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).

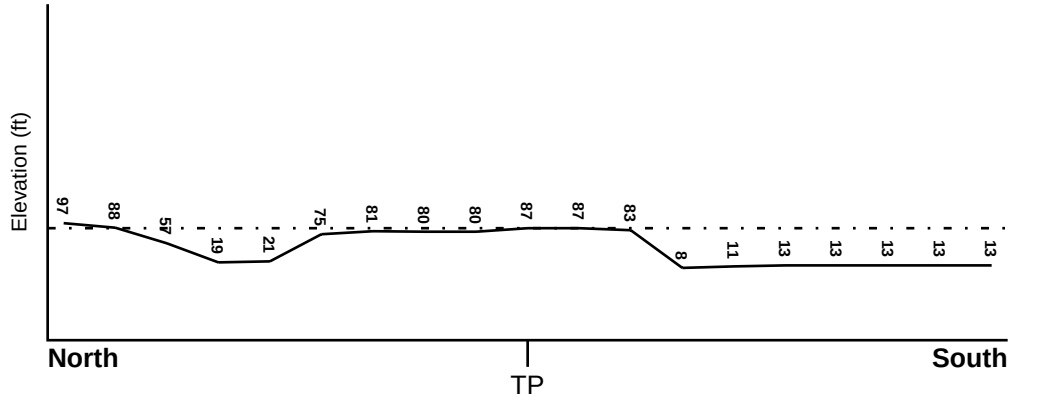
TOPOGRAPHIC INFORMATION

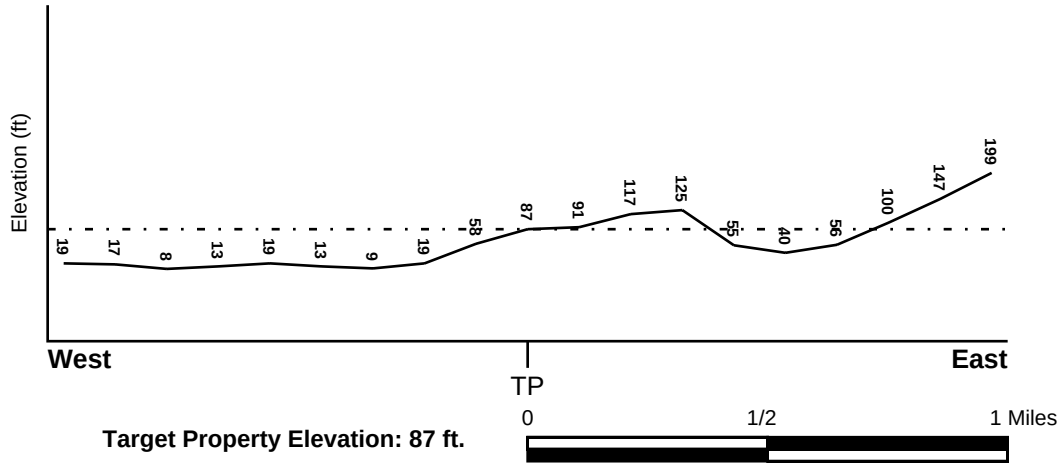
Surface topography may be indicative of the direction of surficial groundwater flow. This information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient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

TARGET PROPERTY TOPOGRAPHY

General Topographic Gradient: General West

SURROUNDING TOPOGRAPHY: ELEVATION PROFILES





Target Property Elevation: 87 ft.

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

Flood Plain Panel at Target Property	FEMA Source Type
53011C0203D	FEMA FIRM Flood data

Additional Panels in search area:	FEMA Source Type
53011C0184D	FEMA FIRM Flood data
53011C0200D	FEMA FIRM Flood data
53011C0211D	FEMA FIRM Flood data

NATIONAL WETLAND INVENTORY

NWI Quad at Target Property	NWI Electronic Data Coverage
RIDGEFIELD	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		

* ©1996 Site−specific hydrogeological data gathered by CERCLIS Alerts, Inc., Bainbridge Island, WA. All rights reserved. All of the information and opinions presented are those of the cited EPA report(s), which were completed under a Comprehensive Environmental Response Compensation and Liability Information System (CERCLIS) investigation.

