



ALS Environmental
ALS Group USA, Corp
1317 South 13th Avenue
Kelso, WA 98626
T: 1-360-577-7222
F: 1-360-636-1068
www.alsglobal.com

November 13, 2014

Analytical Report for Service Request No: K1411815

Brad Kwasnowski
Cardno TEC
1003 Bishop Street Suite 1550 Pauahi Tower
Honolulu, HI 96813

RE: Kaelepulu Pond/9682-28853

Dear Brad:

Enclosed are the results of the sample(s) submitted to our laboratory on October 22, 2014. For your reference, these analyses have been assigned our service request number **K1411815**.

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. The test results meet requirements of the current NELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP-accredited analytes, refer to the certifications section at www.alsglobal.com. All results are intended to be considered in their entirety, and ALS Environmental is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please contact me if you have any questions. My extension is 3363. You may also contact me via email at Lisa.Domenighini@alsglobal.com.

Respectfully submitted,

ALS Group USA Corp. dba ALS Environmental

Lisa Domenighini
Project Manager

Page 1 of 24

Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LOD	Limit of Detection
LOQ	Limit of Quantitation
LUFT	Leaking Underground Fuel Tank
M	Modified
MCL	Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
NA	Not Applicable
NC	Not Calculated
NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	Selected Ion Monitoring
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.

Inorganic Data Qualifiers

- * The result is an outlier. See case narrative.
- # The control limit criteria is not applicable. See case narrative.
- B The analyte was found in the associated method blank at a level that is significant relative to the sample result as defined by the DOD or NELAC standards.
- E The result is an estimate amount because the value exceeded the instrument calibration range.
- J The result is an estimated value.
- U The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
DOD-QSM 4.2 definition : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
- i The MRL/MDL or LOQ/LOD is elevated due to a matrix interference.
- X See case narrative.
- Q See case narrative. One or more quality control criteria was outside the limits.
- H The holding time for this test is immediately following sample collection. The samples were analyzed as soon as possible after receipt by the laboratory.

Metals Data Qualifiers

- # The control limit criteria is not applicable. See case narrative.
- J The result is an estimated value.
- E The percent difference for the serial dilution was greater than 10%, indicating a possible matrix interference in the sample.
- M The duplicate injection precision was not met.
- N The Matrix Spike sample recovery is not within control limits. See case narrative.
- S The reported value was determined by the Method of Standard Additions (MSA).
- U The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
DOD-QSM 4.2 definition : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
- W The post-digestion spike for furnace AA analysis is out of control limits, while sample absorbance is less than 50% of spike absorbance.
 - i The MRL/MDL or LOQ/LOD is elevated due to a matrix interference.
- X See case narrative.
- + The correlation coefficient for the MSA is less than 0.995.
- Q See case narrative. One or more quality control criteria was outside the limits.

Organic Data Qualifiers

- * The result is an outlier. See case narrative.
- # The control limit criteria is not applicable. See case narrative.
- A A tentatively identified compound, a suspected aldol-condensation product.
- B The analyte was found in the associated method blank at a level that is significant relative to the sample result as defined by the DOD or NELAC standards.
- C The analyte was qualitatively confirmed using GC/MS techniques, pattern recognition, or by comparing to historical data.
- D The reported result is from a dilution.
- E The result is an estimated value.
- J The result is an estimated value.
- N The result is presumptive. The analyte was tentatively identified, but a confirmation analysis was not performed.
- P The GC or HPLC confirmation criteria was exceeded. The relative percent difference is greater than 40% between the two analytical results.
- U The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
DOD-QSM 4.2 definition : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
 - i The MRL/MDL or LOQ/LOD is elevated due to a chromatographic interference.
- X See case narrative.
- Q See case narrative. One or more quality control criteria was outside the limits.

Additional Petroleum Hydrocarbon Specific Qualifiers

- F The chromatographic fingerprint of the sample matches the elution pattern of the calibration standard.
- L The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of lighter molecular weight constituents than the calibration standard.
- H The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of heavier molecular weight constituents than the calibration standard.
- O The chromatographic fingerprint of the sample resembles an oil, but does not match the calibration standard.
- Y The chromatographic fingerprint of the sample resembles a petroleum product eluting in approximately the correct carbon range, but the elution pattern does not match the calibration standard.
- Z The chromatographic fingerprint does not resemble a petroleum product.

