

2655 Park Center Dr., Suite A Simi Valley, CA 93065 T: +1 805 526 7161 F: +1 805 526 7270 www.alsglobal.com

# LABORATORY REPORT

November 30, 2016

Matt Macosko Divine Tribe 455 I St Ste 204 Arcata, CA 95521

## RE: Product Testing - Vaporizer

Dear Matt:

Enclosed are the results of the sample submitted to our laboratory on October 25, 2016. The sample was sent out for partial analysis to our Salt Lake City facility. Please find their report (Work Order 1632229) attached. For your reference, these analyses have been assigned our service request number P1605022.

All analyses were performed according to our laboratory's NELAP and DoD-ELAP-approved quality assurance program. The test results meet requirements of the current NELAP and DoD-ELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP and DoD-ELAP-accredited analytes, refer to the certifications section at <u>www.alsglobal.com</u>. Results are intended to be considered in their entirety and apply only to the samples analyzed and reported herein.

If you have any questions, please call me at (805) 526-7161.

Respectfully submitted,

## ALS | Environmental

Jamantha Henringsen By Samantha Henningsen at 4:11 pm, Nov 30, 2016

Samantha Henningsen Project Manager



2655 Park Center Dr., Suite A Simi Valley, CA 93065 **T:** +1 805 526 7161 **F:** +1 805 526 7270 www.alsglobal.com

Client: Divine Tribe Project: Product Testing - Vaporizer Service Request No: P1605022

## CASE NARRATIVE

The sample was received intact under chain of custody on October 25, 2016 and was stored in accordance with the analytical method requirements. Please refer to the sample acceptance check form for additional information. The results reported herein are applicable only to the condition of the sample at the time of sample receipt.

### Sample Preparation

The Vaporizer was connected via the mouth piece to the appropriate media using silicone tubing and PTFE tape. The vaporizer was operated at the settings specified by the client and that vapor drawn onto the thermal desorption tube for the TO-17 analysis and onto the MCE cassette for the metals analysis being performed by our Salt Lake City facility. Approximately 150mL of air was drawn onto each tube using a 250 ml ground-glass syringe over a twenty second period starting when the device was fired. The fire button was held for five seconds although it appeared the maximum temperature was achieved in less than five seconds. Controls were prepared for each analysis using the same procedure but without firing the device.

For the VOC analysis the ambient conditions were 77.4 F (25.2 C) at 27% RH.

For the Metals analysis the ambient conditions were 76.7 F (24.8 C) at 31% RH.

### Volatile Organic Compound Analysis

The thermal desorption tube collected was then analyzed for tentatively identified compounds (TICs) in accordance with the methodology outlined in EPA Method TO-17. This procedure is described in laboratory SOP VOA-TO17. The analyses were performed by thermal desorption/gas chromatography/mass spectrometry. This analysis is not included on the laboratory's NELAP, DoD-ELAP, or AIHA-LAP, LLC scope of accreditation.

The results of analyses are given in the attached laboratory report. All results are intended to be considered in their entirety, and ALS Environmental (ALS) is not responsible for utilization of less than the complete report.

Use of ALS Environmental (ALS)'s Name. Client shall not use ALS's name or trademark in any marketing or reporting materials, press releases or in any other manner ("Materials") whatsoever and shall not attribute to ALS any test result, tolerance or specification derived from ALS's data ("Attribution") without ALS's prior written consent, which may be withheld by ALS for any reason in its sole discretion. To request ALS's consent, Client shall provide copies of the proposed Materials or Attribution and describe in writing Client's proposed use of such Materials or Attribution. If ALS has not provided written approval of the Materials or Attribution within ten (10) days of receipt from Client, Client's request to use ALS's name or trademark in any Materials or Attribution shall be deemed denied. ALS may, in its discretion, reasonably charge Client for its time in reviewing Materials or Attribution requests. Client acknowledges and agrees that the unauthorized use of ALS's name or trademark may cause ALS to incur irreparable harm for which the recovery of money damages will be inadequate. Accordingly, Client acknowledges and agrees that a violation shall justify preliminary injunctive relief. For questions contact the laboratory.