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

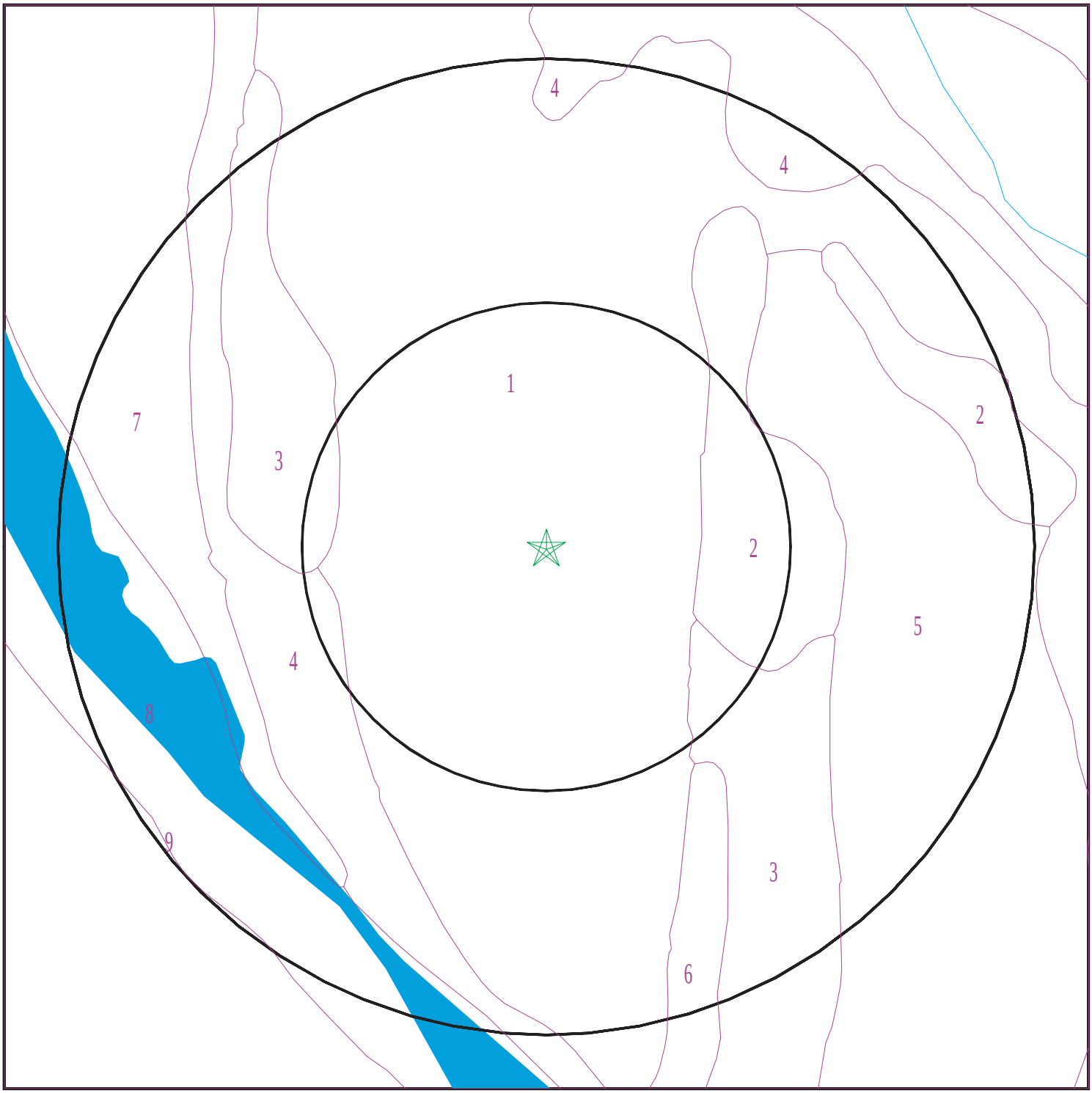
Era:	Cenozoic
System:	Quaternary
Series:	Quaternary
Code:	Q *(decoded above as Era, System & Series)*

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 - 5199990.2s



Target Property
SSURGO Soil
Water

0 1/16 1/8 1/4 Miles

N

SITE NAME:	Ridgefield Library	CLIENT:	BergerAbam
ADDRESS:	210 N Main Ave Ridgefield WA 98642	CONTACT:	Amber Roesler
		INQUIRY #:	5199990.2s
LAT/LONG:	45.816905 / 122.745824	DATE:	February 26, 2018 7:09 pm

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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: Hillsboro

Soil Surface Texture: silt loam

Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.

Soil Drainage Class: Well drained

Hydric Status: Not 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	7 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: 14 Min: 4	Max: 6 Min: 5.1
2	7 inches	16 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: 14 Min: 4	Max: 6 Min: 5.1
3	16 inches	55 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: 14 Min: 4	Max: 5.5 Min: 4.5

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
4	55 inches	59 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: 14 Min: 4	Max: 6 Min: 5.1

Soil Map ID: 2

Soil Component Name: Hillsboro

Soil Surface Texture: silt loam

Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.

Soil Drainage Class: Well drained

Hydric Status: Not 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	5 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: 14 Min: 4	Max: 6 Min: 5.1
2	5 inches	14 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: 14 Min: 4	Max: 6 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	14 inches	53 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: 14 Min: 4	Max: 5.5 Min: 4.5
4	53 inches	59 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: 14 Min: 4	Max: 6 Min: 5.1

Soil Map ID: 3

Soil Component Name: Hillsboro

Soil Surface Texture: silt loam

Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.

Soil Drainage Class: Well drained

Hydric Status: Not 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	5 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: 14 Min: 4	Max: 6 Min: 5.1

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	5 inches	14 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: 14 Min: 4	Max: 6 Min: 5.1
3	14 inches	53 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: 14 Min: 4	Max: 5.5 Min: 4.5
4	53 inches	59 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: 14 Min: 4	Max: 6 Min: 5.1

Soil Map ID: 4

Soil Component Name: Hillsboro

Soil Surface Texture: silt loam

Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.