**ALS Group USA Corp. dba ALS Environmental (ALS) - Kelso
State Certifications, Accreditations, and Licenses**

Agency	Web Site	Number
Alaska DEC UST	http://dec.alaska.gov/applications/eh/ehllabreports/USTLabs.aspx	UST-040
Arizona DHS	http://www.azdhs.gov/lab/license/env.htm	AZ0339
Arkansas - DEQ	http://www.adeq.state.ar.us/techsvs/labcert.htm	88-0637
California DHS (ELAP)	http://www.cdph.ca.gov/certlic/labs/Pages/ELAP.aspx	2795
DOD ELAP	http://www.denix.osd.mil/edqw/Accreditation/AccreditedLabs.cfm	L14-51
Florida DOH	http://www.doh.state.fl.us/lab/EnvLabCert/WaterCert.htm	E87412
Hawaii DOH	Not available	-
Idaho DHW	http://www.healthandwelfare.idaho.gov/Health/Labs/CertificationDrinkingWaterLabs/tabid/1833/Default.aspx	-
ISO 17025	http://www.pjllabs.com/	L14-50
Louisiana DEQ	http://www.deq.louisiana.gov/portal/DIVISIONS/PublicParticipationandPermitSupport/LouisianaLaboratoryAccreditationProgram.aspx	03016
Maine DHS	Not available	WA01276
Michigan DEQ	http://www.michigan.gov/deq/0,1607,7-135-3307_4131_4156---,00.html	9949
Minnesota DOH	http://www.health.state.mn.us/accreditation	053-999-457
Montana DPHHS	http://www.dphhs.mt.gov/publichealth/	CERT0047
Nevada DEP	http://ndep.nv.gov/bsdwlabservice.htm	WA01276
New Jersey DEP	http://www.nj.gov/dep/oqa/	WA005
North Carolina DWQ	http://www.dwqlab.org/	605
Oklahoma DEQ	http://www.deq.state.ok.us/CSDnew/labcert.htm	9801
Oregon – DEQ (NELAP)	http://public.health.oregon.gov/LaboratoryServices/EnvironmentalLaboratoryAccreditation/Pages/index.aspx	WA100010
South Carolina DHEC	http://www.scdhec.gov/environment/envserv/	61002
Texas CEQ	http://www.tceq.texas.gov/field/qa/env_lab_accreditation.html	T104704427
Washington DOE	http://www.ecy.wa.gov/programs/eap/labs/lab-accreditation.html	C544
Wisconsin DNR	http://dnr.wi.gov/	998386840
Wyoming (EPA Region 8)	http://www.epa.gov/region8/water/dwhome/wyomingdi.html	-
Kelso Laboratory Website	www.alsglobal.com	NA

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. A complete listing of specific NELAP-certified analytes, can be found in the certification section at www.ALSGlobal.com or at the accreditation bodies web site.
Please refer to the certification and/or accreditation body's web site if samples are submitted for compliance purposes. The states highlighted above, require the analysis be listed on the state certification if used for compliance purposes and if the method/analyte is offered by that state.



CHAIN OF CUSTODY
47408

001

K1411819

SR# _____
COC Set _____ of _____
COC# _____

1317 South 13th Ave, Kelso, WA 98626 Phone (360) 577-7222 / 800-695-7222 / FAX (360) 636-1068
www.alsglobal.com

Project Name Kaelepulu Pond		Project Number 9682 - 28853		NUMBER OF CONTAINERS	7D	28D															
Project Manager Brad Kwasnowski		Company Cardno TEC			SM 2540 D / TSS	350.1 / Ammonia T	353.2 / NO2 NO3 T	365.3 / Phos T	1	2	3	4	5	6							
Address 1003 Bishop Street #1550, Honolulu, HI 96813		Phone # 808-469-8997			email bdkwasnowski@tecinc.com																
Sampler Signature 		Sampler Printed Name Ben Berridge																			
CLIENT SAMPLE ID	LABID	SAMPLING Date	SAMPLING Time		Matrix																Remarks
1. Hamakua-1		10/18	18:15	W	2	X	X	X	X												
2. Hamakua-2		10/19	02:15	W	2	X	X	X	X												
3. Hamakua-3		10/19	06:15	W	2	X	X	X	X												
4. Hamakua-4		10/19	10:15	W	2	X	X	X	X												
5. Hamakua-5		10/19	14:15	W	2	X	X	X	X												
6. Hamakua-6		10/19	18:15	W	2	X	X	X	X												
7. Akipola-1		10/18	15:30	W	2	X	X	X	X												
8. Akipola-2		10/18	23:30	W	2	X	X	X	X												
9. Akipola-3		10/19	03:30	W	2	X	X	X	X												
10. Akipola-4		10/19	07:30	W	2	X	X	X	X												

Report Requirements <input type="checkbox"/> I. Routine Report: Method Blank, Surrogate, as required <input type="checkbox"/> II. Report Dup., MS, MSD as required <input type="checkbox"/> III. CLP Like Summary (no raw data) <input type="checkbox"/> IV. Data Validation Report <input type="checkbox"/> V. EDD	Invoice Information P.O.# _____ Bill To: _____ _____ _____	Circle which metals are to be analyzed _____
	Turnaround Requirements <input type="checkbox"/> 24 hr. <input type="checkbox"/> 48 hr. <input type="checkbox"/> 5 Day <input type="checkbox"/> Standard Requested Report Date _____	Special Instructions/Comments: _____ *Indicate State Hydrocarbon Procedure: AK CA WI Northwest Other _____ (Circle One)

