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Seattle, Washington 98101
206.728.2674

June 8, 2018

Washington State Department of Ecology
Southwest Region – Toxics Cleanup Program
300 Desmond Drive SE
Lacey, Washington 98503

Attention: Tim Mullin

Subject: Groundwater Monitoring Well Decommissioning Plan
Former Olympia Manufactured Gas Plant (MGP) Property (Columbia Square Properties)
320 Columbia Street NW
Olympia, Washington
File No. 0186-774-05

INTRODUCTION

On the behalf of Puget Sound Energy (PSE), this letter describes plans to decommission five existing groundwater monitoring wells on or directly adjacent to the property located at 320 Columbia Street in Olympia, Washington (Property; Figure 1), also known as the Columbia Square Properties. Predecessors of PSE previously owned and operated a manufactured gas plant (MGP) on the Property. PSE completed a cleanup on the property in 2012 to address contamination related to the former MGP.¹ In general, the cleanup removed contaminated soil to a depth of approximately 6 feet below ground surface (bgs) within the Property boundaries. The Washington State Department of Ecology (Ecology) issued a property-specific “no further action” (NFA) determination in 2015. An environmental covenant (EC) is in place to address contaminated soil that remains beneath the Property at depths greater than 6 feet.

As a requirement of the EC, groundwater conditions on and near the property are being monitored in five groundwater monitoring wells (MW-6, MW-10, and MW-14 through MW-16; Figure 2) in accordance with the Groundwater Compliance Monitoring Plan (GWCMP) dated October 8, 2013 and an associated Addendum #1 dated November 5, 2014. We understand that the current property owner (The Rants Group) plans to redevelop the Property and will need to decommission all existing wells on and near the Property in preparation for redevelopment construction activities scheduled to start in August 2018. Existing groundwater monitoring well details and the proposed groundwater monitoring well decommissioning plan is described below.

¹ The cleanup was conducted under Ecology’s Voluntary Cleanup Program (VCP number SW0984). The cleanup site identification number is 6851.

GROUNDWATER MONITORING WELL DECOMMISSIONING PLAN

Five groundwater monitoring wells (MW-6, MW-10, and MW-14 through MW-16; Figure 2) exist on and near the Property that will require decommissioning prior to Property redevelopment construction. Existing groundwater monitoring well boring logs are provided as an attachment and well details are summarized below.

Monitoring Well ID	Depth of Well Casing (ft bgs)	Measured Range for Depth to Groundwater (ft below TOC)	Depth of Screened Interval (ft below TOC)	Well Construction Details
MW-6	11	4.31 to 5.37 ¹	Unknown (Boring log not available; well installed by others)	Flush mounted 2-in Schedule 40 PVC casing, otherwise unknown casing and screen construction details
MW-10	14	4.66 to 5.31 ¹	Unknown (Boring log not available; well installed by others)	
MW-14	20	5.53 to 6.24 ²	4-20	Flush mounted 2-in Schedule 40 PVC casing with 0.01-in slot screen
MW-15	20	4.98 to 5.81 ²	4-20	
MW-16	20	4.01 to 4.98 ²	4-20	

Notes:

¹Depth to water measurement range represents August 2008 through February 2018.

²Depth to water measurement range represents August 2013 through February 2018.

TOC = top of casing

PVC = polyvinyl chloride

A Washington State licensed well driller will be subcontracted to decommission all five groundwater monitoring wells prior to redevelopment construction activities. The methods for well decommissioning will be in accordance with Washington Administrative Code (WAC) 173-160-460.

Decommissioned groundwater monitoring wells (that are abandoned in place) may be encountered and a portion of the decommissioned well may be required to be removed during Property redevelopment construction activities, such as shallow grading or shallow soil excavation is conducted within or outside of the Property boundary. In this case, the WAC allows for the Property redevelopment contractor the ability to cut and remove exposed portions of the decommissioned groundwater monitoring well casings to match existing ground surface conditions, leaving decommissioned subgrade portions of the groundwater monitoring well casing in place.

After Property redevelopment is complete, new groundwater monitoring wells will be installed on or surrounding the Property to monitor groundwater as part of the EC. The number and location of new monitoring wells will be determined in consultation with Ecology at a later date.

SCHEDULE FOR FUTURE GROUNDWATER MONITORING

The current groundwater compliance monitoring events are conducted once every 18 months, and the last monitoring event was completed in February 2018 (GeoEngineers, 2018). The sampling event was conducted in accordance with the GWCMP, and no constituents were detected in the groundwater samples.

Property redevelopment is scheduled to start August 2018 and last approximately 18 months. This time period falls greater than the 18-month window between the last monitoring event in February 2018 and the next compliance event scheduled in August 2019. New monitoring wells will be installed, at a minimum, around the redeveloped Property and before the next groundwater compliance monitoring event scheduled for August 2019. The groundwater compliance monitoring program will then proceed according to the 18-month interval schedule outlined in the GWCMP.

The footprint of the building that will be constructed on the Property during redevelopment is anticipated to cover nearly the entire Property, and it is unclear whether it will be possible to install any of the replacement groundwater monitoring wells inside the Property boundary. We will evaluate potential locations for the replacement monitoring wells after details of the new building (footprint and design) are known, and discuss the proposed monitoring well location(s) with Ecology.

REFERENCES

GeoEngineers 2018. Groundwater Monitoring Technical Memorandum, February 2018 Monitoring Event, PSE Former Olympia MGP Site, 320 Columbia Street NW, Olympia, Washington. Prepared for Puget Sound Energy. April 5, 2018.