Soil Drainage Class: Well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 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	1 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: 14 Min: 4	Max: 6 Min: 5.1
2	1 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%), silt.	Max: 14 Min: 4	Max: 6 Min: 5.1
3	9 inches	48 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: 14 Min: 4	Max: 5.5 Min: 4.5
4	48 inches	59 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: 14 Min: 4	Max: 6 Min: 5.1

Soil Map ID: 5

Soil Component Name: Hillsboro

Soil Surface Texture: silt loam

Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.

Soil Drainage Class: Well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 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	7 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: 14 Min: 4	Max: 6 Min: 5.1
2	7 inches	16 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: 14 Min: 4	Max: 6 Min: 5.1
3	16 inches	55 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: 14 Min: 4	Max: 5.5 Min: 4.5
4	55 inches	59 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: 14 Min: 4	Max: 6 Min: 5.1

Soil Map ID: 6

Soil Component Name: Odne

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

Hydric Status: All hydric

Corrosion Potential - Uncoated Steel: Moderate

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 23 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	5 inches	silt loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 14 Min: 4	Max: 6 Min: 5.1
2	5 inches	33 inches	silt loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 0 Min: 0	Max: 6.5 Min: 4.5
3	33 inches	59 inches	loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 4 Min: 1.4	Max: 6.5 Min: 5.6

Soil Map ID: 7

Soil Component Name: Sauvie

Soil Surface Texture: silt loam

Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.

Soil Drainage Class: Moderately well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Moderate

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 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	14 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: 6.5 Min: 6.1
2	14 inches	35 inches	silty clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), silt.	Max: 4 Min: 1.4	Max: 6.5 Min: 6.1
3	35 inches	59 inches	stratified sandy loam to 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: 42 Min: 14	Max: 7.3 Min: 6.1

Soil Map ID: 8

Soil Component Name: Water

Soil Surface Texture: silt loam

Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.

Soil Drainage Class:
Hydric Status: All hydric

Corrosion Potential - Uncoated Steel: Not Reported

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

No Layer Information available.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Map ID: 9

Soil Component Name: Sauvie

Soil Surface Texture: silty clay loam

Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.

Soil Drainage Class: Somewhat poorly 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	14 inches	silty clay 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: 6.5 Min: 6.1
2	14 inches	35 inches	silty clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), silt.	Max: 4 Min: 1.4	Max: 6.5 Min: 6.1
3	35 inches	59 inches	stratified sandy loam to 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: 42 Min: 14	Max: 7.3 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.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

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
1	USGS40001210336	0 - 1/8 Mile WSW
3	USGS40001210354	1/8 - 1/4 Mile WNW
A4	USGS40001210384	1/4 - 1/2 Mile NNW
A5	USGS40001210385	1/4 - 1/2 Mile NNW
8	USGS40001210388	1/4 - 1/2 Mile NNW
C10	USGS40001210372	1/4 - 1/2 Mile ENE
C11	USGS40001210363	1/4 - 1/2 Mile ENE
C12	USGS40001210362	1/4 - 1/2 Mile ENE
D13	USGS40001210353	1/4 - 1/2 Mile East
D14	USGS40001210351	1/4 - 1/2 Mile East
E15	USGS40001210347	1/2 - 1 Mile East
E16	USGS40001210332	1/2 - 1 Mile East
E18	USGS40001210331	1/2 - 1 Mile East
G22	USGS40001210431	1/2 - 1 Mile NNW
29	USGS40001210467	1/2 - 1 Mile NNW
31	USGS40001210473	1/2 - 1 Mile North
32	USGS40001210321	1/2 - 1 Mile East
H35	USGS40001210488	1/2 - 1 Mile NNW
H36	USGS40001210489	1/2 - 1 Mile NNW

FEDERAL FRDS PUBLIC WATER SUPPLY SYSTEM INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
2	WA5333344	1/8 - 1/4 Mile SE