Relinquished By: 	Received By: 	Relinquished By:	Received By:	Relinquished By:	Received By:
Signature Ben Berridge	Signature Bobbi Kell	Signature	Signature	Signature	Signature
Printed Name Cardno	Printed Name ALS	Printed Name	Printed Name	Printed Name	Printed Name
Firm 10/21 9:30	Firm 10/22/14 1000	Firm	Firm	Firm	Firm
Date/Time	Date/Time	Date/Time	Date/Time	Date/Time	Date/Time



CHAIN OF CUSTODY
47408

001

K1411815

1317 South 13th Ave, Kelso, WA 98626 Phone (360) 577-7222 / 800-695-7222 / FAX (360) 636-1068
www.alsglobal.com

SR# _____
COC Set _____ of _____
COC# _____

Project Name Kaelepulu Pond		Project Number 9682 - 28853		NUMBER OF CONTAINERS	7D		28D							Remarks
Project Manager Brad Kwasnowski					SM 2540 D / TSS	350.1 / Ammonia T	353.2 / NO2 NO3 T	365.3 / Phos T	1	2	3	4	5	
Company Cardno TEC									6					
Address 1003 Bishop Street #1550, Honolulu, HI 96813					360.1 / Ammonia T		353.2 / NO2 NO3 T							
Phone # 808-469-8997		email bdkwasnowski@tecinc.com		365.3 / Phos T										
Sampler Signature 		Sampler Printed Name Ben Berridge												
CLIENT SAMPLE ID	LABID	SAMPLING Date	SAMPLING Time	Matrix										
1. AKipola-5		10/19	11:30	W	2	X	X	X	X					
2. AKipola-6		10/19	15:30	W	2	X	X	X	X					
3. AKipola-7		10/19	19:30	W	2	X	X	X	X					
4. Hele-1		10/18	15:30	W	2	X	X	X	X					
5. Hele-2		10/18	23:30	W	2	X	X	X	X					
6. Hele-3		10/19	03:30	W	2	X	X	X	X					
7. Hele-4		10/19	07:30	W	2	X	X	X	X					
8. Hele-5		10/19	11:30	W	2	X	X	X	X					
9. Hele-6		10/19	15:30	W	2	X	X	X	X					
10. Hele-7		10/19	19:30	W	2	X	X	X	X					

Report Requirements <input type="checkbox"/> I. Routine Report: Method Blank, Surrogate, as required <input type="checkbox"/> II. Report Dup., MS, MSD as required <input type="checkbox"/> III. CLP Like Summary (no raw data) <input type="checkbox"/> IV. Data Validation Report <input type="checkbox"/> V. EDD	Invoice Information P.O.# _____ Bill To: _____ _____	Circle which metals are to be analyzed _____
	Turnaround Requirements <input type="checkbox"/> 24 hr. <input type="checkbox"/> 48 hr. <input type="checkbox"/> 5 Day <input type="checkbox"/> Standard Requested Report Date: _____	Special Instructions/Comments: _____

Relinquished By:	Received By:	Relinquished By:	Received By:	Relinquished By:	Received By:
Signature	Signature	Signature	Signature	Signature	Signature
Printed Name Ben Berridge	Printed Name Bobb Kell	Printed Name	Printed Name	Printed Name	Printed Name
Firm Cardno	Firm ALS	Firm	Firm	Firm	Firm
Date/Time 10/21 9:30	Date/Time 10/22/14 1000	Date/Time	Date/Time	Date/Time	Date/Time



CHAIN OF CUSTODY

47408

001

K1411019

SR# _____
 COC Set _____ of _____
 COC# _____

1317 South 13th Ave, Kelso, WA 98626 Phone (360) 577-7222 / 800-695-7222 / FAX (360) 636-1068
 www.alsglobal.com

Project Name Kaelepulu Pond		Project Number 9682 - 28853		NUMBER OF CONTAINERS	7D		28D							Remarks
Project Manager Brad Kwasnowski					SW 2540 D / TSS	350.1 / Ammonia T	353.2 / NO2 NO3 T	365.3 / Phos T	1	2	3	4	5	
Company Cardno TEC									6					
Address 1003 Bishop Street #1550, Honolulu, HI 96813					Phone # 808-469-8997		email bdkwasnowski@tecinc.com							
Sampler Signature <i>Ben Berridge</i>		Sampler Printed Name Ben Berridge												
CLIENT SAMPLE ID	LABID	SAMPLING Date Time	Matrix											
1. Kaopa-1		10/18 16:45	W	2	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>						
2. Kaopa-2		10/19 20:45	W	2	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>						
3. Kaopa-3		10/20 04:45	W	2	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>						
4. Kaopa-4		10/20 08:45	W	2	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>						
5. Kaopa-5		10/20 12:45	W	2	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>						
6. Kaopa-6		10/20 16:45	W	2	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>						
7. Kaopa-7		10/20 20:45	W	2	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>						
8.														
9.														
10.														