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## ALS Environmental - Simi Valley

## CERTIFICATIONS, ACCREDITATIONS, AND REGISTRATIONS

Agency	Web Site	Number
Arizona DHS	http://www.azdhs.gov/lab/license/env.htm	AZ0694
PJLA (DoD ELAP)	http://www.pjlabs.com/search-accredited-labs	65818 (Testing)
Florida DOH (NELAP)	http://www.doh.state.fl.us/lab/EnvLabCert/WaterCert.htm	E871020
Maine DHHS	http://www.maine.gov/dhhs/mecdc/environmental-health/water/dwp- services/labcert/labcert.htm	2016036
Minnesota DOH (NELAP)	http://www.health.state.mn.us/accreditation	977273
New Jersey DEP (NELAP)	http://www.nj.gov/dep/oqa/	CA009
New York DOH (NELAP)	http://www.wadsworth.org/labcert/elap/elap.html	11221
Oregon PHD (NELAP)	http://public.health.oregon.gov/LaboratoryServices/EnvironmentalLaborat oryAccreditation/Pages/index.aspx	4068-003
Pennsylvania DEP	http://www.depweb.state.pa.us/labs	68-03307 (Registration)
Texas CEQ (NELAP)	http://www.tceq.texas.gov/field/qa/env_lab_accreditation.html	T104704413- 16-7
Utah DOH (NELAP)	http://www.health.utah.gov/lab/labimp/certification/index.html	CA01627201 6-6
Washington DOE	http://www.ecy.wa.gov/programs/eap/labs/lab-accreditation.html	C946
Analyses were ner	formed according to our laboratory's NELAP and DoD-ELAP approved gu	ality assurance

Analyses were performed according to our laboratory's NELAP and DoD-ELAP approved quality assurance program. A complete listing of specific NELAP and DoD-ELAP certified analytes can be found in the certifications section at <u>www.alsglobal.com</u>, or at the accreditation body's website.

Each of the certifications listed above have an explicit Scope of Accreditation that applies to specific matrices/methods/analytes; therefore, please contact the laboratory for information corresponding to a particular certification.

### DETAIL SUMMARY REPORT

Client:	Divine Tribe				Service Request: P1605022
Project ID:	Product Testing	- Vaporiz	zer		
Date Received:	10/25/2016				N N N N N N N N N N N N N N N N N N N
Time Received:	16:00				
					W W
			Date	Time	17
Client Sample ID	Lab Code	Matrix	Collected	Collected	
Vaporizer	P1605022-001	Solid	10/25/2016	00:00	X X

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Divine Tribe				Product Testing - Va	aporizer		5	~	Analysis n	Vernoa	
455 l st. ste 204 Arrata CA 95521				Project Number n/a	7				soc	, Aq	
Project Manager				P.O. # / Billing Infon	mation				) AS I	tte. Ke C	
Samantha Henningsen				. 1		*		*	puie	ie. Iess	Comments
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805-895-8967				. / :		4 1 		T	0	re ST	specific instructions
Email Address for Result Reporting				Sampler (Print & Sign)	3				- s:	M - A Y	
divinetribe1@yahoo.com			*	ť,	1	n/a			DIT	ele d ei	
Client Sample ID	Laboratory. ID Number	Date Collected	Time Collected	<ul> <li>Canister ID</li> <li>(Bar code # - AC. SC. etc.)</li> </ul>	Flow Controller ID (Bar code # - FC #)	Canister Start Pressure "Hg	Canister End Pressure "Ho/psig	Sample Volume	: 21-01	teM 72 isylsnA	
Vaporizer		e/u	n/a	eju	n/a	n/a	n/a	n/a	×	×	Product testing as previously scoped
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Relinquished by: (Signature)			Date	Time:	Received by: (Sjgna	iture)	4		)[25/16 ]	ime: b. ØØ	
Relinquished by: (Signature)			Date:	Time:	Received by: (Signa	ture)		Ä	Ite:	ime:	Cooler / Blank TemperatureC

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### ALS Environmental Sample Acceptance Check Form

