APPENDIX J

Sampling Field Notes

Daily Field Notes	Project Name: Duwamish Marine Center
Project Number: 01-0979-C	Page _____ of _____
Date: 10/19 - 10/20/15	Weather: Cloudy 50°F
Started: 0700	Other Information:
Completed: @ 1730	

Diary

10/19/15 - Able to complete three wells, two in Samson yard w/ high traffic monuments

- Saw somewhat confining unit of SILT in MW10, but only a couple feet thick, placed well below unit

- No confining layers in MW16 or MW05

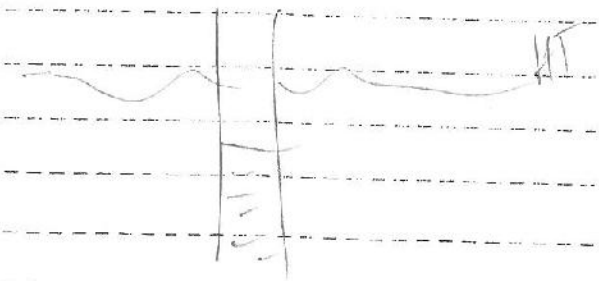
10/20/15 - Installing well MW12, no true confining unit, installed 10' screen ~~from~~ down to 17.5'

↳ Will be able to get a good "shallow" sample from this well and "deep" sample from MW10

- MW08 - Pieces of clay pipe (possibly) found down to 20' bgs

MW11 - Auger wrapped up in 1" braided cable @ 2.5' down to 10'. Also found stone, possibly junk

- MW06 - Tried to set up but realized there was a second layer of concrete that was not cored



Approved: _____ Signed: _____

g-logics

Daily Field Notes	Project Name: Duwamish Marina Center
Project Number: 01-0979-C	Page 1 of 1
Date: 10/21/15	Weather: S
Started: 0700	Other Information:
Completed:	

Diary

12:15 p.m. - Realized PID pump not functioning. Not pulling in air

↳ Called office and have rental PID coming

2:30 p.m. received new PID.

Approved: _____ Signed: _____

g-logics

Daily Field Notes	Project Name: BMC
Project Number: 01-0979-C	Page _____ of _____
Date: 10/22/15	Weather:
Started:	Other Information:
Completed:	

Diary

- MW09 - 0.5' possible perched GW zone above silt but nothing significant. Would not produce sufficient water to sample, screened in sands.

Approved: _____ Signed: _____

g-logics

Duwamish Marine Center

Well		
MW5	Dirt/Spalls, middle of yard	clear
MW 6	Concrete Core	clear
MW 7	Concrete Core	clear
MW 8	Concrete Core	
MW9	Road - Gravel	clear
MW9D	Road - Gravel	
MW10	Road - ROW (Asphalt)	Moved to West of RR tracks, cleared
MW10D	Road - ROW (Asphalt)	
MW11	Concrete Cores	
MW12	Dirt/Spalls, middle of yard	clear
MW12D	Dirt/Spalls, middle of yard	
MW 13	Dirt/Spalls, end of Eco-block wall	clear
MW 14	Should be Sne	clear
MW15	Road	clear
MW16	Have to move Containers	clear

☆ Prop Owner + Address / ROW Permit

Trains? - Not often, once a month

Drum Location?

Safety Orientation? - Clint will Ask

10 vs. 20 slot screen

Yard Wells - Push back until Friday - Shy Monday

☆ Concrete Cores on Tuesday

Daily Field Notes	Project Name: DMC
Project Number: 01-0979-C	Page 1 of 1
Date: 12/14/15	Weather: Sunny, Cool
Started: 0800	Other Information:
Completed: 1606	

Diary

- Steve Holmes and Stuart Hyde on Site to develop the newly installed wells
- Wells being developed with a ~~surge block~~ 2" well developer surge block, as well as with a submersible pump
- Wells were developed by removing at least 10 well-casing volumes ~~and~~ w/ attempts to ~~clear~~ develop until groundwater is clear with little silt.
- Well development logs are completed for each well
- Wells MW06, 07, 08, 09, 09D, 10, 10D, 11, 13, and 14, and 15 were completed today.
- Well MW14 was the only well to bail by @ about 2 gallons. This well was screened above a silt/sand unit in what appeared to be "perched" groundwater.
  - ↳ This well contained dark grey, groundwater that appeared to be possible product. Strong burned oil odor.

Approved: _____ **Signed:** _____

g-logics

Daily Field Notes	Project Name: DMC
Project Number: 01-0979-C	Page _____ of _____
Date: 12/15/15	Weather: Cloudy, Cool
Started: 0800	Other Information:
Completed: 1300	

Diary

- Arrived on site and was informed by Mr. Chad Harris that Samson Tug and Barge had a barge come in and we would not be able to access well MW05 due to lift activities

- Well MW16 ~~[illegible]~~ contained "product" looking liquid, dark grey, burnt-oil type odor
- Well did not clear up after development.

Approved: _____ **Signed:** _____ g-logics

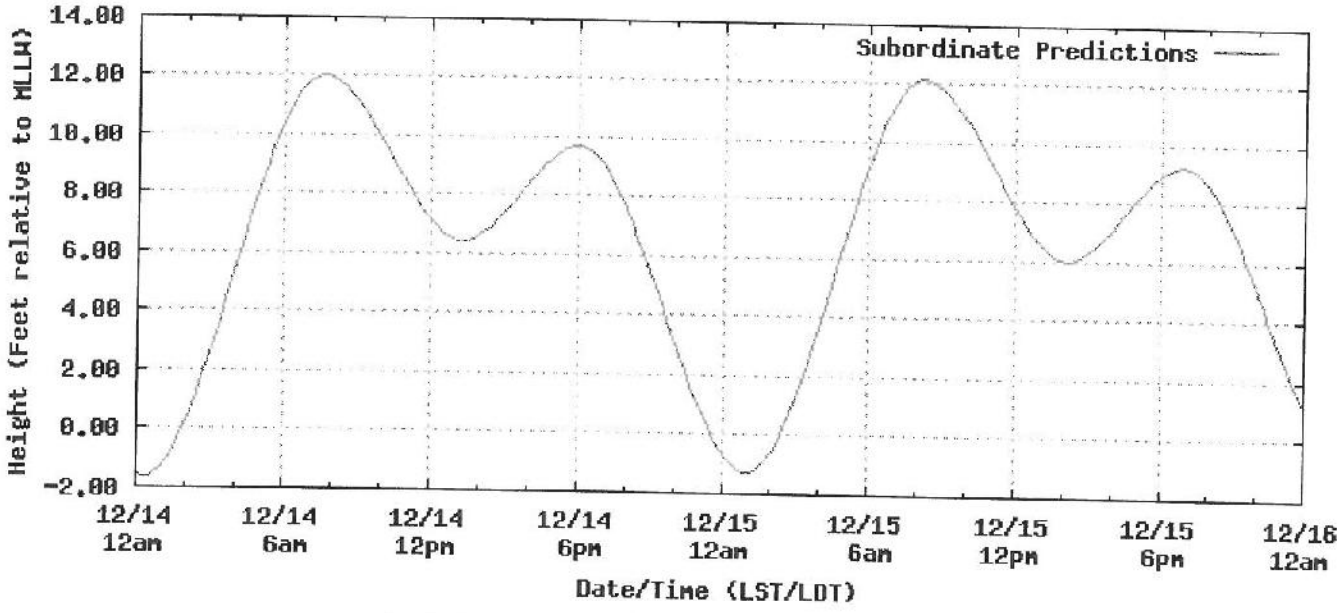
Duwamish Waterway, Eighth Ave. South, 9447029 Tidal Data Daily View

Duwamish Waterway, Eighth Ave. South, WA StationId: 9447029

Referenced to Station: Seattle (9447130)
Time offset in mins (high:10 low: 11) Height offset in feet (high:* 0.97 low: *0.95)

Daily Tide Prediction in **Feet**
Time Zone: **LST/LDT**
Datum: **MLLW**

(./NOAATidesFacade.jsp?Stationid=9447029&bmon=12&bday=13&byear=2015&edate=&timelength=daily)
2015/12/14 - 2015/12/15 (./NOAATidesFacade.jsp?
Stationid=9447029&bmon=12&bday=15&byear=2015&edate=&timelength=daily)
Back to Station Listing (/tide_predictions.html)
Help (/PageHelp.html)



Disclaimers (/disclaimers.html)
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Products

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OFS (/models.html)
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Partners

Hydrographic Survey Support (/hydro.html)
Marsh Restoration (/marsh.html)
GoMOOS (/gomoos.html)
TCOON (/tcoon.html)

Revised: 10/15/2013
NOAA (http://www.noaa.gov) / National Ocean Service (http://oceanservice.noaa.gov)
Web site owner: Center for Operational Oceanographic Products and Services

Well Number: MW05	Project Name: DMC	
Project Number: 01-0979-C	Date: 12/15/15	Weather:
Development / Purge Method:	Well Screen Interval: _____ to _____	Tidally Influenced?
Logged By:	Water Depth Start:	Field Comments:
Purge Water Disposal Method:	Water Depth Finish:	
Purge Water Disposal Volume:	Bails Dry? Yes No What Volume?	Well Conditions: OK Not OK
		Explain:

Casing Volume in Gallons: 1" Diam = 0.041 gal/ft, 2" Diam = 0.163 gal/ft, 4" Diam = 0.653 gal/ft
Purge Volumes: 1" Diam 0.041 * 3 casings * 10' screen = 1.23 gallons, 2" Diam 0.163 * 3 casings * 10' screen = 4.89 gallons

Well Development / Purging (circle one)

Time								
Water Level								
pH								
Conductivity								
Temperature								
Salinity								
Turbidity								
Color								
Dissolved Oxygen in								
Purge Volume								

Well Sampling Information (complete if well is sampled)

Decon Method: _____

Water Level Start: _____

Sampling Method: _____

Filter Type: _____

Sample Number: _____

Water Level Finish: _____

Field comments: _____

☆ Unable to develop well due to on-site activities by Samson Tug and Barge

g-logics

Well Number: MW06 **Project Name:** DMC

Project Number: 01-0979-C	Date: 12/14/15	Weather: Cloudy
Development / Purge Method: Surge/Submersible	Well Screen Interval: _____ to _____	Tidally Influenced? Yes
Logged By: SH	Water Depth Start: 5.92'	Field Comments:
Purge Water Disposal Method: Drum	Water Depth Finish: 6.01'	
Purge Water Disposal Volume: 19 gal	Bails Dry? Yes (No) What Volume?	Well Conditions: OK / Not OK
		Explain:

Casing Volume in Gallons: 1" Diam = 0.041 gal/ft, 2" Diam = 0.163 gal/ft, 4" Diam = 0.653 gal/ft
Purge Volumes: 1" Diam 0.041 * 3 casings * 10' screen = 1.23 gallons, 2" Diam 0.163 * 3 casings * 10' screen = 4.89 gallons

Well Development / Purging (circle one)

	12/14/15							
Time	1227							
Water Level	5.92'							
pH								
Conductivity								
Temperature								
Salinity								
Turbidity								
Color								
Dissolved Oxygen in								
Purge Volume								

Well Sampling Information (complete if well is sampled)

Decon Method: _____

Water Level Start: _____

Sampling Method: _____

Filter Type: _____

Sample Number: _____

Water Level Finish: _____

Field comments: _____

g-logics

Well Number: MW07 | **Project Name:**

Project Number: 01-0979-C	Date: 12/14/15	Weather: Partly Sunny
Development / Purge Method: Swab/Surge	Well Screen Interval: _____ to _____	Tidally Influenced? Yes
Logged By: SH	Water Depth Start: 7.35'	Field Comments:
Purge Water Disposal Method: Drum	Water Depth Finish: 8.41	
Purge Water Disposal Volume: 15 gal	Bails Dry? Yes (No) What Volume?	Well Conditions: (OK) Not OK
		Explain:

Casing Volume in Gallons: 1" Diam = 0.041 gal/ft, 2" Diam = 0.163 gal/ft, 4" Diam = 0.653 gal/ft
Purge Volumes: 1" Diam 0.041 * 3 casings * 10' screen = 1.23 gallons, 2" Diam 0.163 * 3 casings * 10' screen = 4.89 gallons

Well Development / Purging (circle one)

Time	1315							
Water Level	7.35'							
pH								
Conductivity								
Temperature								
Salinity								
Turbidity								
Color								
Dissolved Oxygen in								
Purge Volume								

Well Sampling Information (complete if well is sampled)

Decon Method: _____

Water Level Start: _____

Sampling Method: _____

Filter Type: _____

Sample Number: _____

Water Level Finish: _____

Field comments: _____

8.64'

g-logics

Well Number: MW08 | **Project Name:** DMC

Project Number: 01-0979-C	Date: 12/14/15	Weather: Sunny
Development / Purge Method: Bails/Surge	Well Screen Interval: _____ to _____	Tidally Influenced? Yes
Logged By: SH	Water Depth Start: 8.11'	Field Comments:
Purge Water Disposal Method: Drum	Water Depth Finish: 8.32	
Purge Water Disposal Volume: 25 gal	Bails Dry? Yes (No) What Volume?	Well Conditions: (OK) Not OK
		Explain:

Casing Volume in Gallons: 1" Diam = 0.041 gal/ft, 2" Diam = 0.163 gal/ft, 4" Diam = 0.653 gal/ft
Purge Volumes: 1" Diam 0.041 * 3 casings * 10' screen = 1.23 gallons, 2" Diam 0.163 * 3 casings * 10' screen = 4.89 gallons

Well Development / Purging (circle one)

Time	1500							
Water Level	8.1'							
pH								
Conductivity								
Temperature								
Salinity								
Turbidity								
Color								
Dissolved Oxygen in								
Purge Volume								

Well Sampling Information (complete if well is sampled)

Decon Method: _____

Water Level Start: _____

Sampling Method: _____

Filter Type: _____

Sample Number: _____

Water Level Finish: _____

Field comments: _____

g-logics

Well Number: MW09		**Project Name:** DMC
Project Number: 01-0979-C	**Date:** 12/14/15	**Weather:**
Development / Purge Method: Submersible pump	**Well Screen Interval:** _____ to _____	**Tidally Influenced?** Yes
Logged By: SH	**Water Depth Start:** @ 7.68'	**Field Comments:**
Purge Water Disposal Method: Drum	**Water Depth Finish:** 6.89'	
Purge Water Disposal Volume: 17 gal	**Bails Dry?** Yes (No) **What Volume?**	**Well Conditions:** (OK) Not OK
		Explain:

Casing Volume in Gallons: 1" Diam = 0.041 gal/ft, 2" Diam = 0.163 gal/ft, 4" Diam = 0.653 gal/ft
Purge Volumes: 1" Diam 0.041 * 3 casings * 10' screen = 1.23 gallons, 2" Diam 0.163 * 3 casings * 10' screen = 4.89 gallons

Well Development / Purging (circle one)

	12/14/15							
Time	0930							
Water Level	7.68'							
pH								
Conductivity								
Temperature								
Salinity								
Turbidity								
Color								
Dissolved Oxygen in								
Purge Volume								

Well Sampling Information (complete if well is sampled)

Decon Method: _____

Water Level Start: _____

Sampling Method: _____

Filter Type: _____

Sample Number: _____

Water Level Finish: _____

Field comments: _____

g-logics

Well Number: MW09D | **Project Name:** DMC

Project Number: 01-0979-C	Date: 10/14/15	Weather: Partly Cloudy, Cool
Development / Purge Method: Swab/Surge	Well Screen Interval: _____ to _____	Tidally Influenced? Yes
Logged By: SH	Water Depth Start: 6.59	Field Comments:
Purge Water Disposal Method: Drum	Water Depth Finish: 7.10	
Purge Water Disposal Volume: 30 gal	Bails Dry? Yes (No) What Volume?	Well Conditions: (OK) Not OK
		Explain:

Casing Volume in Gallons: 1" Diam = 0.041 gal/ft, 2" Diam = 0.163 gal/ft, 4" Diam = 0.653 gal/ft
Purge Volumes: 1" Diam 0.041 * 3 casings * 10' screen = 1.23 gallons, 2" Diam 0.163 * 3 casings * 10' screen = 4.89 gallons

Well Development / Purging (circle one)

12/14/15

Time	1013							
Water Level	6.59							
pH								
Conductivity								
Temperature								
Salinity								
Turbidity								
Color								
Dissolved Oxygen in								
Purge Volume								

Well Sampling Information (complete if well is sampled)

Decon Method: _____

Water Level Start: _____

Sampling Method: _____

Filter Type: _____

Sample Number: _____

Water Level Finish: _____

Field comments: _____

g-logics

Well Number: MW10 **Project Name:**

Project Number:	Date: 12/14/15	Weather:
Development / Purge Method: Swab/Surge	Well Screen Interval: _____ to _____	Tidally Influenced? Yes
Logged By: SH?	Water Depth Start: 6.63	Field Comments:
Purge Water Disposal Method: Drum	Water Depth Finish: 6.18'	
Purge Water Disposal Volume: 17 gal	Bails Dry? Yes (No) What Volume?	Well Conditions: (OK) Not OK
		Explain:

Casing Volume in Gallons: 1" Diam = 0.041 gal/ft, 2" Diam = 0.163 gal/ft, 4" Diam = 0.653 gal/ft
Purge Volumes: 1" Diam 0.041 * 3 casings * 10' screen = 1.23 gallons, 2" Diam 0.163 * 3 casings * 10' screen = 4.89 gallons

Well Development / Purging (circle one)

12/14/15

Time	1134							
Water Level	6.63							
pH								
Conductivity								
Temperature								
Salinity								
Turbidity								
Color								
Dissolved Oxygen in								
Purge Volume								

Well Sampling Information (complete if well is sampled)

