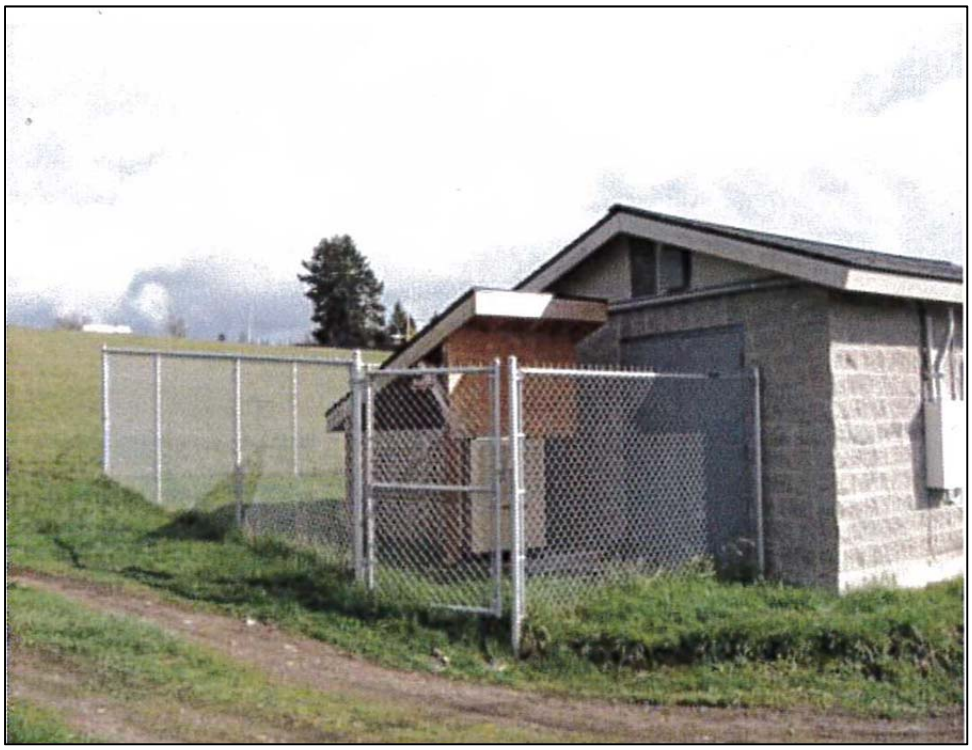
SUN VISTA / SUNLIGHT BEACH HOA WELLHEAD PROTECTION AREA

(DOH WATER SYSTEM ID# 85160)



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December 11, 2013 **Project No. 13-02042.100**

Golder Associates

EXECUTIVE SUMMARY

Golder Associates Inc. (Golder) delineated the Wellhead Protection Areas (WHPAs) for the water supply wells operated by Sun Vista / Sunlight Beach Homeowners Association (Sun Vista). The WHPA extends east from the wells approximately 3,000 feet, with a maximum width of 2,400 feet (north to south). The WHPA extends east of Bayview Road, which includes the fields east of the wells, currently zoned for future development. The WHPA also encompasses residential areas north and south of Sunlight Beach Road. Importantly, travel time boundaries do not include vertical travel times, which is additional time required for a contaminant to migrate from ground surface to the aquifer; this additional time provides for more response time if a contaminant is found near ground surface within the WHPA.

The WHPA was delineated using an analytical model based on uniform groundwater flow equations; model parameters were estimated from pumping data for the Sun Vista wells and data obtained from the Washington Department of Ecology (Ecology) online database (accessed 11/11/13). A saturated thickness of 50 feet was used in the model, where the actual saturated thickness of the aquifer is likely greater; this provides an additional margin of safety, as a lower saturated thickness increases the width of the WHPA.

The WHPA was calculated based on an average pumping rate of 111 gallons per minute (gpm), which is the maximum withdrawal rate of the associated water rights. This provides a good planning approach, where the WHPA will not have to be revised as Sun Vista grows into full use of their water rights. Monthly average pumping rates did not exceed 45 gpm between 2009 and 2012.

A contaminant inventory was completed by searching available government records provided by Environmental Data Resources Inc. (EDR; Attachment A). No known existing contaminant sources were identified within 1,000 feet of the WHPA boundary. Potential unknown contaminant sources may include residential septic systems and heating oil tanks. Landowners within the wellhead protection area should be informed of the wellhead protection program and future development should consider the susceptibility of the water source to potential contaminant sources.

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1.0 INTRODUCTION

The Sun Vista / Sunlight Beach Homeowners Association (Sun Vista) operates a Class A water system in Island County, Washington, supplying water to 163 full-time residences (as of April 2013). The water system has two sources; both are 8-inch wells, designated as Well 1 and Well 2. Well 1 is screened from 20 to 30.5 feet below ground surface (ft bgs) and Well 2 is screened from 35 to 50 ft bgs. The wells operate under Groundwater Permit No. 26066 and Groundwater Certificate No. 4684. The combined maximum instantaneous withdrawal (*Qi*) 111 gallons per minute (gpm) and the combined total annual withdrawal (*Qa*) is 59.1 acre-feet under these water rights.

Wells 1 and 2 are enclosed in the same wellhouse, where ground surface elevation is approximately 24 feet above mean sea level (ft amsl). Ground surface elevation increases east of the wells, reaching 260 ft amsl approximately 1 mile from the wellhouse. Static water levels ranged from approximately 22.2 to 20.7 ft amsl in February and July 2012, respectively. Dry sediment and clay was apparent during construction of Well 2 to a depth of approximately 25 ft bgs, indicating at least semi-confining conditions within the aquifer.

This report presents the results of a Wellhead Protection Area (WHPA) delineation for the Sun Vista water supply wells. Additionally, a report of the available government and institutional records concerning all potential contaminant sources was obtained from Environmental Data Resources (EDR; Attachment A) to identify any potential contaminant sources within the WHPA. The susceptibility of the wells to future and unidentified sources is also discussed.

2.0 WELLHEAD PROTECTION AREA DELINEATION

A wellhead protection area (WHPA) is designated as the surface and subsurface areas surrounding a water source (e.g., well or spring) that supplies a public water supply. The purpose of designating the WHPA is to provide protection from potential contamination of the water supply by defining primary zones, which are based on the time-of-travel rates of groundwater. Increasing distances from the water source require a longer period of time for a particle of water to travel through the aquifer system to the well. The capture zones can be used to define aquifer management regions around the water source in order to minimize the potential for contamination to impact the water supply. These wellhead protection areas can be designated in accordance with laws, regulations, local ordinances, and plans to protect public drinking water supplies.

2.1 Methods

Wellhead protection areas (or capture zones) for the Sun Vista water supply source were calculated using an analytical model. The model is based on uniform groundwater flow equations (Todd 1980; WDOH 2010), and uses the well's pumping rate (*Q*) and site specific hydrogeologic parameters, such as hydraulic gradient (*i*), hydraulic conductivity (*K*), and saturated thickness (*b*):

$$-\frac{y}{x} = \tan\left(\frac{2\pi Kbi}{Q}y\right) \qquad (1)$$

Where *x* and *y* are distances along a Cartesian coordinate system with the pumping well at its origin.

The model uses the uniform flow equation to calculate the distance to the downgradient edge of the capture zone (stagnation point, x_0), and the maximum upgradient width of the capture zone (y_{max}):

$$x_o = \frac{Q}{2\pi Kbi} \qquad (2)$$

$$y_{\max} = \pm\frac{Q}{2Kbi} \qquad (3)$$

To plot the shape of the capture zone, Equation 3 is used to calculate the maximum width of the capture zone. Once the value of y_{max} is known, the shape of the capture zone can be delineated by entering varying values of *y* into Equation 1 above. Finally, Equation (2) is used to find the stagnation point downgradient of the well.

The upgradient edge of the capture zones for 6-month and 1-, 5-, and 10-year travel times (x_t) were calculated by:

$$x_t = \frac{Kit}{n} \qquad (4)$$

Where t is travel time (days) and n is porosity (dimensionless) of the sand and gravel aquifer. Values of x_t are used with Equation (1) to calculate the width of the capture zone at the upgradient limits of the 6-month and 1-, 5-, and 10-year travel times.

2.2 Hydrogeologic Parameters

Aquifer parameters (i.e., saturated thickness, gradient, and porosity) were identified from reports and databases published by public agencies. Aquifer transmissivity was quantified by analyzing pumping hydrographs for the Sun Vista wells. The following subsections describe the values used for the capture zone model presented in Section 2.1.

2.2.1 Hydraulic Gradient (i) and Groundwater Flow Direction

A hydraulic gradient (i) for the aquifer was estimated from well logs obtained from the Washington Department of Ecology (Ecology) online database (2013). Ecology's Well Log Database provides well locations limited to the quarter-quarter, quarter, or whole section scale. The location of each well was refined by approximating its location using a web-based search for the well address or by identifying the tax parcel listed on the well log. Static water levels were tabulated for wells that were assumed to be screened within the same geologic unit as the Sun Vista wells (Figure 1). The water-level elevation at each well was estimated using the depth to water reported on the well log and the land surface elevation estimated from a 10-meter digital elevation model of the area. A caveat to using static water levels recorded in well logs is that they are reported for different dates; however they can still provide an approximation of the hydraulic gradient.

A hydraulic gradient of 0.002 feet per foot (ft/ft) was calculated for the aquifer by comparing water levels in well ABD-979 and Sun Vista Well 1 (Figure 1). This is consistent with the low hydraulic gradient present throughout the lowlands of the Useless Bay area and the general trend identified from well logs. Anderson (1968) presents a higher hydraulic gradient in the area upgradient to the Sun Vista wells, which may be based on water level elevations from deeper wells under confining pressure (e.g., sands and gravels of the Whidbey Formation). Qualitatively, a higher value for i in the model described in Section 2.1 would produce a proportionally longer and narrower capture zone.

2.2.2 Transmissivity (T)

Aquifer transmissivity (*T*) was determined from analysis of time-drawdown data obtained from the Sun Vista wells. Pressure transducers were installed in the Sun Vista wells during the 2013 water year to quantify annual fluctuations and response to pumping. Pumping cycles were analyzed using Cooper-Jacob straight-line methods for distance, drawdown, and late-time recovery response to estimate the transmissivity (*T*) of the near-well aquifer (Driscoll 1986). Estimates for *T* ranged from 7,700 to 8,800 square feet per day (ft^2/day) based on pumping cycles from October 2013. Additionally, D.R. Strong Consulting Engineers, Inc. conducted a 24-hour pump test in 1992, which consisted of manual measurements; similar analysis of that dataset produced estimates of *T* ranging from 9,700 to 12,000 ft^2/day. An average value of 9,000 ft^2/day (calculated from all pumping test data) was used to delineate WHPAs. The results of the pumping tests are contained in Appendix A.

2.2.3 Porosity (n)

The porosity of the sand and gravel aquifer was assumed to be 20 percent, which is typical of mixed sand and gravel sediments (Fetter 2001).

2.2.4 Aquifer Thickness (b)

The actual saturated thickness of the aquifer (*b*) is not known and the local geology is variable, consisting of Fraser-age glacial sediments of the Vashon Sequence (Deither et al. 1982). The Sun Vista wells are located in lowlands where the surficial geology is mapped as advance outwash, corresponding to sand and gravel (Figure 2). This same material is largely overlain by glacial till beginning approximately 800 feet east of the wells, forming the upland area. Wells assumed to be completed in the advance outwash of the upland area indicate a saturated thickness in excess of 25 feet, with aquifer materials in excess of 100 feet (e.g., well AGR 588); no wells penetrated the entire thickness of the aquifer. For the purposes of delineating the wellhead capture zones, an aquifer thickness of 50 feet was used as a representative thickness of the aquifer. This estimate is likely conservative, where the actual saturated thickness is likely greater than 50 feet, which would correspond to an actual capture zone that is proportionally smaller.

2.3 Results

The WHPA zones for 6-month and 1-, 5-, and 10-year travel times are illustrated in Figure 1. Vertical travel times are not included in WHPA delineation and it is important to note that travel times for surface contamination can be significantly greater than those indicated by time-of-travel boundaries; this provides a margin of safety when estimating travel times within a capture zone. The dimensions of the wellhead protection area are summarized in Table 2-1. The capture zone delineation assumed a single well withdrawing water at the maximum instantaneous rate (*Qi*) of 111 gpm (179 acre-feet per year) for the associated water rights for Wells 1 and 2 (certificate no. 4684; permit no. 26066). Actual use from 2009

to 2012 ranged approximately from 23 to 40 acre-feet per year (data from Sun Vista). The effect of lower withdrawal rates is to proportionally narrow the width of the capture zone.

Table 2-1: Time-of-Travel (WHPA) Boundaries

Time-of-Travel Boundary[1]	Approximate Distance from Wellhead[2]
Stagnation point	190
6-month	300
1-year	600
5-year	3000
10-year	6000

Notes:
[1] Maximum width of the capture zone is approximately 1,200 feet, measured north-south.
[2] Six-month, and 1-, 5-, and 10-year time-of-travel boundaries extend eastward. The down-gradient "stagnation point" extends west.

The capture zone is oriented perpendicular to the assumed groundwater flow path, which was approximated from local topography and static water levels from well logs (Figure 1). The capture zone gradually widens further upgradient of the wells, toward the uplands. The WHPA extends east from the wells approximately 6,000 feet, gradually widening to a maximum width of approximately 1,200 feet (north to south). The WHPA extends east of Bayview Road, which includes the fields east of the wells, currently zoned for future development. The WHPA also encompasses residential areas north and south of Sunlight Beach Road.

2.4 Susceptibility Assessment Forms

Washington State Department of Health (WDOH) Susceptibility Assessment Forms were completed for Sun Vista Wells 1 and 2. These forms are included as Appendix B for submission to WDOH.

3.0 POTENTIAL SOURCES OF CONTAMINATION

This section presents an assessment of potential contaminant sources within the WHPA capture zones. The assessment was developed from a review of aerial imagery (Figure 1; Attachment B) and from a database search of available environmental records in the project area conducted by EDR (Attachment A). The database contains environmental records compiled from Federal, State, Local, and Tribal informational databases (e.g., National Priority List, CERCLIS, Hazardous Sites List, and National Pollutant Discharge Elimination System). The search for potential contaminant sources included a 1 mile buffer around the WHPA.

3.1 Known Existing Sources

A report of the available government and institutional records concerning all existing potential contaminant sources was obtained from EDR (Attachment A). No existing contaminant sources were identified within 1,000 feet of the wellhead protection area (Figure 3). In Figure 3, source numbers 2 and 3 appear to be incorrectly georeferenced when compared to aerial imagery and listed street addresses. Details of potential sources identified by EDR are presented in Table 3-1.

Table 3-1: Potential Contaminant Sources Identified by EDR

Source Number	Facility	Potential Contaminant	Notes
1	Sunlight Beach Road Residence	Petroleum products	Independent cleanup - no further action 3/17/06
2[1]	Midvale Solid Waste & Recycling	General	Storage and Handling notice
3[1]	Bills Feed & Tack	Petroleum products	Leaking Underground Storage Tank - No further action 4/1/02
	Bayview Cash Store	Petroleum products	Underground Storage Tank, independent cleanup report
	Whidbey Island Sand & Gravel, Inc.	Petroleum products	Exempt Underground Storage Tank - inspected in 1996
4	Island County Fire Protection District 3	Petroleum products	Two underground storage tanks - inspected 1996

Note: Source number appears to be incorrectly georeferenced, based on aerial imagery and street address.

3.2 Unknown Sources

There is potential for sources to exist that are not listed in institutional databases. These sources can include unreported or unknown contaminant releases. Unknown potential contaminant sources may include residential septic systems and heating oil tanks. These may be present within the easternmost portion of the wellhead protection area, located inside the Sun Vista Home Owners Association (HOA) service area. However, surface contamination in these areas could be considered low risk due to the presence of confining material (glacial till) overlying the aquifer east of the wells.

Nitrate levels can indicate potential influence from organic contaminants (e.g., septic systems, fertilizers, etc.). The WDOH Office of Drinking Water (ODW) Sentry Database indicates nitrate levels remaining relatively constant for the entire period of record, ranging from 1.4 to 2.3 milligrams per liter (mg/L) nitrate-N since 1995; the Safe Drinking Water Act (SDWA) indicates a maximum concentration for nitrate-N of 10 mg/L. No microbiological analyses are available for Well 1 or Well 2 which might identify potential bacterial contamination from septic systems. Aerial photographs dating to 1941 indicate historic cultivation in the fields east of the wells and within the WHPA (Attachment B), indicating the source of low-level nitrate may be from long-term surface application of fertilizers.

3.3 Surface Contamination

The risk of surface contamination for Well 1 should be considered moderate to high due to an inadequate surface seal (Appendix C). The surface seal in Well 1, according to the well log (AGA 833; Appendix C), does not conform to minimum requirements for surface seals (WAC 173-160-231), consisting of a mixture of concrete and fill material to a depth of 17 ft bgs. Special attention should be given to the Sanitary Control Area for Well 1 to ensure contaminants cannot be introduced to the aquifer through the annulus of the casing and the borehole. Well 2 is reported to have a bentonite surface seal to 18 ft bgs, which is the standard minimum depth for surface seals. The potential for surface contamination should also be assessed with respect to the Sunlight Beach water well(s) (WDOH Water System ID 85270) since this system operates within the 6-month travel time boundary; no recent well log is publicly available for this water system to evaluate surface seal integrity.

4.0 RECOMMENDATIONS

The WHPA encompasses the undeveloped land immediately east of the wells. Golder did not review the protective covenant for the Sanitary Control Area (SCA) of the Sun Vista wells, however the Sanitary Survey completed March 31, 2013 indicated that a restrictive covenant exists for a 100-foot radius of the wellhouse; the status of this covenant should be reviewed and verified.

A visual survey should be conducted within the WHPA to identify any potential contaminant sources not identified in existing databases; this survey should be completed routinely or as development progresses. Landowners within the wellhead protection area should be informed of the wellhead protection program. A sample notification letter and list of land owners within the WHPA (from tax parcel data) is included as Attachment C.

5.0 CLOSING

We sincerely appreciate this opportunity to provide these services to you.

GOLDER ASSOCIATES INC.

Andrew Austreng
Staff Hydrogeologist

Chris V. Pitre, LHg
Associate, Water Resources

AA/CVP/cb

6.0 REFERENCES

Anderson, Henry W. Jr. 1968. Water Supply Bulletin No. 25, Part 2: Groundwater Resources of Island County. United States Department of the Interior, United States Geological Survey, Department of Water Resources.

Deither, David P., Safioles, S.A., Minard, J.P. 1982. Preliminary Geologic Map of the Maxwelton Quadrangle, Island County, Washington. United States Department of the Interior, United States Geological Survey, Open-File Report 82-192.

Driscoll, Fletcher G. 1986. Groundwater and Wells. St. Paul, MN: Johnson Division. Print.

Fetter, C. W. 2001. Applied Hydrogeology. Upper Saddle River, NJ: Prentice Hall. Print.

Todd, D.K. 1980. Groundwater hydrology. New York, John Wiley, 535 p.

Washington State Department of Ecology (Ecology). 1994. Online Well Log Viewer. Online: https://fortress.wa.gov/ecy/waterresources/map/WCLSWebMap/default.aspx (accessed 11/11/13).

Washington State Department of Health (WDOH). 2010. Wellhead Protection Program Guidance Document. WDOH Publication # 331-018.

FIGURES

LEGEND

Travel Times

- 6-month
- 1-year
- 5-year
- 10-year

- Pumping Well
- Water Well (see notes)
- Public Land Survey (Sections)

1,000 0 1,000 Feet

NOTES

1.) WATER WELL LOCATIONS MODIFIED FROM ECOLOGY
2.) WATER WELL LABELS CONTAIN ID & WATER LEVEL (ESTIMATED FT AMSL)

REFERENCES

1.) USGS
2.) WA DEPARTMENT OF ECOLOGY
3.) COORDINATE SYSTEM: NAD 1983 StatePlane Washington

REV.	DATE	DES	REVISION DESCRIPTION	GIS	CHK	RVW
1	12/5/13		Hydraulic gradient changed to 0.002	AA	AA	

SUN VISTA HOA
WHPA DELINEATION
ISLAND COUNTY, WA

LOCATION MAP & WELLHEAD PROTECTION AREAS

Golder Associates

PROJECT NO. 1302042			FILE No. F01_SunvistaWHPA_rev2.mxd
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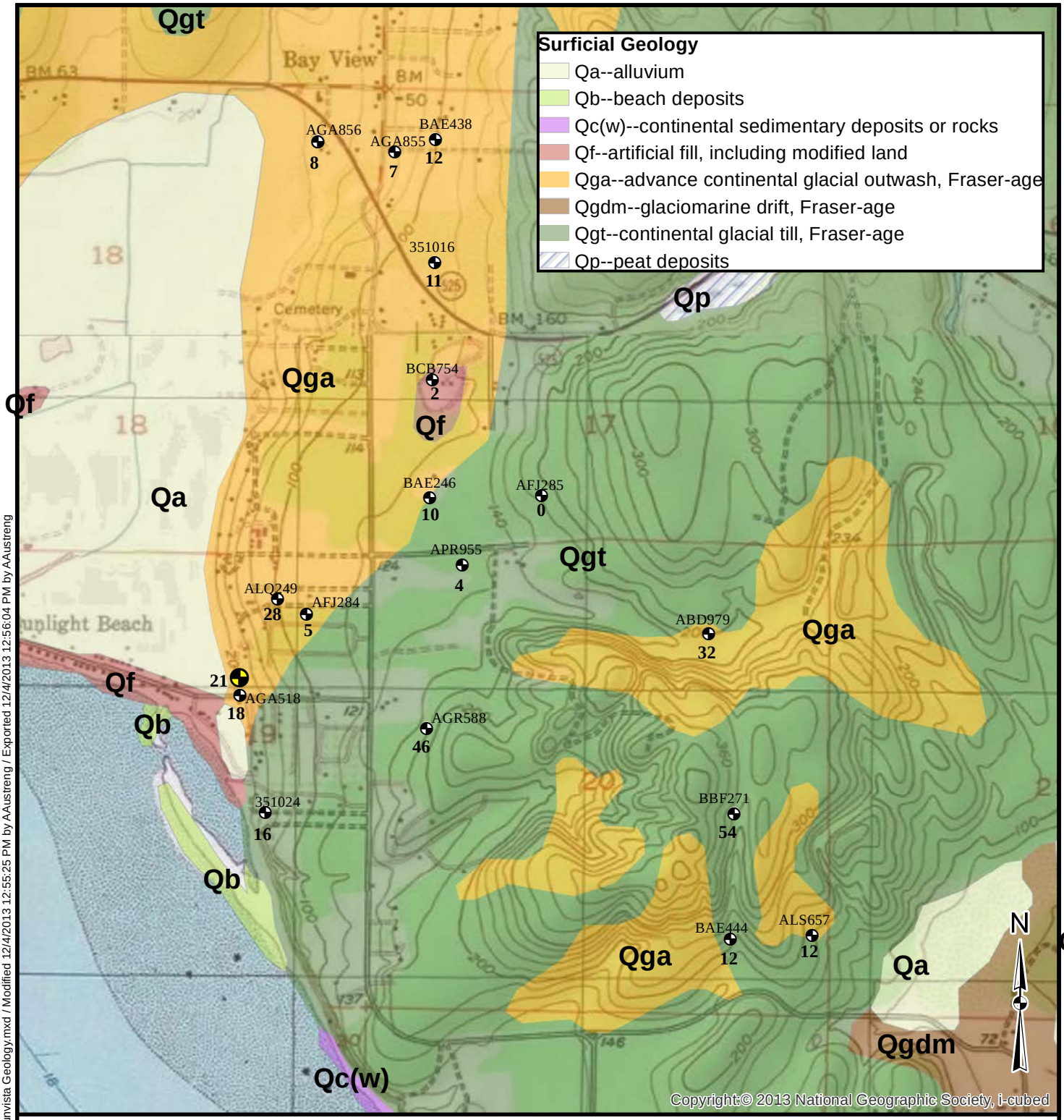
GIS	AA	5 Dec. 2013	
CHECK	CVP	5 Dec. 2013	**FIGURE: 1**
REVIEW	XXX		

Map Document: M:\Projects\2013\1302042_SunVistaMXD\F01_SunvistaWHPA_rev2.mxd / Modified 12/5/2013 11:09:05 AM by AAustreng / Exported 12/5/2013 11:09:24 AM by AAustreng



2,300 0 2,300
Feet

LEGEND

Pumping Well Water Well (see notes)

NOTES

1.) WATER WELL LOCATIONS MODIFIED FROM ECOLOGY
2.) WATER WELL LABELS CONTAIN WELL ID AND WATER LEVEL ELEVATION (ESTIMATED FT AMSL)

REFERENCES

1.) USGS (DEITHER, 1982)
2.) WA DEPT OF ECOLOGY
3.) COORDINATE SYSTEM: WGS 1984 Web Mercator Auxiliary

REV.	DATE	DES	REVISION DESCRIPTION	GIS	CHK	RVW
0						

SUN VISTA HOA
WHPA DELINEATION
ISLAND COUNTY, WA

GEOLOGIC MAP (1:100K RESOLUTION)

Golder Associates

PROJECT NO. 001-1001			FILE No. F02_Sunvista Geology.mxd
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GIS	AA	4 Dec. 2013	
CHECK	XXX	13 Nov. 2012	**FIGURE: 2**
REVIEW	XXX	13 Nov. 2012	