Client:	Divine Tribe		~	· · · · · · · · · · · · · · · · · · ·		Work order:	P1605022			
Project:	Product Testin	ig-Vaporizer								
Sample(	(s) received on:	10/25/16		. 1	Date opened:	10/25/16	by:	KKEL	PE	
<u>Note:</u> This	form is used for <u>all</u>	samples received by ALS.	The use of this fe	orm for custody se	eals is strictly me	ant to indicate presen	ce/absence and n	not as an ir	dication	of
compliance	or nonconformity.	Thermal preservation and	pH will only be e	valuated either at	the request of the	e client and/or as requ	ired by the metho	od/SOP. <u>Yes</u>	<u>No</u>	<u>N/A</u>
1	Were sample	containers properly m	narked with cli	ient sample ID	?			X		
2	Did sample co	ontainers arrive in goo	od condition?					X		
3	Were chain-of	f-custody papers used	and filled out	?				X		
4	Did sample co	ontainer labels and/or	tags agree wi	th custody pap	ers?			X		
5	5 Was <b>sample volume</b> received adequate for analysis?						X			
6	6 Are samples within specified holding times?						X			
7	7 Was proper <b>temperature</b> (thermal preservation) of cooler at receipt adhered to?						X			
<ul> <li>8 Were custody seals on outside of cooler/Box/Container?</li> <li>Location of seal(s)?Sealing Lid?</li> <li>Were signature and date included?</li> <li>Were seals intact?</li> <li>9 Do containers have appropriate preservation, according to method/SOP or Client specified information?</li> <li>Is there a client indication that the submitted samples are pH preserved?</li> <li>Were <u>VOA vials</u> checked for presence/absence of air bubbles?</li> <li>Does the client/method/SOP require that the analyst check the sample pH and <u>if necessary</u> alter it?</li> <li>10 Tubes: Are the tubes capped and intact?</li> <li>11 Badges: Are the badges properly capped and intact?</li> </ul>						$\boxtimes$	$\mathbf{X} \times \mathbf{X} \times \mathbf{X} \times \mathbf{X} \times \mathbf{X}$			
Lab	Lab Sample ID     Container     Required     Received     Adjusted     VOA Headspace     Receipt / Preservation       Description     pH *     pH     pH     pH     Comments						L			
P1605022	2-001.01									
P1605022	2-001.02	Tube, TD								
P1605022	2-001.03	Acetic Detector Tube								

Explain any discrepancies: (include lab sample ID numbers):

RSK - MEEPP, HCL (pH<2); RSK - CO2, (pH 5-8); Sulfur (pH>4)

# RESULTS OF ANALYSIS

Page 1 of 1

# Client:Divine TribeClient Sample ID:VaporizerClient Project ID:Product Testing - Vaporizer

ALS Project ID: P1605022 ALS Sample ID: P1605022-001

# **Tentatively Identified Compounds**

Test Code:	EPA TO-17	Date Collected:	10/25/16
Instrument ID:	Markes ATD/Agilent 5975Cinert/7890A/MS18	Date Received:	10/25/16
Analyst:	Rui Malinowski	Date Analyzed:	11/10/16
Sampling Media:	Solid	Volume(s) Analyzed:	NA Liter(s)
Test Notes:	Т		

GC/MS	<b>Compound Identification</b>	Concentration	Data
Retention Time		ng/Tube	Qualifier
5.35	Acetaldehyde	5.3	
6.99	Acetone	6.1	
9.68	Acetic Acid	11	
24.90	Siloxane unknown	12	
27.18	Siloxane unknown	29	

T = Analyte is a tentatively identified compound, result is estimated.

# RESULTS OF ANALYSIS

Page 1 of 1

# Client:Divine TribeClient Sample ID:Vaporizer BlankClient Project ID:Product Testing - Vaporizer

ALS Project ID: P1605022 ALS Sample ID: P161110-VB

# **Tentatively Identified Compounds**

Test Code:	EPA TO-17	Date Collected: NA	
Instrument ID:	Markes ATD/Agilent 5975Cinert/7890A/MS18	Date Received: NA	
Analyst:	Rui Malinowski	Date Analyzed: 11/10/	/16
Sampling Media:	Solid	Volume(s) Analyzed:	NA Liter(s)
Test Notes:	Т		

GC/MS	<b>Compound Identification</b>	Concentration	Data
Retention Time		ng/Tube	Qualifier
4.73	1,1-Difluoroethane	160	
4.84	Propene	5.0	
24.90	Siloxane unknown	11	
27.18	Siloxane unknown	20	

T = Analyte is a tentatively identified compound, result is estimated.

