean	Minimum	Maximum	SD
0	Dilution Sedim	4	0.31746	0.17069	0.46854	0.14559				
100		3	0.18573	0.10404	0.26347	0.07979				

Graphics





CETIS Analysis Detail

Plant Chronic test — **CH2M Hill**

Endpoint	Analysis Type	Sample Link	Control Link	Date Analyzed	Version
AG Average Wet Wt.	Comparison	05-4354-2065	05-4354-2065	24 Apr-06 3:11 PM	CETISv1.1.2

Method	Alt H	Data Transform	Zeta	NOEL	LOEL	Toxic Units	ChV	PMSD
Equal Variance t Two-Sample	C > T	Untransformed		100	>100	1	N/A	64.37%

Group Comparisons

Control	vs	Conc-%	Statistic	Critical	P-Value	MSD	Decision(0.05)
Dilution Sediment		100	1.26880	2.01505	0.1302	3.74232	Non-Significant Effect

ANOVA Table

Source	Sum of Squares	Mean Square	DF	F Statistic	P-Value	Decision(0.05)
Between	9.518832	9.518832	1	1.61	0.26037	Non-Significant Effect
Error	29.5641	5.912819	5			
Total	39.0829306	15.431652	6			

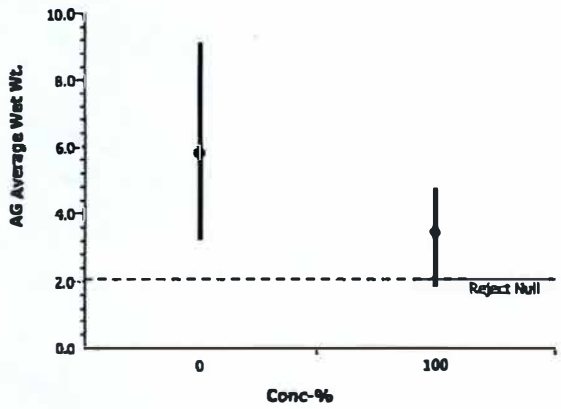
ANOVA Assumptions

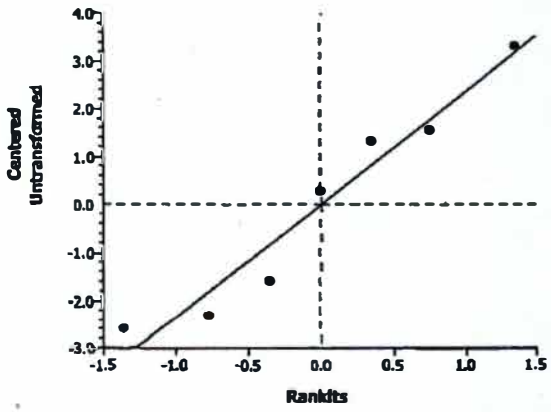
Attribute	Test	Statistic	Critical	P-Value	Decision(0.01)
Variances	Variance Ratio F	3.84072	199.16640	0.42688	Equal Variances
Distribution	Shapiro-Wilk W	0.92793		0.53344	Normal Distribution

Data Summary

			Original Data				Transformed Data			
Conc-%	Control Type	Count	Mean	Minimum	Maximum	SD	Mean	Minimum	Maximum	SD
0	Dilution Sedim	4	5.81404	3.24507	9.12716	2.89778				
100		3	3.45763	1.85869	4.77564	1.47863				

Graphics





CETIS Test Summary

Report Date: 24 Apr-06 3:15 PM
Test Link: 03-2714-8703/B153903pcc

Plant Chronic test — CH2M Hill

Test No:	08-8062-2943	Test Type:	Plant Chronic test	Duration:	40d 0h
Start Date:	02 Mar-06	Protocol:	ASTM E1963-02 (2002)	Species:	Pak Choi
Ending Date:	11 Apr-06	Dil Water:		Source:	
Setup Date:	02 Mar-06 12:00 AM	Brine:			

Sample No:	05-2776-3110	Code:	B1539-03	Client:	
Sample Date:	08 Feb-06	Material:	Sediment	Project:	
Receive Date:		Source:	Hanford		
Sample Age:	22d 0h	Station:			

Comments: J11144

Comparison Summary

Analysis	Endpoint	NOEL	LOEL	ChV	PMSD	Method
05-5125-1500	AG Average Dry Wt.	100	> 100	N/A	48.47%	Equal Variance t Two-Sample
07-8099-7600	AG Average Wet Wt.	100	> 100	N/A	53.40%	Equal Variance t Two-Sample

AG Average Dry Wt. Summary

Conc-%	Control Type	Reps	Mean	Minimum	Maximum	SE	SD	CV
0	Dilution Sedim	4	0.31746	0.17069	0.46854	0.07279	0.14559	45.86%
100		4	0.26217	0.19908	0.34727	0.03116	0.06231	23.77%

AG Average Wet Wt. Summary

Conc-%	Control Type	Reps	Mean	Minimum	Maximum	SE	SD	CV
0	Dilution Sedim	4	5.81404	3.24507	9.12716	1.44889	2.89778	49.84%
100		4	4.75810	3.22339	6.43604	0.67350	1.34700	28.31%

AG Average Dry Wt. Detail

Conc-%	Control Type	Rep 1	Rep 2	Rep 3	Rep 4
0	Dilution Sedim	0.41331	0.21729	0.17069	0.46854
100		0.24155	0.26079	0.19908	0.34727

AG Average Wet Wt. Detail

Conc-%	Control Type	Rep 1	Rep 2	Rep 3	Rep 4
0	Dilution Sedim	7.35745	3.52648	3.24507	9.12716
100		4.32447	5.04852	3.22339	6.43604

CETIS Analysis Detail

Plant Chronic test — **CH2M Hill**

Endpoint	Analysis Type	Sample Link	Control Link	Date Analyzed	Version
AG Average Dry Wt.	Comparison	03-2714-8703	03-2714-8703	24 Apr-06 3:15 PM	CETISv1.1.2

Method	Alt H	Data Transform	Zeta	NOEL	LOEL	Toxic Units	ChV	PMSD
Equal Variance t Two-Sample	C > T	Untransformed		100	>100	1	N/A	48.47%

Group Comparisons

Control	vs	Conc-%	Statistic	Critical	P-Value	MSD	Decision(0.05)
Dilution Sediment		100	0.69820	1.94318	0.2556	0.15386	Non-Significant Effect

ANOVA Table

Source	Sum of Squares	Mean Square	DF	F Statistic	P-Value	Decision(0.05)
Between	0.0061129	0.006113	1	0.49	0.51119	Non-Significant Effect
Error	0.0752374	0.01254	6			
Total	0.0813503	0.0186524	7			

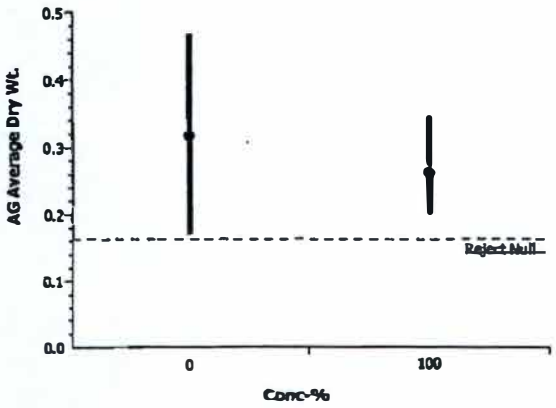
ANOVA Assumptions

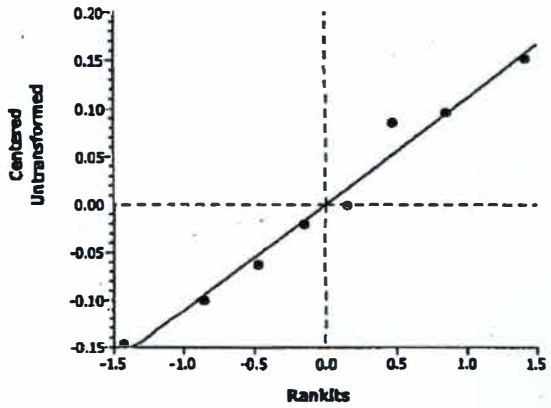
Attribute	Test	Statistic	Critical	P-Value	Decision(0.01)
Variances	Variance Ratio F	5.45848	47.46723	0.19697	Equal Variances
Distribution	Shapiro-Wilk W	0.96360		0.84358	Normal Distribution

Data Summary

			Original Data				Transformed Data			
Conc-%	Control Type	Count	Mean	Minimum	Maximum	SD	Mean	Minimum	Maximum	SD
0	Dilution Sedim	4	0.31746	0.17069	0.46854	0.14559				
100		4	0.26217	0.19908	0.34727	0.06231				

Graphics





CETIS Analysis Detail

Plant Chronic test — CH2M Hill

Endpoint	Analysis Type	Sample Link	Control Link	Date Analyzed	Version
AG Average Wet Wt.	Comparison	03-2714-8703	03-2714-8703	24 Apr-06 3:15 PM	CETISv1.1.2

Method	Alt H	Data Transform	Zeta	NOEL	LOEL	Toxic Units	ChV	PMSD
Equal Variance t Two-Sample	C > T	Untransformed		100	>100	1	N/A	53.40%

Group Comparisons

Control	vs	Conc-%	Statistic	Critical	P-Value	MSD	Decision(0.05)
Dilution Sediment		100	0.66088	1.94318	0.2666	3.10476	Non-Significant Effect

ANOVA Table

Source	Sum of Squares	Mean Square	DF	F Statistic	P-Value	Decision(0.05)
Between	2.229996	2.229996	1	0.44	0.53323	Non-Significant Effect
Error	30.63461	5.105768	6			
Total	32.8646035	7.3357639	7			

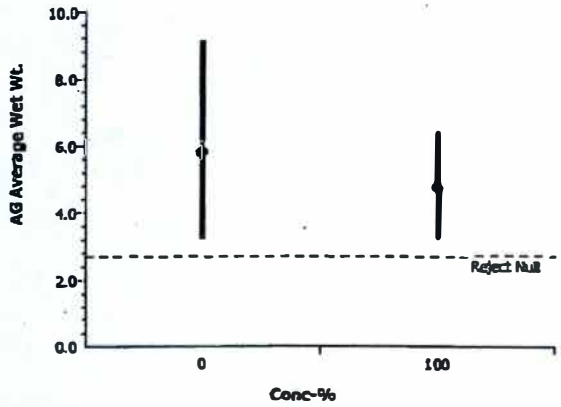
ANOVA Assumptions

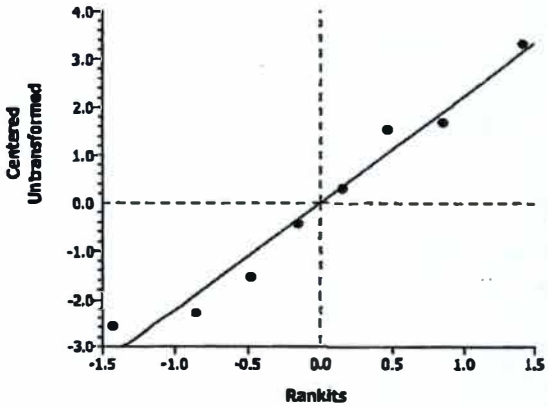
Attribute	Test	Statistic	Critical	P-Value	Decision(0.01)
Variances	Variance Ratio F	4.62806	47.46723	0.24028	Equal Variances
Distribution	Shapiro-Wilk W	0.94948		0.70597	Normal Distribution

Data Summary

			Original Data				Transformed Data			
Conc-%	Control Type	Count	Mean	Minimum	Maximum	SD	Mean	Minimum	Maximum	SD
0	Dilution Sedim	4	5.81404	3.24507	9.12716	2.89778				
100		4	4.75810	3.22339	6.43604	1.34700				

Graphics





CETIS Test Summary

Report Date: 24 Apr-06 3:17 PM
Test Link: 08-6488-8417/B153904pcc

Plant Chronic test — **CH2M Hill**

Test No:	20-7964-1273	**Test Type:**	Plant Chronic test	**Duration:**	40d 0h
Start Date:	02 Mar-06	**Protocol:**	ASTM E1963-02 (2002)	**Species:**	Pak Choi
Ending Date:	11 Apr-06	**Dil Water:**		**Source:**	
Setup Date:	02 Mar-06 12:00 AM	**Brine:**			

Sample No:	00-7618-1382	**Code:**	B1539-04	**Client:**	
Sample Date:	08 Feb-06	**Material:**	Sediment	**Project:**	
Receive Date:		**Source:**	Hanford		
Sample Age:	22d 0h	**Station:**			

Comments: J11145

Comparison Summary

Analysis	Endpoint	NOEL	LOEL	ChV	PMSD	Method
12-9194-3369	AG Average Dry Wt.	100	> 100	N/A	55.21%	Equal Variance t Two-Sample
07-6209-5985	AG Average Wet Wt.	100	> 100	N/A	56.08%	Equal Variance t Two-Sample

AG Average Dry Wt. Summary

Conc-%	Control Type	Reps	Mean	Minimum	Maximum	SE	SD	CV
0	Dilution Sedim	4	0.31746	0.17069	0.46854	0.07279	0.14559	45.86%
100		4	0.28080	0.19610	0.43606	0.05327	0.10654	37.94%

AG Average Wet Wt. Summary

Conc-%	Control Type	Reps	Mean	Minimum	Maximum	SE	SD	CV
0	Dilution Sedim	4	5.81404	3.24507	9.12716	1.44889	2.89778	49.84%
100		4	5.01219	3.85943	7.52394	0.84631	1.69261	33.77%

AG Average Dry Wt. Detail

Conc-%	Control Type	Rep 1	Rep 2	Rep 3	Rep 4
0	Dilution Sedim	0.41331	0.21729	0.17069	0.46854
100		0.43606	0.19610	0.23365	0.25740

AG Average Wet Wt. Detail

Conc-%	Control Type	Rep 1	Rep 2	Rep 3	Rep 4
0	Dilution Sedim	7.35745	3.52648	3.24507	9.12716
100		7.52394	3.85943	4.46239	4.20300

CETIS Analysis Detail

Plant Chronic test — **CH2M Hill**

Endpoint	Analysis Type	Sample Link	Control Link	Date Analyzed	Version
AG Average Dry Wt.	Comparison	08-6488-8417	08-6488-8417	24 Apr-06 3:17 PM	CETISv1.1.2

Method	Alt H	Data Transform	Zeta	NOEL	LOEL	Toxic Units	ChV	PMSD
Equal Variance t Two-Sample	C > T	Untransformed		100	>100	1	N/A	55.21%

Group Comparisons

Control	vs	Conc-%	Statistic	Critical	P-Value	MSD	Decision(0.05)
Dilution Sediment		100	0.40636	1.94318	0.3493	0.17528	Non-Significant Effect

ANOVA Table

Source	Sum of Squares	Mean Square	DF	F Statistic	P-Value	Decision(0.05)
Between	0.0026872	0.002687	1	0.17	0.69857	Non-Significant Effect
Error	0.0976386	0.016273	6			
Total	0.10032576	0.0189603	7			

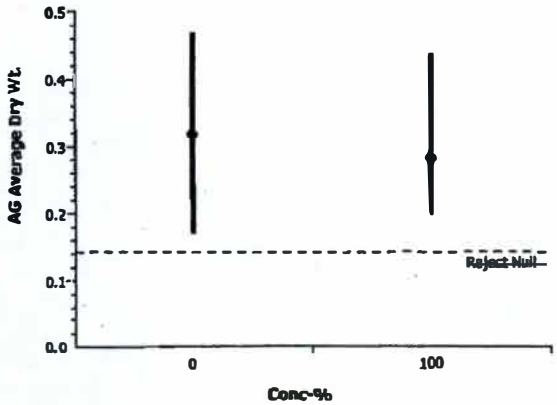
ANOVA Assumptions

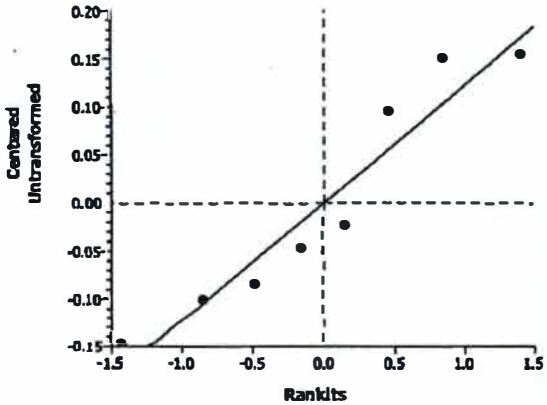
Attribute	Test	Statistic	Critical	P-Value	Decision(0.01)
Variances	Variance Ratio F	1.86746	47.46723	0.62078	Equal Variances
Distribution	Shapiro-Wilk W	0.89235		0.24605	Normal Distribution

Data Summary

			Original Data				Transformed Data			
Conc-%	Control Type	Count	Mean	Minimum	Maximum	SD	Mean	Minimum	Maximum	SD
0	Dilution Sedim	4	0.31746	0.17069	0.46854	0.14559				
100		4	0.28080	0.19610	0.43606	0.10654				

Graphics





CETIS Analysis Detail

Plant Chronic test — **CH2M Hill**

Endpoint	Analysis Type	Sample Link	Control Link	Date Analyzed	Version
AG Average Wet Wt.	Comparison	08-6488-8417 -	08-6488-8417	24 Apr-06 3:17 PM	CETISv1.1.2

Method	Alt H	Data Transform	Zeta	NOEL	LOEL	Toxic Units	ChV	PMSD
Equal Variance t Two-Sample	C > T	Untransformed		100	>100	1	N/A	56.08%

Group Comparisons

Control	vs	Conc-%	Statistic	Critical	P-Value	MSD	Decision(0.05)
Dilution Sediment		100	0.47787	1.94318	0.3248	3.26056	Non-Significant Effect

ANOVA Table

Source	Sum of Squares	Mean Square	DF	F Statistic	P-Value	Decision(0.05)
Between	1.285926	1.285926	1	0.23	0.64965	Non-Significant Effect
Error	33.78622	5.631037	6			
Total	35.0721503	6.9169632	7			

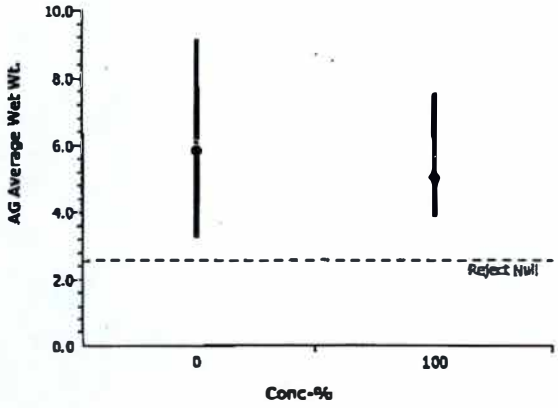
ANOVA Assumptions

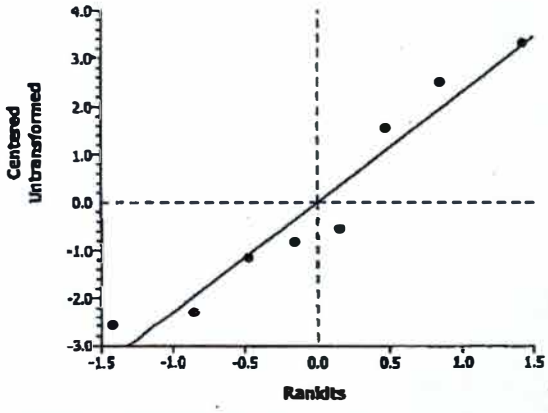
Attribute	Test	Statistic	Critical	P-Value	Decision(0.01)
Variances	Variance Ratio F	2.93100	47.46723	0.40071	Equal Variances
Distribution	Shapiro-Wilk W	0.91624		0.40009	Normal Distribution

Data Summary

			Original Data				Transformed Data			
Conc-%	Control Type	Count	Mean	Minimum	Maximum	SD	Mean	Minimum	Maximum	SD
0	Dilution Sedim	4	5.81404	3.24507	9.12716	2.89778				
100		4	5.01219	3.85943	7.52394	1.69261				

Graphics





CETIS Test Summary

Report Date: 24 Apr-06 3:19 PM
Test Link: 15-5597-1476/B153905pcc

Plant Chronic test — CH2M Hill

Test No:	09-2021-3135	Test Type:	Plant Chronic test	Duration:	40d 0h
Start Date:	02 Mar-06	Protocol:	ASTM E1963-02 (2002)	Species:	Pak Choi
Ending Date:	11 Apr-06	Dil Water:		Source:	
Setup Date:	02 Mar-06 12:00 AM	Brine:			

Sample No:	02-0777-7071	Code:	B1539-05	Client:	
Sample Date:	09 Feb-06	Material:	Sediment	Project:	
Receive Date:		Source:	Hanford		
Sample Age:	21d 0h	Station:			

Comments: J116N1

Comparison Summary

Analysis	Endpoint	NOEL	LOEL	ChV	PMSD	Method
11-0255-7339	AG Average Dry Wt.	100	> 100	N/A	45.43%	Equal Variance t Two-Sample
05-9959-3176	AG Average Wet Wt.	100	> 100	N/A	49.04%	Equal Variance t Two-Sample

AG Average Dry Wt. Summary

Conc-%	Control Type	Reps	Mean	Minimum	Maximum	SE	SD	CV
0	Dilution Sedim	4	0.31746	0.17069	0.46854	0.07279	0.14559	45.86%
100		4	0.42539	0.40313	0.46413	0.01448	0.02896	6.81%

AG Average Wet Wt. Summary

Conc-%	Control Type	Reps	Mean	Minimum	Maximum	SE	SD	CV
0	Dilution Sedim	4	5.81404	3.24507	9.12716	1.44889	2.89778	49.84%
100		4	8.65123	8.24784	9.36050	0.23168	0.46337	5.24%

AG Average Dry Wt. Detail

Conc-%	Control Type	Rep 1	Rep 2	Rep 3	Rep 4
0	Dilution Sedim	0.41331	0.21729	0.17069	0.46854
100		0.40313	0.40328	0.46413	0.43101

AG Average Wet Wt. Detail

Conc-%	Control Type	Rep 1	Rep 2	Rep 3	Rep 4
0	Dilution Sedim	7.35745	3.52648	3.24507	9.12716
100		8.24784	8.80811	9.36050	8.98847

CETIS Analysis Detail

Plant Chronic test — **CH2M Hill**

Endpoint	Analysis Type	Sample Link	Control Link	Date Analyzed	Version
AG Average Dry Wt.	Comparison	15-5597-1476	15-5597-1476	24 Apr-06 3:18 PM	CETISv1.1.2

Method	Alt H	Data Transform	Zeta	NOEL	LOEL	Toxic Units	ChV	PMSD
Equal Variance t Two-Sample	C > T	Untransformed		100	>100	1	N/A	45.43%

Group Comparisons

Control	vs	Conc-%	Statistic	Critical	P-Value	MSD	Decision(0.05)
Dilution Sediment		100	-1.4542	1.94318	0.9019	0.14422	Non-Significant Effect

ANOVA Table

Source	Sum of Squares	Mean Square	DF	F Statistic	P-Value	Decision(0.05)
Between	0.0232979	0.023298	1	2.11	0.19613	Non-Significant Effect
Error	0.0661048	0.011017	6			
Total	0.08940264	0.0343153	7			

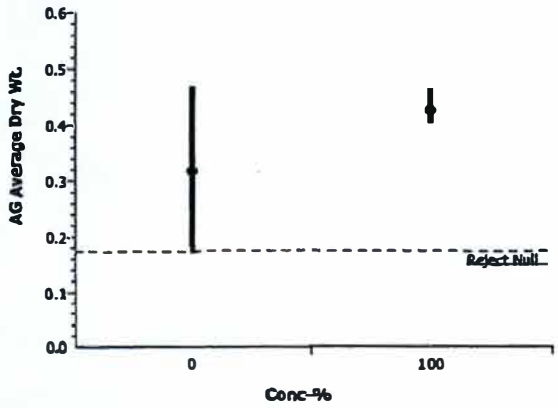
ANOVA Assumptions

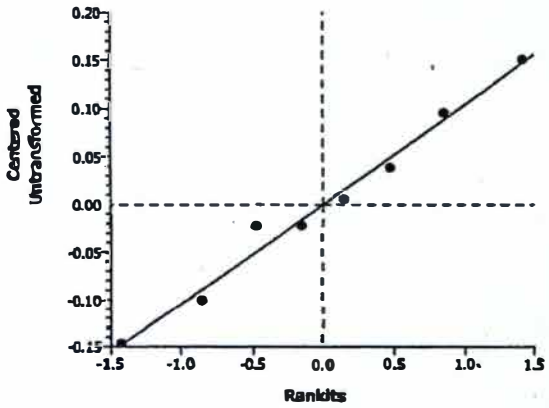
Attribute	Test	Statistic	Critical	P-Value	Decision(0.01)
Variances	Variance Ratio F	25.26610	47.46723	0.02493	Equal Variances
Distribution	Shapiro-Wilk W	0.97956		0.96070	Normal Distribution

Data Summary

			Original Data				Transformed Data			
Conc-%	Control Type	Count	Mean	Minimum	Maximum	SD	Mean	Minimum	Maximum	SD
0	Dilution Sedim	4	0.31746	0.17069	0.46854	0.14559				
100		4	0.42539	0.40313	0.46413	0.02896				

Graphics





CETIS Analysis Detail

Plant Chronic test CH2M HILL

Endpoint	Analysis Type	Sample Link	Control Link	Date Analyzed	Version
AG Average Wet Wt.	Comparison	15-5597-1476	15-5597-1476	24 Apr-06 3:19 PM	CETISv1.1.2