Report Requirements <input type="checkbox"/> I. Routine Report: Method Blank, Surrogate, as required <input type="checkbox"/> II. Report Dup., MS, MSD as required <input type="checkbox"/> III. CLP Like Summary (no raw data) <input type="checkbox"/> IV. Data Validation Report <input type="checkbox"/> V. EDD	Invoice Information P.O.# _____ Bill To: _____ _____	Circle which metals are to be analyzed _____
	Turnaround Requirements <input type="checkbox"/> 24 hr. <input type="checkbox"/> 48 hr. <input type="checkbox"/> 5 Day <input type="checkbox"/> Standard Requested Report Date _____	Special Instructions/Comments: _____ *Indicate State Hydrocarbon Procedure: AK CA WI Northwest Other _____ (Circle One)

Relinquished By:	Received By:	Relinquished By:	Received By:	Relinquished By:	Received By:
Signature <i>Ben Berridge</i>	Signature <i>Ben Berridge</i>	Signature	Signature	Signature	Signature
Printed Name Ben Berridge	Printed Name ALS	Printed Name	Printed Name	Printed Name	Printed Name
Firm Cardno	Firm 10/22/14 1000	Firm	Firm	Firm	Firm
Date/Time 10/21 9:20	Date/Time	Date/Time	Date/Time	Date/Time	Date/Time



PC Lisa

Cooler Receipt and Preservation Form

Client / Project: Condno TEC/Kaalepulu Pond Service Request K14 11815
 Received: 10/22/14 Opened: 10/22/14 By: BK Unloaded: 10/22/14 By: BK

1. Samples were received via? Mail Fed Ex UPS DHL PDX Courier Hand Delivered
 2. Samples were received in: (circle) Cooler Box Envelope Other NA
 3. Were custody seals on coolers? NA Y N If yes, how many and where? 1 front
 If present, were custody seals intact? Y N If present, were they signed and dated? Y N

Raw Cooler Temp	Corrected Cooler Temp	Raw Temp Blank	Corrected Temp Blank	Corr. Factor	Thermometer ID	Cooler/COC ID	Tracking Number	NA	Filed
5.9	6.0	/	/	4.1	340		7801 4899 2639		
5.5	5.8	/	/	4.3	323		8043 1521 3037		
0.7	0.5	/	/	-2	336		7801 4899 2628		

4. Packing material: Inserts Baggies Bubble Wrap Gel Packs Wet Ice Dry Ice Sleeves _____
 5. Were custody papers properly filled out (ink, signed, etc.)? NA Y N
 6. Did all bottles arrive in good condition (unbroken)? Indicate in the table below. NA Y N
 7. Were all sample labels complete (i.e analysis, preservation, etc.)? NA Y N
 8. Did all sample labels and tags agree with custody papers? Indicate major discrepancies in the table on page 2. NA Y N
 9. Were appropriate bottles/containers and volumes received for the tests indicated? NA Y N
 10. Were the pH-preserved bottles (see SMO GEN SOP) received at the appropriate pH? Indicate in the table below. NA Y N
 11. Were VOA vials received without headspace? Indicate in the table below. NA Y N
 12. Was C12/Res negative? NA Y N

Sample ID on Bottle	Sample ID on COC	Identified by:

Sample ID	Bottle Count	Bottle Type	Out of Temp	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

Notes, Discrepancies, & Resolutions: _____

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: Cardno TEC
Project: Kaelepulu Pond/9682-28853
Sample Matrix: Water
Analysis Method: 353.2
Prep Method: Method

Service Request: K1411815
Date Collected: 10/18/14 - 10/20/14
Date Received: 10/22/14
Units: mg/L
Basis: NA

Nitrate+Nitrite as Nitrogen

Sample Name	Lab Code	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
Hamakua-1	K1411815-001	ND U	0.050	1	10/27/14 13:53	10/27/14	
Hamakua-2	K1411815-002	ND U	0.050	1	10/27/14 13:53	10/27/14	
Hamakua-3	K1411815-003	ND U	0.050	1	10/27/14 13:53	10/27/14	
Hamakua-4	K1411815-004	ND U	0.050	1	10/27/14 13:53	10/27/14	
Hamakua-5	K1411815-005	ND U	0.050	1	10/27/14 13:53	10/27/14	
Hamakua-6	K1411815-006	ND U	0.050	1	10/27/14 13:53	10/27/14	
Akipola-1	K1411815-007	ND U	0.050	1	10/27/14 13:53	10/27/14	
Akipola-2	K1411815-008	0.148	0.050	1	10/27/14 13:53	10/27/14	
Akipola-3	K1411815-009	1.18	0.050	1	10/27/14 13:53	10/27/14	
Akipola-4	K1411815-010	0.239	0.050	1	10/27/14 13:53	10/27/14	
Akipola-5	K1411815-011	0.384	0.050	1	11/05/14 11:41	11/5/14	
Akipola-6	K1411815-012	2.24	0.10	2	10/27/14 13:53	10/27/14	
Akipola-7	K1411815-013	3.78	0.10	2	10/27/14 13:53	10/27/14	
Hele-1	K1411815-014	0.223	0.050	1	10/27/14 13:53	10/27/14	
Hele-2	K1411815-015	0.201	0.050	1	10/27/14 13:53	10/27/14	
Hele-3	K1411815-016	0.579	0.050	1	10/27/14 13:53	10/27/14	
Hele-4	K1411815-017	0.327	0.050	1	10/27/14 13:53	10/27/14	
Hele-5	K1411815-018	0.561	0.050	1	10/27/14 13:53	10/27/14	
Hele-6	K1411815-019	1.17	0.050	1	10/27/14 13:53	10/27/14	
Hele-7	K1411815-020	1.66	0.050	1	10/27/14 13:53	10/27/14	
Kaopa-1	K1411815-021	0.729	0.050	1	10/27/14 13:53	10/27/14	
Kaopa-2	K1411815-022	0.286	0.050	1	10/27/14 13:53	10/27/14	
Kaopa-3	K1411815-023	0.520	0.050	1	10/27/14 13:53	10/27/14	
Kaopa-4	K1411815-024	0.507	0.050	1	10/27/14 13:53	10/27/14	
Kaopa-5	K1411815-025	0.513	0.050	1	10/27/14 13:53	10/27/14	
Kaopa-6	K1411815-026	0.758	0.050	1	10/27/14 13:53	10/27/14	
Kaopa-7	K1411815-027	0.470	0.050	1	10/27/14 13:53	10/27/14	
Method Blank	K1411815-MB1	ND U	0.050	1	10/27/14 13:53	10/27/14	
Method Blank	K1411815-MB2	ND U	0.050	1	10/27/14 13:53	10/27/14	
Method Blank	K1411815-MB3	ND U	0.050	1	11/05/14 11:41	11/5/14	