# RESULTS OF ANALYSIS

Page 1 of 1

# Client:Divine TribeClient Sample ID:Method BlankClient Project ID:Product Testing - Vaporizer

ALS Project ID: P1605022 ALS Sample ID: P160202-MB

# **Tentatively Identified Compounds**

Test Code:	EPA TO-17	Date Collected: NA	4
Instrument ID:	Markes ATD/Agilent 5975Cinert/7890A/MS18	Date Received: NA	4
Analyst:	Rui Malinowski	Date Analyzed: 2/0	02/16
Sampling Media:	Solid	Volume(s) Analyzed:	NA Liter(s)
Test Notes:			

GC/MS	<b>Compound Identification</b>	Concentration	Data
Retention Time		ng/Tube	Qualifier
4.84	Propene	9.3	

NF = Compound was searched for, but not found.



# ANALYTICAL REPORT

Report Date: November 22, 2016

Samantha Henningsen ALS Environmental Laboratory 2655 Park Center Drive Suite A Simi Valley, CA 93065 Phone: (805) 526-7161

E-mail: Samantha.Henningsen@alsglobal .com

Workorder: **34-1632229** Client Project ID: P1605022 111716 Purchase Order: P1605022 Project Manager: Paul Pope

### **Analytical Results**

Sample ID: Vaporizer				Collected: 10/25/2016
Lab ID: 1632229001	Sa	Received: 11/17/2016		
Method: NIOSH 7300, MCE		Media: MC	E Filter	Prepared: 11/21/2016
	Sam	pling Parameter: Air	Volume Not Provided	Analyzed: 11/21/2016
Analyte	Result (ug/sample)	Result (mg/m³)	RL (ug/sample)	
Aluminum	<5.0	NA	5.0	
Arsenic	<2.5	NA	2.5	
Beryllium	<0.013	NA	0.013	
Cadmium	<0.075	NA	0.075	
Calcium	<15	NA	15	
Chromium	<1.3	NA	1.3	
Cobalt	<0.075	NA	0.075	
Copper	<1.2	NA	1.2	
Iron	<5.0	NA	5.0	
Lead	<1.3	NA	1.3	
Lithium	<0.50	NA	0.50	
Magnesium	<1.3	NA	1.3	
Manganese	<0.31	NA	0.31	
Molybdenum	<0.38	NA	0.38	
Nickel	<0.34	NA	0.34	
Phosphorus	<5.0	NA	5.0	
Platinum	<3.8	NA	3.8	
Selenium	<2.5	NA	2.5	
Silver	<0.25	NA	0.25	
Sodium	<5.1	NA	5.1	
Tellurium	<1.3	NA	1.3	
Thallium	<1.3	NA	1.3	
Titanium	<0.075	NA	0.075	
Vanadium	0.10	NA	0.075	
Yttrium	<0.075	NA	0.075	
Zinc	<0.50	NA	0.50	

### **Results Continued on Next Page**

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Workorder: 34-1632229

Client Project ID: P1605022 111716 Purchase Order: P1605022 Project Manager: Paul Pope

## **Analytical Results**

Sample ID: Vaporizer Lab ID: 1632229001	Sa	mpling Location: P1	605022	Collected: 10/25/2016 Received: 11/17/2016
Method: NIOSH 7300, MCE	Media: MCE Filter Sampling Parameter: Air Volume Not Provided			Prepared: 11/21/2016 Analyzed: 11/21/2016
Analyte	Result (ug/sample)	Result (mg/m³)	RL (ug/sample)	
Zirconium	<0.50	NA	0.50	