Method	Alt H	Data Transform	Zeta	NOEL	LOEL	Toxic Units	ChV	PMSD
Equal Variance t Two-Sample	C > T	Untransformed		100	>100	1	N/A	49.04%

Group Comparisons

Control	vs	Conc-%	Statistic	Critical	P-Value	MSD	Decision(0.05)
Dilution Sediment		100	-2.0699	1.94318	0.9581	2.85122	Non-Significant Effect

ANOVA Table

Source	Sum of Squares	Mean Square	DF	F Statistic	P-Value	Decision(0.05)
Between	18.44905	18.44905	1	4.28	0.08390	Non-Significant Effect
Error	25.83554	4.305923	6			
Total	44.2845917	22.754972	7			

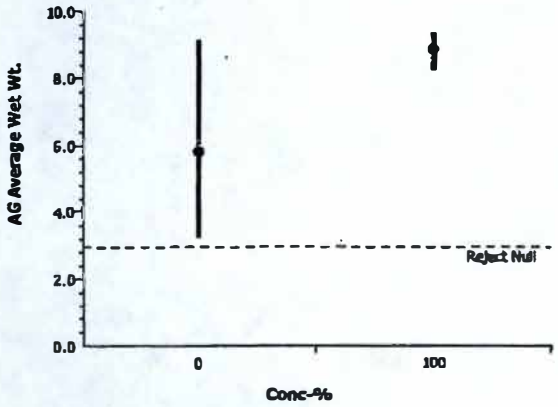
ANOVA Assumptions

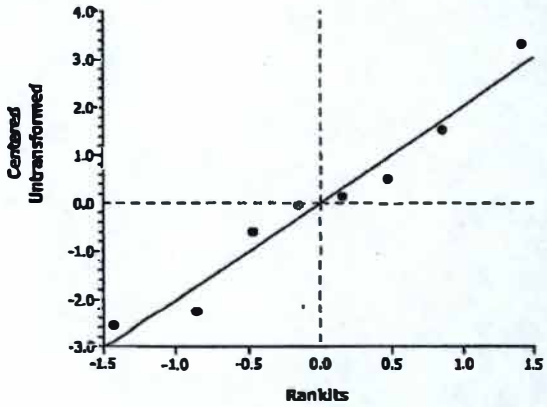
Attribute	Test	Statistic	Critical	P-Value	Decision(0.01)
Variances	Variance Ratio F	39.10920	47.46723	0.01327	Equal Variances
Distribution	Shapiro-Wilk W	0.95831		0.79388	Normal Distribution

Data Summary

			Original Data				Transformed Data			
Conc-%	Control Type	Count	Mean	Minimum	Maximum	SD	Mean	Minimum	Maximum	SD
0	Dilution Sedim	4	5.81404	3.24507	9.12716	2.89778				
100		4	8.85123	8.24784	9.36050	0.46337				

Graphics





CETIS Test Summary

Report Date: 24 Apr-06 3:26 PM
Test Link: 11-2571-2856/B153906pcc

Plant Chronic test — **CH2M Hill**

Test No:	02-2968-6400	**Test Type:**	Plant Chronic test	**Duration:**	40d 0h
Start Date:	02 Mar-06	**Protocol:**	ASTM E1963-02 (2002)	**Species:**	Pak Choi
Ending Date:	11 Apr-06	**Dil Water:**		**Source:**	
Setup Date:	02 Mar-06 12:00 AM	**Brine:**			

Sample No:	08-2170-6135	**Code:**	B1539-06	**Client:**	
Sample Date:	09 Feb-06	**Material:**	Sediment	**Project:**	
Receive Date:		**Source:**	Hanford		
Sample Age:	21d 0h	**Station:**			

Comments: J116N3

Comparison Summary

Analysis	Endpoint	NOEL	LOEL	ChV	PMSD	Method
05-6624-5793	AG Average Dry Wt.	< 100	100	N/A	52.86%	Equal Variance t Two-Sample
03-7050-9740	AG Average Wet Wt.	100	> 100	N/A	56.04%	Equal Variance t Two-Sample

AG Average Dry Wt. Summary

Conc-%	Control Type	Reps	Mean	Minimum	Maximum	SE	SD	CV
0	Dilution Sedim	4	0.31746	0.17069	0.46854	0.07279	0.14559	45.86%
100		4	0.13721	0.02725	0.25446	0.04645	0.09291	67.71%

AG Average Wet Wt. Summary

Conc-%	Control Type	Reps	Mean	Minimum	Maximum	SE	SD	CV
0	Dilution Sedim	4	5.81404	3.24507	9.12716	1.44889	2.89778	49.84%
100		4	2.57775	0.44300	4.56847	0.84374	1.68748	65.46%

AG Average Dry Wt. Detail

Conc-%	Control Type	Rep 1	Rep 2	Rep 3	Rep 4
0	Dilution Sedim	0.41331	0.21729	0.17069	0.46854
100		0.12967	0.02725	0.25446	0.13744

AG Average Wet Wt. Detail

Conc-%	Control Type	Rep 1	Rep 2	Rep 3	Rep 4
0	Dilution Sedim	7.35745	3.52648	3.24507	9.12716
100		2.72802	0.44300	4.56847	2.57151

CETIS Analysis Detail

Plant Chronic test — **CH2M Hill**

Endpoint	Analysis Type	Sample Link	Control Link	Date Analyzed	Version
AG Average Dry Wt.	Comparison	11-2571-2856	11-2571-2856	24 Apr-06 3:26 PM	CETISv1.1.2

Method	Alt H	Data Transform	Zeta	NOEL	LOEL	Toxic Units	ChV	PMSD
Equal Variance t Two-Sample	C > T	Untransformed		<100	100		N/A	52.86%

Group Comparisons

Control	vs	Conc-%	Statistic	Critical	P-Value	MSD	Decision(0.05)
Dilution Sediment		100	2.08737	1.94318	0.0409	0.16780	Significant Effect

ANOVA Table

Source	Sum of Squares	Mean Square	DF	F Statistic	P-Value	Decision(0.05)
Between	0.0649819	0.064982	1	4.36	0.08190	Non-Significant Effect
Error	0.0894837	0.014914	6			
Total	0.15446559	0.0798958	7			

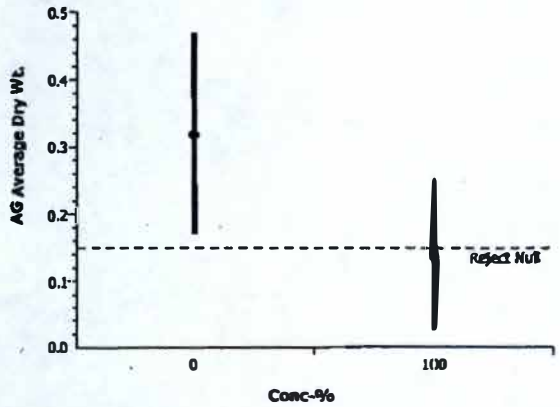
ANOVA Assumptions

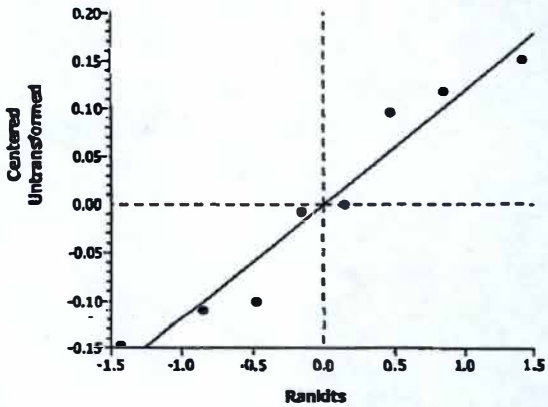
Attribute	Test	Statistic	Critical	P-Value	Decision(0.01)
Variances	Variance Ratio F	2.45555	47.46723	0.48000	Equal Variances
Distribution	Shapiro-Wilk W	0.91952		0.42599	Normal Distribution

Data Summary

			Original Data				Transformed Data			
Conc-%	Control Type	Count	Mean	Minimum	Maximum	SD	Mean	Minimum	Maximum	SD
0	Dilution Sedim	4	0.31746	0.17069	0.46854	0.14559				
100		4	0.13721	0.02725	0.25446	0.09291				

Graphics





CETIS Analysis Detail

Plant Chronic test — **CH2M Hill**

Endpoint	Analysis Type	Sample Link	Control Link	Date Analyzed	Version
AG Average Wet Wt.	Comparison	11-2571-2856	11-2571-2856	24 Apr-06 3:26 PM	CETISv1.1.2

Method	Alt H	Data Transform	Zeta	NOEL	LOEL	Toxic Units	ChV	PMSD
Equal Variance t Two-Sample	C > T	Untransformed		100	>100	1	N/A	56.04%

Group Comparisons

Control	vs	Conc-%	Statistic	Critical	P-Value	MSD	Decision(0.05)
Dilution Sediment		100	1.93020	1.94318	0.0509	3.25805	Non-Significant Effect

ANOVA Table

Source	Sum of Squares	Mean Square	DF	F Statistic	P-Value	Decision(0.05)
Between	20.94714	20.94714	1	3.73	0.10182	Non-Significant Effect
Error	33.73415	5.622359	6			
Total	54.6812954	26.569501	7			

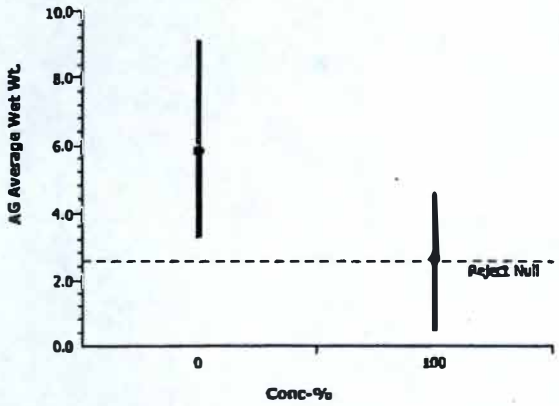
ANOVA Assumptions

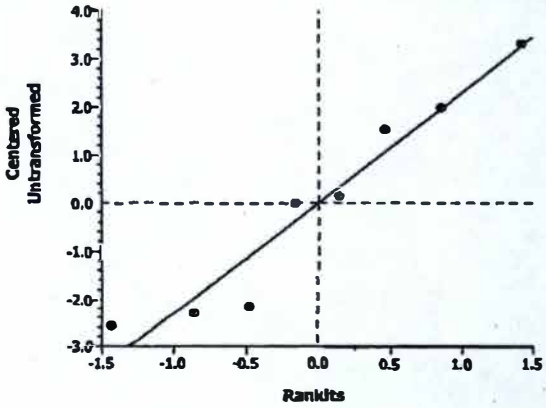
Attribute	Test	Statistic	Critical	P-Value	Decision(0.01)
Variances	Variance Ratio F	2.94887	47.46723	0.39816	Equal Variances
Distribution	Shapiro-Wilk W	0.91810		0.41460	Normal Distribution

Data Summary

			Original Data				Transformed Data			
Conc-%	Control Type	Count	Mean	Minimum	Maximum	SD	Mean	Minimum	Maximum	SD
0	Dilution Sedim	4	5.81404	3.24507	9.12716	2.89778				
100		4	2.57775	0.44300	4.56847	1.68748				

Graphics





CETIS Test Summary

Report Date: 24 Apr-06 3:29 PM
Test Link: 09-2231-4814/B153907pcc

Plant Chronic test — **CH2M Hill**

Test No:	08-3310-9649	**Test Type:**	Plant Chronic test	**Duration:**	40d 0h
Start Date:	02 Mar-06	**Protocol:**	ASTM E1963-02 (2002)	**Species:**	Pak Choi
Ending Date:	11 Apr-06	**Dil Water:**		**Source:**	
Setup Date:	02 Mar-06 12:00 AM	**Brine:**			

Sample No:	00-6777-1542	**Code:**	B1539-07	**Client:**	
Sample Date:	12 Feb-06	**Material:**	Sediment	**Project:**	
Receive Date:		**Source:**	Hanford		
Sample Age:	18d 0h	**Station:**			

Comments: J112B7

Comparison Summary

Analysis	Endpoint	NOEL	LOEL	ChV	PMSD	Method
20-6525-7167	AG Average Dry Wt.	100	> 100	N/A	58.43%	Equal Variance t Two-Sample
09-6893-8539	AG Average Wet Wt.	100	> 100	N/A	63.47%	Equal Variance t Two-Sample

AG Average Dry Wt. Summary

Conc-%	Control Type	Reps	Mean	Minimum	Maximum	SE	SD	CV
0	Dilution Sedim	4	0.31746	0.17069	0.46854	0.07279	0.14559	45.86%
100		4	0.45521	0.27536	0.55687	0.06174	0.12348	27.13%

AG Average Wet Wt. Summary

Conc-%	Control Type	Reps	Mean	Minimum	Maximum	SE	SD	CV
0	Dilution Sedim	4	5.8140	3.2451	9.1272	1.4489	2.8978	49.84%
100		4	9.3233	5.7486	11.352	1.2278	2.4557	26.34%

AG Average Dry Wt. Detail

Conc-%	Control Type	Rep 1	Rep 2	Rep 3	Rep 4
0	Dilution Sedim	0.41331	0.21729	0.17069	0.46854
100		0.49266	0.49593	0.55687	0.27536

AG Average Wet Wt. Detail

Conc-%	Control Type	Rep 1	Rep 2	Rep 3	Rep 4
0	Dilution Sedim	7.35745	3.52648	3.24507	9.12716
100		10.1319	10.0612	11.3515	5.74858

CETIS Analysis Detail

Plant Chronic test — **CH2M Hill**

Endpoint	Analysis Type	Sample Link	Control Link	Date Analyzed	Version
AG Average Dry Wt.	Comparison	09-2231-4814	09-2231-4814	24 Apr-06 3:29 PM	CETISv1.1.2

Method	Alt H	Data Transform	Zeta	NOEL	LOEL	Toxic Units	ChV	PMSD
Equal Variance t Two-Sample	C > T	Untransformed		100	>100	1	N/A	58.43%

Group Comparisons

Control	vs	Conc-%	Statistic	Critical	P-Value	MSD	Decision(0.05)
Dilution Sediment		100	-1.4431	1.94318	0.9005	0.18548	Non-Significant Effect

ANOVA Table

Source	Sum of Squares	Mean Square	DF	F Statistic	P-Value	Decision(0.05)
Between	0.0379488	0.037949	1	2.08	0.19909	Non-Significant Effect
Error	0.1093293	0.018222	6			
Total	0.14727813	0.0561704	7			

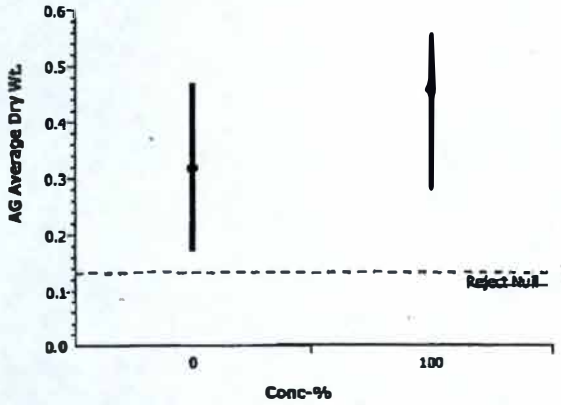
ANOVA Assumptions

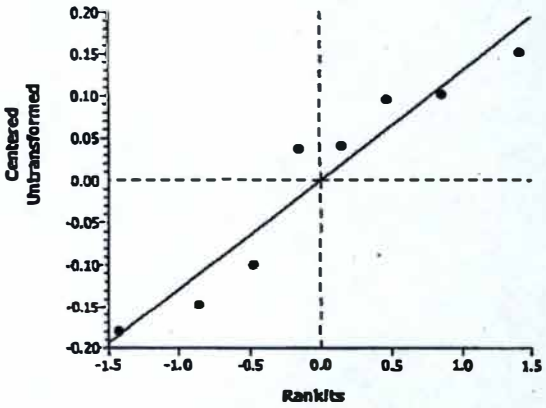
Attribute	Test	Statistic	Critical	P-Value	Decision(0.01)
Variances	Variance Ratio F	1.39017	47.46723	0.79308	Equal Variances
Distribution	Shapiro-Wilk W	0.89793		0.27678	Normal Distribution

Data Summary

			Original Data				Transformed Data			
Conc-%	Control Type	Count	Mean	Minimum	Maximum	SD	Mean	Minimum	Maximum	SD
0	Dilution Sedim	4	0.31746	0.17069	0.46854	0.14559				
100		4	0.45521	0.27536	0.55687	0.12348				

Graphics





CETIS Analysis Detail

Plant Chronic test — **CH2M Hill**

Endpoint	Analysis Type	Sample Link	Control Link	Date Analyzed	Version
AG Average Wet Wt.	Comparison	09-2231-4614	09-2231-4614	24 Apr-06 3:29 PM	CETISv1.1.2

Method	Alt H	Data Transform	Zeta	NOEL	LOEL	Toxic Units	ChV	PMSD
Equal Variance t Two-Sample	C > T	Untransformed		100	>100	1	N/A	63.47%

Group Comparisons

Control	vs	Conc-%	Statistic	Critical	P-Value	MSD	Decision(0.05)
Dilution Sediment		100	-1.8478	1.94318	0.9429	3.69043	Non-Significant Effect

ANOVA Table

Source	Sum of Squares	Mean Square	DF	F Statistic	P-Value	Decision(0.05)
Between	24.63006	24.63006	1	3.41	0.11414	Non-Significant Effect
Error	43.2822	7.2137	6			
Total	67.912262	31.843762	7			

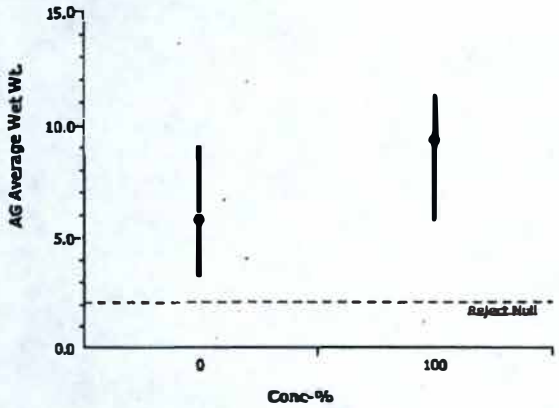
ANOVA Assumptions

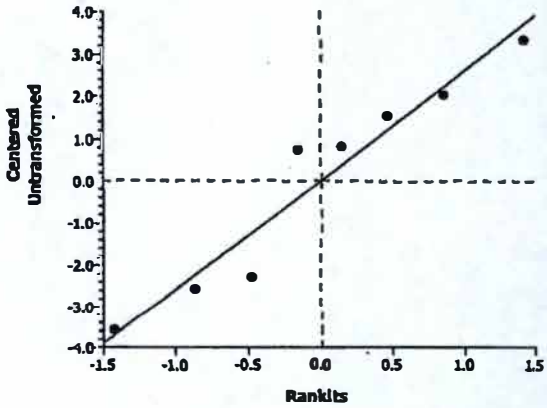
Attribute	Test	Statistic	Critical	P-Value	Decision(0.01)
Variances	Variance Ratio F	1.39250	47.46723	0.79206	Equal Variances
Distribution	Shapiro-Wilk W	0.91599		0.39618	Normal Distribution

Data Summary

			Original Data				Transformed Data			
Conc-%	Control Type	Count	Mean	Minimum	Maximum	SD	Mean	Minimum	Maximum	SD
0	Dilution Sedim	4	5.81404	3.24507	9.12716	2.89778				
100		4	9.32332	5.74658	11.3515	2.45566				

Graphics





CETIS Test Summary

Report Date: 24 Apr-06 3:31 PM
Test Link: 07-5605-8906/B153908pcc

Plant Chronic test — CH2M Hill

Test No:	11-6615-2748	Test Type:	Plant Chronic test	Duration:	40d 0h
Start Date:	02 Mar-06	Protocol:	ASTM E1963-02 (2002)	Species:	Pak Choi
Ending Date:	11 Apr-06	Dil Water:		Source:	
Setup Date:	02 Mar-06 12:00 AM	Brine:			

Sample No:	01-6266-6440	Code:	B1539-08	Client:	
Sample Date:	09 Feb-06	Material:	Sediment	Project:	
Receive Date:		Source:	Hanford		
Sample Age:	21d 0h	Station:			

Comments: J116N2

Comparison Summary

Analysis	Endpoint	NOEL	LOEL	ChV	PMSD	Method
07-4298-5434	AG Average Dry Wt.	100	> 100	N/A	50.65%	Equal Variance t Two-Sample
18-6606-8888	AG Average Wet Wt.	100	> 100	N/A	56.85%	Equal Variance t Two-Sample

AG Average Dry Wt. Summary

Conc-%	Control Type	Reps	Mean	Minimum	Maximum	SE	SD	CV
0	Dilution Sedim	4	0.31746	0.17069	0.46854	0.07279	0.14559	45.86%
100		4	0.42343	0.33980	0.51675	0.03936	0.07872	18.59%

AG Average Wet Wt. Summary

Conc-%	Control Type	Reps	Mean	Minimum	Maximum	SE	SD	CV
0	Dilution Sedim	4	5.8140	3.2451	9.1272	1.4489	2.8978	49.84%
100		4	8.8093	7.055	10.972	0.8912	1.7825	20.23%

AG Average Dry Wt. Detail

Conc-%	Control Type	Rep 1	Rep 2	Rep 3	Rep 4
0	Dilution Sedim	0.41331	0.21729	0.17069	0.46854
100		0.45626	0.38091	0.51675	0.33980

AG Average Wet Wt. Detail

Conc-%	Control Type	Rep 1	Rep 2	Rep 3	Rep 4
0	Dilution Sedim	7.35745	3.52648	3.24507	9.12716
100		9.52517	7.68510	10.9721	7.05497

CETIS Analysis Detail

Plant Chronic test — CH2M Hill

Endpoint	Analysis Type	Sample Link	Control Link	Date Analyzed	Version
AG Average Dry Wt.	Comparison	07-5605-8906	07-5605-8906	24 Apr-06 3:31 PM	CETISv1.1.2

Method	Alt H	Data Transform	Zeta	NOEL	LOEL	Toxic Units	ChV	PMSD
Equal Variance t Two-Sample	C > T	Untransformed		100	>100	1	N/A	50.65%

Group Comparisons

Control	vs	Conc-%	Statistic	Critical	P-Value	MSD	Decision(0.05)
Dilution Sediment		100	-1.2806	1.94318	0.8762	0.16080	Non-Significant Effect

ANOVA Table

Source	Sum of Squares	Mean Square	DF	F Statistic	P-Value	Decision(0.05)
Between	0.0224603	0.022460	1	1.64	0.24761	Non-Significant Effect
Error	0.0821764	0.013696	6			
Total	0.10463666	0.0361564	7			

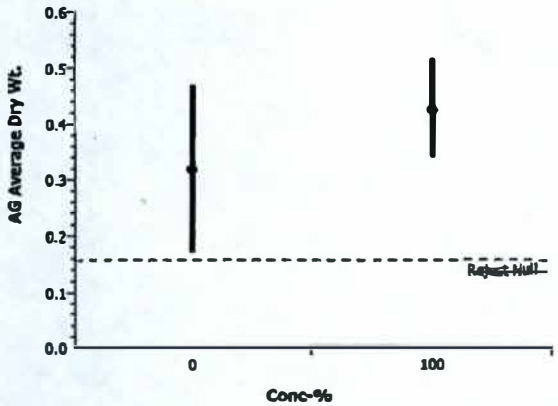
ANOVA Assumptions

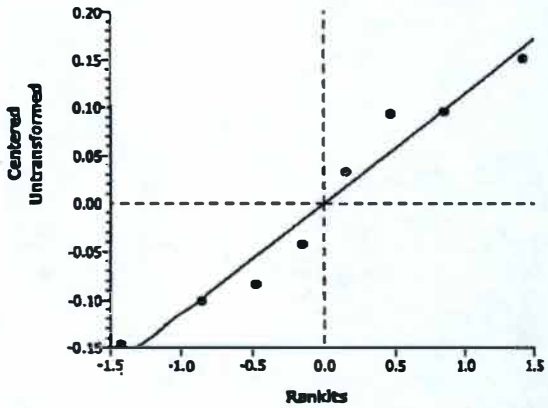
Attribute	Test	Statistic	Critical	P-Value	Decision(0.01)
Variances	Variance Ratio F	3.42086	47.46723	0.33939	Equal Variances
Distribution	Shapiro-Wilk W	0.93682		0.58011	Normal Distribution

Data Summary

			Original Data				Transformed Data			
Conc-%	Control Type	Count	Mean	Minimum	Maximum	SD	Mean	Minimum	Maximum	SD
0	Dilution Sedim	4	0.31746	0.17069	0.46854	0.14559				
100		4	0.42343	0.33980	0.51675	0.07872				

Graphics





CETIS Analysis Detail

Plant Chronic test — CH2M Hill

Endpoint	Analysis Type	Sample Link	Control Link	Date Analyzed	Version
AG Average Wet Wt.	Comparison	07-5605-8906	07-5605-8906	24 Apr-06 3:31 PM	CETISv1.1.2

Method	Alt H	Data Transform	Zeta	NOEL	LOEL	Toxic Units	ChV	PMSD
Equal Variance t Two-Sample	C > T	Untransformed		100	>100	1	N/A	56.85%

Group Comparisons

Control	vs	Conc-%	Statistic	Critical	P-Value	MSD	Decision(0.05)
Dilution Sediment		100	-1.7608	1.94318	0.9356	3.30545	Non-Significant Effect

ANOVA Table

Source	Sum of Squares	Mean Square	DF	F Statistic	P-Value	Decision(0.05)
Between	17.94353	17.94353	1	3.10	0.12874	Non-Significant Effect
Error	34.723	5.787167	6			
Total	52.6665306	23.730698	7			