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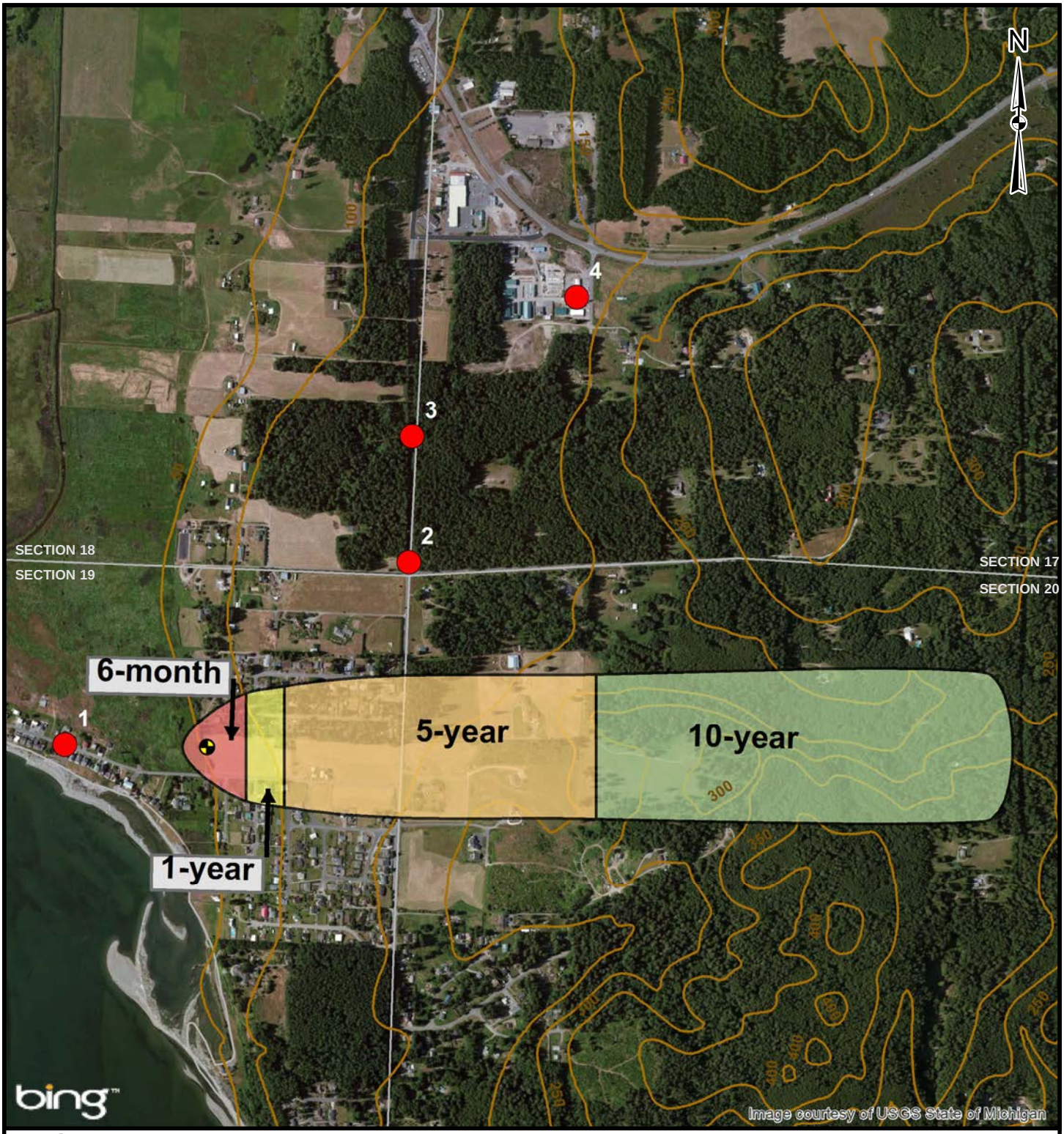

LEGEND

Travel Times

- 6-month
- 1-year
- 5-year
- 10-year

- Source ID No.
- Pumping Well
- 50 ft Contour
- Public Land Survey (Sections)

1,000 0 1,000 Feet

REV.	DATE	DES	REVISION DESCRIPTION	GIS	CHK	RVW
1	12/5/13		Hydraulic gradient changed to 0.002	AA	AA	

NOTES

1.) SOURCE NUMBER ASSOCIATED WITH TABLE 3-1
2.) SOURCE LOCATIONS NOT GROUND-TRUTHED

REFERENCES

1.) ENVIRONMENTAL DATA RESOURCES, INC.
2.) USGS
3.) COORDINATE SYSTEM: NAD 1983 StatePlane Washington

SUN VISTA HOA
WHPA DELINEATION
ISLAND COUNTY, WA

LISTED POTENTIAL CONTAMINANT SOURCES

Golder Associates

PROJECT NO. 001-1001			FILE No. F03_SunvistaContSrcs_rev1.mxd
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GIS	AA	5 Dec. 2013	
CHECK	CVP	5 Dec. 2013	**FIGURE: 3**
REVIEW	XXX		

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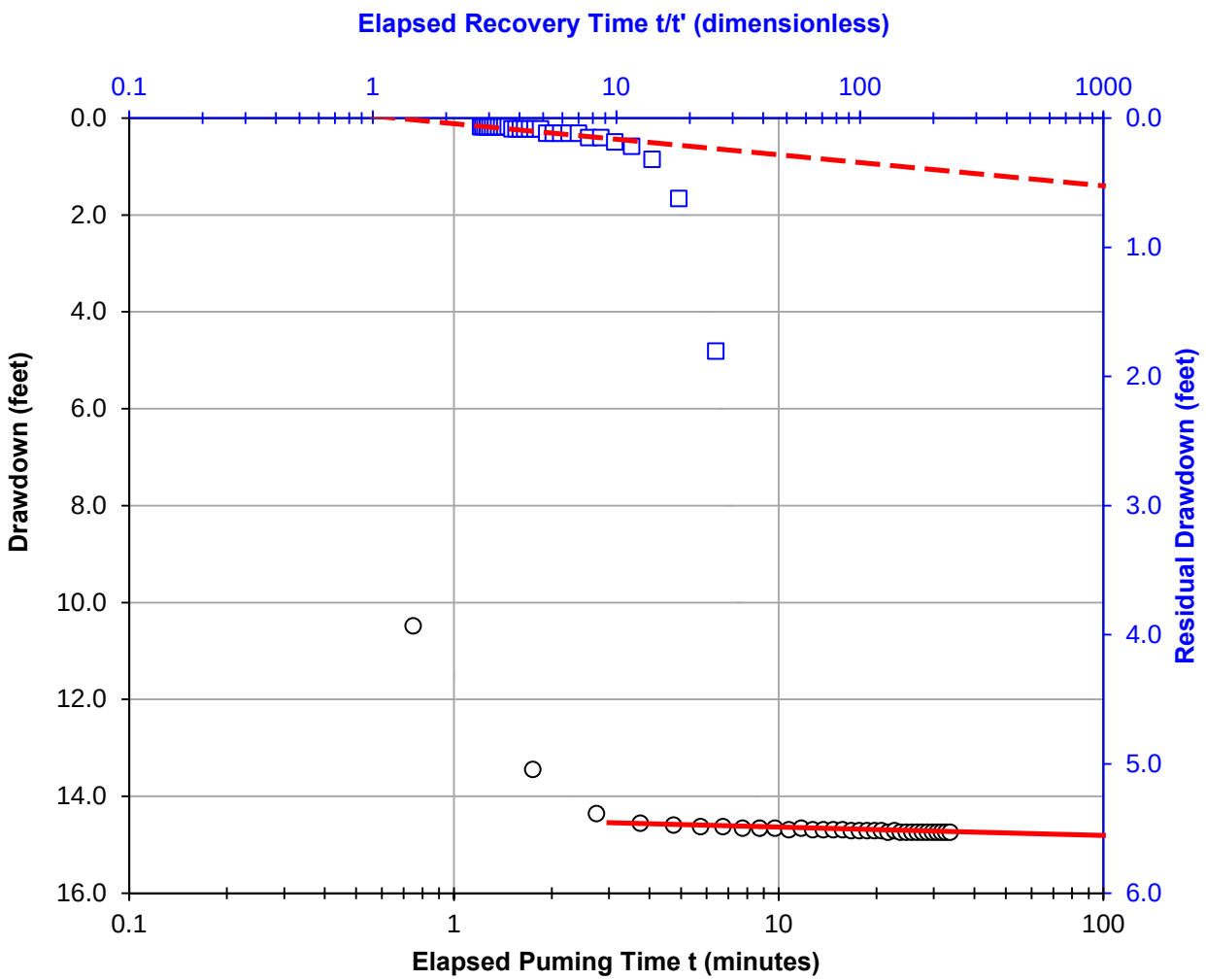
APPENDIX A
PUMP TEST ANALYSIS



Cooper-Jacob Solution (1946)

$$T = \frac{2.3Q}{4\pi s}$$

Where:
T is aquifer transmissivity [ft²/day]
Q is pumping rate [ft³/day]
s is drawdown per log cycle [ft]

Drawdown

T =	**8,588 ft²/day**
Q =	8,105 ft³/day
s =	0.17 ft per log cycle

Recovery

T =	**8,218 ft²/day**
Q =	788 ft³/day
s =	0.18 ft per log cycle

Golder Associates

LEGEND

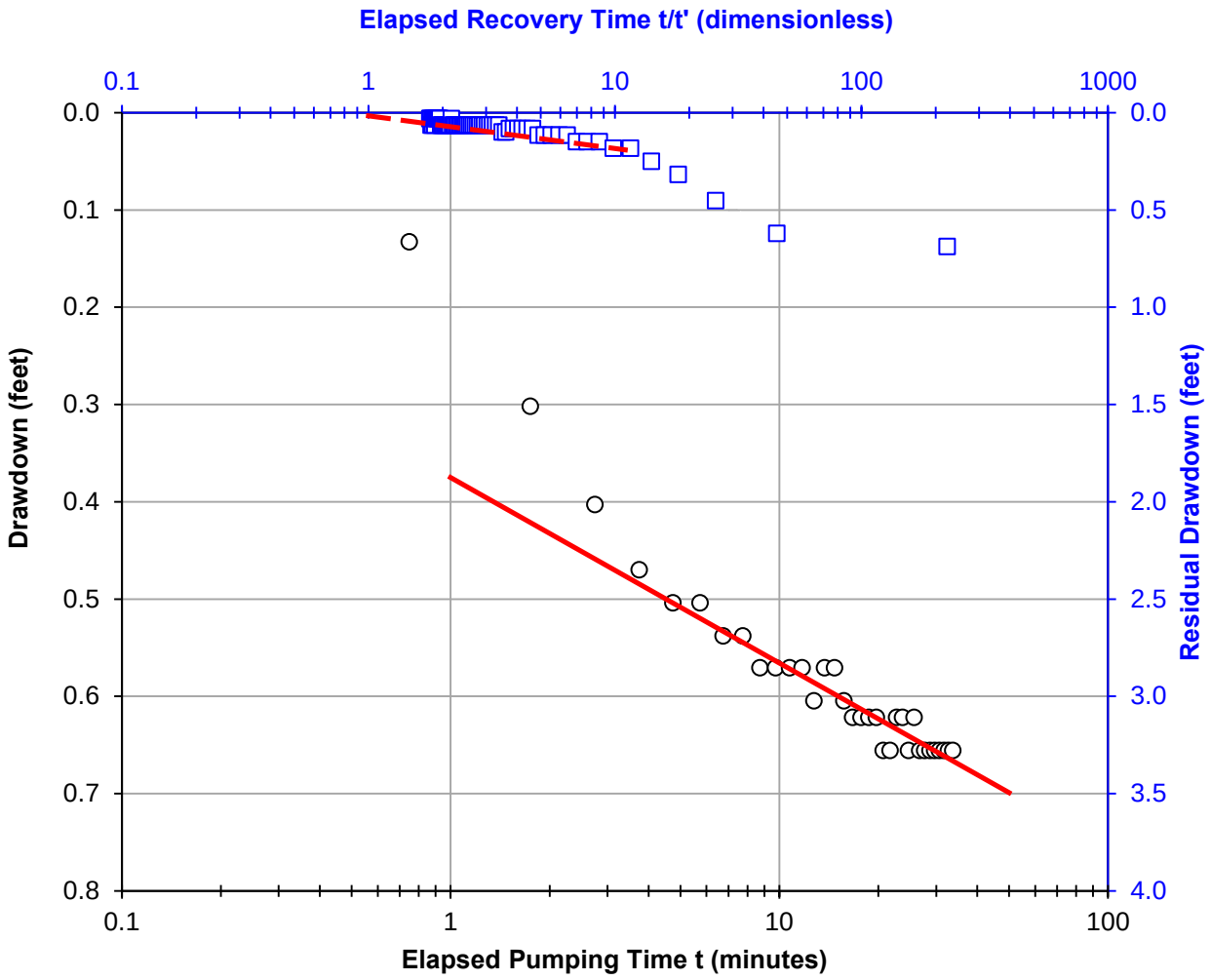
- Drawdown
- Drawdown Analysis
- Residual Drawdown
- Recovery Analysis

FIGURE **A-1**

PUMPING WELL DRAWDOWN AND RECOVERY ANALYSIS (OCT 2013)

Sun Vista WHPA Delineation

130-2042



Cooper-Jacob Solution (1946)

$$T = \frac{2.3Q}{4\pi s}$$

$$S = \frac{2.25Tt_0}{r^2}$$

Where:
T is aquifer transmissivity [ft^2/day]
S is storativity [dimensionless]
Q is pumping rate [ft^3/day]
s is drawdown per log cycle [ft]
r is distance from pumping well [ft]
t_0 is time where the straight line intersects the zero-drawdown axis [days]

Drawdown

T =	**7,777**	**ft^2/day**
S =	**1.3E-03**	
Q =	8,105	ft^3/day
s =	0.19	ft per log cycle
r =	10	ft
t_0 =	7.5E-06	day

Recovery

T =	**8,758**	**ft^2/day**
Q =	8,105	ft^3/day
s =	0.17	ft per log cycle

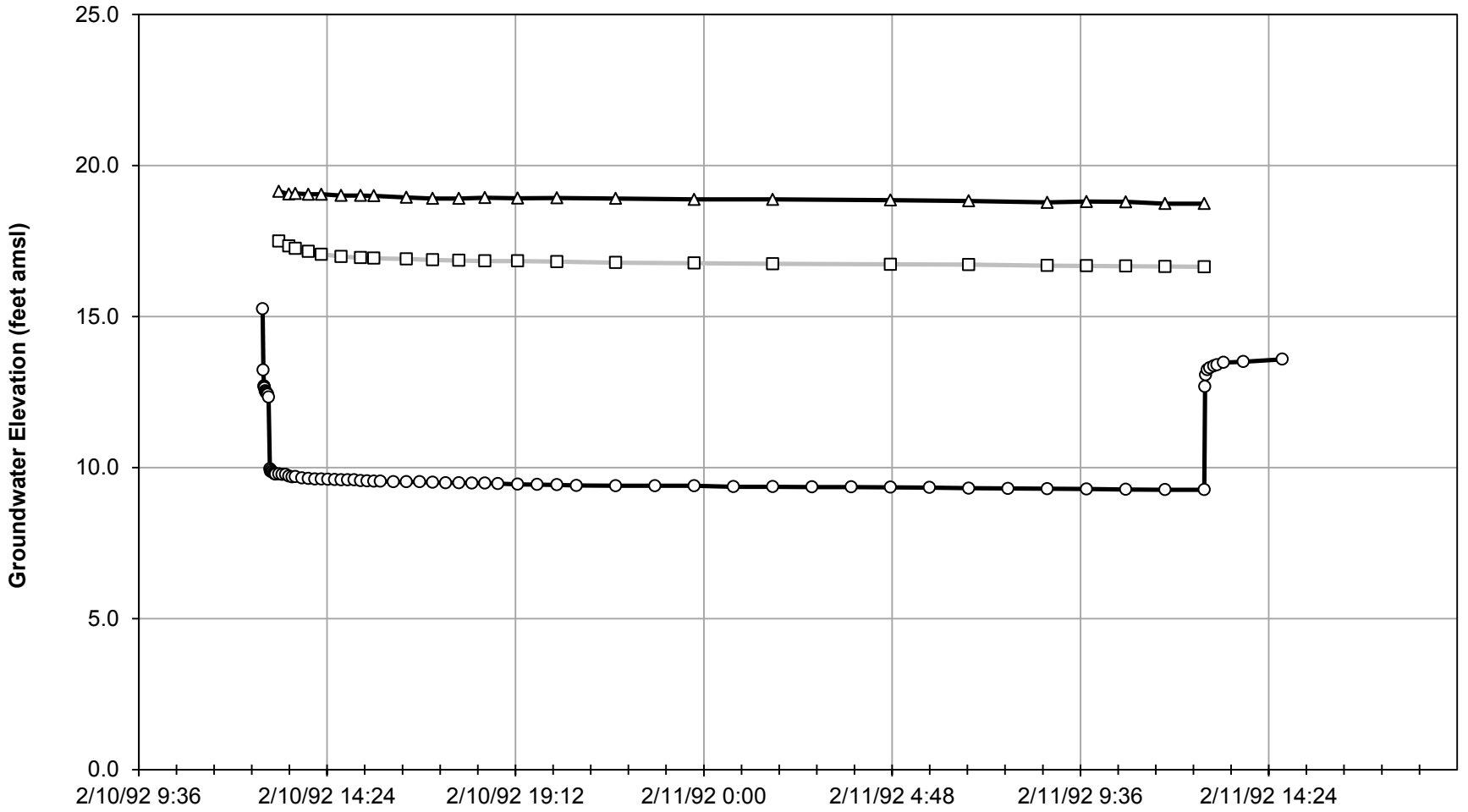
LEGEND
- Drawdown
- Drawdown Analysis
- Residual Drawdown
- Recovery Analysis

FIGURE **A-2**

OBSERVATION WELL 1 DRAWDOWN AND RECOVERY ANALYSIS (OCT 2013)

Sun Vista WHPA Delineation

130-2042



LEGEND

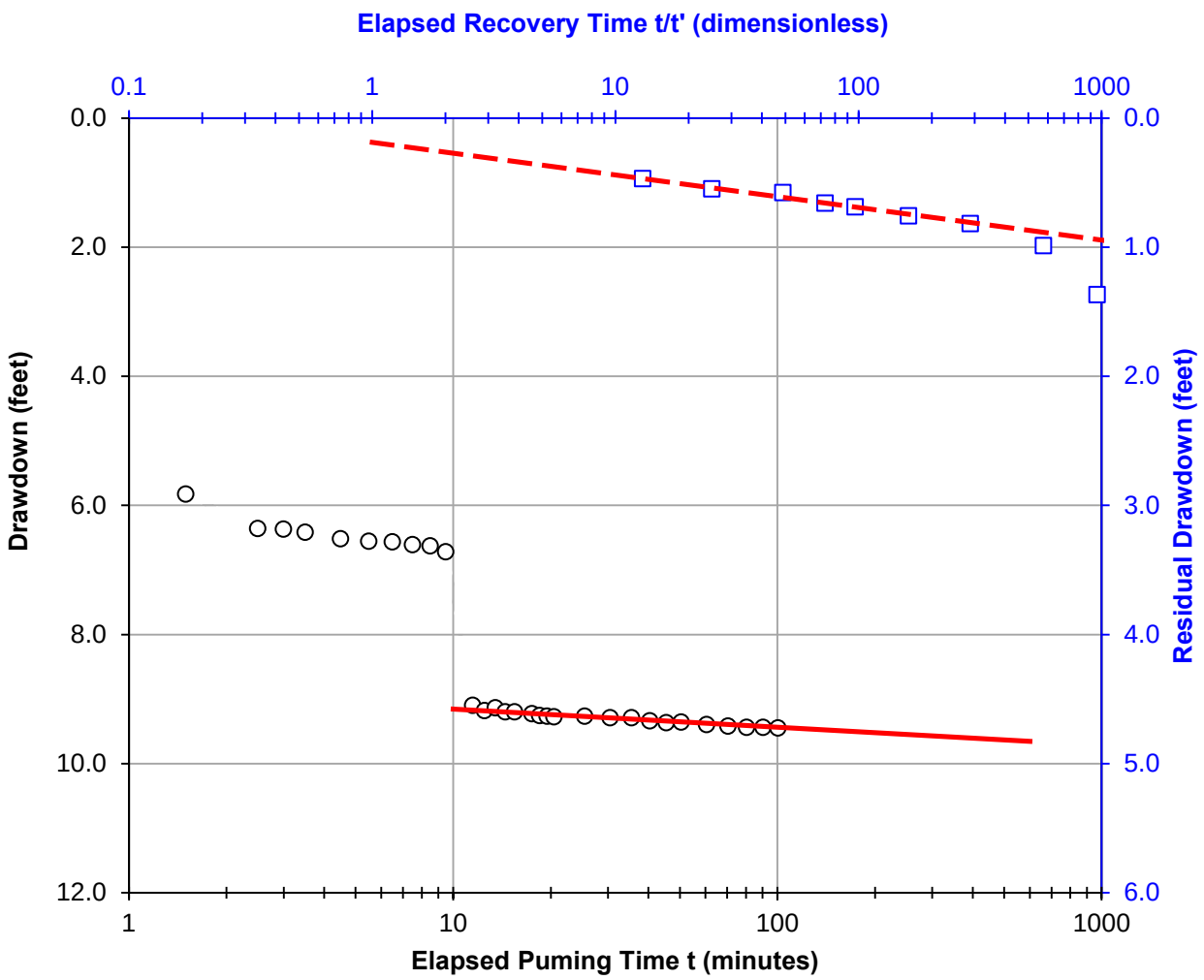
PW MW-1 MW-2

FIGURE **A-3**

CONSTANT-RATE PUMPING TEST (2/7/1992)

Sun Vista WHPA Delineation

130-2042



Cooper-Jacob Solution (1946)

$$T = \frac{2.3Q}{4\pi s}$$

Where:
T is aquifer transmissivity [ft^2/day]
Q is pumping rate [ft^3/day]
s is drawdown per log cycle [ft]

Drawdown

T =	**9,964 ft^2/day**
Q =	15,245 ft^3/day
s =	0.28 ft per log cycle

Recovery

T =	**11,070 ft^2/day**
Q =	788 ft^3/day
s =	0.25 ft per log cycle

LEGEND

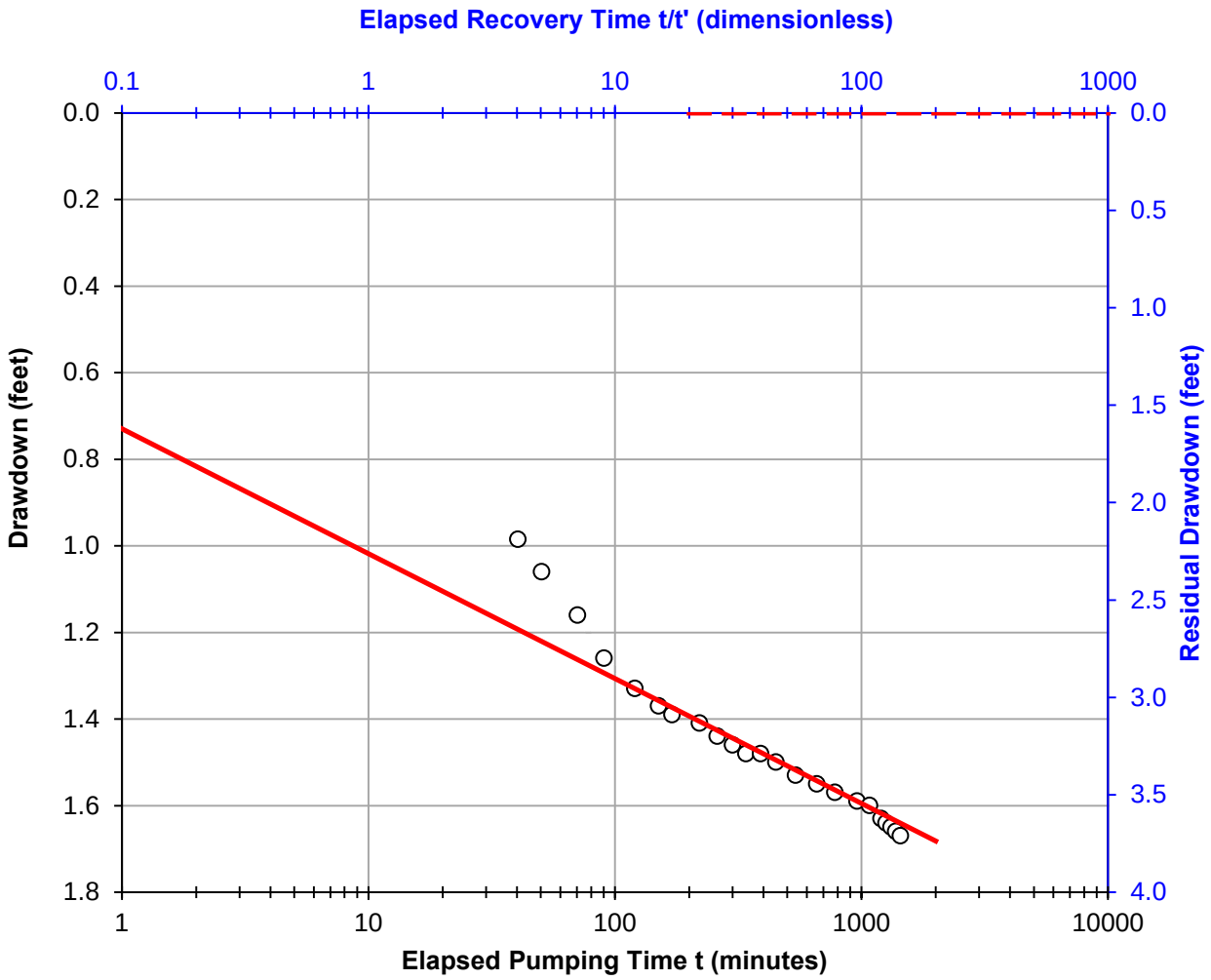
- Drawdown
- Drawdown Analysis
- Residual Drawdown
- Recovery Analysis