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

STATE DATABASE WELL INFORMATION

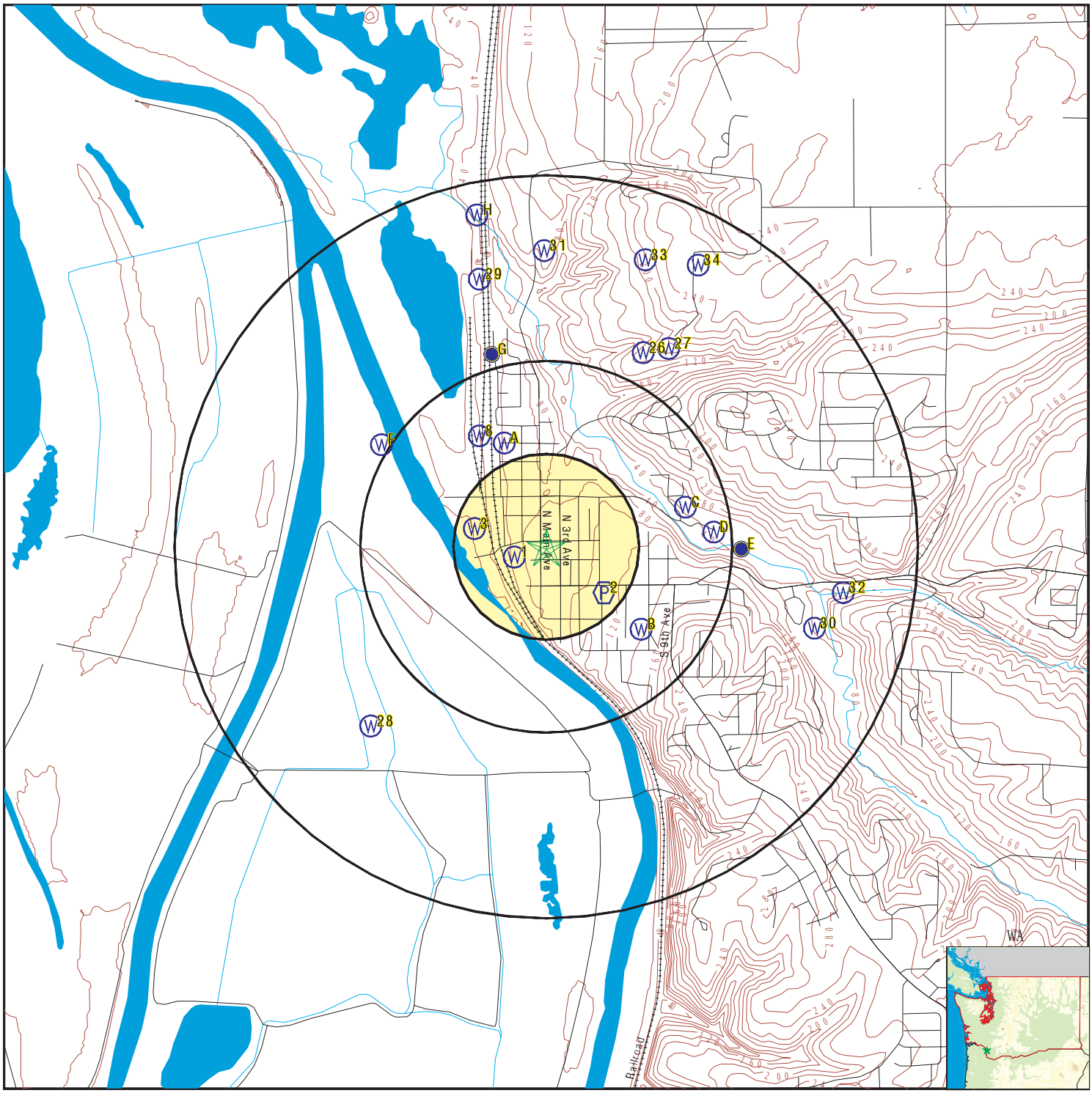
MAP ID	WELL ID	LOCATION FROM TP
B6	WA8000000025477	1/4 - 1/2 Mile SE
B7	WA8000000031309	1/4 - 1/2 Mile SE
B9	WA8000000025031	1/4 - 1/2 Mile SE
E17	WA8000000017612	1/2 - 1 Mile East
F19	WA8000000007988	1/2 - 1 Mile WNW
F20	WA8000000016919	1/2 - 1 Mile WNW
E21	WA8000000025030	1/2 - 1 Mile East

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

STATE DATABASE WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
E23	WA8000000016874	1/2 - 1 Mile East
G24	WA8000000010930	1/2 - 1 Mile NNW
E25	WA8000000030876	1/2 - 1 Mile East
26	WA8000000028995	1/2 - 1 Mile NNE
27	WA8000000017024	1/2 - 1 Mile NNE
28	WA8000000031197	1/2 - 1 Mile SW
30	WA8000000013439	1/2 - 1 Mile ESE
33	WA8000000030469	1/2 - 1 Mile NNE
34	WA8000000002440	1/2 - 1 Mile NNE

PHYSICAL SETTING SOURCE MAP - 5199990.2s



- 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
- Oil, gas or related wells

SITE NAME: Ridgefield Library	CLIENT: BergerAbam
ADDRESS: 210 N Main Ave Ridgefield WA 98642	CONTACT: Amber Roesler
LAT/LONG: 45.816905 / 122.745824	INQUIRY #: 5199990.2s DATE: February 26, 2018 7:09 pm

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GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

1
WSW
0 - 1/8 Mile
Lower

FED USGS **USGS40001210336**

Org. Identifier:	USGS-WA		
Formal name:	USGS Washington Water Science Center		
Monloc Identifier:	USGS-454900122444701		
Monloc name:	04N/01E-18K01		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	17080002	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	45.8165039
Longitude:	-122.747601	Sourcemap scale:	24000
Horiz Acc measure:	1	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	248
Vert measure units:	feet	Vertacc measure val:	5
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refsys:	NGVD29	Countrycode:	US
Aquifername:	Not Reported		
Formation type:	Not Reported		
Aquifer type:	Not Reported		
Construction date:	19710225	Welldepth:	110
Welldepth units:	ft	Wellholedepth:	Not Reported
Wellholedepth units:	Not Reported		

Ground-water levels, Number of Measurements: 1

Date	Feet below Surface	Feet to Sealevel
1971-03-03	36	

2
SE
1/8 - 1/4 Mile
Higher

FRDS PWS **WA5333344**

Epa region:	10	State:	WA
Pwsid:	WA5333344		
Pwsname:	PORT OF RIDGEFIELD INDUSTRIAL PARK		
City served:	Not Reported	State served:	WA
Zip served:	Not Reported	Fips county:	53011
Status:	Closed	Pop srvd:	100
Pwssvcconn:	8	Source:	Groundwater
Pws type:	NTNCWS	Owner:	Local_Govt
Contact:	Not Reported		
Contactor gname:	Not Reported		
Contact phone:	Not Reported	Contact address1:	Not Reported
Contact address2:	Not Reported	Contact city:	RIDGEFIELD
Contact state:	WA	Contact zip:	98642
Activity code:	I		