LIMITATIONS

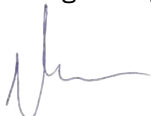
We have prepared this letter for the exclusive use of Puget Sound Energy, their authorized agents and regulatory agencies. This letter is not intended for use by others, and the information contained herein is not applicable to other sites. No other party may rely on the product of our services unless we agree in advance, and in writing, to such reliance. This is to provide our firm with reasonable protection against open-ended liability claims by third parties with whom there would otherwise be no contractual limits to their actions.

Our interpretations of site conditions are based on field observations and limited sampling events. Within the limitations of scope, schedule and budget, our services have been executed in accordance with our general agreement with PSE (Contract No. 4600007908) and generally accepted environmental science practices in this area at the time this letter was prepared. No warranty or other conditions, express or implied, should be understood.



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Sincerely,
GeoEngineers, Inc.



Nick E. Rohrbach
Project Manager



Steve C. Woodward, LG
Principal

SJB:NER:SCW:lw

Attachments:

Figure 1. Vicinity Map

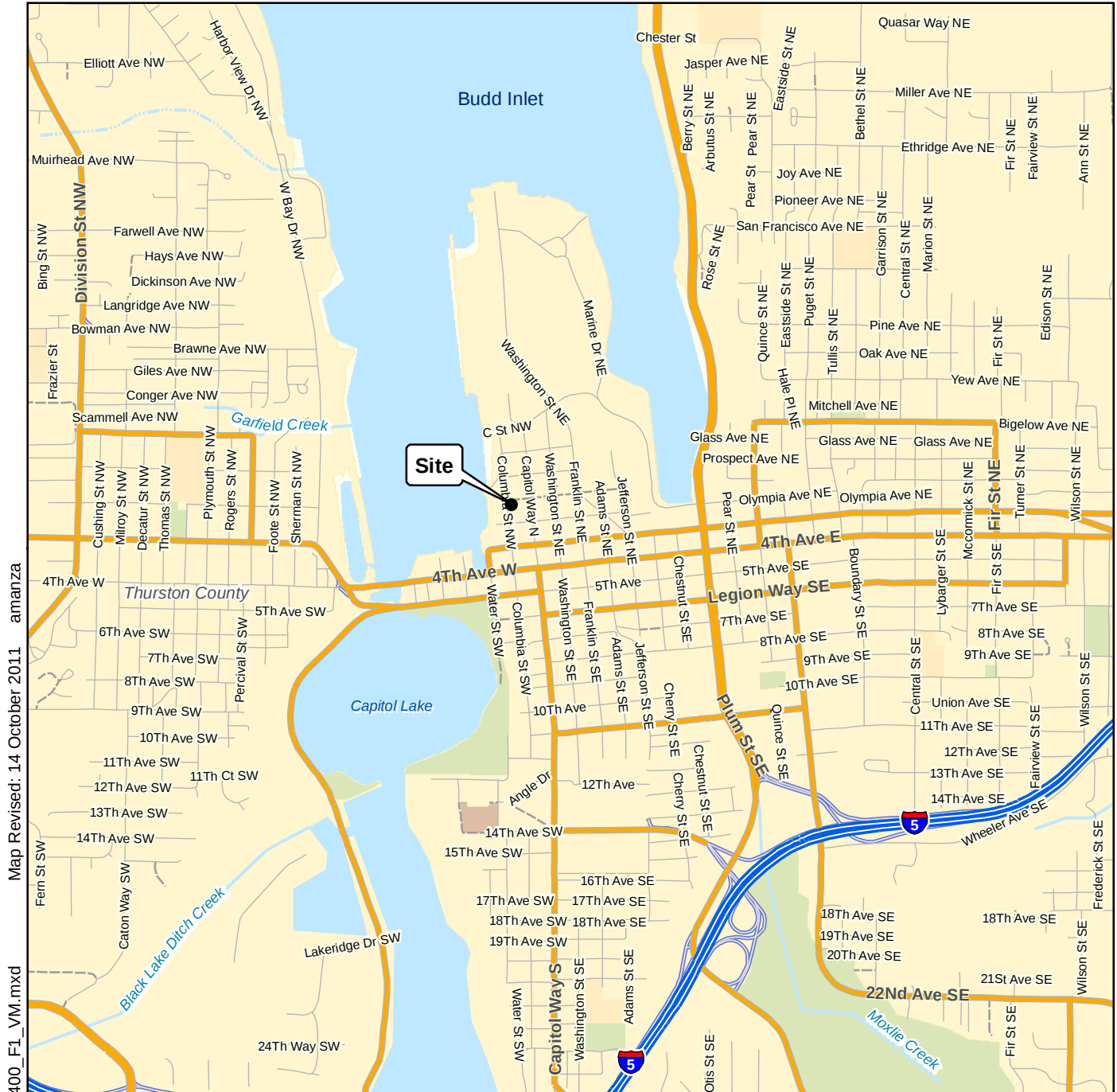
Figure 2. Existing Monitoring Well Locations to be Decommissioned

Existing Groundwater Monitoring Well Boring Logs and Driller Logs – MW-14 through MW-16

cc: Greg Andrina – PSE

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2,000 0 2,000
Feet

Notes:

1. The locations of all features shown are approximate.
2. This drawing is for information purposes. It is intended to assist in showing features discussed in an attached document. GeoEngineers, Inc. can not guarantee the accuracy and content of electronic files. The master file is stored by GeoEngineers, Inc. and will serve as the official record of this communication.
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Data Sources: ESRI Data & Maps, Street Maps 2005
Transverse Mercator, Zone 10 N North, North American Datum 1983
North arrow oriented to grid north