Sample ID: Blank				Collected: 10/25/2016			
Lab ID: 1632229002	Sampling Location: P1605022 Received: 11/17/2016						
Method: NIOSH 7300, MCE	Sa	Prepared: 11/21/2016 Analyzed: 11/21/2016					
Analyte	Result (ug/sample)	Result (mg/m³)	RL (ug/sample)				
Aluminum	<5.0	NA	5.0				
Arsenic	<2.5	NA	2.5				
Beryllium	<0.013	NA	0.013				
Cadmium	<0.075	NA	0.075				
Calcium	<15	NA	15				
Chromium	<1.3	NA	1.3				
Cobalt	<0.075	NA	0.075				
Copper	<1.2	NA	1.2				
Iron	<5.0	NA	5.0				
Lead	<1.3	NA	1.3				
Lithium	<0.50	NA	0.50				
Magnesium	<1.3	NA	1.3				
Manganese	<0.31	NA	0.31				
Molybdenum	<0.38	NA	0.38				
Nickel	<0.34	NA	0.34				
Phosphorus	<5.0	NA	5.0				
Platinum	<3.8	NA	3.8				
Selenium	<2.5	NA	2.5				
Silver	<0.25	NA	0.25				
Sodium	<5.1	NA	5.1				
Tellurium	<1.3	NA	1.3				
Thallium	<1.3	NA	1.3				
Titanium	<0.075	NA	0.075				
Vanadium	0.080	NA	0.075				
Yttrium	<0.075	NA	0.075				
Zinc	<0.50	NA	0.50				
Zirconium	<0.50	NA	0.50				



# ANALYTICAL REPORT

Workorder: **34-1632229** 

Client Project ID: P1605022 111716 Purchase Order: P1605022 Project Manager: Paul Pope

**Report Authorization** (/S/ is an electronic signature that complies with 21 CFR Part 11)

Method	Analyst	Peer Review
NIOSH 7200 MCE	/S/ Peter P. Steen	/S/ Lauren Jones
	11/22/2016 09:31	11/22/2016 10:54

#### Laboratory Contact Information

ALS Environmental	Phone: (801) 266-7700
960 W Levoy Drive	Email: alslt.lab@ALSGlobal.com
Salt Lake City, Utah 84123	Web: www.alsslc.com

#### **General Lab Comments**

The results provided in this report relate only to the items tested. Samples were received in acceptable condition unless otherwise noted. Samples have not been blank corrected unless otherwise noted. This test report shall not be reproduced, except in full, without written approval of ALS.

ALS provides professional analytical services for all samples submitted. ALS is not in a position to interpret the data and assumes no responsibility for the quality of the samples submitted.

All quality control samples processed with the samples in this report yielded acceptable results unless otherwise noted.

ALS is accredited for specific fields of testing (scopes) in the following testing sectors. The quality system implemented at ALS conforms to accreditation requirements and is applied to all analytical testing performed by ALS. The following table lists testing sector, accreditation body, accreditation number and website. Please contact these accrediting bodies or your ALS project manager for the current scope of accreditation that applies to your analytical testing.

Testing Sector	Accreditation Body (Standard)	Certificate Number	Website
Environmental	ANAB (DoD ELAP)	ADE-1420	http://www.anab.org/accredited-organizations/
	Utah (NELAC)	DATA1	http://health.utah.gov/lab/labimp/
	Nevada	UT00009	http://ndep.nv.gov/bsdw/labservice.htm
	Oklahoma	UT00009	http://www.deq.state.ok.us/CSDnew/
	Iowa	IA# 376	http://www.iowadnr.gov/InsideDNR/RegulatoryWater.aspx
	Texas (TNI)	T104704456-11-1	http://www.tceq.texas.gov/field/qa/lab_accred_certif.html
	Washington	C596-16	http://www.ecy.wa.gov/programs/eap/labs/index.html
	Kansas	E-10416	http://www.kdheks.gov/lipo/index.html
Industrial Hygiene	AIHA LAP LLC (ISO 17025 & IHLAP/ELLAP)	101574	http://www.aihaaccreditedlabs.org
	Washington	C596-16	http://www.ecy.wa.gov/programs/eap/labs/index.html
Lead Testing:			
CPSC	ANAB (ISO 17025, CPSC)	ADE-1420	http://www.anab.org/accredited-organizations/
Soil, Dust, Paint ,Air	AIHA LAP LLC (ISO 17025 & IHLAP/ELLAP)	101574	http://www.aihaaccreditedlabs.org
Dietary Supplements	ACLASS (ISO 17025)	ADE-1420	http://www.aclasscorp.com



# ANALYTICAL REPORT

Workorder: 34-1632229

Client Project ID: P1605022 111716 Purchase Order: P1605022 Project Manager: Paul Pope

### Definitions

- LOD = Limit of Detection = MDL = Method Detection Limit, A statistical estimate of method/media/instrument sensitivity.
- LOQ = Limit of Quantitation = RL = Reporting Limit, A verified value of method/media/instrument sensitivity.
- ND = Not Detected, Testing result not detected above the LOD or LOQ.
- NA = Not Applicable.
- \*\* No result could be reported, see sample comments for details.
- < This testing result is less than the numerical value.
- () This testing result is between the LOD and LOQ and has higher analytical uncertainty than values at or above the LOQ.