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: Cardno TEC
Project: Kaelepulu Pond/9682-28853
Sample Matrix: Water

Service Request: K1411815
Date Analyzed: 10/27/14
Date Extracted: 10/27/14

Lab Control Sample Summary
Nitrate+Nitrite as Nitrogen

Analysis Method: 353.2
Prep Method: Method

Units: mg/L
Basis: NA
Analysis Lot: 419123

Sample Name	Lab Code	Result	Spike Amount	% Rec	% Rec Limits
Lab Control Sample	K1411815-LCS1	3.72	3.52	106	90-110
Lab Control Sample	K1411815-LCS2	3.68	3.52	105	90-110

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: Cardno TEC
Project: Kaelepulu Pond/9682-28853
Sample Matrix: Water

Service Request: K1411815
Date Analyzed: 11/05/14
Date Extracted: 11/05/14

Lab Control Sample Summary
Nitrate+Nitrite as Nitrogen

Analysis Method: 353.2
Prep Method: Method

Units: mg/L
Basis: NA
Analysis Lot: 420201

Sample Name	Lab Code	Result	Spike Amount	% Rec	% Rec Limits
Lab Control Sample	K1411815-LCS3	3.60	3.52	102	90-110

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: Cardno TEC
Project: Kaelepulu Pond/9682-28853
Sample Matrix: Water
Analysis Method: 365.3
Prep Method: Method

Service Request: K1411815
Date Collected: 10/18/14 - 10/20/14
Date Received: 10/22/14
Units: mg/L
Basis: NA

Phosphorus, Total

Sample Name	Lab Code	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
Hamakua-1	K1411815-001	0.111	0.010	1	10/28/14 16:09	10/28/14	
Hamakua-2	K1411815-002	0.135	0.010	1	10/28/14 16:09	10/28/14	
Hamakua-3	K1411815-003	0.105	0.010	1	10/28/14 16:09	10/28/14	
Hamakua-4	K1411815-004	0.089	0.010	1	10/30/14 10:45	10/29/14	
Hamakua-5	K1411815-005	0.112	0.010	1	10/30/14 10:45	10/29/14	
Hamakua-6	K1411815-006	0.133	0.010	1	10/30/14 10:45	10/29/14	
Akipola-1	K1411815-007	0.294	0.010	1	10/30/14 10:45	10/29/14	
Akipola-2	K1411815-008	0.155	0.010	1	10/30/14 10:45	10/29/14	
Akipola-3	K1411815-009	0.199	0.010	1	10/30/14 10:45	10/29/14	
Akipola-4	K1411815-010	0.133	0.010	1	10/30/14 10:45	10/29/14	
Akipola-5	K1411815-011	0.407	0.010	1	10/30/14 10:45	10/29/14	
Akipola-6	K1411815-012	0.287	0.010	1	10/30/14 10:45	10/29/14	
Akipola-7	K1411815-013	0.327	0.010	1	10/30/14 10:45	10/29/14	
Hele-1	K1411815-014	2.00	0.050	5	10/30/14 10:45	10/29/14	
Hele-2	K1411815-015	0.245	0.010	1	10/30/14 10:45	10/29/14	
Hele-3	K1411815-016	0.285	0.010	1	10/30/14 10:45	10/29/14	
Hele-4	K1411815-017	0.225	0.010	1	10/30/14 10:45	10/29/14	
Hele-5	K1411815-018	0.245	0.010	1	10/30/14 10:45	10/29/14	
Hele-6	K1411815-019	0.342	0.010	1	10/30/14 10:45	10/29/14	
Hele-7	K1411815-020	0.320	0.010	1	10/30/14 10:45	10/29/14	
Kaopa-1	K1411815-021	0.226	0.010	1	10/30/14 10:45	10/29/14	
Kaopa-2	K1411815-022	0.215	0.010	1	10/30/14 10:45	10/29/14	
Kaopa-3	K1411815-023	0.134	0.010	1	10/30/14 10:45	10/29/14	
Kaopa-4	K1411815-024	0.138	0.010	1	11/01/14 14:22	11/1/14	
Kaopa-5	K1411815-025	0.104	0.010	1	11/01/14 14:22	11/1/14	
Kaopa-6	K1411815-026	0.083	0.010	1	11/01/14 14:22	11/1/14	
Kaopa-7	K1411815-027	0.075	0.010	1	11/01/14 14:22	11/1/14	
Method Blank	K1411815-MB1	ND U	0.010	1	10/28/14 16:09	10/28/14	
Method Blank	K1411815-MB2	ND U	0.010	1	10/30/14 10:45	10/29/14	
Method Blank	K1411815-MB3	ND U	0.010	1	11/01/14 14:22	11/1/14	