Decon Method: _____

Water Level Start: _____

Sampling Method: _____

Filter Type: _____

Sample Number: _____

Water Level Finish: _____

Field comments: _____

g-logics

Well Number:	MW101	Project Name:	DMC	
Project Number:	01-0979-C	Date:	12/14/15	Weather:
Development / Purge Method:	Sub Purge	Well Screen Interval: ____ to ____		Tidally Influenced? Yes
Logged By:	AH	Water Depth Start:	7.22'	Field Comments:
Purge Water Disposal Method:	Drum	Water Depth Finish:	7.43	
Purge Water Disposal Volume:	30gal	Bails Dry? Yes (No) What Volume?		Well Conditions: (OK) Not OK
				Explain:

Casing Volume In Gallons: 1" Diam = 0.041 gal/ft, 2" Diam = 0.163 gal/ft, 4" Diam = 0.653 gal/ft
Purge Volumes: 1" Diam 0.041 * 3 casings * 10' screen = 1.23 gallons, 2" Diam 0.163 * 3 casings * 10' screen = 4.89 gallons

Well Development / Purging (circle one)

Time	1135							
Water Level	7.22							
pH								
Conductivity								
Temperature								
Salinity								
Turbidity								
Color								
Dissolved Oxygen in								
Purge Volume								

Well Sampling Information (complete if well is sampled)

Decon Method: _____

Water Level Start: _____

Sampling Method: _____

Filter Type: _____

Sample Number: _____

Water Level Finish: _____

Field comments: _____

g-logics

Well Number: MW11 **Project Name:** DMC

Project Number: 01-0979-C	Date: 12/14/15	Weather:
Development / Purge Method: Slow Surge	Well Screen Interval: _____ to _____	Tidally Influenced? Yes
Logged By: SH	Water Depth Start: 8.0	Field Comments:
Purge Water Disposal Method: Drum	Water Depth Finish:	
Purge Water Disposal Volume: 20 gal	Bails Dry? Yes (No) What Volume?	Well Conditions: (OK) Not OK
		Explain:

Casing Volume in Gallons: 1" Diam = 0.041 gal/ft, 2" Diam = 0.163 gal/ft, 4" Diam = 0.653 gal/ft
Purge Volumes: 1" Diam 0.041 * 3 casings * 10' screen = 1.23 gallons, 2" Diam 0.163 * 3 casings * 10' screen = 4.89 gallons

Well Development / Purging (circle one)

Time	1345							
Water Level	8.0							
pH								
Conductivity								
Temperature								
Salinity								
Turbidity								
Color								
Dissolved Oxygen in								
Purge Volume								

Well Sampling Information (complete if well is sampled)

Decon Method: _____

Water Level Start: _____

Sampling Method: _____

Filter Type: _____

Sample Number: _____

Water Level Finish: _____

Field comments: _____

g-logics

Well Number: MW12 | **Project Name:** DMC

Project Number: 01-0979-C	Date: 12/15/15	Weather: Cloudy, cold
Development / Purge Method: Suction/Surge	Well Screen Interval: _____ to _____	Tidally Influenced? Yes
Logged By: SH	Water Depth Start: 7.53'	Field Comments:
Purge Water Disposal Method: Drum	Water Depth Finish: 8.01	
Purge Water Disposal Volume: 20 gal	Bails Dry? Yes (No) What Volume?	Well Conditions: (OK) Not OK
		Explain:

Casing Volume in Gallons: 1" Diam = 0.041 gal/ft, 2" Diam = 0.163 gal/ft, 4" Diam = 0.653 gal/ft
Purge Volumes: 1" Diam 0.041 * 3 casings * 10' screen = 1.23 gallons, 2" Diam 0.163 * 3 casings * 10' screen = 4.89 gallons

Well Development / Purging (circle one)

Time	0854							
Water Level	7.53'							
pH								
Conductivity								
Temperature								
Salinity								
Turbidity								
Color								
Dissolved Oxygen in								
Purge Volume								

Well Sampling Information (complete if well is sampled)

Decon Method: _____

Water Level Start: _____

Sampling Method: _____

Filter Type: _____

Sample Number: _____

Water Level Finish: _____

Field comments: _____

g-logics

Well Number: MW2D	Project Name: DMC	
Project Number: 01-0979-C	Date: 12/15/15	Weather: Windy, cold
Development / Purge Method: Sink/Surge	Well Screen Interval: _____ to _____	Tidally Influenced? Yes
Logged By: SM	Water Depth Start: 7.41'	Field Comments:
Purge Water Disposal Method: Drum	Water Depth Finish: 7.58	
Purge Water Disposal Volume: 30 gal	Bails Dry? Yes (No) What Volume?	Well Conditions: (OK) Not OK
		Explain:

Casing Volume in Gallons: 1" Diam = 0.041 gal/ft, 2" Diam = 0.163 gal/ft, 4" Diam = 0.653 gal/ft
Purge Volumes: 1" Diam 0.041 * 3 casings * 10' screen = 1.23 gallons, 2" Diam 0.163 * 3 casings * 10' screen = 4.89 gallons

Well Development / Purging (circle one)

Time	0910							
Water Level	7.41'							
pH								
Conductivity								
Temperature								
Salinity								
Turbidity								
Color								
Dissolved Oxygen in								
Purge Volume								

Well Sampling Information (complete if well is sampled)

Decon Method: _____

Water Level Start: _____

Sampling Method: _____

Filter Type: _____

Sample Number: _____

Water Level Finish: _____

Field comments: _____

g-logics

Well Number: MW13		**Project Name:** DMC
Project Number: 01-0979-C	**Date:** 12/14/15	**Weather:**
Development / Purge Method: Swab/Surge	**Well Screen Interval:** _____ to _____	**Tidally Influenced?** Yes
Logged By: SH	**Water Depth Start:** 8.64'	**Field Comments:**
Purge Water Disposal Method: Drum	**Water Depth Finish:** 9.51'	
Purge Water Disposal Volume: 15 gal	**Bails Dry?** Yes (No) **What Volume?**	**Well Conditions:** (OK) Not OK
		Explain:

Casing Volume in Gallons: 1" Diam = 0.041 gal/ft, 2" Diam = 0.163 gal/ft, 4" Diam = 0.653 gal/ft
Purge Volumes: 1" Diam 0.041 * 3 casings * 10' screen = 1.23 gallons, 2" Diam 0.163 * 3 casings * 10' screen = 4.89 gallons

Well Development / Purging (circle one)

Time	1400							
Water Level	8.64'							
pH								
Conductivity								
Temperature								
Salinity								
Turbidity								
Color								
Dissolved Oxygen in								
Purge Volume								

Well Sampling Information (complete if well is sampled)

Decon Method: _____

Water Level Start: _____

Sampling Method: _____

Filter Type: _____

Sample Number: _____

Water Level Finish: _____

Field comments: _____

g-logics

Well Number: MW14 | **Project Name:** DMC

Project Number: 01-0979-C	Date: 12/14/15	Weather:
Development / Purge Method: Swab/Surge	Well Screen Interval: _____ to _____	Tidally Influenced? Yes
Logged By:	Water Depth Start: 9.12'	Field Comments: Water level meter not functioning properly in well, Possibly from salt
Purge Water Disposal Method: Drum	Water Depth Finish: 12.13'	
Purge Water Disposal Volume: 5gal	Bails Dry? (Yes) No What Volume? 2 gallons	Well Conditions: (OK) Not OK
		Explain:

Casing Volume in Gallons: 1" Diam = 0.041 gal/ft, 2" Diam = 0.163 gal/ft, 4" Diam = 0.653 gal/ft
Purge Volumes: 1" Diam 0.041 * 3 casings * 10' screen = 1.23 gallons, 2" Diam 0.163 * 3 casings * 10' screen = 4.89 gallons

Well Development / Purging (circle one)

	12/14/15							
Time	1210							
Water Level	9.12'							
pH								
Conductivity								
Temperature								
Salinity								
Turbidity								
Color	Dark gray							
Dissolved Oxygen in								
Purge Volume								

Well Sampling Information (complete if well is sampled)

Decon Method: _____
Water Level Start: _____
Sampling Method: _____
Filter Type: _____

Sample Number: _____
Water Level Finish: _____
Field comments: _____

-Very thick, dark gray liquid. Not producing much water. Possible fouling of well screen by contaminant?
-Check screened interval, may be in perched zone
Did not clean up

g-logics

Well Number: MW15 **Project Name:** DMC

Project Number: 01-0979-C	Date: 10/14/15	Weather:
Development / Purge Method: Swab/Surge	Well Screen Interval: _____ to _____	Tidally Influenced? Yes
Logged By: SHP	Water Depth Start: 4.79'	Field Comments:
Dev Purge Water Disposal Method: Drum	Water Depth Finish: 5.69'	
Dev. Purge Water Disposal Volume: 27 gal	Bails Dry? Yes (No) What Volume?	Well Conditions: (OK) Not OK
		Explain:

Casing Volume in Gallons: 1" Diam = 0.041 gal/ft, 2" Diam = 0.163 gal/ft, 4" Diam = 0.653 gal/ft
Purge Volumes: 1" Diam 0.041 * 3 casings * 10' screen = 1.23 gallons, 2" Diam 0.163 * 3 casings * 10' screen = 4.89 gallons

Well Development / Purging (circle one)

10/14/15

Time	0920							
Water Level	4.79							
pH								
Conductivity								
Temperature								
Salinity								
Turbidity								
Color								
Dissolved Oxygen in								
Purge Volume								

Well Sampling Information (complete if well is sampled)

Decon Method: _____

Water Level Start: _____

Sampling Method: _____

Filter Type: _____

Sample Number: _____

Water Level Finish: _____

Field comments: _____

g-logics

Well Number: MW16	Project Name:	
Project Number: 21-0979-C	Date: 12/15/15	Weather: Cloudy Cold
Development / Purge Method: Swab/Surge	Well Screen Interval: _____ to _____	Tidally Influenced? Yes
Logged By: SH	Water Depth Start: 8.82'	Field Comments: GW similar to MW14, Dark grey, burnt odor.
Purge Water Disposal Method: Drum	Water Depth Finish: 9.12'	
Purge Water Disposal Volume: 22 gal	Balls Dry? Yes (No) What Volume?	Well Conditions: (OK) Not OK
		Explain:

Casing Volume in Gallons: 1" Diam = 0.041 gal/ft, 2" Diam = 0.163 gal/ft, 4" Diam = 0.653 gal/ft
Purge Volumes: 1" Diam 0.041 * 3 casings * 10' screen = 1.23 gallons, 2" Diam 0.163 * 3 casings * 10' screen = 4.89 gallons

Well Development / Purging (circle one)

Time	1000							
Water Level	8.82'							
pH								
Conductivity								
Temperature								
Salinity								
Turbidity								
Color								
Dissolved Oxygen in								
Purge Volume								

Well Sampling Information (complete if well is sampled)

Decon Method: _____

Water Level Start: _____

Sampling Method: _____

Filter Type: _____

Sample Number: _____

Water Level Finish: _____

Field comments: _____

g-logics

Daily Field Notes	Project Name: DMC
Project Number: 01-0979-C	Page 1 of 1
Date: 12/17/15	Weather: Rain, Cold
Started: 1600	Other Information:
Completed: 2100	

Diary

- Most wells caps were not tightened and expansion plugs installed properly after PLS, Inc conducted their survey on 12/15/15, after I had completed developing the wells

12 + 12D were under a pool of water. Difficult to keep water out while sampling

Forgot to collect an HNO_3 preserved PCB for well 12.

- Did not have time to sample wells

MW08, MW11, MW13, MW14, MW16

MW05 has not been accessed for development or sampling due to onsite activities by Swanson Tug and Barge

- Will sample remaining wells on 12/21/15

- Lab called on 12/18/15 informing me that we did not collect the correct bottle for Mercury EPA 1631. They will still run using this method but the samples will likely be flagged

Approved: _____ Signed: _____

g-logics

Groundwater Depths	Project Name: DMC
Project Number: 01-0979-C	Page 1 of 1
Date: 12/17/15	Weather: Cold Rain
Started: 1600	Other Information:
Completed: 2100	

Well	Depth *	Time	Notes
MW06	7.05'	1850	
MW07	7.28'	1855	
MW08			
MW09	8.37'	1720	
~~MW09~~	~~—~~	~~—~~	
~~MW~~	~~—~~	~~—~~	
MW09D	8.40'	~~1650~~ 1740	
MW10	6.26'	1810	
MW10D	8.41'	1805	
MW11			
MW12	9.55	1923	
MW12D	9.~~70~~	1943	
MW13			
MW14			
MW15	6.83	1549	
MW16			
MW05			Unable to be sampled
			* From Top of PVC

Approved: _____ Signed: _____ g-logics

Chain of Custody Record

Fremont Analytical

3600 Fremont Ave N.
Seattle, WA 98103
Tel: 206-352-3790
Fax: 206-352-7178

Laboratory Project No (internal): _____

Date: 12/17/15

Page: 1 of: 2

Client: Geologics / Chad Harris
Address: 710 2nd Ave Ste
City, State, Zip: Issaquah
Telephone: 425-391-8274 Fax: _____

Project Name: Duwamish Marine Center
Project No: 01-0974-C Collected by: SH
Location: Seattle
Report To (PM): Shirt Hyde
PM Email: Shyde@geologics

*Matrix Codes: A = Air, AQ = Aqueous, B = Bulk, O = Other, P = Product, S = Soil, SD = Sediment, SL = Solid, W = Water, DW = Drinking Water, GW = Ground Water, SW = Storm Water, WW = Waste Water

	Sample Name	Sample Date	Sample Time	Sample Type (Matrix)*	VOCs (EPA 8260 / 624)	GX/BTEX	BTEX	Gasoline Range Organics (GX)	Hydrocarbon Identification (HCID)	Diesel/Heavy Oil Range Organics (DX)	SVOCs (EPA 8270 / 625)	PAHs (EPA 8270 - SIM)	PCBs (EPA 8082 / 608)	Metals** (EPA 6020 / 200.8)	Total (T) / Dissolved (D)	Anions (IC)***	EDB (8011)	Total Suspended Solids				Comments
1	MW06-20151217	12/17	1850	GW	X			X		X	X		X	X	X	X		X				
2	MW07 20151217		1855		X			X		X	X		X	X	X	X		X				
3	~~MW08 20151217~~				X			X		X	X		X	X	X	X		X				
4	MW09-20151217		1720		X			X		X	X		X	X	X	X		X				
5	MW09D-20151217		1740		X			X		X	X		X	X	X	X		X				
6	MW10-20151217		1810		X			X		X	X		X	X	X	X		X				
7	MW10D-20151217		1805		X			X		X	X		X	X	X	X		X				
8	~~MW11-20151217~~				X			X		X	X		X	X	X	X		X				
9	MW12-20151217		1923		X			X		X	X		X	X	X	X		X				
10	MW12D-20151217		1943		X			X		X	X		X	X	X	X		X				

**Metals Analysis (Circle): MTCA-5 RCRA 8 Priority Pollutants TAL *Individual:* Ag Al As B Ba Be Ca Cd Co Cr Cu Fe Hg K Mg Mn Mo Na Ni Pb Sb Se Sr Sn Ti Tl U V Zn

***Anions (Circle): Nitrate Nitrite Chloride Sulfate Bromide O-Phosphate Fluoride Nitrate+Nitrite

Turn-around times for samples received after 4:00pm will begin on the following business day.

Special Remarks: Lab Filter for Dissolved

Sample Disposal: ☐ Return to Client ☐ Disposal by Lab (A fee may be assessed if samples are retained after 30 days.)

Relinquished	Date/Time	Received	Date/Time
x	12-18/1051	x	12/18/15
Relinquished	Date/Time	Received	Date/Time
x		x	10:51

TAT → SameDay^ NextDay^ 2 Day 3 Day STD

^Please coordinate with the lab in advance

Distribution: White - Lab, Yellow - File, Pink - Originator

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Chain of Custody Record

3600 Fremont Ave N.
Seattle, WA 98103
Tel: 206-352-3790
Fax: 206-352-7178

Laboratory Project No (internal): _____

Date: 12/17/15

Page: 2 of: 2

Client: G-Logics / Clint Harris
Address: 40 Front St SE
City, State, Zip: Issaquah
Telephone: 425-391-6874 Fax: _____

Project Name: Duwamish Marine Center
Project No: 01-0974-C Collected by: SH
Location: Seattle
Report To (PM): Stuart Hyde
PM Email: stuarth@g-logics.com

*Matrix Codes: A = Air, AQ = Aqueous, B = Bulk, O = Other, P = Product, S = Soil, SD = Sediment, SL = Solid, W = Water, DW = Drinking Water, GW = Ground Water, SW = Storm Water, WW = Waste Water

	Sample Name	Sample Date	Sample Time	Sample Type (Matrix)*	VOCs (EPA 8260 / 624)	GX/BTEX	BTEX	Gasoline Range Organics (GX)	Hydrocarbon Identification (HCID)	Diesel/Heavy Oil Range Organics (DX)	SVOCs (EPA 8270 / 625)	PAHs (EPA 8270 - SIM)	PCBs (EPA 8082 / 608)	Metals** (EPA 6020 / 200.8)	Total (T) / Dissolved (D)	Anions (IC)***	EDB (8011)	Comments
1	MDJS-20151217	12/17		GW	X			X		X	X		X	X	X	X		
2	~~MDJM-20151217~~				X			X		X	X		X	X	X	X		
3	MDJS-20151217		1549		X			X		X	X		X	X	X	X		
4	~~MDJ6-20151217~~				X			X		X	X		X	X	X	X		
5	~~MDJFD1-20151217~~				X			X		X	X		X	X	X	X		
6	MDJFD2-20151217	↓	↓	↓	X			X		X	X		X	X	X	X		
7																		
8																		
9																		
10																		

**Metals Analysis (Circle): MTCA-5 RCRA-8 Priority Pollutants TAL *Individual:* Ag Al As B Ba Be Ca Cd Co Cr Cu Fe Hg K Mg Mn Mo Na Ni Pb Sb Se Sr Sn Ti Tl U V Zn

***Anions (Circle): Nitrate Nitrite Chloride Sulfate Bromide O-Phosphate Fluoride Nitrate+Nitrite

Sample Disposal: ☐ Return to Client ☐ Disposal by Lab (A fee may be assessed if samples are retained after 30 days.)

