

BEFORE THE WASHINGTON
UTILITIES AND TRANSPORTATION COMMISSION

SARAH HAND AND GRETCHEN HAND,
a married couple

Complainant,

v.

RAINIER VIEW WATER COMPANY, INC.,

Respondent.

DOCKET UW 170924

**EXHIBIT 3 TO REPLY TESTIMONY
OF SARAH HAND**

EXHIBIT 3

TO REPLY TESTIMONY OF SARAH HAND

July 2, 2018

Spectra Laboratory Water Report

re: Sarah Hand's Residence

SPECTRA LABORATORIES
2221 Ross Way, Tacoma Washington 98421 (253) 272-4850
INORGANIC CHEMICALS (IOCS) REPORT

System ID No.:		System Name: Hand-57434P	
Lab/Sample No: 11831341		Date Collected: 04/06/2017	DOH Source No:
Multiple Source Nos:		Sample Type:	Sample Purpose:
Date Received: 04/06/2017		Date Reported: 04/18/2017	Supervisor: <i>JAC</i>
Date Digested:		Date Analyzed:	Analyst:
County:		Group:	
Sample Location:		Sample Description: 1st Draw	
Send Report To: ESI 700 South Industrial Way Seattle, WA 98108-5231		Bill To: ESI	Spectra Order # 2017040191

DOH #	ANALYTES	RESULTS	UNITS	SRL	TRIGGER	MCL	EXCEEDS	Method/Analyst
EPA REGULATED							Trigger ?	MCL ?
4	Arsenic	ND	mg/l	0.002	0.01	0.01		EPA 200.8 SCJ
5	Barium	ND	mg/l	0.1	2	2		EPA 200.8 SCJ
6	Cadmium	ND	mg/l	0.002	0.005	0.005		EPA 200.8 SCJ
7	Chromium	ND	mg/l	0.01	0.1	0.1		EPA 200.8 SCJ
11	Mercury	ND	mg/l	0.0005	0.002	0.002		EPA 245.1 BJN
12	Selenium	ND *	mg/l	0.005	0.05	0.05		EPA 200.9 010
110	Beryllium	ND *	mg/l	0.003	0.004	0.004		EPA 200.7 010
111	Nickel	ND	mg/l	0.04	0.1	0.1		EPA 200.8 SCJ
112	Antimony	ND	mg/l	0.005	0.006	0.006		EPA 200.8 SCJ
113	Thallium	ND	mg/l	0.002	0.002	0.002		EPA 200.8 SCJ
116	Cyanide	ND *	mg/l	0.05	0.2	0.2		SM 4500-CN 010
19	Fluoride	ND	mg/l	0.2	2	4		SM 4500-F ⁻ SN
114	Nitrite-N	ND	mg/l	0.5	0.5	1		SM 4500-NO KR D
20	Nitrate-N	0.31	mg/l	0.5	5	10		Easy (1-Re) KR D
161	Total Nitrate/Nitrite	0.31	mg/l	0.5	5	10		Easy (1-Re) KR D
EPA REGULATED (Secondary)							Trigger ?	MCL ?
8	Iron	ND	mg/l	0.1	0.3	0.3		EPA 200.7 SCJ
10	Manganese	ND	mg/l	0.01	0.05	0.05		EPA 200.8 SCJ
13	Silver	ND	mg/l	0.01	0.1	0.1		EPA 200.8 SCJ
21	Chloride	ND	mg/l	20	250	250		SM 4500-CL MK
22	Sulfate	ND	mg/l	10	250	250		SM 4500-SO BJN
24	Zinc	0.26	mg/l	0.2	5	5		EPA 200.8 SCJ
STATE REGULATED							Trigger ?	MCL ?
14	Sodium	6.34 *	mg/l	5				EPA 200.7 010
15	Hardness	37	mg/l	10				SM 2340 B SCJ
16	Conductivity	130	umhos/cm	10	700	700		EPA 120.1 MK
17	Turbidity	ND	NTU	0.1	1	1		EPA 180.1 MK
18	Color	ND	color units	5	15	15		SM 2120 B MK
26	Total Dissolved Solids	110	mg/l	150	500	500		SM 2540 C KR D
STATE UNREGULATED							Trigger ?	MCL ?
9	Lead	ND	mg/l	0.002				EPA 200.8 SCJ
23	Copper	0.07	mg/l	0.2				EPA 200.8 SCJ

* Analyzed by Spectra Laboratories-Kitsap, complete report enclosed.

SRL (State Reporting Level):

Indicates the minimum reporting level by the Washington Department of Health (DOH).

Trigger Level:

DOH Drinking Water response level. Systems with compounds detected at concentrations in excess of this level are required to take additional samples. Contact your regional DOH office for further information.

MCL (maximum contaminant level):

If the contaminant amount exceeds the MCL, immediately contact your regional DOH office.

ND (Not Detected):

in the results column indicates this compound was analyzed and not detected at a level greater than or equal to the SRL.


04/10/2017

ESI
700 South Industrial Way
Seattle, WA 98108-5231
Attn: Susan Evans

Project: Hand-57434P
Client ID: 2nd Fl Master Tub
Sample Matrix: Drinking Water
Date Sampled: 04/06/2017
Date Received: 04/06/2017
Spectra Project: 2017040191
Spectra Number: 2

<u>Analyte</u>	<u>Result</u>	<u>Units</u>	<u>Method</u>
Coliform Bacteria	Absent		SM 9223
E. coli Bacteria	Absent		SM 9223

SPECTRA LABORATORIES



Jeffrey Cooper, Laboratory Manager
a6 mkw

SPECTRA Laboratories - Kitsap LLC

26276 Twelve Trees Lane, Suite C Poulsbo, WA 98370 Telephone (360) 779-5141 FAX (360) 779-5150

IOC - SHORT

IOC - SHORT by Various EPA Approved Methods

Source / Point of Entry - Report of Analysis

Date Collected: 4/6/2017 System ID No: Private Lab - Sample #: 01034901 Sample Location: 2017040191-1 Sample Purpose: O Sample Composition: Send Report To: Spectra Laboratories LLC 2221 Ross Way Tacoma, WA 98421	Group: System Name: 2017040191-1 County: DOH Source No: Date Received: 4/7/2017 Date Reported: 4/13/2017 Sample Type: Collected By: Phone Number: Bill To: Spectra Laboratories LLC 2221 Ross Way Tacoma, WA 98421
--	---

DOH#	Analyte	Results	Units	SRL	Trigger	MCL	MCL Exceeded	Method (Analyst Init.)	Date Analyzed
110	Beryllium	<0.0003	mg/L	0.0003	0.004	0.004		EPA 200.7 (KW)	04/11/17
116	Cyanide, Free	<0.05	mg/L	0.05	0.2	0.2		SM 4500-CN F (EC)	04/10/17
14	Sodium	6.34	mg/L	5				EPA 200.7 (KW)	04/11/17
12	Selenium	<0.002	mg/L	0.002	0.05	0.05		EPA 200.9 (KW)	04/12/17

- *Confirmation:** Include the original lab number, sample number, and collection date of the original sample in the special instruction section.
- SRL (State Reporting Level):** The minimum reporting level required by the Washington State Department of Health (DOH).
- Trigger Level:** DOH drinking water response level. Regulated systems with compounds detected at concentrations in excess of this level may be required to take additional samples or monitor more frequently. Please contact your DOH drinking water regional office for further information.
- MCL (Maximum Contaminant Level):** If the contaminant amount exceeds the MCL, please contact your regional DOH office to determine follow-up actions if you are a regulated system. Secondary MCL limits are established for aesthetic purposes and are not health based. Secondary parameters are iron, manganese, silver, chloride, sulfate, zinc, conductivity, color and TDS.
- NA (Not Analyzed):** In the results column, indicates this compound was not included in the current analysis.
- ND (Not Detected):** In the results column, indicates this compound was analyzed and not detected at a level greater than or equal to the SRL.
- < (0.00x):** The compound was not detected in the sample at or above the concentration indicated (usually the lab method reporting limit).
- mg/L:** milligrams per liter or parts per million
- NTU:** nephelometric turbidity units (a measure of water clarity).
- umhos/cm:** Micro ohms per centimeter (a measure of the ability of the water to conduct electricity). One micro ohm per centimeter is equivalent to one micro siemen per centimeter (uS/cm).
- :** No existing trigger or MCL value.

Client Information				Test Parameters Required											
Company/Client: <u>Spectra</u>				Ag Soil: pH and EC crop											
Address: <u>2221 Ross Way</u>				Fecal Coliform: MPN or MF											
City: <u>Tacoma</u> Zip: <u>98421</u>				TKN Total Phosphorous											
Project Manager/Report To: <u>Marie Holt</u>				Nitrate+Nitrite-N											
Project Name: <u>2017040191</u>				Nitrate-N Ammonia-N Orthophosphate-P											
Telephone No: <u>253-272-4850</u>				Turbidity pH											
Email address: <u>marieh@spectra-lab.com</u>				Solids: TDS TSS TVS TVSS TS											
Sampled by: _____				HEM SGT (Oil & Grease/TPH)											
Fax No: <u>253-672-9838</u>				BOD CBOD COD											
Lab ID: <u>167349-01</u>				Metals (Specify):											
Date: <u>4-6-17</u> Time: <u>0830</u> Matrix: <u>DW</u> Hazard: _____				603 Regs: As Cd Cu Pb Hg Mo Ni Se Zn											
Number of Containers				Priority Pollutant Metals: Sb As Be Cr Cu Pb Hg Ni Se Ag Tl Zn											
RCRA Metals: As Ba Cd Cr Pb Hg Se Ag				Special Instructions											
Signature (Name, Company, Date, Time)				Relinquished by: <u>Jan Draven Jendruven</u> Company <u>Spectra-Tac</u> Date <u>4/7/17</u> Time <u>11:50</u>											
Signature (print)				Received by: <u>H. Ferguson</u> Company <u>Spectra</u> Date <u>4-7-17</u> Time <u>1150</u>											
Signature (print)				Relinquished by: <u>H.F.</u> Company <u>Spectra</u> Date <u>4-7-17</u> Time <u>115</u>											
Signature (print)				Received by: <u>Angela Baras</u> Company <u>Spectra</u> Date <u>4/7/17</u> Time <u>115</u>											
Signature (print)				Additional charges may apply											

