



**USACE ERDC-EP-C**  
**3909 Halls Ferry Road**  
**Vicksburg, MS 39180-6199**

16 June 2014

Danny Harrelson  
ERDC - Vicksburg (GSL)  
3909 Halls Ferry Road  
Vicksburg, MS 3910  
RE: Makau Military Res Oahu

Enclosed are the results of analyses for samples received by the laboratory on 28-May-2014. The samples associated with this report will be held for 90 days from the date of this report. The raw data associated with this report will be held for 5 years from the date of this report. If you need us to hold onto the samples or the data longer than these specified times, you will need to notify us in writing at least 30 days before the expiration dates. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Michael Catt For Allyson Holman  
Biologist



**USACE ERDC-EP-C**  
**3909 Halls Ferry Road**  
**Vicksburg, MS 39180-6199**

ERDC - Vicksburg (GSL)  
3909 Halls Ferry Road  
Vicksburg MS, 3910

Project: Makau Military Res Oahu

Project Manager: Danny Harrelson

**Reported:**  
16-Jun-2014

**WORK ORDER SUMMARY**

Sample ID	Laboratory ID	Matrix	Date Sampled	Date of Work Order
MAK116L	4052803-01	Tissue	31-Jan-2014	28-May-2014
MAK117L	4052803-02	Tissue	31-Jan-2014	28-May-2014
MAK118L	4052803-03	Tissue	31-Jan-2014	28-May-2014
MAK130L	4052803-04	Tissue	27-Mar-2014	28-May-2014
MAK132L	4052803-05	Tissue	28-Mar-2014	28-May-2014
MAK134L	4052803-06	Tissue	28-Mar-2014	28-May-2014
MAK135L	4052803-07	Tissue	28-Mar-2014	28-May-2014
MAK138L	4052803-08	Tissue	28-Mar-2014	28-May-2014



**USACE ERDC-EP-C**  
**3909 Halls Ferry Road**  
**Vicksburg, MS 39180-6199**

ERDC - Vicksburg (GSL)  
3909 Halls Ferry Road  
Vicksburg MS, 3910

Project: Makau Military Res Oahu

Project Manager: Danny Harrelson

**Reported:**  
16-Jun-2014

### **Case Narrative**

No issues were experienced during the analysis of Work Order 4052803 unless specified below.



**USACE ERDC-EP-C**  
**3909 Halls Ferry Road**  
**Vicksburg, MS 39180-6199**

ERDC - Vicksburg (GSL)  
3909 Halls Ferry Road  
Vicksburg MS, 3910

Project: Makau Military Res Oahu

Project Manager: Danny Harrelson

**Reported:**  
16-Jun-2014

**Notes and Definitions**

DET      Analyte DETECTED  
ND      Analyte NOT DETECTED at or above the reporting limit  
NR      Not Reported  
dry      Sample results reported on a dry weight basis  
RPD      Relative Percent Difference



**USACE ERDC-EP-C**  
**3909 Halls Ferry Road**  
**Vicksburg, MS 39180-6199**

ERDC - Vicksburg (GSL)  
3909 Halls Ferry Road  
Vicksburg MS, 3910

Project: Makau Military Res Oahu

Project Manager: Danny Harrelson

**Reported:**  
16-Jun-2014

**MAK116L**

**4052803-01 (Tissue)**

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Notes
---------	--------	-----------------	-----------------	-------	----------	----------	----------	--------	-------

**ERDC- EL-EP-C (Environmental Chemistry Branch)**

**Explosive Compounds by EPA Method 8330**

2,4-Dinitrotoluene	ND	0.020	0.200	mg/kg		23-May-2014	09-Jun-2014	EPA 8330	
--------------------	----	-------	-------	-------	--	-------------	-------------	----------	--



**USACE ERDC-EP-C**  
**3909 Halls Ferry Road**  
**Vicksburg, MS 39180-6199**

ERDC - Vicksburg (GSL)  
3909 Halls Ferry Road  
Vicksburg MS, 3910

Project: Makau Military Res Oahu

Project Manager: Danny Harrelson

**Reported:**  
16-Jun-2014

**MAK117L**

**4052803-02 (Tissue)**

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Notes
---------	--------	-----------------	-----------------	-------	----------	----------	----------	--------	-------

**ERDC- EL-EP-C (Environmental Chemistry Branch)**

**Explosive Compounds by EPA Method 8330**

2,4-Dinitrotoluene	ND	0.020	0.200	mg/kg		23-May-2014	09-Jun-2014	EPA 8330	
--------------------	----	-------	-------	-------	--	-------------	-------------	----------	--