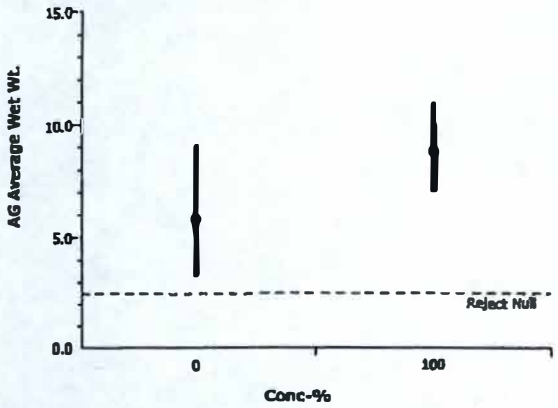
ANOVA Assumptions

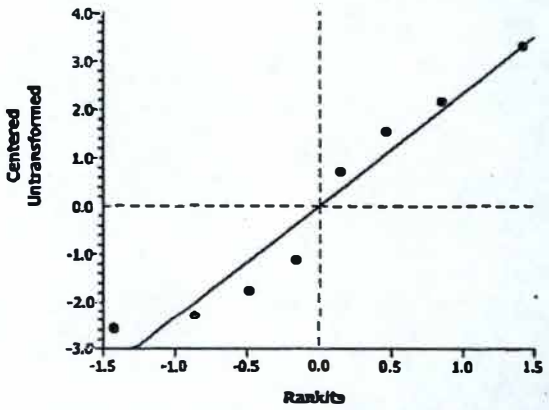
Attribute	Test	Statistic	Critical	P-Value	Decision(0.01)
Variances	Variance Ratio F	2.64294	47.46723	0.44589	Equal Variances
Distribution	Shapiro-Wilk W	0.91872		0.41957	Normal Distribution

Data Summary

			Original Data				Transformed Data			
Conc-%	Control Type	Count	Mean	Minimum	Maximum	SD	Mean	Minimum	Maximum	SD
0	Dilution Sedim	4	5.81404	3.24507	9.12716	2.89778				
100		4	8.80933	7.05497	10.9720	1.78247				

Graphics





CETIS Test Summary

Report Date: 24 Apr-06 3:32 PM
Test Link: 05-0380-7129/B153909pcc

Plant Chronic test — **CH2M Hill**

Test No:	06-4027-7320	**Test Type:**	Plant Chronic test	**Duration:**	40d 0h
Start Date:	02 Mar-06	**Protocol:**	ASTM E1963-02 (2002)	**Species:**	Pak Choi
Ending Date:	11 Apr-06	**Dil Water:**		**Source:**	
Setup Date:	02 Mar-06 12:00 AM	**Brine:**			

Sample No:	03-4917-8822	**Code:**	B1539-09	**Client:**	
Sample Date:	12 Feb-06	**Material:**	Sediment	**Project:**	
Receive Date:		**Source:**	Hanford		
Sample Age:	18d 0h	**Station:**			

Comments: J116M4

Comparison Summary

Analysis	Endpoint	NOEL	LOEL	ChV	PMSD	Method
09-5253-8712	AG Average Dry Wt.	100	> 100	N/A	47.50%	Equal Variance t Two-Sample
06-6909-0471	AG Average Wet Wt.	100	> 100	N/A	52.31%	Equal Variance t Two-Sample

AG Average Dry Wt. Summary

Conc-%	Control Type	Reps	Mean	Minimum	Maximum	SE	SD	CV
0	Dilution Sedim	4	0.31746	0.17069	0.46854	0.07279	0.14559	45.86%
100		4	0.17171	0.10296	0.23436	0.02689	0.05377	31.32%

AG Average Wet Wt. Summary

Conc-%	Control Type	Reps	Mean	Minimum	Maximum	SE	SD	CV
0	Dilution Sedim	4	5.81404	3.24507	9.12716	1.44889	2.89778	49.84%
100		4	3.36535	1.87644	4.76617	0.59169	1.18337	35.16%

AG Average Dry Wt. Detail

Conc-%	Control Type	Rep 1	Rep 2	Rep 3	Rep 4
0	Dilution Sedim	0.41331	0.21729	0.17069	0.46854
100		0.17618	0.10296	0.17333	0.23436

AG Average Wet Wt. Detail

Conc-%	Control Type	Rep 1	Rep 2	Rep 3	Rep 4
0	Dilution Sedim	7.35745	3.52648	3.24507	9.12716
100		3.50443	1.87644	3.31436	4.76617

CETIS Analysis Detail

Plant Chronic test — **CH2M HILL**

Endpoint	Analysis Type	Sample Link	Control Link	Date Analyzed	Version
AG Average Dry Wt.	Comparison	05-0380-7129	05-0380-7129	24 Apr-06 3:32 PM	CETISv1.1.2

Method	Alt H	Data Transform	Zeta	NOEL	LOEL	Toxic Units	ChV	PMSD
Equal Variance t Two-Sample	C > T	Untransformed		100	>100	1	N/A	47.50%

Group Comparisons

Control	vs	Conc-%	Statistic	Critical	P-Value	MSD	Decision(0.05)
Dilution Sediment		100	1.87821	1.94318	0.0547	0.15079	Non-Significant Effect

ANOVA Table

Source	Sum of Squares	Mean Square	DF	F Statistic	P-Value	Decision(0.05)
Between	0.0424861	0.042486	1	3.53	0.10943	Non-Significant Effect
Error	0.0722622	0.012044	6			
Total	0.11474833	0.0545298	7			

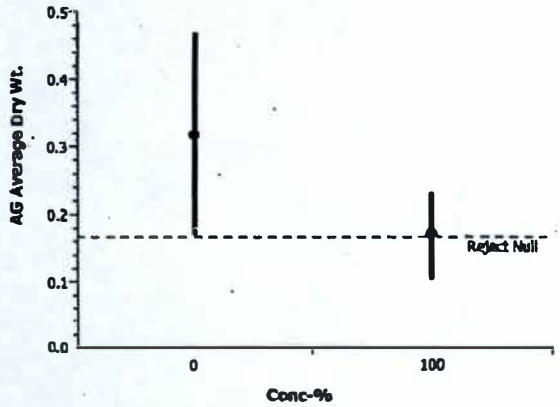
ANOVA Assumptions

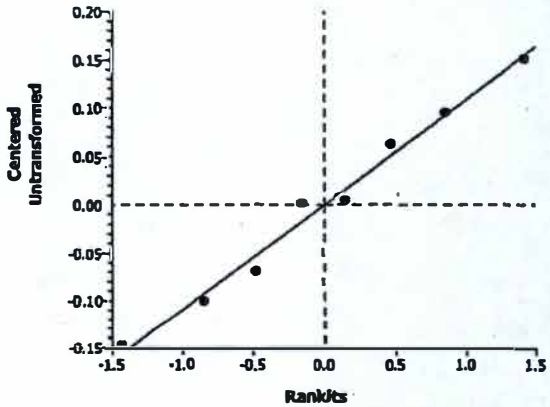
Attribute	Test	Statistic	Critical	P-Value	Decision(0.01)
Variances	Variance Ratio F	7.33070	47.46723	0.13601	Equal Variances
Distribution	Shapiro-Wilk W	0.97467		0.93191	Normal Distribution

Data Summary

			Original Data				Transformed Data			
Conc-%	Control Type	Count	Mean	Minimum	Maximum	SD	Mean	Minimum	Maximum	SD
0	Dilution Sedim	4	0.31746	0.17069	0.46854	0.14559				
100		4	0.17171	0.10296	0.23436	0.05377				

Graphics





CETIS Analysis Detail

Plant Chronic test — **CH2M Hill**

Endpoint	Analysis Type	Sample Link	Control Link	Date Analyzed	Version
AG Average Wet Wt.	Comparison	05-0380-7129	05-0380-7129	24 Apr-06 3:32 PM	CETISv1.1.2

Method	Alt H	Data Transform	Zeta	NOEL	LOEL	Toxic Units	ChV	PMSD
Equal Variance t Two-Sample	C > T	Untransformed		100	>100	1	N/A	52.31%

Group Comparisons

Control	vs	Conc-%	Statistic	Critical	P-Value	MSD	Decision(0.05)
Dilution Sediment		100	1.56461	1.94318	0.0844	3.04117	Non-Significant Effect

ANOVA Table

Source	Sum of Squares	Mean Square	DF	F Statistic	P-Value	Decision(0.05)
Between	11.99216	11.99216	1	2.45	0.16871	Non-Significant Effect
Error	29.39251	4.898751	6			
Total	41.3846674	16.890913	7			

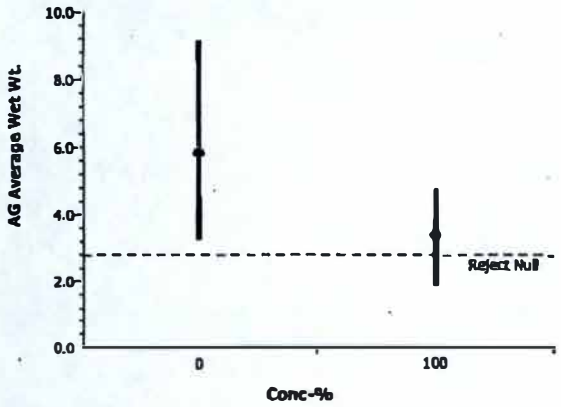
ANOVA Assumptions

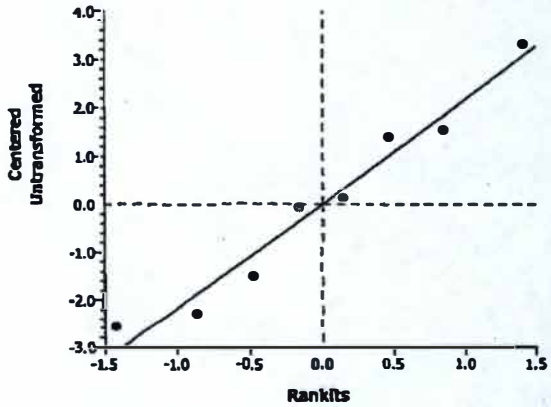
Attribute	Test	Statistic	Critical	P-Value	Decision(0.01)
Variances	Variance Ratio F	5.99639	47.46723	0.17539	Equal Variances
Distribution	Shapiro-Wilk W	0.95119		0.72324	Normal Distribution

Data Summary

			Original Data				Transformed Data			
Conc-%	Control Type	Count	Mean	Minimum	Maximum	SD	Mean	Minimum	Maximum	SD
0	Dilution Sedim	4	5.81404	3.24507	9.12716	2.89778				
100		4	3.36535	1.87644	4.76617	1.18337				

Graphics





CETIS Test Summary

Report Date: 24 Apr-06 3:36 PM
Test Link: 10-3384-6085/B153910pcc

Plant Chronic test — CH2M Hill

Test No:	11-8551-9760	Test Type:	Plant Chronic test	Duration:	40d 0h
Start Date:	02 Mar-06	Protocol:	ASTM E1963-02 (2002)	Species:	Pak Choi
Ending Date:	11 Apr-06	Dil Water:		Source:	
Setup Date:	02 Mar-06 12:00 AM	Brine:			

Sample No:	02-6903-7024	Code:	B1539-10	Client:	
Sample Date:	09 Feb-06	Material:	Sediment	Project:	
Receive Date:		Source:	Hanford		
Sample Age:	21d 0h	Station:			

Comments: J116N0

Comparison Summary

Analysis	Endpoint	NOEL	LOEL	ChV	PMSD	Method
18-3416-1292	AG Average Dry Wt.	100	> 100	N/A	50.29%	Equal Variance t Two-Sample
11-4727-8981	AG Average Wet Wt.	100	> 100	N/A	54.95%	Equal Variance t Two-Sample

AG Average Dry Wt. Summary

Conc-%	Control Type	Reps	Mean	Minimum	Maximum	SE	SD	CV
0	Dilution Sedim	4	0.31746	0.17069	0.46854	0.07279	0.14559	45.86%
100		4	0.23564	0.18569	0.34666	0.03809	0.07619	32.33%

AG Average Wet Wt. Summary

Conc-%	Control Type	Reps	Mean	Minimum	Maximum	SE	SD	CV
0	Dilution Sedim	4	5.81404	3.24507	9.12716	1.44889	2.89778	49.84%
100		4	4.70568	3.49021	6.86420	0.77730	1.55460	33.04%

AG Average Dry Wt. Detail

Conc-%	Control Type	Rep 1	Rep 2	Rep 3	Rep 4
0	Dilution Sedim	0.41331	0.21729	0.17069	0.46854
100		0.34666	0.18601	0.18569	0.22421

AG Average Wet Wt. Detail

Conc-%	Control Type	Rep 1	Rep 2	Rep 3	Rep 4
0	Dilution Sedim	7.35745	3.52648	3.24507	9.12716
100		6.86420	3.65574	3.49021	4.81256

CETIS Analysis Detail

Plant Chronic test — **CH2M Hill**

Endpoint	Analysis Type	Sample Link	Control Link	Date Analyzed	Version
AG Average Dry Wt.	Comparison	10-3384-6085	10-3384-6085	24 Apr-06 3:36 PM	CETISv1.1.2

Method	Alt H	Data Transform	Zeta	NOEL	LOEL	Toxic Units	ChV	PMSD
Equal Variance t Two-Sample	C > T	Untransformed		100	>100	1	N/A	50.29%

Group Comparisons

Control	vs	Conc-%	Statistic	Critical	P-Value	MSD	Decision(0.05)
Dilution Sediment		100	0.99581	1.94318	0.1789	0.15965	Non-Significant Effect

ANOVA Table

Source	Sum of Squares	Mean Square	DF	F Statistic	P-Value	Decision(0.05)
Between	0.0133874	0.013387	1	0.99	0.35779	Non-Significant Effect
Error	0.0810022	0.013500	6			
Total	0.0943896	0.0268877	7			

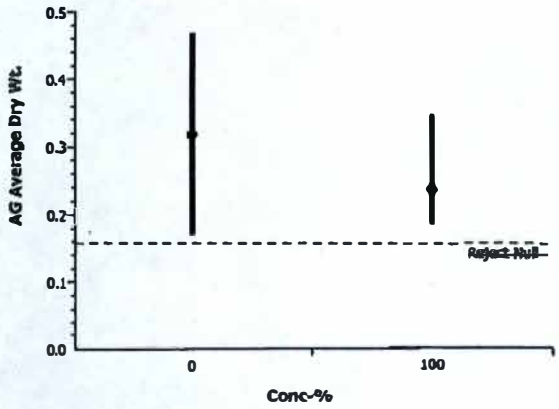
ANOVA Assumptions

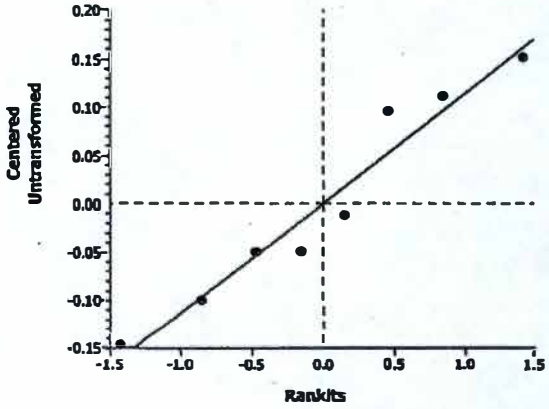
Attribute	Test	Statistic	Critical	P-Value	Decision(0.01)
Variances	Variance Ratio F	3.65151	47.46723	0.31570	Equal Variances
Distribution	Shapiro-Wilk W	0.93162		0.53092	Normal Distribution

Data Summary

			Original Data				Transformed Data			
Conc-%	Control Type	Count	Mean	Minimum	Maximum	SD	Mean	Minimum	Maximum	SD
0	Dilution Sedim	4	0.31746	0.17069	0.46854	0.14559				
100		4	0.23564	0.18569	0.34666	0.07619				

Graphics





CETIS Analysis Detail

Plant Chronic test — CH2M Hill

Endpoint	Analysis Type	Sample Link	Control Link	Date Analyzed	Version
AG Average Wet Wt.	Comparison	10-3384-6085	10-3384-6085	24 Apr-06 3:36 PM	CETISv1.1.2

Method	Alt H	Data Transform	Zeta	NOEL	LOEL	Toxic Units	ChV	PMSD
Equal Variance t Two-Sample	C > T	Untransformed		100	>100	1	N/A	54.95%

Group Comparisons

Control vs	Conc-%	Statistic	Critical	P-Value	MSD	Decision(0.05)
Dilution Sediment	100	0.67409	1.94318	0.2627	3.19503	Non-Significant Effect

ANOVA Table

Source	Sum of Squares	Mean Square	DF	F Statistic	P-Value	Decision(0.05)
Between	2.456934	2.456934	1	0.45	0.52536	Non-Significant Effect
Error	32.44178	5.406964	6			
Total	34.8987179	7.8638978	7			

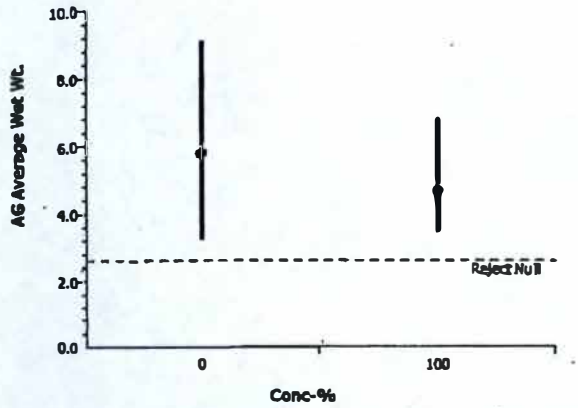
ANOVA Assumptions

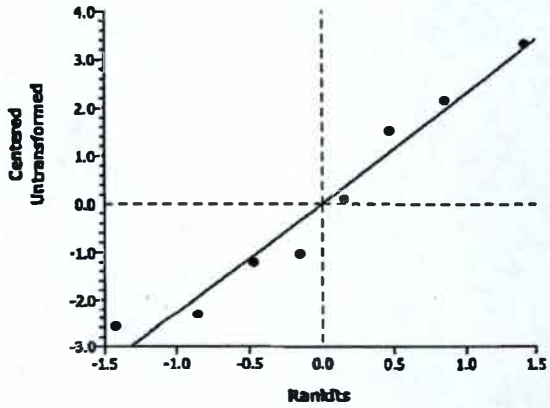
Attribute	Test	Statistic	Critical	P-Value	Decision(0.01)
Variances	Variance Ratio F	3.47450	47.46723	0.33362	Equal Variances
Distribution	Shapiro-Wilk W	0.93712		0.58296	Normal Distribution

Data Summary

			Original Data				Transformed Data			
Conc-%	Control Type	Count	Mean	Minimum	Maximum	SD	Mean	Minimum	Maximum	SD
0	Dilution Sedim	4	5.81404	3.24507	9.12716	2.89778				
100		4	4.70568	3.49021	6.86420	1.55460				

Graphics





CETIS Test Summary

Report Date: 24 Apr-06 3:39 PM
Test Link: 03-7766-0693/B153911pcc

Plant Chronic test — **CH2M Hill**

Test No:	09-2955-3969	**Test Type:**	Plant Chronic test	**Duration:**	40d 0h
Start Date:	02 Mar-06	**Protocol:**	ASTM E1963-02 (2002)	**Species:**	Pak Choi
Ending Date:	11 Apr-06	**Dil Water:**		**Source:**	
Setup Date:	02 Mar-06 12:00 AM	**Brine:**			

Sample No:	06-7043-7897	**Code:**	B1539-11	**Client:**	
Sample Date:	09 Feb-06	**Material:**	Sediment	**Project:**	
Receive Date:		**Source:**	Hanford		
Sample Age:	21d 0h	**Station:**			

Comments: J11731

Comparison Summary

Analysis	Endpoint	NOEL	LOEL	ChV	PMSD	Method
04-1671-6358	AG Average Dry Wt.	< 100	100	N/A	48.16%	Equal Variance t Two-Sample
12-6558-2304	AG Average Wet Wt.	< 100	100	N/A	52.82%	Equal Variance t Two-Sample

AG Average Dry Wt. Summary

Conc-%.	Control Type	Reps	Mean	Minimum	Maximum	SE	SD	CV
0	Dilution Sedim	4	0.31746	0.17069	0.46854	0.07279	0.14559	45.86%
100		4	0.11484	0.04736	0.18837	0.02987	0.05975	52.03%

AG Average Wet Wt. Summary

Conc-%	Control Type	Reps	Mean	Minimum	Maximum	SE	SD	CV
0	Dilution Sedim	4	5.81404	3.24507	9.12716	1.44889	2.89778	49.84%
100		4	2.06882	0.65946	3.67441	0.63123	1.26245	61.02%

AG Average Dry Wt. Detail

Conc-%	Control Type	Rep 1	Rep 2	Rep 3	Rep 4
0	Dilution Sedim	0.41331	0.21729	0.17069	0.46854
100		0.13093	0.18837	0.04736	0.09270

AG Average Wet Wt. Detail

Conc-%	Control Type	Rep 1	Rep 2	Rep 3	Rep 4
0	Dilution Sedim	7.35745	3.52648	3.24507	9.12716
100		2.28526	3.67441	0.65946	1.65615

CETIS Analysis Detail

Plant Chronic test — **CH2M Hill**

Endpoint	Analysis Type	Sample Link	Control Link	Date Analyzed	Version
AG Average Dry Wt.	Comparison	03-7766-0693	03-7766-0693	24 Apr-06 3:38 PM	CETISv1.1.2

Method	Alt H	Data Transform	Zeta	NOEL	LOEL	Toxic Units	ChV	PMSD
Equal Variance t Two-Sample	C > T	Untransformed		<100	100		N/A	48.16%

Group Comparisons

Control	vs	Conc-%	Statistic	Critical	P-Value	MSD	Decision(0.05)
Dilution Sediment		100	2.57502	1.94318	0.0210	0.15290	Significant Effect

ANOVA Table

Source	Sum of Squares	Mean Square	DF	F Statistic	P-Value	Decision(0.05)
Between	0.0821077	0.082108	1	6.63	0.04205	Significant Effect
Error	0.0742973	0.012383	6			
Total	0.15640499	0.0944906	7			

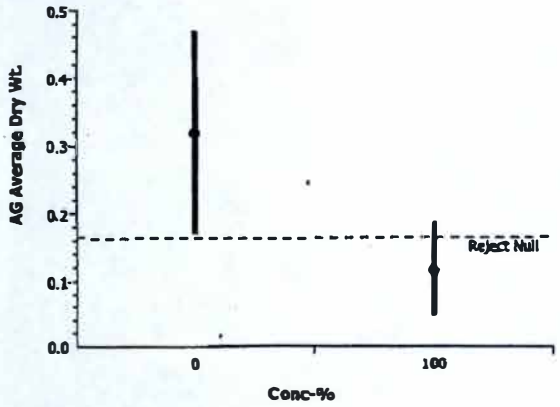
ANOVA Assumptions

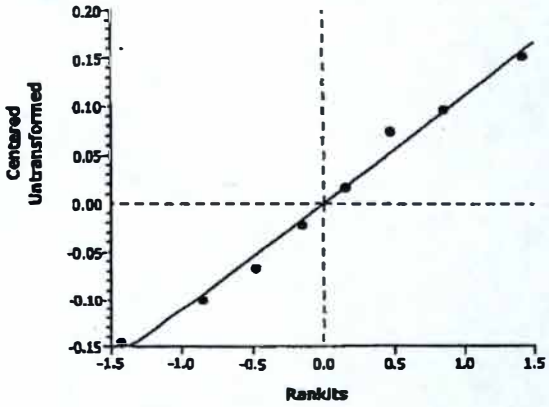
Attribute	Test	Statistic	Critical	P-Value	Decision(0.01)
Variances	Variance Ratio F	5.93766	47.46723	0.17755	Equal Variances
Distribution	Shapiro-Wilk W	0.97445		0.93047	Normal Distribution

Data Summary

			Original Data				Transformed Data			
Conc-%	Control Type	Count	Mean	Minimum	Maximum	SD	Mean	Minimum	Maximum	SD
0	Dilution Sedim	4	0.31746	0.17069	0.46854	0.14559				
100		4	0.11484	0.04736	0.18837	0.05975				

Graphics





CETIS Analysis Detail

Plant Chronic Test — **CH2M Hill**

Endpoint	Analysis Type	Sample Link	Control Link	Date Analyzed	Version
AG Average Wet Wt.	Comparison	03-7766-0693	03-7766-0693	24 Apr-06 3:39 PM	CETISv1.1.2

Method	Alt H	Data Transform	Zeta	NOEL	LOEL	Toxic Units	ChV	PMSD
Equal Variance t Two-Sample	C > T	Untransformed		<100	100		N/A	52.82%

Group Comparisons

Control	vs	Conc-%	Statistic	Critical	P-Value	MSD	Decision(0.05)
Dilution Sediment		100	2.36976	1.94318	0.0278	3.07104	Significant Effect

ANOVA Table

Source	Sum of Squares	Mean Square	DF	F Statistic	P-Value	Decision(0.05)
Between	28.05334	28.05334	1	5.62	0.05554	Non-Significant Effect
Error	29.97277	4.995461	6			
Total	58.0261097	33.048802	7			