Samples received after 12 noon will be considered as received the following business day

SPECTRA LABORATORIES
 2221 Ross Way, Tacoma Washington 98421 (253) 272-4850
INORGANIC CHEMICALS (IOCS) REPORT

Rush Turn Around
 (Additional 50% Charge)

2017040191

PRIMARY ONLY PRIMARY AND SECONDARY SPECIFY BELOW

Client Name: ESI	Project Name: Hand - 57434 P
Client Address: 700 S. Industrial Way Seattle, WA 98108	Date Sampled: 4/6/17 Time Sampled: 8:30A
Phone: 206-952-2154 Email: slevans@engsys.com	Sample Location(address): Description(i.e. well head) 1st Draw

PUBLIC SYSTEMS ONLY

Water System ID Number: _____	System Name: _____
System Group Type: (circle one) A B Other: _____	County: _____
Sample Purpose: (check appropriate box) <input type="checkbox"/> RC - Routine/Compliance (satisfies monitoring requirements) <input type="checkbox"/> C - Confirmation (confirmation of chemical result) <input type="checkbox"/> I - Investigative (does not satisfy monitoring requirements) <input type="checkbox"/> O - Other (specify - does not satisfy monitoring requirements)	Sample Composition: (check appropriate box) <input type="checkbox"/> S - Single Source _____ <input type="checkbox"/> B - Blended _____, _____, _____, _____ <input type="checkbox"/> C - Composite _____, _____, _____, _____ <input type="checkbox"/> D - Distribution sample
Sample Collected by: (name) _____	Sample Type: (check one) <input type="checkbox"/> Untreated (raw) <input type="checkbox"/> Treated <input type="checkbox"/> Unknown
Phone Number: _____	

LAB USE ONLY

Date/Time Received: **4-6-17** **29485** Temp. **17.2** Paid Lab #: 118 - **31341**

	ANALYTE	RESULTS	UNITS	SRL	TRIGGER	MCL
<input type="checkbox"/>	Arsenic		mg/L	0.0014	0.010	0.010
<input type="checkbox"/>	Barium		mg/L	0.1	2	2
<input type="checkbox"/>	Cadmium		mg/L	0.001	0.005	0.005
<input type="checkbox"/>	Chromium		mg/L	0.007	0.1	0.1
<input type="checkbox"/>	Mercury		mg/L	0.0002	0.002	0.002
<input type="checkbox"/>	Selenium		mg/L	0.002	0.05	0.05
<input type="checkbox"/>	Beryllium		mg/L	0.0003	0.004	0.004
<input type="checkbox"/>	Antimony		mg/L	0.003	0.006	0.006
<input type="checkbox"/>	Thallium		mg/L	0.001	0.002	0.002
<input type="checkbox"/>	Cyanide		mg/L	0.01	0.2	0.2
<input type="checkbox"/>	Fluoride		mg/L	0.5	2	4
<input type="checkbox"/>	Nitrite-N		mg/L	0.1	0.5	1
<input type="checkbox"/>	Nitrate-N		mg/L	0.5	5	10
<input type="checkbox"/>	Total Nitrate/Nitrite		mg/L	0.5	5	10
<input type="checkbox"/>	Iron		mg/L	0.1	--	0.3
<input type="checkbox"/>	Manganese		mg/L	0.01	--	0.05
<input type="checkbox"/>	Silver		mg/L	0.1	--	0.1
<input type="checkbox"/>	Chloride		mg/L	20	--	250
<input type="checkbox"/>	Sulfate		mg/L	50	--	250
<input type="checkbox"/>	Zinc		mg/L	0.2	--	5
<input type="checkbox"/>	Sodium		mg/L	5	--	--
<input type="checkbox"/>	Hardness		mg/L	10	--	--
<input type="checkbox"/>	Conductivity		umhos/cm	70	--	700
<input type="checkbox"/>	Turbidity		NTU	0.1	--	--
<input type="checkbox"/>	Color		color units	15	--	15
<input type="checkbox"/>	TDS-Total Dissolved Solids		mg/L	100	--	500
<input type="checkbox"/>	Nickel		mg/L	0.005	--	--
<input type="checkbox"/>	Lead		mg/L	0.001	--	--
<input type="checkbox"/>	Copper		mg/L	0.02	--	--

SRL (State Reporting Level): The minimum reporting level established by the Washington State Department of Health (DOH).

Trigger Level: DOH drinking water response level. Systems with compounds detected at concentrations in excess of this level may be required to take additional samples or monitor more frequently.

MCL (maximum contaminant level): If the contaminant amount exceeds the MCL, please contact your regional DOH office to determine follow-up actions

COLIFORM BACTERIA ANALYSIS

Date Sample Collected 4/6/17 Month Day Year	Time Sample Collected 8:36 AM AM PM	County PIERCE
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Type of Water System (check only one box)
 Group A Group B Private Well

Group A and Group B Systems - Provide from Water Facilities Inventory (WFI):
 ID# _____
 System Name or Well Address if Private: _____

Contact Person: Susan Evans

Day Phone: (206) 957-2154 Cell Phone: 206 601-3254

Email Address: slevans@engsys.com

Client Information: (Print full name, mailing address and zip code)
ESI
700 S. Industrial Way
Seattle, WA 98108

Sample collected by (name): Susan Evans

Specific location sample collected (well, bath): 2nd Fl Master Tub
 Special Instructions or comments: _____

PUBLIC SYSTEMS FILL OUT SHADED AREA (must check only one box of #1 - 5)

1. <input checked="" type="checkbox"/> Routine Distribution Sample Chlorinated: Yes <input checked="" type="checkbox"/> No _____ Chlorine Residual: Total _____ Free _____	2. Repeat Sample (A/P) (from distribution system after unsat. routine) Unsatisfactory routine lab number: _____ Unsatisfactory routine collect date: _____/_____/_____ Chlorinated: Yes _____ No _____ Chlorine Residual: Total _____ Free _____
3. Ground Water Rule Source Sample <input type="checkbox"/> Triggered (A/P) <input type="checkbox"/> Assesment (A/P)	<input type="checkbox"/> Sample or GWI Raw Source Water Sample (Enumeration) <u>S</u> <input type="checkbox"/> E. coli <input type="checkbox"/> E. coli Filtered Yes _____ No _____
5. <input type="checkbox"/> Sample Collected for Information Only Investigative _____ Construction / Repairs _____ Other _____	

LAB USE ONLY DRINKING WATER RESULTS LAB USE ONLY

Unsatisfactory Total Coliform Present and
 E. coli present E. coli absent
 Fecal coliform present Fecal coliform absent

Satisfactory

Replacement Sample Required:
 Sample too old (>30 hours) TNTC _____
 Improper Container Turbid Culture

Bacterial Density Results: Plate Count _____ /ml. E.coli _____ /100ml.
 Total Coliform _____ /100ml. Fecal Coliform _____ /100ml.

Date/Time Incubated 4/6/17 1520	Date and Time Received: 4-6-17 0945
Date/Time Analyzed: 4/7/17 1405	Temp: 16.4 Rec'd by: <u>LA</u>
Sample Number (DOH number plus five digits) 118 - 31342	Reported: 4.18.17 1350
	Reported by: _____
	Paid: _____

SPECTRA Laboratories

...Where experience matters

2221 Ross Way • Tacoma, WA 98421 • (253) 272-4850 • Fax (253) 572-9838 • www.spectra-lab.com

04/18/2017

ESI
700 South Industrial Way
Seattle, WA 98108-5231
Attn: Susan Evans


Project: Hand-57434P
Client ID: WH Drain
Sample Matrix: Drinking Water
Date Sampled: 04/06/2017
Date Received: 04/06/2017
Spectra Project: 2017040192
Spectra Number: 1

Analyte	Result	Units	Method
Conductivity	160	umhos/c	EPA 120.1
Turbidity	1.6	NTU	EPA 180.1
Beryllium	ND *	mg/L	EPA 200.7
Iron	ND	mg/L	EPA 200.7
Sodium	11.5 *	mg/L	EPA 200.7
Antimony	ND	mg/L	EPA 200.8
Arsenic	ND	mg/L	EPA 200.8
Barium	ND	mg/L	EPA 200.8
Cadmium	ND	mg/L	EPA 200.8
Chromium	ND	mg/L	EPA 200.8
Copper	ND	mg/L	EPA 200.8
Lead	ND	mg/L	EPA 200.8
Manganese	0.03	mg/L	EPA 200.8
Nickel	ND	mg/L	EPA 200.8
Silver	ND	mg/L	EPA 200.8
Thallium	ND	mg/L	EPA 200.8
Zinc	ND	mg/L	EPA 200.8
Selenium	ND *	mg/L	EPA 200.9
Mercury	ND	mg/L	EPA 245.1
Nitrate	2.2	mg/L-N Easy (1-Reagent)	
Nitrate/Nitrite	2.2	mg/L-N Easy (1-Reagent)	

Analyte	Result	Units	Method
Particle Count by LASER	42,150**	#/cc	NSF
Color	30	Color	SM 2120 B
Total Hardness	39	mg/L	SM 2340 B
Total Dissolved Solids	110	mg/L	SM 2540 C
Total Suspended Solids	1.0	mg/L	SM 2540 D
Chloride	ND	mg/L	SM 4500-CL ⁻ B
Total Cyanide	ND *	mg/L	SM 4500-CN ⁻ F
Fluoride	ND	mg/L	SM 4500-F ⁻ C
Nitrite	ND	mg/L-NSM	4500-NO ₂ ⁻ B
Sulfate	ND	mg/L	SM 4500-SO ₄ ⁻ E

*Analyzed at Spectra Laboratories-Kitsap. See enclosed report. **For further detail on the particle count analysis please see the enclosed scan.