Location Information:

Name:	PORT OF RIDGEFIELD INDUSTRIAL PARK		
Pwstypcd:	NTNCWS	Primsrccd:	GW
Popserved:	100		
Add1:	Not Reported		
Add2:	Not Reported		
City:	RIDGEFIELD	State:	WA
Zip:	98642	Phone:	Not Reported
Cityserv:	Not Reported	Cntyserv:	Not Reported
Stateserv:	WA	Zipserv:	Not Reported

PWS ID:	WA5333344		
Date Initiated:	Not Reported	Date Deactivated:	Not Reported
PWS Name:	PORT OF RIDGEFIELD IND PRK WTR SYS RIDGEFIELD, WA 98642		

Addressee / Facility: Not Reported

Facility Latitude:	45 48 55	Facility Longitude:	122 44 29
City Served:	Not Reported		
Treatment Class:	Treated	Population:	00000101

Violations information not reported.

ENFORCEMENT INFORMATION:

System Name:	PORT OF RIDGEFIELD INDUSTR		
Violation Type:	Initial Tap Sampling for Pb and Cu		
Contaminant:	LEAD & COPPER RULE		
Compliance Period:	1997-07-01 - 2015-12-31		
Violation ID:	9800001		
Enforcement Date:	1999-01-15	Enf. Action:	Fed Violation/Reminder Notice

System Name:	PORT OF RIDGEFIELD INDUSTR		
Violation Type:	Initial Tap Sampling for Pb and Cu		
Contaminant:	LEAD & COPPER RULE		
Compliance Period:	1998-07-01 - 1998-12-31		
Violation ID:	99000001		
Enforcement Date:	Not Reported	Enf. Action:	Not Reported

System Name:	PORT OF RIDGEFIELD INDUSTR		
Violation Type:	Initial Tap Sampling for Pb and Cu		
Contaminant:	LEAD & COPPER RULE		
Compliance Period:	1998-07-01 - 2015-12-31		
Violation ID:	9900001		
Enforcement Date:	1999-01-15	Enf. Action:	Fed Violation/Reminder Notice

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3
WNW **FED USGS** **USGS40001210354**
1/8 - 1/4 Mile
Lower

Org. Identifier:	USGS-WA		
Formal name:	USGS Washington Water Science Center		
Monloc Identifier:	USGS-454904122445501		
Monloc name:	04N/01W-24G01		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	17080001	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	45.817615
Longitude:	-122.7498233	Sourcemap scale:	24000

Horiz Acc measure:	5	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	15
Vert measure units:	feet	Vertacc measure val:	5
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refsys:	NGVD29	Countrycode:	US
Aquifername:	Not Reported		
Formation type:	Not Reported		
Aquifer type:	Not Reported		
Construction date:	19680101	Welldepth:	90
Welldepth units:	ft	Wellholedepth:	Not Reported
Wellholedepth units:	Not Reported		

Ground-water levels, Number of Measurements: 1

Date	Feet below Surface	Feet to Sealevel
1968-03-01	14	

A4
NNW
1/4 - 1/2 Mile
Lower

FED USGS **USGS40001210384**

Org. Identifier:	USGS-WA		
Formal name:	USGS Washington Water Science Center		
Monloc Identifier:	USGS-454916122444901		
Monloc name:	04N/01W-24B03		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	17080001	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	45.8209483
Longitude:	-122.7481566	Sourcemap scale:	24000
Horiz Acc measure:	10	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	55
Vert measure units:	feet	Vertacc measure val:	5
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refsys:	NGVD29	Countrycode:	US
Aquifername:	Not Reported		
Formation type:	Not Reported		
Aquifer type:	Not Reported		
Construction date:	19650101	Welldepth:	144
Welldepth units:	ft	Wellholedepth:	Not Reported
Wellholedepth units:	Not Reported		

Ground-water levels, Number of Measurements: 1

Date	Feet below Surface	Feet to Sealevel
1966-01-01	47	

A5
NNW
1/4 - 1/2 Mile
Lower

FED USGS **USGS40001210385**

Org. Identifier:	USGS-WA		
Formal name:	USGS Washington Water Science Center		
Monloc Identifier:	USGS-454916122444902		
Monloc name:	04N/01W-24B02		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	17080001	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	45.8209483
Longitude:	-122.7481566	Sourcemap scale:	24000
Horiz Acc measure:	10	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	55
Vert measure units:	feet	Vertacc measure val:	5
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refsys:	NGVD29	Countrycode:	US
Aquifername:	Not Reported		
Formation type:	Not Reported		
Aquifer type:	Not Reported		
Construction date:	19700101	Welldepth:	143
Welldepth units:	ft	Wellholedepth:	Not Reported
Wellholedepth units:	Not Reported		