Turn-around times for samples received after 4:00pm will begin on the following business day.

Special Remarks: Lab Filter for Dissolved

Relinquished	Date/Time	Received	Date/Time
x	12-18 / 10:51	x	12/18/ 10:51
x		x	

TAT → SameDay^ NextDay^ 2 Day 3 Day STD

^Please coordinate with the lab in advance

Distribution: White - Lab, Yellow - File, Pink - Originator

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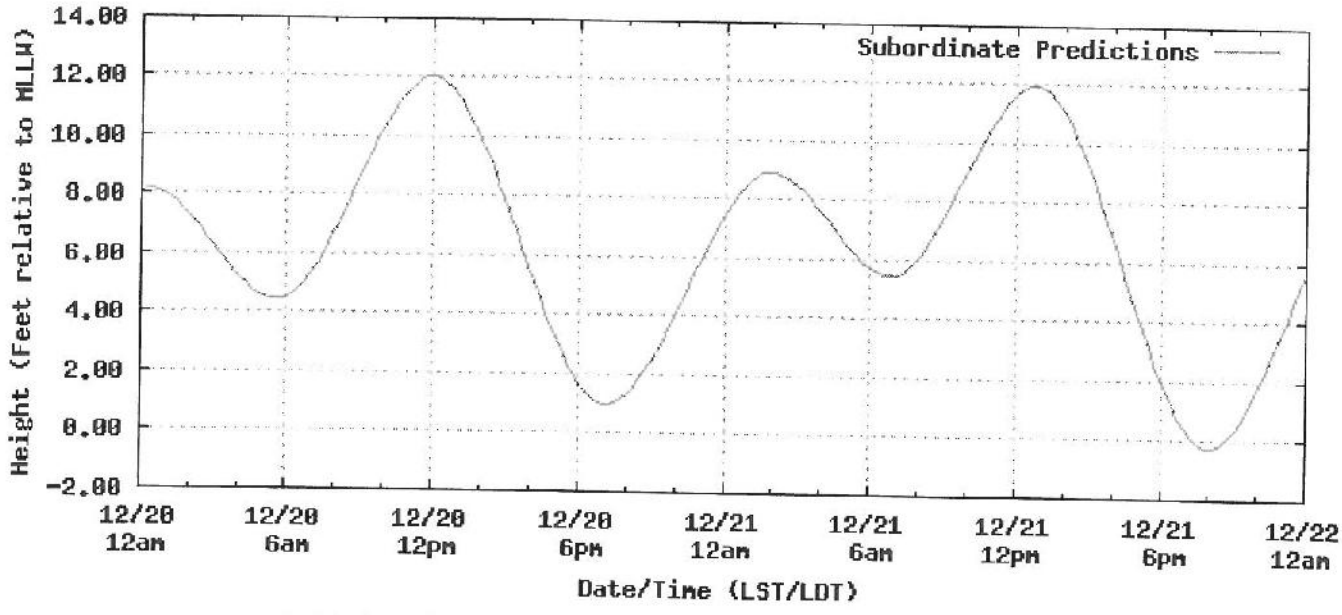
Duwamish Waterway, Eighth Ave. South, 9447029 Tidal Data Daily View

Duwamish Waterway, Eighth Ave. South, WA StationId: 9447029

Referenced to Station: Seattle (9447130)
Time offset in mins (high:10 low: 11) Height offset in feet (high:* 0.97 low: *0.95)

Daily Tide Prediction in **Feet**
Time Zone: **LST/LDT**
Datum: **MLLW**

(./NOAATidesFacade.jsp?Stationid=9447029&bmon=12&bday=19&byear=2015&edate=&timelength=daily)
2015/12/20 - 2015/12/21 (./NOAATidesFacade.jsp?Stationid=9447029&bmon=12&bday=21&byear=2015&edate=&timelength=daily)
Back to Station Listing (/tide_predictions.html)
Help (/PageHelp.html)



Disclaimer: These data are based upon the latest information available as of the date of your request, and may differ from the published tide tables.

Note: For predictions of Subordinate stations, the solid blue line depicts a curve fit between the high and low values and approximates the segments between.

Begin Date:

(./NOAATidesFacade.jsp?Stationid=9447029&bmon=12&bday=19&byear=2015&edate=&timelength=daily)

Dec 20 2015 (./NOAATidesFacade.jsp?Stationid=9447029&bmon=12&bday=21&byear=2015&edate=&timelength=daily)

Time Range:

Daily

Time Zone:

LST/LDT

Data Units:

Feet

Show Advanced Options

Submit Reset

Published Tide Tables Formats

Annual PDF	Annual TXT	Annual XML

Get Adobe Reader (./redirect.jsp) **Printer Friendly**

High/Low Tide Predictions in Feet
from 2015/12/20 - 2015/12/21

Download: TXT XML

Date	Day	Time	Hgt
12/20	Sun	12:19 AM	8.16 H
12/20	Sun	05:37 AM	4.44 L
12/20	Sun	12:00 PM	12.03 H
12/20	Sun	07:07 PM	0.99 L
12/21	Mon	01:53 AM	8.93 H
12/21	Mon	06:52 AM	5.46 L
12/21	Mon	12:48 PM	11.98 H
12/21	Mon	07:58 PM	-0.25 L

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Revised: 10/15/2013
NOAA (http://www.noaa.gov) / National Ocean Service (http://oceanservice.noaa.gov)
Web site owner: Center for Operational Oceanographic Products and Services

Well Number:	MW06	Project Name:	DMC
Project Number:	01-0979-C	Date:	12/17/15
Development / Purge Method:	Surge/Surge	Well Screen Interval: ____ to ____	
Logged By:	SM	Water Depth Start:	7.05
Purge Water Disposal Method:	Drum	Water Depth Finish:	
Purge Water Disposal Volume:	5gal	Bails Dry? Yes (No) What Volume?	

Weather:	Cold Rain
Tidally Influenced?	Yes
Field Comments:	
Well Conditions: (OK) Not OK	
Explain:	

Casing Volume in Gallons: 1" Diam = 0.041 gal/ft, 2" Diam = 0.163 gal/ft, 4" Diam = 0.653 gal/ft
Purge Volumes: 1" Diam 0.041 * 3 casings * 10' screen = 1.23 gallons, 2" Diam 0.163 * 3 casings * 10' screen = 4.89 gallons

Well Development / Purging (circle one)

Time	1850							
Water Level	7.05							
pH	6.36							
Conductivity	6.545							
Temperature	13.09							
Salinity	—							
Turbidity	4.0							
Color — ORP	-171.2							
Dissolved Oxygen in	36.8/3.9							
Purge Volume	5gal							

Well Sampling Information (complete if well is sampled)

Decon Method: Dedicated tubing
Water Level Start: 7.05
Sampling Method: Per. Pump
Filter Type: none / lab filter

Sample Number: MW06-20151217
Water Level Finish: —
Field comments:

g-logics

Well Number: MW07 **Project Name:** DMC

Project Number: 01-0979-C	Date: 12/17/15	Weather: Cold Rain
Development / Purge Method: Swab/Surge	Well Screen Interval: _____ to _____	Tidally Influenced? Yes
Logged By: SH	Water Depth Start: 7.28'	Field Comments:
Purge Water Disposal Method: Drum	Water Depth Finish:	
Purge Water Disposal Volume: 5 gal	Bails Dry? Yes (No) What Volume?	Well Conditions: (OK) Not OK
		Explain:

Casing Volume in Gallons: 1" Diam = 0.041 gal/ft, 2" Diam = 0.163 gal/ft, 4" Diam = 0.653 gal/ft
Purge Volumes: 1" Diam 0.041 * 3 casings * 10' screen = 1.23 gallons, 2" Diam 0.163 * 3 casings * 10' screen = 4.89 gallons

Well Development / Purging (circle one)

Time	1855							
Water Level	7.28'							
pH	6.74							
Conductivity	1.189							
Temperature	12.33							
Salinity	—							
Turbidity	1.4							
Color ORP	-205.2							
Dissolved Oxygen in	41.0/4.32							
Purge Volume	5 gal							

Well Sampling Information (complete if well is sampled)

Decon Method: Dedicated Tubing
Water Level Start: 7.28'
Sampling Method: Per. Pump
Filter Type: none / Lab Filter

Sample Number: MW07-20151217
Water Level Finish:
Field comments:

g-logics

Well Number: MW09	**Project Name:** DMC	
Project Number: 01-0979-C	**Date:** 12/17/15	**Weather:** Rain Cold
Development / Purge Method: Swab/Surge	**Well Screen Interval:** _____ to _____	**Tidally Influenced?** Yes ?
Logged By: SH	**Water Depth Start:** 8.37'	**Field Comments:**
Purge Water Disposal Method: Drum	**Water Depth Finish:**	
Purge Water Disposal Volume: 5 gal	**Bails Dry?** Yes No What Volume?	**Well Conditions:** (OK) Not OK
		Explain:

Casing Volume in Gallons: 1" Diam = 0.041 gal/ft, 2" Diam = 0.163 gal/ft, 4" Diam = 0.653 gal/ft
Purge Volumes: 1" Diam 0.041 * 3 casings * 10' screen = 1.23 gallons, 2" Diam 0.163 * 3 casings * 10' screen = 4.89 gallons

Well Development / Purging (circle one)

Time	17:30								
Water Level	8.37'								
pH	6.41								
Conductivity	0.441								
Temperature	14.44								
Salinity	—								
Turbidity	16.3								
~~Color~~ ORP	223/4.36								
Dissolved Oxygen in	26.5/2.65								
Purge Volume	5 gal								

Well Sampling Information (complete if well is sampled)

Decon Method: ~~Ded~~icated tubing
Water Level Start: 8.37'
Sampling Method: Per. Pump
Filter Type: none / lab filter

Sample Number: MW09-20151217
Water Level Finish:
Field comments:

g-logics

Well Number: MW091D	**Project Name:** DMC	
Project Number: 01-0979-C	**Date:** 12/17/15	**Weather:** Cold Rain
Development / Purge Method: Surge/Surge	**Well Screen Interval:** _____ to _____	**Tidally Influenced?** Yes ?
Logged By: SH	**Water Depth Start:** 8.40	**Field Comments:**
Purge Water Disposal Method: Drum	**Water Depth Finish:**	
Purge Water Disposal Volume: 8 gal	**Bails Dry?** Yes (No) **What Volume?**	**Well Conditions:** (OK) Not OK
		Explain:

Casing Volume in Gallons: 1" Diam = 0.041 gal/ft, 2" Diam = 0.163 gal/ft, 4" Diam = 0.653 gal/ft
Purge Volumes: 1" Diam 0.041 * 3 casings * 10' screen = 1.23 gallons, 2" Diam 0.163 * 3 casings * 10' screen = 4.89 gallons

Well Development / Purging (circle one)

Time	1740							
Water Level	8.40							
pH	6.77							
Conductivity	0.430							
Temperature	13.48							
Salinity								
Turbidity	97.6							
Color ORP	-173.0							
Dissolved Oxygen in	43.0/4.42							
Purge Volume	8 gal							

Well Sampling Information (complete if well is sampled)

Decon Method: dedicated tubing
Water Level Start: 8.40'
Sampling Method: Per. Pump
Filter Type: none/lab filter

Sample Number: MW091D-20151217
Water Level Finish:
Field comments:

g-logics

Well Number: MW10 | **Project Name:** DMC

Project Number: 01-0979-C	Date: 12/17/15	Weather: Cold drizzle
Development / Purge Method: Surge/Surge	Well Screen Interval: _____ to _____	Tidally Influenced? Yes ?
Logged By: SM	Water Depth Start: 6.26'	Field Comments:
Purge Water Disposal Method: Drum	Water Depth Finish:	
Purge Water Disposal Volume: 5 gal	Bails Dry? Yes (No) What Volume?	Well Conditions: (OK) Not OK
		Explain:

Casing Volume in Gallons: 1" Diam = 0.041 gal/ft, 2" Diam = 0.163 gal/ft, 4" Diam = 0.653 gal/ft
Purge Volumes: 1" Diam 0.041 * 3 casings * 10' screen = 1.23 gallons, 2" Diam 0.163 * 3 casings * 10' screen = 4.89 gallons

Well Development / Purging (circle one)

Time	1810							
Water Level	6.26'							
pH	6.85							
Conductivity	0.253							
Temperature	11.17							
Salinity	—							
Turbidity	6.6							
Color ORP	-150.6							
Dissolved Oxygen in	42.2/4.69							
Purge Volume	5 gal							

Well Sampling Information (complete if well is sampled)

Decon Method: dedicated tubing
Water Level Start: 6.26'
Sampling Method: Per. Pump
Filter Type: none/lab filter

Sample Number: MW10-20151217
Water Level Finish:
Field comments:

g-logics

Well Number: MW10D | **Project Name:** DMC

Project Number: 01-0979-C	Date: 12/17/15	Weather: Cold Rain
Development / Purge Method: Swab/Surge	Well Screen Interval: _____ to _____	Tidally Influenced? Yes ?
Logged By: SH	Water Depth Start: 8.41'	Field Comments:
Purge Water Disposal Method: Drum	Water Depth Finish:	
Purge Water Disposal Volume: 8 gal	Bails Dry? Yes (No) What Volume?	Well Conditions: (OK) Not OK
		Explain:

Casing Volume in Gallons: 1" Diam = 0.041 gal/ft, 2" Diam = 0.163 gal/ft, 4" Diam = 0.653 gal/ft
Purge Volumes: 1" Diam 0.041 * 3 casings * 10' screen = 1.23 gallons, 2" Diam 0.163 * 3 casings * 10' screen = 4.89 gallons

Well Development / Purging (circle one)

Time	1805								
Water Level	8.41'								
pH	6.75								
Conductivity	0.750								
Temperature	14.10								
Salinity	-								
Turbidity	7.3								
~~Color~~ ORP	-183.2								
Dissolved Oxygen in	49.6/5.00								
Purge Volume	8 gal								

Well Sampling Information (complete if well is sampled)

Decon Method: dedicated tubing
Water Level Start: 8.41'
Sampling Method: Per. Pump
Filter Type: none / lab filter

Sample Number: MW10D-20151217
Water Level Finish:
Field comments:

g-logics

Well Number: MW12 | **Project Name:** DMC

Project Number: 01-0979-C	Date: 12/17/15	Weather: Cold Rain
Development / Purge Method: Sub/Surge	Well Screen Interval: _____ to _____	Tidally Influenced? Yes
Logged By: SH	Water Depth Start: 9.55	Field Comments: Well monument below surrounding area. Surface water may have flowed into well casing during sampling.
Purge Water Disposal Method: Drum	Water Depth Finish:	
Purge Water Disposal Volume: 5 gal	Bails Dry? Yes (No) What Volume?	Well Conditions: (OK) Not OK
		Explain:

Casing Volume in Gallons: 1" Diam = 0.041 gal/ft, 2" Diam = 0.163 gal/ft, 4" Diam = 0.653 gal/ft
Purge Volumes: 1" Diam 0.041 * 3 casings * 10' screen = 1.23 gallons, 2" Diam 0.163 * 3 casings * 10' screen = 4.89 gallons

Well Development / Purging (circle one)

Time	1423							
Water Level	9.55							
pH	6.7							
Conductivity	1.329							
Temperature	12.56							
Salinity								
Turbidity	523.1							
Color	~~132~~ 190.1							
Dissolved Oxygen in	41.6/4.37							
Purge Volume	5 gal							

Well Sampling Information (complete if well is sampled)

Decon Method: dedicated tubing
Water Level Start: 9.55'
Sampling Method: Per. Pump
Filter Type: none / lab filter

Sample Number: MW12-20151217
Water Level Finish:
Field comments:

g·logics

Well Number: MW12D | **Project Name:** DMC

Project Number: 01-0979-C	Date: 12/17/15	Weather: Cold Rain
Development / Purge Method: Grab Sample	Well Screen Interval: _____ to _____	Tidally Influenced? Yes
Logged By: SH	Water Depth Start: 9.70'	Field Comments: Same as MW12
Purge Water Disposal Method: Drum	Water Depth Finish:	
Purge Water Disposal Volume: 8 gal	Bails Dry? Yes (No) What Volume?	Well Conditions: (OK) Not OK
		Explain:

Casing Volume in Gallons: 1" Diam = 0.041 gal/ft, 2" Diam = 0.163 gal/ft, 4" Diam = 0.653 gal/ft
Purge Volumes: 1" Diam 0.041 * 3 casings * 10' screen = 1.23 gallons, 2" Diam 0.163 * 3 casings * 10' screen = 4.89 gallons

Well Development / Purging (circle one)

Time	1943								
Water Level	9.70								
pH	6.67								
Conductivity	0.713								
Temperature	12.89								
Salinity	—								
Turbidity	9.8								
Color ORP	-161.3								
Dissolved Oxygen in	346/348								
Purge Volume	8 gal								

Well Sampling Information (complete if well is sampled)

Decon Method: Dedicated tubing
Water Level Start: 9.70'
Sampling Method: Per. Pump
Filter Type: none / lab filter

Sample Number: MW12D-20151217
Water Level Finish:
Field comments:

g-logics

Well Number: MW15 **Project Name:** DMC

Project Number: 01-0979-C	Date: 12/17/15	Weather: Cold Rain
Development / Purge Method: Surge/Surge	Well Screen Interval: _____ to _____	Tidally Influenced? Yes ?
Logged By: SH	Water Depth Start: 15.49	Field Comments:
Purge Water Disposal Method: Drum	Water Depth Finish:	
Purge Water Disposal Volume: 5 gal	Bails Dry? Yes (No) What Volume?	Well Conditions: (OK) Not OK
		Explain:

Casing Volume in Gallons: 1" Diam = 0.041 gal/ft, 2" Diam = 0.163 gal/ft, 4" Diam = 0.653 gal/ft
Purge Volumes: 1" Diam 0.041 * 3 casings * 10' screen = 1.23 gallons, 2" Diam 0.163 * 3 casings * 10' screen = 4.89 gallons