Vicinity Map

Former Olympia MGP Site
Olympia, Washington

GEOENGINEERS

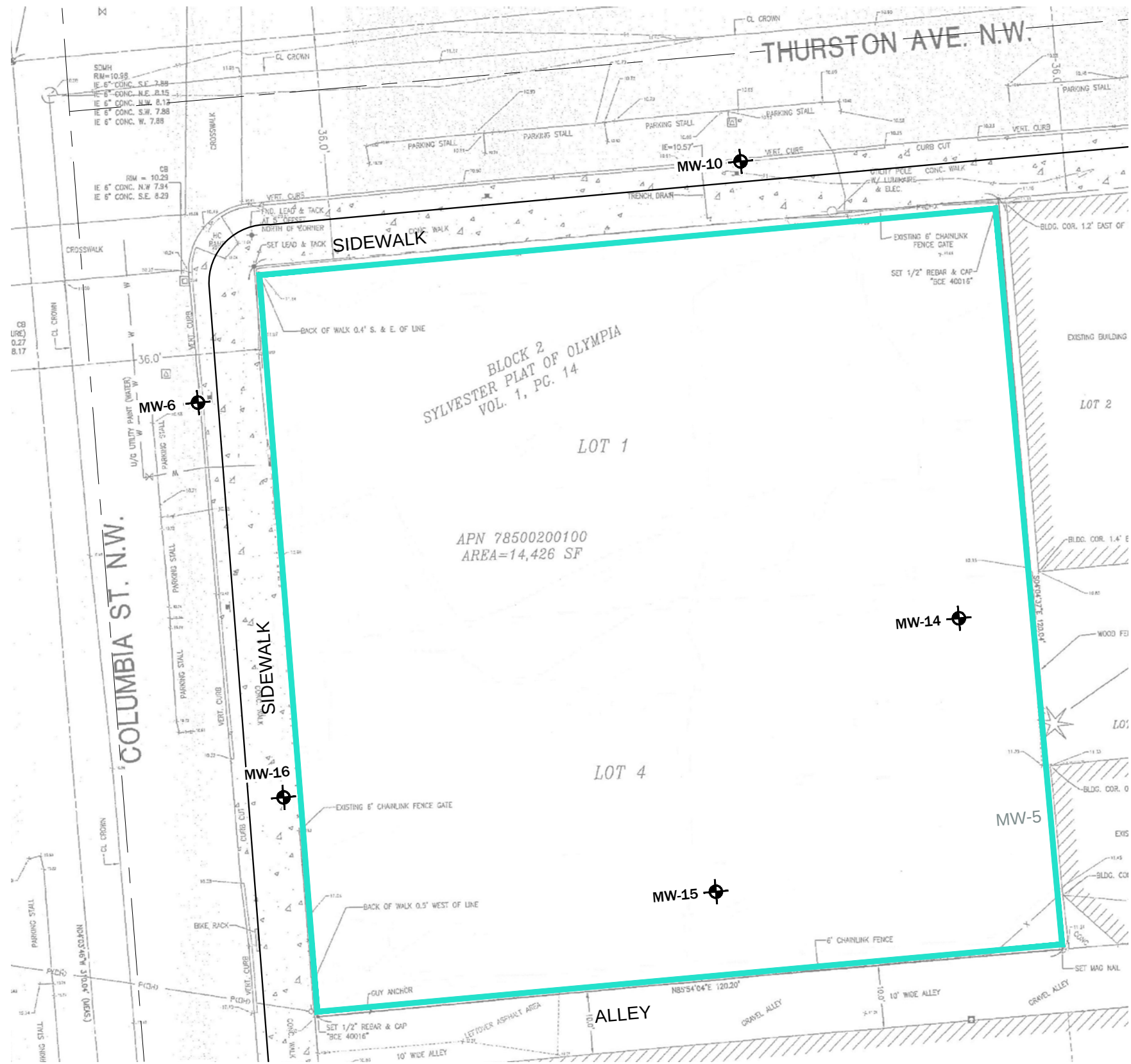
Figure 1

amanza

Map Revised: 14 October 2011

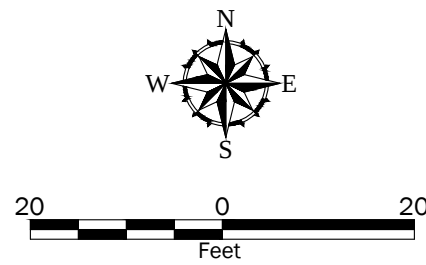
Path: \\seal\projects\010186774\GIS\018677400_F1_VM.mxd

Office: SEA



Legend

- Property boundary
- Existing building
- Existing fence
- Monitoring well to be decommissioned



Notes:

- The locations of all features shown are approximate.
- This drawing is for information purposes. It is intended to assist in showing features discussed in an attached document.

GeoEngineers, Inc. cannot guarantee the accuracy and content of electronic files. The master file is stored by GeoEngineers, Inc. and will serve as the official record of this communication

Data Source:
Background from Barghausen Consulting Engineers, dated 3/28/2012.