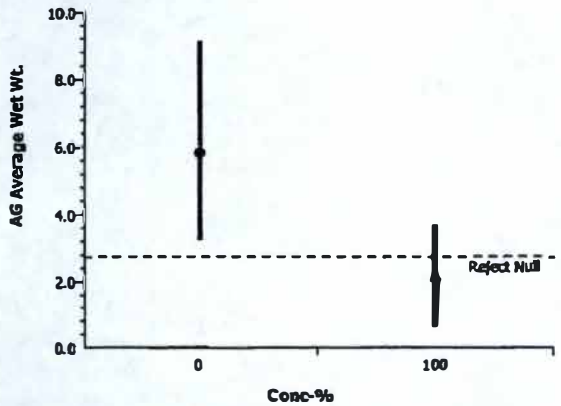
ANOVA Assumptions

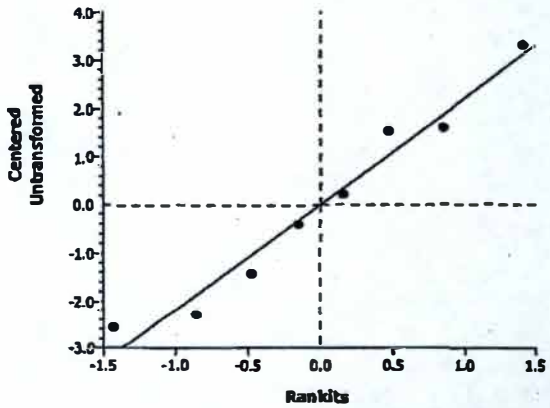
Attribute	Test	Statistic	Critical	P-Value	Decision(0.01)
Variances	Variance Ratio F	5.26867	47.46723	0.20566	Equal Variances
Distribution	Shapiro-Wilk W	0.95246		0.73602	Normal Distribution

Data Summary

			Original Data				Transformed Data			
Conc-%	Control Type	Count	Mean	Minimum	Maximum	SD	Mean	Minimum	Maximum	SD
0	Dilution Sedim	4	5.81404	3.24507	9.12716	2.89778				
100		4	2.06882	0.65946	3.67441	1.26245				

Graphics





CETIS Test Summary

Report Date: 24 Apr-06 3:40 PM
Test Link: 14-6644-6067/B153912pcc

Plant Chronic test — **CH2M Hill**

Test No:	11-7635-9414	Test Type:	Plant Chronic test	Duration:	40d 0h
Start Date:	02 Mar-06	Protocol:	ASTM E1963-02 (2002)	Species:	Pak Choi
Ending Date:	11 Apr-06	Dil Water:		Source:	
Setup Date:	02 Mar-06 12:00 AM	Brine:			

Sample No:	09-2724-9468	Code:	B1539-12	Client:	
Sample Date:	12 Feb-06	Material:	Sediment	Project:	
Receive Date:		Source:	Hanford		
Sample Age:	18d 0h	Station:			

Comments: J116M5

Comparison Summary

Analysis	Endpoint	NOEL	LOEL	ChV	PMSD	Method
12-6017-1026	AG Average Dry Wt.	100	> 100	N/A	57.41%	Equal Variance t Two-Sample
19-0991-8331	AG Average Wet Wt.	100	> 100	N/A	62.29%	Equal Variance t Two-Sample

AG Average Dry Wt. Summary

Conc-%	Control Type	Reps	Mean	Minimum	Maximum	SE	SD	CV
0	Dilution Sedim	4	0.31746	0.17069	0.46854	0.07279	0.14559	45.86%
100		4	0.21888	0.07551	0.32151	0.05915	0.11829	54.04%

AG Average Wet Wt. Summary

Conc-%	Control Type	Reps	Mean	Minimum	Maximum	SE	SD	CV
0	Dilution Sedim	4	5.81404	3.24507	9.12716	1.44889	2.89778	49.84%
100		4	4.54607	1.61019	6.55185	1.17245	2.34491	51.58%

AG Average Dry Wt. Detail

Conc-%	Control Type	Rep 1	Rep 2	Rep 3	Rep 4
0	Dilution Sedim	0.41331	0.21729	0.17069	0.46854
100		0.16832	0.07551	0.31017	0.32151

AG Average Wet Wt. Detail

Conc-%	Control Type	Rep 1	Rep 2	Rep 3	Rep 4
0	Dilution Sedim	7.35745	3.52648	3.24507	9.12716
100		3.70333	1.61019	6.55185	6.31892

CETIS Analysis Detail

Plant Chronic test — CH2M Hill

Endpoint	Analysis Type	Sample Link	Control Link	Date Analyzed	Version
AG Average Dry Wt.	Comparison	14-6644-6067	14-6644-6067	24 Apr-06 3:40 PM	CETISv1.1.2

Method	Alt H	Data Transform	Zeta	NOEL	LOEL	Toxic Units	ChV	PMSD
Equal Variance t Two-Sample	C >.T	Untransformed	-	100	>100	1	N/A	57.41%

Group Comparisons

Control	vs	Conc-%	Statistic	Critical	P-Value	MSD	Decision(0.05)
Dilution Sediment		100	1.05103	1.94318	0.1669	0.18226	Non-Significant Effect

ANOVA Table

Source	Sum of Squares	Mean Square	DF	F Statistic	P-Value	Decision(0.05)
Between	0.019436	0.019436	1	1.10	0.33372	Non-Significant Effect
Error	0.1055661	0.017594	6			
Total	0.12500212	0.0370303	7			

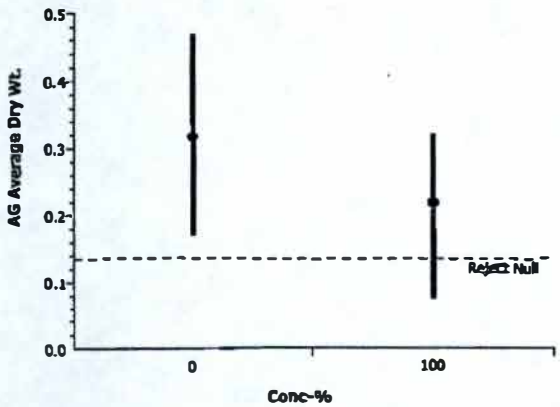
ANOVA Assumptions

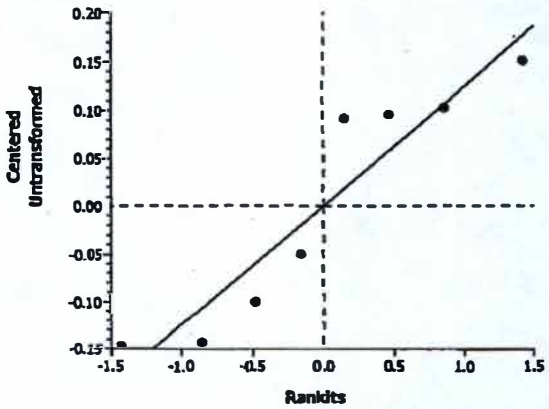
Attribute	Test	Statistic	Critical	P-Value	Decision(0.01)
Variances	Variance Ratio F	1.51479	47.46723	0.74119	Equal Variances
Distribution	Shapiro-Wilk W	0.85462		0.10608	Normal Distribution

Data Summary

			Original Data				Transformed Data			
Conc-%	Control Type	Count	Mean	Minimum	Maximum	SD	Mean	Minimum	Maximum	SD
0	Dilution Sedim	4	0.31746	0.17069	0.46854	0.14559				
100		4	0.21888	0.07551	0.32151	0.11829				

Graphics





CETIS Analysis Detail

Plant Chronic test — CH2M Hill

Endpoint	Analysis Type	Sample Link	Control Link	Date Analyzed	Version
AG Average Wet Wt.	Comparison	14-6644-6067	14-6644-6067	24 Apr-06 3:40 PM	CETISv1.1.2

Method	Alt H	Data Transform	Zeta	NOEL	LOEL	Toxic Units	ChV	PMSD
Equal Variance t Two-Sample	C > T	Untransformed		100	>100	1	N/A	62.29%

Group Comparisons

Control	vs	Conc-%	Statistic	Critical	P-Value	MSD	Decision(0.05)
Dilution Sediment		100	0.6803	1.94318	0.2608	3.62179	Non-Significant Effect

ANOVA Table

Source	Sum of Squares	Mean Square	DF	F Statistic	P-Value	Decision(0.05)
Between	3.215482	3.215482	1	0.46	0.52169	Non-Significant Effect
Error	41.68716	6.947861	6			
Total	44.9026458	10.163342	7			

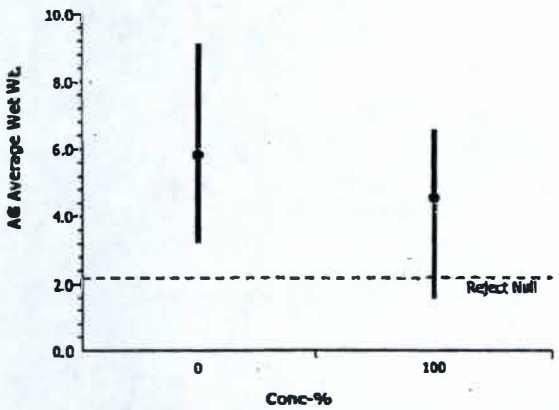
ANOVA Assumptions

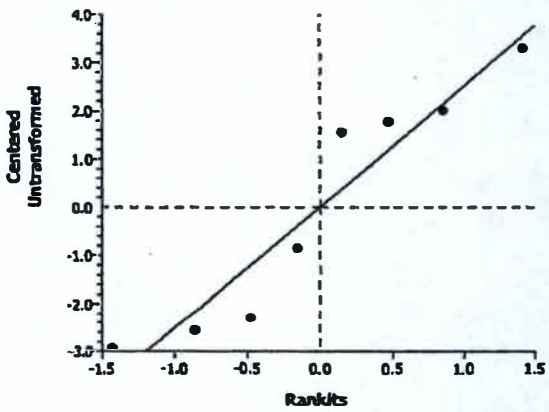
Attribute	Test	Statistic	Critical	P-Value	Decision(0.01)
Variances	Variance Ratio F	1.52715	47.46723	0.73635	Equal Variances
Distribution	Shapiro-Wilk W	0.88496		0.20990	Normal Distribution

Data Summary

			Original Data				Transformed Data			
Conc-%	Control Type	Count	Mean	Minimum	Maximum	SD	Mean	Minimum	Maximum	SD
0	Dilution Sedim	4	5.81404	3.24507	9.12716	2.89778				
100		4	4.54607	1.61019	6.55185	2.34491				

Graphics





CETIS Test Summary

Report Date: 24 Apr-08 3:47 PM
Test Link: 09-4239-5099/B153913pcc

Plant Chronic test — CH2M Hill

Test No:	05-3872-7251	Test Type:	Plant Chronic test	Duration:	40d 0h
Start Date:	02 Mar-06	Protocol:	ASTM E1963-02 (2002)	Species:	Pak Choi
Ending Date:	11 Apr-06	Dil Water:		Source:	
Setup Date:	02 Mar-06 12:00 AM	Brine:			

Sample No:	04-3354-2349	Code:	B1539-13	Client:	
Sample Date:	12 Feb-06	Material:	Sediment	Project:	
Receive Date:		Source:	Hanford		
Sample Age:	18d 0h	Station:			

Comments: J116M8

Comparison Summary

Analysis	Endpoint	NOEL	LOEL	ChV	PMSD	Method
10-6520-5888	AG Average Dry Wt.	100	> 100	N/A	66.34%	Equal Variance t Two-Sample
08-3581-0839	AG Average Wet Wt.	100	> 100	N/A	74.48%	Equal Variance t Two-Sample

AG Average Dry Wt. Summary

Conc-%	Control Type	Reps	Mean	Minimum	Maximum	SE	SD	CV
0	Dilution Sedim	4	0.31746	0.17069	0.46854	0.07279	0.14559	45.86%
100		4	0.32594	0.20882	0.45330	0.07076	0.12256	37.60%

AG Average Wet Wt. Summary

Conc-%	Control Type	Reps	Mean	Minimum	Maximum	SE	SD	CV
0	Dilution Sedim	4	5.81404	3.24507	9.12716	1.44889	2.89778	49.84%
100		4	6.50503	3.96990	9.31334	1.54855	2.68217	41.23%

AG Average Dry Wt. Detail

Conc-%	Control Type	Rep 1	Rep 2	Rep 3	Rep 4
0	Dilution Sedim	0.41331	0.21729	0.17069	0.46854
100		Missing	0.31571	0.20882	0.45330

AG Average Wet Wt. Detail

Conc-%	Control Type	Rep 1	Rep 2	Rep 3	Rep 4
0	Dilution Sedim	7.35745	3.52648	3.24507	9.12716
100		Missing	6.23184	3.96990	9.31334

CETIS Analysis Detail

Plant Chronic test — **CH2M Hill**

Endpoint	Analysis Type	Sample Link	Control Link	Date Analyzed	Version
AG Average Dry Wt.	Comparison	09-4239-5099	09-4239-5099	24 Apr-06 3:46 PM	CETISv1.1.2

Method	Alt H	Data Transform	Zeta	NOEL	LOEL	Toxic Units	ChV	PMSD
Equal Variance t Two-Sample	C > T	Untransformed		100	>100	1	N/A	66.34%

Group Comparisons

Control	vs	Conc-%	Statistic	Critical	P-Value	MSD	Decision(0.05)
Dilution Sediment		100	-0.0812	2.01505	0.5308	0.21060	Non-Significant Effect

ANOVA Table

Source	Sum of Squares	Mean Square	DF	F Statistic	P-Value	Decision(0.05)
Between	0.0001234	0.000123	1	0.01	0.93844	Non-Significant Effect
Error	0.0936304	0.018726	5			
Total	0.09375383	0.0188495	6			

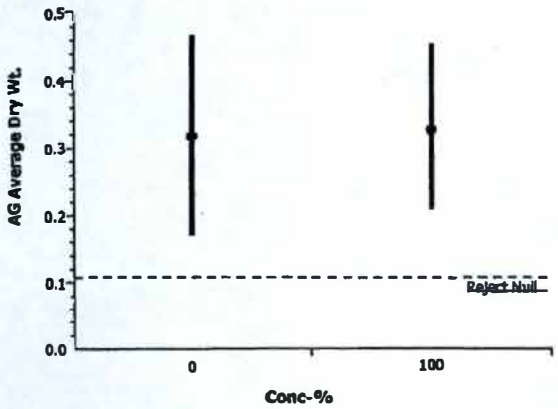
ANOVA Assumptions

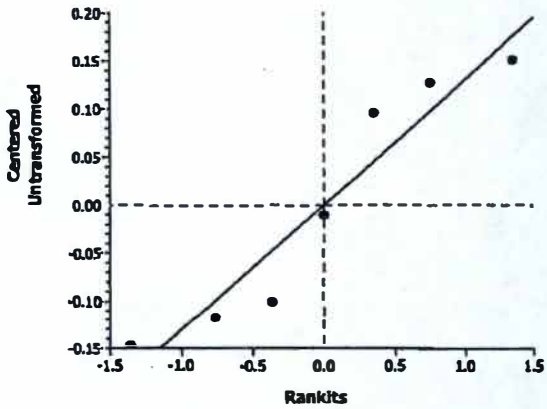
Attribute	Test	Statistic	Critical	P-Value	Decision(0.01)
Variances	Variance Ratio F	1.41108	199.16640	0.88064	Equal Variances
Distribution	Shapiro-Wilk W	0.88180		0.23458	Normal Distribution

Data Summary

			Original Data				Transformed Data			
Conc-%	Control Type	Count	Mean	Minimum	Maximum	SD	Mean	Minimum	Maximum	SD
0	Dilution Sedim	4	0.31746	0.17069	0.46854	0.14559				
100		3	0.32594	0.20882	0.45330	0.12256				

Graphics





CETIS Analysis Detail

Plant Chronic test — CH2M Hill

Endpoint	Analysis Type	Sample Link	Control Link	Date Analyzed	Version
AG Average Wet Wt.	Comparison	09-4239-5099	09-4239-5099	24 Apr-06 3:46 PM	CETISv1.1.2

Method	Alt H	Data Transform	Zeta	NOEL	LOEL	Toxic Units	ChV	PMSD
Equal Variance t Two-Sample	C > T	Untransformed		100	>100	1	N/A	74.48%

Group Comparisons

Control	vs	Conc-%	Statistic	Critical	P-Value	MSD	Decision(0.05)
Dilution Sediment		100	-0.3216	2.01505	0.6196	4.33006	Non-Significant Effect

ANOVA Table

Source	Sum of Squares	Mean Square	DF	F Statistic	P-Value	Decision(0.05)
Between	0.8185077	0.818508	1	0.10	0.76079	Non-Significant Effect
Error	39.57954	7.915907	5			
Total	40.3980442	8.7344146	6			

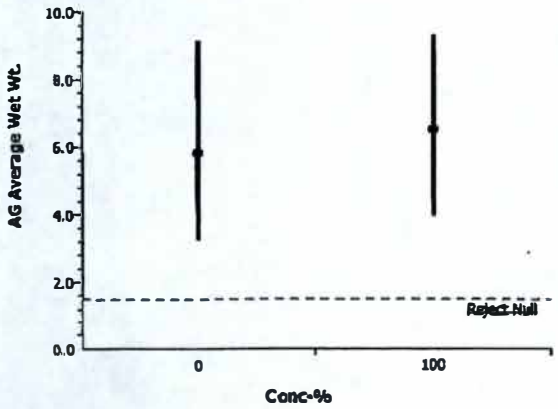
ANOVA Assumptions

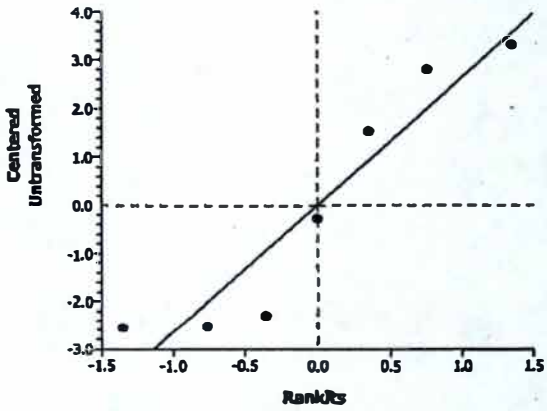
Attribute	Test	Statistic	Critical	P-Value	Decision(0.01)
Variances	Variance Ratio F	1.16723	199.16640	0.98445	Equal Variances
Distribution	Shapiro-Wilk W	0.85728		0.14309	Normal Distribution

Data Summary

			Original Data				Transformed Data			
Conc-%	Control Type	Count	Mean	Minimum	Maximum	SD	Mean	Minimum	Maximum	SD
0	Dilution Sedim	4	5.81404	3.24507	9.12716	2.89778				
100		3	6.50503	3.96990	9.31334	2.68217				

Graphics





CETIS Test Summary

Report Date: 24 Apr-06 3:51 PM
Test Link: 08-6311-7974/B153914pcc

Plant Chronic test — CH2M Hill

Test No:	02-8661-2508	Test Type:	Plant Chronic test	Duration:	40d 0h
Start Date:	02 Mar-06	Protocol:	ASTM E1963-02 (2002)	Species:	Pak Choi
Ending Date:	11 Apr-06	Dil Water:		Source:	
Setup Date:	02 Mar-06 12:00 AM	Brine:			

Sample No:	15-8395-4899	Code:	B1539-14	Client:	
Sample Date:	13 Feb-06	Material:	Sediment	Project:	
Receive Date:		Source:	Hanford		
Sample Age:	17d 0h	Station:			

Comments: J11752

Comparison Summary

Analysis	Endpoint	NOEL	LOEL	ChV	PMSD	Method
10-7890-6458	AG Average Dry Wt.	100	> 100	N/A	46.49%	Equal Variance t Two-Sample
04-2795-5212	AG Average Wet Wt.	100	> 100	N/A	50.22%	Equal Variance t Two-Sample

AG Average Dry Wt. Summary

Conc-%	Control Type	Reps	Mean	Minimum	Maximum	SE	SD	CV
0	Dilution Sedim	4	0.31746	0.17069	0.46854	0.07279	0.14559	45.86%
100		4	0.33855	0.29972	0.38824	0.02167	0.04334	12.80%

AG Average Wet Wt. Summary

Conc-%	Control Type	Reps	Mean	Minimum	Maximum	SE	SD	CV
0	Dilution Sedim	4	5.81404	3.24507	9.12716	1.44889	2.89778	49.84%
100		4	6.73426	6.01198	7.70207	0.39827	0.79653	11.83%

AG Average Dry Wt. Detail

Conc-%	Control Type	Rep 1	Rep 2	Rep 3	Rep 4
0	Dilution Sedim	0.41331	0.21729	0.17069	0.46854
100		0.36139	0.38824	0.29972	0.30465

AG Average Wet Wt. Detail

Conc-%	Control Type	Rep 1	Rep 2	Rep 3	Rep 4
0	Dilution Sedim	7.35745	3.52648	3.24507	9.12716
100		7.06697	7.70207	6.15602	6.01198

CETIS Analysis Detail

Plant Chronic test — CH2M Hill

Endpoint	Analysis Type	Sample Link	Control Link	Date Analyzed	Version
AG Average Dry Wt.	Comparison	08-6311-7974	08-6311-7974	24 Apr-06 3:51 PM	CETISv1.1.2

Method	Alt H	Data Transform	Zeta	NOEL	LOEL	Toxic Units	ChV	PMSD
Equal Variance t Two-Sample	C > T	Untransformed		100	>100	1	N/A	46.49%

Group Comparisons

Control	vs	Conc-%	Statistic	Critical	P-Value	MSD	Decision(0.05)
Dilution Sediment		100	-0.2777	1.94318	0.6047	0.14759	Non-Significant Effect

ANOVA Table

Source	Sum of Squares	Mean Square	DF	F Statistic	P-Value	Decision(0.05)
Between	0.0008898	0.00089	1	0.08	0.79055	Non-Significant Effect
Error	0.0692223	0.011537	6			
Total	0.07011205	0.0124268	7			

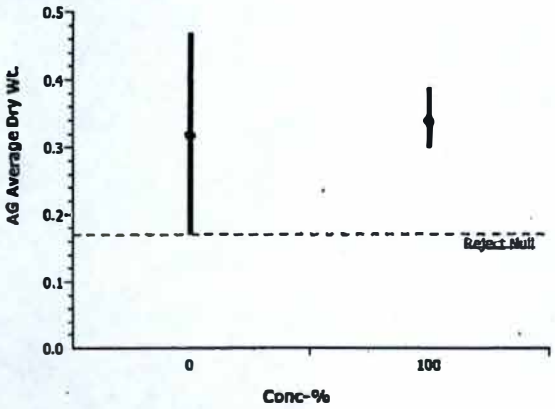
ANOVA Assumptions

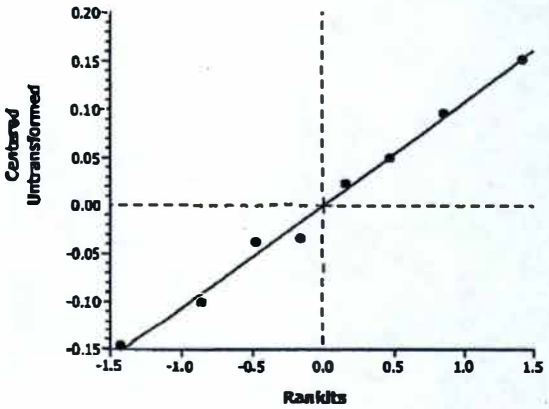
Attribute	Test	Statistic	Critical	P-Value	Decision(0.01)
Variances	Variance Ratio F	11.28602	47.46723	0.07689	Equal Variances
Distribution	Shapiro-Wilk W	0.98344		0.97789	Normal Distribution

Data Summary

			Original Data				Transformed Data			
Conc-%	Control Type	Count	Mean	Minimum	Maximum	SD	Mean	Minimum	Maximum	SD
0	Dilution Sedim	4	0.31746	0.17069	0.46854	0.14559				
100		4	0.33855	0.29972	0.38824	0.04334				

Graphics





CETIS Analysis Detail

Plant Chronic test — **CH2M Hill**

Endpoint	Analysis Type	Sample Link	Control Link	Date Analyzed	Version
AG Average Wet Wt.	Comparison	08-6311-7974	08-6311-7974	24 Apr-06 3:51 PM	CETISv1.1.2

Method	Alt H	Data Transform	Zeta	NOEL	LOEL	Toxic Units	ChV	PMSD
Equal Variance t Two-Sample	C > T	Untransformed		100	>100	1	N/A	50.22%

Group Comparisons

Control	vs	Conc-%	Statistic	Critical	P-Value	MSD	Decision(0.05)
Dilution Sediment		100	-0.6124	1.94318	0.7186	2.91988	Non-Significant Effect

ANOVA Table

Source	Sum of Squares	Mean Square	DF	F Statistic	P-Value	Decision(0.05)
Between	1.693611	1.693611	1	0.38	0.56274	Non-Significant Effect
Error	27.09481	4.515802	6			
Total	28.7884253	6.2094134	7			

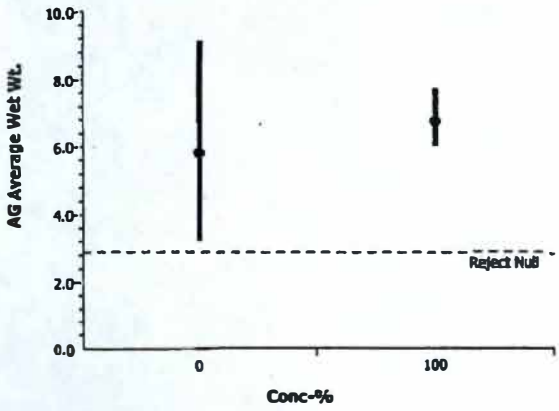
ANOVA Assumptions

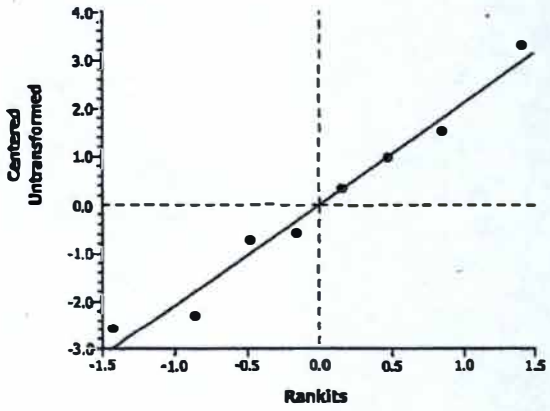
Attribute	Test	Statistic	Critical	P-Value	Decision(0.01)
Variances	Variance Ratio F	13.23494	47.46723	0.06187	Equal Variances
Distribution	Shapiro-Wilk W	0.96682		0.87192	Normal Distribution

