TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Irvine
17461 Derian Ave
Suite 100
Irvine, CA 92614-5817
Tel: (949)261-1022

TestAmerica Job ID: 440-19370-1
Client Project/Site: Dewatering Screw Metals and Chlorine

For:
Siemens Industry Inc
PO BOX 3308 (2523 Mutahar St.)
IMA065
Parker, Arizona 85344

Attn: Roy Provins

Authorized for release by:
8/17/2012 4:08:26 PM

Sushmitha Reddy
Project Manager I
sushmitha.reddy@testamericainc.com

LINKS

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The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Sample Summary

Client: Siemens Industry Inc
Project/Site: Dewatering Screw Metals and Chlorine

TestAmerica Job ID: 440-19370-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
440-19370-1	Dewatering Screw Comp. "metals"	Solid	07/16/12 13:00	08/03/12 12:30

Case Narrative

Client: Siemens Industry Inc
Project/Site: Dewatering Screw Metals and Chlorine

TestAmerica Job ID: 440-19370-1

Job ID: 440-19370-1

Laboratory: TestAmerica Irvine

Narrative

Job Narrative
440-19370-1

Comments
No additional comments.

Receipt
The sample was received on 8/3/2012 12:30 PM; the sample arrived in good condition, properly preserved and, where required, on ice.
The temperature of the cooler at receipt was 22.0º C.

Metals
No analytical or quality issues were noted.

Client Sample Results

Client: Siemens Industry Inc
Project/Site: Dewatering Screw Metals and Chlorine

TestAmerica Job ID: 440-19370-1

Client Sample ID: Dewatering Screw Comp. "metals"

Lab Sample ID: 440-19370-1

Date Collected: 07/16/12 13:00

Matrix: Solid

Date Received: 08/03/12 12:30

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		2.0		mg/Kg		08/10/12 09:15	08/10/12 19:31	5
Chromium	**10**		1.0		mg/Kg		08/10/12 09:15	08/10/12 19:31	5
Cadmium	ND		0.50		mg/Kg		08/10/12 09:15	08/10/12 19:31	5
Beryllium	ND		0.50		mg/Kg		08/10/12 09:15	08/10/12 19:31	5
Arsenic	**60**		2.0		mg/Kg		08/10/12 09:15	08/10/12 19:31	5

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.028**		0.020		mg/Kg		08/06/12 19:15	08/07/12 15:00	1

Lab Chronicle

Client: Siemens Industry Inc
Project/Site: Dewatering Screw Metals and Chlorine

TestAmerica Job ID: 440-19370-1

Client Sample ID: Dewatering Screw Comp. "metals"

Lab Sample ID: 440-19370-1

Date Collected: 07/16/12 13:00

Matrix: Solid

Date Received: 08/03/12 12:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	7471A			0.50 g	50 mL	43420	08/06/12 19:15	SN	TAL IRV
Total/NA	Analysis	7471A		1			43708	08/07/12 15:00	DB	TAL IRV
Total/NA	Prep	3050B			2.00 g	50 mL	44479	08/10/12 09:15	DT	TAL IRV
Total/NA	Analysis	6010B		5			44707	08/10/12 19:31	VS	TAL IRV

Laboratory References:

TAL IRV = TestAmerica Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

QC Sample Results

Client: Siemens Industry Inc
Project/Site: Dewatering Screw Metals and Chlorine

TestAmerica Job ID: 440-19370-1

Method: 6010B - Metals (ICP)

Lab Sample ID: MB 440-44479/1-A ^5 — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 44707 — **Prep Batch: 44479**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		2.0		mg/Kg		08/10/12 09:15	08/10/12 19:12	5
Chromium	ND		1.0		mg/Kg		08/10/12 09:15	08/10/12 19:12	5
Cadmium	ND		0.50		mg/Kg		08/10/12 09:15	08/10/12 19:12	5
Beryllium	ND		0.50		mg/Kg		08/10/12 09:15	08/10/12 19:12	5
Arsenic	ND		2.0		mg/Kg		08/10/12 09:15	08/10/12 19:12	5