Ground-water levels, Number of Measurements: 1

Date	Feet below Surface	Feet to Sealevel
1971-02-01	49	

B6
SE
1/4 - 1/2 Mile
Higher

WA WELLS **WA8000000025477**

Fid:	25476	Lerootid:	65518
Srcrootid:	23091	Pwsid:	72400
Srcnum:	10	Pwssrcid:	7240010
Systemname:	RIDGEFIELD PUBLIC WORKS	Systemgrou:	A
Systemtype:	Comm	Region:	SW
County:	CLARK	Smaid:	Not Reported
Ftrespopul:	4931	Resconnect:	1833
Totalconne:	2023	Srcname:	PAT PARK #2
Srctype:	W	Srcusecode:	E
Srcwelldep:	165	Township:	04
Range :	01E	Section:	19
Qtrqtrsect:	SWNW		
Longitude:	-122.740799		
Latitude:	45.81364		
Latlongmet:	QtrQtrSection	Srcsuscept:	N
Srcvulnioc:	Not Reported	Srcvulnvoc:	Not Reported
Srcvulnsoc:	Not Reported	Doewelltag:	Not Reported
Srctot6mo:	0	Srctot1yr:	0
Srctot5yr:	0	Srctot10yr:	0
Protection:	Assigned	Pricontact:	3608873897

Priconta 1:	Not Reported	Priconta 2:	PO BOX 608
Priconta 3:	RIDGEFIELD	Priconta 4:	WA
Priconta 5:	98642		
Priconta 6:	scott.brunson@ci.ridgefield.wa.us		
Pwseffecti:	01-JAN-70	Pwsstatusi:	A
Pwsinactiv:	Not Reported	Srcstatusi:	I
Srceffecti:	16-OCT-07	Srcinactiv:	16-OCT-07
Floodzonei:	N	Priconta 7:	R SCOTT BRUNSON
Srcswinflu:	U	Latlongdat:	Not Reported
Site id:	WA8000000025477		

B7
SE
1/4 - 1/2 Mile
Higher

WA WELLS **WA8000000031309**

Fid:	31308	Lerootid:	65518
Srcrootid:	23083	Pwsid:	72400
Srcnum:	01	Pwssrcid:	7240001
Systemname:	RIDGEFIELD PUBLIC WORKS	Systemgrou:	A
Systemtype:	Comm	Region:	SW
County:	CLARK	Smaid:	Not Reported
Ftrespopul:	4931	Resconnect:	1833
Totalconne:	2023	Srcname:	PAT PARK #1
Srctype:	W	Srcusecode:	E
Srcwelldep:	34	Township:	04
Range :	01E	Section:	19
Qtrqtrsect:	SWNW		
Longitude:	-122.740799		
Latitude:	45.81364		
Latlongmet:	QtrQtrSection	Srcsuscept:	N
Srcvulnioc:	Not Reported	Srcvulnvoc:	Not Reported
Srcvulnsoc:	Not Reported	Doewelltag:	Not Reported
Srctot6mo:	0	Srctot1yr:	0
Srctot5yr:	0	Srctot10yr:	0
Protection:	Assigned	Pricontact:	3608873897
Priconta 1:	Not Reported	Priconta 2:	PO BOX 608
Priconta 3:	RIDGEFIELD	Priconta 4:	WA
Priconta 5:	98642		
Priconta 6:	scott.brunson@ci.ridgefield.wa.us		
Pwseffecti:	01-JAN-70	Pwsstatusi:	A
Pwsinactiv:	Not Reported	Srcstatusi:	I
Srceffecti:	16-OCT-07	Srcinactiv:	16-OCT-07
Floodzonei:	N	Priconta 7:	R SCOTT BRUNSON
Srcswinflu:	U	Latlongdat:	Not Reported
Site id:	WA8000000031309		

8
NNW
1/4 - 1/2 Mile
Lower

FED USGS **USGS40001210388**

Org. Identifier:	USGS-WA		
Formal name:	USGS Washington Water Science Center		
Monloc Identifier:	USGS-454917122445401		
Monloc name:	04N/01W-24B01		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	17080001	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	45.8212261
Longitude:	-122.7495456	Sourcemap scale:	24000
Horiz Acc measure:	1	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	10
Vert measure units:	feet	Vertacc measure val:	5
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refsys:	NGVD29	Countrycode:	US
Aquifername:	Not Reported		
Formation type:	Not Reported		
Aquifer type:	Not Reported		
Construction date:	19751001	Welldepth:	139
Welldepth units:	ft	Wellholedepth:	Not Reported
Wellholedepth units:	Not Reported		

Ground-water levels, Number of Measurements: 1

Date	Feet below Surface	Feet to Sealevel
1975-10-01	29	

B9
SE
1/4 - 1/2 Mile
Higher

WA WELLS **WA8000000025031**

Fid:	25030	Lerootid:	65518
Srcrootid:	30990	Pwsid:	72400
Srcnum:	16	Pwssrcid:	7240016
Systemname:	RIDGEFIELD PUBLIC WORKS	Systemgrou:	A
Systemtype:	Comm	Region:	SW
County:	CLARK	Smaid:	Not Reported
Ftrespopul:	4931	Resconnect:	1833
Totalconne:	2023	Srcname:	ABRAMS #10 APP678
Srctype:	W	Srcusecode:	P
Srcwelldep:	135	Township:	04
Range :	01E	Section:	19
Qtrqtrsect:	SENW		
Longitude:	-122.74		
Latitude:	45.8138		
Latlongmet:	QtrQtrSe	Srcsuscept:	M
Srcvulnioc:	L	Srcvulnvoc:	M
Srcvulnsoc:	L	Doewelltag:	APP678
Srctot6mo:	0	Srctot1yr:	0
Srctot5yr:	0	Srctot10yr:	0
Protection:	Assigned	Pricontact:	3608873897