Data Summary

			Original Data				Transformed Data			
Conc-%	Control Type	Count	Mean	Minimum	Maximum	SD	Mean	Minimum	Maximum	SD
0	Dilution Sedim	4	5.81404	3.24507	9.12716	2.89778				
100		4	6.73426	6.01198	7.70207	0.79653				

Graphics





CETIS Test Summary

Report Date: 24 Apr-06 3:52 PM
Test Link: 06-8133-9903/B153915pcc

Plant Chronic test — CH2M Hill

Test No:	07-0687-4824	Test Type:	Plant Chronic test	Duration:	40d 0h
Start Date:	02 Mar-06	Protocol:	ASTM E1963-02 (2002)	Species:	Pak Choi
Ending Date:	11 Apr-06	Dil Water:		Source:	
Setup Date:	02 Mar-06 12:00 AM	Brine:			

Sample No:	03-9009-6147	Code:	B1539-15	Client:	
Sample Date:	13 Feb-06	Material:	Sediment	Project:	
Receive Date:		Source:	Hanford		
Sample Age:	17d 0h	Station:			

Comments: J11745

Comparison Summary

Analysis	Endpoint	NOEL	LOEL	ChV	PMSD	Method
05-9315-6809	AG Average Dry Wt.	100	> 100	N/A	48.98%	Equal Variance t Two-Sample
18-8468-0563	AG Average Wet Wt.	100	> 100	N/A	53.28%	Equal Variance t Two-Sample

AG Average Dry Wt. Summary

Conc-%	Control Type	Reps	Mean	Minimum	Maximum	SE	SD	CV
0	Dilution Sedim	4	0.31746	0.17069	0.46854	0.07279	0.14559	45.86%
100		4	0.22658	0.15168	0.30814	0.03323	0.06645	29.33%

AG Average Wet Wt. Summary

Conc-%	Control Type	Reps	Mean	Minimum	Maximum	SE	SD	CV
0	Dilution Sedim	4	5.81404	3.24507	9.12716	1.44889	2.89778	49.84%
100		4	4.72164	3.30253	6.32995	0.66491	1.32981	28.16%

AG Average Dry Wt. Detail

Conc-%	Control Type	Rep 1	Rep 2	Rep 3	Rep 4
0	Dilution Sedim	0.41331	0.21729	0.17069	0.46854
100		0.30814	0.24521	0.15168	0.20131

AG Average Wet Wt. Detail

Conc-%	Control Type	Rep 1	Rep 2	Rep 3	Rep 4
0	Dilution Sedim	7.35745	3.52648	3.24507	9.12716
100		6.32995	5.21303	3.30253	4.04104

CETIS Analysis Detail

Plant Chronic test — CH2M Hill

Endpoint	Analysis Type	Sample Link	Control Link	Date Analyzed	Version
AG Average Dry Wt.	Comparison	06-8133-9903	06-8133-9903	24 Apr-06 3:52 PM	CETISv1.1.2

Method	Alt H	Data Transform	Zeta	NOEL	LOEL	Toxic Units	ChV	PMSD
Equal Variance t Two-Sample	C > T	Untransformed		100	>100	1	N/A	48.98%

Group Comparisons

Control	vs	Conc-%	Statistic	Critical	P-Value	MSD	Decision(0.05)
Dilution Sediment		100	1.13564	1.94318	0.1497	0.15549	Non-Significant Effect

ANOVA Table

Source	Sum of Squares	Mean Square	DF	F Statistic	P-Value	Decision(0.05)
Between	0.0165156	0.016516	1	1.29	0.29942	Non-Significant Effect
Error	0.0768357	0.012806	6			
Total	0.09335135	0.0293216	7			

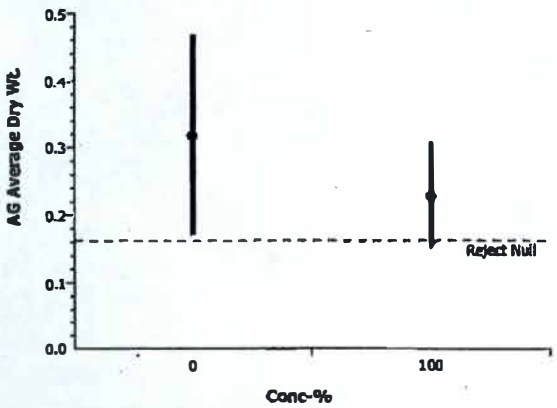
ANOVA Assumptions

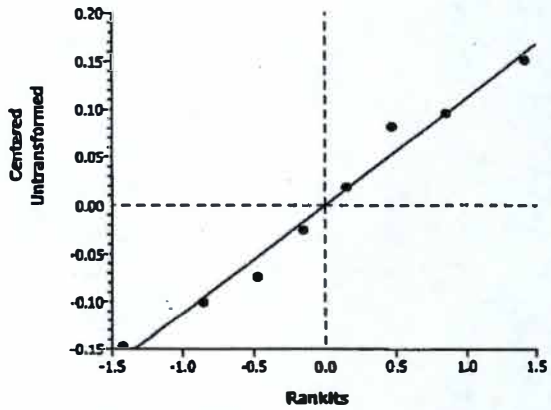
Attribute	Test	Statistic	Critical	P-Value	Decision(0.01)
Variances	Variance Ratio F	4.79994	47.46723	0.23009	Equal Variances
Distribution	Shapiro-Wilk W	0.96357		0.84334	Normal Distribution

Data Summary

			Original Data				Transformed Data			
Conc-%	Control Type	Count	Mean	Minimum	Maximum	SD	Mean	Minimum	Maximum	SD
0	Dilution Sedim	4	0.31746	0.17069	0.46854	0.14559				
100		4	0.22658	0.15168	0.30814	0.06645				

Graphics





CETIS Analysis Detail

Plant Chronic test — **CH2M Hill**

Endpoint	Analysis Type	Sample Link	Control Link	Date Analyzed	Version
AG Average Wet Wt.	Comparison	06-8133-9903	06-8133-9903	24 Apr-06 3:52 PM	CETISv1.1.2

Method	Alt H	Data Transform	Zeta	NOEL	LOEL	Toxic Units	ChV	PMSD
Equal Variance t Two-Sample	C > T	Untransformed		100	>100	1	N/A	53.28%

Group Comparisons

Control	vs	Conc-%	Statistic	Critical	P-Value	MSD	Decision(0.05)
Dilution Sediment		100	0.68525	1.94318	0.2594	3.09776	Non-Significant Effect

ANOVA Table

Source	Sum of Squares	Mean Square	DF	F Statistic	P-Value	Decision(0.05)
Between	2.386685	2.386685	1	0.47	0.51877	Non-Significant Effect
Error	30.49663	5.082771	6			
Total	32.8833125	7.469456	7			

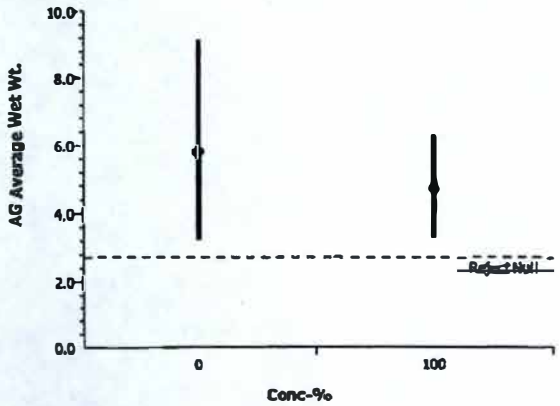
ANOVA Assumptions

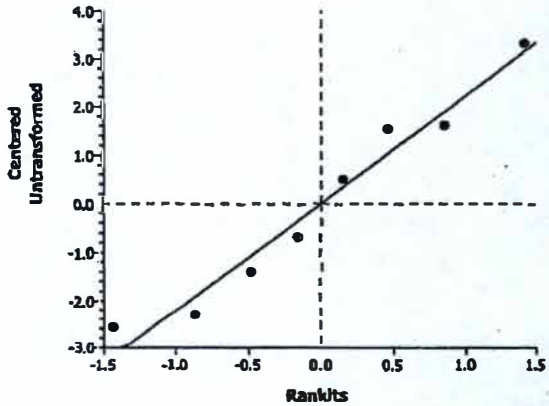
Attribute	Test	Statistic	Critical	P-Value	Decision(0.01)
Variances	Variance Ratio F	4.74842	47.46723	0.23307	Equal Variances
Distribution	Shapiro-Wilk W	0.94778		0.68887	Normal Distribution

Data Summary

			Original Data				Transformed Data			
Conc-%	Control Type	Count	Mean	Minimum	Maximum	SD	Mean	Minimum	Maximum	SD
0	Dilution Sedim	4	5.81404	3.24507	9.12716	2.89778				
100		4	4.72164	3.30253	6.32995	1.32981				

Graphics





CETIS Test Summary

Report Date: 24 Apr-06 3:54 PM
Test Link: 06-8702-6507/B153916pcc

Plant Chronic test — CH2M HILL

Test No:	18-9978-6940	**Test Type:**	Plant Chronic test	**Duration:**	40d 0h
Start Date:	02 Mar-06	**Protocol:**	ASTM E1963-02 (2002)	**Species:**	Pak Choi
Ending Date:	11 Apr-06	**Dil Water:**		**Source:**	
Setup Date:	02 Mar-06 12:00 AM	**Brine:**			

Sample No:	06-6928-1482	**Code:**	B1539-16	**Client:**	
Sample Date:	13 Feb-06	**Material:**	Sediment	**Project:**	
Receive Date:		**Source:**	Hanford		
Sample Age:	17d 0h	**Station:**			

Comments: J11750

Comparison Summary

Analysis	Endpoint	NOEL	LOEL	ChV	PMSD	Method
08-2463-5202	AG Average Dry Wt.	100	> 100	N/A	51.04%	Equal Variance t Two-Sample
10-2695-5458	AG Average Wet Wt.	100	> 100	N/A	55.38%	Equal Variance t Two-Sample

AG Average Dry Wt. Summary

Conc-%	Control Type	Reps	Mean	Minimum	Maximum	SE	SD	CV
0	Dilution Sedim	4	0.31746	0.17069	0.46854	0.07279	0.14559	45.86%
100		4	0.40806	0.34408	0.52632	0.04066	0.08132	19.93%

AG Average Wet Wt. Summary

Conc-%	Control Type	Reps	Mean	Minimum	Maximum	SE	SD	CV
0	Dilution Sedim	4	5.8140	3.2451	9.1272	1.4489	2.8978	49.84%
100		4	8.5403	7.2730	10.806	0.8038	1.6075	18.82%

AG Average Dry Wt. Detail

Conc-%	Control Type	Rep 1	Rep 2	Rep 3	Rep 4
0	Dilution Sedim	0.41331	0.21729	0.17069	0.46854
100		0.39283	0.34408	0.36899	0.52632

AG Average Wet Wt. Detail

Conc-%	Control Type	Rep 1	Rep 2	Rep 3	Rep 4
0	Dilution Sedim	7.35745	3.52648	3.24507	9.12716
100		8.54967	7.27302	7.53283	10.8055

CETIS Analysis Detail

Plant Chronic test — CH2M Hill

Endpoint	Analysis Type	Sample Link	Control Link	Date Analyzed	Version
AG Average Dry Wt.	Comparison	06-8702-6507	06-8702-6507	24 Apr-06 3:54 PM	CETISv1.1.2

Method	Alt H	Data Transform	Zeta	NOEL	LOEL	Toxic Units	ChV	PMSD
Equal Variance t Two-Sample	C > T	Untransformed		100	>100	1	N/A	51.04%

Group Comparisons

Control	vs	Conc-%	Statistic	Critical	P-Value	MSD	Decision(0.05)
Dilution Sediment		100	-1.0866	1.94318	0.8405	0.16202	Non-Significant Effect

ANOVA Table

Source	Sum of Squares	Mean Square	DF	F Statistic	P-Value	Decision(0.05)
Between	0.0164159	0.016416	1	1.18	0.31894	Non-Significant Effect
Error	0.0834253	0.013904	6			
Total	0.09984116	0.0303201	7			

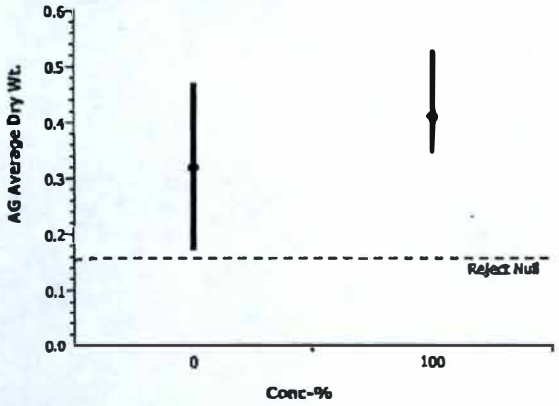
ANOVA Assumptions

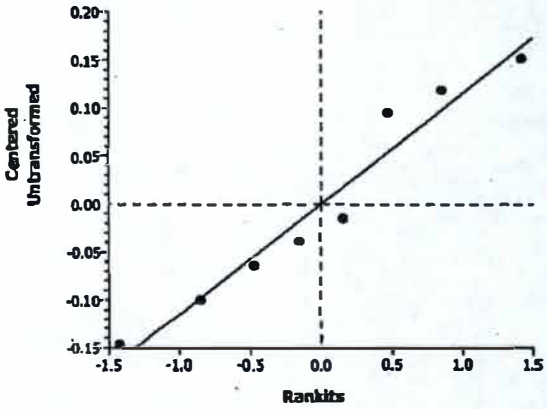
Attribute	Test	Statistic	Critical	P-Value	Decision(0.01)
Variances	Variance Ratio F	3.20549	47.46723	0.36429	Equal Variances
Distribution	Shapiro-Wilk W	0.93067		0.52221	Normal Distribution

Data Summary

			Original Data				Transformed Data			
Conc-%	Control Type	Count	Mean	Minimum	Maximum	SD	Mean	Minimum	Maximum	SD
0	Dilution Sedim	4	0.31746	0.17069	0.46854	0.14559				
100		4	0.40806	0.34408	0.52632	0.08132				

Graphics





CETIS Analysis Detail

Plant Chronic test — CH2M Hill

Endpoint	Analysis Type	Sample Link	Control Link	Date Analyzed	Version
AG Average Wet Wt.	Comparison	06-8702-6507	06-8702-6507	24 Apr-06 3:54 PM	CETISv1.1.2

Method	Alt H	Data Transform	Zeta	NOEL	LOEL	Toxic Units	ChV	PMSD
Equal Variance t Two-Sample	C > T	Untransformed		100	>100	1	N/A	55.38%

Group Comparisons

Control	vs	Conc-%	Statistic	Critical	P-Value	MSD	Decision(0.05)
Dilution Sediment		100	-1.6454	1.94318	0.9245	3.21968	Non-Significant Effect

ANOVA Table

Source	Sum of Squares	Mean Square	DF	F Statistic	P-Value	Decision(0.05)
Between	14.86463	14.86463	1	2.71	0.15099	Non-Significant Effect
Error	32.94385	5.490642	6			
Total	47.8084831	20.355273	7			

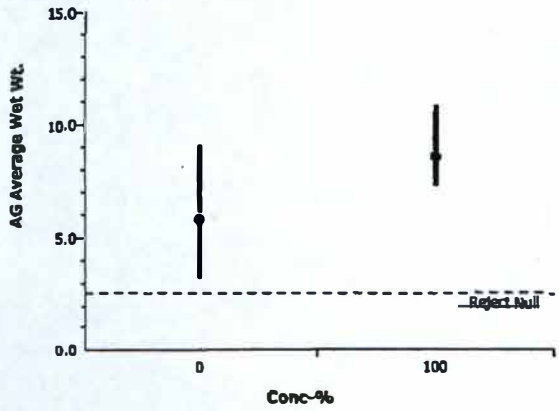
ANOVA Assumptions

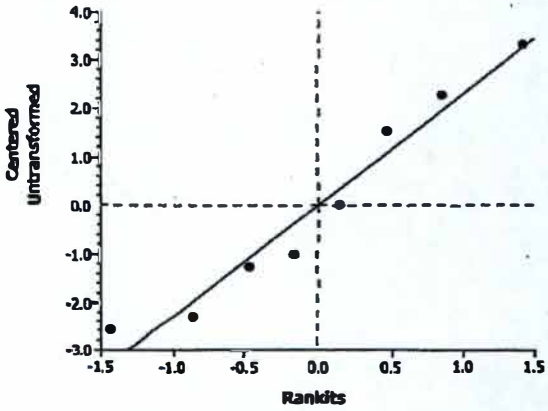
Attribute	Test	Statistic	Critical	P-Value	Decision(0.01)
Variances	Variance Ratio F	3.24948	47.46723	0.35896	Equal Variances
Distribution	Shapiro-Wilk W	0.93456		0.55851	Normal Distribution

Data Summary

			Original Data				Transformed Data			
Conc-%	Control Type	Count	Mean	Minimum	Maximum	SD	Mean	Minimum	Maximum	SD
0	Dilution Sedim	4	5.81404	3.24507	9.12716	2.89778				
100		4	8.54027	7.27302	10.8055	1.60753				

Graphics





CETIS Test Summary

Report Date: 24 Apr-06 3:55 PM
Test Link: 15-0347-9430/B153917pcc

Plant Chronic test — CH2M Hill

Test No:	05-8217-4108	Test Type:	Plant Chronic test	Duration:	40d 0h
Start Date:	02 Mar-06	Protocol:	ASTM E1983-02 (2002)	Species:	Pak Choi
Ending Date:	11 Apr-06	Dil Water:		Source:	
Setup Date:	02 Mar-06 12:00 AM	Brine:			

Sample No:	14-0550-4973	Code:	B1539-17	Client:	
Sample Date:	13 Feb-06	Material:	Sediment	Project:	
Receive Date:		Source:	Hanford		
Sample Age:	17d 0h	Station:			

Comments: J11751

Comparison Summary

Analysis	Endpoint	NOEL	LOEL	ChV	PMSD	Method
10-4786-6677	AG Average Dry Wt.	100	> 100	N/A	49.78%	Equal Variance t Two-Sample
13-7591-9588	AG Average Wet Wt.	100	> 100	N/A	52.82%	Equal Variance t Two-Sample

AG Average Dry Wt. Summary

Conc-%	Control Type	Reps	Mean	Minimum	Maximum	SE	SD	CV
0	Dilution Sedim	4	0.31746	0.17069	0.46854	0.07279	0.14559	45.86%
100		4	0.33770	0.27000	0.41720	0.03628	0.07255	21.48%

AG Average Wet Wt. Summary

Conc-%	Control Type	Reps	Mean	Minimum	Maximum	SE	SD	CV
0	Dilution Sedim	4	5.81404	3.24507	9.12716	1.44889	2.89778	49.84%
100		4	6.89288	5.67148	8.03673	0.63098	1.26196	18.31%

AG Average Dry Wt. Detail

Conc-%	Control Type	Rep 1	Rep 2	Rep 3	Rep 4
0	Dilution Sedim	0.41331	0.21729	0.17069	0.46854
100		0.28273	0.38089	0.27000	0.41720

AG Average Wet Wt. Detail

Conc-%	Control Type	Rep 1	Rep 2	Rep 3	Rep 4
0	Dilution Sedim	7.35745	3.52648	3.24507	9.12716
100		5.93808	7.92524	5.67148	8.03673

CETIS Analysis Detail

Plant Chronic test — **CH2M Hill**

Endpoint	Analysis Type	Sample Link	Control Link	Date Analyzed	Version
AG Average Dry Wt.	Comparison	15-0347-9430	15-0347-9430	24 Apr-06 3:55 PM	CETISv1.1.2

Method	Alt H	Data Transform	Zeta	NOEL	LOEL	Toxic Units	ChV	PMSD
Equal Variance t Two-Sample	C > T	Untransformed		100	>100	1	N/A	49.78%

Group Comparisons

Control	vs	Conc-%	Statistic	Critical	P-Value	MSD	Decision(0.05)
Dilution Sediment		100	-0.2489	1.94318	0.5941	0.15804	Non-Significant Effect

ANOVA Table

Source	Sum of Squares	Mean Square	DF	F Statistic	P-Value	Decision(0.05)
Between	0.0008199	0.00082	1	0.06	0.81170	Non-Significant Effect
Error	0.0793787	0.01323	6			
Total	0.08019862	0.0140497	7			

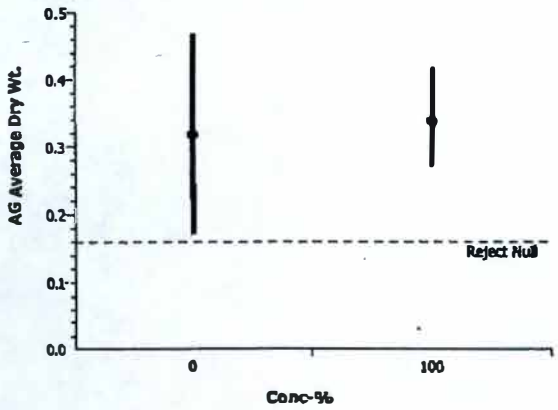
ANOVA Assumptions

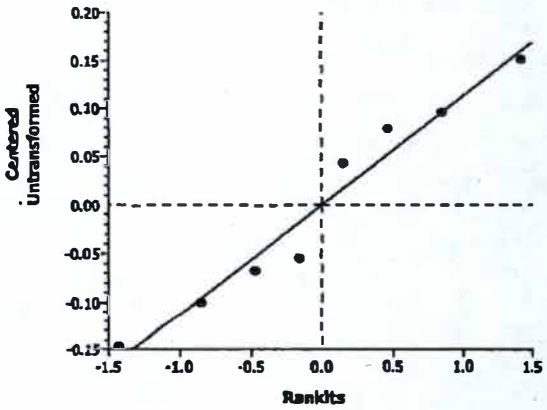
Attribute	Test	Statistic	Critical	P-Value	Decision(0.01)
Variances	Variance Ratio F	4.02694	47.46723	0.28258	Equal Variances
Distribution	Shapiro-Wilk W	0.94262		0.63706	Normal Distribution

Data Summary

			Original Data				Transformed Data			
Conc-%	Control Type	Count	Mean	Minimum	Maximum	SD	Mean	Minimum	Maximum	SD
0	Dilution Sedim	4	0.31746	0.17069	0.46854	0.14559				
100		4	0.33770	0.27000	0.41720	0.07255				

Graphics





CETIS Analysis Detail

Plant Chronic test ~~CH2M HILL~~

Endpoint	Analysis Type	Sample Link	Control Link	Date Analyzed	Version
AG Average Wet Wt.	Comparison	15-0347-9430	15-0347-9430	24 Apr-06 3:55 PM	CETISv1.1.2

Method	Alt H	Data Transform	Zeta	NOEL	LOEL	Toxic Units	ChV	PMSD
Equal Variance t Two-Sample	C > T	Untransformed		100	>100	1	N/A	52.82%

Group Comparisons

Control	vs	Conc-%	Statistic	Critical	P-Value	MSD	Decision(0.05)
Dilution Sediment		100	-0.6827	1.94318	0.7399	3.07085	Non-Significant Effect

ANOVA Table

Source	Sum of Squares	Mean Square	DF	F Statistic	P-Value	Decision(0.05)
Between	2.327803	2.327803	1	0.47	0.52029	Non-Significant Effect
Error	29.96903	4.994839	6			
Total	32.2968352	7.3226416	7			

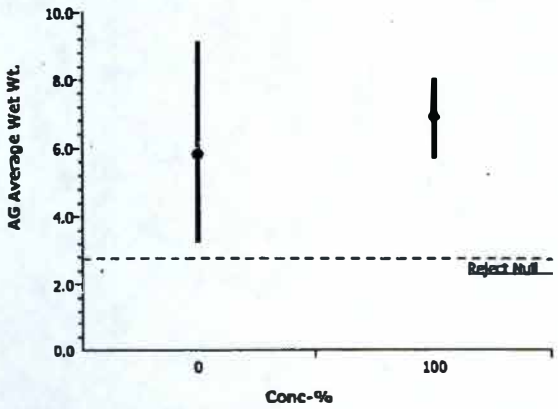
ANOVA Assumptions

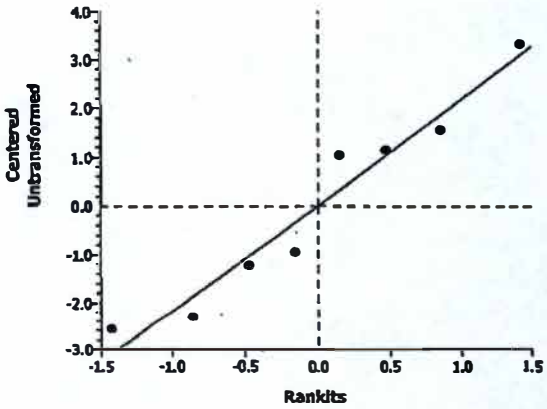
Attribute	Test	Statistic	Critical	P-Value	Decision(0.01)
Variances	Variance Ratio F	5.27280	47.46723	0.20547	Equal Variances
Distribution	Shapiro-Wilk W	0.93631		0.57515	Normal Distribution