# Quality Control Sample Batch Report

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## Workorder: 1632229

Blank

Limits: Historical/Performance Basis: ALS Laboratory Group Preparation: IH Metals, MCE Prep Batch: IIPX/20656 (HBN: 181049) Prepared By: Jacob Knudson Analysis: IH Metals, MCE QC Batch: IICP/13014 (HBN: 181104) Analyzed By: Peter P. Steen

LRB: 528002 Analyzed: 11/21/2016 16:29			
Units: ug/sample			
Analyte	Result	MDL	RL
Aluminum	ND	1.5	5.00
Arsenic	ND	0.75	2.50
Beryllium	ND	0.00375	0.0125
Cadmium	ND	0.0225	0.0750
Calcium	ND	4.5	15.0
Chromium	ND	0.375	1.25
Cobalt	ND	0.0225	0.0750
Copper	ND	0.373	1.24
Iron	ND	1.5	5.00
Lead	ND	0.375	1.25
Lithium	ND	0.15	0.500
Magnesium	ND	0.375	1.25
Manganese	ND	0.0938	0.313
Molybdenum	ND	0.113	0.375
Nickel	ND	0.101	0.338
Phosphorus	ND	1.5	5.00
Platinum	ND	1.13	3.75
Selenium	ND	0.75	2.50
Silver	ND	0.075	0.250
Sodium	ND	1.54	5.13
Tellurium	ND	0.375	1.25
Thallium	ND	0.375	1.25
Titanium	ND	0.0225	0.0750
Vanadium	ND	0.0225	0.0750
Yttrium	ND	0.0225	0.0750
Zinc	ND	0.15	0.500
Zirconium	ND	0.15	0.500
LMB: 528003 Analyzed: 11/21/2016 16:32 Units: ug/sample			
Analyte	Result	MDI	RI
Aluminum	ND	1.5	5.00
Arsenic	ND	0.75	2.50
Bervllium	ND	0.00375	0.0125

ND

ND

0.0225

4.5

Cadmium Calcium 0.0750

15.0



# Quality Control Sample Batch Report

## Workorder: 1632229

Blank

Limits: Historical/Performance Basis: ALS Laboratory Group Preparation: IH Metals, MCE Prep Batch: IIPX/20656 (HBN: 181049) Prepared By: Jacob Knudson Analysis: IH Metals, MCE QC Batch: IICP/13014 (HBN: 181104) Analyzed By: Peter P. Steen

LMB: 528003 Analyzed: 11/21/2016 16:32			
Units: ug/sample			
Analyte	Result	MDL	RL
Chromium	ND	0.375	1.25
Cobalt	ND	0.0225	0.0750
Copper	ND	0.373	1.24
Iron	ND	1.5	5.00
Lead	ND	0.375	1.25
Lithium	ND	0.15	0.500
Magnesium	ND	0.375	1.25
Manganese	ND	0.0938	0.313
Molybdenum	ND	0.113	0.375
Nickel	ND	0.101	0.338
Phosphorus	ND	1.5	5.00
Platinum	ND	1.13	3.75
Selenium	ND	0.75	2.50
Silver	ND	0.075	0.250
Sodium	ND	1.54	5.13
Tellurium	ND	0.375	1.25
Thallium	ND	0.375	1.25
Titanium	ND	0.0225	0.0750
Vanadium	ND	0.0225	0.0750
Yttrium	ND	0.0225	0.0750
Zinc	ND	0.15	0.500
Zirconium	ND	0.15	0.500