Lab Sample ID: LCS 440-44479/2-A ^5 — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 44707 — **Prep Batch: 44479**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Lead	49.5	48.2		mg/Kg		97	80 - 120
Chromium	49.5	47.5		mg/Kg		96	80 - 120
Cadmium	49.5	45.9		mg/Kg		93	80 - 120
Beryllium	49.5	47.3		mg/Kg		95	80 - 120
Arsenic	49.5	47.5		mg/Kg		96	80 - 120

Lab Sample ID: 440-19285-A-30-D MS ^5 — **Client Sample ID: Matrix Spike**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 44707 — **Prep Batch: 44479**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Lead	140		49.5	124	F	mg/Kg		-29	75 - 125
Chromium	9.8		49.5	57.2		mg/Kg		96	75 - 125
Cadmium	ND		49.5	46.3		mg/Kg		94	75 - 125
Beryllium	ND		49.5	47.8		mg/Kg		96	75 - 125
Arsenic	3.0		49.5	48.8		mg/Kg		93	75 - 125

Lab Sample ID: 440-19285-A-30-E MSD ^5 — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 44707 — **Prep Batch: 44479**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Lead	140		49.8	131	F	mg/Kg		-15	75 - 125	5	20
Chromium	9.8		49.8	58.9		mg/Kg		99	75 - 125	3	20
Cadmium	ND		49.8	47.7		mg/Kg		96	75 - 125	3	20
Beryllium	ND		49.8	50.0		mg/Kg		100	75 - 125	4	20
Arsenic	3.0		49.8	50.8		mg/Kg		96	75 - 125	4	20

Method: 7471A - Mercury (CVAA)

Lab Sample ID: MB 440-43420/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 43708 — **Prep Batch: 43420**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.020		mg/Kg		08/06/12 19:15	08/07/12 14:48	1

QC Sample Results

Client: Siemens Industry Inc
Project/Site: Dewatering Screw Metals and Chlorine

TestAmerica Job ID: 440-19370-1

Method: 7471A - Mercury (CVAA) (Continued)

Lab Sample ID: LCS 440-43420/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 43708 — **Prep Batch: 43420**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Mercury			0.800	0.804		mg/Kg		100	80 - 120		

Lab Sample ID: 440-19399-A-2-E MS — **Client Sample ID: Matrix Spike**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 43708 — **Prep Batch: 43420**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Mercury	0.039		0.800	0.758		mg/Kg		90	70 - 130		

Lab Sample ID: 440-19399-A-2-F MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 43708 — **Prep Batch: 43420**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	0.039		0.816	0.774		mg/Kg		90	70 - 130	2	20

QC Association Summary

Client: Siemens Industry Inc
Project/Site: Dewatering Screw Metals and Chlorine

TestAmerica Job ID: 440-19370-1

Metals

Prep Batch: 43420

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-19370-1	Dewatering Screw Comp. "metals"	Total/NA	Solid	7471A	
440-19399-A-2-E MS	Matrix Spike	Total/NA	Solid	7471A	
440-19399-A-2-F MSD	Matrix Spike Duplicate	Total/NA	Solid	7471A	
LCS 440-43420/2-A	Lab Control Sample	Total/NA	Solid	7471A	
MB 440-43420/1-A	Method Blank	Total/NA	Solid	7471A	

Analysis Batch: 43708

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-19370-1	Dewatering Screw Comp. "metals"	Total/NA	Solid	7471A	43420
440-19399-A-2-E MS	Matrix Spike	Total/NA	Solid	7471A	43420
440-19399-A-2-F MSD	Matrix Spike Duplicate	Total/NA	Solid	7471A	43420
LCS 440-43420/2-A	Lab Control Sample	Total/NA	Solid	7471A	43420
MB 440-43420/1-A	Method Blank	Total/NA	Solid	7471A	43420

Prep Batch: 44479

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-19285-A-30-D MS ^5	Matrix Spike	Total/NA	Solid	3050B	
440-19285-A-30-E MSD ^5	Matrix Spike Duplicate	Total/NA	Solid	3050B	
440-19370-1	Dewatering Screw Comp. "metals"	Total/NA	Solid	3050B	
LCS 440-44479/2-A ^5	Lab Control Sample	Total/NA	Solid	3050B	
MB 440-44479/1-A ^5	Method Blank	Total/NA	Solid	3050B	