ALS Group USA, Corp.
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QA/QC Report

Client: Cardno TEC
Project: Kaelepulu Pond/9682-28853
Sample Matrix: Water

Service Request: K1411815
Date Analyzed: 10/28/14
Date Extracted: 10/28/14

Lab Control Sample Summary
Phosphorus, Total

Analysis Method: 365.3
Prep Method: Method

Units: mg/L
Basis: NA
Analysis Lot: 418507

Sample Name	Lab Code	Result	Spike Amount	% Rec	% Rec Limits
Lab Control Sample	K1411815-LCS1	3.21	3.46	93	85-115

ALS Group USA, Corp.
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QA/QC Report

Client: Cardno TEC
Project: Kaelepulu Pond/9682-28853
Sample Matrix: Water

Service Request: K1411815
Date Analyzed: 10/30/14
Date Extracted: 10/29/14

Lab Control Sample Summary
Phosphorus, Total

Analysis Method: 365.3
Prep Method: Method

Units: mg/L
Basis: NA
Analysis Lot: 418906

Sample Name	Lab Code	Result	Spike Amount	% Rec	% Rec Limits
Lab Control Sample	K1411815-LCS2	3.22	3.46	93	85-115

ALS Group USA, Corp.
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QA/QC Report

Client: Cardno TEC
Project: Kaelepulu Pond/9682-28853
Sample Matrix: Water

Service Request: K1411815
Date Analyzed: 11/01/14
Date Extracted: 11/01/14

Lab Control Sample Summary
Phosphorus, Total

Analysis Method: 365.3
Prep Method: Method

Units: mg/L
Basis: NA
Analysis Lot: 419226

Sample Name	Lab Code	Result	Spike Amount	% Rec	% Rec Limits
Lab Control Sample	K1411815-LCS3	3.19	3.46	92	85-115

ALS Group USA, Corp.
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Analytical Report

Client: Cardno TEC
Project: Kaelepulu Pond/9682-28853
Sample Matrix: Water
Analysis Method: SM 2540 D
Prep Method: None

Service Request: K1411815
Date Collected: 10/18/14 - 10/20/14
Date Received: 10/22/14
Units: mg/L
Basis: NA

Solids, Total Suspended (TSS)

Sample Name	Lab Code	Result	MRL	Dil.	Date Analyzed	Q
Hamakua-1	K1411815-001	8.0	5.0	1	10/24/14 15:08	
Hamakua-2	K1411815-002	ND U	5.0	1	10/24/14 16:15	
Hamakua-3	K1411815-003	9.0	5.0	1	10/24/14 16:15	
Hamakua-4	K1411815-004	8.5	5.0	1	10/24/14 16:15	
Hamakua-5	K1411815-005	25.5	5.0	1	10/24/14 16:15	
Hamakua-6	K1411815-006	5.0	5.0	1	10/24/14 16:15	
Akipola-1	K1411815-007	9.0	5.0	1	10/24/14 15:08	
Akipola-2	K1411815-008	35.0	5.0	1	10/24/14 15:08	
Akipola-3	K1411815-009	14.0	5.0	1	10/24/14 16:15	
Akipola-4	K1411815-010	6.5	5.0	1	10/24/14 16:15	
Akipola-5	K1411815-011	5.0	5.0	1	10/24/14 16:15	
Akipola-6	K1411815-012	29.5	5.0	1	10/24/14 16:15	
Akipola-7	K1411815-013	24.5	5.0	1	10/24/14 16:15	
Hele-1	K1411815-014	654	20	1	10/24/14 15:08	
Hele-2	K1411815-015	25.0	5.0	1	10/24/14 15:08	
Hele-3	K1411815-016	26.0	5.0	1	10/24/14 16:15	
Hele-4	K1411815-017	23.5	5.0	1	10/24/14 16:15	
Hele-5	K1411815-018	17.0	5.0	1	10/24/14 16:15	
Hele-6	K1411815-019	28.0	5.0	1	10/24/14 16:15	
Hele-7	K1411815-020	18.5	5.0	1	10/24/14 16:15	
Kaopa-1	K1411815-021	45.3	6.7	1	10/24/14 15:08	
Kaopa-2	K1411815-022	35	10	1	10/25/14 10:15	
Kaopa-3	K1411815-023	30	10	1	10/25/14 10:15	
Kaopa-4	K1411815-024	22.5	5.0	1	10/25/14 10:15	
Kaopa-5	K1411815-025	16.5	5.0	1	10/25/14 10:15	
Kaopa-6	K1411815-026	ND U	5.0	1	10/25/14 10:15	
Kaopa-7	K1411815-027	5.0	5.0	1	10/25/14 10:15	
Method Blank	K1411815-MB1	ND U	5.0	1	10/24/14 15:08	
Method Blank	K1411815-MB2	ND U	5.0	1	10/24/14 15:08	
Method Blank	K1411815-MB3	ND U	5.0	1	10/24/14 16:15	
Method Blank	K1411815-MB4	ND U	5.0	1	10/24/14 16:15	
Method Blank	K1411815-MB5	ND U	5.0	1	10/25/14 10:15	
Method Blank	K1411815-MB6	ND U	5.0	1	10/25/14 10:15	