SPECTRA LABORATORIES


Jeffrey Cooper, Laboratory Manager

a14/jac

SPECTRA LABORATORIES
2221 Ross Way, Tacoma Washington 98421 (253) 272-4850
INORGANIC CHEMICALS (IOCS) REPORT

System ID No.:		System Name: Hand-57434P	
Lab/Sample No: 11831343		Date Collected: 04/06/2017	DOH Source No:
Multiple Source Nos:		Sample Type:	Sample Purpose:
Date Received: 04/06/2017		Date Reported: 04/18/2017	Supervisor: JAC
Date Digested:		Date Analyzed:	Analyst:
County:		Group:	
Sample Location:		Sample Description: WH Drain	
Send Report To: ESI 700 South Industrial Way Seattle, WA 98108-5231		Bill To: ESI	Spectra Order # 2017040192

DOH #	ANALYTES	RESULTS	UNITS	SRL	TRIGGER	MCL	EXCEEDS	Method/Analyst
EPA REGULATED							Trigger ?	MCL ?
4	Arsenic	ND	mg/l	0.002	0.01	0.01		EPA 200.8 SCJ
5	Barium	ND	mg/l	0.1	2	2		EPA 200.8 SCJ
6	Cadmium	ND	mg/l	0.002	0.005	0.005		EPA 200.8 SCJ
7	Chromium	ND	mg/l	0.01	0.1	0.1		EPA 200.8 SCJ
11	Mercury	ND	mg/l	0.0005	0.002	0.002		EPA 245.1 BJN
12	Selenium	ND *	mg/l	0.005	0.05	0.05		EPA 200.9 010
110	Beryllium	ND *	mg/l	0.003	0.004	0.004		EPA 200.7 010
111	Nickel	ND	mg/l	0.04	0.1	0.1		EPA 200.8 SCJ
112	Antimony	ND	mg/l	0.005	0.006	0.006		EPA 200.8 SCJ
113	Thallium	ND	mg/l	0.002	0.002	0.002		EPA 200.8 SCJ
116	Cyanide	ND *	mg/l	0.05	0.2	0.2		SM 4500-CN 010
19	Fluoride	ND	mg/l	0.2	2	4		SM 4500-F ⁻ SN
114	Nitrite-N	ND	mg/l	0.5	0.5	1		SM 4500-NO KR D
20	Nitrate-N	2.2	mg/l	0.5	5	10		Easy (1-Re KR D
161	Total Nitrate/Nitrite	2.2	mg/l	0.5	5	10		Easy (1-Re KR D
EPA REGULATED (Secondary)							Trigger ?	MCL ?
8	Iron	ND	mg/l	0.1	0.3	0.3		EPA 200.7 SCJ
10	Manganese	0.03	mg/l	0.01	0.05	0.05		EPA 200.8 SCJ
13	Silver	ND	mg/l	0.01	0.1	0.1		EPA 200.8 SCJ
21	Chloride	ND	mg/l	20	250	250		SM 4500-CL MK
22	Sulfate	ND	mg/l	10	250	250		SM 4500-SO BJN
24	Zinc	ND	mg/l	0.2	5	5		EPA 200.8 SCJ
STATE REGULATED							Trigger ?	MCL ?
14	Sodium	11.5 *	mg/l	5				EPA 200.7 010
15	Hardness	39	mg/l	10				SM 2340 B SCJ
16	Conductivity	160	umhos/cm	10	700	700		EPA 120.1 MK
17	Turbidity	1.6	NTU	0.1	1	1		EPA 180.1 MK
18	Color	30	color units	5	15	15		SM 2120 B MK
26	Total Dissolved Solids	110	mg/l	150	500	500		SM 2540 C KR D
STATE UNREGULATED							Trigger ?	MCL ?
9	Lead	ND	mg/l	0.002				EPA 200.8 SCJ
23	Copper	ND	mg/l	0.2				EPA 200.8 SCJ

* Analyzed by Spectra Laboratories-Kitsap, complete report enclosed.

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in the results column indicates this compound was analyzed and not detected at a level greater than or equal to the SRL.

SPECTRA Laboratories - Kitsap LLC

26276 Twelve Trees Lane, Suite C Poulsbo, WA 98370 Telephone (360) 779-5141 FAX (360) 779-5150

IOC - SHORT IOC - SHORT by Various EPA Approved Methods Source / Point of Entry - Report of Analysis

Date Collected: 4/6/2017
 System ID No: Private
 Lab - Sample #: 01035001
 Sample Location: 2017040192-1
 Sample Purpose: O
 Sample Composition:
 Send Report To: Spectra Laboratories LLC
 2221 Ross Way
 Tacoma, WA 98421

Group:
 System Name: 2017040192-1
 County:
 DOH Source No:
 Date Received: 4/7/2017
 Date Reported: 4/13/2017
 Sample Type:
 Collected By:
 Phone Number:
 Bill To: Spectra Laboratories LLC
 2221 Ross Way
 Tacoma, WA 98421

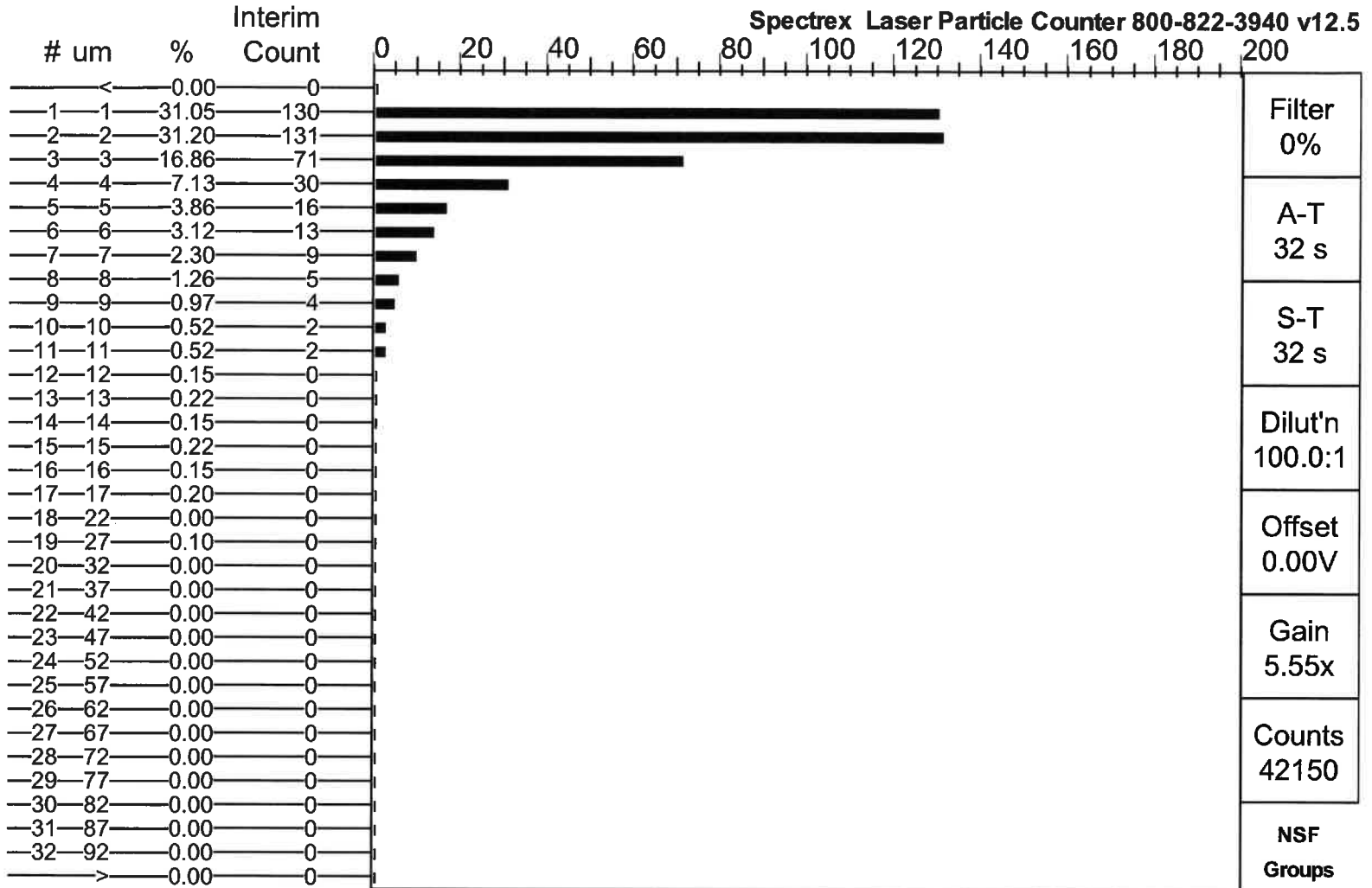
DOH#	Analyte	Results	Units	SRL	Trigger	MCL	MCL Exceeded	Method (Analyst Init.)	Date Analyzed
110	Beryllium	<0.0003	mg/L	0.0003	0.004	0.004		EPA 200.7 (KW)	04/11/17
116	Cyanide, Free	<0.05	mg/L	0.05	0.2	0.2		SM 4500-CN F (EC)	04/10/17
14	Sodium	11.5	mg/L	5				EPA 200.7 (KW)	04/11/17
12	Selenium	<0.002	mg/L	0.002	0.05	0.05		EPA 200.9 (KW)	04/12/17

- *Confirmation:** Include the original lab number, sample number, and collection date of the original sample in the special instruction section.
- SRL (State Reporting Level):** The minimum reporting level required by the Washington State Department of Health (DOH).
- Trigger Level:** DOH drinking water response level. Regulated systems with compounds detected at concentrations in excess of this level may be required to take additional samples or monitor more frequently. Please contact your DOH drinking water regional office for further information.
- MCL (Maximum Contaminant Level):** If the contaminant amount exceeds the MCL, please contact your regional DOH office to determine follow-up actions if you are a regulated system. Secondary MCL limits are established for aesthetic purposes and are not health based. Secondary parameters are iron, manganese, silver, chloride, sulfate, zinc, conductivity, color and TDS.
- NA (Not Analyzed):** In the results column, indicates this compound was not included in the current analysis.
- ND (Not Detected):** In the results column, indicates this compound was analyzed and not detected at a level greater than or equal to the SRL.
- < (0.00x):** The compound was not detected in the sample at or above the concentration indicated (usually the lab method reporting limit).
- mg/L:** milligrams per liter or parts per million
- NTU:** nephelometric turbidity units (a measure of water clarity).
- umhos/cm:** Micro ohms per centimeter (a measure of the ability of the water to conduct electricity). One micro ohm per centimeter is equivalent to one micro siemen per centimeter (uS/cm).
- :** No existing trigger or MCL value.