Well Development / Purging (circle one)

Time	1549							
Water Level	6.83'							
pH	6.41							
Conductivity mS/cm	0.003							
Temperature	6.28°C							
Salinity	—							
Turbidity NTU	6.3							
~~Color~~ ORP	-208.4							
Dissolved Oxygen in	104.2/10.88							
Purge Volume	(20							

Well Sampling Information (complete if well is sampled)

Decon Method: Dedicated tubing
Water Level Start: 6.83'
Sampling Method: Per. Pump
Filter Type: none/lab filter

Sample Number: MW15-20151217
Water Level Finish:
Field comments:

g-logics

Groundwater Depths	Project Name: DMC
Project Number: 01-0979-C	Page 1 of 1
Date: 12/21/15	Weather: Cold Rain
Started:	Other Information:
Completed:	

Well	Depth *	Time	Notes, Dup MWFD1-20151221
MW08	6.79	1625	Well caps not installed Properly from Surveyor
MW11	7.32'	1630	Dup MWFD2-20151221
MW13	9.08'	1752	
MW14	7.23'	1805	
MW16	12.62'	1800	

* From Top of PVC

Approved: _____ Signed: _____ g-logics

Fremont Analytical

Chain of Custody Record

3600 Fremont Ave N.
Seattle, WA 98103
Tel: 206-352-3790
Fax: 206-352-7178

Laboratory Project No (internal): _____

Date: 12/21/15 Page: 1 of: 1

Client: G-Logics / Clint Harris
Address: 40 2nd Ave SE
City, State, Zip: Issaquah
Telephone: 425-391-6844 Fax: _____

Project Name: Duwamish Marine Center
Project No: 01-0979-C Collected by: SH
Location: Seattle
Report To (PM): Stuart Hyde
PM Email: stuarth@gmail.com

*Matrix Codes: A = Air, AQ = Aqueous, B = Bulk, O = Other, P = Product, S = Soil, SD = Sediment, SL = Solid, W = Water, DW = Drinking Water, GW = Ground Water, SW = Storm Water, WW = Waste Water

	Sample Name	Sample Date	Sample Time	Sample Type (Matrix)*	VOCs (EPA 8260 / 624)	GX/BTEX	BTEX	Gasoline Range Organics (GX)	Hydrocarbon Identification (HCID)	Diesel/Heavy Oil Range Organics (DX)	SVOCs (EPA 8270 / 625)	PAHs (EPA 8270 - SIM)	PCBs (EPA 8082 / 608)	Metals** (EPA 6020 / 200.8)	Total (T) / Dissolved (D)	Anions (IC)***	EDB (8011)				Comments
1	MW08-20151221	12/21	1625	GW	X			X		X	X		X	X	X	X		X				
2	MW01-20151221		1630		X			X		X	X		X	X	X	X		X				
3	MW15-20151221		1752		X			X		X	X		X	X	X	X		X				
4	MW14-20151221		1505		X			X		X	X		X	X	X	X		X				
5	MW16-20151221		1700		X			X		X	X		X	X	X	X		X				
6	MWFD1-20151221		1625		X			X		X	X		X	X	X	X		X				
7	MWFD2-20151221		1630		X			X		X	X		X	X	X	X		X				
8																						
9																						
10																						

**Metals Analysis (Circle): MTCA-5 RCRA-8 Priority Pollutants TAL *Individual:* Ag Al As B Ba Be Ca Cd Co Cr Cu Fe Hg K Mg Mn Mo Na Ni Pb Sb Se Sr Sn Ti Tl U V Zn

***Anions (Circle): Nitrate Nitrite Chloride Sulfate Bromide O-Phosphate Fluoride Nitrate+Nitrite

Turn-around times for samples received after 4:00pm will begin on the following business day.

Special Remarks: Monitor for TPH 1631 low level PCBs List filter for dissolved metals

Sample Disposal: ☐ Return to Client ☐ Disposal by Lab (A fee may be assessed if samples are retained after 30 days.)

Relinquished	Date/Time	Received	Date/Time
x	12/22/15 1418	x	12/22/15 14:18
Relinquished	Date/Time	Received	Date/Time
x		x	

TAT → SameDay^ NextDay^ 2 Day 3 Day STD

^Please coordinate with the lab in advance

Distribution: White - Lab, Yellow - File, Pink - Originator

Well Number: MW08 **Project Name:** DMC

Project Number: 01-0979-C	Date: 12/21/15	Weather: Cold Rain
Development / Purge Method: Swab/Surge	Well Screen Interval: _____ to _____	Tidally Influenced? Yes
Logged By: SH	Water Depth Start: 6.79'	Field Comments:
Purge Water Disposal Method: Drum	Water Depth Finish:	
Purge Water Disposal Volume: 5 gal	Bails Dry? Yes (No) What Volume?	Well Conditions: (OK) Not OK
		Explain:

Casing Volume in Gallons: 1" Diam = 0.041 gal/ft, 2" Diam = 0.163 gal/ft, 4" Diam = 0.653 gal/ft
Purge Volumes: 1" Diam 0.041 * 3 casings * 10' screen = 1.23 gallons, 2" Diam 0.163 * 3 casings * 10' screen = 4.89 gallons

Well Development / Purging (circle one)

Time	1625							
Water Level	6.79'							
pH	7.5							
Conductivity	0.567							
Temperature	11.82							
Salinity								
Turbidity	6.0							
~~Color~~ ORP	-257.6							
Dissolved Oxygen in	17.5/1.88							
Purge Volume	5							

Well Sampling Information (complete if well is sampled)

Decon Method: Dedicated tubing
Water Level Start: 6.79'
Sampling Method: Ber. Pump
Filter Type: Waterra / lab filter

Sample Number: MW08-20151221
Water Level Finish:
Field comments: Field Dup. MWFD1-20151221

g-logics

Well Number: MW11 | **Project Name:** DMC

Project Number: 61-0979-C	Date: 12/21/15	Weather: Cold Rain
Development / Purge Method: Scoop/Surge	Well Screen Interval: _____ to _____	Tidally Influenced? Yes
Logged By: SH	Water Depth Start: 7.32'	Field Comments:
Purge Water Disposal Method: Drum	Water Depth Finish:	
Purge Water Disposal Volume: 5 Gal	Bails Dry? Yes (No) What Volume?	Well Conditions: (OK) Not OK
		Explain:

Casing Volume in Gallons: 1" Diam = 0.041 gal/ft, 2" Diam = 0.163 gal/ft, 4" Diam = 0.653 gal/ft
Purge Volumes: 1" Diam 0.041 * 3 casings * 10' screen = 1.23 gallons, 2" Diam 0.163 * 3 casings * 10' screen = 4.89 gallons

Well Development / Purging (circle one)

Time	1630							
Water Level	7.32'							
pH	7.18							
Conductivity	0.004							
Temperature	11.16							
Salinity	—							
Turbidity	-3.7							
~~Color~~ ORP								
Dissolved Oxygen in	0.10							
Purge Volume	5 Gal							

Well Sampling Information (complete if well is sampled)

Decon Method: dedicated tubing
Water Level Start: 7.32'
Sampling Method: Per pump
Filter Type: none / lab filter

Sample Number: MW11-2015 0221
Water Level Finish:
Field comments: Field Dup - MWFD2-20151221

g-logics

Well Number: MW13 **Project Name:** DMC

Project Number: 01-0979-C	Date: 12/21/15	Weather: Cold Rain
Development / Purge Method: Swab/Surge	Well Screen Interval: _____ to _____	Tidally Influenced? Yes
Logged By: JH	Water Depth Start: 9.08'	Field Comments:
Purge Water Disposal Method: Drum	Water Depth Finish:	
Purge Water Disposal Volume: 5 gal	Bails Dry? Yes No What Volume?	Well Conditions: (OK) Not OK
		Explain:

Casing Volume in Gallons: 1" Diam = 0.041 gal/ft, 2" Diam = 0.163 gal/ft, 4" Diam = 0.653 gal/ft
Purge Volumes: 1" Diam 0.041 * 3 casings * 10' screen = 1.23 gallons, 2" Diam 0.163 * 3 casings * 10' screen = 4.89 gallons

Well Development / Purging (circle one)

Time	17.52								
Water Level	9.08'								
pH	6.71								
Conductivity	1,884								
Temperature	12.64								
Salinity									
Turbidity	36.9								
Color	-191.5								
Dissolved Oxygen in	7.5 / 0.78								
Purge Volume	5 gal								

Well Sampling Information (complete if well is sampled)

Decon Method: Dedicated tubing
Water Level Start: 9.08'
Sampling Method: Peristaltic Pump
Filter Type: none / 0.2u lab filter

Sample Number: MW13-20151221
Water Level Finish:
Field comments:

g·logics

Well Number: MW14 | **Project Name:**

Project Number: 01-0979-C	Date: 12/21/15	Weather: Cold Rain
Development / Purge Method: Swab/Surge	Well Screen Interval: _____ to _____	Tidally Influenced? Yes
Logged By: SH	Water Depth Start: 7.23	Field Comments:
Purge Water Disposal Method: Drum	Water Depth Finish:	
Purge Water Disposal Volume: 04 gal	Bails Dry? (Yes) No What Volume? 2 gal	Well Conditions: (OK) Not OK
		Explain:

Casing Volume in Gallons: 1" Diam = 0.041 gal/ft, 2" Diam = 0.163 gal/ft, 4" Diam = 0.653 gal/ft
Purge Volumes: 1" Diam 0.041 * 3 casings * 10' screen = 1.23 gallons, 2" Diam 0.163 * 3 casings * 10' screen = 4.89 gallons

Well Development / Purging (circle one)

Time	1405								
Water Level	7.23								
pH	7.07								
Conductivity	7,010								
Temperature	12.26								
Salinity	—								
Turbidity	550.1								
Color ORP	-134.9								
Dissolved Oxygen in	4.16/4.81								
Purge Volume	4 gal								

Well Sampling Information (complete if well is sampled)

Decon Method: Dedicated tubing
Water Level Start: 7.23'
Sampling Method: Per. Pump
Filter Type: none/lab filter

Sample Number: MW14-20151221
Water Level Finish:
Field comments:

g-logics

Well Number: MW16 | **Project Name:** DMC

Project Number: 01-0979-C	Date: 12/21/15	Weather: Cold. Rain
Development / Purge Method: Surge/Surge	Well Screen Interval: _____ to _____	Tidally Influenced? Yes
Logged By: SH	Water Depth Start: 12.62'	Field Comments:
Purge Water Disposal Method: Drum	Water Depth Finish:	
Purge Water Disposal Volume: 5 gal	Bails Dry? Yes (No) What Volume?	Well Conditions: (OK) Not OK
		Explain:

Casing Volume in Gallons: 1" Diam = 0.041 gal/ft, 2" Diam = 0.163 gal/ft, 4" Diam = 0.653 gal/ft
Purge Volumes: 1" Diam 0.041 * 3 casings * 10' screen = 1.23 gallons, 2" Diam 0.163 * 3 casings * 10' screen = 4.89 gallons

Well Development / Purging (circle one)

Time	1800							
Water Level	12.62							
pH	7.18							
Conductivity	12.40							
Temperature	13.60							
Salinity	—							
Turbidity	201.7							
Color ORP	-188.6							
Dissolved Oxygen in	10.6/1.04							
Purge Volume	5 gal							

Well Sampling Information (complete if well is sampled)

Decon Method: dedicated tubing
Water Level Start: 12.62'
Sampling Method: Per. Pump
Filter Type: none / lab filter

Sample Number: MW16-20151221
Water Level Finish:
Field comments:

g-logics

Groundwater Depths	Project Name: DMC
Project Number: 01-0979-C	Page _____ of _____
Date: 4/20 - 4/21/16	Weather:
Started:	Other Information:
Completed:	

Well	Depth *	Time	Notes
4/20/16			
MW15	7.68	0935	Field Dup Collected, FD1-20160420
MW10D	10.42	1625	
MW10	7.02	1200	
MW17	12.56	1315	
MW12D	12.74	1340	
MW05	11.00'	1515	
MW11	8.10'	1545	
4/21/16			
MW09	8.28'	0900	
MW09D	8.33'	0920	
MW06	8.48'	0956	
MW14	9.15'	1030	* Hex Chrome
MW07	8.96'	1130	Field Dup FD2-20160421
MW16	15.24	1315	
MW13	12.14'	1245	
MW08	11.38'	1400	

* From Top of PVC

Approved: _____ Signed: _____ g-logics

Groundwater Depths	Project Name:
Project Number:	Page _____ of _____
Date:	Weather:
Started:	Other Information:
Completed:	

Well	~~Depth~~ Height BS*	Time FS Height PVC	Notes FS Height Rim
CB06	6.80'		
MW12		5.80	5.55'
MW12D		5.70'	5.26'
MW05		6.02'	5.71' Location 47° 32' 49.176" N 122° 20' 08.403" W
MW14	5.79'		
MW13		9.81'	5.49' Location 47° 32' 39.763" 122° 20' 08.887"

* From Top of PVC

Approved: _____ Signed: _____

g·logics

Chain of Custody Record

Fremont Analytical

3600 Fremont Ave N.
Seattle, WA 98103
Tel: 206-352-3790
Fax: 206-352-7178

WATER v.2

Date:

Laboratory Project No (internal):

Page: 1 of: 2

Client: G-Logics
Address:
City, State, Zip: Issaquah
Telephone: 425-391-6874 Fax:

Project Name: Duwamish Marine Center
Project No: 01-0979-C
Location: Seattle
Report To (PM): Stuart Hyde
PM Email: Stuarth@g-logics
Collected by: Stuart Hyde

*Matrix Codes: A = Air, AQ = Aqueous, B = Bulk, O = Other, P = Product, S = Soil, SD = Sediment, SL = Solid, W = Water, DW = Drinking Water, GW = Ground Water, SW = Storm Water, WW = Waste Water

	Sample Name	Sample Date	Sample Time	Sample Type (Matrix)*	VOCs (8260C)	PAHs (8270D SIM)*	SVOCs (8270D)	Low Level PCBs (8082)	Chloride (300.0)	TSS (SM 2540D)	PP Metals (200.8) Total**	Low Level Hg (1631) Total	PP Metals (200.8) Dissolved**	Low Level Hg (1631) Dissolved	Gasoline (NWTPH-Gx)	Diesel/Heavy Oil (NWTPH-Dx)						Comments
1	MW05-20160420	4/20	1515	GW	X	X	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓						
2	MW06-20160421	4/21	0956	↓	X	X	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓						
3	MW07-20160421	4/21	1130		X	X	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓						~~Missing~~ Short 2 1L Ambers
4	MW08-20160421	4/21	1400		X	X	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓						
5	MW09-20160421	4/21	0900		X	X	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓						
6	MW09D-20160421	4/21	0920		X	X	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓						
7	MW10-20160420	4/20	1200		X	X	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓						
8	MW10D-20160420	4/20	1125		X	X	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓						
9	MW11-20160420	4/20	1545		X	X	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓						
10	MW12-20160420	4/20	1315	↓	X	X	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓						

Chloride cut
TSS cut

**Metals Analysis (Circle): MTCA-5 RCRA-8 Priority Pollutants TAL *Individual:* Ag Al As B Ba Be Ca Cd Co Cr Cu Fe Hg K Mg Mn Mo Na Ni Pb Sb Se Sr Sn Ti Tl U V Zn

***Anions (Circle): Nitrate Nitrite Chloride Sulfate Bromide O-Phosphate Fluoride Nitrate+Nitrite

Sample Disposal: ☐ Return to Client ☐ Disposal by Lab (A fee may be assessed if samples are retained after 30 days.)

Turn-around times for samples received after 4:00pm will begin on the following business day.

Special Remarks:
*Including PCP
**With Barium additionally

Relinquished	Date/Time	Received	Date/Time
x [signature]	4/21/16 1451	x [signature]	4/21/16 1451
x		x	

TAT → SameDay^ NextDay^ 2 Day 3 Day (STD)
^Please coordinate with the lab in advance

www.fremontanalytical.com

Distribution: White - Lab, Yellow - File, Pink - Originator

Chain of Custody Record

Fremont Analytical

3600 Fremont Ave N.
Seattle, WA 98103

Tel: 206-352-3790
Fax: 206-352-7178

WATER v.2

Date: _____

Laboratory Project No (internal): _____

Page: 2 of: 2

Client: G-Logics
Address: _____
City, State, Zip: _____
Telephone: _____ Fax: _____

Project Name: Duwamish Marine Center
Project No: 01-0979-C
Location: ~~Dmc~~ Seattle
Report To (PM): Stuart Hyde
PM Email: _____
Collected by: _____

*Matrix Codes: A = Air, AQ = Aqueous, B = Bulk, O = Other, P = Product, S = Soil, SD = Sediment, SL = Solid, W = Water, DW = Drinking Water, GW = Ground Water, SW = Storm Water, WW = Waste Water

	Sample Name	Sample Date	Sample Time	Sample Type (Matrix)*	VOCs (8260C)	PAHs (8270D SIM)*	SVOCs (8270D)	Low Level PCBs (8082)	Chloride (300.0)	TSS (SM 2540D)	PP Metals (200.8) Total**	Low Level Hg (1631) Total	PP Metals (200.8) Dissolved**	Low Level Hg (1631) Dissolved	Gasoline (NWTPH-Gx)	Diesel/Heavy Oil (NWTPH-Dx)	Hex Chrome	Total & Dissolved Sulfide				Comments
1	MW12D-20160420	4/20	1340	GW	-	-	-	-	-	-	-	-	-	-	-	-						
2	MW13-20160421	4/21	1245		-	-	-	-	-	-	-	-	-	-	-	-						
3	MW14-20160421	4/21	1030		-	-	-	-	-	-	-	-	-	-	-	-	X					
4	MW15-20160420	4/20	0935		-	-	-	-	-	-	-	-	-	-	-	-						
5	MW16-20160421	4/21	1315		-	-	-	-	-	-	-	-	-	-	-	-						
6	FD1-20160420	4/20	1200		-	-	-	-	-	-	-	-	-	-	-	-						
7	~~FD2-20160420~~ X																					
8	FD2-20160421	4/21	1210		-	-	-	-	-	-	-	-	-	-	-	-						
9																						
10																						

**Metals Analysis (Circle): MTCA-5 RCRA-8 Priority Pollutants TAL *Individual:* Ag Al As B Ba Be Ca Cd Co Cr Cu Fe Hg K Mg Mn Mo Na Ni Pb Sb Se Sr Sn Ti Tl U V Zn

***Anions (Circle): Nitrate Nitrite Chloride Sulfate Bromide O-Phosphate Fluoride Nitrate+Nitrite

Sample Disposal: ☐ Return to Client ☐ Disposal by Lab (A fee may be assessed if samples are retained after 30 days.)