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QA/QC Report

Client: Cardno TEC
Project: Kaelepulu Pond/9682-28853
Sample Matrix: Water

Service Request: K1411815
Date Analyzed: 10/24/14
Date Extracted: NA

Lab Control Sample Summary
Solids, Total Suspended (TSS)

Analysis Method: SM 2540 D
Prep Method: None

Units: mg/L
Basis: NA
Analysis Lot: 418110

Sample Name	Lab Code	Result	Spike Amount	% Rec	% Rec Limits
Lab Control Sample	K1411815-LCS1	214	225	95	85-115

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QA/QC Report

Client: Cardno TEC
Project: Kaelepulu Pond/9682-28853
Sample Matrix: Water

Service Request: K1411815
Date Analyzed: 10/25/14
Date Extracted: NA

Lab Control Sample Summary
Solids, Total Suspended (TSS)

Analysis Method: SM 2540 D
Prep Method: None

Units: mg/L
Basis: NA
Analysis Lot: 418137

Sample Name	Lab Code	Result	Spike Amount	% Rec	% Rec Limits
Lab Control Sample	K1411815-LCS3	214	225	95	85-115

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: Cardno TEC
Project: Kaelepulu Pond/9682-28853
Sample Matrix: Water
Analysis Method: SM 4500-NH3 G
Prep Method: Method

Service Request: K1411815
Date Collected: 10/18/14 - 10/20/14
Date Received: 10/22/14
Units: mg/L
Basis: NA

Ammonia as Nitrogen

Sample Name	Lab Code	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
Hamakua-1	K1411815-001	ND U	0.050	1	10/29/14 15:19	10/29/14	
Hamakua-2	K1411815-002	0.107	0.050	1	10/29/14 15:19	10/29/14	
Hamakua-3	K1411815-003	0.073	0.050	1	10/29/14 15:19	10/29/14	
Hamakua-4	K1411815-004	ND U	0.050	1	10/29/14 15:19	10/29/14	
Hamakua-5	K1411815-005	0.059	0.050	1	10/29/14 15:19	10/29/14	
Hamakua-6	K1411815-006	0.229	0.050	1	10/29/14 15:19	10/29/14	
Akipola-1	K1411815-007	ND U	0.050	1	10/29/14 15:19	10/29/14	
Akipola-2	K1411815-008	ND U	0.050	1	10/29/14 15:19	10/29/14	
Akipola-3	K1411815-009	ND U	0.050	1	10/29/14 15:19	10/29/14	
Akipola-4	K1411815-010	ND U	0.050	1	10/29/14 15:19	10/29/14	
Akipola-5	K1411815-011	ND U	0.050	1	10/29/14 15:19	10/29/14	
Akipola-6	K1411815-012	ND U	0.050	1	10/29/14 15:19	10/29/14	
Akipola-7	K1411815-013	ND U	0.050	1	10/29/14 15:19	10/29/14	
Hele-1	K1411815-014	0.181	0.050	1	10/29/14 15:19	10/29/14	
Hele-2	K1411815-015	ND U	0.050	1	10/29/14 15:19	10/29/14	
Hele-3	K1411815-016	ND U	0.050	1	10/29/14 15:19	10/29/14	
Hele-4	K1411815-017	ND U	0.050	1	10/29/14 15:19	10/29/14	
Hele-5	K1411815-018	ND U	0.050	1	10/29/14 15:19	10/29/14	
Hele-6	K1411815-019	ND U	0.050	1	10/29/14 15:19	10/29/14	
Hele-7	K1411815-020	ND U	0.050	1	10/29/14 15:19	10/29/14	
Kaopa-1	K1411815-021	ND U	0.050	1	10/29/14 15:19	10/29/14	
Kaopa-2	K1411815-022	ND U	0.050	1	10/29/14 15:19	10/29/14	
Kaopa-3	K1411815-023	ND U	0.050	1	10/29/14 15:19	10/29/14	
Kaopa-4	K1411815-024	ND U	0.050	1	10/29/14 15:19	10/29/14	
Kaopa-5	K1411815-025	ND U	0.050	1	10/29/14 15:19	10/29/14	
Kaopa-6	K1411815-026	ND U	0.050	1	10/29/14 15:19	10/29/14	
Kaopa-7	K1411815-027	ND U	0.050	1	10/29/14 15:19	10/29/14	
Method Blank	K1411815-MB1	ND U	0.050	1	10/29/14 15:19	10/29/14	
Method Blank	K1411815-MB2	ND U	0.050	1	10/29/14 15:19	10/29/14	

ALS Group USA, Corp.