FIGURE **A-4**

PUMPING WELL DRAWDOWN AND RECOVERY ANALYSIS (2/92 PUMP TEST)

Sun Vista WHPA Delineation

130-2042



Cooper-Jacob Solution (1946)

$$T = \frac{2.3Q}{4\pi s}$$

$$S = \frac{2.25Tt_0}{r^2}$$

Where:
T is aquifer transmissivity [ft^2/day]
S is storativity [dimensionless]
Q is pumping rate [ft^3/day]
s is drawdown per log cycle [ft]
r is distance from pumping well [ft]
t_0 is time where the straight line intersects the zero-drawdown axis [days]

Drawdown

T = 9,675 ft^2/day
S = 4.5E-04
Q = 15,245 ft^3/day
s = 0.29 ft per log cycle
r = 10 ft
t_0 = 2.0E-06 day

Recovery

T = #DIV/0! ft^2/day
Q = 15,245 ft^3/day
s = #DIV/0! ft per log cycle

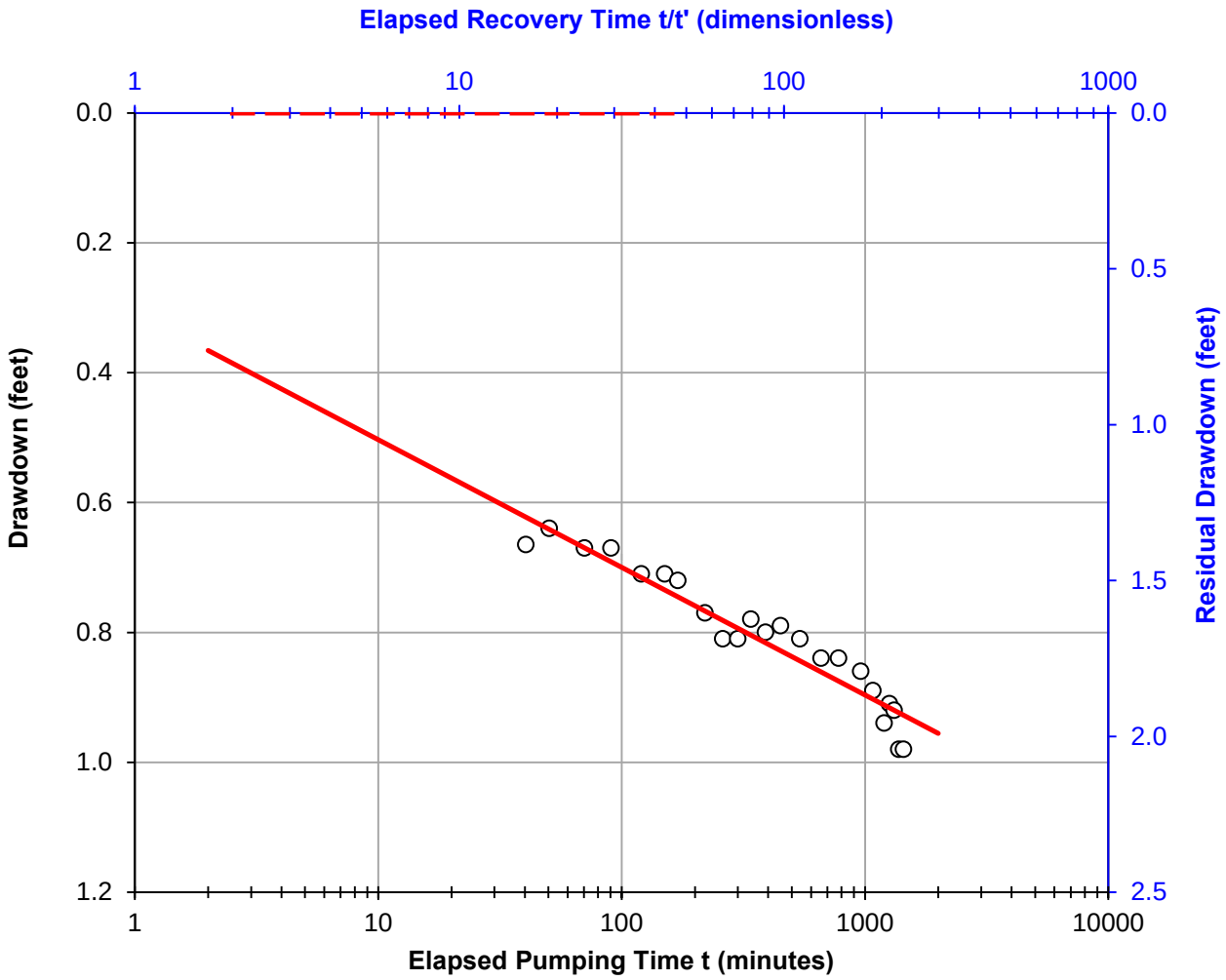
LEGEND
- Drawdown
- Drawdown Analysis
- Residual Drawdown
- Recovery Analysis

FIGURE **A-5**

OBSERVATION WELL 1 DRAWDOWN AND RECOVERY ANALYSIS (2/92 PUMP TEST)

Sun Vista WHPA Delineation

130-2042



Cooper-Jacob Solution (1946)

$$T = \frac{2.3Q}{4\pi s}$$

$$S = \frac{2.25Tt_0}{r^2}$$

Where:
T is aquifer transmissivity [ft^2/day]
S is storativity [dimensionless]
Q is pumping rate [ft^3/day]
s is drawdown per log cycle [ft]
r is distance from pumping well [ft]
t_0 is time where the straight line intersects the zero-drawdown axis [days]

Drawdown

T = 14,203 ft^2/day
S = 1.7E-05
Q = 15,245 ft^3/day
s = 0.20 ft per log cycle
r = 190 ft
t_0 = 1.9E-05 day

Recovery

T = #DIV/0! ft^2/day
Q = 15,245 ft^3/day
s = #DIV/0! ft per log cycle

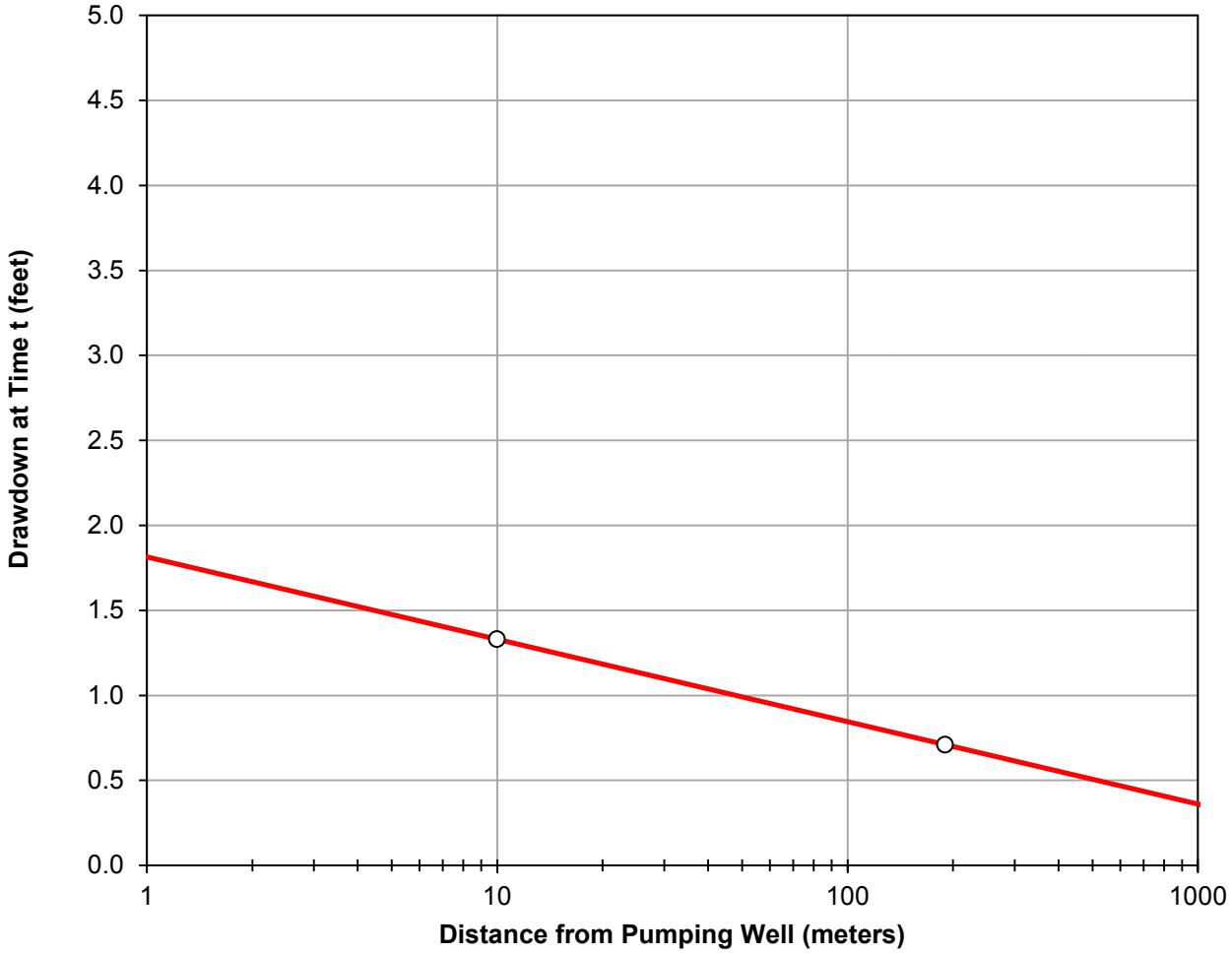
LEGEND
- Drawdown
- Drawdown Analysis
- Residual Drawdown
- Recovery Analysis

FIGURE **A-6**

OBSERVATION WELL 2 DRAWDOWN AND RECOVERY ANALYSIS (2/92 PUMP TEST)

Sun Vista WHPA Delineation

130-2042



Cooper-Jacob Solution (1946)

$$T = \frac{2.3Q}{2\pi s}$$

$$S = \frac{2.25Tt}{r_0^2}$$

Where:
T is aquifer transmissivity [ft^2/day]
S is storativity [dimensionless]
Q is pumping rate [ft^3/day]
s is drawdown per log cycle [ft]
t is time at which s is plotted [day]
r_0 is distance where the straight line intersects the zero-drawdown axis [feet]

Drawdown

T = 11,510 ft^2/day
S = 8.8E-05
Q = 15,245 ft^3/day
s = -0.48 ft per log cycle
r_0 = 5535 ft
t = 1.0E-01 day

Golder Associates

LEGEND

○ Drawdown

Drawdown Analysis

FIGURE **A-7**

DISTANCE-DRAWDOWN ANALYSIS (2/92 PUMP TEST)

Sun Vista WHPA Delineation

130-2042

APPENDIX B
SUSCEPTIBILITY ASSESSMENT FORMS

Washington State Department of Health
Environmental Health Programs
Division of Drinking Water

Ground Water Contamination
Susceptibility Assessment Survey Form

Complete **one** form for **eac**h ground water source (well, well of a wellfield, spring, spring of a springfield) used in your water system (photocopy as necessary). Contact your regional WA DOH office if you need a copy of the Instruction Packet.

PART I: System Information

Well owner/manager: Sun Vista / Sunlight Beach Homeowner Association (Thomas Kraft)

Water system name: Sunvista/Sunlight Beach

County: Island

Water system ID number: 85160 Source number: S01

Well depth: 30.5 feet

Source name: Well 1

WA well tag identification number: A G A - 8 3 3

❑ Well not tagged

Number of connections: 163 Population served: 300

Township: 29N Range: 03E

Section: 19 ¼ ¼ Section: SW NE

Latitude/longitude (if available): 47.989158° / -122.467808°

How was latitude/longitude determined?

_____Global positioning device_____survey_____topographical map
__✓__other: Aerial Imagery

*Please see Instruction Packet for details and explanations of all questions in Parts II through V.

PART II: Well Construction and Source Information

1) Date well originally constructed: _9_/_1__/_1942_ month/day/year

Date well last reconstructed: _5_/_20_/_1992__ month/day/year

❑ Information unavailable

2) Well driller: Arnold's Plumbing and Septic Co.; Engineered by D.R. Strong Consulting Engineers, Inc.

❑ Well driller unknown

3) Type of well: ✓ Drilled: ❑ rotary ❑ bored ☒ cable (percussion) ❑ Dug

___ other: ❑ spring(s) ❑ lateral collector (Ranney)

❑ driven ❑ jetted ❑ other:

4) Well report available ☒ Yes (attach copy to form) ❑ No

5) Average pumping rate: 42 (gallons/min)

Source of information Water System Operator (King Water- Clive Defty 010126)

If not documented, how was pumping rate determined? Timed reading from totalizing flow meter at source

❑ Pumping rate unknown

6) Is this source treated?

If so, what type of treatment:

☒ disinfection ☒ filtration ❑ carbon filter ❑ air stripper ☒other

Purpose of treatment (describe materials to be removed or controlled by treatment):

To reduce concentrations of iron and lead concentrations (pre-Ozone Greensand)

If source is chlorinated, is a chlorine residual maintained: ☒ Yes ❑ No

Residual level: apprpx. 0.1 to 1 mg/L (At the point closest to the source.)

PART III: Hydrogeologic Information

1) Depth to top of open interval: [check one]

❑ less than 20 ft ☒ 20-49ft ❑ 50-99ft ❑ 100-200ft ❑ greater than 200ft

❑ information unavailable

2) Depth to ground water (static water level):

☒ less than 20ft ❑ 20-49ft ❑ 50-100ft ❑ greater than 100ft

❑ flowing well/spring (artesian)

How was water level determined?

❑ well log ☒ other manual sounding / pressure transducer

❑ depth to ground water unknown

3) If source is a flowing well or spring, what is the confining pressure:

_____ psi (pounds per square inch) **or**

_____feet above wellhead

4) If source is a flowing well or spring, is there a surface impoundment, reservoir, or catchment associated with this source: ❑ Yes ❑ No

5) Wellhead elevation (height above mean sea level):___24__feet

How was elevation determined? ❑ topographic map ❑ Drilling/Well Log ❑ altimeter

☒ other:10-meter DEM (USGS)

❑ information unavailable

6) Confining layers: (This can be completed only for those sources with a drilling log, well log or geologic report describing subsurface conditions. Please refer to Instruction Packet for example.)

_____✓_____ evidence of confining layer(s) in well log

_____ no evidence of confining layer(s) in well log

If there is evidence of a confining layer, is the depth to ground water more than 20 feet above the **bottom** of the **lowest confining layer**? ❑ Yes ☒ No

❑ information unavailable

7) Sanitary setback:

❑ less than 100ft* ☒100-120ft ❑ 120-200 ft ❑ greater than 200ft

* If less than 100ft, describe the site conditions:

_____

_____

8) Wellhead construction:

☒wellhead enclosed in a wellhouse

❑ controlled access (describe): _____

_____

❑ other uses for wellhouse (describe): _____

_____

❑ no wellhead control

9) Surface seal:

❑ 18 ft

❑ greater than 18 ft

☒ less than 18 ft (no Department of Ecology approval)

❑ less than 18 ft (approved by Department of Ecology, include documentation)

❑ depth of seal unknown

❑ no surface seal

10) Annual rainfall (inches per year):

❑ less than 10 in/yr ❑ 10-25 in/yr ☒ greater than 25 in/yr

PART IV: Mapping Your Ground Water Resource

1) Annual volume of water pumped: 8,445,000 (gallons)
For Wells 1 & 2 combined (S03)*

How was this determined?

☒ meter (9/2012-9/2013)

❑ estimated: ❑ pumping rate (_____)
❑ pump capacity (_____)
❑ pumping rate and capacity (_____)

❑ other (describe):_____

2) Determined time of travel using:

❑ "Calculated Fixed Radius" estimate of ground water movement:
(see Instruction Packet)

❑ Alternate Numerical Model

☒ Alternate Analytical Model: Uniform Flow Equation (*Todd, 1980*)

****Travel times calculated using a combined pumping rate of 111 gpm for wells 1 and 2 (S03 - wellfield); maximum width is 1200 feet (north-south)****

6-month ground water travel time: 300 feet (east from well)

1-year ground water travel time: 600 feet (east from well)

5-year ground water travel time: 3000 feet (east from well)

10-year ground water travel time: 6000 feet (east from well)

Information available on length of screened/open interval?

☒ Yes ❑ No

Length of screened/open interval: 10 feet

3) Is there a river, lake, pond, stream, or other obvious surface water body within the 6- month time of travel boundary?

❑ Yes ☒No (mark and identify on map)

4) Is there a stormwater and/or wastewater facility, treatment lagoon, or holding pond located within the 6-month time of travel boundary?

❑ Yes ☒ No (mark and identify on map)

Comments:_____

_____

_____]

PART V: Assessment of Water Quality

1) **Regional sources of risk to ground water**:

Please indicate if any of the following are present within a circular area around your water source having a radius up to and including the five-year ground water travel time. If you do not know if one of the following is present, mark the "unknown" space.

	6-month	1-year	5-year	unknown
• likely pesticide application				
• stormwater injection wells				
• other injection wells				
• abandoned ground water well				X
• landfills, dumps, disposal areas				
• known hazardous materials clean-up site				
• known water quality problems	X			
• population density less than 1 house/acre		X	X	
• residences commonly have septic tanks	X	X	X	
• Wastewater treatment lagoons				
• sites used for land application of waste				

Please include a map of the wellhead and time of travel areas with this form. Mark and identify on the map any of the risks listed above.

If other recorded or potential sources of ground water contamination exist within the ten-year time of travel circular zone around your water supply, please describe:

Housing density is decreased within the 10-year time of travel boundary. There is potential for septic tanks to be present.

Sunlight Beach Water Association (85270) has a well not in use (although not abandoned) because "water is foul"

2) **Source-specific water quality records**: For each type of test below, **mark the row that applies to the sample results for this source**. Consider all the sample results from the past 12 years. Maximum Contaminant Levels (MCLs) and State Advisory Levels (SALs) are noted next to the specific test and are listed in the Instruction Packet.

A. **Nitrate:** (Nitrate MCL = 10 mg/liter)

- ☐ Results greater than MCL
- ☐ less than 2 mg/liter nitrate
- ☒ 2-5 mg/liter nitrate
- ☐ greater than 5 mg/liter nitrate

B. **VOCs:** (VOC detection level is 0.5 ug/liter or 0.0005 mg/liter)

- ☐ Results greater than MCL or SAL
- ☐ VOCs detected at least once
- ☒ VOCs never detected
- ☐ VOC sampling records unavailable

C. **EDB/DBCP:**
(EDB MCL = 0.05 ug/l or 0.00005 mg/l. DBCP MCL = 0.2 ug/l or 0.0002 mg/l.)

- ☐ EDB/DBCP detected below MCL at least once
- ☐ EDB/DBCP detected above MCL at least once
- ☐ EDB/DBCP never detected
- ☐ EDB/DBCP tests required but not yet completed
- ☒ EDB/DBCP tests not required

D. **Other SOCs (Pesticides, Herbicides, or SOCs other than EDB/DBCP):**

- ☐ Other SOCs detected
  (pesticides, herbicides or other synthetic organic chemicals)
- ☒ Other SOC tests performed but none detected
  (list test methods in comments)
- ☐ Other SOC tests not performed

If any SOCs in addition to EDB/DBCP were detected, please identify and date. If other SOC tests were performed, but no SOCs detected, list test methods here: CHLOROPHENOXY HERBICIDES; GENERAL PESTICIDE SUITE (methods not listed in Sentry Database)

E. **Bacterial contamination:**

Any bacterial detection(s) in the past 3 years in samples taken from the source (not distribution sampling records)? ❑ Yes ☒ No

Any bacterial detection(s) in the past 3 years in the distribution system that have been attributed to the source? ❑ Yes ☒ No

Source sampling records for bacteria unavailable ❑ Yes ☒ No

PART VI: Geographic or Hydrologic Factors Contributing to a Non-Circular Zone of Contribution

The following questions will help identify those ground water sources which may not be accurately represented by the calculated fixed radius (CFR) method described in Part IV. For these sources, the CFR areas should be used as a preliminary delineation of the critical time of travel zones for that source. As a system develops its Wellhead Protection Plan for these sources, a more detailed delineation method should be considered.

1) Is there evidence of obvious hydrologic boundaries within the 10-year time of travel zone of the CFR? (Does the largest circle extend over a stream, river, lake, up a steep hillside, and/or over a mountain or ridge?)

☒Yes ❑ No

Describe with references to map produced in Part IV:

The CFR intersects Puget Sound to the southwest and the upland to the east (1 year time of travel is approximately 1100 feet for CFR method).

2) Aquifer Material:

A) Does the drilling log, well log or other geologic/engineering reports identify that the well is located in an area where the underground conditions are identified as fractured rock and/or basalt terrain?

❑ Yes ☒ No

B) Does the drilling log, well log or other geologic/engineering reports indicate that the well is located in an area where the underground conditions are primarily identified as coarse sand and gravel?

☒ Yes ❑ No

3) Is the source located in an aquifer with a high horizontal flow rate? (These can include sources located on flood plains of large rivers, artesian wells with high water pressure, and/or shallow flowing wells and springs.)

❑ Yes ☒ No

4) Are there other high capacity wells (agricultural, municipal and/or industrial) located within the CFRs?

a) Presence of ground water extraction wells removing more than approximately 500 gal/min within…

	YES	NO	unknown
Less than 6-month travel time		✓	
6 month—1 year travel time		✓	
1—5 year travel time		✓	
5—10 year travel time		✓	

b) Presence of ground water recharge wells (dry wells) or heavy irrigation within…

	YES	NO	unknown
Less than 1-year travel time		✓	
1—5 year travel time		✓	
5—10 year travel time		✓	

Please identify or describe additional hydrologic or geographic conditions that you believe may affect the shape of the zone of contribution for this source. Where possible, reference them to locations on the map produced in Part IV.

FORM COMPLETED BY:

Andrew Austreng (Golder Associates) 12/10/13
Print Name Date

Signature

Washington State Department of Health
Environmental Health Programs
Division of Drinking Water

Ground Water Contamination
Susceptibility Assessment Survey Form

Complete **one** form for **eac**h ground water source (well, well of a wellfield, spring, spring of a springfield) used in your water system (photocopy as necessary). Contact your regional WA DOH office if you need a copy of the Instruction Packet.

PART I: System Information

Well owner/manager: Sun Vista / Sunlight Beach Homeowner Association (Thomas Kraft)

Water system name: Sunvista/Sunlight Beach

County: Island

Water system ID number: 85160 Source number: S02

Well depth: 50 feet

Source name: Well 2

WA well tag identification number: A G A - 8 3 2

❑ Well not tagged

Number of connections: 163 Population served: 300

Township: 29N Range: 03E

Section: 19 ¼ ¼ Section: SW NE

Latitude/longitude (if available): 47.989158° / -122.467808°

How was latitude/longitude determined?

_____Global positioning device_____survey_____topographical map
____✓_other: Aerial Imagery

*****Please see Instruction Packet for details and explanations of all questions in Parts II through V.

PART II: Well Construction and Source Information

1) Date well originally constructed: _1_/_7__/_1992_ month/day/year

Date well last reconstructed: ___/___/_____ month/day/year

❑ Information unavailable

2) Well driller: Hayes Drilling, Inc.

❑ Well driller unknown

3) Type of well: ✓ Drilled: ☒ rotary ❑ bored ❑ cable (percussion) ❑ Dug

___ other: ❑ spring(s) ❑ lateral collector (Ranney)

❑ driven ❑ jetted ❑ other:

4) Well report available ☒ Yes (attach copy to form) ❑ No

5) Average pumping rate: 50 (gallons/min)

Source of information Water system operator

If not documented, how was pumping rate determined?

❑ Pumping rate unknown

6) Is this source treated?

If so, what type of treatment:

☒ disinfection ☒ filtration ❑ carbon filter ❑ air stripper ☒ other

Purpose of treatment (describe materials to be removed or controlled by treatment):

To reduce concentrations of iron and lead concentrations (pre-Ozone Greensand)

7) If source is chlorinated, is a chlorine residual maintained: ☒ Yes ❑ No

Residual level: apprpx. 0.1 to 1 mg/L (At the point closest to the source.)

PART III: Hydrogeologic Information

1) Depth to top of open interval: [check one]

❑ less than 20 ft ☒ 20-49ft ❑ 50-99ft ❑ 100-200ft ❑ greater than 200ft

❑ information unavailable

2) Depth to ground water (static water level):

☒ less than 20ft ❑ 20-49ft ❑ 50-100ft ❑ greater than 100ft

❑ flowing well/spring (artesian)

How was water level determined?

❑ well log ☒ other manual sounding / pressure transducer

❑ depth to ground water unknown

3) If source is a flowing well or spring, what is the confining pressure:

_____ psi (pounds per square inch) **or**

_____feet above wellhead

4) If source is a flowing well or spring, is there a surface impoundment, reservoir, or catchment associated with this source: ❑ Yes ❑ No

5) Wellhead elevation (height above mean sea level):___24.5__feet

How was elevation determined? ❑ topographic map ❑ Drilling/Well Log ❑ altimeter

☒ other:_____10-meter DEM (USGS)_____

❑ information unavailable

6) Confining layers: (This can be completed only for those sources with a drilling log, well log or geologic report describing subsurface conditions. Please refer to Instruction Packet for example.)