Turn-around times for samples received after 4:00pm will begin on the following business day.

Special Remarks:
*Including PCP
**With Barium additionally

Relinquished	Date/Time	Received	Date/Time
x	4/21/16 1451	x	4/21/16 1451
Relinquished	Date/Time	Received	Date/Time
x		x	

TAT → SameDay^ NextDay^ 2 Day 3 Day STD
^Please coordinate with the lab in advance

Well Number: MW05 | **Project Name:**

Project Number: 01-0979-C	Date: 4/20/16	Weather: Sunny Hot
Development / Purge Method: Swab Surge	Well Screen Interval: 10 to 20	Tidally Influenced? Yes
Logged By: SM	Water Depth Start: 16.00'	Field Comments:
Purge Water Disposal Method: Drum	Water Depth Finish:	
Purge Water Disposal Volume:	Bails Dry? Yes No What Volume?	Well Conditions: OK Not OK
		Explain:

Casing Volume in Gallons: 1" Diam = 0.041 gal/ft, 2" Diam = 0.163 gal/ft, 4" Diam = 0.653 gal/ft
Purge Volumes: 1" Diam 0.041 * 3 casings * 10' screen = 1.23 gallons, 2" Diam 0.163 * 3 casings * 10' screen = 4.89 gallons

Well Development / Purging (circle one)

Time	1450	1454	1500	1505	1510			
Water Level	11.00'	11.00'	11.00'	11.00'	11.00'			
pH	7.00	7.00	6.99	6.98	6.97			
Conductivity	0.948	0.937	0.932	0.929	0.923			
Temperature	14.19	13.76	13.48	13.50	13.47			
Salinity	0.60	0.60	0.60	0.60	0.59			
Turbidity ORP	-59.5	-62.8	-62.4	-62.5	-65.4			
Color	clr	clr.	clr	clr	clr			
Dissolved Oxygen in %	14.4	9.1	7.4	6.2	3.8			
Purge Volume	1 gal							

Well Sampling Information (complete if well is sampled)

Decon Method: Dedicated Tubing
Water Level Start: 11.00
Sampling Method: Per. Pump
Filter Type:

Sample Number: MW05-20160420
Water Level Finish:
Field comments:

g-logics

Well Number: MW06	**Project Name:** DMC	
Project Number: 01-0979-C	**Date:** 4/21/16	**Weather:** Sunny, Mild
Development / Purge Method: Surge/Surge	**Well Screen Interval:** 8 to 18	**Tidally Influenced?** Yes
Logged By: SH	**Water Depth Start:**	**Field Comments:**
Purge Water Disposal Method: Drum	**Water Depth Finish:**	
Purge Water Disposal Volume:	**Bails Dry?** Yes No **What Volume?**	**Well Conditions:** OK, Not OK
		Explain:

Casing Volume in Gallons: 1" Diam = 0.041 gal/ft, 2" Diam = 0.163 gal/ft, 4" Diam = 0.653 gal/ft
Purge Volumes: 1" Diam 0.041 * 3 casings * 10' screen = 1.23 gallons, 2" Diam 0.163 * 3 casings * 10' screen = 4.89 gallons

Well Development / Purging (circle one)

Time	10:05	1010	1015	1020	1022			
Water Level	8.46							
pH	6.72	6.64	6.58	6.53	6.48			
Conductivity	2.193	2.237	2.394	2.488	2.561			
Temperature	12.18	11.96	12.15	11.93	11.88			
Salinity	1.53	1.56	1.67	1.75	1.80			
~~Turbidity~~ ORP	265.2	267.2	268.3	269.3	273.4			
Color	Rusty	clr	clr	clr	clr			
Dissolved Oxygen in %	61.7	52.2	46.9	43.5	36.4			
Purge Volume								

Well Sampling Information (complete if well is sampled)

Decon Method: Dedicated Tubing

Water Level Start:

Sampling Method: Per. Pump

Filter Type:

Sample Number: MW06-20160421

Water Level Finish:

Field comments:

g-logics

Well Number: MW07		**Project Name:** DMC
Project Number: 01-0479-C	Date: 04/21/16	Weather: Sunny, Mild
Development / Purge Method: Swab/Purge	Well Screen Interval: 7 to 17	Tidally Influenced? Yes
Logged By: SH	Water Depth Start:	Field Comments:
Purge Water Disposal Method: Drum	Water Depth Finish:	
Purge Water Disposal Volume:	Bails Dry? Yes (No) What Volume?	Well Conditions: (OK) Not OK
		Explain:

Casing Volume in Gallons: 1" Diam = 0.041 gal/ft, 2" Diam = 0.163 gal/ft, 4" Diam = 0.653 gal/ft
Purge Volumes: 1" Diam 0.041 * 3 casings * 10' screen = 1.23 gallons, 2" Diam 0.163 * 3 casings * 10' screen = 4.89 gallons

Well Development / Purging (circle one)

Time	1113	1120	1125	1130	1133			
Water Level	8.96'							
pH	6.81	6.61	6.54	6.54	6.55			
Conductivity	0.972	0.918	0.866	0.852	0.853			
Temperature	12.12	11.40	11.10	11.04	11.00			
Salinity	0.65	0.62	0.60	0.58	0.58			
~~Turbidity~~ ORP	-16.7	-46.4	-61.3	-62.9	-65.9			
Color	clr	clr	clr	clr	clr			
Dissolved Oxygen in %	6.2	25.1	15.4	11.3	10.0			
Purge Volume	0				2.0			

Well Sampling Information (complete if well is sampled)

Decon Method: Dedicated tubing
Water Level Start: 8.96
Sampling Method:
Filter Type:

Sample Number: MW07-20160421
Water Level Finish:
Field comments: Field Dup FD2-20160421

g-logics

Daily Field Notes	**Project Name:** DMC
Project Number: 01-0979-C	Page ____ of ____
Date: 4/21/16	Weather:
Started:	Other Information:
Completed:	

Diary

MW08

Time	1335	1340	1345	1350
Temp	11.65	11.58	11.52	11.44
Conduc	0.394	0.377	0.346	0.331
Sal	0.26	0.25	0.23	0.22
DO	2.65/24.1	1.63/15.0	1.78/16.4	1.30/11.9
pH	7.74	7.51	7.39	7.29
ORP	-4.1	6.4	22.8	30.1

5 gallons Purged

Approved: ______________ **Signed:** ______________ g-logics

Well Number: MW09 | **Project Name:** DMC

Project Number: 01-0979-C	Date: 4/21/16	Weather: Sunny, mild
Development / Purge Method: Swab/Surge	Well Screen Interval: 8 to 18	Tidally Influenced? Yes?
Logged By: SH	Water Depth Start: 8.28'	Field Comments:
Purge Water Disposal Method: Drum	Water Depth Finish:	
Purge Water Disposal Volume: 5 gal	Bails Dry? Yes (No) What Volume?	Well Conditions: (OK) Not OK
		Explain:

Casing Volume in Gallons: 1" Diam = 0.041 gal/ft, 2" Diam = 0.163 gal/ft, 4" Diam = 0.653 gal/ft
Purge Volumes: 1" Diam 0.041 * 3 casings * 10' screen = 1.23 gallons, 2" Diam 0.163 * 3 casings * 10' screen = 4.89 gallons

Well Development / Purging (circle one)

Time	0840	0856	0855	0900				
Water Level	8.28'	—	—	—				
pH	6.73	6.35	6.13	6.20				
Conductivity	0.233	0.221	0.246	0.274				
Temperature	12.36	12.53	12.38	12.37				
Salinity	0.15	0.14	0.16	0.18				
~~Turbidity~~ ORP	275.8	215.5	141	104.3				
Color	C/C	—	—					
Dissolved Oxygen in	5.88/54.7	3.42/32.0	1.98/18.6	1.57/14.7				
Purge Volume								

Well Sampling Information (complete if well is sampled)

Decon Method: _____

Water Level Start: 8.28'

Sampling Method: _____

Filter Type: _____

Sample Number: MW09-20160421

Water Level Finish: _____

Field comments: _____

g-logics

Well Number: MW09D	**Project Name:** RMC	
Project Number: 01-0979-C	**Date:** 4/21/16	**Weather:** Sunny, Mild
Development / Purge Method: Surge/Purge	**Well Screen Interval:** 14 to 29	**Tidally Influenced?** Yes ?
Logged By: JH	**Water Depth Start:** 8.33'	**Field Comments:**
Purge Water Disposal Method: Drum	**Water Depth Finish:**	
Purge Water Disposal Volume: 5 gal	**Bails Dry?** Yes (No) **What Volume?**	**Well Conditions:** (OK) Not OK
		Explain:

Casing Volume in Gallons: 1" Diam = 0.041 gal/ft, 2" Diam = 0.163 gal/ft, 4" Diam = 0.653 gal/ft
Purge Volumes: 1" Diam 0.041 * 3 casings * 10' screen = 1.23 gallons, 2" Diam 0.163 * 3 casings * 10' screen = 4.89 gallons

Well Development / Purging (circle one)

Time	0900	0910	0915	0920				
Water Level	8.33'	—	—	—				
pH	6.46	6.52	6.56	6.57				
Conductivity	0.423	0.454	0.451	0.449				
Temperature	12.94	12.88	12.99	12.98				
Salinity	0.27	0.29	0.29	0.28				
Turbidity ~~ORP~~	45.0	21.9	11.2	4.8				
Color	C/C	—	—					
Dissolved Oxygen in	3.53/33.0	1.73/16.4	1.17/11.0	1.0/9.6				
Purge Volume								

Well Sampling Information (complete if well is sampled)

Decon Method: Dedicated Tubing
Water Level Start: 8.33'
Sampling Method: Peri Pump
Filter Type: —

Sample Number: MW09D-20160421
Water Level Finish:
Field comments:

g-logics

Well Number: MW10		**Project Name:** DMC
Project Number: 01-0979-C	Date: 4/20/16	Weather: Sunny Warm
Development / Purge Method: Swab / Surge	Well Screen Interval: 9 to 19	Tidally Influenced? Yes
Logged By: SH	Water Depth Start: 7.02'	Field Comments:
Purge Water Disposal Method: Drum	Water Depth Finish:	
Purge Water Disposal Volume: 2.5 gal	Bails Dry? Yes (No) What Volume?	Well Conditions: (OK) Not OK
		Explain:

Casing Volume in Gallons: 1" Diam = 0.041 gal/ft, 2" Diam = 0.163 gal/ft, 4" Diam = 0.653 gal/ft
Purge Volumes: 1" Diam 0.041 * 3 casings * 10' screen = 1.23 gallons, 2" Diam 0.163 * 3 casings * 10' screen = 4.89 gallons

Well Development / Purging (circle one)

Time	1134	1140	1145	1151				
Water Level	7.02	—	—					
pH	6.71	6.67	6.64	6.64				
Conductivity	0.246	0.240	0.245	0.245				
Temperature	14.13	13.89	13.88	13.86				
Salinity	0.15	0.15	0.15	0.15				
~~Turbidity~~ ORP	265.8	296.4	323.1	334.7				
Color	clear/colorless	—	—					
Dissolved Oxygen in	7.46/71.1	5.18/50.1	5.10/49.4	4.93/48.0				
Purge Volume								

Well Sampling Information (complete if well is sampled)

Decon Method: Dedicated Tubing
Water Level Start: 7.02'
Sampling Method: Per. Pump
Filter Type: —

Sample Number: MW10 - 20160420
Water Level Finish: Time : 1200
Field comments:

g-logics

Well Number: MW10D | **Project Name:**

Project Number: 01-0979-C	Date: 4/20/16	Weather: Sunny Warm
Development / Purge Method: Surge/Purge	Well Screen Interval: 14.5 to 29.5	Tidally Influenced? Yes
Logged By: GH	Water Depth Start: 10.42	Field Comments:
Purge Water Disposal Method: Drum	Water Depth Finish:	
Purge Water Disposal Volume: 3 gal	Bails Dry? Yes (No) What Volume?	Well Conditions: (OK) Not OK
		Explain:

Casing Volume in Gallons: 1" Diam = 0.041 gal/ft, 2" Diam = 0.163 gal/ft, 4" Diam = 0.653 gal/ft
Purge Volumes: 1" Diam 0.041 * 3 casings * 10' screen = 1.23 gallons, 2" Diam 0.163 * 3 casings * 10' screen = 4.89 gallons

Well Development / Purging (circle one)

Time	1106	1110	1115	1120				
Water Level	10.42'	–	–	–				
pH	6.53	6.46	6.46	6.46				
Conductivity	0.244	0.240	0.242	0.243				
Temperature	14.14	13.86	13.89	13.89				
Salinity	0.15	0.15	0.15	0.15				
~~Turbidity~~ ORP	63.6	111.1	90.2	86.6				
Color	clear/colorless	–	–	–				
Dissolved Oxygen in	2.98/28.4	0.98/9.4	0.70/6.7	0.53/5.1				
Purge Volume	3gal							

Well Sampling Information (complete if well is sampled)

Decon Method: Ped. Tubing
Water Level Start: 10.42
Sampling Method: Per Pump
Filter Type:

Sample Number: MW10D-20160420
Water Level Finish: Time: 1125
Field comments:

g-logics

Well Number: MW11 | **Project Name:** DMC

Project Number: 01-0979-C	Date: 4/20/16	Weather: Sunny, Hot
Development / Purge Method: Swab/Surge	Well Screen Interval: 8 to 18	Tidally Influenced? Yes
Logged By: SH	Water Depth Start: 8.10	Field Comments:
Purge Water Disposal Method: Drum	Water Depth Finish:	
Purge Water Disposal Volume: 45 gal	Bails Dry? Yes (No) What Volume?	Well Conditions: (OK) Not OK
		Explain:

Casing Volume in Gallons: 1" Diam = 0.041 gal/ft, 2" Diam = 0.163 gal/ft, 4" Diam = 0.653 gal/ft
Purge Volumes: 1" Diam 0.041 * 3 casings * 10' screen = 1.23 gallons, 2" Diam 0.163 * 3 casings * 10' screen = 4.89 gallons

Well Development / Purging (circle one)

Time	1520	1530	1540	1545				
Water Level	8.10'	—	—	—				
pH	7.34	7.34	7.34	7.34				
Conductivity	4.084	4.100	4.092	4.106				
Temperature	12.10	12.05'	12.08	12.03				
Salinity	2.94	3.00	3.00	3.01				
~~Turbidity~~ ORP	12.6	9.4	10.1	9.0				
Color	clear/colorless	—	—	—				
Dissolved Oxygen in	0.79/7.4	0.56/5.3	0.55/5.2	0.41/3.9				
Purge Volume								

Well Sampling Information (complete if well is sampled)

Decon Method: Dedicated Tubing
Water Level Start: 8.10'
Sampling Method: Per Pump
Filter Type: —

Sample Number: MW11-20160420
Water Level Finish:
Field comments:

g-logics

Well Number: MW12 | **Project Name:** DMC

Project Number: 01-0979-C	Date: 4/20/16	Weather: Sunny Warm
Development / Purge Method: Swab/Surge	Well Screen Interval: 7.5 to 17.5	Tidally Influenced? YES
Logged By: SH	Water Depth Start: 12.56'	Field Comments:
Purge Water Disposal Method: Drum	Water Depth Finish:	
Purge Water Disposal Volume: 2 gal	Bails Dry? Yes No What Volume?	Well Conditions: (OK) Not OK
		Explain:

Casing Volume in Gallons: 1" Diam = 0.041 gal/ft, 2" Diam = 0.163 gal/ft, 4" Diam = 0.653 gal/ft
Purge Volumes: 1" Diam 0.041 * 3 casings * 10' screen = 1.23 gallons, 2" Diam 0.163 * 3 casings * 10' screen = 4.89 gallons

Well Development / Purging (circle one)

Time	1250	1255	1300	1305	1310			
Water Level	12.56	12.56	12.56	12.56	12.56			
pH	6.66	6.69	6.69	6.70	6.70			
Conductivity	1.282	1.216	1.214	1.211	1.211			
Temperature	12.00	11.77	11.71	11.64	11.74			
Salinity	0.83	0.83	0.83	0.83	0.82			
~~Turbidity~~ ORP	-46.6	-49.6	-49.7	-56.7	-74.5			
Color	clr	clr	clr	clr	clr			
Dissolved Oxygen in %	5.2	4.1	4.1	3.9	3.5			
Purge Volume	1 gal	1.2 gal			2.0 gal			

Well Sampling Information (complete if well is sampled)

Decon Method: Dedicated tubing
Water Level Start: 12.56
Sampling Method: Per. Pump
Filter Type: —

Sample Number: MW12-20160420
Water Level Finish:
Field comments:

g-logics

Well Number: MW12D | **Project Name:** DMC

Project Number: 01-0979-C	Date: 4/20/16	Weather: Sunny Warm
Development / Purge Method: Swab/Surge	Well Screen Interval: 15 to 30	Tidally Influenced? Yes
Logged By: SM	Water Depth Start: 12.74	Field Comments:
Purge Water Disposal Method: Drum	Water Depth Finish:	
Purge Water Disposal Volume:	Bails Dry? Yes (No) What Volume?	Well Conditions: (OK) Not OK
		Explain:

Casing Volume in Gallons: 1" Diam = 0.041 gal/ft, 2" Diam = 0.163 gal/ft, 4" Diam = 0.653 gal/ft
Purge Volumes: 1" Diam 0.041 * 3 casings * 10' screen = 1.23 gallons, 2" Diam 0.163 * 3 casings * 10' screen = 4.89 gallons

Well Development / Purging (circle one)

Time	1315	1326	1331	1346				
Water Level	12.74	—	—					
pH	6.47	6.42	6.42	6.41				
Conductivity	0.437	0.432	0.429	0.428				
Temperature	13.08	13.15	13.27	13.27				
Salinity	0.28	0.27	0.27	0.27				
~~Turbidity~~ ORP	-13.7	-22.2	-27.4	-27.7				
Color	Clear/colorless	—	—	—				
Dissolved Oxygen in	0.50/4.7	0.32/3.1	0.27/2.6	0.24/2.3				
Purge Volume								

Well Sampling Information (complete if well is sampled)

Decon Method: Dedicated Tubing
Water Level Start: 12.74
Sampling Method: Per Pump
Filter Type: —

Sample Number: MW12D-20160420
Water Level Finish:
Field comments:

g-logics

Well Number: MW13 | **Project Name:**

Project Number: 04-0979-C	Date: 4/21/16	Weather: Sunny Warm
Development / Purge Method: Swab/Surge	Well Screen Interval: 8 to 18	Tidally Influenced? Yes
Logged By: SH	Water Depth Start: 12.14'	Field Comments:
Purge Water Disposal Method: Drum	Water Depth Finish:	
Purge Water Disposal Volume:	Bails Dry? Yes (No) What Volume?	Well Conditions: (OK) Not OK
		Explain:

Casing Volume in Gallons: 1" Diam = 0.041 gal/ft, 2" Diam = 0.163 gal/ft, 4" Diam = 0.653 gal/ft
Purge Volumes: 1" Diam 0.041 * 3 casings * 10' screen = 1.23 gallons, 2" Diam 0.163 * 3 casings * 10' screen = 4.89 gallons

Well Development / Purging (circle one)

Time	1210	1220	1230	1235				
Water Level	12.14'	"	"	"				
pH	6.64	6.63	6.63	6.62				
Conductivity	1,181	1.178	(1.178)	1,178				
Temperature	11.60	11.50	11.44	11.45				
Salinity	0.81	0.81	0.81	0.81				
~~Turbidity~~ ORP	-47.1	-56.9	-58.6	-58.7				
Color	C/C	"	"	"				
Dissolved Oxygen in	3.76/34.7	2.86/26.4	2.37/21.8	2.28/21.0				
Purge Volume								

Well Sampling Information (complete if well is sampled)

Decon Method: Dedicated Tubing
Water Level Start: 12.14'
Sampling Method: Peri Pump
Filter Type: -

Sample Number: MW13-20160421
Water Level Finish:
Field comments:

g-logics

Well Number: MW14 **Project Name:** DMC

Project Number: 01-0979-C	Date: 4/21/16	Weather: Sunny, mild
Development / Purge Method: Swab/Surge	Well Screen Interval: 5 to 15	Tidally Influenced? Yes
Logged By: JH	Water Depth Start: 9.15'	Field Comments:
Purge Water Disposal Method: Drum	Water Depth Finish:	
Purge Water Disposal Volume: 2.5 gal	Bails Dry? (Yes) No What Volume? 3 gal	Well Conditions: (OK) Not OK
		Explain:

Casing Volume in Gallons: 1" Diam = 0.041 gal/ft, 2" Diam = 0.163 gal/ft, 4" Diam = 0.653 gal/ft
Purge Volumes: 1" Diam 0.041 * 3 casings * 10' screen = 1.23 gallons, 2" Diam 0.163 * 3 casings * 10' screen = 4.89 gallons

Well Development / Purging (circle one)

Time	1030	1040	1050					
Water Level	9.15'	—	—					
pH	6.63	6.64	6.65					
Conductivity	3.059	3.352	3.355					
Temperature	13.01	12.63	12.61					
Salinity	2.27	2.26	2.27					
Turbidity ORP	-48.7	-47.6	-57.5					
Color	C/C	—	—					
Dissolved Oxygen in	3.31/32	1.71/16.1	1.17/11.1					
Purge Volume								

Well Sampling Information (complete if well is sampled)

Decon Method: Dedicated Tubing

Water Level Start: 9.15'

Sampling Method: Peri Pump

Filter Type:

Sample Number: MW14-20160421

Water Level Finish: Water turned dark gray near bottom of screen
Field comments:

g-logics

Well Number: MW15 **Project Name:** DMC

Project Number: 01-0979-C	Date: 4/20/16	Weather: Sunny, Warm
Development / Purge Method: Swab/Surge	Well Screen Interval: 8 to 18	Tidally Influenced? Maybe
Logged By: SH	Water Depth Start: 7.68'	Field Comments:
Purge Water Disposal Method: Drum	Water Depth Finish:	
Purge Water Disposal Volume: 2.5 gal	Bails Dry? Yes (No) What Volume?	Well Conditions: (OK) Not OK
		Explain:

Casing Volume in Gallons: 1" Diam = 0.041 gal/ft, 2" Diam = 0.163 gal/ft, 4" Diam = 0.653 gal/ft
Purge Volumes: 1" Diam 0.041 * 3 casings * 10' screen = 1.23 gallons, 2" Diam 0.163 * 3 casings * 10' screen = 4.89 gallons

Well Development / Purging (circle one)

Time	0910	0920	0930	0935				
Water Level	7.68'	—	—	—				
pH	6.28	6.26	6.34	6.38		M		
Conductivity	0.340	0.339	0.339	0.339				
Temperature	12.65	12.98	12.99	13.27				
Salinity	0.21	0.21	0.21	0.21				
~~Turbidity~~ ORP	135.2	152.4	129.0	146.8				
Color	Clear/colorless	"	"	"				
Dissolved Oxygen in	3.02/28.4	2.02/19.3	1.47/14.0	1.11/10.6				
Purge Volume	2.5 gal							

Well Sampling Information (complete if well is sampled)

Decon Method: Alconox
Water Level Start: 7.68'
Sampling Method: Per. Pump
Filter Type: —

Sample Number: MW15-20160420 / FD1-20160420 (dup)
Water Level Finish: Time 0935
Field comments:

g-logics

Daily Field Notes	Project Name: DMC
Project Number:	Page _____ of _____
Date: 4/21	Weather: Sunny Warm
Started:	Other Information:
Completed:	

4/21

MW16 Purge

Diary

Time	Level	pH	Cond.	Temp	Sal.	ORP	Color	DO	Purge
1300		7.28	7.644	12.04	5.76	-90.1	BK/Brn	24.7/2.52	0
1308		7.30	7.623	11.82	5.77	-96.0	clr	16.9/1.76	
1315		7.32	7.611	11.77	5.77	-99.7	clr	14.3/1.49	
1320		7.32	7.591	11.79	5.75	-98.4	clr	13.8/1.45	
1325		7.33	7.591	11.72	5.75	-96.2	clr	14.3/1.49	2.0

Approved: _____ Signed: _____

g-logics

Catch-Basin Sediment Sample Form

g-logics

Project Name: Duwamish Marine Center
Project Number: 01-0979-B
Date: 6/28/2016
Page: 1 of 1

Catch Basin ID	Sample Name	Date Collected	Time Collected	Depth to Bottom (ft)	Depth to Water (ft)	Depth to Sediment (ft)	Sediment Thickness (ft)	Catch Basin Dimension (in)	Sediment Trap Present (Y/N)	Water Present (Y/N)	PID	Observations/Notes
CB01*	CB01-20160628	6/28/2016	1200	0.47'	0.50	0.94'	0.01'		Y	Y		Organics Present, organic sheen, Not enough for grain
CB02	~~CB02-20160628~~	6/28/2016	—	—	—	—	—		—	—	—	Inaccessible due to Generator covering
CB03	~~CB03-20160628~~	6/28/2016	1135	5.03	3.39'	5.03'	Neg		N	Y	—	Slight Sheen, Not enough to Sample
CB04*	~~CB04-20160628~~	6/28/2016	1055	0.97	0.51'	0.97'	Neg		Y	Y	—	No sheen, some trash in trap - Not enough
CB05	~~GB05-20160628~~	6/28/2016	~~1030~~	6.11'	4.73	6.10'	0.02'		N	Y	—	Organic sheen, leaf debris - Not enough to sample
CB12	CB12-20160628	6/28/2016	1105	2.38'	1.93	2.27'	0.01'		N	Y	—	Slight organic sheen - Not enough for Organic debris grain size ~~or PID~~

Comments:

Notes:
* Depth to Water, Depth to Sediment, and Sediment Thickness Measured in Sediment Trap

Neg = Negligible

SWC1	—	6/28/2016	—	—	0	—	—		N	Y	—	Inaccessible due to Pumps in CB
CB06	—	6/28/2016	—	—	—	—	—		—	—	—	Inaccessible due to onsite activities
CB07	—	6/28/2016	—	5.00	2.54	14.99	0.01'		N	Y	—	Not enough to test
CB08					1.42'				N	Y	—	"

Daily Field Notes	Project Name:
Project Number:	Page _____ of _____
Date:	Weather:
Started:	Other Information:
Completed:	

Diary

CB04 - Note enough sediment to sample

~~CB11~~ - "

CB05 - " "

CB12 - Just enough for 16oz jar and VOAs, not enough sediment for grain size or PID

SWC1 - Tried to sample but too much equipment (pumps, switches, hoses) to access bottom of catch basin

CB06 - Inaccessible due to onsite activities @ Samson

CB02 Covered by Generators still

CB01 - Sample collected. Not enough sediment for grain size or PID

Approved: _____ **Signed:** _____

g-logics

Fremont Analytical

Chain of Custody Record and Laboratory Services Agreement

3600 Fremont Ave N.
Seattle, WA 98103
Tel: 206-352-3790
Fax: 206-352-7178

Date: 6/28/16

Laboratory Project No (internal): _____

Page: 1 of: 1

Client: G-Logics / Chad Harris

Address: 10 23rd Ave SE

City, State, Zip: Issaquah, WA

Telephone: 425-369-6874 Fax: _____

Project Name: Duwamish Marine Center

Project No: 21-0979-B

Location: Seattle, WA

Report To (PM): Stuart Hyde

PM Email: stuart@g-logics.com

Collected by: Stuart Hyde

*Matrix Codes: A = Air, AQ = Aqueous, B = Bulk, O = Other, P = Product, S = Soil, SD = Sediment, SL = Solid, W = Water, DW = Drinking Water, GW = Ground Water, SW = Storm Water, WW = Waste Water

	Sample Name	Sample Date	Sample Time	Sample Type (Matrix)*	VOCs (EPA 8260 / 624)	GX/BTEX	BTEX	Gasoline Range Organics (GX)	Hydrocarbon Identification (HCID)	Diesel/Heavy Oil Range Organics (DX)	SVOCs (EPA 8270 / 625)	PAHs (EPA 8270 - SIM)	PCBs (EPA 8082 / 608)	Metals** (EPA 6020 / 200.8)	Total (T)	Dissolved (D)	Anions (IC)***	EDB (8011)	Sample Quantity		Comments
1	LB12-20160628	6/28/16	1105	SD	x			x		x	x	x	x	x				x	x		
2	CB01-20160628	6/28/16	1300	SD	x			x		x	x	x	x	x				x	x		
3																					
4																					
5																					
6																					
7																					
8																					
9																					
10																					

**Metals Analysis (Circle): MTCA-5 RCRA-8 Priority Pollutants TAL *Individual:* Ag Al As B Ba Be Ca Cd Co Cr Cu Fe Hg K Mg Mn Mo Na Ni Pb Sb Se Sr Sn Ti Tl U V Zn

***Anions (Circle): Nitrate Nitrite Chloride Sulfate Bromide O-Phosphate Fluoride Nitrate+Nitrite

Sample Disposal: ☐ Return to Client ☐ Disposal by Lab (Samples will be held for 30 days unless otherwise noted. A fee may be assessed if samples are retained after 30 days.)

Turn-around times for samples received after 4:00pm will begin on the following business day.

Special Remarks:

I represent that I am authorized to enter into this Agreement with Fremont Analytical on behalf of the Client named above, that I have verified Client's agreement to each of the terms on the front and backside of this Agreement.

Relinquished	Date/Time	Received	Date/Time
x	6/28/16 1325	x	6/28/16 1325
x		x	

TAT → SameDay^ NextDay^ 2 Day 3 Day STD

^Please coordinate with the lab in advance

Distribution: White - Lab, Yellow - File, Pink - Originator

www.fremontanalytical.com

Well Number: MW05 | **Project Name:** DMC

Project Number: 01-0979-11	Date: 9/15/16	Weather: Sunny, Breezy
Development / Purge Method: Run Dry 3 times	Well Screen Interval: _____ to _____	Tidally Influenced? Yes
Logged By: SHyde	Water Depth Start: 14.89	Field Comments:
Purge Water Disposal Method: Drum	Water Depth Finish:	
Purge Water Disposal Volume: —	Bails Dry? (Yes) No What Volume? 0	Well Conditions: (OK) Not OK
		Explain:

Casing Volume in Gallons: 1" Diam = 0.041 gal/ft, 2" Diam = 0.163 gal/ft, 4" Diam = 0.653 gal/ft
Purge Volumes: 1" Diam 0.041 * 3 casings * 10' screen = 1.23 gallons, 2" Diam 0.163 * 3 casings * 10' screen = 4.89 gallons

Well Development / Purging (circle one)

Time								
Water Level	14.89'							
pH								
Conductivity								
Temperature								
Salinity								
Turbidity								
Color								
Dissolved Oxygen in								
Purge Volume								

Well Sampling Information (complete if well is sampled)

Decon Method: _____

Water Level Start: _____

Sampling Method: _____

Filter Type: _____

Sample Number: MW05-20160915

Water Level Finish: _____

Field comments: Well ran dry immediately. Only water in bottom of casing. Not enough water to run parameters

– Groundwater rising as sampling

g-logics

Well Number: MW-6 **Project Name:** DMC

Project Number: 979	Date: 9/14/16	Weather: 70°F SUNNY
Development / Purge Method:	Well Screen Interval: _____ to _____	Tidally Influenced? YES
Logged By:	Water Depth Start:	Field Comments:
Purge Water Disposal Method:	Water Depth Finish:	
Purge Water Disposal Volume:	Bails Dry? Yes No What Volume?	Well Conditions: OK Not OK
		Explain:

Casing Volume in Gallons: 1" Diam = 0.041 gal/ft, 2" Diam = 0.163 gal/ft, 4" Diam = 0.653 gal/ft
Purge Volumes: 1" Diam 0.041 * 3 casings * 10' screen = 1.23 gallons, 2" Diam 0.163 * 3 casings * 10' screen = 4.89 gallons

Well Development / Purging (circle one)

Time	936	941	948	952	956	1000		
Water Level	10.94							
pH	6.80	6.46	6.36	6.35	6.33	6.33		
Conductivity	2300	1828	1429	1349	1257	1244		
Temperature	14.6	14.6	14.5	14.5	14.5	14.5		
Salinity	—	—	—					
Turbidity	200	117	51.3	37.2	25.0	23.0		
Color	CLEAR--BROWN*	CLEAR	CLEAR	CLEAR	CLEAR	CLEAR		
Dissolved Oxygen in mg/L	1.87	1.11	0.86	0.82	0.77	0.77		
Purge Volume								
ORP	-58	-52	-55	-56	-57			

* BROWN SEDIMENT FLOWING INTERMITTENTLY

Well Sampling Information (complete if well is sampled)

Decon Method: _____
Water Level Start: 10.94
Sampling Method: LOW-FLOW PERISTALTIC
Filter Type: _____

Sample Number: MW-6-2016 0914
Water Level Finish: _____
Field comments: _____

g-logics

Well Number: MW07 | **Project Name:** DMC

Project Number: 979	Date: 9/14/16	Weather: 74°F Sunny
Development / Purge Method:	Well Screen Interval: _____ to _____	Tidally Influenced?
Logged By:	Water Depth Start:	Field Comments:
Purge Water Disposal Method:	Water Depth Finish:	
Purge Water Disposal Volume:	Bails Dry? Yes No What Volume?	Well Conditions: (OK) Not OK
		Explain:

Casing Volume in Gallons: 1" Diam = 0.041 gal/ft, 2" Diam = 0.163 gal/ft, 4" Diam = 0.653 gal/ft
Purge Volumes: 1" Diam 0.041 * 3 casings * 10' screen = 1.23 gallons, 2" Diam 0.163 * 3 casings * 10' screen = 4.89 gallons

Well Development / Purging (circle one)

Time	1145	1150	1155					
Water Level								
pH	6.31	6.28	6.28					
Conductivity	1596	1559	1557					
Temperature	16.4	16.4	16.2					
Salinity								
Turbidity	3.5	6.7	5.4					
Color	CLEAR	———	———					
Dissolved Oxygen in mg/L	0.71							
Purge Volume	8L	10L	12L					
	-118	-120	-123					

Well Sampling Information (complete if well is sampled)

Decon Method: _____

Water Level Start: 12.64

Sampling Method: _____

Filter Type: _____

Sample Number: _____

Water Level Finish: _____

Field comments: _____

g-logics

Well Number: MW-08 | **Project Name:** DMC

Project Number:	Date: 9/15/16	Weather:
Development / Purge Method:	Well Screen Interval: _____ to _____	Tidally Influenced?
Logged By:	Water Depth Start: 13.59	Field Comments:
Purge Water Disposal Method:	Water Depth Finish:	
Purge Water Disposal Volume:	Bails Dry? Yes No What Volume?	Well Conditions: OK Not OK
		Explain:

Casing Volume in Gallons: 1" Diam = 0.041 gal/ft, 2" Diam = 0.163 gal/ft, 4" Diam = 0.653 gal/ft
Purge Volumes: 1" Diam 0.041 * 3 casings * 10' screen = 1.23 gallons, 2" Diam 0.163 * 3 casings * 10' screen = 4.89 gallons