Priconta 1:	Not Reported	Priconta 2:	PO BOX 608
Priconta 3:	RIDGEFIELD	Priconta 4:	WA
Priconta 5:	98642		
Priconta 6:	scott.brunson@ci.ridgefield.wa.us		
Pwseffecti:	01-JAN-70	Pwsstatusi:	A
Pwsinactiv:	Not Reported	Srcstatusi:	A
Srceffecti:	19-JUL-07	Srcinactiv:	Not Reported
Floodzonei:	N	Priconta 7:	R SCOTT BRUNSON
Srcswinflu:	N	Latlongdat:	Not Reported
Site id:	WA8000000025031		

C10
ENE **FED USGS** **USGS40001210372**
1/4 - 1/2 Mile
Lower

Org. Identifier:	USGS-WA		
Formal name:	USGS Washington Water Science Center		
Monloc Identifier:	USGS-454909122441401		
Monloc name:	04N/01E-19E03		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	17080002	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	45.8190039
Longitude:	-122.7384343	Sourcemap scale:	24000
Horiz Acc measure:	5	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	40
Vert measure units:	feet	Vertacc measure val:	5
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refsys:	NGVD29	Countrycode:	US
Aquifername:	Not Reported		
Formation type:	Not Reported		
Aquifer type:	Not Reported		
Construction date:	19550523	Welldepth:	65
Welldepth units:	ft	Wellholedepth:	Not Reported
Wellholedepth units:	Not Reported		

Ground-water levels, Number of Measurements: 1

Date	Feet below Surface	Feet to Sealevel
1955-05-23	38	

C11
ENE **FED USGS** **USGS40001210363**
1/4 - 1/2 Mile
Lower

Org. Identifier:	USGS-WA		
Formal name:	USGS Washington Water Science Center		
Monloc Identifier:	USGS-454906122441202		
Monloc name:	04N/01E-19E02		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	17080002	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	45.8181705
Longitude:	-122.7378787	Sourcemap scale:	24000

Horiz Acc measure:	5	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	35
Vert measure units:	feet	Vertacc measure val:	5
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refsys:	NGVD29	Countrycode:	US
Aquifername:	Not Reported		
Formation type:	Not Reported		
Aquifer type:	Not Reported		
Construction date:	19320101	Welldepth:	35
Welldepth units:	ft	Wellholedepth:	Not Reported
Wellholedepth units:	Not Reported		

Ground-water levels, Number of Measurements: 1

Date	Feet below Surface	Feet to Sealevel
1947-10-01	22	

C12
ENE
1/4 - 1/2 Mile
Lower

FED USGS **USGS40001210362**

Org. Identifier:	USGS-WA		
Formal name:	USGS Washington Water Science Center		
Monloc Identifier:	USGS-454906122441201		
Monloc name:	04N/01E-19E01		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	17080002	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	45.8181705
Longitude:	-122.7378787	Sourcemap scale:	24000
Horiz Acc measure:	5	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	35
Vert measure units:	feet	Vertacc measure val:	5
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refsys:	NGVD29	Countrycode:	US
Aquifername:	Not Reported		
Formation type:	Not Reported		
Aquifer type:	Not Reported		
Construction date:	19470101	Welldepth:	35
Welldepth units:	ft	Wellholedepth:	Not Reported
Wellholedepth units:	Not Reported		

Ground-water levels, Number of Measurements: 1

Date	Feet below Surface	Feet to Sealevel
1947-10-01	22	

D13
East
1/4 - 1/2 Mile
Lower

FED USGS **USGS40001210353**

Org. Identifier:	USGS-WA		
Formal name:	USGS Washington Water Science Center		
Monloc Identifier:	USGS-454904122440801		
Monloc name:	04N/01E-19F01		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	17080002	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	45.817615
Longitude:	-122.7367675	Sourcemap scale:	24000
Horiz Acc measure:	5	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	38
Vert measure units:	feet	Vertacc measure val:	5
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refsys:	NGVD29	Countrycode:	US
Aquifername:	Not Reported		
Formation type:	Not Reported		
Aquifer type:	Not Reported		
Construction date:	19650419	Welldepth:	163
Welldepth units:	ft	Wellholedepth:	Not Reported
Wellholedepth units:	Not Reported		

Ground-water levels, Number of Measurements: 1

Date	Feet below Surface	Feet to Sealevel
1967-02-01	21	

D14
East
1/4 - 1/2 Mile
Lower

FED USGS **USGS40001210351**

Org. Identifier:	USGS-WA		
Formal name:	USGS Washington Water Science Center		
Monloc Identifier:	USGS-454903122440621		
Monloc name:	04N/01E-19F03		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	17080002	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	45.8173372
Longitude:	-122.736212	Sourcemap scale:	Not Reported
Horiz Acc measure:	5	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	9999.99
Vert measure units:	feet	Vertacc measure val:	999
Vert accmeasure units:	feet		
Vertcollection method:	Unknown		
Vert coord refsys:	NGVD29	Countrycode:	US
Aquifername:	Not Reported		
Formation type:	Not Reported		