Client Information				Test Parameters Required											
Company/Client: <u>Spectra</u>				Ag Soil: pH and EC crop:											
Address: <u>2221 Ross Way</u>				Fecal Coliform: MPN or MF											
City: <u>Tacoma</u> Zip: <u>98421</u>				TKN Total Phosphorus											
Project Manager/Report To: <u>Marie Holt</u>				Nitrate+Nitrite-N											
Project Name: <u>2017040192</u>				Nitrate-N Ammonia-N Orthophosphate-P											
Telephone No: <u>253-272-4850</u> Fax No: <u>253-572-9838</u>				Turbidity pH											
Email address: <u>marieh@spectra-lab.com</u>				Solids: TSS TVS TVSS TS											
Sampled by:				HEM SGT (Oil & Grease/TPH)											
Lab ID: <u>167350-01</u>				BOD CBOD COD											
Matrix: <u>DW</u>				Metals (Specify):											
Date: <u>4-6-17</u> Time: <u>0830</u>				503 Regs: As Cd Cu Pb Hg Mo Ni Se Zn											
Hazard: <u>DW</u>				Priority Pollutant Metals: Sb As Be Cr Cu Pb Hg Ni Se Ag Tl Zn											
Hazardous sample disposal (Coat of disposal will be billed to client)				RCRA Metals: As Ba Cd Cr Pb Hg Se Ag											
<input checked="" type="checkbox"/> Routine Disposal <input type="checkbox"/> Return to Client				Number of Containers: <u>2</u>											
<input type="checkbox"/> Hazardous sample disposal (Coat of disposal will be billed to client)				Special Instructions											
Relinquished by: <u>Jen Draven Jen Draven</u> (print) Company: <u>Spectra-Tac</u> Date: <u>4/1/17</u> Time: <u>11:50</u> Received by: <u>J. Ferguson</u> (print) Company: <u>Spectra</u> Date: <u>4-7-17</u> Time: <u>1150</u> Relinquished by: <u>JF</u> (print) Company: <u>Spectra</u> Date: <u>4-7-17</u> Time: <u>115</u> Received by: <u>Angela Purcus</u> (print) Company: <u>Spectra</u> Date: <u>4/17/17</u> Time: <u>115</u>				Signatures (Name, Company, Date, Time)											
Total # of containers COC seals present? <input type="checkbox"/> intact? <input type="checkbox"/> Temp at receipt? <u> </u> ° C Samples intact? Received Via: Turn-around Time Requirement <input type="checkbox"/> Standard (10 Business days) <input type="checkbox"/> Rush (specify date needed) ‡ Other (specify) <u>4-17-17</u> ‡ additional charges may apply															

Samples received after 12 noon will be considered as received the following business day

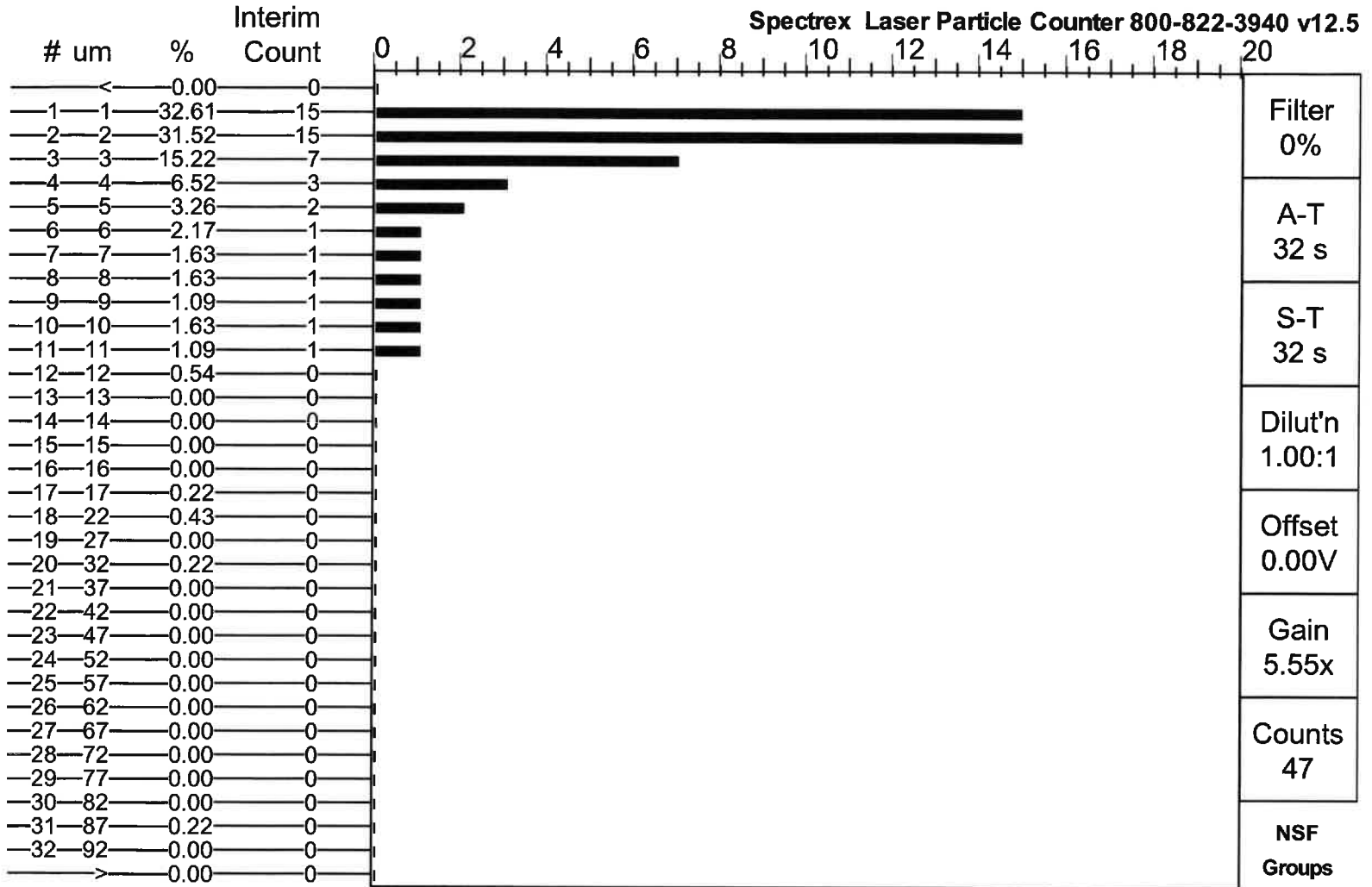
04-18-17
 ESI
 2017040192-1
 WH Drain



Bin	Size	Total counts /cc	Counts percent	Surface area percent	Volume percent
---	< 1	0.00	0.00%	0.00%	0.00%
1	1-5	36,356.72	86.26%	31.87%	14.58%
2	5-15	5,511.44	13.08%	51.68%	53.03%
3	15-30	281.84	0.67%	16.45%	32.39%
4	30-50	0.00	0.00%	0.00%	0.00%
	50-100	0.00	0.00%	0.00%	0.00%

Total counts: 42,150.00/cc
 Dilution factor: 100.00:1
 Mean size: 2.75um
 Standard dev: 2.38um

Bin	Size	Total counts /cc	Counts percent	Surface area percent	Volume percent
---	-----	-----	-----	-----	-----
	<	0.00	0.00%	0.00%	0.00%
1	1um	13,089.67	31.05%	2.35%	0.50%
2	2um	13,152.30	31.20%	9.43%	3.36%
3	3um	7,108.51	16.86%	11.47%	5.54%
4	4um	3,006.24	7.13%	8.62%	5.17%
5	5um	1,628.38	3.86%	7.30%	5.18%
6	6um	1,315.23	3.12%	8.49%	6.90%
7	7um	970.77	2.30%	8.53%	7.78%
8	8um	532.36	1.26%	6.11%	6.16%
9	9um	407.10	0.97%	5.91%	6.51%
10	10um	219.21	0.52%	3.93%	4.69%
11	11um	219.21	0.52%	4.76%	6.09%
12	12um	62.63	0.15%	1.62%	2.21%
13	13um	93.95	0.22%	2.85%	4.13%
14	14um	62.63	0.15%	2.20%	3.38%
15	15um	93.95	0.22%	3.79%	6.13%
16	16um	62.63	0.15%	2.87%	4.88%
17	17um	83.51	0.20%	4.33%	7.68%
18	22um	0.00	0.00%	0.00%	0.00%
19	27um	41.75	0.10%	5.46%	13.71%
20	32um	0.00	0.00%	0.00%	0.00%
21	37um	0.00	0.00%	0.00%	0.00%
22	42um	0.00	0.00%	0.00%	0.00%
23	47um	0.00	0.00%	0.00%	0.00%
24	52um	0.00	0.00%	0.00%	0.00%
25	57um	0.00	0.00%	0.00%	0.00%
26	62um	0.00	0.00%	0.00%	0.00%
27	67um	0.00	0.00%	0.00%	0.00%
28	72um	0.00	0.00%	0.00%	0.00%
29	77um	0.00	0.00%	0.00%	0.00%
30	82um	0.00	0.00%	0.00%	0.00%
31	87um	0.00	0.00%	0.00%	0.00%
32	92um	0.00	0.00%	0.00%	0.00%
	>	0.00	0.00%	0.00%	0.00%
	-----	-----	-----	-----	-----
	TOTALS	42,150.00	100.00%	100.00%	100.00%