Well Development / Purging (circle one)

Time	1208	12:13	12:18	1228				
Water Level	13.59							
pH	6.53	6.56	6.69	6.74				
Conductivity	338.6	336.5	326.2	325.4				
Temperature	16.7	16.6	16.4	16.4				
~~Salinity~~ ORP	-7.3	-7.6	-7.9	-7.3				
Turbidity	5.7	11.3	3.6	3.4				
Color	clr	clr	clr	clr				
Dissolved Oxygen in	20.6/1.99	18.9/1.86	15.4/1.5	15.7/1.53				
Purge Volume								

Well Sampling Information (complete if well is sampled)

Decon Method: _____

Water Level Start: _____

Sampling Method: _____

Filter Type: _____

Sample Number: _____

Water Level Finish: _____

Field comments: _____

g-logics

Well Number: MW09 **Project Name:** DMC

Project Number:	Date: 9/13/16	Weather:
Development / Purge Method:	Well Screen Interval: _____ to _____	Tidally Influenced?
Logged By:	Water Depth Start:	Field Comments:
Purge Water Disposal Method:	Water Depth Finish:	
Purge Water Disposal Volume:	Bails Dry? Yes No What Volume?	Well Conditions: OK Not OK
		Explain:

Casing Volume in Gallons: 1" Diam = 0.041 gal/ft, 2" Diam = 0.163 gal/ft, 4" Diam = 0.653 gal/ft
Purge Volumes: 1" Diam 0.041 * 3 casings * 10' screen = 1.23 gallons, 2" Diam 0.163 * 3 casings * 10' screen = 4.89 gallons

Well Development / Purging (circle one)

Time	1120	1125	1130	1135				
Water Level	10.97	12.05	12.03	12.03				
pH	6.49	6.50	6.52	6.54				
Conductivity	430	419	415	415				
Temperature	14.0	14.3	14.2	14.2				
Salinity								
Turbidity	21.4	14.7	13.1	12.0				
Color	CLEAR							
Dissolved Oxygen in mg/L	9.02	8.53	8.40	8.31				
Purge Volume	1L	3L	6L	10L				
	-44							

Well Sampling Information (complete if well is sampled)

Decon Method: _____

Water Level Start: _____

Sampling Method: _____

Filter Type: _____

Sample Number: _____

Water Level Finish: _____

Field comments: _____

g-logics

Well Number: MW09D | **Project Name:** Dmc

Project Number: 01-0979-H	Date: 9/16/16	Weather: ~~Clo~~ Partly Sunny, Mild
Development / Purge Method: Low Flow	Well Screen Interval: _____ to _____	Tidally Influenced? YES
Logged By: SH	Water Depth Start: 11.72'	Field Comments:
Purge Water Disposal Method: Drum	Water Depth Finish:	
Purge Water Disposal Volume:	Bails Dry? Yes (No) What Volume?	Well Conditions: (OK) Not OK
		Explain:

Casing Volume in Gallons: 1" Diam = 0.041 gal/ft, 2" Diam = 0.163 gal/ft, 4" Diam = 0.653 gal/ft
Purge Volumes: 1" Diam 0.041 * 3 casings * 10' screen = 1.23 gallons, 2" Diam 0.163 * 3 casings * 10' screen = 4.89 gallons

Well Development / Purging (circle one)

Time	1110	1120	1130	1140	11:45			
Water Level	11.72'							
pH	6.63	6.53	6.44	6.41	6.39			
Conductivity	344.9	351.4	363.7	366.7	370.6			
Temperature	14.5	14.3	14.5	14.5	14.4			
~~Salinity~~ ORP	-20.1	-29.2	-34.6	-37.6	-40.4			
Turbidity	46.9	9.2	8.0	5.5	7.3			
Color	Clr	Clr	Clr	Clr	Clr			
Dissolved Oxygen in	2.35 / 2.35	20.0 / 2.03	15.5 / 1.57	13.8 / 1.40	12.1 / 1.24			
Purge Volume	1 gal	2 gal	3 gal	4 gal	5 gal			

Well Sampling Information (complete if well is sampled)

Decon Method: _____

Water Level Start: _____

Sampling Method: _____

Filter Type: _____

Sample Number: MW09D - 20160916

Water Level Finish: _____

Field comments: _____

g-logics

Well Number: MW10 | **Project Name:** DMC

Project Number:	Date: 9/16/16	Weather:
Development / Purge Method:	Well Screen Interval: _____ to _____	Tidally Influenced?
Logged By:	Water Depth Start: 11.48'	Field Comments:
Purge Water Disposal Method:	Water Depth Finish:	
Purge Water Disposal Volume:	Bails Dry? Yes No What Volume?	Well Conditions: OK Not OK
		Explain:

Casing Volume in Gallons: 1" Diam = 0.041 gal/ft, 2" Diam = 0.163 gal/ft, 4" Diam = 0.653 gal/ft
Purge Volumes: 1" Diam 0.041 * 3 casings * 10' screen = 1.23 gallons, 2" Diam 0.163 * 3 casings * 10' screen = 4.89 gallons

Well Development / Purging (circle one)

Time	11:45	11:55	12:05	12:20	12:25			
Water Level	11.48							
pH	6.11	6.08	6.06	6.07	6.07			
Conductivity	496.6	499.0	488.3	490.4	490.0			
Temperature	17.9	17.3	17.0	16.8	16.7			
~~Salinity~~ ORP	-14.1	-18.1	-19.8	-20.6	-21.3			
Turbidity	38.0	76.1	159.7	29.5	27.4			
Color	clr	clr	clr	clr	clr			
Dissolved Oxygen in	19.0/1.76	13.8/1.32	11.2/1.08	10.3/1.0	9.7/0.94			
Purge Volume								

Well Sampling Information (complete if well is sampled)

Decon Method: _____

Water Level Start: _____

Sampling Method: _____

Filter Type: _____

Sample Number: _____

Water Level Finish: _____

Field comments: _____

g-logics

Well Number: MW10D | **Project Name:** DMC

Project Number: 01-0979-H	Date: 9/16/16	Weather: Sunny, Warm
Development / Purge Method: Low Flow	Well Screen Interval: _____ to _____	Tidally Influenced? Yes
Logged By: AH	Water Depth Start: 11.96	Field Comments:
Purge Water Disposal Method: Drum	Water Depth Finish:	
Purge Water Disposal Volume:	Bails Dry? Yes (No) What Volume?	Well Conditions: (OK) Not OK
		Explain:

Casing Volume in Gallons: 1" Diam = 0.041 gal/ft, 2" Diam = 0.163 gal/ft, 4" Diam = 0.653 gal/ft
Purge Volumes: 1" Diam 0.041 * 3 casings * 10' screen = 1.23 gallons, 2" Diam 0.163 * 3 casings * 10' screen = 4.89 gallons

Well Development / Purging (circle one)

Time	1215	1224	1230	1245				
Water Level	11.96	-	-					
pH	6.34	6.31	6.32	6.30				
Conductivity	341.6	278.3	301.4	305.4				
Temperature	16.4	15.4	16.6	16.5				
~~Salinity~~ ORP	-0.4	-33.2	-51.8	-56.5				
Turbidity	4.7	3.2	5.6	4.9				
Color	clear	-						
Dissolved Oxygen in	36.2/3.52	15.8/1.56	11.4/1.13	10.5/1.05				
Purge Volume	0.1	0.75	1.25	2.5				

Well Sampling Information (complete if well is sampled)

Decon Method: _____

Water Level Start: 11.96

Sampling Method: _____

Filter Type: _____

Sample Number: MW10D-20160916

Water Level Finish: _____

Field comments: _____

g-logics

Well Number: MW11 **Project Name:** DMC

Project Number: 01-0979-H	Date: 9/15/16	Weather: Cloudy, Mild
Development / Purge Method: low flow	Well Screen Interval: _____ to _____	Tidally Influenced? Yes
Logged By: SH	Water Depth Start: 11.98'	Field Comments:
Purge Water Disposal Method: Drum	Water Depth Finish:	
Purge Water Disposal Volume:	Bails Dry? Yes (No) What Volume?	Well Conditions: (OK) Not OK
		Explain:

Casing Volume in Gallons: 1" Diam = 0.041 gal/ft, 2" Diam = 0.163 gal/ft, 4" Diam = 0.653 gal/ft
Purge Volumes: 1" Diam 0.041 * 3 casings * 10' screen = 1.23 gallons, 2" Diam 0.163 * 3 casings * 10' screen = 4.89 gallons

Well Development / Purging (circle one)

Time	1000	1010	1020	1030	1040			
Water Level	11.98'	-						
pH	6.95	7.17	7.29	7.33	7.31			
Conductivity	26876	28412	28917	29168	29217			
Temperature	16.6	16.7	16.8	16.8	16.8			
~~Salinity~~ ORP	-73.0	-73.9	-89.6	-95.4	-96.8			
Turbidity	2.5	6.8	11.1	15.3	9.4			
Color	clear	-						
Dissolved Oxygen in	35.9/2.97	19.7/1.72	16.1/1.90	14.0/1.30	14.0/1.22			
Purge Volume	0	0.5	1.5	2	2.5			

Well Sampling Information (complete if well is sampled)

Decon Method: Dedicated Tubing
Water Level Start: 11.98'
Sampling Method: Per Pump
Filter Type: Lab

Sample Number: MW11-20160915
Water Level Finish:
Field comments: Dup FD2-20160915

g-logics

Well Number: MW12 | **Project Name:** DMC

Project Number: 21-0979-H	Date: 9/14/16	Weather: Sunny, Warm
Development / Purge Method: Low Flow	Well Screen Interval: _____ to _____	Tidally Influenced? Yes
Logged By: AH	Water Depth Start: 14.52'	Field Comments:
Purge Water Disposal Method: Drum	Water Depth Finish:	
Purge Water Disposal Volume:	Bails Dry? Yes No What Volume?	Well Conditions: (OK) Not OK
		Explain:

Casing Volume in Gallons: 1" Diam = 0.041 gal/ft, 2" Diam = 0.163 gal/ft, 4" Diam = 0.653 gal/ft
Purge Volumes: 1" Diam 0.041 * 3 casings * 10' screen = 1.23 gallons, 2" Diam 0.163 * 3 casings * 10' screen = 4.89 gallons

Well Development / Purging (circle one)

Time	1100	1105	1110	1130	1140			
Water Level	14.52	-						
pH	6.34	6.39	6.36	6.40	6.40			
Conductivity	1284	1261	1203	1038	1010			
Temperature	13.9	13.8	14.1	13.8	13.9			
~~Salinity~~ ORP	-76.3	-105.3	-98.0	-114.1	-114.1			
Turbidity	90.4	117.3	50.0	75.3	21.5			
Color	clear	-	-	-				
Dissolved Oxygen in	21.3/2.20	11.8/1.22	14.9/1.51	7.5/0.78	7.2/0.74			
Purge Volume	0.2	0.5	1	2.5 gal	3 gal			

Well Sampling Information (complete if well is sampled)

Decon Method: _____

Water Level Start: _____

Sampling Method: _____

Filter Type: _____

Sample Number: _____

Water Level Finish: _____

Field comments: _____

g-logics

Well Number: MW12D | **Project Name:** DMC

Project Number: 01-0979-H	Date: 9/15/16	Weather:
Development / Purge Method: Low Flow	Well Screen Interval: _____ to _____	Tidally Influenced?
Logged By: JH	Water Depth Start: 14.66'	Field Comments:
Purge Water Disposal Method: Drum	Water Depth Finish:	
Purge Water Disposal Volume:	Bails Dry? Yes No What Volume?	Well Conditions: OK Not OK
		Explain:

Casing Volume in Gallons: 1" Diam = 0.041 gal/ft, 2" Diam = 0.163 gal/ft, 4" Diam = 0.653 gal/ft
Purge Volumes: 1" Diam 0.041 * 3 casings * 10' screen = 1.23 gallons, 2" Diam 0.163 * 3 casings * 10' screen = 4.89 gallons

Well Development / Purging (circle one)

Time	1110	1120	1130	1140				
Water Level	14.66'	–						
pH	6.97	6.68	6.62	6.55				
Conductivity	687	685	697	733				
Temperature	13.1	13.2	13.2	13.2				
~~Salinity~~ ORP	-84.6	-82.9	-82.7	-81.2				
Turbidity	4.3	1.9	7.8	5.1				
Color	clear	–						
Dissolved Oxygen in	22.3/2.32	13.4/1.40	11.8/1.23	9.3/0.97				
Purge Volume	0.5	1.5	2	2.5				

Well Sampling Information (complete if well is sampled)

Decon Method: Ded Tubing
Water Level Start: 14.66'
Sampling Method: Low Flow, Per Pump
Filter Type: Lab

Sample Number: MW12D-20160915
Water Level Finish:
Field comments:

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Well Number: MW13 | **Project Name:** DMC

Project Number: 61-0979-H	Date: 9/13/16	Weather: Sunny, Nice
Development / Purge Method: low flow	Well Screen Interval: _____ to _____	Tidally Influenced? Yes
Logged By: SH	Water Depth Start:	Field Comments:
Purge Water Disposal Method: Drum	Water Depth Finish:	
Purge Water Disposal Volume: 2.5 gal	Bails Dry? Yes No What Volume?	Well Conditions: (OK) Not OK
		Explain:

Casing Volume in Gallons: 1" Diam = 0.041 gal/ft, 2" Diam = 0.163 gal/ft, 4" Diam = 0.653 gal/ft
Purge Volumes: 1" Diam 0.041 * 3 casings * 10' screen = 1.23 gallons, 2" Diam 0.163 * 3 casings * 10' screen = 4.89 gallons

Well Development / Purging (circle one)

Time	0820	0840	0850	0900				
Water Level	12.32							
pH	6.66	6.66	6.67	6.68				
SPC - µS/cm - Conductivity	1713	1708	1705	1705				
Temperature	15.6	15.6	15.5	15.5				
~~Salinity~~ ORP	-149.0	-153.0	-158.2	-158.0				
Turbidity	1.5 NTU	1.2 NTU	1.4	2.2				
Color	clear	Brown Haze	"					
Dissolved Oxygen in	14.7 / 1.44	11.8 / 1.16	8.4 / 0.83	7.6 / 0.76				
Purge Volume gal	0.5 gal	1	1.5	2				

Well Sampling Information (complete if well is sampled)

Decon Method: _____

Water Level Start: _____

Sampling Method: _____

Filter Type: _____

Sample Number: MW13-20160913 / FD1-20160913

Water Level Finish: _____

Field comments: Slight sheen on bailer

g-logics

Well Number: MW14		**Project Name:** DMC
Project Number: 01-0979-4	Date: 9/13/16	Weather: Sunny, mild
Development / Purge Method: Low Flow	Well Screen Interval: _____ to _____	Tidally Influenced? Yes ?
Logged By: SH	Water Depth Start: 10.97'	Field Comments:
Purge Water Disposal Method: Drum	Water Depth Finish:	
Purge Water Disposal Volume: 2.5 gal	Bails Dry? (Yes) No What Volume? 2 gal	Well Conditions: (OK) Not OK
		Explain:

Casing Volume in Gallons: 1" Diam = 0.041 gal/ft, 2" Diam = 0.163 gal/ft, 4" Diam = 0.653 gal/ft
Purge Volumes: 1" Diam 0.041 * 3 casings * 10' screen = 1.23 gallons, 2" Diam 0.163 * 3 casings * 10' screen = 4.89 gallons

Well Development / Purging (circle one)

Time	0805	820						
Water Level	10.97'							
pH	6.62	6.82						
Conductivity µS/cm	4718	4799						
Temperature	15.7	15.2						
Salinity								
Turbidity	33.7	90.1						
Color	BROWN	CLEAR						
Dissolved Oxygen in mg/L	5.44	2.46						
Purge Volume	0.5 L	3 L						
ORP	-140	-165						

Well Sampling Information (complete if well is sampled)

Decon Method: _____

Water Level Start: _____

Sampling Method: _____

Filter Type: _____

Sample Number: MW14-20160913

Water Level Finish: _____

Field comments: _____

g-logics

Well Number: MW15 | **Project Name:** DMC

Project Number: 01-0979-H	Date: 9/13/16	Weather: Sunny, Mild
Development / Purge Method: Low Flow	Well Screen Interval: _____ to _____	Tidally Influenced? Yes
Logged By: SH	Water Depth Start: 10.72'	Field Comments:
Purge Water Disposal Method: 1 Drum	Water Depth Finish:	
Purge Water Disposal Volume: 2.5 gal	Bails Dry? Yes (No) What Volume?	Well Conditions: (OK) Not OK
		Explain:

Casing Volume in Gallons: 1" Diam = 0.041 gal/ft, 2" Diam = 0.163 gal/ft, 4" Diam = 0.653 gal/ft
Purge Volumes: 1" Diam 0.041 * 3 casings * 10' screen = 1.23 gallons, 2" Diam 0.163 * 3 casings * 10' screen = 4.89 gallons

Well Development / Purging (circle one)

Time	1027	1040	1050	1100				
Water Level	10.72'							
pH	6.49	6.25	6.21	6.20				
Conductivity (uS/cm)	368.7	366.2	361.5	361.1				
Temperature	16.5	16.7	16.7	16.8				
~~Salinity~~ ORP	-85.0	-55.4	-46.9	-46.2				
Turbidity	16.6	6.6	5.8	5.4				
Color	clear	"	"	"				
Dissolved Oxygen in	27.7/2.66	12.8/1.24	9.2/0.90	8.3/0.80				
Purge Volume	0.2	1 gal	1.5 gal	2 gal				

Well Sampling Information (complete if well is sampled)