Data Summary

			Original Data				Transformed Data			
Conc-%	Control Type	Count	Mean	Minimum	Maximum	SD	Mean	Minimum	Maximum	SD
0	Dilution Sedim	4	5.81404	3.24507	9.12716	2.89778				
100		4	6.89288	5.67148	8.03673	1.26196				

Graphics





CETIS Test Summary

Report Date: 24 Apr-06 3:57 PM
Test Link: 12-2754-1244/B153918pcc

Plant Chronic test — CH2M Hill

Test No:	03-8348-5695	**Test Type:**	Plant Chronic test	**Duration:**	40d 0h
Start Date:	02 Mar-06	**Protocol:**	ASTM E1963-02 (2002)	**Species:**	Pak Choi
Ending Date:	11 Apr-06	**Dil Water:**		**Source:**	
Setup Date:	02 Mar-06 12:00 AM	**Brine:**			

Sample No:	12-8062-0396	**Code:**	B1539-18	**Client:**	
Sample Date:	13 Feb-06	**Material:**	Sediment	**Project:**	
Receive Date:		**Source:**	Hanford		
Sample Age:	17d 0h	**Station:**			

Comments: J11753

Comparison Summary

Analysis	Endpoint	NOEL	LOEL	ChV	PMSD	Method
04-6165-5632	AG Average Dry Wt.	100	> 100	N/A	69.62%	Equal Variance t Two-Sample
00-9561-6038	AG Average Wet Wt.	100	> 100	N/A	70.78%	Equal Variance t Two-Sample

AG Average Dry Wt. Summary

Conc-%	Control Type	Reps	Mean	Minimum	Maximum	SE	SD	CV
0	Dilution Sedim	4	0.31746	0.17069	0.46854	0.07279	0.14559	45.86%
100		4	0.32814	0.14967	0.50422	0.08738	0.17477	53.26%

AG Average Wet Wt. Summary

Conc-%	Control Type	Reps	Mean	Minimum	Maximum	SE	SD	CV
0	Dilution Sedim	4	5.81404	3.24507	9.12716	1.44889	2.89778	49.84%
100		4	5.60385	2.77741	8.82544	1.54443	3.08885	55.12%

AG Average Dry Wt. Detail

Conc-%	Control Type	Rep 1	Rep 2	Rep 3	Rep 4
0	Dilution Sedim	0.41331	0.21729	0.17069	0.46854
100		0.50422	0.14967	0.44928	0.20939

AG Average Wet Wt. Detail

Conc-%	Control Type	Rep 1	Rep 2	Rep 3	Rep 4
0	Dilution Sedim	7.35745	3.52648	3.24507	9.12716
100		8.82544	2.77741	7.66210	3.15044

CETIS Analysis Detail

Plant Chronic test — CH2M Hill

Endpoint	Analysis Type	Sample Link	Control Link	Date Analyzed	Version
AG Average Dry Wt.	Comparison	12-2754-1244	12-2754-1244	24 Apr-06 3:56 PM	CETISv1.1.2

Method	Alt H	Data Transform	Zeta	NOEL	LOEL	Toxic Units	ChV	PMSD
Equal Variance t Two-Sample	C > T	Untransformed		100	>100	1	N/A	69.62%

Group Comparisons

Control	vs	Conc-%	Statistic	Critical	P-Value	MSD	Decision(0.05)
Dilution Sediment		100	-0.0939	1.94318	0.5359	0.22100	Non-Significant Effect

ANOVA Table

Source	Sum of Squares	Mean Square	DF	F Statistic	P-Value	Decision(0.05)
Between	0.0002282	0.000228	1	0.01	0.92823	Non-Significant Effect
Error	0.1552205	0.025870	6			
Total	0.15544869	0.0260983	7			

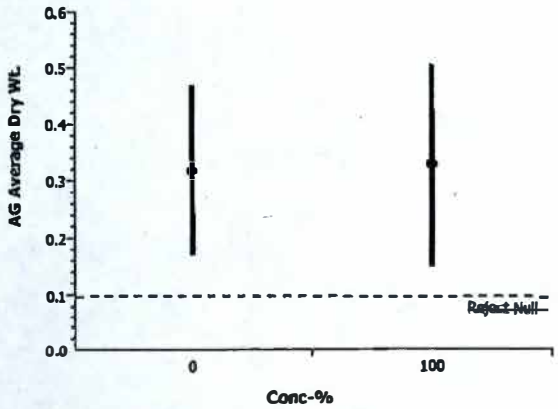
ANOVA Assumptions

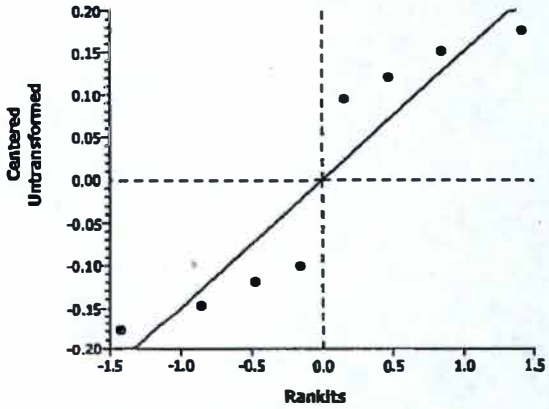
Attribute	Test	Statistic	Critical	P-Value	Decision(0.01)
Variances	Variance Ratio F	1.44103	47.46723	0.77122	Equal Variances
Distribution	Shapiro-Wilk W	0.84338		0.08158	Normal Distribution

Data Summary

			Original Data				Transformed Data			
Conc-%	Control Type	Count	Mean	Minimum	Maximum	SD	Mean	Minimum	Maximum	SD
0	Dilution Sedim	4	0.31746	0.17069	0.46854	0.14559				
100		4	0.32814	0.14967	0.50422	0.17477				

Graphics





CETIS Analysis Detail

Plant Chronic test — CH2M Hill

Endpoint	Analysis Type	Sample Link	Control Link	Date Analyzed	Version
AG Average Wet Wt.	Comparison	12-2754-1244	12-2754-1244	24 Apr-06 3:57 PM	CETISv1.1.2

Method	Alt H	Data Transform	Zeta	NOEL	LOEL	Toxic Units	ChV	PMSD
Equal Variance t Two-Sample	C > T	Untransformed		100	>100	1	N/A	70.78%

Group Comparisons

Control	vs	Conc-%	Statistic	Critical	P-Value	MSD	Decision(0.05)
Dilution Sediment		100	0.09926	1.94318	0.4621	4.11502	Non-Significant Effect

ANOVA Table

Source	Sum of Squares	Mean Square	DF	F Statistic	P-Value	Decision(0.05)
Between	0.0883614	0.088361	1	0.01	0.92417	Non-Significant Effect
Error	53.81443	8.969072	6			
Total	53.9027955	9.0574338	7			

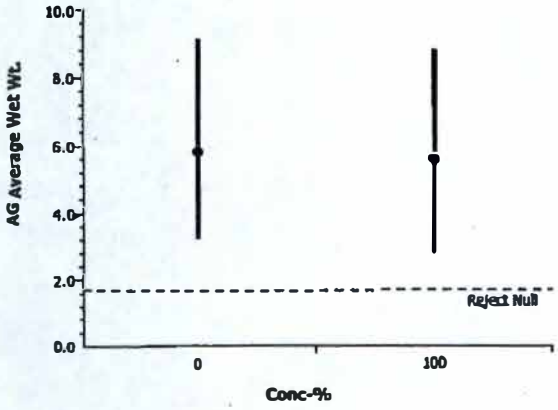
ANOVA Assumptions

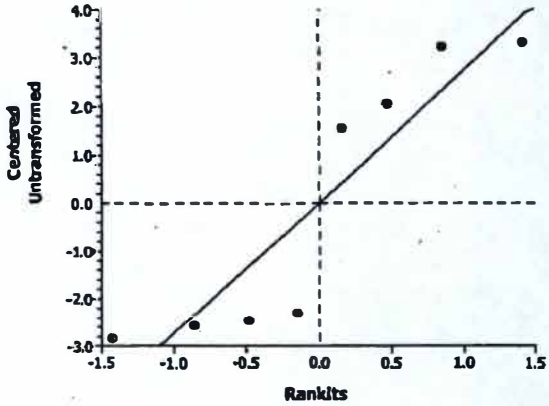
Attribute	Test	Statistic	Critical	P-Value	Decision(0.01)
Variances	Variance Ratio F	1.13622	47.46723	0.91886	Equal Variances
Distribution	Shapiro-Wilk W	0.79791		0.02719	Normal Distribution

Data Summary

			Original Data				Transformed Data			
Conc-%	Control Type	Count	Mean	Minimum	Maximum	SD	Mean	Minimum	Maximum	SD
0	Dilution Sedim	4	5.81404	3.24507	9.12716	2.89778				
100		4	5.60385	2.77741	8.82544	3.08885				

Graphics





CETIS Test Summary

Report Date: 24 Apr-06 3:58 PM
Test Link: 18-1465-6350/B153930pcc

Plant Chronic test — CH2M Hill

Test No:	03-0089-6547	Test Type:	Plant Chronic test	Duration:	40d 0h
Start Date:	02 Mar-06	Protocol:	ASTM E1963-02 (2002)	Species:	Pak Choi
Ending Date:	11 Apr-06	Dil Water:		Source:	
Setup Date:	02 Mar-06 12:00 AM	Brine:			

Sample No:	10-7678-7313	Code:	B1539-30	Client:	
Sample Date:	27 Feb-06	Material:	Sediment	Project:	
Receive Date:		Source:	Hanford		
Sample Age:	72h	Station:			

Comments: J116X2

Comparison Summary

Analysis	Endpoint	NOEL	LOEL	ChV	PMSD	Method
01-5302-6525	AG Average Dry Wt.	< 100	100	N/A	45.65%	Equal Variance t Two-Sample
10-6767-0209	AG Average Wet Wt.	< 100	100	N/A	49.03%	Equal Variance t Two-Sample

AG Average Dry Wt. Summary

Conc-%	Control Type	Reps	Mean	Minimum	Maximum	SE	SD	CV
0	Dilution Sedim	4	0.31746	0.17069	0.46854	0.07279	0.14559	45.86%
100		4	0.08978	0.06168	0.12753	0.01623	0.03246	36.16%

AG Average Wet Wt. Summary

Conc-%	Control Type	Reps	Mean	Minimum	Maximum	SE	SD	CV
0	Dilution Sedim	4	5.81404	3.24507	9.12716	1.44889	2.89778	49.84%
100		4	1.24677	0.81359	1.69905	0.22961	0.45922	36.83%

AG Average Dry Wt. Detail

Conc-%	Control Type	Rep 1	Rep 2	Rep 3	Rep 4
0	Dilution Sedim	0.41331	0.21729	0.17069	0.46854
100		0.06168	0.12753	0.10616	0.06374

AG Average Wet Wt. Detail

Conc-%	Control Type	Rep 1	Rep 2	Rep 3	Rep 4
0	Dilution Sedim	7.35745	3.52648	3.24507	9.12716
100		0.81359	1.58382	1.69905	0.89063

CETIS Analysis Detail

Plant Chronic test — CH2M Hill

Endpoint	Analysis Type	Sample Link	Control Link	Date Analyzed	Version
AG Average Dry Wt.	Comparison	18-1465-6350	18-1465-6350	24 Apr-06 3:58 PM	CETISv1.1.2

Method	Alt H	Data Transform	Zeta	NOEL	LOEL	Toxic Units	ChV	PMSD
Equal Variance t Two-Sample	C > T	Untransformed		<100	100		N/A	45.65%

Group Comparisons

Control	vs	Conc-%	Statistic	Critical	P-Value	MSD	Decision(0.05)
Dilution Sediment		100	3.05276	1.94318	0.0112	0.14493	Significant Effect

ANOVA Table

Source	Sum of Squares	Mean Square	DF	F Statistic	P-Value	Decision(0.05)
Between	0.1036761	0.103676	1	9.32	0.02243	Significant Effect
Error	0.0667491	0.011125	6			
Total	0.17042519	0.114801	7			

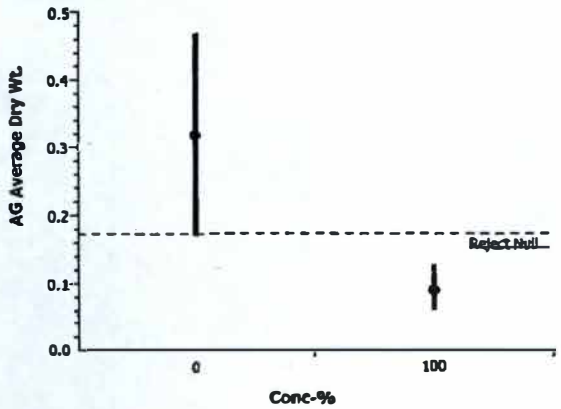
ANOVA Assumptions

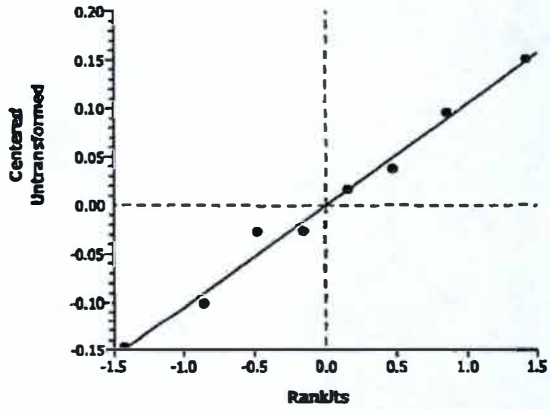
Attribute	Test	Statistic	Critical	P-Value	Decision(0.01)
Variances	Variance Ratio F	20.11617	47.46723	0.03449	Equal Variances
Distribution	Shapiro-Wilk W	0.98295		0.97600	Normal Distribution

Data Summary

			Original Data				Transformed Data			
Conc-%	Control Type	Count	Mean	Minimum	Maximum	SD	Mean	Minimum	Maximum	SD
0	Dilution Sedim	4	0.31746	0.17069	0.46854	0.14559				
100		4	0.08978	0.06168	0.12753	0.03246				

Graphics





CETIS Analysis Detail

Plant Chronic test CH2M Hill

Endpoint	Analysis Type	Sample Link	Control Link	Date Analyzed	Version
AG Average Wet Wt.	Comparison	18-1465-6350	18-1465-6350	24 Apr-06 3:58 PM	CETISv1.1.2

Method	Alt H	Data Transform	Zeta	NOEL	LOEL	Toxic Units	ChV	PMSD
Equal Variance t Two-Sample	C > T	Untransformed		<100	100		N/A	49.03%

Group Comparisons

Control	vs	Conc-%	Statistic	Critical	P-Value	MSD	Decision(0.05)
Dilution Sediment		100	3.1134	1.94318	0.0104	2.85059	Significant Effect

ANOVA Table

Source	Sum of Squares	Mean Square	DF	F Statistic	P-Value	Decision(0.05)
Between	41.71986	41.71986	1	9.69	0.02076	Significant Effect
Error	25.82405	4.304009	6			
Total	67.5439091	46.023865	7			

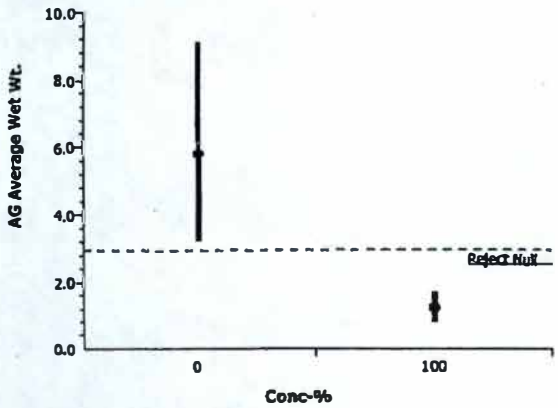
ANOVA Assumptions

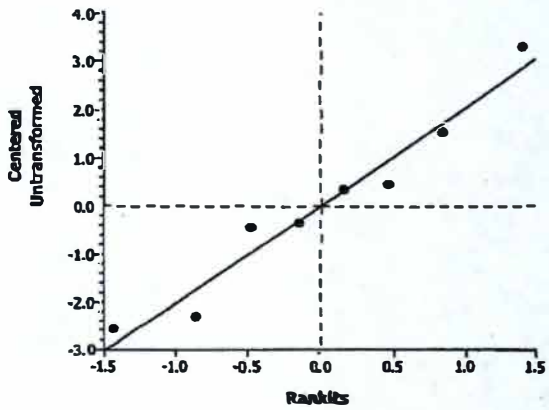
Attribute	Test	Statistic	Critical	P-Value	Decision(0.01)
Variances	Variance Ratio F	39.81947	47.46723	0.01292	Equal Variances
Distribution	Shapiro-Wilk W	0.95457		0.75713	Normal Distribution

Data Summary

			Original Data				Transformed Data			
Conc-%	Control Type	Count	Mean	Minimum	Maximum	SD	Mean	Minimum	Maximum	SD
0	Dilution Sedim	4	5.81404	3.24507	9.12716	2.89778				
100		4	1.24677	0.81359	1.69905	0.45922				

Graphics





CETIS Test Summary

Report Date: 24 Apr-06 3:59 PM
Test Link: 02-4977-5786/B153931pcc

Plant Chronic test — CH2M Hill

Test No:	02-0475-5855	Test Type:	Plant Chronic test	Duration:	40d 0h
Start Date:	02 Mar-06	Protocol:	ASTM E1963-02 (2002)	Species:	Pak Choi
Ending Date:	11 Apr-06	Dil Water:		Source:	
Setup Date:	02 Mar-06 12:00 AM	Brine:			

Sample No:	04-9697-6278	Code:	B1539-31	Client:	
Sample Date:	27 Feb-06	Material:	Sediment	Project:	
Receive Date:		Source:	Hanford		
Sample Age:	72h	Station:			

Comments: J116W9

Comparison Summary

Analysis	Endpoint	NOEL	LOEL	ChV	PMSD	Method
14-6291-8849	AG Average Dry Wt.	100	> 100	N/A	51.51%	Equal Variance t Two-Sample
07-0817-8932	AG Average Wet Wt.	100	> 100	N/A	55.92%	Equal Variance t Two-Sample

AG Average Dry Wt. Summary

Conc-%	Control Type	Reps	Mean	Minimum	Maximum	SE	SD	CV
0	Dilution Sedim	4	0.31746	0.17069	0.46854	0.07279	0.14559	45.86%
100		4	0.19076	0.14154	0.31685	0.04222	0.08443	44.26%

AG Average Wet Wt. Summary

Conc-%	Control Type	Reps	Mean	Minimum	Maximum	SE	SD	CV
0	Dilution Sedim	4	5.81404	3.24507	9.12716	1.44889	2.89778	49.84%
100		4	3.68183	2.67195	6.18494	0.83691	1.67382	45.46%

AG Average Dry Wt. Detail

Conc-%	Control Type	Rep 1	Rep 2	Rep 3	Rep 4
0	Dilution Sedim	0.41331	0.21729	0.17069	0.46854
100		0.14491	0.14154	0.31685	0.15974

AG Average Wet Wt. Detail

Conc-%	Control Type	Rep 1	Rep 2	Rep 3	Rep 4
0	Dilution Sedim	7.35745	3.52648	3.24507	9.12716
100		2.98401	2.67195	6.18494	2.88643

CETIS Analysis Detail

Plant Chronic test — **CH2M Hill**

Endpoint	Analysis Type	Sample Link	Control Link	Date Analyzed	Version
AG Average Dry Wt.	Comparison	02-4977-5786	02-4977-5786	24 Apr-06 3:59 PM	CETISv1.1.2

Method	Alt H	Data Transform	Zeta	NOEL	LOEL	Toxic Units	ChV	PMSD
Equal Variance t Two-Sample	C > T	Untransformed		100	>100	1	N/A	51.51%

Group Comparisons

Control	vs	Conc-%	Statistic	Critical	P-Value	MSD	Decision(0.05)
Dilution Sediment		100	1.50562	1.94318	0.0914	0.16352	Non-Significant Effect

ANOVA Table

Source	Sum of Squares	Mean Square	DF	F Statistic	P-Value	Decision(0.05)
Between	0.0321045	0.032104	1	2.27	0.18287	Non-Significant Effect
Error	0.0849739	0.014162	6			
Total	0.11707832	0.0462668	7			

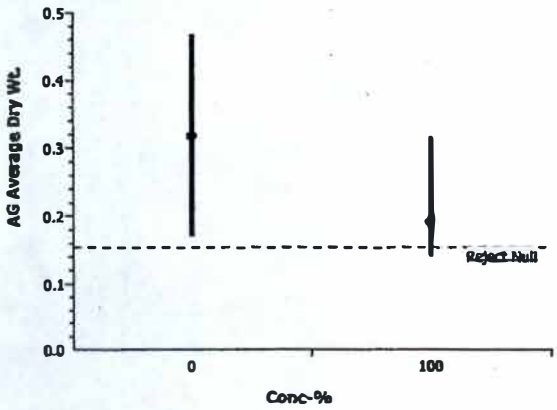
ANOVA Assumptions

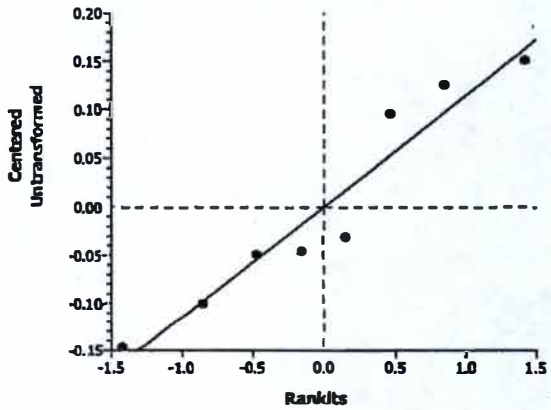
Attribute	Test	Statistic	Critical	P-Value	Decision(0.01)
Variances	Variance Ratio F	2.97337	47.46723	0.39470	Equal Variances
Distribution	Shapiro-Wilk W	0.90967		0.35172	Normal Distribution

Data Summary

			Original Data				Transformed Data			
Conc-%	Control Type	Count	Mean	Minimum	Maximum	SD	Mean	Minimum	Maximum	SD
0	Dilution Sedim	4	0.31746	0.17069	0.46854	0.14559				
100		4	0.19076	0.14154	0.31685	0.08443				

Graphics





CETIS Analysis Detail

Plant Chronic test — CH2M Hill

Endpoint	Analysis Type	Sample Link	Control Link	Date Analyzed	Version
AG Average Wet Wt.	Comparison	02-4977-5786	02-4977-5786	24 Apr-06 3:59 PM	CETISv1.1.2

Method	Alt H	Data Transform	Zeta	NOEL	LOEL	Toxic Units	ChV	PMSD
Equal Variance t Two-Sample	C > T	Untransformed		100	>100	1	N/A	55.92%

Group Comparisons

Control	vs	Conc-%	Statistic	Critical	P-Value	MSD	Decision(0.05)
Dilution Sediment		100	1.27431	1.94318	0.1248	3.25139	Non-Significant Effect

ANOVA Table

Source	Sum of Squares	Mean Square	DF	F Statistic	P-Value	Decision(0.05)
Between	9.092616	9.092616	1	1.62	0.24968	Non-Significant Effect
Error	33.59644	5.599407	6			
Total	42.6890593	14.692023	7			

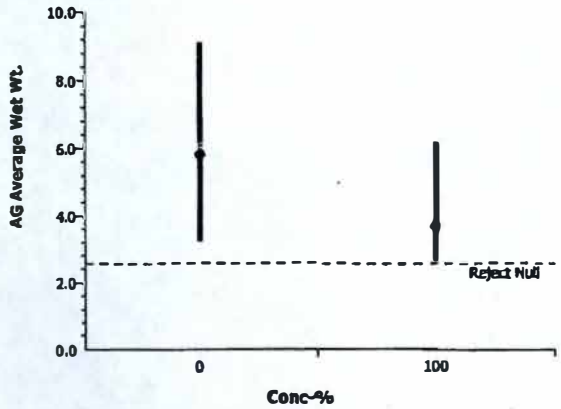
ANOVA Assumptions

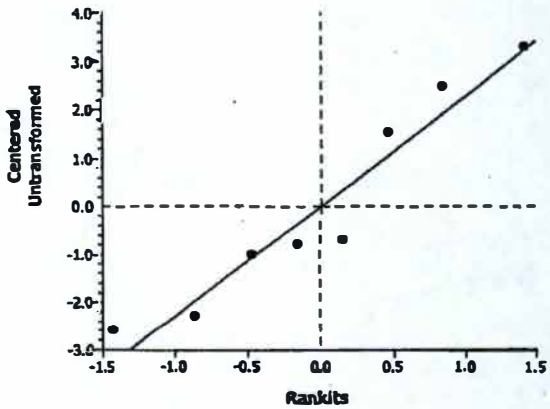
Attribute	Test	Statistic	Critical	P-Value	Decision(0.01)
Variances	Variance Ratio F	2.99718	47.46723	0.39139	Equal Variances
Distribution	Shapiro-Wilk W	0.90924		0.34871	Normal Distribution

Data Summary

			Original Data				Transformed Data			
Conc-%	Control Type	Count	Mean	Minimum	Maximum	SD	Mean	Minimum	Maximum	SD
0	Dilution Sedim	4	5.81404	3.24507	9.12716	2.89778				
100		4	3.68183	2.67195	6.18494	1.67382				

Graphics





APPENDIX B
CHAIN OF CUSTODY

F1162

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-047-6	Page 1 of 1

Collector: JE Bernhard	Company Contact: JOAN KESSNER	Telephone No.: 375-4688	Project Coordinator: KESSNER, JH
Price Code: 9N	Data Turnaround: 21 Days	Air Quality:	
Project Designation: 100 & 300 Area Component of the RCBRA Sediment and Ti	Sampling Location: ~~300-1~~ RCF #6 JEB 2-5-06		SAF No.: RC-047
Ice Chest No.: SHWS-336	Field Logbook No.: EL-1596 7 JEB 2-5-06	COA: BESRAS6520	Method of Shipment: GROUND TRANSPORT
Shipped To: CH2MHILL	Offsite Property No.: A060151		Bill of Lading/Air Bill No.: SEE OSPC