Bin	Size	Total counts /cc	Counts percent	Surface area percent	Volume percent
---	< 1	0.00	0.00%	0.00%	0.00%
1	1-5	40.36	85.87%	11.95%	1.48%
2	5-15	6.13	13.04%	24.05%	7.11%
3	15-30	0.31	0.65%	8.17%	4.63%
4	30-50	0.10	0.22%	6.65%	5.21%
	50-100	0.10	0.22%	49.17%	81.56%

Total counts: 47.00/cc
 Mean size: 3.05um
 Standard dev: 4.92um

Bin	Size	Total counts /cc	Counts percent	Surface area percent	Volume percent
---	<	0.00	0.00%	0.00%	0.00%
1	1um	15.33	32.61%	0.97%	0.06%
2	2um	14.82	31.52%	3.77%	0.37%
3	3um	7.15	15.22%	4.09%	0.54%
4	4um	3.07	6.52%	3.12%	0.51%
5	5um	1.53	3.26%	2.44%	0.47%
6	6um	1.02	2.17%	2.34%	0.52%
7	7um	0.77	1.63%	2.39%	0.60%
8	8um	0.77	1.63%	3.12%	0.86%
9	9um	0.51	1.09%	2.63%	0.80%
10	10um	0.77	1.63%	4.87%	1.60%
11	11um	0.51	1.09%	3.93%	1.38%
12	12um	0.26	0.54%	2.34%	0.88%
13	13um	0.00	0.00%	0.00%	0.00%
14	14um	0.00	0.00%	0.00%	0.00%
15	15um	0.00	0.00%	0.00%	0.00%
16	16um	0.00	0.00%	0.00%	0.00%
17	17um	0.10	0.22%	1.88%	0.92%
18	22um	0.20	0.43%	6.29%	3.72%
19	27um	0.00	0.00%	0.00%	0.00%
20	32um	0.10	0.22%	6.65%	5.21%
21	37um	0.00	0.00%	0.00%	0.00%
22	42um	0.00	0.00%	0.00%	0.00%
23	47um	0.00	0.00%	0.00%	0.00%
24	52um	0.00	0.00%	0.00%	0.00%
25	57um	0.00	0.00%	0.00%	0.00%
26	62um	0.00	0.00%	0.00%	0.00%
27	67um	0.00	0.00%	0.00%	0.00%
28	72um	0.00	0.00%	0.00%	0.00%
29	77um	0.00	0.00%	0.00%	0.00%
30	82um	0.00	0.00%	0.00%	0.00%
31	87um	0.10	0.22%	49.17%	81.56%
32	92um	0.00	0.00%	0.00%	0.00%
	>	0.00	0.00%	0.00%	0.00%
	TOTALS	47.00	100.00%	100.00%	100.00%

SPECTRA LABORATORIES
 2221 Ross Way, Tacoma Washington 98421 (253) 272-4850
INORGANIC CHEMICALS (IOCS) REPORT

Rush Turn Around
 (Additional 50% Charge)

2017040192

PRIMARY ONLY PRIMARY AND SECONDARY SPECIFY BELOW

Client Name: ESI	Project Name: Hand - 57434P
Client Address: 700 S Industrial Way Seattle, WA 98108	Date Sampled: 4/6/17 Time Sampled: 8:30
Phone: 206-957-2154 Email: sl@ensys.com	Sample Location(address):
	Description(i.e. well head) WH Drain

PUBLIC SYSTEMS ONLY

Water System ID Number: _____	System Name:
System Group Type: (circle one) A B Other:	County:
Sample Purpose: (check appropriate box) <input type="checkbox"/> RC - Routine/Compliance (satisfies monitoring requirements) <input type="checkbox"/> C - Confirmation (confirmation of chemical result) <input type="checkbox"/> I - Investigative (does not satisfy monitoring requirements) <input type="checkbox"/> O - Other (specify - does not satisfy monitoring requirements)	Sample Composition: (check appropriate box) <input type="checkbox"/> S - Single Source _____ <input type="checkbox"/> B - Blended _____, _____, _____, _____ <input type="checkbox"/> C - Composite _____, _____, _____, _____ <input type="checkbox"/> D - Distribution sample
Sample Collected by: (name)	Sample Type: (check one) <input type="checkbox"/> Untreated (raw) <input type="checkbox"/> Treated <input type="checkbox"/> Unknown
Phone Number:	

LAB USE ONLY

Date/Time Received: **4-6-17 0945** Temp. **24.6** Paid Lab #: 118 - **31343**

	ANALYTE	RESULTS	UNITS	SRL	TRIGGER	MCL
<input type="checkbox"/>	Arsenic		mg/L	0.0014	0.010	0.010
<input type="checkbox"/>	Barium		mg/L	0.1	2	2
<input type="checkbox"/>	Cadmium		mg/L	0.001	0.005	0.005
<input type="checkbox"/>	Chromium		mg/L	0.007	0.1	0.1
<input type="checkbox"/>	Mercury		mg/L	0.0002	0.002	0.002
<input type="checkbox"/>	Selenium		mg/L	0.002	0.05	0.05
<input type="checkbox"/>	Beryllium		mg/L	0.0003	0.004	0.004
<input type="checkbox"/>	Antimony		mg/L	0.003	0.006	0.006
<input type="checkbox"/>	Thallium		mg/L	0.001	0.002	0.002
<input type="checkbox"/>	Cyanide		mg/L	0.01	0.2	0.2
<input type="checkbox"/>	Fluoride		mg/L	0.5	2	4
<input type="checkbox"/>	Nitrite-N		mg/L	0.1	0.5	1
<input type="checkbox"/>	Nitrate-N		mg/L	0.5	5	10
<input type="checkbox"/>	Total Nitrate/Nitrite		mg/L	0.5	5	10
<input type="checkbox"/>	Iron		mg/L	0.1	--	0.3
<input type="checkbox"/>	Manganese		mg/L	0.01	--	0.05
<input type="checkbox"/>	Silver		mg/L	0.1	--	0.1
<input type="checkbox"/>	Chloride		mg/L	20	--	250
<input type="checkbox"/>	Sulfate		mg/L	50	--	250
<input type="checkbox"/>	Zinc		mg/L	0.2	--	5
<input type="checkbox"/>	Sodium		mg/L	5	--	--
<input type="checkbox"/>	Hardness		mg/L	10	--	--
<input type="checkbox"/>	Conductivity		umhos/cm	70	--	700
<input type="checkbox"/>	Turbidity		NTU	0.1	--	--
<input type="checkbox"/>	Color		color units	15	--	15
<input type="checkbox"/>	TDS-Total Dissolved Solids		mg/L	100	--	500
<input type="checkbox"/>	Nickel		mg/L	0.005	--	--
<input type="checkbox"/>	Lead		mg/L	0.001	--	--
<input type="checkbox"/>	Copper		mg/L	0.02	--	--

SRL (State Reporting Level): The minimum reporting level established by the Washington State Department of Health (DOH).

Trigger Level: DOH drinking water response level. Systems with compounds detected at concentrations in excess of this level may be required to take additional samples or monitor more frequently.

MCL (maximum contaminant level): If the contaminant amount exceeds the MCL, please contact your regional DOH office to determine follow-up actions

LABORATORY ANALYSIS REQUEST

Client Name: ESI Attn: Susan Evans

Address: 700 S. Industrial Way

City: Seattle State: WA Zip: 98108

Phone # 206-957-2154 Fax or Email: slevans@engsys.com

Payment Method

Check Money Order Visa/MC

(Please write in credit card information below)

Card # - - - - - Exp. Date - - - - - CVC#

(3 digit # on back of card)

Sampling Information

Project Name: Hand-57434 P Sample ID: WH Drain Date Sampled: 4/6/17

Turn Around

Standard (7-10 business days) Rush(24-48hr)

FILTRATION SYSTEM WATER CHECK INCLUDES

Particle Count

(quantifies number and size distribution of particles)

T.S.S.

(Total Suspended Solids)

Fee \$59.00(standard) \$88.50(rush)

Sampling Directions:

- 1. Rinse and shake bottle thoroughly (with the lid on) three times using the water to be tested. (1 - Liter Bottle)
2. Fill Bottle Completely.
3. Record Information on bottle label.
4. Wrap bottle in bubble wrap provided.
5. Place bottle in baggy and seal.
6. Complete this form and enclose in box with payment.
7. Seal box securely.