_____✓_____ evidence of confining layer(s) in well log

_____ no evidence of confining layer(s) in well log

If there is evidence of a confining layer, is the depth to ground water more than 20 feet above the **bottom** of the **lowest confining layer**? ❑ Yes ☒ No

❑ information unavailable

7) Sanitary setback:

❑ less than 100ft* ☒100-120ft ❑ 120-200 ft ❑ greater than 200ft

* If less than 100ft, describe the site conditions:

_____

_____

8) Wellhead construction:

☒wellhead enclosed in a wellhouse

❑ controlled access (describe): _____

_____

❑ other uses for wellhouse (describe): _____

_____

❑ no wellhead control

9) Surface seal:

☒18 ft

❑ greater than 18 ft

❑ less than 18 ft (no Department of Ecology approval)

❑ less than 18 ft (approved by Department of Ecology, include documentation)

❑ depth of seal unknown

❑ no surface seal

10) Annual rainfall (inches per year):

❑ less than 10 in/yr ❑ 10-25 in/yr ☒ greater than 25 in/yr

PART IV: Mapping Your Ground Water Resource

1) Annual volume of water pumped: 8,445,000 (gallons)

For Wells 1 & 2 combined (S03)

How was this determined?

☒ meter (9/2012-9/2013)

❑ estimated: ❑ pumping rate (_____)

❑ pump capacity (_____)

❑ pumping rate and capacity (_____)

❑ other (describe):_____

2) Determined time of travel using:

❑ "Calculated Fixed Radius" estimate of ground water movement: (see Instruction Packet)

❑ Alternate Numerical Model

☒ Alternate Analytical Model: Uniform Flow Equation (*Todd, 1980*)

****Travel times calculated using a combined pumping rate of 111 gpm for wells 1 and 2 (S03 - wellfield); maximum width is 1200 feet (north-south)****

6-month ground water travel time: 300 feet (east from well)

1-year ground water travel time: 600 feet (east from well)

5-year ground water travel time: 3000 feet (east from well)

10-year ground water travel time: 6000 feet (east from well)

Information available on length of screened/open interval?

☒ Yes ❑ No

Length of screened/open interval: 10 feet

3) Is there a river, lake, pond, stream, or other obvious surface water body within the 6- month time of travel boundary?

❑ Yes ☒No (mark and identify on map)

4) Is there a stormwater and/or wastewater facility, treatment lagoon, or holding pond located within the 6-month time of travel boundary?

❑ Yes ☒ No (mark and identify on map)

Comments:_____

_____

_____

PART V: Assessment of Water Quality

1) **Regional sources of risk to ground water**:

Please indicate if any of the following are present within a circular area around your water source having a radius up to and including the five-year ground water travel time. If you do not know if one of the following is present, mark the "unknown" space.

	6-month	1-year	5-year	unknown
• likely pesticide application				
• stormwater injection wells				
• other injection wells				
• abandoned ground water well				X
• landfills, dumps, disposal areas				
• known hazardous materials clean-up site				
• known water quality problems	X			
• population density less than 1 house/acre		X	X	
• residences commonly have septic tanks	X	X	X	
• Wastewater treatment lagoons				
• sites used for land application of waste				

Please include a map of the wellhead and time of travel areas with this form. Mark and identify on the map any of the risks listed above.

If other recorded or potential sources of ground water contamination exist within the ten-year time of travel circular zone around your water supply, please describe:

Housing density is decreased within the 10-year time of travel boundary. There is potential for septic tanks to be present.

Sunlight Beach Water Association (85270) has a well not in use (although not abandoned) because "water is foul"

2) **Source-specific water quality records**: For each type of test below, **mark the row that applies to the sample results for this source**. Consider all the sample results from the past 12 years. Maximum Contaminant Levels (MCLs) and State Advisory Levels (SALs) are noted next to the specific test and are listed in the Instruction Packet.

A. **Nitrate:** (Nitrate MCL = 10 mg/liter)

- ☐ Results greater than MCL
- ☐ less than 2 mg/liter nitrate
- ☒ 2-5 mg/liter nitrate *(Not Source-specific; Source # 03)
- ☐ greater than 5 mg/liter nitrate

B. **VOCs:** (VOC detection level is 0.5 ug/liter or 0.0005 mg/liter)

- ☐ Results greater than MCL or SAL
- ☐ VOCs detected at least once
- ☒ VOCs never detected
- ☐ VOC sampling records unavailable

C. **EDB/DBCP:**
(EDB MCL = 0.05 ug/l or 0.00005 mg/l. DBCP MCL = 0.2 ug/l or 0.0002 mg/l.)

- ☐ EDB/DBCP detected below MCL at least once
- ☐ EDB/DBCP detected above MCL at least once
- ☐ EDB/DBCP never detected
- ☐ EDB/DBCP tests required but not yet completed
- ☒ EDB/DBCP tests not required

D. **Other SOCs (Pesticides, Herbicides, or SOCs other than EDB/DBCP):**

- ☐ Other SOCs detected
  (pesticides, herbicides or other synthetic organic chemicals)
- ☒ Other SOC tests performed but none detected
  (list test methods in comments)
- ☐ Other SOC tests not performed

If any SOCs in addition to EDB/DBCP were detected, please identify and date. If other SOC tests were performed, but no SOCs detected, list test methods here: CHLOROPHENOXY HERBICIDES; GENERAL PESTICIDE SUITE (methods not listed in Sentry Database)

E. **Bacterial contamination:**

Any bacterial detection(s) in the past 3 years in samples taken from the source (not distribution sampling records)? ❑ Yes ❑ No

Any bacterial detection(s) in the past 3 years in the distribution system that have been attributed to the source? ❑ Yes ❑ No

Source sampling records for bacteria unavailable ☒ Yes ❑ No

PART VI: Geographic or Hydrologic Factors Contributing to a Non-Circular Zone of Contribution

The following questions will help identify those ground water sources which may not be accurately represented by the calculated fixed radius (CFR) method described in Part IV. For these sources, the CFR areas should be used as a preliminary delineation of the critical time of travel zones for that source. As a system develops its Wellhead Protection Plan for these sources, a more detailed delineation method should be considered.

1) Is there evidence of obvious hydrologic boundaries within the 10-year time of travel zone of the CFR? (Does the largest circle extend over a stream, river, lake, up a steep hillside, and/or over a mountain or ridge?)

☒Yes ❑ No

Describe with references to map produced in Part IV:

The CFR intersects Puget Sound to the southwest and the uplands to the east (1 year time of travel is approximately 1100 feet for CFR method).

2) Aquifer Material:

A) Does the drilling log, well log or other geologic/engineering reports identify that the well is located in an area where the underground conditions are identified as fractured rock and/or basalt terrain?

❑ Yes ☒ No

B) Does the drilling log, well log or other geologic/engineering reports indicate that the well is located in an area where the underground conditions are primarily identified as coarse sand and gravel?

☒ Yes ❑ No

3) Is the source located in an aquifer with a high horizontal flow rate? (These can include sources located on flood plains of large rivers, artesian wells with high water pressure, and/or shallow flowing wells and springs.)

❑ Yes ☒ No

4) Are there other high capacity wells (agricultural, municipal and/or industrial) located within the CFRs?

a) Presence of ground water extraction wells removing more than approximately 500 gal/min within…

	YES	NO	unknown
Less than 6-month travel time		✓	
6 month—1 year travel time		✓	
1—5 year travel time		✓	
5—10 year travel time		✓	

b) Presence of ground water recharge wells (dry wells) or heavy irrigation within…

	YES	NO	unknown
Less than 1-year travel time		✓	
1—5 year travel time		✓	
5—10 year travel time		✓	

Please identify or describe additional hydrologic or geographic conditions that you believe may affect the shape of the zone of contribution for this source. Where possible, reference them to locations on the map produced in Part IV.

FORM COMPLETED BY:

Andrew Austreng/John Lovie 12/10/13
Print Name Date

Signature

APPENDIX C
WELL LOGS

Well 1

Well tag id: AGA833

File Original and First Copy with Department of Ecology
Second Copy—Owner's Copy
Third Copy—Driller's Copy

WATER WELL REPORT

STATE OF WASHINGTON

Start Card No. 200786

5/3/1992

Water Right Permit No. _____

(1) OWNER: Name SUN VISTA Sunlight Beach Address PO Box 746 CLINTON 98236
Property owners B.S. Assoc.

(2) LOCATION OF WELL: County ISLAND County NE ¼ NE ¼ Sec. 19 T. 29 N., R. 3E, W.M.
(2a) STREET ADDDRESS OF WELL (or nearest address) 0 FSW, 1140 FNE, 114

(3) PROPOSED USE: ☐ Domestic ☐ Industrial ☐ Municipal ☑
☐ Irrigation ☐ Test Well ☐ Other ☐
☐ DeWater

(4) TYPE OF WORK: Owner's number of well (if more than one) _____
Abandoned ☐ New well ☐ Method: Dug ☐ Bored ☐
Deepened ☐ Cable ☑ Driven ☐
Reconditioned ☒ Rotary ☐ Jetted ☐

(5) DIMENSIONS: Diameter of well 8" inches.
Drilled 31 feet. Depth of completed well 30'6" ft.

(6) CONSTRUCTION DETAILS:
Casing Installed: 8" * Diam. from 26' ft. to +3' ft.
Welded ☑
Liner installed ☐
Threaded ☐
_____ * Diam. from _____ ft. to _____ ft.
_____ * Diam. from _____ ft. to _____ ft.

Perforations: Yes ☐ No ☐
Type of perforator used _____
SIZE of perforations _____ in. by _____ in.
_____ perforations from _____ ft. to _____ ft.
_____ perforations from _____ ft. to _____ ft.
_____ perforations from _____ ft. to _____ ft.

Screens: Yes ☑ No ☐
Manufacturer's Name JOHNSTON
Type S.S. Model No. _____
Diam. 8" Slot size 12 from 20' ft. to 30'6" ft.
Diam. _____ Slot size _____ from _____ ft. to _____ ft.

Gravel packed: Yes ☐ No ☐ Size of gravel _____
Gravel placed from _____ ft. to _____ ft.

Surface seal: Yes ☐ No ☐ To what depth? _____ ft.
Material used in seal _____
Did any strata contain unusable water? Yes ☐ No ☐
Type of water? _____ Depth of strata _____
Method of sealing strata off _____

(7) PUMP: Manufacturer's Name _____
Type: _____ H.P. _____

(8) WATER LEVELS: Land-surface elevation above mean sea level 10' ft.
Static level 6'5" ft. below top of well Date 5/26/92
Artesian pressure _____ lbs. per square inch Date _____
Artesian water is controlled by _____ (Cap, valve, etc.)

(9) WELL TESTS: Drawdown is amount water level is lowered below static level
Was a pump test made? Yes ☑ No ☐ If yes, by whom? DRILLER
Yield: 30 gal./min. with 2½ ft. drawdown after 24 hrs.
" " " "
" " " "

Recovery data (time taken as zero when pump turned off) (water level measured from well top to water level)

Time	Water Level	Time	Water Level	Time	Water Level

Date of test _____
Bailer test _____ gal./min. with _____ ft. drawdown after _____ hrs.
Airtest _____ gal./min. with stem set at _____ ft. for _____ hrs.
Artesian flow _____ g.p.m. Date _____
Temperature of water _____ Was a chemical analysis made? Yes ☐ No ☐

(10) WELL LOG or ABANDONMENT PROCEDURE DESCRIPTION

Formation: Describe by color, character, size of material and structure, and show thickness of aquifers and the kind and nature of the material in each stratum penetrated, with at least one entry for each change of information.

MATERIAL	FROM	TO
ENGINEERED BY D.R. STRONG. CIVIL ENGINEER LAURIE BICKEL ~~ENGINEER~~		
EXISTING WELL WAS -14' DEEP. DRILLED TO -24'		
CLEAN SAND GRAY	14'	24
SET SCREENS -14-24'		
PUT 3' CHARLESTON SAND BOTTOM OF WELL -14-11'		
FROM -11'± -7' CONCRETE TO -1' COMPACTED FILL STRUCTURAL MATERIAL FROM -1' TO +3' CONCRETE		
FROM -1' TO +3' 12" CASING SET IN CONCRETE WITH CONCRETE BETWEEN 8" AND 12" CASING		
8" CASING +6' FROM OLD LEVEL OF WELL		

RECEIVED JUN 01 1992 DEPT. OF ECOLOGY

RECEIVED APR 01 2008 DEPT. OF ECOLOGY

Work started 5/16 19. Completed 5/26 19.9

WELL CONSTRUCTOR 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.

NAME Arnold's Plumbing & Septic Co. (PERSON, FIRM, OR CORPORATION) (TYPE OR PRINT)

Address 5489 So Coles Rd. Wa Langley

(Signed) Joe Lehn (WELL DRILLER) License No. 0264

Contractor's Registration No. ARNOLP509QLC, Date 5-28 19.7

(USE ADDITIONAL SHEETS IF NECESSARY)

Well 2

Welltag id: AGA832 #29 · 3E · 19 G

WATER WELL REPORT
STATE OF WASHINGTON

Start Card No. [redacted]
Water Right Permit No.

(1) OWNER: Name SUN VISTA Address PO BOX 746 CLINTON, WA 98236-0746

(2) LOCATION OF WELL: County ISLAND - SW 1/4 NE 1/4 Sec 19 T 29 N., R 3E WM
(2a) STREET ADDRESS OF WELL (or nearest address) SUNLIGHT BCH HM OWNERS

(3) PROPOSED USE: MUNICIPAL

(4) TYPE OF WORK: Owner's Number of well (If more than one) 1
NEW WELL Method: ROTARY

(5) DIMENSIONS: Diameter of well 8 inches
Drilled 50 ft. Depth of completed well 50 ft.

(6) CONSTRUCTION DETAILS:
Casing installed: 8 " Dia. from +3.5 ft. to 36.5 ft.
WELDED " Dia. from ft. to ft.
" Dia. from ft. to ft.

Perforations: NO
Type of perforator used
SIZE of perforations in. by in.
perforations from ft. to ft.
perforations from ft. to ft.
perforations from ft. to ft.

Screens: YES
Manufacturer's Name HOWARD SMITH
Type STAINLESS STEEL Model No. KO
Diam. 8 slot size 20 from 35 ft. to 40 ft.
Diam. 8 slot size 15 from 40 ft. to 50 ft.

Gravel packed: NO Size of gravel
Gravel placed from ft. to ft.

Surface seal: YES To what depth? 18 ft.
Material used in seal BENTONITE
Did any strata contain unusable water? NO
Type of water? Depth of strata ft.
Method of sealing strata off

(7) PUMP: Manufacturer's Name GOULDS
Type SUBMERSIBLE H.P. 3

(8) WATER LEVELS: Land-surface elevation above mean sea level ... ft.
Static level 8.1 ft. below top of well Date 01/09/92
Artesian Pressure lbs. per square inch Date
Artesian water controlled by

(9) WELL TESTS: Drawdown is amount water level is lowered below static level.
Was a pump test made? YES If yes, by whom? DEAN JR/DOUG
Yield: 78.5 gal./min with 9.4 ft. drawdown after 1 hrs.
79.9 9.6 12
79.5 9.7 24

Recovery data

Time	Water Level	Time	Water Level	Time	Water Level
01.00	12.81	02.00	12.43	05.00	12.26
09.00	12.20	15.00	12.13	20.00	12.10
30.00	12.02	60.00	11.99	120.0	11.91

Date of test 02/11/92
Bailer test gal/min. ft. drawdown after hrs.
Air test 100 gal/min. w/ stem set at 33 ft. for 1 hrs.
Artesian flow g.p.m. Date
Temperature of water Was a chemical analysis made? NO

(10) WELL LOG

Formation: Describe by color, character, size of material and structure, and show thickness of aquifers and the kind and nature of the material in each stratum penetrated, with at least one entry for each change in formation.

MATERIAL	FROM	TO
BROWN SAND & GRAVEL & WOOD	0	11
& CLAY	0	11
GRAY GRAVEL & CLAY	11	13
GRAY CLAY & SAND & GRAVEL	13	25
GRAY SAND & WATER	25	

Work started 01/07/92 Completed 01/09/92

WELL CONSTRUCTOR 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.

NAME HAYES DRILLING, INC.
(Person, firm, or corporation) (Type or print)

ADDRESS 556 ERSHIG RD. BOW, WA

[SIGNED] Steve Hayes License No. 762

Contractor's Registration No. HAYESDI106J5 Date 02/25/92

WELL SITE MEETS ALL SIGHTING CRITERIA UNDER I.C.C. 8.09 BASED ON 220
INFORMATION SUPPLIED BY THE OWNER OR WONER'S AUTHORIZED REPRESENTATIVE.

RECEIVED
MAR 09 1992
DEPT. OF ECOLOGY

ATTACHMENT A
EDR RADIUS REPORT

SunVista HOA Wellhead
6000 Old Henry Lane
Clinton, WA 98236

Inquiry Number: 3779034.2s
November 06, 2013

EDR Summary Radius Map Report

EDR® Environmental Data Resources Inc

440 Wheelers Farms Road
Milford, CT 06461
Toll Free: 800.352.0050
www.edrnet.com

TABLE OF CONTENTS

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

EXECUTIVE SUMMARY

A search of available environmental records was conducted by Environmental Data Resources, Inc (EDR). The report was designed to assist parties seeking to meet the search requirements of EPA's Standards and Practices for All Appropriate Inquiries (40 CFR Part 312), the ASTM Standard Practice for Environmental Site Assessments (E 1527-05) or custom requirements developed for the evaluation of environmental risk associated with a parcel of real estate.

TARGET PROPERTY INFORMATION

ADDRESS

6000 OLD HENRY LANE
CLINTON, WA 98236

COORDINATES

Latitude (North):	47.9892000 - 47° 59' 21.12''
Longitude (West):	122.4678000 - 122° 28' 4.08''
Universal Tranverse Mercator:	Zone 10
UTM X (Meters):	539709.2
UTM Y (Meters):	5315018.0
Elevation:	28 ft. above sea level

USGS TOPOGRAPHIC MAP ASSOCIATED WITH TARGET PROPERTY

Target Property:	TP
Source:	USGS 7.5 min quad index

Target Property:	N
Source:	USGS 7.5 min quad index

AERIAL PHOTOGRAPHY IN THIS REPORT

Photo Year:	2011
Source:	USDA

MAPPED SITES SUMMARY

Target Property Address:
6000 OLD HENRY LANE
CLINTON, WA 98236

Click on Map ID to see full detail.

MAP ID	SITE NAME	ADDRESS	DATABASE ACRONYMS	RELATIVE ELEVATION	DIST (ft.) DIRECTION
1	SUNLIGHT BEACH RD RE	2574 SUNLIGHT BEACH	FINDS, ALLSITES, CSCSL NFA, VCP	Lower	413, West
2	MIDVALE SOLID WASTE	5785 S BAYVIEW RD	FINDS, ALLSITES	Higher	444, NE
A3	BILLS FEED & TACK	5603 S BAYVIEW RD	ALLSITES, CSCSL NFA, VCP	Higher	1409, NNE
A4	BAY VIEW CASH STORE	5603 S. BAY VIEW ROA	ICR	Higher	1409, NNE
A5	WHIDBEY ISLAND SAND	PO BOX 434 5603 S BA	ALLSITES, UST	Higher	1416, NNE
6	ISLAND COUNTY FIRE P	2874 E VERLANE ST	ALLSITES, UST	Higher	2437, NE

EXECUTIVE SUMMARY

TARGET PROPERTY SEARCH RESULTS

The target property was not listed in any of the databases searched by EDR.

SURROUNDING SITES: SEARCH RESULTS

Surrounding sites were identified in the following databases.

Elevations have been determined from the USGS Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified. Sites with an elevation equal to or higher than the target property have been differentiated below from sites with an elevation lower than the target property.
Page numbers and map identification numbers refer to the EDR Radius Map report where detailed data on individual sites can be reviewed.

Sites listed in ***bold italics*** are in multiple databases.

Unmappable (orphan) sites are not considered in the foregoing analysis.

STANDARD ENVIRONMENTAL RECORDS

State and tribal voluntary cleanup sites

VCP: A review of the VCP list, as provided by EDR, and dated 07/22/2013 has revealed that there are 2 VCP sites within approximately 0.5 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
BILLS FEED & TACK	***5603 S BAYVIEW RD***	***NNE 1/4 - 1/2 (0.267 mi.)***	***A3***	***7***
Lower Elevation	**Address**	**Direction / Distance**	**Map ID**	**Page**
SUNLIGHT BEACH RD RE	***2574 SUNLIGHT BEACH***	***W 0 - 1/8 (0.078 mi.)***	***1***	***7***

ICR: A review of the ICR list, as provided by EDR, and dated 12/01/2002 has revealed that there is 1 ICR site within approximately 0.5 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
BAY VIEW CASH STORE	5603 S. BAY VIEW ROA	NNE 1/4 - 1/2 (0.267 mi.)	A4	7

ADDITIONAL ENVIRONMENTAL RECORDS

Local Lists of Hazardous waste / Contaminated Sites

ALLSITES: A review of the ALLSITES list, as provided by EDR, and dated 08/16/2013 has revealed that

there are 5 ALLSITES sites within approximately 0.5 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
MIDVALE SOLID WASTE	*5785 S BAYVIEW RD*	*NE 0 - 1/8 (0.084 mi.)*	*2*	*7*
BILLS FEED & TACK	*5603 S BAYVIEW RD*	*NNE 1/4 - 1/2 (0.267 mi.)*	*A3*	*7*
WHIDBEY ISLAND SAND	*PO BOX 434 5603 S BA*	*NNE 1/4 - 1/2 (0.268 mi.)*	*A5*	*7*
ISLAND COUNTY FIRE P	*2874 E VERLANE ST*	*NE 1/4 - 1/2 (0.462 mi.)*	*6*	*7*
Lower Elevation	**Address**	**Direction / Distance**	**Map ID**	**Page**
SUNLIGHT BEACH RD RE	*2574 SUNLIGHT BEACH*	*W 0 - 1/8 (0.078 mi.)*	*1*	*7*

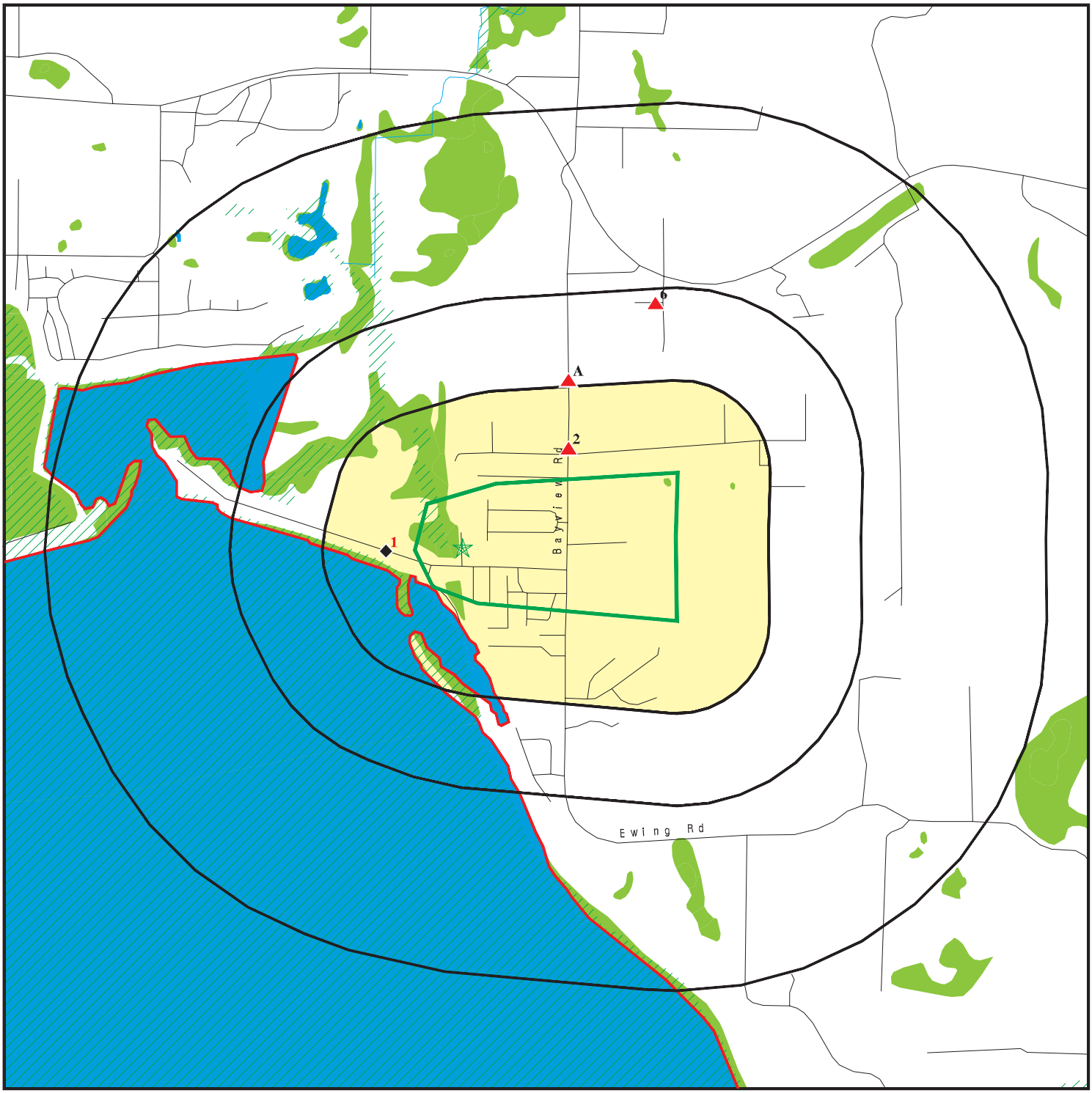
CSCSL NFA: A review of the CSCSL NFA list, as provided by EDR, and dated 07/22/2013 has revealed that there are 2 CSCSL NFA sites within approximately 0.5 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
BILLS FEED & TACK	*5603 S BAYVIEW RD*	*NNE 1/4 - 1/2 (0.267 mi.)*	*A3*	*7*
Lower Elevation	**Address**	**Direction / Distance**	**Map ID**	**Page**
SUNLIGHT BEACH RD RE	*2574 SUNLIGHT BEACH*	*W 0 - 1/8 (0.078 mi.)*	*1*	*7*