POSSIBLE SAMPLE HAZARDS/REMARKS

POTENTIAL RADIOACTIVE <DOT LIMITS

Special Handling and/or Storage

COOL 4C

Preservation	Cool4C	None	None								
Type of Container	G/P	P/G	P/G								
No. of Container(s)	1	1	1								
Volume	1000g	3000g	19000g								
SAMPLE ANALYSIS	See item (1) in Special Instructions.	Sediment Invertebrate Toxicity ASTM E1706	Sediment Phytotoxicity BEDP-04-11								

Sample No.	Matrix *	Sample Date	Sample Time										
J11143	OTHER SOLID	02-05-06	1130	X	X	X							-1

CHAIN OF POSSESSION — **Sign/Print Names**

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
JAMES BERNHARD	1400 02-05-06	EAS LOCKED STORAGE	1400 02-05-06
EAS LOCKED STORAGE	0715 02-06-06	R2 Steffler R.J. Steffler	0715 2-6-06
R2 Steffler R.J. Steffler	1500 2-6-06	Fed Ex	
FED EX		KMCKinley	2/7/06 1020

SPECIAL INSTRUCTIONS

(1) IC Anions - 300.0; Ammonia - 350.3; pH (Soil) - 9045; TOC - 9060; Moisture Content - D2216; Nitrogen by Kjeldahl - 351.2; Particle Size (Dry Sieve) - D422

B1539-01 For Pak Choi

Matrix *

S=Soil
SE=Sediment
SO=Solid
SL=Sludge
W = Water
O=Oil
A=Air
DS=Drum Solids
DL=Drum Liquids
T=Tissue
WI=Wipe
L=Liquid
V=Vegetation
X=Other

LABORATORY SECTION	Received By: KMCKinley	Title	Date/Time: 2/7/06 1020
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

BHI-EE-011 (08/29/2005)

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-047-9	Page 1 of 1

Collector: JAMES BERNHARD	Company Contact: JOAN KESSNER	Telephone No.: 375-4688	Project Coordinator: KESSNER, JH
Price Code: 9N	Data Turnaround: 21 Days	Air Quality: ☐	
Project Designation: 100 & 300 Area Component of the RCBRA Sediment and Ti	Sampling Location: U-2	SAF No.: RC-047	
Ice Chest No.: AFS-04-050	Field Logbook No.: EL-15987 JEC 2-8-06	COA: BESRAS6520	Method of Shipment: GROUND TRANSPORT
Shipped To: CH2MHILL	Offsite Property No.: A060151		Bill of Lading/Air Bill No.: SEE OSPC

POSSIBLE SAMPLE HAZARDS/REMARKS

POTENTIAL RADIOACTIVE <DOT LIMITS

Special Handling and/or Storage

COOL 4C

Preservation	Cool 4C	None	None								
Type of Container	G/P	P/G	P/G								
No. of Container(s)	1 JEC 2-8-06	1	1								
Volume	1000g	3000g	19000g								
SAMPLE ANALYSIS	See item (1) in Special Instructions.	Sediment Invertebrate Toxicity ASTM E1706	Sediment Phytotoxicity EEDP-04-11								

Sample No.	Matrix *	Sample Date	Sample Time										
J11146	OTHER SOLID	2-8-06	1245	X	X	X							

CHAIN OF POSSESSION	Sign/Print Names
Relinquished By/Removed From: JAMES BERNHARD Date/Time: 2-8-06 1700	Received By/Stored In: EAS LOCKED STORAGE Date/Time: 2-8-06 1700
Relinquished By/Removed From: JAMES BERNHARD Date/Time: 2-9-06 0715	Received By/Stored In: RZ Stoffler R.Z. Stoffler Date/Time: 2-9-06 0715
Relinquished By/Removed From: RZ Stoffler R.Z. Stoffler Date/Time: 2-9-06 1500	Received By/Stored In: Fed Ex Date/Time:
Relinquished By/Removed From: Fed Ex Date/Time:	Received By/Stored In: Brett Mudge Date/Time: 2-10-06 1400
Relinquished By/Removed From: Date/Time:	Received By/Stored In: Date/Time:
Relinquished By/Removed From: Date/Time:	Received By/Stored In: Date/Time:

SPECIAL INSTRUCTIONS

(1) IC Anions - 300.0; Ammonia - 350.3; pH (Soil) - 9045; TOC - 9060; Moisture Content - D2216; Nitrogen by Kjeldahl - 351.2; Particle Size (Dry Sieve) - D422

B1539-02 for Hyalella
B1539-02 for metabolic / parasitic
COC seals intact

Matrix *

S=Soil
SE=Sediment
SO=Solid
SL=Sludge
W=Water
O=Oil
A=Air
DS=Drum Solids
DL=Drum Liquids
T=Tissue
Wi=Wipe
L=Liquid
V=Vegetation
X=Other

LABORATORY SECTION	Received By	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

BHI-EE-011 (08/29/2005)

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-047-7	Page 1 of 1

Collector: JAMES BERNHARD	Company Contact: JOAN KESSNER	Telephone No.: 375-4688	Project Coordinator: KESSNER, JH
Price Code: 9N	Data Turnaround: 21 Days	Air Quality: ☐	
Project Designation: 100 & 300 Area Component of the RCBRA Sediment and Ti	Sampling Location: 300-2		SAF No.: RC-047
Ice Chest No.: AFS-04-050	Field Logbook No.: EL-15987	COA: BESRAS6520	Method of Shipment: GROUND TRANSPORT
Shipped To: CH2MHILL	Offsite Property No.: A060151		Bill of Lading/Air Bill No.: SEE OSPC

POSSIBLE SAMPLE HAZARDS/REMARKS

POTENTIAL RADIOACTIVE <DOT LIMITS

Special Handling and/or Storage

COOL 4C

Preservation	Cool 4C	None	None									
Type of Container	G/P	P/G	P/G									
No. of Container(s)	1	1	1									
Volume	1000g	3000g	19000g									
SAMPLE ANALYSIS	See item (1) in Special Instructions.	Sediment Invertebrate Toxicity ASTM E1706	Sediment Phytotoxicity EEDP-04-11									

Sample No.	Matrix *	Sample Date	Sample Time										
J11144	OTHER SOLID	2-8-06	1430	X	X	X							

CHAIN OF POSSESSION — Sign/Print Names

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
JAMES BERNHARD	2-8-06 1700	EAS LOCKED STORAGE	2-8-06 1700
JAMES BERNHARD	2-9-06 0715	RZ Stoller	2-9-06 0715
RZ Stoller	2-9-06 1500	Fed Ex	
Fed Ex		Brett Mullen	2-10-06 1400

SPECIAL INSTRUCTIONS

(1) IC Anions - 300.0; Ammonia - 350.3; pH(Soil) - 9045; TOC - 9060; Moisture Content - D2216; Nitrogen by Kjeldahl - 351.2; Particle Size (Dry Sieve) - D422

B1533-03 for Hyalella
B1539-03 for Ceriodaphnia / Pak Choi
COC seals intact on arrival

Matrix *

S=Soil
SE=Sediment
SO=Solid
Sl=Sludge
W=Water
O=Oil
A=Air
DS=Drum Solids
DL=Drum Liquids
T=Tissue
W/Wipe
L=Liquid
V=Vegetation
X=Other

LABORATORY SECTION	Received By	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

BHI-EE-011 (08/29/2005)

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-047-8	Page 1 of 1

Collector: JEB JAMES BERNHARD	Company Contact: JOAN KESSNER	Telephone No.: 375-4688	Project Coordinator: KESSNER, JH
Price Code: 9N	Data Turnaround: 21 Days	Air Quality: [ ]	
Project Designation: 100 & 300 Area Component of the RCBRA Sediment and Ti	Sampling Location: U-1	SAF No.: RC-047	
Ice Chest No.: AFS-04-050	Field Logbook No.: EL-15987 JEB 2-8-06	COA: BESRAS6520	Method of Shipment: GROUND TRANSPORT
Shipped To: CH2MHILL	Offsite Property No.: A060151		Bill of Lading/Air Bill No.: SEE OSPC

POSSIBLE SAMPLE HAZARDS/REMARKS

POTENTIAL RADIOACTIVE <DOT LIMITS

Special Handling and/or Storage

COOL 4C

Preservation	Cool 4C	None	None								
Type of Container	G/P	P/G	P/G								
No. of Container(s)	JEB 2-8-06	1	1								
Volume	1000g	3000g	19000g								
SAMPLE ANALYSIS	See item (1) in Special Instructions.	Sediment Invertebrate Toxicity ASTM E1706	Sediment Phytotoxicity EEDP-04-11								

Sample No.	Matrix *	Sample Date	Sample Time										
J11145	OTHER SOLID	2-8-06	1130	X	X	X							

CHAIN OF POSSESSION — **Sign/Print Names**

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
JAMES BERNHARD	2-8-06 1700	EAS LOCKED STORAGE	2-8-06 1700
JAMES BERNHARD	2-9-06 0715	RZ Stoffler	2-9-06 0715
RZ Stoffler	2-9-06 1500	Fed Ex	
Fed Ex		BRETT Mulkey	2-10-06 1400

SPECIAL INSTRUCTIONS

(1) IC Anions - 300.0; Ammonia - 350.3; pH (Soil) - 9045; TOC - 9060; Moisture Content - D2216; Nitrogen by Kjeldahl - 351.2; Particle Size (Dry Sieve) - D422

B1538-04 for Hydride
B1539-04 for mercury / pesticide

COC seals intact on arrival

Matrix *

S=Soil
SE=Sediment
SO=Solid
SL=Sludge
W = Water
O=Oil
A=Air
DS=Drum Solids
DL=Drum Liquids
T=Tissue
WI=Wipe
L=Liquid
V=Vegetation
X=Other

LABORATORY SECTION	Received By	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

BHI-EE-011 (08/29/2005)

From: Origin ID: (509)376-7768
SHIPPING DEPT
FLOOR HANFORD
2355 STEVENS DR BLDG 1162

RICHLAND, WA 99352

FedEx Express

Ship Date: 09FEB06
ActWgt: 38LB
System#: 585198&INET2400
Account#: S *********

REF: A060151

Delivery Address Bar Code

SHIP TO: (541)768-3127 BILL THIRD PARTY

LIZ TEPPER
CH2M HILL
APPLIED SCIENCE LABORATORY
2300 NW WALNUT BLVD.
CORVALLIS, OR 97339

PRIORITY OVERNIGHT

FRI
Deliver By:
10FEB06

TRK# 7918 5661 0690

FORM 0201

PDX AA

97339 -OR-US

86 CVOA

Shipping Label

View all labels

Place label in shipping label pouch and affix it to your shipment so that the barcode portion of the label can be read and scanned.

Warning: Use only the printed original label for shipping. Using a photocopy of this label for shipping purposes is fraudulent and could result in additional billing charges, along with the cancellation of your FedEx account number.

Use of this system constitutes your agreement to the service conditions in the current FedEx Service Guide, available on fedex.com. FedEx will not be responsible for any claim in excess of $100 per package, whether the result of loss, damage, delay, non-delivery, misdelivery, or misinformation, unless you declare a higher value, pay an additional charge, document your actual loss and file a timely claim. Limitations found in the current FedEx Service Guide apply. Your right to recover from FedEx for any loss, including intrinsic value of the package, loss of sales, income interest, profit, attorney's fees, costs, and other forms of damage whether direct, incidental, consequential, or special is limited to the greater of $100 or the authorized declared value. Recovery cannot exceed actual documented loss. Maximum for items of extraordinary value is $500, e.g. jewelry, precious metals, negotiable instruments and other items listed in our Service Guide. Written claims must be filed within strict time limits, see current FedEx Service Guide.

From: Origin ID: (509)376-7768
SHIPPING DEPT
FLUOR HANFORD
2355 STEVENS DR BLDG 1162

RICHLAND, WA 99352

FedEx Express

CLS# 12286/14/18

Ship Date: 09FEB06
ActWgt: 78 LB
System#: 5851986/INET2400
Account#: S *********

REF: A060151

Delivery Address Bar Code

SHIP TO: (541)768-3127 BILL THIRD PARTY

LIZ TEPPER
CH2M HILL
APPLIED SCIENCE LABORATORY
2300 NW WALNUT BLVD.
CORVALLIS, OR 97339

PRIORITY OVERNIGHT

FRI
Deliver By:
10FEB06

TRK# 7918 5661 0680 FORM 0201

PDX AA

97339 -OR-US

86 CVOA

Shipping Label

View all labels

Place label in shipping label pouch and affix it to your shipment so that the barcode portion of the label can be read and scanned.

Warning: Use only the printed original label for shipping. Using a photocopy of this label for shipping purposes is fraudulent and could result in additional billing charges, along with the cancellation of your FedEx account number.

Use of this system constitutes your agreement to the service conditions in the current FedEx Service Guide, available on fedex.com. FedEx will not be responsible for any claim in excess of $100 per package, whether the result of loss, damage, delay, non-delivery, misdelivery, or misinformation, unless you declare a higher value, pay an additional charge, document your actual loss and file a timely claim. Limitations found in the current FedEx Service Guide apply. Your right to recover from FedEx for any loss, including intrinsic value of the package, loss of sales, income interest, profit, attorney's fees, costs, and other forms of damage whether direct, incidental, consequential, or special is limited to the greater of $100 or the authorized declared value. Recovery cannot exceed actual documented loss. Maximum for items of extraordinary value is $500, e.g. jewelry, precious metals, negotiable instruments and other items listed in our Service Guide. Written claims must be filed within strict time limits, see current FedEx Service Guide.

From: Origin ID: (509)376-7768
SHIPPING DEPT
FLUOR HANFORD
2355 STEVENS DR BLDG 1162

RICHLAND, WA 99352

FedEx Express

Ship Date: 09FEB06
ActWgt: 55 LB
System#: 5851986/INET2400
Account#: S *********

REF: A060151

Delivery Address Bar Code

SHIP TO: (541)768-3127 BILL THIRD PARTY

LIZ TEPPER
CH2M HILL
APPLIED SCIENCE LABORATORY
2300 NW WALNUT BLVD.
CORVALLIS, OR 97339

PRIORITY OVERNIGHT

FRI
Deliver By:
10FEB06

TRK# 7918 5661 0705 FORM 0201

PDX AA

97339 -OR-US

86 CVOA

Shipping Label

View all labels

Place label in shipping label pouch and affix it to your shipment so that the barcode portion of the label can be read and scanned.

Warning: Use only the printed original label for shipping. Using a photocopy of this label for shipping purposes is fraudulent and could result in additional billing charges, along with the cancellation of your FedEx account number.

Use of this system constitutes your agreement to the service conditions in the current FedEx Service Guide, available on fedex.com. FedEx will not be responsible for any claim in excess of $100 per package, whether the result of loss, damage, delay, non-delivery, misdelivery, or misinformation, unless you declare a higher value, pay an additional charge, document your actual loss and file a timely claim. Limitations found in the current FedEx Service Guide apply. Your right to recover from FedEx for any loss, including intrinsic value of the package, loss of sales, income interest, profit, attorney's fees, costs, and other forms of damage whether direct, incidental, consequential, or special is limited to the greater of $100 or the authorized declared value. Recovery cannot exceed actual documented loss. Maximum for items of extraordinary value is $500, e.g. jewelry, precious metals, negotiable instruments and other items listed in our Service Guide. Written claims must be filed within strict time limits, see current FedEx Service Guide.

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-047-50	Page 1 of 1

Collector TILLER JAMES BERNHARD	Company Contact JOAN KESSNER	Telephone No. 375-4688	Project Coordinator KESSNER, JH	Price Code 9N	Data Turnaround 21 Days
Project Designation 100 & 300 Area Component of the RCBRA Sediment and Ti	Sampling Location REF/2 SEDIMENT		SAF No. RC-047	Air Quality ☐	
Ice Chest No. ERC-99-065	Field Logbook No. EL-1597	COA BESRAS6520	Method of Shipment GROUND TRANSPORT		
Shipped To CH2MHILL	Offsite Property No. A060151		Bill of Lading/Air Bill No. SEE OSPC		

POSSIBLE SAMPLE HAZARDS/REMARKS

POTENTIAL RADIOACTIVE <DOT LIMITS

Special Handling and/or Storage

COOL 4C

Preservation	Cool4C	None	None								
Type of Container	G/P	P/G	P/G								
No. of Container(s)	1	1	1								
Volume	1000g	3000g	19000g								
SAMPLE ANALYSIS	See item (1) in Special Instructions	Sediment Invertebrate Toxicity ASTM E1706	Sediment Phytotoxicity EEDP-04-11								

Sample No.	Matrix *	Sample Date	Sample Time										
J116N1	OTHER SOLID	2-9-06	1530	X	X	X							

CHAIN OF POSSESSION	Sign/Print Names	Date/Time
Relinquished By/Removed From JAMES BERNHARD	Received By/Stored In EAS LOCKED STORAGE	1830 2-9-06
Relinquished By/Removed From EAS LOCKED STORAGE	Received By/Stored In RZ Stoffler R.Z. Stoffler	0745 2-13-06
Relinquished By/Removed From RZ Stoffler R.Z. Stoffler	Received By/Stored In Fed Ex	1500 2-13-06
Relinquished By/Removed From FED-X	Received By/Stored In Gale Stanaway	2-14-06 1100
Relinquished By/Removed From	Received By/Stored In	
Relinquished By/Removed From	Received By/Stored In	

SPECIAL INSTRUCTIONS

(1) IC Anions - 300.0; Ammonia - 350.3; pH (Soil) - 9045; TOC - 9060; Moisture Content - D2216; Nitrogen by Kjeldahl - 351.2; Particle Size (Dry Sieve) - D422

B1538-05 = Hydrolle
B1539-05 = Nutsedge/Pakchoi
F1192-01
COC intact.

Matrix *

S=Soil
SE=Sediment
SO=Solid
Sl=Sludge
W = Water
O=Oil
A=Air
DS=Drum Solids
DL=Drum Liquids
T=Tissue
Wi=Wipe
L=Liquid
V=Vegetation
X=Other

LABORATORY SECTION	Received By	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

BHI-EE-011 (08/29/2005)

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-047-52	Page 1 of 1

Collector TILLER JAMES BERNHARD	Company Contact JOAN KESSNER	Telephone No. 375-4688	Project Coordinator KESSNER, JH	Price Code 9N	Data Turnaround 21 Days
Project Designation 100 & 300 Area Component of the RCBRA Sediment and Ti	Sampling Location REF/3SEDIMENT		SAF No. RC-047	Air Quality ☐	
Ice Chest No. ERC-99-065	Field Logbook No. EL-1597	COA BESRAS6520	Method of Shipment GROUND TRANSPORT		
Shipped To CH2MHILL	Offsite Property No. A060151		Bill of Lading/Air Bill No. SEE OSPC		

POSSIBLE SAMPLE HAZARDS/REMARKS

POTENTIAL RADIOACTIVE <DOT LIMITS

Special Handling and/or Storage

COOL 4C

Preservation	Cool4C	None	None								
Type of Container	G/P	P/G	P/G								
No. of Container(s)	X2 2-9-06 KH	1	1								
Volume	1000g	3000g	19000g								
SAMPLE ANALYSIS	See item (1) in Special Instructions.	Sediment Invertebrate Toxicity ASTM E1706	Sediment Phytotoxicity EEDP-04-11								

Sample No.	Matrix *	Sample Date	Sample Time										
J116N3	OTHER SOLID	2-9-06	1400	X	X	X							

CHAIN OF POSSESSION — **Sign/Print Names**

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
JAMES BERNHARD	1400 2-9-06	EAS LOCKED STORAGE	1400 2-9-06
EAS LOCKED STORAGE	0715 02-13-06	RZ Stoffler R.Z. Stoffler	0715 2-13-06
RZ Stoffler R.Z. Stoffler	1500 WKH 2-13-06	Fed Ex	
Fed-X		Mike Sanaway	2-14-06 1100

SPECIAL INSTRUCTIONS

(1) IC Anions - 300.0; Ammonia - 350.3; pH (Soil) - 9045; TOC - 9060; Moisture Content - D2216; Nitrogen by Kjeldahl - 351.2; Particle Size (Dry Sieve) - D422

B1538-06 Hyacinthella

B1539-06 Nutsedge/Pokeweed

Custody seals intact

F1192-02

Matrix *

S=Soil
SE=Sediment
SO=Solid
Sh=Shale
W = Water
O=Oil
A=Air
DS=Drum Solids
DL=Drum Liquids
T=Tissue
Wi=Wipe
L=Liquid
Vs=Vegetation
X=Other

LABORATORY SECTION	Received By	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

BHI-EE-011 (08/29/2005)

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-047-27	Page 1 of 1

Collector TILLER JAMES BERNHARD	Company Contact JOAN KESSNER	Telephone No. 375-4688	Project Coordinator KESSNER, JH	Price Code 9N	Data Turnaround 21 Days
Project Designation 100 & 300 Area Component of the RCBRA Sediment and Ti	Sampling Location Cr 5, SEDIMENT		SAF No. RC-047	Air Quality [ ]	
Ice Chest No. ERC-96-012	Field Logbook No. EL-1598 7 SIP 1310 6	COA BESRAS6520	Method of Shipment GROUND TRANSPORT		
Shipped To CH2MHILL	Offsite Property No. A060151		Bill of Lading/Air Bill No. SEE OSPC		

POSSIBLE SAMPLE HAZARDS/REMARKS

POTENTIAL RADIOACTIVE <DOT LIMITS

Special Handling and/or Storage

COOL 4C

Preservation	Cool4C	None	None								
Type of Container	G/P	Poly Bag	Poly Bag								
No. of Container(s)	2 2-12-06	1	1								
Volume	1000g	3000g	19000g								
SAMPLE ANALYSIS	See item (1) in Special Instructions.	Sediment Invertebrate Toxicity ASTM E1706	Sediment Phytotoxicity EEDP-04-11								
Sample No.	Matrix *	Sample Date	Sample Time								
J112B7	OTHER SOLID	2-12-06	1200	X	X	X					

CHAIN OF POSSESSION	Sign/Print Names	Date/Time	Received By/Stored In	Date/Time
Relinquished By/Removed From JAMES BERNHARD		2-12-06 1900	EAS LOCKED STORAGE	2-12-06 1900
Relinquished By/Removed From EAS LOCKED STORAGE		02-13-06 0745	RZ Steffler	2-13-06 0745
Relinquished By/Removed From RZ Steffler		2-13-06 1500	Fed Ex	
Relinquished By/Removed From Fed-X			Received By/Stored In	2-14-06
Relinquished By/Removed From			Received By/Stored In	
Relinquished By/Removed From			Received By/Stored In	

SPECIAL INSTRUCTIONS

(1) IC Anions - 300.0; Ammonia - 350.3; pH(Soil) - 9045; TOC - 9060; Moisture Content - D2216; Nitrogen by Kjeldahl - 351.2; Particle Size (Dry Sieve) - D422

Cooler temp for Chemical analysis = 1.4 °C

B1538-07 Hydrella

B1539-07 Nutsedge/Pickerelweed

Custody seals intact

F1192-03

Matrix *

S=Soil
SE=Sediment
SO=Solid
SL=Sludge
W=Water
O=Oil
A=Air
DS=Drum Solids
DL=Drum Liquids
T=Tissue
WI=Wipe
L=Liquid
V=Vegetation
X=Other

LABORATORY SECTION	Received By	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

BHI-EE-011 (08/29/2005)

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-047-51	Page 1 of 1

Collector TILLER JAMES BERNHARD	Company Contact JOAN KESSNER	Telephone No. 375-4688	Project Coordinator KESSNER, JH	Price Code 9N	Data Turnaround 21 Days
Project Designation 100 & 300 Area Component of the RCBRA Sediment and Ti	Sampling Location REF / SEDIMENT		SAF No. RC-047	Air Quality ☐	
Ice Chest No. ERC-96-012	Field Logbook No. EL-1597	COA BESRAS6520	Method of Shipment GROUND TRANSPORT		
Shipped To CH2MHILL	Offsite Property No. A060151		Bill of Lading/Air Bill No. SEE OSPC		

POSSIBLE SAMPLE HAZARDS/REMARKS

POTENTIAL RADIOACTIVE <DOT LIMITS

Special Handling and/or Storage

COOL 4C

Preservation	Cool 4C	None	None								
Type of Container	G/P	P/G	P/G								
No. of Container(s)	2 DEB 2-9-06	1	1								
Volume	1000g	3000g	19000g								
SAMPLE ANALYSIS	See item (1) in Special Instructions.	Sediment Invertebrate Toxicity ASTM E1706	Sediment Phytotoxicity EEDP-04-11								

Sample No.	Matrix *	Sample Date	Sample Time										
J116N2	OTHER SOLID	2-9-06	1445	X	X	X							

CHAIN OF POSSESSION — **Sign/Print Names**

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
RC JAMES BERNHARD	1830 2-9-06	RC EAS LOCKED STORAGE	1830 2-9-06
EAS LOCKED STORAGE	0745 02-13-06	RC Stoffler R.J. Stoffler	0745 2-13-06
RC Stoffler R.J. Stoffler	1500 WCH 2-13-06	Fed Ex	
Fed-X		Mike Stanaway	2-14-06 1100

SPECIAL INSTRUCTIONS

(1) IC Anions - 300.0; Ammonia - 350.3; pH (Soil) - 9045; TOC - 9060; Moisture Content - D2216; Nitrogen by Kjeldahl - 351.2; Particle Size (Dry Sieve) - D422