Please feel free to call us if you have questions or additional testing needs. 1-877-452-5132

SPECTRA Laboratories

...Where experience matters

2221 Ross Way • Tacoma, WA 98421 • (253) 272-4850 • Fax (253) 572-9838 • www.spectra-lab.com

04/18/2017

ESI
700 South Industrial Way
Seattle, WA 98108-5231
Attn: Susan Evans


Project: Hand-57434P
Client ID: HW-MTub Faucet
Sample Matrix: Drinking Water
Date Sampled: 04/06/2017
Date Received: 04/06/2017
Spectra Project: 2017040193
Spectra Number: 1

Analyte	Result	Units	Method
Conductivity	160	umhos/c	EPA 120.1
Turbidity	2.6	NTU	EPA 180.1
Beryllium	ND *	mg/L	EPA 200.7
Iron	0.07	mg/L	EPA 200.7
Sodium	11.7 *	mg/L	EPA 200.7
Antimony	ND	mg/L	EPA 200.8
Arsenic	ND	mg/L	EPA 200.8
Barium	ND	mg/L	EPA 200.8
Cadmium	ND	mg/L	EPA 200.8
Chromium	ND	mg/L	EPA 200.8
Copper	0.05	mg/L	EPA 200.8
Lead	0.005	mg/L	EPA 200.8
Manganese	0.08	mg/L	EPA 200.8
Nickel	ND	mg/L	EPA 200.8
Silver	ND	mg/L	EPA 200.8
Thallium	ND	mg/L	EPA 200.8
Zinc	ND	mg/L	EPA 200.8
Selenium	ND *	mg/L	EPA 200.9
Mercury	ND	mg/L	EPA 245.1
Nitrate	0.95	mg/L-N Easy (1-Reagent)	
Nitrate/Nitrite	0.95	mg/L-N Easy (1-Reagent)	

Analyte	Result	Units	Method
Particle Count by LASER	37,850**	#/cc	NSF
Color	> 60	Color	SM 2120 B
Total Hardness	36	mg/L	SM 2340 B
Total Dissolved Solids	120	mg/L	SM 2540 C
Total Suspended Solids	2.0	mg/L	SM 2540 D
Chloride	ND	mg/L	SM 4500-CL ⁻ B
Total Cyanide	ND *	mg/L	SM 4500-CN ⁻ F
Fluoride	ND	mg/L	SM 4500-F ⁻ C
Nitrite	ND	mg/L-NSM 4500-NO ₂ ⁻ B	
Sulfate	ND	mg/L	SM 4500-SO ₄ ⁻ E

*Analyzed at Spectra Laboratories-Kitsap. See enclosed report. **For further detail on the particle count analysis please see the enclosed scan.

SPECTRA LABORATORIES


Jeremy Cooper, Laboratory Manager
a14/jac

SPECTRA LABORATORIES
2221 Ross Way, Tacoma Washington 98421 (253) 272-4850
INORGANIC CHEMICALS (IOCS) REPORT

System ID No.:		System Name: Hand-57434P	
Lab/Sample No: 11831344	Date Collected: 04/06/2017	DOH Source No:	
Multiple Source Nos:	Sample Type:	Sample Purpose:	
Date Received: 04/06/2017	Date Reported: 04/18/2017	Supervisor: JAC	
Date Digested:	Date Analyzed:	Analyst:	
County:			Group:
Sample Location:		Sample Description: HW-MTub Faucet	
Send Report To: ESI 700 South Industrial Way Seattle, WA 98108-5231		Bill To: ESI	Spectra Order # 2017040193

DOH #	ANALYTES	RESULTS	UNITS	SRL	TRIGGER	MCL	EXCEEDS	Method/Analyst
EPA REGULATED							Trigger ?	MCL ?
4	Arsenic	ND	mg/l	0.002	0.01	0.01		EPA 200.8 SCJ
5	Barium	ND	mg/l	0.1	2	2		EPA 200.8 SCJ
6	Cadmium	ND	mg/l	0.002	0.005	0.005		EPA 200.8 SCJ
7	Chromium	ND	mg/l	0.01	0.1	0.1		EPA 200.8 SCJ
11	Mercury	ND	mg/l	0.0005	0.002	0.002		EPA 245.1 BJN
12	Selenium	ND *	mg/l	0.005	0.05	0.05		EPA 200.9 010
110	Beryllium	ND *	mg/l	0.003	0.004	0.004		EPA 200.7 010
111	Nickel	ND	mg/l	0.04	0.1	0.1		EPA 200.8 SCJ
112	Antimony	ND	mg/l	0.005	0.006	0.006		EPA 200.8 SCJ
113	Thallium	ND	mg/l	0.002	0.002	0.002		EPA 200.8 SCJ
116	Cyanide	ND *	mg/l	0.05	0.2	0.2		SM 4500-CN 010
19	Fluoride	ND	mg/l	0.2	2	4		SM 4500-F ⁻ SN
114	Nitrite-N	ND	mg/l	0.5	0.5	1		SM 4500-NO KR D
20	Nitrate-N	0.95	mg/l	0.5	5	10		Easy (1-Re) KR D
161	Total Nitrate/Nitrite	0.95	mg/l	0.5	5	10		Easy (1-Re) KR D
EPA REGULATED (Secondary)							Trigger ?	MCL ?
8	Iron	0.07	mg/l	0.1	0.3	0.3		EPA 200.7 SCJ
10	Manganese	0.08	mg/l	0.01	0.05	0.05		EPA 200.8 SCJ
13	Silver	ND	mg/l	0.01	0.1	0.1		EPA 200.8 SCJ
21	Chloride	ND	mg/l	20	250	250		SM 4500-CL MK
22	Sulfate	ND	mg/l	10	250	250		SM 4500-SO BJN
24	Zinc	ND	mg/l	0.2	5	5		EPA 200.8 SCJ
STATE REGULATED							Trigger ?	MCL ?
14	Sodium	11.7 *	mg/l	5				EPA 200.7 010
15	Hardness	36	mg/l	10				SM 2340 B SCJ
16	Conductivity	160	umhos/cm	10	700	700		EPA 120.1 MK
17	Turbidity	2.6	NTU	0.1	1	1		EPA 180.1 MK
18	Color	> 60	color units	5	15	15		SM 2120 B MK
26	Total Dissolved Solids	120	mg/l	150	500	500		SM 2540 C KR D
STATE UNREGULATED							Trigger ?	MCL ?
9	Lead	0.005	mg/l	0.002				EPA 200.8 SCJ
23	Copper	0.05	mg/l	0.2				EPA 200.8 SCJ

* Analyzed by Spectra Laboratories-Kitsap, complete report enclosed.

SRL (State Reporting Level):

Indicates the minimum reporting level by the Washington Department of Health (DOH).

Trigger Level:

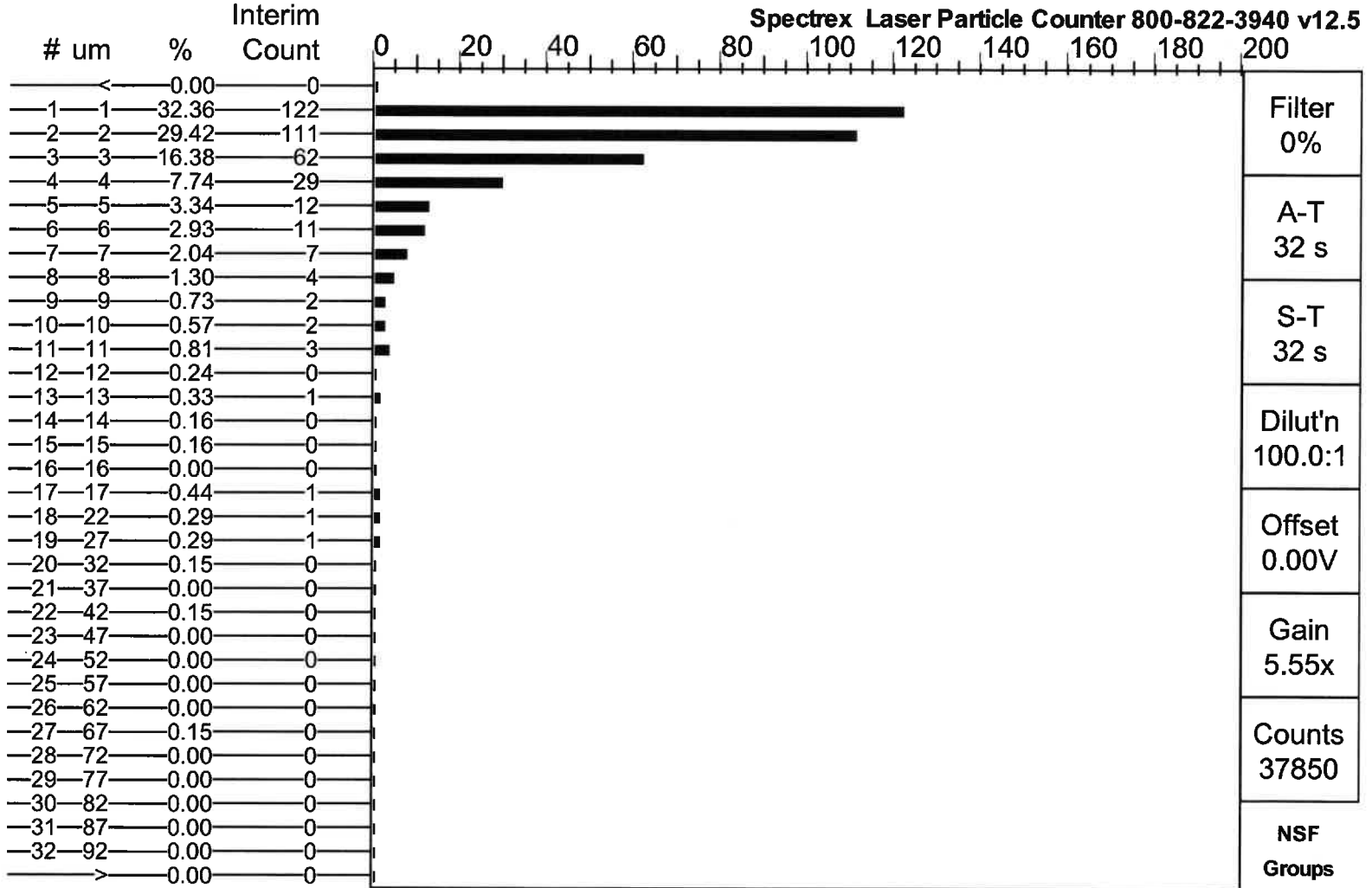
DOH Drinking Water response level. Systems with compounds detected at concentrations in excess of this level are required to take additional samples. Contact your regional DOH office for further information.

MCL (maximum contaminant level):

If the contaminant amount exceeds the MCL, immediately contact your regional DOH office.