Count: 4 records. ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)
FREELAND	U003028132	BAYVIEW EXXON	2846 E HWY 525	98249	ALLSITES, UST
LANGLEY	1007080725	WATERMAN MILL CO	SR 527	98260	FINDS, ALLSITES, CSCSL NFA
LANGLEY	S110336062	LANGLEY WWTP	999 COLES RD	98260	SWF/LF
LANGLEY	1000151973	ISLAND CNTY ROAD DEPT	2851 E SR 525	98260	RCRA NonGen / NLR, FINDS, ALLSITES

OVERVIEW MAP - 3779034.2s



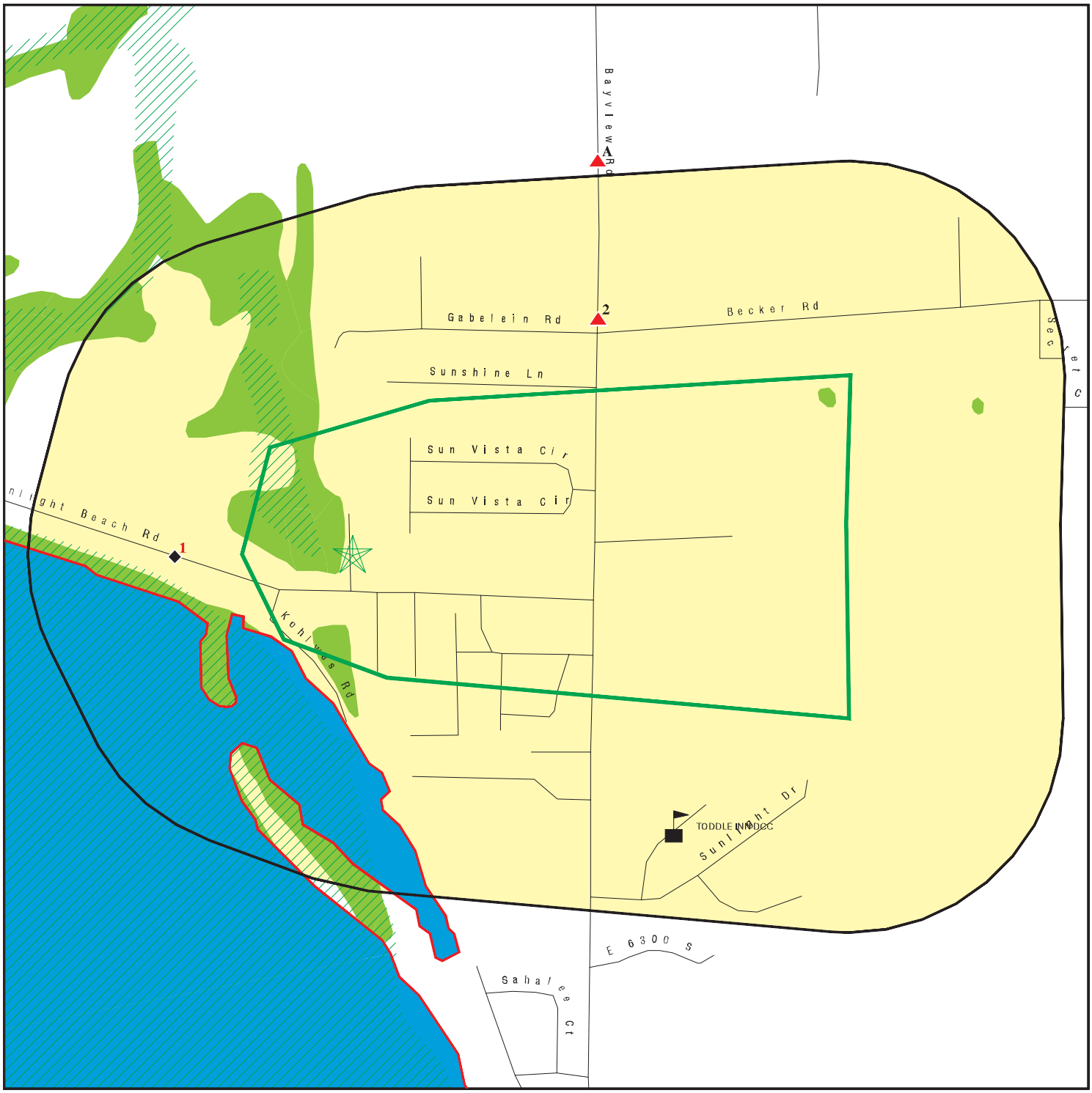
0 1/4 1/2 1 Miles

- Target Property
- Sites at elevations higher than or equal to the target property
- Sites at elevations lower than the target property
- Manufactured Gas Plants
- National Priority List Sites
- Dept. Defense Sites
- Indian Reservations BIA
- County Boundary
- Oil & Gas pipelines from USGS
- 100-year flood zone
- 500-year flood zone
- National Wetland Inventory

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME:	SunVista HOA Wellhead	CLIENT:	Golder Associates, Inc.
ADDRESS:	6000 Old Henry Lane Clinton WA 98236	CONTACT:	Andrew Austreng
		INQUIRY #:	3779034.2s
LAT/LONG:	47.9892 / 122.4678	DATE:	November 06, 2013 6:51 pm

DETAIL MAP - 3779034.2s



- Target Property
- Sites at elevations higher than or equal to the target property
- Sites at elevations lower than the target property
- Manufactured Gas Plants
- Sensitive Receptors
- National Priority List Sites
- Dept. Defense Sites
- Indian Reservations BIA
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LAT/LONG:	47.9892 / 122.4678	DATE:	November 06, 2013 6:51 pm

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
STANDARD ENVIRONMENTAL RECORDS								
Federal NPL site list								
NPL	1.000		0	0	0	0	NR	0
Proposed NPL	1.000		0	0	0	0	NR	0
NPL LIENS	TP		NR	NR	NR	NR	NR	0
Federal Delisted NPL site list								
Delisted NPL	1.000		0	0	0	0	NR	0
Federal CERCLIS list								
CERCLIS	0.500		0	0	0	NR	NR	0
FEDERAL FACILITY	0.500		0	0	0	NR	NR	0
Federal CERCLIS NFRAP site List								
CERC-NFRAP	0.500		0	0	0	NR	NR	0
Federal RCRA CORRACTS facilities list								
CORRACTS	1.000		0	0	0	0	NR	0
Federal RCRA non-CORRACTS TSD facilities list								
RCRA-TSDF	0.500		0	0	0	NR	NR	0
Federal RCRA generators list								
RCRA-LQG	0.250		0	0	NR	NR	NR	0
RCRA-SQG	0.250		0	0	NR	NR	NR	0
RCRA-CESQG	0.250		0	0	NR	NR	NR	0
Federal institutional controls / engineering controls registries								
US ENG CONTROLS	0.500		0	0	0	NR	NR	0
US INST CONTROL	0.500		0	0	0	NR	NR	0
LUCIS	0.500		0	0	0	NR	NR	0
Federal ERNS list								
ERNS	TP		NR	NR	NR	NR	NR	0
State- and tribal - equivalent NPL								
HSL	1.000		0	0	0	0	NR	0
State- and tribal - equivalent CERCLIS								
CSCSL	1.000		0	0	0	0	NR	0
State and tribal landfill and/or solid waste disposal site lists								
SWF/LF	0.500		0	0	0	NR	NR	0
State and tribal leaking storage tank lists								
LUST	0.500		0	0	0	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
INDIAN LUST	0.500		0	0	0	NR	NR	0
State and tribal registered storage tank lists								
UST	0.250		0	0	NR	NR	NR	0
AST	0.250		0	0	NR	NR	NR	0
INDIAN UST	0.250		0	0	NR	NR	NR	0
FEMA UST	0.250		0	0	NR	NR	NR	0
State and tribal institutional control / engineering control registries								
INST CONTROL	0.500		0	0	0	NR	NR	0
State and tribal voluntary cleanup sites								
INDIAN VCP	0.500		0	0	0	NR	NR	0
VCP	0.500		1	0	1	NR	NR	2
ICR	0.500		0	0	1	NR	NR	1
State and tribal Brownfields sites								
BROWNFIELDS	0.500		0	0	0	NR	NR	0
ADDITIONAL ENVIRONMENTAL RECORDS								
Local Brownfield lists								
US BROWNFIELDS	0.500		0	0	0	NR	NR	0
Local Lists of Landfill / Solid Waste Disposal Sites								
ODI	0.500		0	0	0	NR	NR	0
DEBRIS REGION 9	0.500		0	0	0	NR	NR	0
SWRCY	0.500		0	0	0	NR	NR	0
SWTIRE	0.500		0	0	0	NR	NR	0
INDIAN ODI	0.500		0	0	0	NR	NR	0
Local Lists of Hazardous waste / Contaminated Sites								
US CDL	TP		NR	NR	NR	NR	NR	0
ALLSITES	0.500		2	0	3	NR	NR	5
CSCSL NFA	0.500		1	0	1	NR	NR	2
CDL	TP		NR	NR	NR	NR	NR	0
HIST CDL	TP		NR	NR	NR	NR	NR	0
US HIST CDL	TP		NR	NR	NR	NR	NR	0
Local Land Records								
LIENS 2	TP		NR	NR	NR	NR	NR	0
Records of Emergency Release Reports								
HMIRS	TP		NR	NR	NR	NR	NR	0
SPILLS	TP		NR	NR	NR	NR	NR	0
SPILLS 90	TP		NR	NR	NR	NR	NR	0
Other Ascertainable Records								
RCRA NonGen / NLR	0.250		0	0	NR	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
DOT OPS	TP		NR	NR	NR	NR	NR	0
DOD	1.000		0	0	0	0	NR	0
FUDS	1.000		0	0	0	0	NR	0
CONSENT	1.000		0	0	0	0	NR	0
ROD	1.000		0	0	0	0	NR	0
UMTRA	0.500		0	0	0	NR	NR	0
US MINES	0.250		0	0	NR	NR	NR	0
TRIS	TP		NR	NR	NR	NR	NR	0
TSCA	TP		NR	NR	NR	NR	NR	0
FTTS	TP		NR	NR	NR	NR	NR	0
HIST FTTS	TP		NR	NR	NR	NR	NR	0
SSTS	TP		NR	NR	NR	NR	NR	0
ICIS	TP		NR	NR	NR	NR	NR	0
PADS	TP		NR	NR	NR	NR	NR	0
MLTS	TP		NR	NR	NR	NR	NR	0
RADINFO	TP		NR	NR	NR	NR	NR	0
FINDS	TP		NR	NR	NR	NR	NR	0
RAATS	TP		NR	NR	NR	NR	NR	0
RMP	TP		NR	NR	NR	NR	NR	0
UIC	TP		NR	NR	NR	NR	NR	0
MANIFEST	0.250		0	0	NR	NR	NR	0
DRYCLEANERS	0.250		0	0	NR	NR	NR	0
NPDES	TP		NR	NR	NR	NR	NR	0
AIRS	TP		NR	NR	NR	NR	NR	0
Inactive Drycleaners	0.250		0	0	NR	NR	NR	0
INDIAN RESERV	1.000		0	0	0	0	NR	0
SCRD DRYCLEANERS	0.500		0	0	0	NR	NR	0
US FIN ASSUR	TP		NR	NR	NR	NR	NR	0
EPA WATCH LIST	TP		NR	NR	NR	NR	NR	0
PRP	TP		NR	NR	NR	NR	NR	0
US AIRS	TP		NR	NR	NR	NR	NR	0
2020 COR ACTION	0.250		0	0	NR	NR	NR	0
LEAD SMELTERS	TP		NR	NR	NR	NR	NR	0
PCB TRANSFORMER	TP		NR	NR	NR	NR	NR	0
COAL ASH DOE	TP		NR	NR	NR	NR	NR	0
COAL ASH EPA	0.500		0	0	0	NR	NR	0
COAL ASH	0.500		0	0	0	NR	NR	0
Financial Assurance	TP		NR	NR	NR	NR	NR	0
EDR HIGH RISK HISTORICAL RECORDS								
EDR Exclusive Records								
EDR MGP	1.000		0	0	0	0	NR	0
EDR US Hist Auto Stat	0.250		0	0	NR	NR	NR	0
EDR US Hist Cleaners	0.250		0	0	NR	NR	NR	0

NOTES:

TP = Target Property

NR = Not Requested at this Search Distance

Sites may be listed in more than one database

Map ID / Direction / Distance / Elevation	Site	Database(s)	EDR ID Number / EPA ID Number
1 **West** **< 1/8** **0.078 mi.** **413 ft.** **Relative: Lower**	**SUNLIGHT BEACH RD RESIDENCE** **2574 SUNLIGHT BEACH RD** **CLINTON, WA** Click here for full text details	**FINDS** **ALLSITES** **CSCSL NFA** **VCP**	**1007144537** **N/A**
2 **NE** **< 1/8** **0.084 mi.** **444 ft.** **Relative: Higher**	**MIDVALE SOLID WASTE & RECYCLING** **5785 S BAYVIEW RD** **LANGLEY, WA** Click here for full text details	**FINDS** **ALLSITES**	**1011848034** **N/A**
A3 **NNE** **1/4-1/2** **0.267 mi.** **1409 ft.** **Relative: Higher**	**BILLS FEED & TACK** **5603 S BAYVIEW RD** **LANGLEY, WA 98260** Click here for full text details	**ALLSITES** **CSCSL NFA** **VCP**	**S104971176** **N/A**
A4 **NNE** **1/4-1/2** **0.267 mi.** **1409 ft.** **Relative: Higher**	**BAY VIEW CASH STORE** **5603 S. BAY VIEW ROAD** **LANGLEY, WA 98260** Click here for full text details	**ICR**	**S104485580** **N/A**
A5 **NNE** **1/4-1/2** **0.268 mi.** **1416 ft.** **Relative: Higher**	**WHIDBEY ISLAND SAND & GRAVEL INC** **PO BOX 434 5603 S BAYVIEW RD** **FREELAND, WA 98249** Click here for full text details	**ALLSITES** **UST**	**U000919613** **N/A**
6 **NE** **1/4-1/2** **0.462 mi.** **2437 ft.** **Relative: Higher**	**ISLAND COUNTY FIRE PROTECTION DISTRICT 3** **2874 E VERLANE ST** **LANGLEY, WA 98260** Click here for full text details	**ALLSITES** **UST**	**U001122487** **N/A**

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

St	Acronym	Full Name	Government Agency	Gov Date	Arvl. Date	Active Date
WA	AIRS (EMI)	Washington Emissions Data System	Department of Ecology	12/31/2011	01/11/2013	02/22/2013
WA	ALLSITES	Facility/Site Identification System Listing	Department of Ecology	08/16/2013	08/20/2013	09/19/2013
WA	AST	Aboveground Storage Tank Locations	Department of Ecology	04/09/2013	05/09/2013	07/25/2013
WA	BROWNFIELDS	Brownfields Sites Listing	Department of Ecology	07/22/2013	07/26/2013	09/19/2013
WA	CDL	Clandestine Drug Lab Contaminated Site List	Department of Health	08/09/2013	08/23/2013	09/20/2013
WA	COAL ASH	Coal Ash Disposal Site Listing	Department of Ecology	06/20/2013	06/21/2013	07/25/2013
WA	CSCSL	Confirmed and Suspected Contaminated Sites List	Department of Ecology	07/22/2013	07/26/2013	09/19/2013
WA	CSCSL NFA	Confirmed and Contaminated Sites - No Further Action	Department of Ecology	07/22/2013	07/26/2013	09/19/2013
WA	DRYCLEANERS	Drycleaner List	Department of Ecology	12/31/2012	04/29/2013	06/10/2013
WA	Financial Assurance 1	Financial Assurance Information Listing	Department of Ecology	02/24/2012	02/24/2012	03/27/2012
WA	Financial Assurance 2	Financial Assurance Information Listing	Department of Ecology	05/23/2011	05/26/2011	06/27/2011
WA	Financial Assurance 3	Financial Assurance Information Listing	Department of Ecology	02/01/2001	03/06/2007	04/19/2007
WA	HIST CDL	List of Sites Contaminated by Clandestine Drug Labs	Department of Health	02/08/2007	06/26/2007	07/19/2007
WA	HSL	Hazardous Sites List	Department of Ecology	08/26/2013	09/13/2013	10/16/2013
WA	ICR	Independent Cleanup Reports	Department of Ecology	12/01/2002	01/03/2003	01/22/2003
WA	INACTIVE DRYCLEANERS	Inactive Drycleaners	Department of Ecology	12/31/2012	04/29/2013	06/10/2013
WA	INST CONTROL	Institutional Control Site List	Department of Ecology	07/22/2013	07/26/2013	09/19/2013
WA	LUST	Leaking Underground Storage Tanks Site List	Department of Ecology	08/19/2013	08/22/2013	09/19/2013
WA	NPDES	Water Quality Permit System Data	Department of Ecology	07/28/2013	07/30/2013	09/19/2013
WA	SPILLS	Reported Spills	Department of Ecology	09/26/2013	09/27/2013	10/16/2013
WA	SPILLS 90	SPILLS90 data from FirstSearch	FirstSearch	05/23/2006	01/03/2013	03/06/2013
WA	SWF/LF	Solid Waste Facility Database	Department of Ecology	09/25/2013	09/25/2013	10/16/2013
WA	SWRCY	Recycling Facility List	Department of Ecology	07/25/2013	08/02/2013	09/19/2013
WA	SWTIRE	Solid Waste Tire Facilities	Department of Ecology	11/01/2005	03/16/2006	04/13/2006
WA	UIC	Underground Injection Wells Listing	Department of Ecology	08/19/2013	08/22/2013	09/19/2013
WA	UST	Underground Storage Tank Database	Department of Ecology	02/08/2013	02/08/2013	02/19/2013
WA	VCP	Voluntary Cleanup Program Sites	Department of Ecology	07/22/2013	07/26/2013	09/20/2013
WA	WA MANIFEST	Hazardous Waste Manifest Data	Department of Ecology	12/31/2012	04/29/2013	06/10/2013
US	2020 COR ACTION	2020 Corrective Action Program List	Environmental Protection Agency	11/11/2011	05/18/2012	05/25/2012
US	BRS	Biennial Reporting System	EPA/NTIS	12/31/2011	02/26/2013	04/19/2013
US	CERCLIS	Comprehensive Environmental Response, Compensation, and Liab	EPA	04/26/2013	05/29/2013	08/09/2013
US	CERCLIS-NFRAP	CERCLIS No Further Remedial Action Planned	EPA	04/26/2013	05/29/2013	08/09/2013
US	COAL ASH DOE	Sleam-Electric Plan Operation Data	Department of Energy	12/31/2005	08/07/2009	10/22/2009
US	COAL ASH EPA	Coal Combustion Residues Surface Impoundments List	Environmental Protection Agency	08/17/2010	01/03/2011	03/21/2011
US	CONSENT	Superfund (CERCLA) Consent Decrees	Department of Justice, Consent Decree Library	06/30/2013	08/07/2013	10/03/2013
US	CORRACTS	Corrective Action Report	EPA	07/11/2013	08/08/2013	09/13/2013
US	DEBRIS REGION 9	Torres Martinez Reservation Illegal Dump Site Locations	EPA, Region 9	01/12/2009	05/07/2009	09/21/2009
US	DELISTED NPL	National Priority List Deletions	EPA	04/26/2013	05/09/2013	07/10/2013
US	DOD	Department of Defense Sites	USGS	12/31/2005	11/10/2006	01/11/2007
US	DOT OPS	Incident and Accident Data	Department of Transporation, Office of Pipeli	07/31/2012	08/07/2012	09/18/2012
US	EDR MGP	EDR Proprietary Manufactured Gas Plants	EDR, Inc.			
US	EDR US Hist Auto Stat	EDR Exclusive Historic Gas Stations	EDR, Inc.			
US	EDR US Hist Auto Stat	EDR Proprietary Historic Gas Stations - Cole				
US	EDR US Hist Cleaners	EDR Proprietary Historic Dry Cleaners - Cole				
US	EDR US Hist Cleaners	EDR Exclusive Historic Dry Cleaners	EDR, Inc.			
US	EPA WATCH LIST	EPA WATCH LIST	Environmental Protection Agency	06/30/2013	08/13/2013	09/13/2013
US	ERNS	Emergency Response Notification System	National Response Center, United States Coast	12/31/2012	01/17/2013	02/15/2013

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

St	Acronym	Full Name	Government Agency	Gov Date	Arvl. Date	Active Date
US	FEDERAL FACILITY	Federal Facility Site Information listing	Environmental Protection Agency	07/31/2012	10/09/2012	12/20/2012
US	FEDLAND	Federal and Indian Lands	U.S. Geological Survey	12/31/2005	02/06/2006	01/11/2007
US	FEMA UST	Underground Storage Tank Listing	FEMA	01/01/2010	02/16/2010	04/12/2010
US	FINDS	Facility Index System/Facility Registry System	EPA	03/08/2013	03/21/2013	07/10/2013
US	FTTS	FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fu	EPA/Office of Prevention, Pesticides and Toxi	04/09/2009	04/16/2009	05/11/2009
US	FTTS INSP	FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fu	EPA	04/09/2009	04/16/2009	05/11/2009
US	FUDS	Formerly Used Defense Sites	U.S. Army Corps of Engineers	12/31/2011	02/26/2013	03/13/2013
US	HIST FTTS	FIFRA/TSCA Tracking System Administrative Case Listing	Environmental Protection Agency	10/19/2006	03/01/2007	04/10/2007
US	HIST FTTS INSP	FIFRA/TSCA Tracking System Inspection & Enforcement Case Lis	Environmental Protection Agency	10/19/2006	03/01/2007	04/10/2007
US	HMIRS	Hazardous Materials Information Reporting System	U.S. Department of Transportation	12/31/2012	01/03/2013	02/27/2013
US	ICIS	Integrated Compliance Information System	Environmental Protection Agency	07/20/2011	11/10/2011	01/10/2012
US	INDIAN LUST R1	Leaking Underground Storage Tanks on Indian Land	EPA Region 1	02/01/2013	05/01/2013	11/01/2013
US	INDIAN LUST R10	Leaking Underground Storage Tanks on Indian Land	EPA Region 10	07/29/2013	07/30/2013	11/01/2013
US	INDIAN LUST R4	Leaking Underground Storage Tanks on Indian Land	EPA Region 4	08/01/2013	08/02/2013	11/01/2013
US	INDIAN LUST R6	Leaking Underground Storage Tanks on Indian Land	EPA Region 6	09/12/2011	09/13/2011	11/11/2011
US	INDIAN LUST R7	Leaking Underground Storage Tanks on Indian Land	EPA Region 7	08/27/2013	08/27/2013	11/01/2013
US	INDIAN LUST R8	Leaking Underground Storage Tanks on Indian Land	EPA Region 8	08/27/2012	08/28/2012	10/16/2012
US	INDIAN LUST R9	Leaking Underground Storage Tanks on Indian Land	Environmental Protection Agency	03/01/2013	03/01/2013	04/12/2013
US	INDIAN ODI	Report on the Status of Open Dumps on Indian Lands	Environmental Protection Agency	12/31/1998	12/03/2007	01/24/2008
US	INDIAN RESERV	Indian Reservations	USGS	12/31/2005	12/08/2006	01/11/2007
US	INDIAN UST R1	Underground Storage Tanks on Indian Land	EPA, Region 1	09/28/2012	11/07/2012	04/12/2013
US	INDIAN UST R10	Underground Storage Tanks on Indian Land	EPA Region 10	02/05/2013	02/06/2013	04/12/2013
US	INDIAN UST R4	Underground Storage Tanks on Indian Land	EPA Region 4	08/01/2013	08/02/2013	11/01/2013
US	INDIAN UST R5	Underground Storage Tanks on Indian Land	EPA Region 5	08/20/2013	08/23/2013	11/01/2013
US	INDIAN UST R6	Underground Storage Tanks on Indian Land	EPA Region 6	05/10/2011	05/11/2011	06/14/2011
US	INDIAN UST R7	Underground Storage Tanks on Indian Land	EPA Region 7	12/31/2012	02/28/2013	04/12/2013
US	INDIAN UST R8	Underground Storage Tanks on Indian Land	EPA Region 8	07/29/2013	08/01/2013	11/01/2013
US	INDIAN UST R9	Underground Storage Tanks on Indian Land	EPA Region 9	02/21/2013	02/26/2013	04/12/2013
US	INDIAN VCP R1	Voluntary Cleanup Priority Listing	EPA, Region 1	09/28/2012	10/02/2012	10/16/2012
US	INDIAN VCP R7	Voluntary Cleanup Priority Lisitng	EPA, Region 7	03/20/2008	04/22/2008	05/19/2008
US	LEAD SMELTER 1	Lead Smelter Sites	Environmental Protection Agency	01/29/2013	02/14/2013	02/27/2013
US	LEAD SMELTER 2	Lead Smelter Sites	American Journal of Public Health	04/05/2001	10/27/2010	12/02/2010
US	LIENS 2	CERCLA Lien Information	Environmental Protection Agency	02/06/2013	04/25/2013	05/10/2013
US	LUCIS	Land Use Control Information System	Department of the Navy	08/20/2013	08/23/2013	11/01/2013
US	MLTS	Material Licensing Tracking System	Nuclear Regulatory Commission	07/22/2013	08/02/2013	11/01/2013
US	NPL	National Priority List	EPA	04/26/2013	05/09/2013	07/10/2013
US	NPL LIENS	Federal Superfund Liens	EPA	10/15/1991	02/02/1994	03/30/1994
US	ODI	Open Dump Inventory	Environmental Protection Agency	06/30/1985	08/09/2004	09/17/2004
US	PADS	PCB Activity Database System	EPA	06/01/2013	07/17/2013	11/01/2013
US	PCB TRANSFORMER	PCB Transformer Registration Database	Environmental Protection Agency	02/01/2011	10/19/2011	01/10/2012
US	PRP	Potentially Responsible Parties	EPA	04/15/2013	07/03/2013	09/13/2013
US	Proposed NPL	Proposed National Priority List Sites	EPA	04/26/2013	05/09/2013	07/10/2013
US	RAATS	RCRA Administrative Action Tracking System	EPA	04/17/1995	07/03/1995	08/07/1995
US	RADINFO	Radiation Information Database	Environmental Protection Agency	09/30/2013	10/09/2013	11/01/2013
US	RCRA NonGen / NLR	RCRA - Non Generators	Environmental Protection Agency	07/11/2013	08/08/2013	09/13/2013
US	RCRA-CESQG	RCRA - Conditionally Exempt Small Quantity Generators	Environmental Protection Agency	07/11/2013	08/08/2013	09/13/2013
US	RCRA-LQG	RCRA - Large Quantity Generators	Environmental Protection Agency	07/11/2013	08/08/2013	09/13/2013