B1538-08 MS Hydrolla
B1539-08 MS Nuttsedge/P.xcha
custody seals intact
F1192-04

Matrix *

S=Soil
SE=Sediment
SO=Solid
SL=Sludge
W=Water
O=Oil
A=Air
DS=Drum Solids
DL=Drum Liquids
T=Tissue
Wi=Wipe
L=Liquid
V=Vegetation
X=Other

LABORATORY SECTION	Received By	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

BHI-EE-011 (08/29/2005)

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-047-43	Page 1 of 1

Collector TILLER JAMES BERNHARD	Company Contact JOAN KESSNER	Telephone No. 375-4688	Project Coordinator KESSNER, JH	Price Code 9N	Data Turnaround 21 Days
Project Designation 100 & 300 Area Component of the RCBRA Sediment and Ti	Sampling Location Cr9 SEDIMENT		SAF No. RC-047	Air Quality ☐	
Ice Chest No. AFS-04-034	Field Logbook No. EL-1597	COA BESRAS6520	Method of Shipment GROUND TRANSPORT		
Shipped To CH2MHILL	Offsite Property No. A060151		Bill of Lading/Air Bill No. SEE OSPC		

POSSIBLE SAMPLE HAZARDS/REMARKS

POTENTIAL RADIOACTIVE <DOT LIMITS

Special Handling and/or Storage

~~COOL 4C~~ RES 2-13-06
Cool 4°C

Preservation	Cool 4C	None	None								
Type of Container	G/P	P/G	P/G								
No. of Container(s)	SEB x 2 2-12-06	1	1								
Volume	1000g	3000g	19000g								
SAMPLE ANALYSIS	See item (1) in Special Instructions.	Sediment Invertebrate Toxicity ASTM E1706	Sediment Phytotoxicity EEDP-04-11								

Sample No.	Matrix *	Sample Date	Sample Time										
J116M4	OTHER SOLID	2-12-06	1400	X	X	X							

CHAIN OF POSSESSION	Sign/Print Names	
Relinquished By/Removed From JAMES BERNHARD	Date/Time 1900 2-12-06	Received By/Stored In EAS LOCKED STORAGE	Date/Time 1900 2-12-06
Relinquished By/Removed From EAS LOCKED STORAGE	Date/Time 0745 02-13-06	Received By/Stored In R2 Steffler R.2. Steffler	Date/Time 0745 2-13-06
Relinquished By/Removed From R2 Steffler R.2. Steffler	Date/Time 1500 with 2-13-06	Received By/Stored In Fed Ex	Date/Time //
Relinquished By/Removed From Fed-X	Date/Time //	Received By/Stored In Mike Stanaway	Date/Time 2-14-06 1100
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time

SPECIAL INSTRUCTIONS — Cooler Temp = 1.4°C

(1) IC Anions - 300.0; Ammonia - 350.3; pH (Soil) - 9045; TOC - 9060; Moisture Content - D2216; Nitrogen by Kjeldahl - 351.2; Particle Size (Dry Sieve) - D422

B1538-09 ns Hydrella
B1539-09 Nutsedge/Pickerelweed
Custody seals intact

F1192-05

Matrix *
S=Soil
SE=Sediment
SO=Solid
Sl=Sludge
W = Water
O=Oil
A=Air
DS=Drum Solids
DL=Drum Liquids
T=Tissue
Wi=Wipe
L=Liquid
V=Vegetation
X=Other

LABORATORY SECTION	Received By	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

BHI-EE-011 (08/29/2005)

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-047-49	Page 1 of 1

Collector TILLER JAMES BERNHARD	Company Contact JOAN KESSNER	Telephone No. 375-4688	Project Coordinator KESSNER, JH	Price Code 9N	Data Turnaround 21 Days
Project Designation 100 & 300 Area Component of the RCBRA Sediment and Ti	Sampling Location REF/14, SEDIMENT		SAF No. RC-047	Air Quality ☐	
Ice Chest No. ERC-96-058	Field Logbook No. EL-1597	COA BESRAS6520	Method of Shipment GROUND TRANSPORT		
Shipped To CH2MHILL	Offsite Property No. A060151		Bill of Lading/Air Bill No. SEE OSPC		

POSSIBLE SAMPLE HAZARDS/REMARKS

POTENTIAL RADIOACTIVE <DOT LIMITS

Special Handling and/or Storage

COOL 4C

Preservation	Cool4C	None	None								
Type of Container	G/P	P/G	P/G								
No. of Container(s)	~~1~~ 2 SEC 2-9-06	1	1								
Volume	1000g	3000g	19000g								
SAMPLE ANALYSIS	See item (1) in Special Instructions	Sediment Invertebrate Toxicity ASTM E1706	Sediment Phytotoxicity EEDP-04-11								

Sample No.	Matrix *	Sample Date	Sample Time										
J116N0	OTHER SOLID	2-9-06	1230	X	X	X							

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By/Removed From JAMES BERNHARD	Date/Time 1830 2-9-06	Received By/Stored In EAS LOCKED STORAGE	Date/Time 1830 2-9-06
Relinquished By/Removed From EAS LOCKED STORAGE	Date/Time 0745 02-13-06	Received By/Stored In RZ Stoffler R.Z. Stoffler	Date/Time 0745 2-13-06
Relinquished By/Removed From RZ Stoffler R.Z. Stoffler	Date/Time 1500 2-13-06	Received By/Stored In Fed Ex	Date/Time
Relinquished By/Removed From Fed Ex	Date/Time	Received By/Stored In Brett Mullins	Date/Time 1300 2-14-06
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time

SPECIAL INSTRUCTIONS

(1) IC Anions - 300.0; Ammonia - 350.3; pH (Soil) - 9045; TOC - 9060; Moisture Content - D2216; Nitrogen by Kjeldahl - 351.2; Particle Size (Dry Sieve) - D422

B1538-10

B1539-10

COC seals intact

F1192-06

Matrix *

S=Soil
SE=Sediment
SO=Solid
Sl=Sludge
W = Water
O=Oil
A=Air
DS=Drum Solids
DL=Drum Liquids
T=Tissue
Wi=Wipe
L=Liquid
V=Vegetation
X=Other

LABORATORY SECTION	Received By	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

BHI-EE-011 (08/29/2005)

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-047-97	Page 1 of 1

Collector: TILLER JAMES BERNHARD	Company Contact: JOAN KESSNER	Telephone No.: 375-4688	Project Coordinator: KESSNER, JH
Price Code: 9N	Data Turnaround: 21 Days		
Project Designation: 100 & 300 Area Component of the RCBRA Sediment and Ti	Sampling Location: REF 11, SEDIMENT FULL QC	SAF No.: RC-047	Air Quality ☐
Ice Chest No.: ERC-96-058	Field Logbook No.: EL-1597	COA: BESRAS6520	Method of Shipment: GROUND TRANSPORT
Shipped To: CH2MHILL	Offsite Property No.: A060151		Bill of Lading/Air Bill No.: SEE OSPC

POSSIBLE SAMPLE HAZARDS/REMARKS

POTENTIAL RADIOACTIVE <DOT LIMITS

Special Handling and/or Storage

COOL 4C

Preservation	Cool 4C	None	None								
Type of Container	G/P	P/G	P/G								
No. of Container(s)	x2 SEE 2-9-06	1	1								
Volume	1000g	3000g	19000g								
SAMPLE ANALYSIS	See item (1) in Special Instructions	Sediment Invertebrate Toxicity ASTM E1706	Sediment Phytotoxicity EEDP-04-11								

Sample No.	Matrix *	Sample Date	Sample Time										
J11731	OTHER SOLID	2-9-06	1600	X	X	X							

CHAIN OF POSSESSION	Date/Time	Sign/Print Names: Received By/Stored In	Date/Time
Relinquished By/Removed From: JAMES BERNHARD	1830 2-9-06	EAS LOCKED STORAGE	1830 2-9-06
Relinquished By/Removed From: EAS LOCKED STORAGE	0745 02-13-06	RZ Stoffler R.Z. Stoffler	0745 2-13-06
Relinquished By/Removed From: RZ Stoffler R.Z. Stoffler	1500 2-13-06	Fed Ex	
Relinquished By/Removed From: Fed Ex		Brett Mulkey BRETT Mulkey	1700 2-14-06
Relinquished By/Removed From		Received By/Stored In	
Relinquished By/Removed From		Received By/Stored In	

SPECIAL INSTRUCTIONS

(1) IC Anions - 300.0; Ammonia - 350.3; pH (Soil) - 9045; TOC - 9060; Moisture Content - D2216; Nitrogen by Kjeldahl - 351.2; Particle Size (Dry Sieve) - D422

B1539-11

B1539-11

COC seals intact

F1192-07

Matrix *

S=Soil
SE=Sediment
SO=Solid
Sl=Sludge
W=Water
O=Oil
A=Air
DS=Drum Solids
DL=Drum Liquids
T=Tissue
Wi=Wipe
Li=Liquid
Ve=Vegetation
X=Other

LABORATORY SECTION	Received By	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

BHI-EE-011 (08/29/2005)

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-047-44	Page 1 of 1
Collector TILLER JAMES BERNHARD	Company Contact JOAN KESSNER / Telephone No. 375-4688	Project Coordinator KESSNER, JH	Price Code 9N / Data Turnaround 21 Days
Project Designation 100 & 300 Area Component of the RCBRA Sediment and Ti	Sampling Location Cr/oSEDIMENT	SAF No. RC-047	Air Quality ☐
Ice Chest No. ERC-02-501	Field Logbook No. EL-1597 / COA BESRAS6520	Method of Shipment GROUND TRANSPORT	
Shipped To CH2MHILL	Offsite Property No. A060151	Bill of Lading/Air Bill No. SEE OSPC	

POSSIBLE SAMPLE HAZARDS/REMARKS

POTENTIAL RADIOACTIVE <DOT LIMITS

Special Handling and/or Storage

COOL 4C

Preservation	Cool 4C	None	None								
Type of Container	G/P	P/G	P/G								
No. of Container(s)	~~1~~ 2 2-12-06	1	1								
Volume	1000g	3000g	19000g								
SAMPLE ANALYSIS	See item (1) in Special Instructions.	Sediment Invertebrate Toxicity ASTM E1706	Sediment Phytotoxicity EEDP-04-11								

Sample No.	Matrix *	Sample Date	Sample Time										
J116M5	OTHER SOLID	2-12-06	1530	X	X	X							

CHAIN OF POSSESSION — **Sign/Print Names**

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
JAMES BERNHARD	2-12-06 1600	EAS LOCKED STORAGE	2-12-06 1600
EAS LOCKED STORAGE	02-13-06 0745	RZ Stoffler	2-13-06 0745
RZ Stoffler	2-13-06 1500	Fed Ex	
Fed Ex		Brett Muckey	2-14-06 1300

SPECIAL INSTRUCTIONS

(1) IC Anions - 300.0; Ammonia - 350.3; pH (Soil) - 9045; TOC - 9060; Moisture Content - D2216; Nitrogen by Kjeldahl - 351.2; Particle Size (Dry Sieve) - D422

B1538-12

B1539-12

COC seals intact

F1192-08

Matrix *

S=Soil
SE=Sediment
SO=Solid
Sl=Sludge
W = Water
O=Oil
A=Air
DS=Drum Solids
DL=Drum Liquids
T=Tissue
Wi=Wipe
L=Liquid
V=Vegetation
X=Other

LABORATORY SECTION	Received By	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

BHI-EE-011 (08/29/2005)

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-047-47	Page 1 of 1

Collector TILLER JAMES BERNHARD	Company Contact JOAN KESSNER	Telephone No. 375-4688	Project Coordinator KESSNER, JH	Price Code 9N	Data Turnaround 21 Days
Project Designation 100 & 300 Area Component of the RCBRA Sediment and Ti	Sampling Location Cr6 SEDIMENT FULL QC		SAF No. RC-047	Air Quality ☐	
Ice Chest No. ERC-02-501	Field Logbook No. EL-1597	COA BESRAS6520	Method of Shipment GROUND TRANSPORT		
Shipped To CH2MHILL	Offsite Property No. A060151		Bill of Lading/Air Bill No. SEE OSPC		

POSSIBLE SAMPLE HAZARDS/REMARKS
POTENTIAL RADIOACTIVE <DOT LIMITS

Special Handling and/or Storage
COOL 4C

Preservation	Cool 4C	None	None								
Type of Container	G/P	P/G	P/G								
No. of Container(s)	5 EL 2-12-06	1	1								
Volume	1000g	3000g	19000g								
SAMPLE ANALYSIS	See item (1) in Special Instructions.	Sediment Invertebrate Toxicity ASTM E1706	Sediment Phytotoxicity EEDP-04-11								

Sample No.	Matrix *	Sample Date	Sample Time										
J116M8	OTHER SOLID	2-12-06	1315	X	X	X							

CHAIN OF POSSESSION	Sign/Print Names	
Relinquished By/Removed From JAMES BERNHARD	Date/Time 1900 2-12-06	Received By/Stored In EAS LOCKED STORAGE — Date/Time 1900 2-12-06
Relinquished By/Removed From EAS LOCKED STORAGE	Date/Time 0745 02-13-06	Received By/Stored In RZ Stoffler — Date/Time 0745 2-13-06
Relinquished By/Removed From RZ Stoffler	Date/Time 1500 2-13-06	Received By/Stored In Fed Ex — Date/Time
Relinquished By/Removed From Fed Ex	Date/Time	Received By/Stored In — Date/Time 1300 2-14-06
Relinquished By/Removed From	Date/Time	Received By/Stored In — Date/Time
Relinquished By/Removed From	Date/Time	Received By/Stored In — Date/Time

SPECIAL INSTRUCTIONS

(1) IC Anions - 300.0; Ammonia - 350.3; pH (Soil) - 9045; TOC - 9060; Moisture Content - D2216; Nitrogen by Kjeldahl - 351.2; Particle Size (Dry Sieve) - D422

B1538 - 13
B1539 - 13
COC seals intact

F1192-09

Matrix *
S=Soil
SE=Sediment
SO=Solid
Sl=Sludge
W = Water
O=Oil
A=Air
DS=Drum Solids
DL=Drum Liquids
T=Tissue
Wi=Wipe
L=Liquid
V=Vegetation
X=Other

LABORATORY SECTION	Received By	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

BHI-EE-011 (08/29/2005)

From: Origin ID: (509)376-7768
SHIPPING DEPT
FLUOR HANFORD
2355 STEVENS DR BLDG 1162

RICHLAND, WA 99352

FedEx Express

CLS012206/14/18

Ship Date: 13FEB06
ActWgt: 72 LB
System#: 5851986/INET2400
Account#: S *********

REF: A060151

Delivery Address Bar Code

SHIP TO: (541)768-3127 BILL THIRD PARTY

LIZ TEPPER
CH2M HILL
APPLIED SCIENCE LABORATORY
2300 NW WALNUT BLVD.
CORVALLIS, OR 97339

PRIORITY OVERNIGHT

TUE
Deliver By:
14FEB06

TRK# 7913 7159 9081 FORM 0201

PDX AA

97339 -OR-US

86 CVOA

Shipping Label

View all labels

Place label in shipping label pouch and affix it to your shipment so that the barcode portion of the label can be read and scanned.

Warning: Use only the printed original label for shipping. Using a photocopy of this label for shipping purposes is fraudulent and could result in additional billing charges, along with the cancellation of your FedEx account number.

Use of this system constitutes your agreement to the service conditions in the current FedEx Service Guide, available on fedex.com. FedEx will not be responsible for any claim in excess of $100 per package, whether the result of loss, damage, delay, non-delivery, misdelivery, or misinformation, unless you declare a higher value, pay an additional charge, document your actual loss and file a timely claim. Limitations found in the current FedEx Service Guide apply. Your right to recover from FedEx for any loss, including intrinsic value of the package, loss of sales, income interest, profit, attorney's fees, costs, and other forms of damage whether direct, incidental, consequential, or special is limited to the greater of $100 or the authorized declared value. Recovery cannot exceed actual documented loss. Maximum for items of extraordinary value is $500, e.g. jewelry, precious metals, negotiable instruments and other items listed in our Service Guide. Written claims must be filed within strict time limits, see current FedEx Service Guide.

B1538-05-13 & B1539-05-13

From: Origin ID: (509)376-7768
SHIPPING DEPT
FLUOR HANFORD
2355 STEVENS DR BLDG 1162

RICHLAND, WA 99352

FedEx Express

CLS812206/14/11

Ship Date: 13FEB06
ActWgt: 76 LB
System#: 5851986/INET2400
Account#: S *********

REF: A060151

Delivery Address Bar Code

SHIPTO: (541)768-3127 BILL THIRD PARTY

LIZ TEPPER
CH2M HILL
APPLIED SCIENCE LABORATORY
2300 NW WALNUT BLVD.
CORVALLIS, OR 97339

PRIORITY OVERNIGHT

TUE
Deliver By:
14FEB06

TRK# 7903 2014 0379 FORM 0201

PDX AA

97339 -OR-US

86 CVOA

Shipping Label

View all labels

Place label in shipping label pouch and affix it to your shipment so that the barcode portion of the label ~~can be read and~~ scanned.

Warning: Use only the printed original label for shipping. Using a photocopy of this label for shipping purposes is fraudulent and could result in additional billing charges, along with the cancellation of your FedEx account number.

Use of this system constitutes your agreement to the service conditions in the current FedEx Service Guide, available on fedex.com. FedEx will not be responsible for any claim in excess of $100 per package, whether the result of loss, damage, delay, non-delivery, misdelivery, or misinformation, unless you declare a higher value, pay an additional charge, document your actual loss and file a timely claim. Limitations found in the current FedEx Service Guide apply. Your right to recover from FedEx for any loss, including intrinsic value of the package, loss of sales, income interest, profit, attorney's fees, costs, and other forms of damage whether direct, incidental, consequential, or special is limited to the greater of $100 or the authorized declared value. Recovery cannot exceed actual documented loss. Maximum for items of extraordinary value is $500, e.g. jewelry, precious metals, negotiable instruments and other items listed in our Service Guide. Written claims must be filed within strict time limits, see current FedEx Service Guide.

B1539 & B1558-05-13

From: Origin ID: (509)376-7768
SHIPPING DEPT
FLUOR HANFORD
2355 STEVENS DR BLDG 1162

RICHLAND, WA 99352

FedEx Express

CLS#12206/14/18

Ship Date: 13FEB06
ActWgt: 26 LB
System#: 5851986/INET2400
Account#: S ********

REF: A060151

Delivery Address Bar Code

SHIP TO: (541)768-3127 BILL THIRD PARTY

LIZ TEPPER
CH2M HILL
APPLIED SCIENCE LABORATORY
2300 NW WALNUT BLVD.
CORVALLIS, OR 97339

PRIORITY OVERNIGHT

TUE
Deliver By:
14FEB06

TRK# 7913 7159 9059 FORM 0201

PDX AA

97339 -OR-US

86 CVOA

Shipping Label

View all labels

Place label in shipping label pouch and affix it to your shipment so that the barcode portion of the label can be read and scanned.

Warning: Use only the printed original label for shipping. Using a photocopy of this label for shipping purposes is fraudulent and could result in additional billing charges, along with the cancellation of your FedEx account number.

Use of this system constitutes your agreement to the service conditions in the current FedEx Service Guide, available on fedex.com. FedEx will not be responsible for any claim in excess of $100 per package, whether the result of loss, damage, delay, non-delivery, misdelivery, or misinformation, unless you declare a higher value, pay an additional charge, document your actual loss and file a timely claim. Limitations found in the current FedEx Service Guide apply. Your right to recover from FedEx for any loss, including intrinsic value of the package, loss of sales, income interest, profit, attorney's fees, costs, and other forms of damage whether direct, incidental, consequential, or special is limited to the greater of $100 or the authorized declared value. Recovery cannot exceed actual documented loss. Maximum for items of extraordinary value is $500, e.g. jewelry, precious metals, negotiable instruments and other items listed in our Service Guide. Written claims must be filed within strict time limits, see current FedEx Service Guide.

B1538 & B1539 - 05-13

From: Origin ID: (509)376-7768
SHIPPING DEPT
FLUOR HANFORD
2355 STEVENS DR BLDG 1162

RICHLAND, WA 99352

FedEx Express

CLS412266/14/10

Ship Date: 13FEB06
ActWgt: 95 LB
System#: 5851986/INET2400
Account#: S *********

REF: A060151

Delivery Address Bar Code

SHIP TO: (541)768-3127 BILL THIRD PARTY

LIZ TEPPER
CH2M HILL
APPLIED SCIENCE LABORATORY
2300 NW WALNUT BLVD.
CORVALLIS, OR 97339

PRIORITY OVERNIGHT

TUE
Deliver By:
14FEB06

TRK# 7903 2014 0368 FORM 0201

PDX AA

97339 -OR-US

86 CVOA

Shipping Label

View all labels

Place label in shipping label pouch and affix it to your shipment so that the barcode portion of the label ~~can be read and~~ scanned.

Warning: Use only the printed original label for shipping. Using a photocopy of this label for shipping purposes is fraudulent and could result in additional billing charges, along with the cancellation of your FedEx account number.

Use of this system constitutes your agreement to the service conditions in the current FedEx Service Guide, available on fedex.com. FedEx will not be responsible for any claim in excess of $100 per package, whether the result of loss, damage, delay, non-delivery, misdelivery, or misinformation, unless you declare a higher value, pay an additional charge, document your actual loss and file a timely claim. Limitations found in the current FedEx Service Guide apply. Your right to recover from FedEx for any loss, including intrinsic value of the package, loss of sales, income interest, profit, attorney's fees, costs, and other forms of damage whether direct, incidental, consequential, or special is limited to the greater of $100 or the authorized declared value. Recovery cannot exceed actual documented loss. Maximum for items of extraordinary value is $500, e.g. jewelry, precious metals, negotiable instruments and other items listed in our Service Guide. Written claims must be filed within strict time limits, see current FedEx Service Guide.

B1538 & B1539 - 05 - 13

From: Origin ID: (509)376-7768
SHIPPING DEPT
FLUOR HANFORD
2355 STEVENS DR BLDG 1162

RICHLAND, WA 99352

FedEx Express

CLS812206/14/10

Ship Date: 13FEB06
ActWgt: 78 LB
System#: 5851986/INET2400
Account#: S *********

REF: A060151

Delivery Address Bar Code

SHIP TO: (541)768-3127 BILL THIRD PARTY

LIZ TEPPER
CH2M HILL
APPLIED SCIENCE LABORATORY
2300 NW WALNUT BLVD.
CORVALLIS, OR 97339

PRIORITY OVERNIGHT

TUE
Deliver By:
14FEB06

TRK# 7913 7159 9070 FORM 0201

PDX AA

97339 -OR-US

86 CVOA

Shipping Label

View all labels

Place label in shipping label pouch and affix it to your shipment so that the barcode portion of the label ~~can be read and~~ scanned.

Warning: Use only the printed original label for shipping. Using a photocopy of this label for shipping purposes is fraudulent and could result in additional billing charges, along with the cancellation of your FedEx account number.

Use of this system constitutes your agreement to the service conditions in the current FedEx Service Guide, available on fedex.com. FedEx will not be responsible for any claim in excess of $100 per package, whether the result of loss, damage, delay, non-delivery, misdelivery, or misinformation, unless you declare a higher value, pay an additional charge, document your actual loss and file a timely claim. Limitations found in the current FedEx Service Guide apply. Your right to recover from FedEx for any loss, including intrinsic value of the package, loss of sales, income interest, profit, attorney's fees, costs, and other forms of damage whether direct, incidental, consequential, or special is limited to the greater of $100 or the authorized declared value. Recovery cannot exceed actual documented loss. Maximum for items of extraordinary value is $500, e.g. jewelry, precious metals, negotiable instruments and other items listed in our Service Guide. Written claims must be filed within strict time limits, see current FedEx Service Guide.

B1538 & B1539 - 05 - 13

From: Origin ID: (509)376-7768
SHIPPING DEPT
FLUOR HANFORD
2355 STEVENS DR BLDG 1162

RICHLAND, WA 99352

FedEx Express

CLS012206/1/18

Ship Date: 13FEB06
ActWgt: 88 LB
System#: 5851986/INET2400
Account#: S *********

REF: A060151

Delivery Address Bar Code

SHIP TO: (541)768-3127 BILL THIRD PARTY

LIZ TEPPER
CH2M HILL
APPLIED SCIENCE LABORATORY
2300 NW WALNUT BLVD.
CORVALLIS, OR 97339

PRIORITY OVERNIGHT

TUE
Deliver By:
14FEB06

TRK# 7903 2014 0390 FORM 0201

PDX AA

97339 -OR-US

86 CVOA

Shipping Label

View all labels

Place label in shipping label pouch and affix it to your shipment so that the barcode portion of the label can be read and scanned.

Warning: Use only the printed original label for shipping. Using a photocopy of this label for shipping purposes is fraudulent and could result in additional billing charges, along with the cancellation of your FedEx account number.

Use of this system constitutes your agreement to the service conditions in the current FedEx Service Guide, available on fedex.com. FedEx will not be responsible for any claim in excess of $100 per package, whether the result of loss, damage, delay, non-delivery, misdelivery, or misinformation, unless you declare a higher value, pay an additional charge, document your actual loss and file a timely claim. Limitations found in the current FedEx Service Guide apply. Your right to recover from FedEx for any loss, including intrinsic value of the package, loss of sales, income interest, profit, attorney's fees, costs, and other forms of damage whether direct, incidental, consequential, or special is limited to the greater of $100 or the authorized declared value. Recovery cannot exceed actual documented loss. Maximum for items of extraordinary value is $500, e.g. jewelry, precious metals, negotiable instruments and other items listed in our Service Guide. Written claims must be filed within strict time limits, see current FedEx Service Guide.

B 1538 & B 1539 - 05 - 13