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QA/QC Report

Client: Cardno TEC
Project: Kaelepulu Pond/9682-28853
Sample Matrix: Water
Analysis Method: SM 4500-NH3 G
Prep Method: Method

Service Request: K1411815
Date Collected: 10/18/14 - 10/19/14
Date Received: 10/22/14

Units: mg/L
Basis: NA

Replicate Sample Summary

Ammonia as Nitrogen

Sample Name:	Lab Code:	MRL	Sample Result	Duplicate Result	Average	RPD	RPD Limit	Date Analyzed
Hamakua-3	K1411815-003DUP	0.050	0.073	0.073	0.0727	<1	20	10/29/14
Akipola-4	K1411815-010DUP	0.050	ND U	ND U	NC	NC	20	10/29/14
Hele-2	K1411815-015DUP	0.050	ND U	ND U	NC	NC	20	10/29/14

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

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QA/QC Report

Client: Cardno TEC
Project: Kaelepulu Pond/9682-28853
Sample Matrix: Water

Service Request: K1411815
Date Collected: 10/19/14
Date Received: 10/22/14
Date Analyzed: 10/29/14
Date Extracted: 10/29/14

Duplicate Matrix Spike Summary
Ammonia as Nitrogen

Sample Name: Hamakua-3
Lab Code: K1411815-003
Analysis Method: SM 4500-NH3 G
Prep Method: Method

Units: mg/L
Basis: NA

Analyte Name	Sample Result	Result	Matrix Spike K1411815-003MS		Duplicate Matrix Spike K1411815-003DMS		% Rec Limits	RPD	RPD Limit	
			Spike Amount	% Rec	Result	Spike Amount				% Rec
Ammonia as Nitrogen	0.073	2.12	2.00	102	2.07	2.00	100	90-110	2	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

ALS Group USA, Corp.
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QA/QC Report

Client: Cardno TEC
Project: Kaelepulu Pond/9682-28853
Sample Matrix: Water

Service Request: K1411815
Date Collected: 10/19/14
Date Received: 10/22/14
Date Analyzed: 10/29/14
Date Extracted: 10/29/14

Duplicate Matrix Spike Summary
Ammonia as Nitrogen

Sample Name: Akipola-4
Lab Code: K1411815-010
Analysis Method: SM 4500-NH3 G
Prep Method: Method

Units: mg/L
Basis: NA

Analyte Name	Sample Result	Result	Matrix Spike K1411815-010MS		Duplicate Matrix Spike K1411815-010DMS		% Rec Limits	RPD	RPD Limit	
			Spike Amount	% Rec	Result	Spike Amount				% Rec
Ammonia as Nitrogen	ND U	2.01	2.00	100	1.94	2.00	97	90-110	3	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

ALS Group USA, Corp.
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QA/QC Report

Client: Cardno TEC
Project: Kaelepulu Pond/9682-28853
Sample Matrix: Water

Service Request: K1411815
Date Collected: 10/18/14
Date Received: 10/22/14
Date Analyzed: 10/29/14
Date Extracted: 10/29/14

Duplicate Matrix Spike Summary
Ammonia as Nitrogen

Sample Name: Hele-2
Lab Code: K1411815-015
Analysis Method: SM 4500-NH3 G
Prep Method: Method

Units: mg/L
Basis: NA

Analyte Name	Sample Result	Result	Matrix Spike K1411815-015MS		Duplicate Matrix Spike K1411815-015DMS		% Rec Limits	RPD	RPD Limit	
			Spike Amount	% Rec	Result	Spike Amount				% Rec
Ammonia as Nitrogen	ND U	2.03	2.00	101	1.99	2.00	100	90-110	<1	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

ALS Group USA, Corp.
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QA/QC Report

Client: Cardno TEC
Project: Kaelepulu Pond/9682-28853
Sample Matrix: Water

Service Request: K1411815
Date Analyzed: 10/29/14
Date Extracted: 10/29/14

Lab Control Sample Summary
Ammonia as Nitrogen

Analysis Method: SM 4500-NH3 G
Prep Method: Method

Units: mg/L
Basis: NA
Analysis Lot: 418987

Sample Name	Lab Code	Result	Spike Amount	% Rec	% Rec Limits
Lab Control Sample	K1411815-LCS1	16.0	15.1	106	90-110
Lab Control Sample	K1411815-LCS2	15.9	15.1	105	90-110