ND (Not Detected):

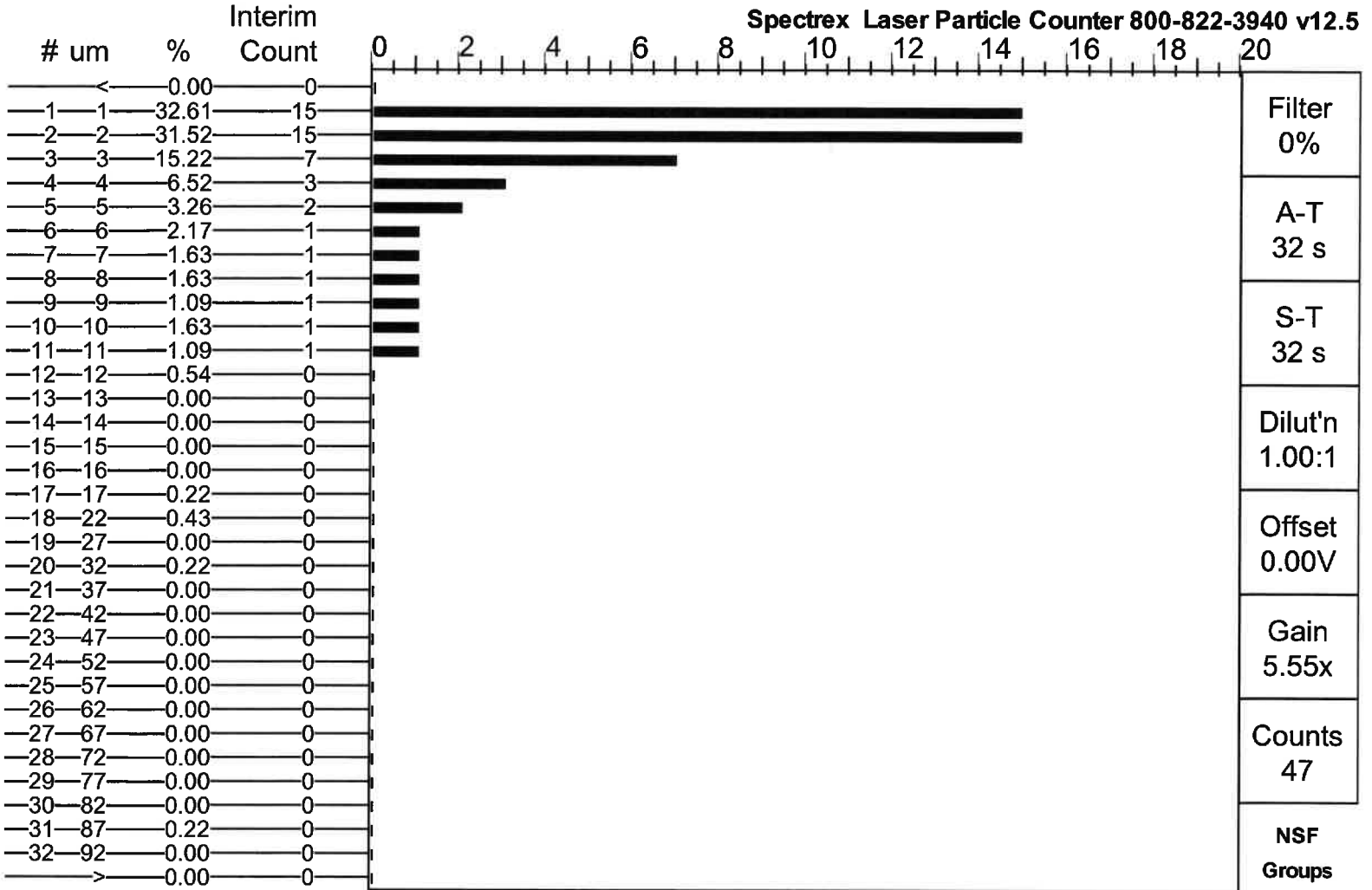
in the results column indicates this compound was analyzed and not detected at a level greater than or equal to the SRL.



Bin	Size	Total counts /cc	Counts percent	Surface area percent	Volume percent
---	< 1	0.00	0.00%	0.00%	0.00%
1	1-5	32,513.37	85.90%	15.50%	2.91%
2	5-15	4,719.68	12.47%	26.11%	11.33%
3	15-30	450.37	1.19%	19.12%	16.88%
4	30-50	111.05	0.29%	15.05%	19.96%
	50-100	55.53	0.15%	24.22%	48.93%

Total counts: 37,850.00/cc
 Dilution factor: 100.00:1
 Mean size: 3.06um
 Standard dev: 4.22um

Bin	Size	Total counts /cc	Counts percent	Surface area percent	Volume percent
	<	0.00	0.00%	0.00%	0.00%
1	1um	12,246.50	32.36%	1.19%	0.10%
2	2um	11,135.98	29.42%	4.33%	0.63%
3	3um	6,200.37	16.38%	5.42%	1.07%
4	4um	2,930.52	7.74%	4.56%	1.11%
5	5um	1,264.75	3.34%	3.07%	0.89%
6	6um	1,110.51	2.93%	3.89%	1.28%
7	7um	771.19	2.04%	3.67%	1.36%
8	8um	493.56	1.30%	3.07%	1.26%
9	9um	277.63	0.73%	2.19%	0.98%
10	10um	215.93	0.57%	2.10%	1.02%
11	11um	308.48	0.81%	3.63%	1.89%
12	12um	92.54	0.24%	1.30%	0.72%
13	13um	123.39	0.33%	2.03%	1.20%
14	14um	61.70	0.16%	1.18%	0.73%
15	15um	61.70	0.16%	1.35%	0.89%
16	16um	0.00	0.00%	0.00%	0.00%
17	17um	166.58	0.44%	4.68%	3.38%
18	22um	111.05	0.29%	5.22%	4.58%
19	27um	111.05	0.29%	7.87%	8.04%
20	32um	55.53	0.15%	5.53%	6.41%
21	37um	0.00	0.00%	0.00%	0.00%
22	42um	55.53	0.15%	9.52%	13.54%
23	47um	0.00	0.00%	0.00%	0.00%
24	52um	0.00	0.00%	0.00%	0.00%
25	57um	0.00	0.00%	0.00%	0.00%
26	62um	0.00	0.00%	0.00%	0.00%
27	67um	55.53	0.15%	24.22%	48.93%
28	72um	0.00	0.00%	0.00%	0.00%
29	77um	0.00	0.00%	0.00%	0.00%
30	82um	0.00	0.00%	0.00%	0.00%
31	87um	0.00	0.00%	0.00%	0.00%
32	92um	0.00	0.00%	0.00%	0.00%
	>	0.00	0.00%	0.00%	0.00%
TOTALS		37,850.00	100.00%	100.00%	100.00%



Bin	Size	Total counts /cc	Counts percent	Surface area percent	Volume percent
---	< 1	0.00	0.00%	0.00%	0.00%
1	1-5	40.36	85.87%	11.95%	1.48%
2	5-15	6.13	13.04%	24.05%	7.11%
3	15-30	0.31	0.65%	8.17%	4.63%
4	30-50	0.10	0.22%	6.65%	5.21%
	50-100	0.10	0.22%	49.17%	81.56%

Total counts: 47.00/cc
 Mean size: 3.05um
 Standard dev: 4.92um

Bin	Size	Total counts /cc	Counts percent	Surface area percent	Volume percent
	<	0.00	0.00%	0.00%	0.00%
1	1um	15.33	32.61%	0.97%	0.06%
2	2um	14.82	31.52%	3.77%	0.37%
3	3um	7.15	15.22%	4.09%	0.54%
4	4um	3.07	6.52%	3.12%	0.51%
5	5um	1.53	3.26%	2.44%	0.47%
6	6um	1.02	2.17%	2.34%	0.52%
7	7um	0.77	1.63%	2.39%	0.60%
8	8um	0.77	1.63%	3.12%	0.86%
9	9um	0.51	1.09%	2.63%	0.80%
10	10um	0.77	1.63%	4.87%	1.60%
11	11um	0.51	1.09%	3.93%	1.38%
12	12um	0.26	0.54%	2.34%	0.88%
13	13um	0.00	0.00%	0.00%	0.00%
14	14um	0.00	0.00%	0.00%	0.00%
15	15um	0.00	0.00%	0.00%	0.00%
16	16um	0.00	0.00%	0.00%	0.00%
17	17um	0.10	0.22%	1.88%	0.92%
18	22um	0.20	0.43%	6.29%	3.72%
19	27um	0.00	0.00%	0.00%	0.00%
20	32um	0.10	0.22%	6.65%	5.21%
21	37um	0.00	0.00%	0.00%	0.00%
22	42um	0.00	0.00%	0.00%	0.00%
23	47um	0.00	0.00%	0.00%	0.00%
24	52um	0.00	0.00%	0.00%	0.00%
25	57um	0.00	0.00%	0.00%	0.00%
26	62um	0.00	0.00%	0.00%	0.00%
27	67um	0.00	0.00%	0.00%	0.00%
28	72um	0.00	0.00%	0.00%	0.00%
29	77um	0.00	0.00%	0.00%	0.00%
30	82um	0.00	0.00%	0.00%	0.00%
31	87um	0.10	0.22%	49.17%	81.56%
32	92um	0.00	0.00%	0.00%	0.00%
	>	0.00	0.00%	0.00%	0.00%
TOTALS		47.00	100.00%	100.00%	100.00%

SPECTRA Laboratories - Kitsap LLC

26276 Twelve Trees Lane, Suite C Poulsbo, WA 98370 Telephone (360) 779-5141 FAX (360) 779-5150

IOC - SHORT
IOC - SHORT by Various EPA Approved Methods
Source / Point of Entry - Report of Analysis

Date Collected: 4/6/2017
 System ID No: Private
 Lab - Sample #: 01035101
 Sample Location: 2017040193-1
 Sample Purpose: O
 Sample Composition:
 Send Report To: Spectra Laboratories LLC
 2221 Ross Way
 Tacoma, WA 98421