**USACE ERDC-EP-C**  
**3909 Halls Ferry Road**  
**Vicksburg, MS 39180-6199**

ERDC - Vicksburg (GSL)  
3909 Halls Ferry Road  
Vicksburg MS, 3910

Project: Makau Military Res Oahu

Project Manager: Danny Harrelson

**Reported:**  
16-Jun-2014

**MAK118L**

**4052803-03 (Tissue)**

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Notes
---------	--------	-----------------	-----------------	-------	----------	----------	----------	--------	-------

**ERDC- EL-EP-C (Environmental Chemistry Branch)**

**Explosive Compounds by EPA Method 8330**

2,4-Dinitrotoluene	ND	0.020	0.200	mg/kg		23-May-2014	09-Jun-2014	EPA 8330	
--------------------	----	-------	-------	-------	--	-------------	-------------	----------	--



**USACE ERDC-EP-C**  
**3909 Halls Ferry Road**  
**Vicksburg, MS 39180-6199**

ERDC - Vicksburg (GSL)  
3909 Halls Ferry Road  
Vicksburg MS, 3910

Project: Makau Military Res Oahu

Project Manager: Danny Harrelson

**Reported:**  
16-Jun-2014

**MAK130L**

**4052803-04 (Tissue)**

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Notes
---------	--------	-----------------	-----------------	-------	----------	----------	----------	--------	-------

**ERDC- EL-EP-C (Environmental Chemistry Branch)**

**Explosive Compounds by EPA Method 8330**

2,4-Dinitrotoluene	ND	0.020	0.200	mg/kg		23-May-2014	09-Jun-2014	EPA 8330	
--------------------	----	-------	-------	-------	--	-------------	-------------	----------	--



**USACE ERDC-EP-C**  
**3909 Halls Ferry Road**  
**Vicksburg, MS 39180-6199**

ERDC - Vicksburg (GSL)  
3909 Halls Ferry Road  
Vicksburg MS, 3910

Project: Makau Military Res Oahu

Project Manager: Danny Harrelson

**Reported:**  
16-Jun-2014

**MAK132L**

**4052803-05 (Tissue)**

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Notes
---------	--------	-----------------	-----------------	-------	----------	----------	----------	--------	-------

**ERDC- EL-EP-C (Environmental Chemistry Branch)**

**Explosive Compounds by EPA Method 8330**

2,4-Dinitrotoluene	ND	0.020	0.200	mg/kg		23-May-2014	09-Jun-2014	EPA 8330	
--------------------	----	-------	-------	-------	--	-------------	-------------	----------	--



**USACE ERDC-EP-C**  
**3909 Halls Ferry Road**  
**Vicksburg, MS 39180-6199**

ERDC - Vicksburg (GSL)  
3909 Halls Ferry Road  
Vicksburg MS, 3910

Project: Makau Military Res Oahu

Project Manager: Danny Harrelson

**Reported:**  
16-Jun-2014

**MAK134L**

**4052803-06 (Tissue)**

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Notes
---------	--------	-----------------	-----------------	-------	----------	----------	----------	--------	-------

**ERDC- EL-EP-C (Environmental Chemistry Branch)**

**Explosive Compounds by EPA Method 8330**

2,4-Dinitrotoluene	ND	0.020	0.200	mg/kg		23-May-2014	09-Jun-2014	EPA 8330	
--------------------	----	-------	-------	-------	--	-------------	-------------	----------	--



**USACE ERDC-EP-C**  
**3909 Halls Ferry Road**  
**Vicksburg, MS 39180-6199**

ERDC - Vicksburg (GSL)  
3909 Halls Ferry Road  
Vicksburg MS, 3910

Project: Makau Military Res Oahu

Project Manager: Danny Harrelson

**Reported:**  
16-Jun-2014

**MAK135L**

**4052803-07 (Tissue)**

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Notes
---------	--------	-----------------	-----------------	-------	----------	----------	----------	--------	-------

**ERDC- EL-EP-C (Environmental Chemistry Branch)**

**Explosive Compounds by EPA Method 8330**

2,4-Dinitrotoluene	ND	0.020	0.200	mg/kg		23-May-2014	09-Jun-2014	EPA 8330	
--------------------	----	-------	-------	-------	--	-------------	-------------	----------	--