Existing Monitoring Well Locations to be Decommissioned	
Former Olympia MGP Site Olympia, Washington	
GEOENGINEERS	Figure 2

SOIL CLASSIFICATION CHART

MAJOR DIVISIONS			SYMBOLS		TYPICAL DESCRIPTIONS
			GRAPH	LETTER	
COARSE GRAINED SOILS	GRAVEL AND GRAVELLY SOILS	CLEAN GRAVELS (LITTLE OR NO FINES)		GW	WELL-GRADED GRAVELS, GRAVEL - SAND MIXTURES
				GP	POORLY-GRADED GRAVELS, GRAVEL - SAND MIXTURES
		GRAVELS WITH FINES (APPRECIABLE AMOUNT OF FINES)		GM	SILTY GRAVELS, GRAVEL - SAND - SILT MIXTURES
	SAND AND SANDY SOILS	CLEAN SANDS (LITTLE OR NO FINES)		GC	CLAYEY GRAVELS, GRAVEL - SAND - CLAY MIXTURES
				SW	WELL-GRADED SANDS, GRAVELLY SANDS
				SP	POORLY-GRADED SANDS, GRAVELLY SAND
FINE GRAINED SOILS	SILTS AND CLAYS	LIQUID LIMIT LESS THAN 50		SM	SILTY SANDS, SAND - SILT MIXTURES
				SC	CLAYEY SANDS, SAND - CLAY MIXTURES
				ML	INORGANIC SILTS, ROCK FLOUR, CLAYEY SILTS WITH SLIGHT PLASTICITY
	SILTS AND CLAYS	LIQUID LIMIT GREATER THAN 50		CL	INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, GRAVELLY CLAYS, SANDY CLAYS, SILTY CLAYS, LEAN CLAYS
				OL	ORGANIC SILTS AND ORGANIC SILTY CLAYS OF LOW PLASTICITY
				MH	INORGANIC SILTS, MICACEOUS OR DIATOMACEOUS SILTY SOILS
HIGHLY ORGANIC SOILS			CH	INORGANIC CLAYS OF HIGH PLASTICITY	
			OH	ORGANIC CLAYS AND SILTS OF MEDIUM TO HIGH PLASTICITY	
				PT	PEAT, HUMUS, SWAMP SOILS WITH HIGH ORGANIC CONTENTS

NOTE: Multiple symbols are used to indicate borderline or dual soil classifications

Sampler Symbol Descriptions

	2.4-inch I.D. split barrel
	Standard Penetration Test (SPT)
	Shelby tube
	Piston
	Direct-Push
	Bulk or grab
	Continuous Coring

Blowcount is recorded for driven samplers as the number of blows required to advance sampler 12 inches (or distance noted). See exploration log for hammer weight and drop.

A "P" indicates sampler pushed using the weight of the drill rig.

NOTE: The reader must refer to the discussion in the report text and the logs of explorations for a proper understanding of subsurface conditions. Descriptions on the logs apply only at the specific exploration locations and at the time the explorations were made; they are not warranted to be representative of subsurface conditions at other locations or times.

ADDITIONAL MATERIAL SYMBOLS

SYMBOLS		TYPICAL DESCRIPTIONS
GRAPH	LETTER	
	AC	Asphalt Concrete
	CC	Cement Concrete
	CR	Crushed Rock/Quarry Spalls
	TS	Topsoil/Forest Duff/Sod

Groundwater Contact



Measured groundwater level in exploration, well, or piezometer



Measured free product in well or piezometer

Graphic Log Contact



Distinct contact between soil strata or geologic units



Approximate location of soil strata change within a geologic soil unit

Material Description Contact



Distinct contact between soil strata or geologic units



Approximate location of soil strata change within a geologic soil unit

Laboratory / Field Tests

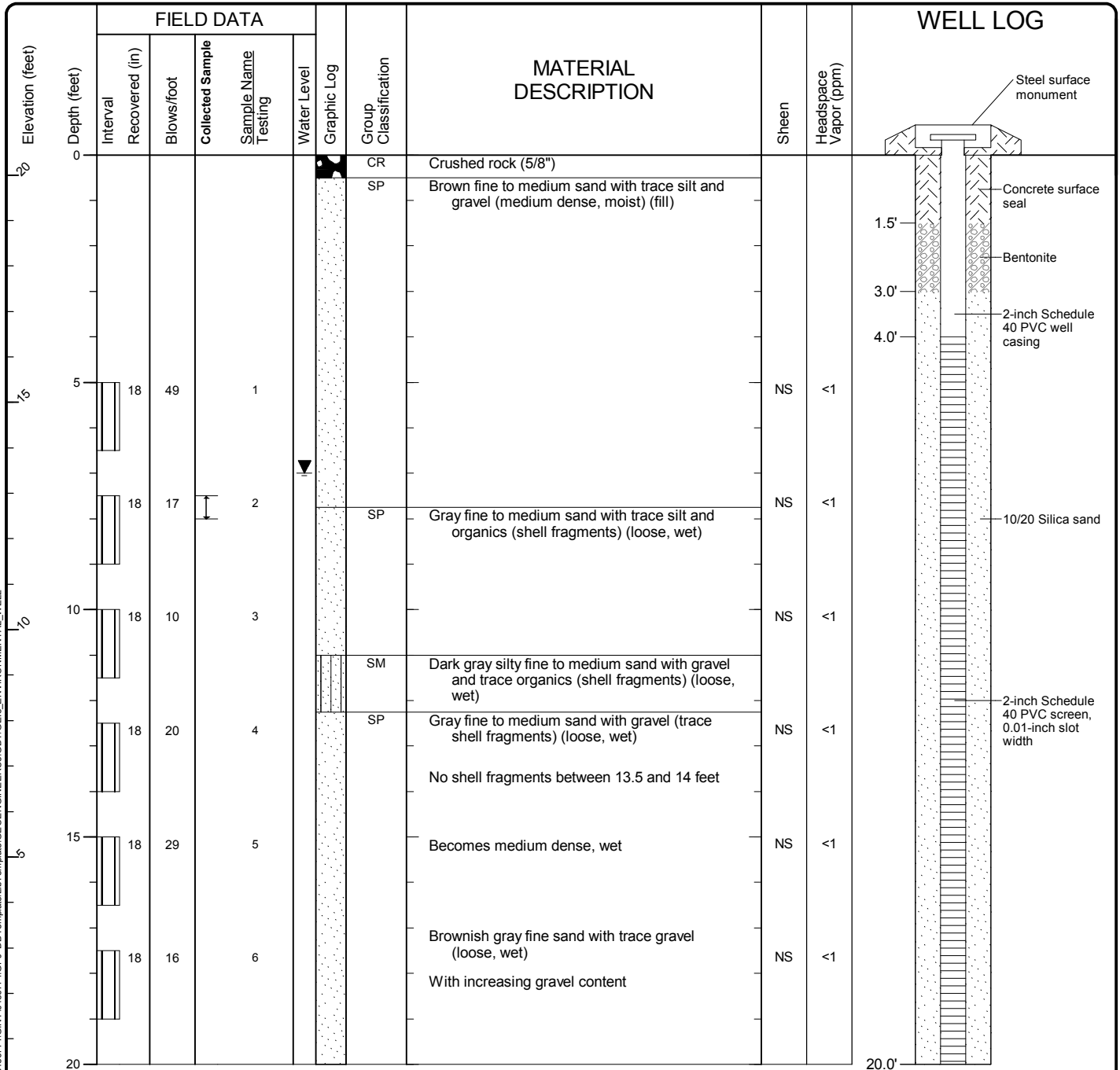
%F	Percent fines
AL	Atterberg limits
CA	Chemical analysis
CP	Laboratory compaction test
CS	Consolidation test
DS	Direct shear
HA	Hydrometer analysis
MC	Moisture content
MD	Moisture content and dry density
OC	Organic content
PM	Permeability or hydraulic conductivity
PI	Plasticity index
PP	Pocket penetrometer
PPM	Parts per million
SA	Sieve analysis
TX	Triaxial compression
UC	Unconfined compression
VS	Vane shear