### Laboratory Control Sample - Laboratory Control Sample Duplicate

LCS: 528004 Analyzed: 11/21/2016 16:36 Dilution: 1 Units: ug/sample						LCSD: 5 Analyzed: 1 Dilution: 1 Units: u	28005 1/21/2016 g/sample	16:39		
Analyte	Result	Target	% Rec	QC L	imits	Result	% Rec	RPD	QC L	imits
Aluminum	102	100	102	86.6	116.0	101	101	0.572	0.0	15.0
Arsenic	97.0	100	97.0	88.4	107.7	96.4	96.4	0.617	0.0	15.0
Beryllium	10.4	10.0	104	90.4	116.1	10.3	103	0.318	0.0	15.0
Calcium	111	100	111	90.2	126.8	110	110	1.07	0.0	15.0
Cadmium	10.3	10.0	103	91.7	114.3	10.1	101	1.48	0.0	15.0
Cobalt	10.4	10.0	104	95.8	117.8	10.3	103	0.465	0.0	15.0
Chromium	105	100	105	90.9	117.0	104	104	0.335	0.0	15.0
Copper	11.2	10.0	112	94.8	122.2	10.9	109	2.70	0.0	15.0
Iron	106	100	106	92.8	116.4	105	105	0.951	0.0	15.0



## Quality Control Sample Batch Report

Workorder: 1632229

Limits: Historical/Performance Basis: ALS Laboratory Group

Laboratory Control Sample - Laboratory Control Sample Duplicate

Preparation: IH Metals, MCE Prep Batch: IIPX/20656 (HBN: 181049) Prepared By: Jacob Knudson Analysis: IH Metals, MCE QC Batch: IICP/13014 (HBN: 181104) Analyzed By: Peter P. Steen

LCS: 528004 Analyzed: 11/21/2016 16:36 Dilution: 1 Units: ug/sample					LCSD: 5 Analyzed: 1 Dilution: 1 Units: u	28005 1/21/2016 g/sample	6 16:39			
Analyte	Result	Target	% Rec	QC L	imits	Result	% Rec	RPD	QC L	imits
Lithium	101	100	101	88.7	115.5	100	100	0.109	0.0	15.0
Magnesium	103	100	103	90.4	113.1	101	101	2.11	0.0	15.0
Manganese	108	100	108	93.4	113.0	107	107	0.307	0.0	15.0
Nickel	10.4	10.0	104	97.0	120.8	10.2	102	1.51	0.0	15.0
Lead	108	100	108	92.4	116.7	106	106	1.70	0.0	15.0
Selenium	101	100	101	90.0	110.1	101	101	0.365	0.0	15.0
Silver	101	100	101	80.0	118.0	99.8	99.8	1.15	0.0	15.0
Sodium	103	100	103	92.9	116.4	104	104	0.435	0.0	15.0
Thallium	107	100	107	87.7	114.5	107	107	0.337	0.0	15.0
Vanadium	110	100	110	92.8	115.3	109	109	0.329	0.0	15.0
Yttrium	10.7	10.0	107	93.9	113.8	10.6	106	0.413	0.0	15.0
Zinc	107	100	107	95.2	117.5	105	105	1.21	0.0	15.0
Molybdenum	10.7	10.0	107	91.1	121.2	10.7	107	0.243	0.0	15.0
Phosphorus	96.1	100	96.1	86.7	118.1	95.4	95.4	0.765	0.0	15.0
Tellurium	103	100	103	90.3	115.5	101	101	1.35	0.0	15.0
Titanium	10.3	10.0	103	90.1	115.3	10.1	101	1.10	0.0	15.0
Zirconium	102	100	102	88.8	114.2	102	102	0.382	0.0	15.0

### QC Report Authorization (/S/ is an electronic signature that complies with 21 CFR Part 11)

Analyst	Peer Review
/S/ Peter P. Steen	/S/ Lauren Jones
11/22/2016 09:31	11/22/2016 10:54

### Symbols and Definitions

- \* Analyte above reporting limit or outside of control limits
- ▲ Sample result is greater than 4 times the spike added
- Sample and Matrix Duplicate less than 5 times the reporting limit
- 🜻 Result is above the calibration range

- RPD Relative % Difference (Spike / Spike Duplicate)
- ND Not Detected (U Qualifier also flags analyte as not detected) NA - Not Applicable
- QC results are not adjusted for moisture correction, where applicable