Group:
 System Name: 2017040193-1
 County:
 DOH Source No:
 Date Received: 4/7/2017
 Date Reported: 4/13/2017
 Sample Type:
 Collected By:
 Phone Number:
 Bill To: Spectra Laboratories LLC
 2221 Ross Way
 Tacoma, WA 98421

DOH#	Analyte	Results	Units	SRL	Trigger	MCL	MCL Exceeded	Method (Analyst Init.)	Date Analyzed
110	Beryllium	<0.0003	mg/L	0.0003	0.004	0.004		EPA 200.7 (KW)	04/11/17
116	Cyanide, Free	<0.05	mg/L	0.05	0.2	0.2		SM 4500-CN F (EC)	04/10/17
14	Sodium	11.7	mg/L	5				EPA 200.7 (KW)	04/11/17
12	Selenium	<0.002	mg/L	0.002	0.05	0.05		EPA 200.9 (KW)	04/12/17

- *Confirmation:** Include the original lab number, sample number, and collection date of the original sample in the special instruction section.
- SRL (State Reporting Level):** The minimum reporting level required by the Washington State Department of Health (DOH).
- Trigger Level:** DOH drinking water response level. Regulated systems with compounds detected at concentrations in excess of this level may be required to take additional samples or monitor more frequently. Please contact your DOH drinking water regional office for further information.
- MCL (Maximum Contaminant Level):** If the contaminant amount exceeds the MCL, please contact your regional DOH office to determine follow-up actions if you are a regulated system. Secondary MCL limits are established for aesthetic purposes and are not health based. Secondary parameters are iron, manganese, silver, chloride, sulfate, zinc, conductivity, color and TDS.
- NA (Not Analyzed):** In the results column, indicates this compound was not included in the current analysis.
- ND (Not Detected):** In the results column, indicates this compound was analyzed and not detected at a level greater than or equal to the SRL.
- < (0.00x):** The compound was not detected in the sample at or above the concentration indicated (usually the lab method reporting limit).
- mg/L:** milligrams per liter or parts per million
- NTU:** nephelometric turbidity units (a measure of water clarity).
- umhos/cm:** Micro ohms per centimeter (a measure of the ability of the water to conduct electricity). One micro ohm per centimeter is equivalent to one micro siemen per centimeter (uS/cm).
- :** No existing trigger or MCL value.

Client Information

Company/Client: Spectra

Address: 2221 Ross Way

City: Tacoma Zip: 98421

Project Information

Project Manager/Report To: Marie Holt

Project Name: W17040193 Sampled by:

Telephone No: 253-272-4850 Fax No: 253-572-9838

Email address: marieh@spectra-lab.com

Test Parameters Required

Number of Containers	
RCRA Metals: As Ba Cd Cr Pb Hg Se Ag	
Priority Pollutant Metals: Sb As Ba Cr Cr Cu Pb Hg Ni Se Ag Tl Zn	
503 Regs: As Cd Cu Pb Hg Mo Ni Se Zn	
Metals (Specify):	
BOD CBOD COD	
HEM SGT (Oil & Grease/TPH)	
Solids: TDS TSS TVS TVSS TS	
Turbidity pH	
Nitrate-N Ammonia-N Orthophosphate-P	
Nitrate+Nitrite-N	
TKN Total Phosphorous	
Fecal Coliform: MPN or MF	
Ag Soil: pH and EC crop:	

Circle the desired parameters above if multiple tests are listed on the same line

Sample ID	Date	Time	Mixer	Hazard	Lab ID
W17040193-1	4.6.17	0845	DW		167351-01

Special Instructions

Routine Disposal Hazardous sample disposal (Cost of disposal will be billed to client)
 Return to Client

Signature (Name, Company, Date, Time)

Relinquished by: Jan Draven Jan Draven Company Spectra-Tac Date 4/7/17 Time 11:50
 Received by: H. Ferguson (print) (Signature) Company Spectra Date 4.7.17 Time 1150
 Relinquished by: H.F. (print) (Signature) Company Spectra Date 4.7.17 Time 115
 Received by: Angela Barcus (print) (Signature) Company Spectra Date 4/7/17 Time 115
 ‡ additional charges may apply

SPECTRA LABORATORIES
 2221 Ross Way, Tacoma Washington 98421 (253) 272-4850
INORGANIC CHEMICALS (IOCS) REPORT

Rush Turn Around
 (Additional 50% Charge)

2017040193

PRIMARY ONLY

PRIMARY AND SECONDARY

SPECIFY BELOW

Client Name: ESI	Project Name: Hand - 57434P
Client Address: 700 S Industrial Way Seattle, WA 98108	Date Sampled: 4/6/17 Time Sampled: 8:45
Phone: 206 957-2154 Email: selens@engsys.com	Sample Location(address):
Description(ie. well head): H/W - RTub Faucet	

PUBLIC SYSTEMS ONLY

Water System ID Number: _____	System Name: _____
System Group Type: (circle one) A B Other: _____	County: _____
Sample Purpose: (check appropriate box) <input type="checkbox"/> RC - Routine/Compliance (satisfies monitoring requirements) <input type="checkbox"/> C - Confirmation (confirmation of chemical result) <input type="checkbox"/> I - Investigative (does not satisfy monitoring requirements) <input type="checkbox"/> O - Other (specify - does not satisfy monitoring requirements)	Sample Composition: (check appropriate box) <input type="checkbox"/> S - Single Source _____ <input type="checkbox"/> B - Blended _____ <input type="checkbox"/> C - Composite _____ <input type="checkbox"/> D - Distribution sample _____
Sample Collected by: (name) _____	Sample Type: (check one) <input type="checkbox"/> Untreated (raw) <input type="checkbox"/> Treated <input type="checkbox"/> Unknown
Phone Number: _____	

LAB USE ONLY

Date/Time Received: **4-6-17 0945** Temp: **32.9** Paid _____ Lab # **118 31214**

ANALYTE	RESULTS	UNITS	SRL	TRIGGER	MCL
<input type="checkbox"/> Arsenic		mg/L	0.0014	0.010	0.010
<input type="checkbox"/> Barium		mg/L	0.1	2	2
<input type="checkbox"/> Cadmium		mg/L	0.001	0.005	0.005
<input type="checkbox"/> Chromium		mg/L	0.007	0.1	0.1
<input type="checkbox"/> Mercury		mg/L	0.0002	0.002	0.002
<input type="checkbox"/> Selenium		mg/L	0.002	0.05	0.05
<input type="checkbox"/> Beryllium		mg/L	0.0003	0.004	0.004
<input type="checkbox"/> Antimony		mg/L	0.003	0.006	0.006
<input type="checkbox"/> Thallium		mg/L	0.001	0.002	0.002
<input type="checkbox"/> Cyanide		mg/L	0.01	0.2	0.2
<input type="checkbox"/> Fluoride		mg/L	0.5	2	4
<input type="checkbox"/> Nitrite-N		mg/L	0.1	0.5	1
<input type="checkbox"/> Nitrate-N		mg/L	0.5	5	10
<input type="checkbox"/> Total Nitrate/Nitrite		mg/L	0.5	5	10
<input type="checkbox"/> Iron		mg/L	0.1	--	0.3
<input type="checkbox"/> Manganese		mg/L	0.01	--	0.05
<input type="checkbox"/> Silver		mg/L	0.1	--	0.1
<input type="checkbox"/> Chloride		mg/L	20	--	250
<input type="checkbox"/> Sulfate		mg/L	50	--	250
<input type="checkbox"/> Zinc		mg/L	0.2	--	5
<input type="checkbox"/> Sodium		mg/L	5	--	--
<input type="checkbox"/> Hardness		mg/L	10	--	--
<input type="checkbox"/> Conductivity		umhos/cm	70	--	700
<input type="checkbox"/> Turbidity		NTU	0.1	--	--
<input type="checkbox"/> Color		color units	15	--	15
<input type="checkbox"/> TDS-Total Dissolved Solids		mg/L	100	--	500
<input type="checkbox"/> Nickel		mg/L	0.005	--	--
<input type="checkbox"/> Lead		mg/L	0.001	--	--
<input type="checkbox"/> Copper		mg/L	0.02	--	--

SRL (State Reporting Level): The minimum reporting level established by the Washington State Department of Health (DOH).
Trigger Level: DOH drinking water response level. Systems with compounds detected at concentrations in excess of this level may be required to take additional samples or monitor more frequently.
MCL (maximum contaminant level): If the contaminant amount exceeds the MCL, please contact your regional DOH office to determine follow-up actions.

SPECTRA Laboratories

2017040193

2221 Ross Way • Tacoma, WA 98421 • (253) 272-4850 • Fax (253) 572-9838 • www.spectra-lab.com

LABORATORY ANALYSIS REQUEST

Client Name: ESI Attn: Susan Evans
Address: 700 S. Industrial Way
City: Seattle State: WA Zip: 98108
Phone # 206-957-2154 Fax or Email: slevans@engsys.com

Payment Method

Check

Money Order

Visa/MC

(Please write in credit card information below)

Card # _____ Exp. Date _____ CVC# _____
(3 digit # on back of card)

Sampling Information

Project Name: Hand-57434 P Sample ID: HW Facet-M Tub Date Sampled: 4/6/17

Turn Around

Standard (7-10 business days)

Rush(24-48hr)

FILTRATION SYSTEM WATER CHECK INCLUDES

Particle Count

(quantifies number and size distribution of particles)

T.S.S.

(Total Suspended Solids)

Fee \$59.00(standard) \$88.50(rush)

Sampling Directions:

1. Rinse and shake bottle thoroughly (with the lid on) three times using the water to be tested. (1 - Liter Bottle)
2. Fill Bottle Completely.
3. Record Information on bottle label.
4. Wrap bottle in bubble wrap provided.
5. Place bottle in baggy and seal.
6. Complete this form and enclose in box with payment.
7. Seal box securely.

Please feel free to call us if you have questions or additional testing needs.
1-877-452-5132