Sheen Classification

NS	No Visible Sheen
SS	Slight Sheen
MS	Moderate Sheen
HS	Heavy Sheen
NT	Not Tested

KEY TO EXPLORATION LOGS

Start Drilled 8/15/2015	End 8/15/2015	Total Depth (ft) 20	Logged By Checked By ARJ NER	Driller Cascade Drilling	Drilling Method Hollow Stem Auger
Hammer Data 140 Pound Auto Hammer		Drilling Equipment CME Auger Drill Rig		A 2 (in) well was installed on 8/15/2015 to a depth of 20 (ft).	
Surface Elevation (ft) Vertical Datum 20.44		Top of Casing Elevation (ft) 20.09		Groundwater Date Measured 8/15/2015	
Easting (X) Northing (Y) 1041521.464 634097.3957		Horizontal Datum NAD83		Depth to Water (ft) 7.0 Elevation (ft) 13.1	
Notes: Slight odor observed at 8 feet below ground surface					



Note: Please see Figure A-1 for explanation of symbols

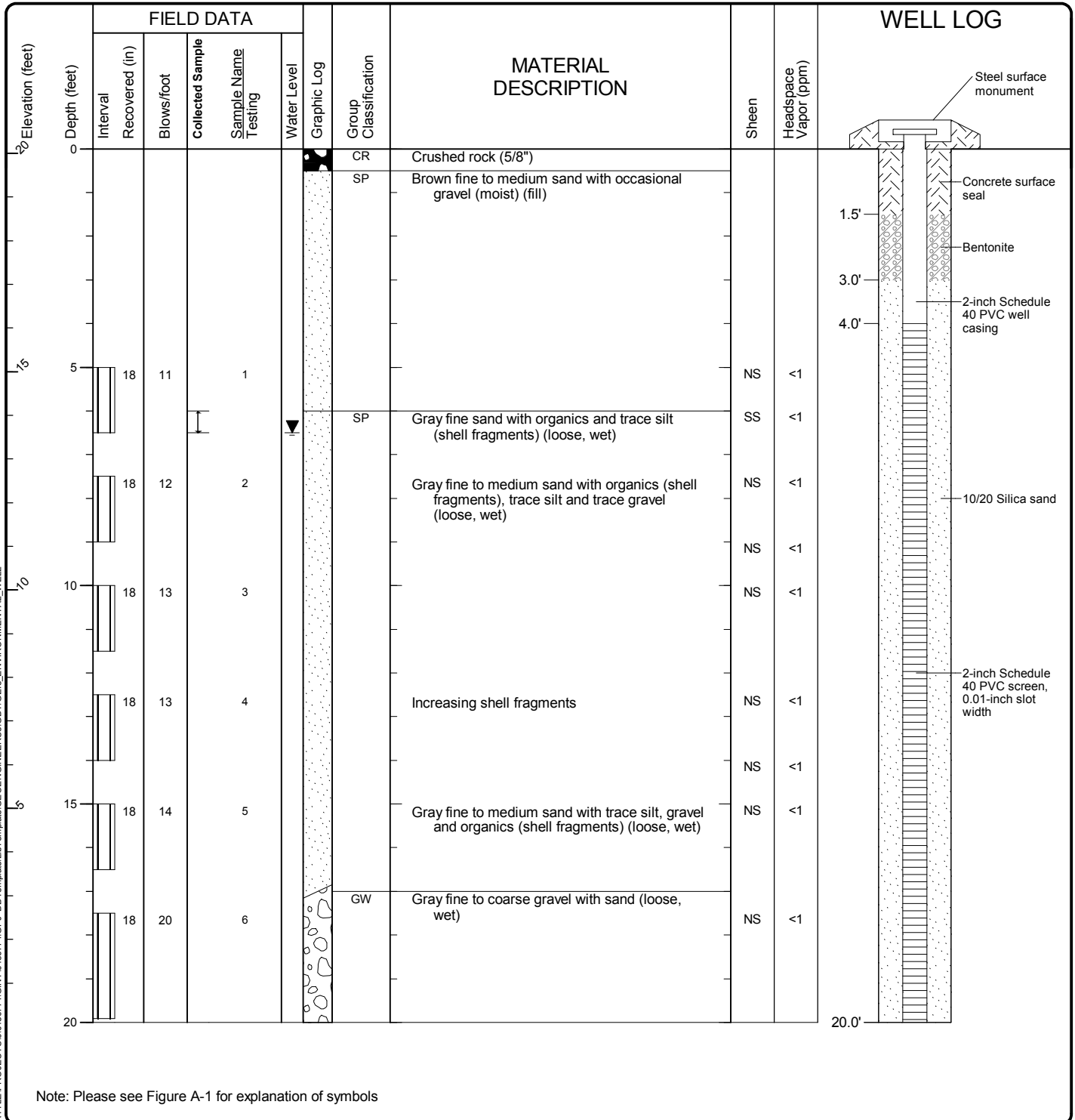
Log of Monitoring Well MW-14



Project: Former Columbia Street MGP Property
 Project Location: Olympia, Washington
 Project Number: 0186-774-03

Figure A-2
 Sheet 1 of 1

Start Drilled 8/15/2015	End 8/15/2015	Total Depth (ft) 20	Logged By Checked By ARJ NER	Driller Cascade Drilling	Drilling Method Hollow Stem Auger
Hammer Data 140 Pound Auto Hammer		Drilling Equipment CME Auger Drill Rig		A 2 (in) well was installed on 8/15/2015 to a depth of 20 (ft).	
Surface Elevation (ft) Vertical Datum 20.1		Top of Casing Elevation (ft) 19.65		Groundwater Date Measured 8/15/2015	
Easting (X) Northing (Y) 1041482.007 634052.9873		Horizontal Datum NAD83		Depth to Water (ft) 6.5 Elevation (ft) 13.2	
Notes:					