Analysis Batch: 44707

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-19285-A-30-D MS ^5	Matrix Spike	Total/NA	Solid	6010B	44479
440-19285-A-30-E MSD ^5	Matrix Spike Duplicate	Total/NA	Solid	6010B	44479
440-19370-1	Dewatering Screw Comp. "metals"	Total/NA	Solid	6010B	44479
LCS 440-44479/2-A ^5	Lab Control Sample	Total/NA	Solid	6010B	44479
MB 440-44479/1-A ^5	Method Blank	Total/NA	Solid	6010B	44479

Definitions/Glossary

Client: Siemens Industry Inc
Project/Site: Dewatering Screw Metals and Chlorine

TestAmerica Job ID: 440-19370-1

Qualifiers

Metals

Qualifier	Qualifier Description
F	MS or MSD exceeds the control limits

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
☼	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CNF	Contains no Free Liquid
DL, RA, RE, IN	Indicates a Dilution, Reanalysis, Re-extraction, or additional Initial metals/anion analysis of the sample
EDL	Estimated Detection Limit
EPA	United States Environmental Protection Agency
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RL	Reporting Limit
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Certification Summary

Client: Siemens Industry Inc
Project/Site: Dewatering Screw Metals and Chlorine

TestAmerica Job ID: 440-19370-1

Laboratory: TestAmerica Irvine

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Arizona	State Program	9	AZ0671	10-13-12
California	LA Cty Sanitation Districts	9	10256	01-31-13
California	NELAC	9	1108CA	01-31-13
California	State Program	9	2706	06-30-14
Guam	State Program	9	Cert. No. 12.002r	01-23-13
Hawaii	State Program	9	N/A	01-31-13
Nevada	State Program	9	CA015312007A	07-31-12
New Mexico	State Program	6	N/A	01-31-12
Northern Mariana Islands	State Program	9	MP0002	01-31-13
Oregon	NELAC	10	4005	09-12-12
USDA	Federal		P330-09-00080	06-06-14

140-14370

TestAmerica
ANALYTICAL TESTING CORPORATION

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☐ Cedar Falls, IA ☐ Pontiac, MI

To assist us in using the proper analytical methods, is this work being conducted for regulatory purposes?

Compliance Monitoring? yes
Enforcement Action? Yes No

Client Name/Account #: SIEMENS Water Technologies
Address: PO BOX 3308 2523 Mutahar St
City/State/Zip: Parker, AZ 85344
Project Manager: S. Reddy
Telephone Number: (928)669-5758 **Fax No.:** (928)669-5775
Sampler Name: (Print) Roy Provins
Sampler Signature: *Roy Provins*

Report To: James.R.Provins@Siemens.com
Invoice To: MICHELLE GOODMAN
TA Quote #:
Project ID:
Project #:

Sample ID / Description	Date Sampled	Time Sampled	No. of Containers Shipped	Grab	Composite	Field Filtered	Preservative: Ice	HNO3 (Red Label)	HCl (Blue Label)	NaOH (Orange Label)	H_2SO_4 Plastic (Yellow Label)	H_2SO_4 Glass (Yellow Label)	None (Black Label)	Other (Specify)	Matrix: Groundwater	Wastewater	Drinking Water	Sludge	Soil	Other (specify): Spent Carbon	Analyze For: As	Be	Cd	Cr	Pb	Hg						RUSH TAT (Pre-Schedule	Normal TAT	Fax Results	Send QC with report
Dewatering Screw Comp. "metals"	7/16/12	1300	1		■								■								■	■	■	■	■	■							✓		

Special Instructions:

Method of Shipment: UPS

Laboratory Comments:
Temperature Upon Receipt: RT
VOCs Free of Headspace? Y N

Relinquished by:	Date	Time	Received by:	Date	Time
Roy Provins	8/1/2012	1300			
Relinquished by:	Date	Time	Received by:	Date	Time
				08/03/12	12:30

8/17/2012

Login Sample Receipt Checklist

Client: Siemens Industry Inc

Job Number: 440-19370-1

Login Number: 19370
List Number: 1
Creator: Perez, Angel

List Source: TestAmerica Irvine

Question	Answer	Comment
Radioactivity either was not measured or, if measured, is at or below background	N/A	
The cooler's custody seal, if present, is intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	N/A	
Samples were received on ice.	N/A	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	Roy Provins
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	N/A	
Residual Chlorine Checked.	N/A	