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

St	Acronym	Full Name	Government Agency	Gov Date	Arvl. Date	Active Date
US	RCRA-SQG	RCRA - Small Quantity Generators	Environmental Protection Agency	07/11/2013	08/08/2013	09/13/2013
US	RCRA-TSDF	RCRA - Treatment, Storage and Disposal	Environmental Protection Agency	07/11/2013	08/08/2013	09/13/2013
US	RMP	Risk Management Plans	Environmental Protection Agency	05/08/2012	05/25/2012	07/10/2012
US	ROD	Records Of Decision	EPA	04/26/2013	06/11/2013	11/01/2013
US	SCRD DRYCLEANERS	State Coalition for Remediation of Drycleaners Listing	Environmental Protection Agency	03/07/2011	03/09/2011	05/02/2011
US	SSTS	Section 7 Tracking Systems	EPA	12/31/2009	12/10/2010	02/25/2011
US	TRIS	Toxic Chemical Release Inventory System	EPA	12/31/2011	07/31/2013	09/13/2013
US	TSCA	Toxic Substances Control Act	EPA	12/31/2006	09/29/2010	12/02/2010
US	UMTRA	Uranium Mill Tailings Sites	Department of Energy	09/14/2010	10/07/2011	03/01/2012
US	US AIRS (AFS)	Aerometric Information Retrieval System Facility Subsystem (	EPA	01/23/2013	01/30/2013	05/10/2013
US	US AIRS MINOR	Air Facility System Data	EPA	01/23/2013	01/30/2013	05/10/2013
US	US BROWNFIELDS	A Listing of Brownfields Sites	Environmental Protection Agency	06/24/2013	06/25/2013	08/09/2013
US	US CDL	Clandestine Drug Labs	Drug Enforcement Administration	08/06/2013	09/11/2013	10/03/2013
US	US ENG CONTROLS	Engineering Controls Sites List	Environmental Protection Agency	06/17/2013	06/21/2013	10/03/2013
US	US FIN ASSUR	Financial Assurance Information	Environmental Protection Agency	03/04/2013	03/15/2013	05/10/2013
US	US HIST CDL	National Clandestine Laboratory Register	Drug Enforcement Administration	09/01/2007	11/19/2008	03/30/2009
US	US INST CONTROL	Sites with Institutional Controls	Environmental Protection Agency	06/17/2013	06/21/2013	10/03/2013
US	US MINES	Mines Master Index File	Department of Labor, Mine Safety and Health A	08/01/2013	09/05/2013	10/03/2013
CT	CT MANIFEST	Hazardous Waste Manifest Data	Department of Energy & Environmental Protecti	07/30/2013	08/19/2013	10/03/2013
NY	NY MANIFEST	Facility and Manifest Data	Department of Environmental Conservation	08/01/2013	08/07/2013	09/10/2013
PA	PA MANIFEST	Manifest Information	Department of Environmental Protection	12/31/2012	07/24/2013	08/19/2013
WI	WI MANIFEST	Manifest Information	Department of Natural Resources	12/31/2012	08/09/2013	09/27/2013
US	Oil/Gas Pipelines	GeoData Digital Line Graphs from 1:100,000-Scale Maps	USGS			
US	Electric Power Lines	Electric Power Transmission Line Data	Rextag Strategies Corp.			
US	AHA Hospitals	Sensitive Receptor: AHA Hospitals	American Hospital Association, Inc.			
US	Medical Centers	Sensitive Receptor: Medical Centers	Centers for Medicare & Medicaid Services			
US	Nursing Homes	Sensitive Receptor: Nursing Homes	National Institutes of Health			
US	Public Schools	Sensitive Receptor: Public Schools	National Center for Education Statistics			
US	Private Schools	Sensitive Receptor: Private Schools	National Center for Education Statistics			
WA	Daycare Centers	Sensitive Receptor: Daycare Center Listing	Department of Social & Health Services			
US	Flood Zones	100-year and 500-year flood zones	Emergency Management Agency (FEMA)			
US	NWI	National Wetlands Inventory	U.S. Fish and Wildlife Service			
US	USGS 7.5' Topographic Map	Scanned Digital USGS 7.5' Topographic Map (DRG)	USGS			

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

St	Acronym	Full Name	Government Agency	Gov Date	Arvl. Date	Active Date

STREET AND ADDRESS INFORMATION

GEOCHECK ®- PHYSICAL SETTING SOURCE ADDENDUM

TARGET PROPERTY ADDRESS

SUNVISTA HOA WELLHEAD
6000 OLD HENRY LANE
CLINTON, WA 98236

TARGET PROPERTY COORDINATES

Latitude (North):	47.9892 - 47° 59' 21.12''
Longitude (West):	122.4678 - 122° 28' 4.08''
Universal Tranverse Mercator:	Zone 10
UTM X (Meters):	539709.2
UTM Y (Meters):	5315018.0
Elevation:	28 ft. above sea level

USGS TOPOGRAPHIC MAP

Target Property Map:	47122-H4 MAXWELTON, WA
Most Recent Revision:	1978
North Map:	48122-A4 LANGLEY, WA
Most Recent Revision:	1968

EDR's GeoCheck Physical Setting Source Addendum is provided to assist the environmental professional in forming an opinion about the impact of potential contaminant migration.

Assessment of the impact of contaminant migration generally has two principal investigative components:

1. Groundwater flow direction, and
2. Groundwater flow velocity.

Groundwater flow direction may be impacted by surface topography, hydrology, hydrogeology, characteristics of the soil, and nearby wells. Groundwater flow velocity is generally impacted by the nature of the geologic strata.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW DIRECTION INFORMATION

Groundwater flow direction for a particular site is best determined by a qualified environmental professional using site-specific well data. If such data is not reasonably ascertainable, it may be necessary to rely on other sources of information, such as surface topographic information, hydrologic information, hydrogeologic data collected on nearby properties, and regional groundwater flow information (from deep aquifers).

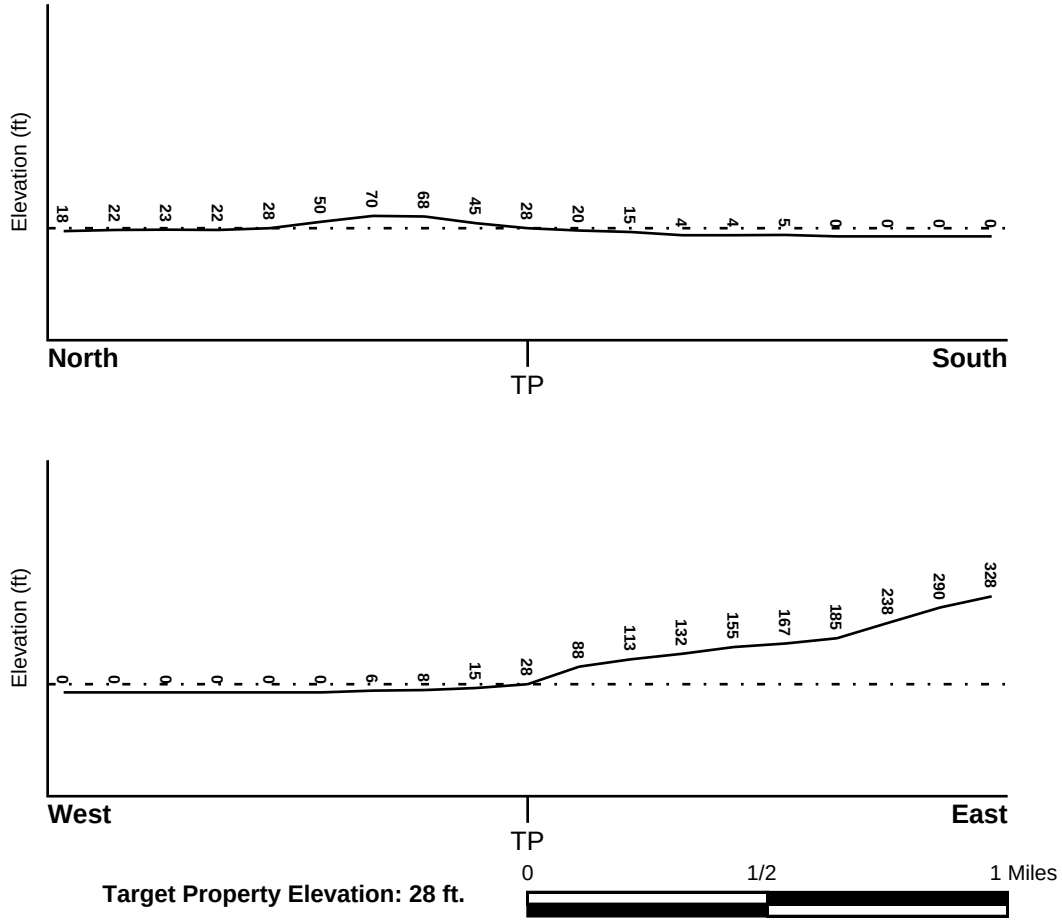
TOPOGRAPHIC INFORMATION

Surface topography may be indicative of the direction of surficial groundwater flow. This information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

TARGET PROPERTY TOPOGRAPHY

General Topographic Gradient: General WSW

SURROUNDING TOPOGRAPHY: ELEVATION PROFILES



Source: Topography has been determined from the USGS 7.5' Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

HYDROLOGIC INFORMATION

Surface water can act as a hydrologic barrier to groundwater flow. Such hydrologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Refer to the Physical Setting Source Map following this summary for hydrologic information (major waterways and bodies of water).

FEMA FLOOD ZONE

Target Property County	FEMA Flood Electronic Data
ISLAND, WA	YES - refer to the Overview Map and Detail Map

Flood Plain Panel at Target Property: 53029C - FEMA DFIRM Flood data

Additional Panels in search area: Not Reported

NATIONAL WETLAND INVENTORY

NWI Quad at Target Property	NWI Electronic Data Coverage
MAXWELTON	YES - refer to the Overview Map and Detail Map

HYDROGEOLOGIC INFORMATION

Hydrogeologic information obtained by installation of wells on a specific site can often be an indicator of groundwater flow direction in the immediate area. Such hydrogeologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Site-Specific Hydrogeological Data*:

Search Radius:	1.25 miles
Status:	Not found

AQUIFLOW®

Search Radius: 1.000 Mile.

EDR has developed the AQUIFLOW Information System to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted by environmental professionals to regulatory authorities at select sites and has extracted the date of the report, groundwater flow direction as determined hydrogeologically, and the depth to water table.

MAP ID	LOCATION FROM TP	GENERAL DIRECTION GROUNDWATER FLOW
Not Reported		

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW VELOCITY INFORMATION

Groundwater flow velocity information for a particular site is best determined by a qualified environmental professional using site specific geologic and soil strata data. If such data are not reasonably ascertainable, it may be necessary to rely on other sources of information, including geologic age identification, rock stratigraphic unit and soil characteristics data collected on nearby properties and regional soil information. In general, contaminant plumes move more quickly through sandy-gravelly types of soils than silty-clayey types of soils.

GEOLOGIC INFORMATION IN GENERAL AREA OF TARGET PROPERTY

Geologic information can be used by the environmental professional in forming an opinion about the relative speed at which contaminant migration may be occurring.

ROCK STRATIGRAPHIC UNIT

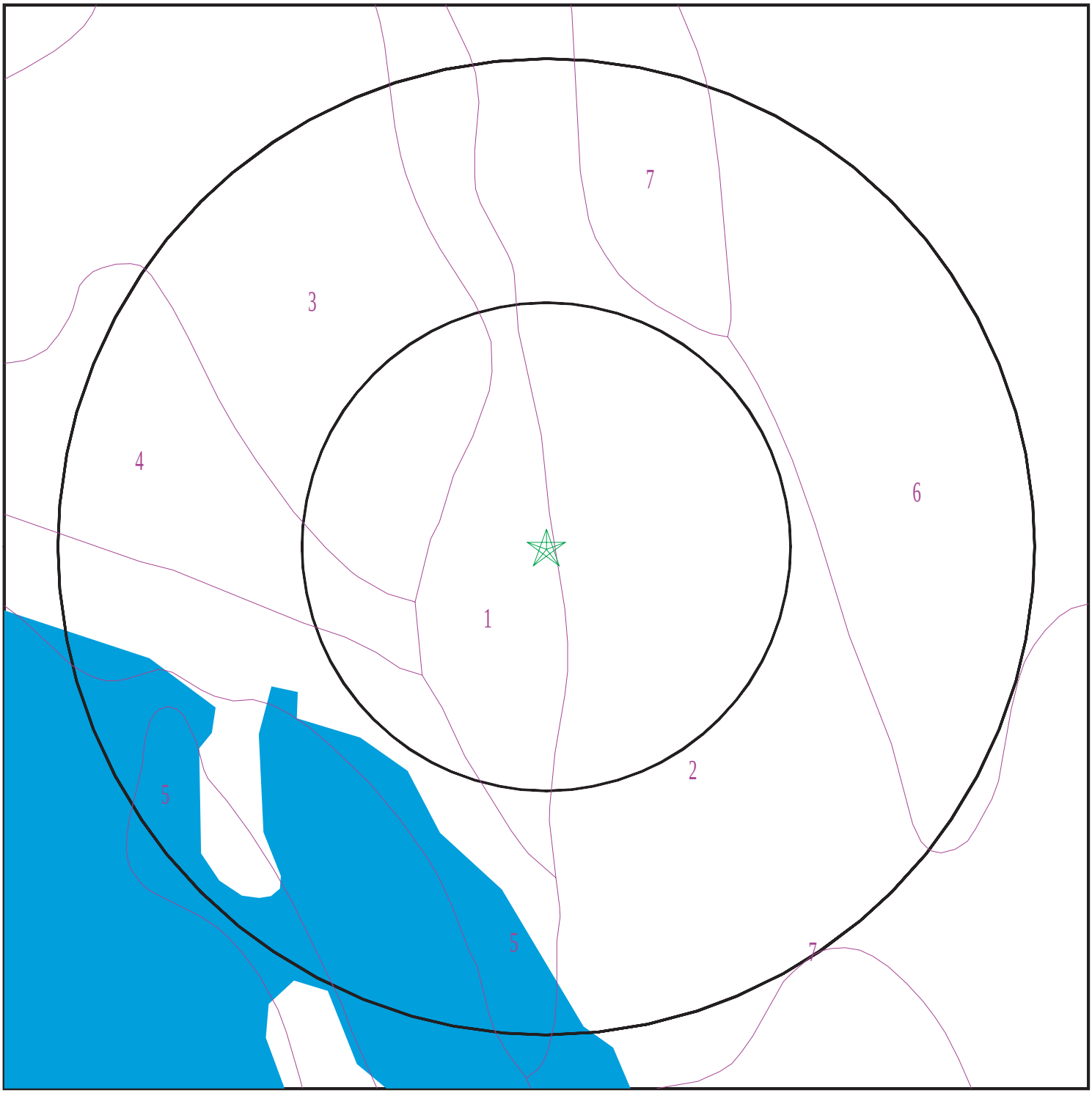
Era:	Cenozoic
System:	Quaternary
Series:	Quaternary
Code:	Q *(decoded above as Era, System & Series)*

GEOLOGIC AGE IDENTIFICATION

Category: Stratifed Sequence

Geologic Age and Rock Stratigraphic Unit Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - a digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

SSURGO SOIL MAP - 3779034.2s



SITE NAME:	SunVista HOA Wellhead	CLIENT:	Golder Associates, Inc.
ADDRESS:	6000 Old Henry Lane Clinton WA 98236	CONTACT:	Andrew Austreng
LAT/LONG:	47.9892 / 122.4678	INQUIRY #:	3779034.2s
		DATE:	November 06, 2013 6:51 pm

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

DOMINANT SOIL COMPOSITION IN GENERAL AREA OF TARGET PROPERTY

The U.S. Department of Agriculture's (USDA) Soil Conservation Service (SCS) leads the National Cooperative Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. The following information is based on Soil Conservation Service SSURGO data.

Soil Map ID: 1

Soil Component Name: Mukilteo

Soil Surface Texture: muck

Hydrologic Group: Class D - Very slow infiltration rates. Soils are clayey, have a high water table, or are shallow to an impervious layer.

Soil Drainage Class: Very poorly drained

Hydric Status: All hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	9 inches	muck	A-8	Highly organic soils, Peat.	Max: 14 Min: 4	Max: Min:
2	9 inches	35 inches	mucky peat	A-8	Highly organic soils, Peat.	Max: 14 Min: 4	Max: Min:
3	35 inches	59 inches	mucky peat	A-8	Highly organic soils, Peat.	Max: 14 Min: 4	Max: Min:

Soil Map ID: 2

Soil Component Name: Whidbey

Soil Surface Texture: gravelly sandy loam

Hydrologic Group: Class C - Slow infiltration rates. Soils with layers impeding downward movement of water, or soils with moderately fine or fine textures.

Soil Drainage Class: Moderately well drained

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Moderate

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 69 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	7 inches	gravelly sandy loam	Granular materials (35 pct. or less passing No. 200), Stone Fragments, Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 14 Min: 4	Max: 6 Min: 4.5
2	7 inches	29 inches	very gravelly sandy loam	Granular materials (35 pct. or less passing No. 200), Stone Fragments, Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 14 Min: 4	Max: 6.5 Min: 5.1
3	29 inches	59 inches	very gravelly loamy sand	Granular materials (35 pct. or less passing No. 200), Stone Fragments, Gravel and Sand.	COARSE-GRAINED SOILIS, Gravels, Clean Gravels, Well-graded gravel. COARSE-GRAINED SOILS, Gravels, Gravels with fines, Silty Gravel.	Max: 0.42 Min: 0.01	Max: 6.5 Min: 5.6

Soil Map ID: 3

Soil Component Name: Lummi

Soil Surface Texture: silt loam

Hydrologic Group: Class D - Very slow infiltration rates. Soils are clayey, have a high water table, or are shallow to an impervious layer.

Soil Drainage Class: Poorly drained

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Hydric Status: All hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	9 inches	silt loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Organic Clay or Organic Silt.	Max: 14 Min: 4	Max: 5.5 Min: 3.6
2	9 inches	25 inches	silt loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), silt.	Max: 4 Min: 1.4	Max: 5.5 Min: 3.6
3	25 inches	59 inches	stratified very gravelly sand to clay	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 4 Min: 1.4	Max: 5.5 Min: 3.6

Soil Map ID: 4

Soil Component Name: Hovde

Soil Surface Texture: sand

Hydrologic Group: Class D - Very slow infiltration rates. Soils are clayey, have a high water table, or are shallow to an impervious layer.

Soil Drainage Class: Poorly drained

Hydric Status: All hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 8 inches

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	18 inches	sand	Granular materials (35 pct. or less passing No. 200), Stone Fragments, Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Clean Sands, Poorly graded sand. COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 705 Min: 141	Max: 6.5 Min: 5.6
2	18 inches	59 inches	very gravelly sand	Granular materials (35 pct. or less passing No. 200), Stone Fragments, Gravel and Sand.	COARSE-GRAINED SOILS, Gravels, Clean gravels, Poorly Graded Gravel.	Max: 705 Min: 141	Max: 9 Min: 5.1

Soil Map ID: 5

Soil Component Name: Coastal beach

Soil Surface Texture: sand

Hydrologic Group: Class D - Very slow infiltration rates. Soils are clayey, have a high water table, or are shallow to an impervious layer.

Soil Drainage Class: Poorly drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 92 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	5 inches	sand	Not reported	Not reported	Max: 141 Min: 42	Max: 7.8 Min: 5.1
2	5 inches	59 inches	coarse sand	Not reported	Not reported	Max: 141 Min: 42	Max: 7.8 Min: 5.1

Soil Map ID: 6

Soil Component Name: Keystone

Soil Surface Texture: loamy sand

Hydrologic Group: Class A - High infiltration rates. Soils are deep, well drained to excessively drained sands and gravels.

Soil Drainage Class: Somewhat excessively drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Moderate

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	7 inches	loamy sand	Granular materials (35 pct. or less passing No. 200), Stone Fragments, Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 141 Min: 42	Max: 5.5 Min: 4.5
2	7 inches	18 inches	gravelly loamy sand	Granular materials (35 pct. or less passing No. 200), Stone Fragments, Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 141 Min: 42	Max: 6.5 Min: 5.1

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
3	18 inches	59 inches	gravelly sand	Granular materials (35 pct. or less passing No. 200), Stone Fragments, Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Clean Sands, Well-graded sand. COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 705 Min: 141	Max: 6.5 Min: 6.1

Soil Map ID: 7

Soil Component Name: Keystone

Soil Surface Texture: loamy sand

Hydrologic Group: Class A - High infiltration rates. Soils are deep, well drained to excessively drained sands and gravels.

Soil Drainage Class: Somewhat excessively drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Moderate

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	7 inches	loamy sand	Granular materials (35 pct. or less passing No. 200), Stone Fragments, Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 141 Min: 42	Max: 5.5 Min: 4.5

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
2	7 inches	18 inches	gravelly loamy sand	Granular materials (35 pct. or less passing No. 200), Stone Fragments, Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 141 Min: 42	Max: 6.5 Min: 5.1
3	18 inches	59 inches	gravelly sand	Granular materials (35 pct. or less passing No. 200), Stone Fragments, Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Clean Sands, Well-graded sand. COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 705 Min: 141	Max: 6.5 Min: 6.1

LOCAL / REGIONAL WATER AGENCY RECORDS

EDR Local/Regional Water Agency records provide water well information to assist the environmental professional in assessing sources that may impact ground water flow direction, and in forming an opinion about the impact of contaminant migration on nearby drinking water wells.