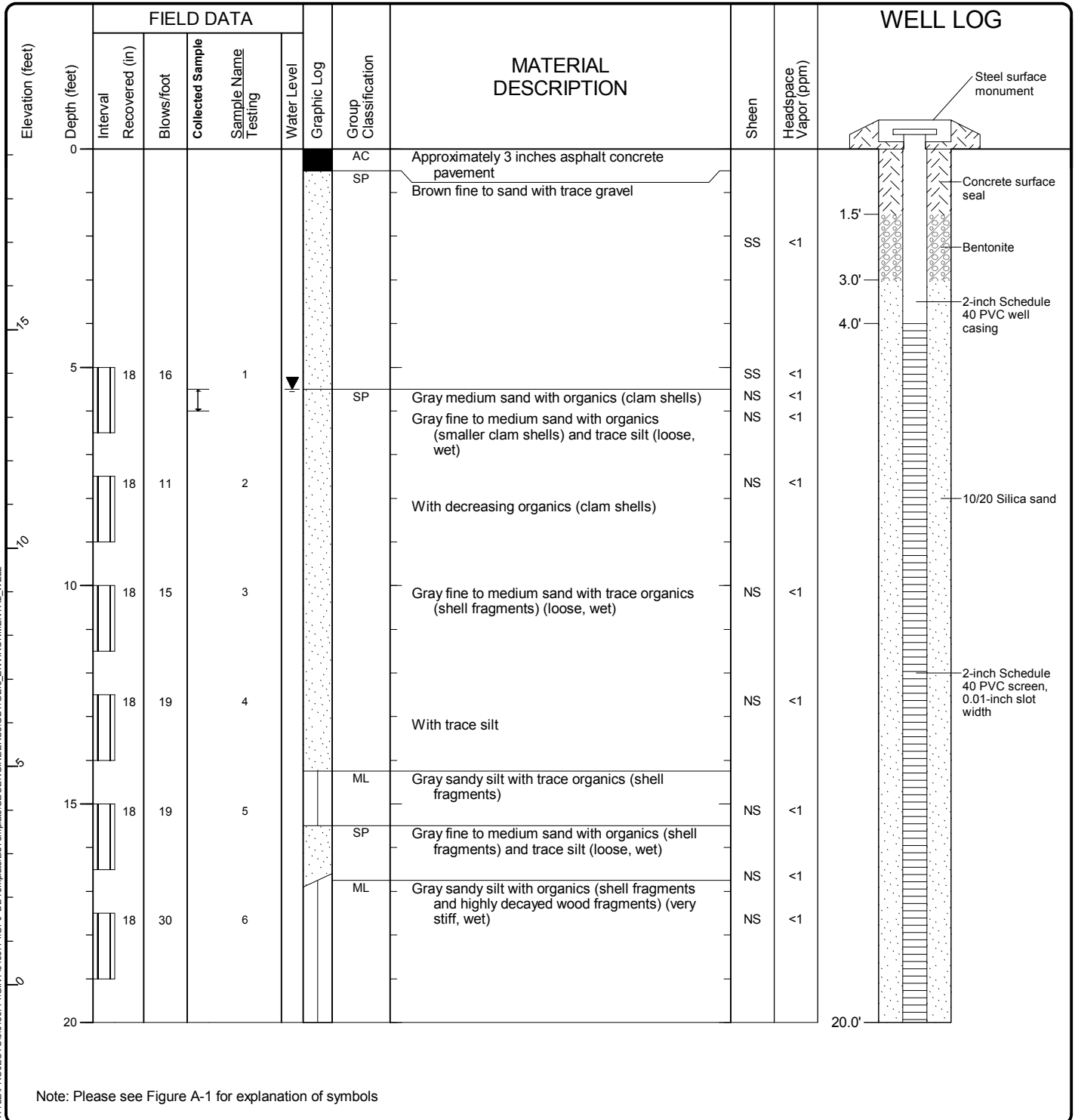
Log of Monitoring Well MW-15



Project: Former Columbia Street MGP Property
 Project Location: Olympia, Washington
 Project Number: 0186-774-03

Figure A-3
 Sheet 1 of 1

Start Drilled 8/15/2015	End 8/15/2015	Total Depth (ft) 20	Logged By Checked By ARJ NER	Driller Cascade Drilling	Drilling Method Hollow Stem Auger
Hammer Data 140 Pound Auto Hammer		Drilling Equipment CME Auger Drill Rig		A 2 (in) well was installed on 8/15/2015 to a depth of 20 (ft).	
Surface Elevation (ft) Vertical Datum 19.14		Top of Casing Elevation (ft) 18.84		Groundwater Date Measured 8/15/2015	
Easting (X) Northing (Y) 1041411.807 634068.3031		Horizontal Datum NAD83		Depth to Water (ft) 5.5 Elevation (ft) 13.3	
Notes:					



Log of Monitoring Well MW-16



Project: Former Columbia Street MGP Property
 Project Location: Olympia, Washington
 Project Number: 0186-774-03

Figure A-4
 Sheet 1 of 1

GeoEngineers Well ID:
MW-14**RESOURCE PROTECTION WELL REPORT**

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

Construction/Decommission

☒ Construction☐ Decommission ORIGINAL INSTALLATION Notice
of Intent Number _____Consulting Firm GeoEngineers

Unique Ecology Well ID

Tag No BIC 709WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for
construction of this well and its compliance with all Washington well construction standards

Materials used and the information reported above are true to my best knowledge and belief

☒ Driller ☐ Trainee Name (Print) James Goble

Driller/Trainee Signature _____

Driller/Trainee License No 3131

If trainee, licensed driller's

Signature and License No _____

CURRENT

Notice of Intent No

RE08807

Type of Well

☒ Resource Protection☐ Geotechnical Soil BoringEvergreen Olympic Properties Inc

Property Owner

Site Address

320 Columbia St NW

City

Olympia

County

Thurston

EWM

Location

1/4

NW

NE

SW

Sec

14

TWN

18N

R

2W

or

☒ WWM

Lat/Long (s,t,l)

Lat Deg

x

Lat Min/Sec

x

still Required) Long Deg

x

Long Min/Sec

x