**USACE ERDC-EP-C**  
**3909 Halls Ferry Road**  
**Vicksburg, MS 39180-6199**

ERDC - Vicksburg (GSL)  
3909 Halls Ferry Road  
Vicksburg MS, 3910

Project: Makau Military Res Oahu

Project Manager: Danny Harrelson

**Reported:**  
16-Jun-2014

**MAK138L**

**4052803-08 (Tissue)**

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Notes
---------	--------	-----------------	-----------------	-------	----------	----------	----------	--------	-------

**ERDC- EL-EP-C (Environmental Chemistry Branch)**

**Explosive Compounds by EPA Method 8330**

2,4-Dinitrotoluene	ND	0.020	0.200	mg/kg		23-May-2014	09-Jun-2014	EPA 8330	
--------------------	----	-------	-------	-------	--	-------------	-------------	----------	--



**USACE ERDC-EP-C**  
**3909 Halls Ferry Road**  
**Vicksburg, MS 39180-6199**

ERDC - Vicksburg (GSL)  
 3909 Halls Ferry Road  
 Vicksburg MS, 3910

Project: Makau Military Res Oahu

Project Manager: Danny Harrelson

**Reported:**  
 16-Jun-2014

**Explosive Compounds by EPA Method 8330 - Quality Control**  
**ERDC- EL-EP-C (Environmental Chemistry Branch)**

Analyte	Detection Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	------------------	-----------------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-------

**Batch B406040 - Sonication (probe or bath)**

**Blank (B406040-BLK1)**

Prepared: 23-May-2014 Analyzed: 09-Jun-2014

2,4-Dinitrotoluene ND 0.020 0.200 mg/kg

**LCS (B406040-BS1)**

Prepared: 23-May-2014 Analyzed: 09-Jun-2014

2,4-Dinitrotoluene 3.75 0.020 0.200 mg/kg 4.000 93.8 60-135

**Matrix Spike (B406040-MS1)**

**Source: 4052803-04**

Prepared: 23-May-2014 Analyzed: 09-Jun-2014

2,4-Dinitrotoluene 3.41 0.020 0.200 mg/kg 4.000 ND 85.2 60-135

**Matrix Spike Dup (B406040-MSD1)**

**Source: 4052803-04**

Prepared: 23-May-2014 Analyzed: 09-Jun-2014

2,4-Dinitrotoluene 3.32 0.020 0.200 mg/kg 4.000 ND 83.1 60-135 2.57 30

# ARDL, Inc.

P.O. Box 1566, 400 Aviation Drive, Mt. Vernon, IL 62864  
 (618) 244-3235 Phone (618) 244-1149 Fax

## CHAIN OF CUSTODY RECORD

PROJECT		DATE		TIME	COMP	GRAB	NO. OF CONTAINERS		REMARKS OR SAMPLE LOCATION	PRESERVATION	
Makna Military Res.										ICED	SPECIFY CHEMICALS ADDED AND FINAL pH IF KNOWN
SAMPLERS: (Signature)											
Prep blank	-	-	-	-	-	-	1	1	x	2,4-DNT	
Spill blank	-	-	-	-	-	-	1	1	x		
0617-1 / MAK116L	1/31/14	0820	x	1	x					Limn	
-2 /	117L	0835	x	1	x					extracts	
-3 /	118L	0910	x	1	x						
0620-1 /	130L	3/27/14	x	1	x						
-1MS /	130LMS		x	1	x						
-1MSD /	130LMSD		x	1	x						
-2 /	132L	3/28/14	x	1	x						
-3 /	134L	0920	x	1	x						
-4 /	135L	1000	x	1	x						
-5 /	138L	1132	x	1	x						
Reinquired by: (Signature)		Date	Time	Received by: (Signature)						REMARKS/SPECIAL INSTRUCTIONS:	
<i>[Signature]</i>		5/27/14	1503	<i>[Signature]</i>						Please Anna for 2,4-DNT. Extract + STD in do a Handled.	
Reinquired by: (Signature)		Date	Time	Received by: (Signature)							
<i>[Signature]</i>				<i>[Signature]</i>							
Received for Laboratory by: (Signature)		Date	Time	Shipping Ticket No.							
<i>[Signature]</i>		5/24/14	1500								

PURCHASE ORDER NO: \_\_\_\_\_

COPIES: White & Yellow copies accompany sample shipment to laboratory.  
 Pink copy retained by sampler.

## Items for Project Manager Review

LabNumber

Analysis

Analyte

Exception

---