WELL SEARCH DISTANCE INFORMATION

DATABASE	SEARCH DISTANCE (miles)
Federal USGS	1.000
Federal FRDS PWS	Nearest PWS within 1 mile
State Database	1.000

FEDERAL USGS WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
5	USGS40001279200	0 - 1/8 Mile NNW
C6	USGS40001279094	1/8 - 1/4 Mile South
C7	USGS40001279095	1/8 - 1/4 Mile South
9	USGS40001279227	1/8 - 1/4 Mile NNW
D11	USGS40001279320	1/4 - 1/2 Mile NNW
12	USGS40001279005	1/4 - 1/2 Mile South
D13	USGS40001279326	1/4 - 1/2 Mile NNW

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

FEDERAL USGS WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
14	USGS40001279081	1/4 - 1/2 Mile ESE
15	USGS40001278990	1/4 - 1/2 Mile SSE
16	USGS40001279016	1/4 - 1/2 Mile SE
17	USGS40001279267	1/4 - 1/2 Mile NE
19	USGS40001278985	1/2 - 1 Mile SE
21	USGS40001279459	1/2 - 1 Mile NNE
22	USGS40001279093	1/2 - 1 Mile East
23	USGS40001279249	1/2 - 1 Mile ENE
E24	USGS40001279458	1/2 - 1 Mile NNE
E25	USGS40001279470	1/2 - 1 Mile NNE
26	USGS40001279401	1/2 - 1 Mile NE
F27	USGS40001278864	1/2 - 1 Mile SSE
29	USGS40001279421	1/2 - 1 Mile NW
30	USGS40001279555	1/2 - 1 Mile North
31	USGS40001278831	1/2 - 1 Mile SSE
G32	USGS40001279268	1/2 - 1 Mile WNW
H33	USGS40001279530	1/2 - 1 Mile NNE
G34	USGS40001279269	1/2 - 1 Mile WNW
H35	USGS40001279546	1/2 - 1 Mile NNE
36	USGS40001279547	1/2 - 1 Mile NNW
H37	USGS40001279545	1/2 - 1 Mile NNE
38	USGS40001278823	1/2 - 1 Mile SSE
39	USGS40001279476	1/2 - 1 Mile NE
40	USGS40001279258	1/2 - 1 Mile ENE
I41	USGS40001279544	1/2 - 1 Mile NNE
42	USGS40001279618	1/2 - 1 Mile North
I43	USGS40001279571	1/2 - 1 Mile NNE

FEDERAL FRDS PUBLIC WATER SUPPLY SYSTEM INFORMATION

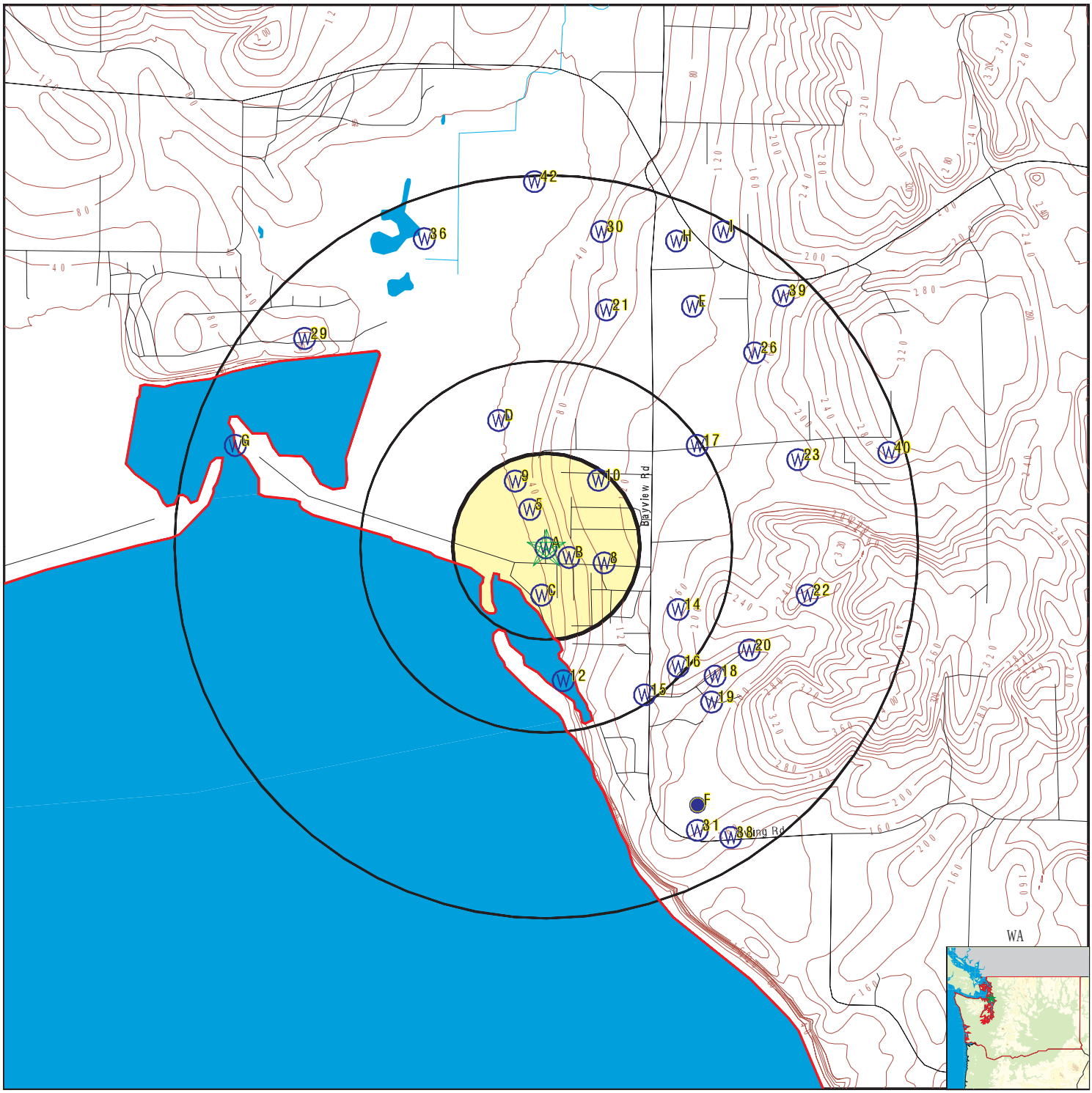
MAP ID	WELL ID	LOCATION FROM TP
No PWS System Found		

Note: PWS System location is not always the same as well location.

STATE DATABASE WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
A1	WA7000000015924	0 - 1/8 Mile SE
A2	WA7000000015922	0 - 1/8 Mile SSW
B3	WA7000000015918	0 - 1/8 Mile ESE
B4	WA7000000015917	0 - 1/8 Mile ESE
8	WA7000000015916	1/8 - 1/4 Mile ESE
10	WA7000000015938	1/8 - 1/4 Mile NE
18	WA7000000015900	1/2 - 1 Mile SE
20	WA7000000015902	1/2 - 1 Mile ESE
F28	WA7000000015874	1/2 - 1 Mile SSE

PHYSICAL SETTING SOURCE MAP - 3779034.2s



- County Boundary
- Major Roads
- Contour Lines
- Earthquake epicenter, Richter 5 or greater
- Water Wells
- Public Water Supply Wells
- Cluster of Multiple Icons

- Groundwater Flow Direction
- GI Indeterminate Groundwater Flow at Location
- GV Groundwater Flow Varies at Location
- HD Closest Hydrogeological Data

SITE NAME:	SunVista HOA Wellhead	CLIENT:	Golder Associates, Inc.
ADDRESS:	6000 Old Henry Lane Clinton WA 98236	CONTACT:	Andrew Austreng
LAT/LONG:	47.9892 / 122.4678	INQUIRY #:	3779034.2s
		DATE:	November 06, 2013 6:51 pm

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID Direction Distance Elevation		Database	EDR ID Number
A1 **SE** **0 - 1/8 Mile** **Higher**	Click here for full text details	**WA WELLS**	**WA7000000015924**
A2 **SSW** **0 - 1/8 Mile** **Lower**	Click here for full text details	**WA WELLS**	**WA7000000015922**
B3 **ESE** **0 - 1/8 Mile** **Higher**	Click here for full text details	**WA WELLS**	**WA7000000015918**
B4 **ESE** **0 - 1/8 Mile** **Higher**	Click here for full text details	**WA WELLS**	**WA7000000015917**
5 **NNW** **0 - 1/8 Mile** **Lower**	Click here for full text details	**FED USGS**	**USGS40001279200**
C6 **South** **1/8 - 1/4 Mile** **Lower**	Click here for full text details	**FED USGS**	**USGS40001279094**
C7 **South** **1/8 - 1/4 Mile** **Lower**	Click here for full text details	**FED USGS**	**USGS40001279095**
8 **ESE** **1/8 - 1/4 Mile** **Higher**	Click here for full text details	**WA WELLS**	**WA7000000015916**

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID Direction Distance Elevation		Database	EDR ID Number
9 **NNW** **1/8 - 1/4 Mile** **Lower**	Click here for full text details	**FED USGS**	**USGS40001279227**
10 **NE** **1/8 - 1/4 Mile** **Higher**	Click here for full text details	**WA WELLS**	**WA7000000015938**
D11 **NNW** **1/4 - 1/2 Mile** **Lower**	Click here for full text details	**FED USGS**	**USGS40001279320**
12 **South** **1/4 - 1/2 Mile** **Higher**	Click here for full text details	**FED USGS**	**USGS40001279005**
D13 **NNW** **1/4 - 1/2 Mile** **Lower**	Click here for full text details	**FED USGS**	**USGS40001279326**
14 **ESE** **1/4 - 1/2 Mile** **Higher**	Click here for full text details	**FED USGS**	**USGS40001279081**
15 **SSE** **1/4 - 1/2 Mile** **Higher**	Click here for full text details	**FED USGS**	**USGS40001278990**
16 **SE** **1/4 - 1/2 Mile** **Higher**	Click here for full text details	**FED USGS**	**USGS40001279016**
17 **NE** **1/4 - 1/2 Mile** **Higher**	Click here for full text details	**FED USGS**	**USGS40001279267**

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID Direction Distance Elevation		Database	EDR ID Number
18 **SE** **1/2 - 1 Mile** **Higher**	Click here for full text details	**WA WELLS**	**WA7000000015900**
19 **SE** **1/2 - 1 Mile** **Higher**	Click here for full text details	**FED USGS**	**USGS40001278985**
20 **ESE** **1/2 - 1 Mile** **Higher**	Click here for full text details	**WA WELLS**	**WA7000000015902**
21 **NNE** **1/2 - 1 Mile** **Higher**	Click here for full text details	**FED USGS**	**USGS40001279459**
22 **East** **1/2 - 1 Mile** **Higher**	Click here for full text details	**FED USGS**	**USGS40001279093**
23 **ENE** **1/2 - 1 Mile** **Higher**	Click here for full text details	**FED USGS**	**USGS40001279249**
E24 **NNE** **1/2 - 1 Mile** **Higher**	Click here for full text details	**FED USGS**	**USGS40001279458**
E25 **NNE** **1/2 - 1 Mile** **Higher**	Click here for full text details	**FED USGS**	**USGS40001279470**
26 **NE** **1/2 - 1 Mile** **Higher**	Click here for full text details	**FED USGS**	**USGS40001279401**

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID Direction Distance Elevation		Database	EDR ID Number
F27 **SSE** **1/2 - 1 Mile** **Higher**	Click here for full text details	**FED USGS**	**USGS40001278864**
F28 **SSE** **1/2 - 1 Mile** **Higher**	Click here for full text details	**WA WELLS**	**WA7000000015874**
29 **NW** **1/2 - 1 Mile** **Higher**	Click here for full text details	**FED USGS**	**USGS40001279421**
30 **North** **1/2 - 1 Mile** **Higher**	Click here for full text details	**FED USGS**	**USGS40001279555**
31 **SSE** **1/2 - 1 Mile** **Higher**	Click here for full text details	**FED USGS**	**USGS40001278831**
G32 **WNW** **1/2 - 1 Mile** **Lower**	Click here for full text details	**FED USGS**	**USGS40001279268**
H33 **NNE** **1/2 - 1 Mile** **Higher**	Click here for full text details	**FED USGS**	**USGS40001279530**
G34 **WNW** **1/2 - 1 Mile** **Lower**	Click here for full text details	**FED USGS**	**USGS40001279269**
H35 **NNE** **1/2 - 1 Mile** **Higher**	Click here for full text details	**FED USGS**	**USGS40001279546**

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID Direction Distance Elevation		Database	EDR ID Number
36 **NNW** **1/2 - 1 Mile** **Lower**	Click here for full text details	**FED USGS**	**USGS40001279547**
H37 **NNE** **1/2 - 1 Mile** **Higher**	Click here for full text details	**FED USGS**	**USGS40001279545**
38 **SSE** **1/2 - 1 Mile** **Higher**	Click here for full text details	**FED USGS**	**USGS40001278823**
39 **NE** **1/2 - 1 Mile** **Higher**	Click here for full text details	**FED USGS**	**USGS40001279476**
40 **ENE** **1/2 - 1 Mile** **Higher**	Click here for full text details	**FED USGS**	**USGS40001279258**
I41 **NNE** **1/2 - 1 Mile** **Higher**	Click here for full text details	**FED USGS**	**USGS40001279544**
42 **North** **1/2 - 1 Mile** **Lower**	Click here for full text details	**FED USGS**	**USGS40001279618**
I43 **NNE** **1/2 - 1 Mile** **Higher**	Click here for full text details	**FED USGS**	**USGS40001279571**

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS
RADON

AREA RADON INFORMATION

Federal EPA Radon Zone for ISLAND County: 3

Note: Zone 1 indoor average level > 4 pCi/L.
: Zone 2 indoor average level >= 2 pCi/L and <= 4 pCi/L.
: Zone 3 indoor average level < 2 pCi/L.

Federal Area Radon Information for ISLAND COUNTY, WA

Number of sites tested: 6

Area	Average Activity	% <4 pCi/L	% 4-20 pCi/L	% >20 pCi/L
Living Area - 1st Floor	0.000 pCi/L	100%	0%	0%
Living Area - 2nd Floor	Not Reported	Not Reported	Not Reported	Not Reported
Basement	0.267 pCi/L	100%	0%	0%

PHYSICAL SETTING SOURCE RECORDS SEARCHED

TOPOGRAPHIC INFORMATION

USGS 7.5' Digital Elevation Model (DEM)
Source: United States Geologic Survey
EDR acquired the USGS 7.5' Digital Elevation Model in 2002 and updated it in 2006. The 7.5 minute DEM corresponds to the USGS 1:24,000- and 1:25,000-scale topographic quadrangle maps. The DEM provides elevation data with consistent elevation units and projection.

Scanned Digital USGS 7.5' Topographic Map (DRG)
Source: United States Geologic Survey
A digital raster graphic (DRG) is a scanned image of a U.S. Geological Survey topographic map. The map images are made by scanning published paper maps on high-resolution scanners. The raster image is georeferenced and fit to the Universal Transverse Mercator (UTM) projection.

HYDROLOGIC INFORMATION

Flood Zone Data: This data, available in select counties across the country, was obtained by EDR in 2003 & 2011 from the Federal Emergency Management Agency (FEMA). Data depicts 100-year and 500-year flood zones as defined by FEMA.

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002 and 2005 from the U.S. Fish and Wildlife Service.

HYDROGEOLOGIC INFORMATION

AQUIFLOW^{R} Information System
Source: EDR proprietary database of groundwater flow information
EDR has developed the AQUIFLOW Information System (AIS) to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted to regulatory authorities at select sites and has extracted the date of the report, hydrogeologically determined groundwater flow direction and depth to water table information.

GEOLOGIC INFORMATION

Geologic Age and Rock Stratigraphic Unit
Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - A digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

STATSGO: State Soil Geographic Database
Source: Department of Agriculture, Natural Resources Conservation Services
The U.S. Department of Agriculture's (USDA) Natural Resources Conservation Service (NRCS) leads the national Conservation Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps.

SSURGO: Soil Survey Geographic Database
Source: Department of Agriculture, Natural Resources Conservation Services (NRCS)
Telephone: 800-672-5559
SSURGO is the most detailed level of mapping done by the Natural Resources Conservation Services, mapping scales generally range from 1:12,000 to 1:63,360. Field mapping methods using national standards are used to construct the soil maps in the Soil Survey Geographic (SSURGO) database. SSURGO digitizing duplicates the original soil survey maps. This level of mapping is designed for use by landowners, townships and county natural resource planning and management.

PHYSICAL SETTING SOURCE RECORDS SEARCHED

LOCAL / REGIONAL WATER AGENCY RECORDS

FEDERAL WATER WELLS

PWS: Public Water Systems
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Public Water System data from the Federal Reporting Data System. A PWS is any water system which provides water to at least 25 people for at least 60 days annually. PWSs provide water from wells, rivers and other sources.

PWS ENF: Public Water Systems Violation and Enforcement Data
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Violation and Enforcement data for Public Water Systems from the Safe Drinking Water Information System (SDWIS) after August 1995. Prior to August 1995, the data came from the Federal Reporting Data System (FRDS).

USGS Water Wells: USGS National Water Inventory System (NWIS)
This database contains descriptive information on sites where the USGS collects or has collected data on surface water and/or groundwater. The groundwater data includes information on wells, springs, and other sources of groundwater.

STATE RECORDS

Water Wells
Source: Department of Health
Telephone: 360-236-3148
Group A and B well locations.

Water Well Listing
Source: Public Utility District
Telephone: 206-779-7656
A listing of water well locations in Kitsap County.

OTHER STATE DATABASE INFORMATION

Oil and Gas Well Listing
Source: Department of Natural Resources
Telephone: 360-902-1450
Locations that represent oil and gas test well sites in Washington State from 1890 to present.

RADON

Area Radon Information
Source: USGS
Telephone: 703-356-4020
The National Radon Database has been developed by the U.S. Environmental Protection Agency (USEPA) and is a compilation of the EPA/State Residential Radon Survey and the National Residential Radon Survey. The study covers the years 1986 - 1992. Where necessary data has been supplemented by information collected at private sources such as universities and research institutions.

EPA Radon Zones
Source: EPA
Telephone: 703-356-4020
Sections 307 & 309 of IRAA directed EPA to list and identify areas of U.S. with the potential for elevated indoor radon levels.

OTHER

Airport Landing Facilities: Private and public use landing facilities
Source: Federal Aviation Administration, 800-457-6656

Epicenters: World earthquake epicenters, Richter 5 or greater
Source: Department of Commerce, National Oceanic and Atmospheric Administration

PHYSICAL SETTING SOURCE RECORDS SEARCHED

STREET AND ADDRESS INFORMATION

ATTACHMENT B
HISTORIC AERIAL IMAGERY

SunVista HOA Wellhead
6000 Old Henry Lane
Clinton, WA 98236

Inquiry Number: 3779034.5
November 12, 2013

The EDR Aerial Photo Decade Package

EDR® Environmental Data Resources Inc

440 Wheelers Farms Road
Milford, CT 06461
800.352.0050
www.edrnet.com

EDR Aerial Photo Decade Package

Environmental Data Resources, Inc. (EDR) Aerial Photo Decade Package is a screening tool designed to assist environmental professionals in evaluating potential liability on a target property resulting from past activities. EDR's professional researchers provide digitally reproduced historical aerial photographs, and when available, provide one photo per decade.

When delivered electronically by EDR, the aerial photo images included with this report are for ONE TIME USE ONLY. Further reproduction of these aerial photo images is prohibited without permission from EDR. For more information contact your EDR Account Executive.

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

Date EDR Searched Historical Sources:
Aerial Photography November 12, 2013

Target Property:
6000 Old Henry Lane
Clinton, WA 98236

Year	***Scale***	***Details***	***Source***
1941	Aerial Photograph. Scale: 1"=750'	Panel #: 47122-H4, Maxwelton, WA;/Flight Date: June 11, 1941	EDR
1952	Aerial Photograph. Scale: 1"=500'	Panel #: 47122-H4, Maxwelton, WA;/Flight Date: July 11, 1952	EDR
1968	Aerial Photograph. Scale: 1"=750'	Panel #: 47122-H4, Maxwelton, WA;/Flight Date: August 31, 1968	EDR
1972	Aerial Photograph. Scale: 1"=500'	Panel #: 47122-H4, Maxwelton, WA;/Flight Date: May 20, 1972	EDR
1990	Aerial Photograph. Scale: 1"=500'	Panel #: 47122-H4, Maxwelton, WA;/DOQQ - acquisition dates: July 10, 1990	EDR
1990	Aerial Photograph. Scale: 1"=500'	Panel #: 47122-H4, Maxwelton, WA;/DOQQ - acquisition dates: July 10, 1990	EDR
1990	Aerial Photograph. Scale: 1"=500'	Panel #: 47122-H4, Maxwelton, WA;/DOQQ - acquisition dates: July 10, 1990	EDR
1990	Aerial Photograph. Scale: 1"=500'	Panel #: 47122-H4, Maxwelton, WA;/DOQQ - acquisition dates: July 10, 1990	EDR
2005	Aerial Photograph. Scale: 1"=500'	Panel #: 47122-H4, Maxwelton, WA;/Flight Year: 2005	EDR
2005	Aerial Photograph. Scale: 1"=500'	Panel #: 47122-H4, Maxwelton, WA;/Flight Year: 2005	EDR
2005	Aerial Photograph. Scale: 1"=500'	Panel #: 47122-H4, Maxwelton, WA;/Flight Year: 2005	EDR
2005	Aerial Photograph. Scale: 1"=500'	Panel #: 47122-H4, Maxwelton, WA;/Flight Year: 2005	EDR
2006	Aerial Photograph. Scale: 1"=500'	Panel #: 47122-H4, Maxwelton, WA;/Flight Year: 2006	EDR
2006	Aerial Photograph. Scale: 1"=500'	Panel #: 47122-H4, Maxwelton, WA;/Flight Year: 2006	EDR
2006	Aerial Photograph. Scale: 1"=500'	Panel #: 47122-H4, Maxwelton, WA;/Flight Year: 2006	EDR
2006	Aerial Photograph. Scale: 1"=500'	Panel #: 47122-H4, Maxwelton, WA;/Flight Year: 2006	EDR
2009	Aerial Photograph. Scale: 1"=500'	Panel #: 47122-H4, Maxwelton, WA;/Flight Year: 2009	EDR
2009	Aerial Photograph. Scale: 1"=500'	Panel #: 47122-H4, Maxwelton, WA;/Flight Year: 2009	EDR
2009	Aerial Photograph. Scale: 1"=500'	Panel #: 47122-H4, Maxwelton, WA;/Flight Year: 2009	EDR

Year	*Scale*	*Details*	*Source*
2009	Aerial Photograph. Scale: 1"=500'	Panel #: 47122-H4, Maxwelton, WA;/Flight Year: 2009	EDR
2011	Aerial Photograph. Scale: 1"=500'	Panel #: 47122-H4, Maxwelton, WA;/Flight Year: 2011	EDR
2011	Aerial Photograph. Scale: 1"=500'	Panel #: 47122-H4, Maxwelton, WA;/Flight Year: 2011	EDR
2011	Aerial Photograph. Scale: 1"=500'	Panel #: 47122-H4, Maxwelton, WA;/Flight Year: 2011	EDR
2011	Aerial Photograph. Scale: 1"=500'	Panel #: 47122-H4, Maxwelton, WA;/Flight Year: 2011	EDR


INQUIRY #: 3779034.5
YEAR: 1941
= 750'
N


INQUIRY #: 3779034.5
YEAR: 1952
= 500'
N


INQUIRY #: 3779034.5
YEAR: 1968
= 750'
N


INQUIRY #: 3779034.5
YEAR: 1972
= 500'
N


INQUIRY #: 3779034.5
YEAR: 1990
= 500'
N


INQUIRY #: 3779034.5
YEAR: 1990
= 500'
N


INQUIRY #: 3779034.5
YEAR: 1990
= 500'
N


INQUIRY #: 3779034.5
YEAR: 1990
= 500'
N


INQUIRY #: 3779034.5
YEAR: 2005
= 500'
N

INQUIRY #: 3779034.5

YEAR: 2005

= 500'

N


INQUIRY #: 3779034.5
YEAR: 2005
= 500'
N

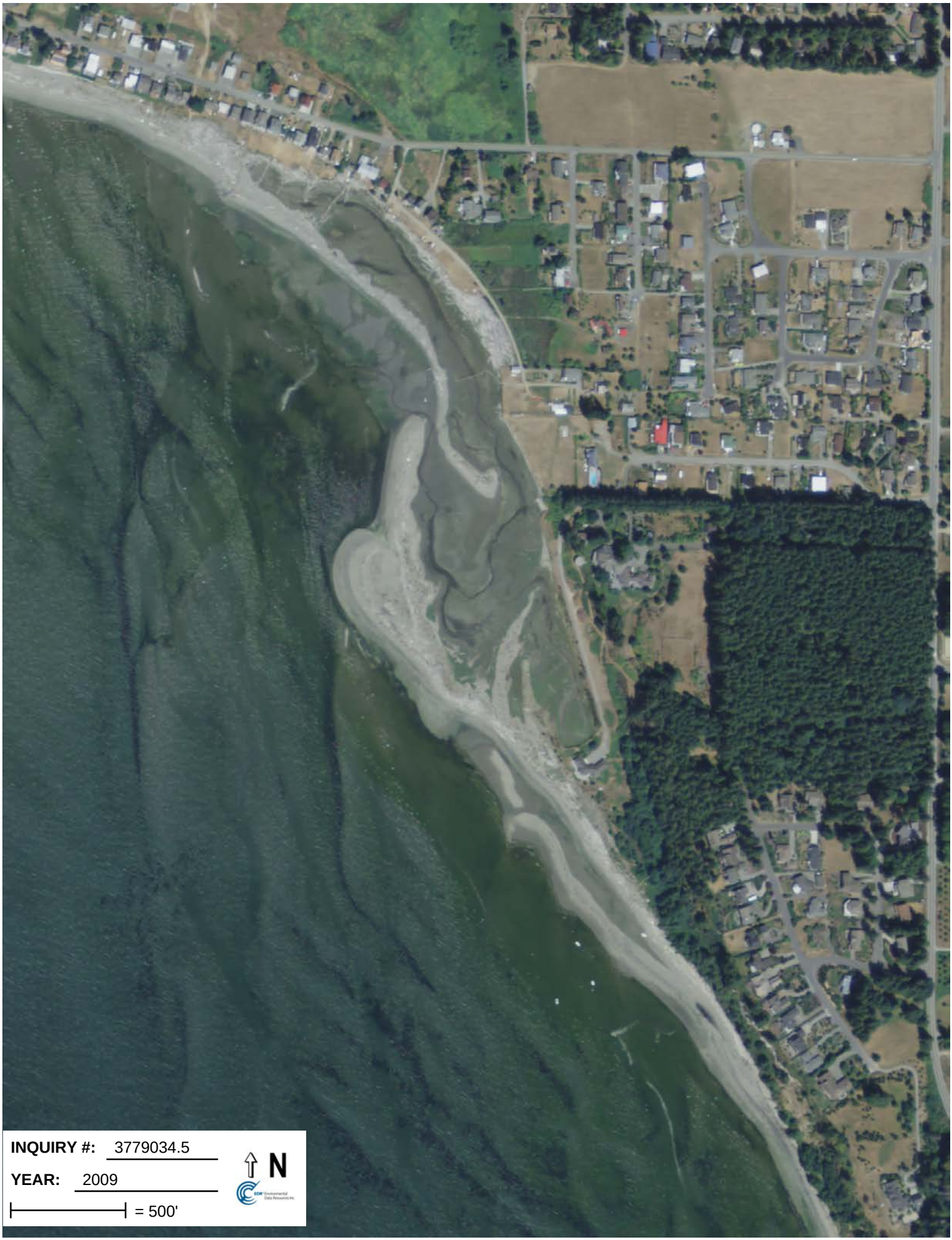

INQUIRY #: 3779034.5
YEAR: 2005
= 500'
N


INQUIRY #: 3779034.5
YEAR: 2006
= 500'
N


INQUIRY #: 3779034.5
YEAR: 2006
= 500'
N


INQUIRY #: 3779034.5
YEAR: 2006
= 500'
N


INQUIRY #: 3779034.5
YEAR: 2006
= 500'
N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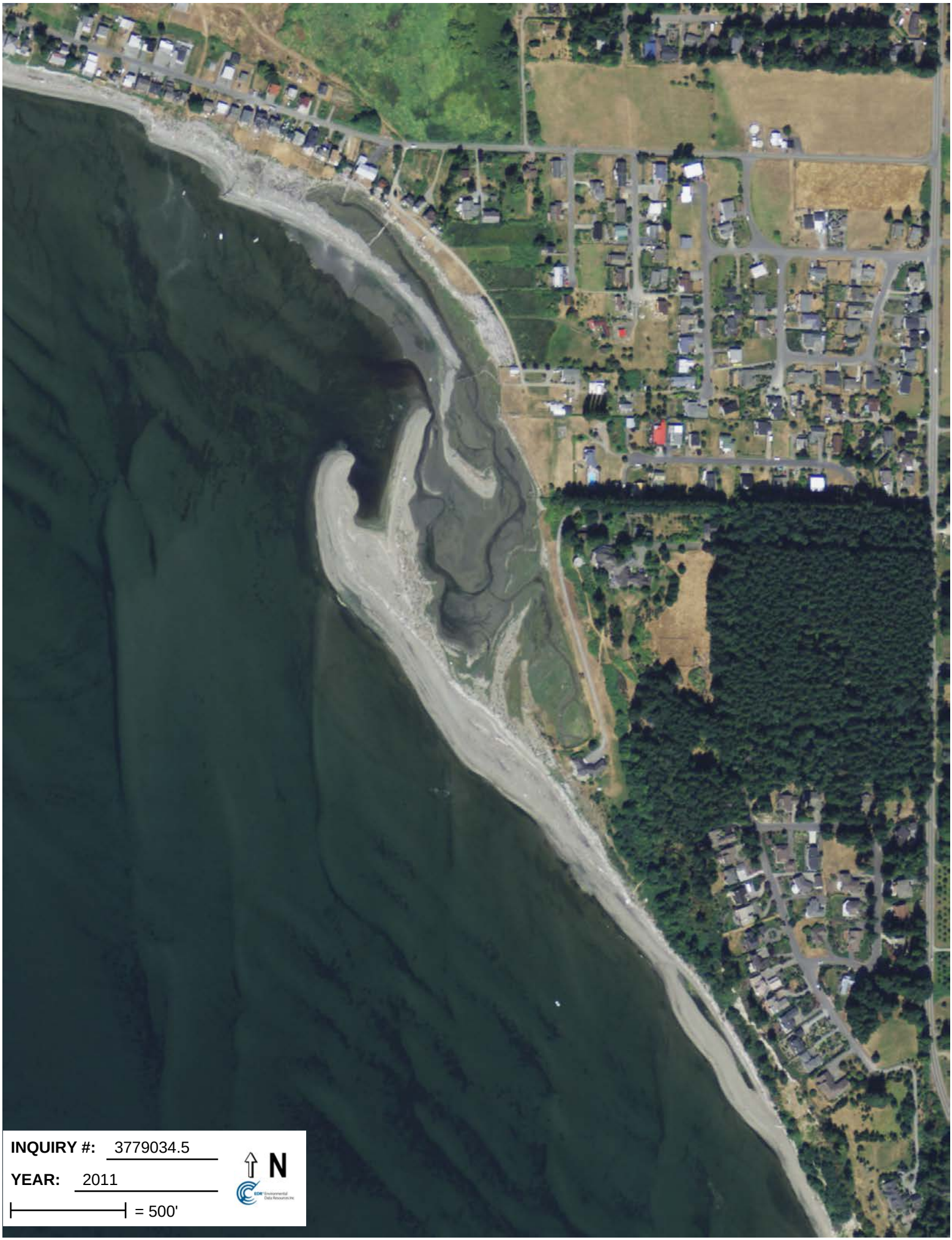
YEAR: 2009
= 500'
N