Tax Parcel No

78500200100

Cased or Uncased Diameter

8"

Static Level

6'

Work/Decommission Start Date

8-15-13

Work/Decommission End Date

8-15-13

Construction/Design

Well Data

W3-480

Formation Description

	Concrete Surface Seal	<u>1 1/2'</u>	FT	<u>0 - 6'</u> FT (Fill) light brown sand w/ very small gravels <u>0 6' - 20'</u> FT Med. to Fine light grey sand w/ sea shells <u>0 -</u> FT
	Depth			
	Blank Casing (dia x dep)	<u>2" x 4'</u>		
	Material	<u>PVC</u>		
	Backfill	<u>1 1/2'</u>	FT	
	Type	<u>Bent. chips</u>		
	Seal			
	Material			
	Gravel Pack	<u>17'</u>	FT	
	Material	<u>2-12 Sand</u>		
Screen (dia x dep)	<u>2" x 16'</u>			
Slot Size	<u>0/10</u>			
Material	<u>PVC</u>			
Well Depth	<u>20'</u>	FT		
Backfill				
Material				
Total Hole Depth	<u>20'</u>	FT		

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OCT 04 2013

WA State Department
of Ecology (SWRO)

Scale 1" = _____

Page _____ of _____

ECY 050-12 (Rev 2/01)

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

Construction/Decommission☒ Construction☐ Decommission ORIGINAL INSTALLATION Notice
of Intent Number _____Consulting Firm GeoEngineers

Unique Ecology Well ID

Tag No BIC 708WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for
construction of this well and its compliance with all Washington well construction standards

Materials used and the information reported above are true to my best knowledge and belief

☒ Driller ☐ Trainee Name (Print)James Goble

Driller/Trainee Signature _____

Driller/Trainee License No

3131

If trainee, licensed driller's

Signature and License No _____

CURRENT

Notice of Intent No

RE08807

Type of Well

☒ Resource Protection☐ Geotechnical Soil BoringEvergreen Olympic Properties Inc

Property Owner

Site Address

320 Columbia St NW

City

Olympia

County

Thurston

Location

1/4

NWNESW

Sec

14

1/4

18N

R

2W

EWM

WWM

Lat/Long (s,t,l)

Lat Deg

x

Lat Min/Sec

x

still Required) Long Deg

x

Long Min/Sec

x

Tax Parcel No

78500200100

Cased or Uncased Diameter

8"