Decon Method: _____

Water Level Start: _____

Sampling Method: _____

Filter Type: _____

Sample Number: MW15-20160913

Water Level Finish: _____

Field comments: _____

g-logics

Well Number: MW16 **Project Name:** DMC

Project Number: 01-0979-H	Date: 9/14/2016	Weather: Sunny, Nice
Development / Purge Method: Low Flow	Well Screen Interval: _____ to _____	Tidally Influenced? Yes
Logged By: SH	Water Depth Start: 15.72'	Field Comments:
Purge Water Disposal Method: Drum	Water Depth Finish:	
Purge Water Disposal Volume:	Bails Dry? (Yes) No What Volume? 1.5	Well Conditions: (OK) Not OK
		Explain:

Casing Volume in Gallons: 1" Diam = 0.041 gal/ft, 2" Diam = 0.163 gal/ft, 4" Diam = 0.653 gal/ft
Purge Volumes: 1" Diam 0.041 * 3 casings * 10' screen = 1.23 gallons, 2" Diam 0.163 * 3 casings * 10' screen = 4.89 gallons

Well Development / Purging (circle one)

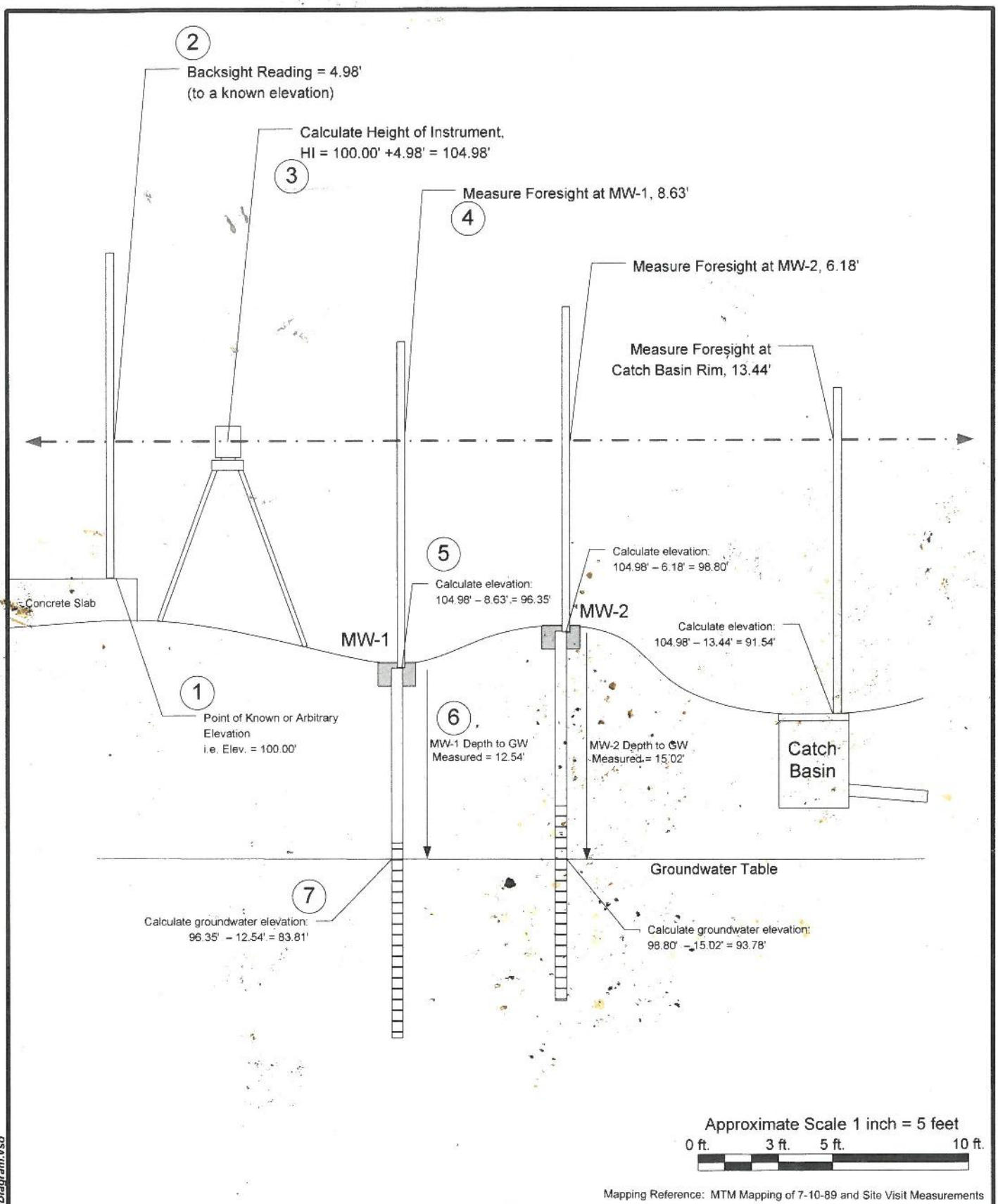
Time	0900	0916	0925					
Water Level	15.72'							
pH	6.81	6.84	6.94					
Conductivity	12 619	12661	12664					
Temperature	14.0	14.1	14.0					
~~Salinity~~ ORP	-100.2	-122.8	-136.8					
Turbidity	4.4	12.1	81.5					
Color	Brown Hue/Clear		Dark gray					
Dissolved Oxygen in	22.01/2.19	15.91/1.55	15.1/1.51					
Purge Volume	0.2	0.5	1.25					

Well Sampling Information (complete if well is sampled)

Decon Method: Dedicated Tubing
Water Level Start: 15.72'
Sampling Method: Low Flow
Filter Type: Lab

Sample Number: MW16-20160914
Water Level Finish:
Field comments:

g-logics



Approximate Scale 1 inch = 5 feet

0 ft. 3 ft. 5 ft. 10 ft.

Mapping Reference: MTM Mapping of 7-10-89 and Site Visit Measurements

Project File: Surveying Diagram.vsd

g-logics

Surveying and groundwater level measurements and calculations

Figure 1

Fremont Analytical

Chain of Custody Record

3600 Fremont Ave N.
Seattle, WA 98103
Tel: 206-352-3790
Fax: 206-352-7178

WATER v.3

Date: _____

Laboratory Project No (internal): _____

Page: 1 of: 1

Client: G-Logics
Address:
City, State, Zip:
Telephone: 425-391-6874 Fax:

Project Name: Duwamish Marine Center
Project No: 01-0979-H
Location: DMC / Seattle
Report To (PM): Stuart Hyde
PM Email: Stuarth@glogics
Collected by: SHyde

*Matrix Codes: A = Air, AQ = Aqueous, B = Bulk, O = Other, P = Product, S = Soil, SD = Sediment, SL = Solid, W = Water, DW = Drinking Water, GW = Ground Water, SW = Storm Water, WW = Waste Water

	Sample Name	Sample Date	Sample Time	Sample Type (Matrix)*	VOCs (EPA 8260C)*	PAHs (EPA 8270D SIM)**	SVOCs (EPA 8270D)	Low Level PCBs (EPA 8082)	Chloride (EPA 300.0)	TOS (SM 2540C)	PP Metals (EPA 200.8) Total***	Low Level Hg (EPA 1631) Total	PP Metals (EPA 200.8) Diss.***	Low Level Hg (EPA 1631) Diss.	Gasoline (NWTPH-Gx)	Diesel/heavy Oil (NWTPH-Dx)	Tributyltin					Comments
1	MW-14-20160913	9/13	835	GW	X	X	X	X	X	X	X	X	X	X	X	X	X					
2	MW13-20160913	9/13	1015	GW	X	X	X	X	X	X	X	X	X	X	X	X	X					
3	MW15-20160913	9/13	1130	GW	X	X	X	X	X	X	X	X	X	X	X	X	X					
4	MW09-20160913	9/13	1215	GW	X	X	X	X	X	X	X	X	X	X	X	X	X					
5	FD1-20160913	9/13	1000	GW	X	X	X	X	X	X	X	X	X	X	X	X	X					
6																						
7																						
8																						
9																						
10																						

**Metals Analysis (Circle): MTCA-5 RCRA-8 Priority Pollutants TAL *Individual:* Ag Al As B Ba Be Ca Cd Co Cr Cu Fe Hg K Mg Mn Mo Na Ni Pb Sb Se Sr Sn Ti Tl U V Zn

***Anions (Circle): Nitrate Nitrite Chloride Sulfate Bromide O-Phosphate Fluoride Nitrate+Nitrite

Sample Disposal: ☐ Return to Client ☐ Disposal by Lab (A fee may be assessed if samples are retained after 30 days.)

Turn-around times for samples received after 4:00pm will begin on the following business day.

Special Remarks:
*Including Carbon Disulfide, ketones Acetone and 4-methyl-2-pentanone, Pentachloroethane, Vinyl Acetate, and 1,4-Dioxane by 8260 SIM
**Including PCP
***With Barium additionally

	Relinquished	Date/Time	Received	Date/Time
x	[signature]	1240/0913	[signature]	9/13/16 12:40
	Relinquished	Date/Time	Received	Date/Time
x			x	

TAT → SameDay^ NextDay^ 2 Day 3 Day STD

^Please coordinate with the lab in advance

Fremont Analytical

Chain of Custody Record

3600 Fremont Ave N.
Seattle, WA 98103
Tel: 206-352-3790
Fax: 206-352-7178

WATER

v.3

Date: 9/14/16

Laboratory Project No (Internal): _____

Page: 1 of: 1

Client: G-Logics
Address: _____
City, State, Zip: _____
Telephone: 425-391-6874 Fax: _____

Project Name: Duwamish Marine Center
Project No: 01-0979- H
Collected by: SHyde
Location: Seattle
Report To (PM): Stuart Hyde
PM Email: Stuart h@g-logics

*Matrix Codes: A = Air, AQ = Aqueous, B = Bulk, O = Other, P = Product, S = Soil, SD = Sediment, SL = Solid, W = Water, DW = Drinking Water, GW = Ground Water, SW = Storm Water, WW = Waste Water

Sample Name	Sample Date	Sample Time	Sample Type (Matrix)*	VOCs (EPA 8260C)*	PAHs (EPA 8270D SIM)**	SVOCs (EPA 8270D)	Low Level PCBs (EPA 8082)	Chloride (EPA 300.0)	TDS ISM 2540C	PP Metals (EPA 200.8) Total***	Low Level Hg (EPA 1631) Total	PP Metals (EPA 200.8) Diss.***	Low Level Hg (EPA 1631) Diss.	Gasoline (NWTPH-Gx)	Diesel/Heavy Oil (NWTPH-Dx)	Tributyltin	Comments
1 MW16-20160914	9/14/16	1000	GW	X	X	X	X	X	X	X	X	X	X	X	X	X	
2 MW06-20160914		1030		X	X	X	X	X	X	X	X	X	X	X	X	X	
3 MW12-20160914		1130		X	X	X	X	X	X	X	X	X	X	X	X	X	
4 MW07-20160914		1220		X	X	X	X	X	X	X	X	X	X	X	X	X	
5																	
6																	
7																	
8																	
9																	
10																	

**Metals Analysis (Circle): MTCA-5 RCRA-8 Priority Pollutants TAL *Individual:* Ag Al As B Ba Be Ca Cd Co Cr Cu Fe Hg K Mg Mn Mo Na Ni Pb Sb Se Sr Sn Ti Tl U V Zn

***Anions (Circle): Nitrate Nitrite Chloride Sulfate Bromide O-Phosphate Fluoride Nitrate+Nitrite

Sample Disposal: ☐ Return to Client ☐ Disposal by Lab (A fee may be assessed if samples are retained after 30 days.)

Turn-around times for samples received after 4:00pm will begin on the following business day.

Special Remarks:
*Including **Carbon Disulfide**, ketones **Acetone** and **4-methyl-2-pentanone**, **Pentachloroethane**, **Vinyl Acetate**, and **1,4-Dioxane** by 8260 SIM
Including **PCP
***With **Barium** additionally

Relinquished	Date/Time	Received	Date/Time
x	1333 9/14/16	x	9/14/16 1333
Relinquished	Date/Time	Received	Date/Time
x		x	

TAT → SameDay^ NextDay^ 2 Day 3 Day STD

^Please coordinate with the lab in advance

Fremont Analytical

Chain of Custody Record

3600 Fremont Ave N.
Seattle, WA 98103
Tel: 206-352-3790
Fax: 206-352-7178

WATER

Date: _____

Laboratory Project No (internal): _____

Page: 1 of: 1

Client: G-Logics
Address: _____
City, State, Zip: _____
Telephone: _____ Fax: _____

Project Name: Duwamish Marine Center
Project No: 01-0979-4
Location: Seattle
Report To (PM): Stuart Hyde
PM Email: _____
Collected by: _____

*Matrix Codes: A = Air, AQ = Aqueous, B = Bulk, O = Other, P = Product, S = Soil, SD = Sediment, SL = Solid, W = Water, DW = Drinking Water, GW = Ground Water, SW = Storm Water, WW = Waste Water

	Sample Name	Sample Date	Sample Time	Sample Type (Matrix)*	VOCs (EPA 8260C)*	PAHs (EPA 8270D SIM)**	SVOCs (EPA 8270D)	Low Level PCBs (EPA 8082)	Chloride (EPA 300.0)	TDS (SM 2540C)	PP Metals (EPA 200.8) Total**	Low Level Hg (EPA 1631) Total	PP Metals (EPA 200.8) Diss.***	Low Level Hg (EPA 1631) Diss.	Gasoline (NWTPH-Gx)	Diesel/Heavy Oil (NWTPH-Dx)	Tributyltin					Comments
1	FD2-20160915	9/15/16	1100	GW	X	X	X	X	X	X	X	X	X	X	X	X	X					
2	MW12D-20160915		1145		X	X	X	X	X	X	X	X	X	X	X	X	X					
3	MW11-20160915		1030		X	X	X	X	X	X	X	X	X	X	X	X	X					
4	MW08-20160915				X	X	X	X	X	X	X	X	X	X	X	X	X					
5	MW05-20160915		1300		X	X	X	X	X	X	X	X	X	X	X	X	X					
6																						
7																						
8																						
9																						
10																						

**Metals Analysis (Circle): MTCA-5 RCRA-8 Priority Pollutants TAL *Individual:* Ag Al As B Ba Be Ca Cd Co Cr Cu Fe Hg K Mg Mn Mo Na Ni Pb Sb Se Sr Sn Tl Tl U V Zn

***Anions (Circle): Nitrate Nitrite Chloride Sulfate Bromide O-Phosphate Fluoride Nitrate+Nitrite

Sample Disposal: ☐ Return to Client ☐ Disposal by Lab (A fee may be assessed if samples are retained after 30 days.)

Turn-around times for samples received after 4:00pm will begin on the following business day.

Special Remarks:
*Including **Carbon Disulfide**, ketones **Acetone** and **4-methyl-2-pentanone**, **Pentachloroethane**, **Vinyl Acetate**, and **1,4-Dioxane** by 8260 SIM
Including **PCP
***With **Barium** additionally

Relinquished	Date/Time	Received	Date/Time
x	9/15/16 1401	x	9/15/16 1401
Relinquished	Date/Time	Received	Date/Time
x		x	

TAT → SameDay^ NextDay^ 2 Day 3 Day STD

^Please coordinate with the lab in advance

Chain of Custody Record

Fremont Analytical
3600 Fremont Ave N. Seattle, WA 98103
Tel: 206-352-3790 Fax: 206-352-7178

WATER v.3

Date: 9/16/16

Laboratory Project No (internal): _____

Page: 1 of: 1

Client: G-Logics
Address:
City, State, Zip:
Telephone: Fax:

Project Name: Duwamish Marine Center
Project No: 01-0979- H
Collected by: SH
Location:
Report To (PM): Stuart Hyde
PM Email:

*Matrix Codes: A = Air, AQ = Aqueous, B = Bulk, O = Other, P = Product, S = Soil, SD = Sediment, SL = Solid, W = Water, DW = Drinking Water, GW = Ground Water, SW = Storm Water, WW = Waste Water

	Sample Name	Sample Date	Sample Time	Sample Type (Matrix)*	VOCs (EPA 8260C)*	PAHs (EPA 8270D SIM)**	SVOCs (EPA 8270D)	Low Level PCBs (EPA 8082)	Chloride (EPA 300.0)	TDS (SM 2540C)	PP Metals (EPA 200.8) Total***	Low Level Hg (EPA 1631) Total	PP Metals (EPA 200.8) Diss.***	Low Level Hg (EPA 1631) Diss.	Gasoline (NWTPH-Gx)	Diesel/Heavy Oil (NWTPH-Dx)	Tributyltin						Comments
1	MW09D-20160916	9/16/16	1145	GW	X	X	X	X	X	X	X	X	X	X	X	X	X						
2	MW10-20160916	↓	1230	↓	X	X	X	X	X	X	✓	X	X	X	X	X	X						
3	MW10D-20160916	↓	1300	↓	X	X	X	X	X	X	X	X	X	X	X	X	X						
4																							
5																							
6																							
7																							
8																							
9																							
10																							

**Metals Analysis (Circle): MTCA-5 RCRA-8 Priority Pollutants TAL *Individual:* Ag Al As B Ba Be Ca Cd Co Cr Cu Fe Hg K Mg Mn Mo Na Ni Pb Sb Se Sr Sn Ti Tl U V Zn

***Anions (Circle): Nitrate Nitrite Chloride Sulfate Bromide O-Phosphate Fluoride Nitrate+Nitrite

Turn-around times for samples received after 4:00pm will begin on the following business day.

Special Remarks:
*Including **Carbon Disulfide**, ketones **Acetone** and **4-methyl-2-pentanone**, **Pentachloroethane**, **Vinyl Acetate**, and **1,4-Dioxane** by 8260 SIM
**Including PCP
***With **Barium** additionally

Sample Disposal: ☐ Return to Client ☐ Disposal by Lab (A fee may be assessed if samples are retained after 30 days.)

Relinquished	Date/Time	Received	Date/Time
x	9/16 1319	x	9/16/16 1320
x	Date/Time	x	Date/Time

TAT → SameDay^ NextDay^ 2 Day 3 Day (STD)
^Please coordinate with the lab in advance