INQUIRY #: 3779034.5
YEAR: 2009
= 500'
N


INQUIRY #: 3779034.5
YEAR: 2009
= 500'
N


INQUIRY #: 3779034.5
YEAR: 2009
= 500'
N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YEAR: 2011
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N


INQUIRY #: 3779034.5
YEAR: 2011
= 500'
N


INQUIRY #: 3779034.5
YEAR: 2011
= 500'
N


INQUIRY #: 3779034.5
YEAR: 2011
= 500'
N

ATTACHMENT C
SAMPLE NOTIFICATION LETTER AND
LIST OF ADDRESSEES

Appendix D: Sample Notification Letters

Example Letter 1 **To local jurisdictions / agencies**

Dear (Agency/Local Government):

We are writing to let you know that businesses or facilities you regulate are in our public water system wellhead protection area. Please take all reasonable steps to ensure that land use activities within this area do not contaminate our drinking water sources.

Our water company has 450 service connections, and serves about 1,071 people. The Washington State Department of Health rated our system as "highly susceptible."

The enclosed map shows the 6-month and 1-, 5- and 10-year time-of-travel boundaries for our wellhead protection area. We're also sending you a list of the facilities or activities of concern. Any groundwater contamination that occurs within this wellhead protection area has a high potential to reach our well.

Thank you for your support in protecting our drinking water.

Sincerely,

Example Letter 2 **To potential source owners/operators**

Dear (Owner/Operator):

To protect the drinking water supply for the customers of Taylor's Gulch Water System, we are developing a wellhead protection program as required by state law. As part of our wellhead protection program, we mapped the area overlying the short-term recharge zone of our drinking water supply wells. This is called our wellhead protection area.

Following the mapping of the wellhead protection area, we conducted an inventory of **potential** groundwater contamination sources within the area. The nature of your business and its location within our wellhead protection area means that your activities have the potential to affect our customers' drinking water supply.

We have notified the agency or agencies that regulate(s) your type of business/facility that you are in our wellhead protection area. You should contact them to request technical assistance to help manage your business in a way that will best prevent groundwater contamination. We realize you are already careful to protect the environment as you conduct your business. We hope that learning that you are in our wellhead protection area will result in more precautions to ensure that your activities will not affect our drinking water quality.

Sincerely,

Attachment C: List of Addressees

Time of travel Boundary	Name	file_as_na	addr_line1	addr_line2	addr_city	addr_state	zip	situs_num	situs_st_1	situs_st_2	situs_city	situs_stat	situs_zip
6-month	S7605-00-00012-0	HILLMAN, TIMOTHY	DEBORAH LEE-HILLMAN	BOX 1215	CLINTON	WA	98236	6135	LINCOLN	ST	CLINTON	WA	98236
	S7605-00-00013-0	LIM, GIAT & GRACE	19210 53RD PL W		LYNNWOOD	WA	98036	0	LINCOLN	ST	CLINTON	WA	98236
	S7605-00-00001-0	WILCOX, EVA JEAN & JACK E	2437 SUNLIGHT BEACH RD		CLINTON	WA	98236	6120	LINCOLN	ST	CLINTON	WA	98236
	S8280-00-01008-0	BROWN, ROBERT E	RUTH WASHTON-BROWN	6096 IRETON LN	CLINTON	WA	98236	6096	IRETON	LN	CLINTON	WA	98236
	S8280-00-01007-0	BROWN, ROBERT E	RUTH WASHTON-BROWN	6096 IRETON LN	CLINTON	WA	98236	0					
	S8280-00-01006-0	WALKER, EDWARD A	2746 SUN VISTA CIR		CLINTON	WA	98236	2746	SUN VISTA	CIR	CLINTON	WA	98236
	S8280-00-01005-0	SCHULLER, PAUL	PATTI SCHULLER	2744 SUN VISTA CIR	CLINTON	WA	98236	2744	SUN VISTA	CIR	CLINTON	WA	98236
	S8280-00-01004-0	TOWNSLEY, RICHARD HOWARD	TENNYSON ANNE TOWNSLEY	2742 E SUN VISTA CIRCLE	CLINTON	WA	98236	2742	SUN VISTA	CIRCLE	CLINTON	WA	98236
	S7605-02-00014-0	LOVIE, JOHN R	BRENDA L LOVIE	6130 DASSEL ST	CLINTON	WA	98236	6130	DASSEL	ST	CLINTON	WA	98236
	R32919-377-4180	KOHLWES, ROBERT H	GARY KOHLWES MARY JANET KOHLWES V	2597 SUNLIGHT BEACH ROAD	CLINTON	WA	98236	2767	SUNLIGHT BEACH	RD	CLINTON	WA	98236
	R32919-347-3830	YEDOR JTWROS, WILLIAM M	ADRIENNE F MILLICAN	521 MCGILVRA BLVD E	SEATTLE	WA	98112	2692	SUNLIGHT BEACH	RD	CLINTON	WA	98236
	R32919-363-3840	SUNLIGHT BCH WATER ASSN	C/O CLIFFORD SLADE	1801 58TH ST NE	TACOMA	WA	98422	0	SUNLIGHT BEACH	RD	CLINTON	WA	98236
	R32919-400-3910	SPARKMAN FAMILY LTD PRTNR	% JOHN T SPARKMAN	3501 MERIDIAN AVE N	SEATTLE	WA	98103	6095	OLD HENRY	LN	CLINTON	WA	98236
	R32919-415-3910	JALLINGS, CHRISTINA	6081 OLD HENRY LN		CLINTON	WA	98236	6081	OLD HENRY	LN	CLINTON	WA	98236
	R32919-409-3170	KOHLWES ET AL, ROBERT H	2597 SUNLIGHT BEACH RD		CLINTON	WA	98236	0				WA	
1-year	S7605-03-00030-0	SPRIETSMA, WILLIAM M	FREDA J SPRIETSMA TRUSTEES	6146 BARNACLE LN	CLINTON	WA	98236	0	CHERRY TREE	CT	CLINTON	WA	98236
	S7605-02-00025-0	GUTHRIE, CATHY L	15414 LARCH WAY N		LYNNWOOD	WA	98087	6143	DASSEL	ST	CLINTON	WA	98236
	S7605-02-00016-0	O'BRIEN, JOHN H	6140 DASSEL ST		CLINTON	WA	98236	6140	DASSEL	ST	CLINTON	WA	98236
	S7605-03-00029-0	MAHLER, KEITH J & MARY R	3322 NE 200TH ST		LAKE FOREST PARK	WA	98155	6136	CHERRY TREE	CT	CLINTON	WA	98236
	S7605-02-00026-0	POMEROY, BARRY E	REBEKAH A POMEROY	PO BOX 286	CLINTON	WA	98236	6127	DASSEL	ST	CLINTON	WA	98236
	S7605-03-00028-0	SULLIVAN, CRAIG S	PO BOX 1027		CLINTON	WA	98236	6130	CHERRY TREE	CT	CLINTON	WA	98236
	S8280-00-04003-0	WOODLAND, PATRICIA A		2760 SUN VISTA CIRCLE	CLINTON	WA	98236	2758	SUN VISTA	CIR	CLINTON	WA	98236
	S8280-00-04002-0	JEROME, CAROL C	2756 SUN VISTA CIRCLE		CLINTON	WA	98236	0	SUN VISTA	CIR	CLINTON	WA	98236
	S8280-00-04001-0	CARR, MICHAEL S	SHAWNE A CARR	2754 SUN VISTA CIR	CLINTON	WA	98236	2754	SUN VISTA	CIR	CLINTON	WA	98236
	S8280-00-03022-0	LANCE, KATHY A	PO BOX 1319		FREELAND	WA	98249	2757	SUN VISTA	CIR	CLINTON	WA	98236
	S8280-00-03023-0	QUINTERO, ANGEL C	1812 18TH AVE S		SEATTLE	WA	98144	0	SUN VISTA	CIR	CLINTON	WA	98236
	S8280-00-03024-0	VALLAT, GARY H	CHERYL R VALLAT	2741 SUN VISTA CIRCLE	CLINTON	WA	98236	0					
	S8280-00-03003-0	MARKS, MARCIA L		2727 SUN VISTA CIRCLE	CLINTON	WA	98236	2727	SUN VISTA	CIR	CLINTON	WA	98236
	S8280-00-03002-0	BRUNEAU, JOYCE	2729 SUN VISTA CIRCLE		CLINTON	WA	98236	2729	SUN VISTA	CIR	CLINTON	WA	98236
	S8280-00-03001-0	VALLAT, GARY H	CHERYL R VALLAT	2741 SUN VISTA CIR	CLINTON	WA	98236	2741	SUN VISTA	CIR	CLINTON	WA	98236
5-year	S7605-03-00089-0	HENRIOT, JOHN	KELLY HENRIOT	2795 HOMESTEAD AVE	CLINTON	WA	98236	2795	HOMESTEAD	AVE	CLINTON	WA	98236
	S7605-03-00090-0	MCNEELY, DAVID L	2791 HOMESTEAD AVE		CLINTON	WA	98236	2791	HOMESTEAD	AVE	CLINTON	WA	98236
	S7605-03-00091-0	WORSLEY, PETER T	PO BOX 2853		CHELAN	WA	98816	0	HOMESTEAD	AVE	CLINTON	WA	98236
	S7605-03-00092-0	ANDERS, ANNELIESE	15809 NE 114TH CT		REDMOND	WA	98052	0	HOMESTEAD	AVE	CLINTON	WA	98236
	S7605-03-00093-0	DOERING, GREGORY	CAROL DOERING	2771 HOMESTEAD AVE	CLINTON	WA	98236	2771	HOMESTEAD	AVE	CLINTON	WA	98236
	S7605-03-00054-0	EDWARDS, MICHELE WAKEFIELD	PENELOPE HAASE	830 LAUREL WAY	EDMONDS	WA	98020	0					
	S7605-03-00094-0	SCOTT, JAMES E	ARLENE M ALSCHBACH-SCOTT	2767 HOMESTEAD AVE	CLINTON	WA	98236	2767	HOMESTEAD	AVE	CLINTON	WA	98236
	S7605-03-00053-0	CRIDDLE, CAROLYN ANNE		2334 NW 96TH ST	SEATTLE	WA	98117	0					
	R32920-347-0980	HANSON, W JOSEPH	BARBARA J HANSON	PO BOX 295	CLINTON	WA	98236	0					
	S8280-00-04013-0	HINOJOS, FRANCISCO G	DEANNA M HINOJOS	2778 SUN VISTA CIR	CLINTON	WA	98236	2778	SUN VISTA	CIR	CLINTON	WA	98236
	S8280-00-04014-0	MARTIN-CORTEZ, DAMIEN C	2780 SUN VISTA CIR		CLINTON	WA	98236	2780	SUN VISTA	CIR	CLINTON	WA	98236
	S7605-03-00051-0	CRIDDLE, CAROLYN ANNE		2334 NW 96TH ST	SEATTLE	WA	98117	0					
	S7605-03-00048-0	SPRIETSMA, WILLIAM M	FREDA J SPRIETSMA	6146 BARNACLE LN	CLINTON	WA	98236	6146	BARNACLE	LN	CLINTON	WA	98236
	S8280-00-04011-0	CARPENTER, JANN W	LUE JEANNE CARPENTER	2774 SUN VISTA CIR	CLINTON	WA	98236	2774	SUN VISTA	CIR	CLINTON	WA	98236
	S8280-00-04010-0	LINCOLN, SHANNON	JASON D KALK	PO BOX 658	CLINTON	WA	98236	2772	SUN VISTA	CIR	CLINTON	WA	98236
	S8280-00-04012-0	WATSON, JOHN	CLINTA HARLEY	2776 SUN VISTA CIRCLE	CLINTON	WA	98236	2776	SUN VISTA	CIR	CLINTON	WA	98236
	S8280-00-04009-0	PLOOF, CHRIS	CARYN PLOOF	2770 SUN VISTA CIR	CLINTON	WA	98236	2770	SUN VISTA	CIR	CLINTON	WA	98236
	S8280-00-04008-0	MCGHEE, RONALD D	2768 SUN VISTA CIR		CLINTON	WA	98236	2768	SUN VISTA	CIR	CLINTON	WA	98236
	S8280-00-04007-0	HOLLAND, JAYNE L	2764 SUN VISTA CIR		CLINTON	WA	98236	0	SUN VISTA	CIR	CLINTON	WA	98236
	S8280-00-04006-0	HOLLAND, JAYNE L	2764 SUN VISTA CIR		CLINTON	WA	98236	2764	SUN VISTA	CIR	CLINTON	WA	98236
	S8280-00-04005-0	LASLEY, LORETTA		2762 SUN VISTA CIRCLE	CLINTON	WA	98236	2762	SUN VISTA	CIR	CLINTON	WA	98236
	S8280-00-04004-0	WOODLAND, W S	PATRICIA A WOODLAND	2760 SUN VISTA CIR	CLINTON	WA	98236	2760	SUN VISTA	CIR	CLINTON	WA	98236
	S8280-00-04015-0	ROUSE KAY, CORINNE E	2782 SUN VISTA CIR		CLINTON	WA	98236	2782	SUN VISTA	CIR	CLINTON	WA	98236
	S8280-00-03013-0	PHARES, JEAN G	KEVIN E MATHERS, SUSAN M MATHERS	PO BOX 61	FREELAND	WA	98249	2775	SUN VISTA	CIR	CLINTON	WA	98236
	S8280-00-03014-0	NELSON, DAVID	B WINDECKER-NELSON	6500 SILLS RD	CLINTON	WA	98236	2773	SUN VISTA	CIR	CLINTON	WA	98236
	S8280-00-03015-0	MYRES LE, MILDRED	MARK MYRES	PO BOX 701	FREELAND	WA	98249	0	SUN VISTA	CIR	CLINTON	WA	98236
	S8280-00-03016-0	WORKMAN, CECELIA E	2769 SUN VISTA CIR		CLINTON	WA	98236	2769	SUN VISTA	CIR	CLINTON	WA	98236
	S8280-00-03017-0	GEROW, KARI L	2767 SUN VISTA CIR		CLINTON	WA	98236	2767	SUN VISTA	CIR	CLINTON	WA	98236
	S8280-00-03018-0	SPANGLER, JULIE L		2765 SUNVISTA CIRCLE	CLINTON	WA	98236	2765	SUN VISTA	CIR	CLINTON	WA	98236
	S8280-00-03019-0	LEAR TRUSTEE, TINA	34 LESOIR AVE		FLORAL PARK	NY	11001	2763	SUN VISTA	CIR	CLINTON	WA	98236
	S8280-00-03020-0	MACDONALD, NANCY A	525 WERNMARK DR		RED BLUFF	CA	96080	2761	SUN VISTA	CIR	CLINTON	WA	98236
	S8280-00-03021-0	COHAN, JULIE A	2759 SUN VISTA CIR		CLINTON	WA	98236	2759	SUN VISTA	CIR	CLINTON	WA	98236
	S8280-00-02015-0	BROWN, CAROL ANN	2702 SUN VISTA CIR		CLINTON	WA	98236	2702	SUN VISTA	CIR	CLINTON	WA	98236
	S8280-00-03012-0	QUANDT, SUSAN A	2701 SUN VISTA CIRCLE		CLINTON	WA	98236	2701	SUN VISTA	CIR	CLINTON	WA	98236
	S8280-00-03011-0	CASEY, ROBERT F	2711 SUN VISTA CIR		CLINTON	WA	98236	2711	SUN VISTA	CIR	CLINTON	WA	98236
	S8280-00-03010-0	GABELEIN, ELISE M		1547 GARDEN LANE	FREELAND	WA	98249	2713	SUN VISTA	CIR	CLINTON	WA	98236

Attachment C: List of Addressees

Time of travel Boundary	Name	file_as_na	addr_line1	addr_line2	addr_city	addr_state	zip	situs_num	situs_st_1	situs_st_2	situs_city	situs_stat	situs_zip
5-year	S8280-00-03009-0	CORWIN, JOAN E	2715 SUN VISTA CIR		CLINTON	WA	98236	2715	SUN VISTA	CIR	CLINTON	WA	98236
	S8280-00-03008-0	MCLAUGHLIN, DENICE L	2717 SUN VISTA CIR		CLINTON	WA	98136	2717	SUN VISTA	CIR	CLINTON	WA	98236
	S8280-00-03007-0	HENDERSON, JOSEPH NELSON	LINDA L HENDERSON	2719 SUN VISTA CIR	CLINTON	WA	98236	2719	SUN VISTA	CIR	CLINTON	WA	98236
	S8280-00-03006-0	NORTH, LOUISE	255 EAST CHEWUCH		WINTHROP	WA	98862	0					
	S8280-00-03005-0	BLACKALLER, SHIRLEY M	4284 CEDAR VISTA DR		CLINTON	WA	98236	2723	SUN VISTA	CIR	CLINTON	WA	98236
	S8280-00-03004-0	JHANSON, RANDALL	DENISE JHANSON	2725 SUN VISTA CIR	CLINTON	WA	98236	2725	SUN VISTA	CIR	CLINTON	WA	98236
	R32919-347-5050	BOJUCAST LLC		81765 AVENUE 51	INDIO	CA	92201	0					
	R32920-356-0300	WEST, MICHAEL E	6127 BAYVIEW RD		CLINTON	WA	98236	6127	BAYVIEW	RD	CLINTON	WA	98236
	R32920-372-0990	GABELEIN, VERLANE	MARILYN GABELEIN	2877 CEDAR SPRING LANE	CLINTON	WA	98236	0				WA	
	R32920-393-0750	GABELEIN, VERLANE	MARILYN GABELEIN	2877 CEDAR SPRING LN	CLINTON	WA	98236	0				WA	
	R32920-368-1790	GABELEIN, MARILYN	2877 CEDAR SPRING LN		CLINTON	WA	98236	0				WA	
	R32919-397-4530	SUNLIGHT BEACH WATER ASSN	C/O CLIFFORD SLADE	1801 58TH ST NE	TACOMA	WA	98422	2750	WILDFLOWER	LN	CLINTON	WA	98236
	S8280-00-02014-0	MONFORTE, TODD A	HEATHER M MONFORTE	10016 NE 128TH AVE	VANCOUVER	WA	98682	2704	SUN VISTA	CIR	CLINTON	WA	98236
	S8280-00-02013-0	ADAMS, JENNA M	2706 SUN VISTA CIRCLE		CLINTON	WA	98236	2706	SUN VISTA	CIR	CLINTON	WA	98236
	R32920-435-0250	GABELEIN, VERLANE	2877 CEDAR SPRING LN		CLINTON	WA	98236	0				WA	
	R32920-435-0600	GABELEIN, MARILYN	2877 CEDAR SPRING LN		CLINTON	WA	98236	0				WA	
	R32920-435-0950	GABELEIN, VERLANE A	MARILYN GABELEIN	2877 CEDAR SPRING LN	CLINTON	WA	98236	2877	AMBER VIEW	LN	CLINTON	WA	98236
	R32920-435-1250	GABELEIN, MARILYN	2877 CEDAR SPRING LN		CLINTON	WA	98236	0				WA	
	R32920-431-1750	GABELEIN, VERLANE	2877 CEDAR SPRING LN		CLINTON	WA	98236	0				WA	
	R32920-467-1480	GABELEIN, VERLANE	MARILYN GABLEIN	2877 CEDAR SPRING LN	CLINTON	WA	98236	0				WA	
10-year	R32920-348-4260	UNUM, ANA L	6138 PIONEER PARK PL		LANGLEY	WA	98260	6138	PIONEER PARK	PL	LANGLEY	WA	98260
	R32920-381-4280	GRAYSON LIDEN, VICKI	KARL A LIDEN	6130 PIONEER PARK PL	LANGLEY	WA	98260	6130	PIONEER PARK	PL	LANGLEY	WA	98260
	R32920-415-4310	MORRISON, MISTY		BOX 1033	CLINTON	WA	98236	6090	PIONEER PARK	PL	LANGLEY	WA	98260
	R32920-365-3630	GABELEIN, VERLANE	MARILYN GABLEIN	2877 CEDAR SPRING LN	CLINTON	WA	98236	0				WA	
	R32920-365-2990	GABELEIN, VERLANE	MARILYN GABLEIN	2877 CEDAR SPRING LN	CLINTON	WA	98236	0				WA	
	R32920-368-2450	GABELEIN, VERLANE	2877 CEDAR SPRING LN		CLINTON	WA	98236	0				WA	
	R32920-426-2460	GABELEIN, MARILYN	2877 CEDAR SPRING LN		CLINTON	WA	98236	0				WA	
	R32920-448-4330	KERTES, ALAN S	SANDRA A KERTES	6060 PIONEER PARK PL	LANGLEY	WA	98260	6060	PIONEER PARK	PL	LANGLEY	WA	98260
	R32920-435-3000	ROEHNELT, ROD	SYLVIA ROEHNELT	6066 SECRET CORNER LN	CLINTON	WA	98236	6066	SECRET CORNER	LN	CLINTON	WA	98236
	R32920-435-3600	LUX, JAMES	ANNETTE ANDREWS-LUX	6094 SECRET CORNER LN	CLINTON	WA	98236	6094	SECRET CORNER	LN	CLINTON	WA	98236
	R32920-490-2650	KRAL, HENRY J	%MARY A KRAL	PO BOX 914	CHEHALIS	WA	98532	2990	BECKER	RD	CLINTON	WA	98236
	R32920-490-2300	KRAL, HENRY J	%MARY A KRAL	PO BOX 914	CHEHALIS	WA	98532	0	BECKER	RD	CLINTON	WA	98236

Established in 1960, Golder Associates is a global, employee-owned organization that helps clients find sustainable solutions to the challenges of finite resources, energy and water supply and management, waste management, urbanization, and climate change. We provide a wide range of independent consulting, design, and construction services in our specialist areas of earth, environment, and energy. By building strong relationships and meeting the needs of clients, our people have created one of the most trusted professional services organizations in the world.

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Golder Associates

Engineering Earth's Development, Preserving Earth's Integrity