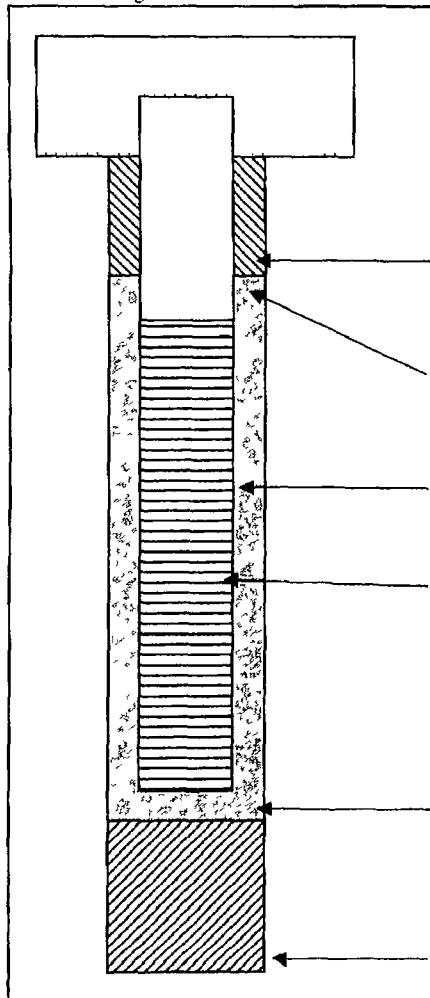
Static Level

6'

Work/Decommission Start Date

8-15-13

Work/Decommission End Date

8-15-13**Construction/Design****Well Data**W3-480**Formation Description**Concrete Surface Seal
Depth1 1/2'

FT

Blank Casing (dia x dep)

2' x 4'

Material

PVC

Backfill

1 1/2'

FT

Type

Bent. chips

Seal

Material

Gravel Pack

Material

17'

FT

2-12 Sand

Screen (dia x dep)

2' x 16'

Slot Size

010

Material

PVC

Well Depth

20'

FT

Backfill

Material

Total Hole Depth

20'

FT

0 6' FT(Fill) light brown
sand w/ very
small gravels0 6' - 20' FTMed. to Fine
light grey sand
w/ sea shells

0 - FT

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WA State Department
of Ecology (SWRO)

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ECY 050-12 (Rev=v 2/01)

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

Construction/Decommission☒ Construction☐ Decommission ORIGINAL INSTALLATION Notice
of Intent Number _____Consulting Firm GeoEngineers

Unique Ecology Well ID

Tag No BIC 707WELL CONSTRUCTION CERTIFICATION I constructed and/or accept responsibility for
construction of this well and its compliance with all Washington well construction standards

Materials used and the information reported above are true to my best knowledge and belief

☒ Driller ☐ Trainee Name (Print) James Goble

Driller/Trainee Signature _____

Driller/Trainee License No 3131

If trainee, licensed driller's

Signature and License No _____

CURRENT

Notice of Intent No

RE08807

Type of Well

☒ Resource Protection☐ Geotechnical Soil BoringEvergreen Olympic Properties Inc

Property Owner

Site Address

320 Columbia St NW

City

Olympia

County

Thurston

Location

1/4 NW NE SW Sec 14 TWN 18N R 2W or

EWM

☒ WWM

Lat/Long (s,t,r

Lat Deg

x

Lat Min/Sec

x

still Required) Long Deg

x

Long Min/Sec

x

Tax Parcel No

78500200100

Cased or Uncased Diameter

8"

Static Level

6'

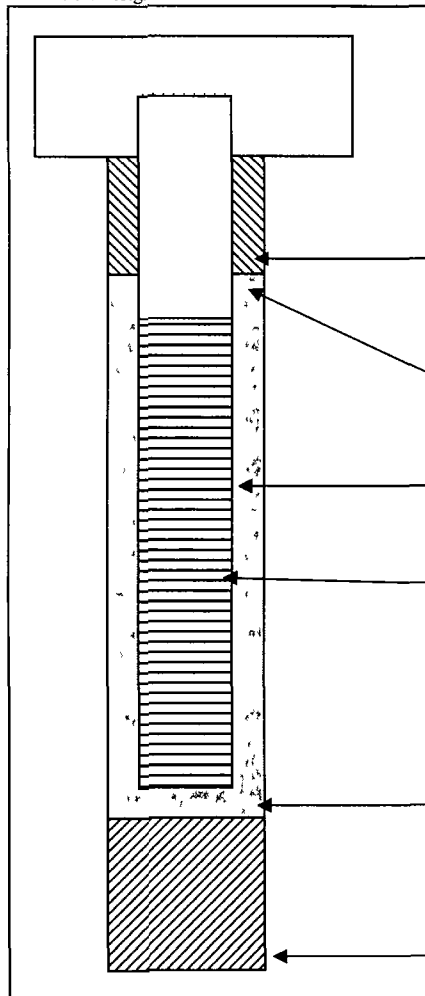
Work/Decommission Start Date

8-15-13

Work/Decommission End Date

8-15-13**Construction/Design****Well Data**

W3-480

Formation DescriptionConcrete Surface Seal
Depth1 1/2'

FT

Blank Casing (dia x dep)

2' x 4'

Material

PVC

Backfill

1 1/2'

FT

Type

Bent. chips

Seal

Material

Gravel Pack

17'

FT

Material

2-12 Sand

Screen (dia x dep)

2' x 16'

Slot Size

010

Material

PVC

Well Depth

20'

FT

Backfill

Material

Total Hole Depth

20'

FT

0 6' FT(Fill) light brown
sand w/ very
small gravels0 6' - 20' FTMed. to Fine
light grey sand
w/ sea shells

0 - FT

RECEIVED

OCT 04 2013

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of Ecology (SWRO)

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