Aquifer type:	Not Reported		
Construction date:	19940101	Welldepth:	167
Welldepth units:	ft	Wellholedepth:	Not Reported
Wellholedepth units:	Not Reported		

Ground-water levels, Number of Measurements: 0

E15
East
1/2 - 1 Mile
Lower

FED USGS **USGS40001210347**

Org. Identifier:	USGS-WA		
Formal name:	USGS Washington Water Science Center		
Monloc Identifier:	USGS-454902122440301		
Monloc name:	04N/01E-19F02		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	17080002	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	45.8170594
Longitude:	-122.7353786	Sourcemap scale:	Not Reported
Horiz Acc measure:	1	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	40
Vert measure units:	feet	Vertacc measure val:	5
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refsys:	NGVD29	Countrycode:	US
Aquifername:	Not Reported		
Formation type:	Not Reported		
Aquifer type:	Not Reported		
Construction date:	19860524	Welldepth:	208
Welldepth units:	ft	Wellholedepth:	Not Reported
Wellholedepth units:	Not Reported		

Ground-water levels, Number of Measurements: 0

E16
East
1/2 - 1 Mile
Higher

FED USGS **USGS40001210332**

Org. Identifier:	USGS-WA		
Formal name:	USGS Washington Water Science Center		
Monloc Identifier:	USGS-454859122440301		
Monloc name:	04N/01E-21G02		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	17080002	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	45.8162261
Longitude:	-122.7353786	Sourcemap scale:	24000
Horiz Acc measure:	1	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	244
Vert measure units:	feet	Vertacc measure val:	5
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refsys:	NGVD29	Countrycode:	US
Aquifername:	Not Reported		
Formation type:	Not Reported		

Aquifer type:	Not Reported		
Construction date:	19711009	Welldepth:	240
Welldepth units:	ft	Wellholedepth:	Not Reported
Wellholedepth units:	Not Reported		

Ground-water levels, Number of Measurements: 1

Date	Feet below Surface	Feet to Sealevel
1971-10-20	174	

E17
East
1/2 - 1 Mile
Lower

WA WELLS **WA8000000017612**

Fid:	17611	Lerootid:	65518
Srcrootid:	23089	Pwsid:	72400
Srcnum:	08	Pwssrcid:	7240008
Systemname:	RIDGEFIELD PUBLIC WORKS	Systemgrou:	A
Systemtype:	Comm	Region:	SW
County:	CLARK	Smaid:	Not Reported
Ftrespopul:	4931	Resconnect:	1833
Totalconne:	2023	Srcname:	ABRAMS #8 WW AFP607
Srctype:	WW	Srcusecode:	P
Srcwelldep:	153	Township:	04
Range :	01E	Section:	19
Qtrqtrsect:	SENW		
Longitude:	-122.735067		
Latitude:	45.817113		
Latlongmet:	GPS	Srcsuscept:	L
Srcvulnioc:	M	Srcvulnvoc:	M
Srcvulnsoc:	L	Doewelltag:	AFP607
Srctot6mo:	0	Srctot1yr:	0
Srctot5yr:	0	Srctot10yr:	0
Protection:	Model	Pricontact:	3608873897
Priconta 1:	Not Reported	Priconta 2:	PO BOX 608
Priconta 3:	RIDGEFIELD	Priconta 4:	WA
Priconta 5:	98642		
Priconta 6:	scott.brunson@ci.ridgefield.wa.us		
Pwseffecti:	01-JAN-70	Pwsstatusi:	A
Pwsinactiv:	Not Reported	Srcstatusi:	A
Srceffecti:	01-JAN-70	Srcinactiv:	Not Reported
Floodzonei:	Y	Priconta 7:	R SCOTT BRUNSON
Srcswinflu:	U	Latlongdat:	24-AUG-00
Site id:	WA8000000017612		

E18
East
1/2 - 1 Mile
Lower

FED USGS **USGS40001210331**

Org. Identifier:	USGS-WA		
Formal name:	USGS Washington Water Science Center		
Monloc Identifier:	USGS-454859122440201		
Monloc name:	04N/01E-21G01		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	17080002	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	45.8162261
Longitude:	-122.7351008	Sourcemap scale:	24000

Horiz Acc measure:	1	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	245
Vert measure units:	feet	Vertacc measure val:	5
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refsys:	NGVD29	Countrycode:	US
Aquifername:	Not Reported		
Formation type:	Not Reported		
Aquifer type:	Not Reported		
Construction date:	19720613	Welldepth:	218
Welldepth units:	ft	Wellholedepth:	Not Reported
Wellholedepth units:	Not Reported		

Ground-water levels, Number of Measurements: 1

Date	Feet below Surface	Feet to Sealevel
1972-06-21	176	

F19
WNW
1/2 - 1 Mile
Lower

WA WELLS **WA8000000007988**

Fid:	7987	Lerootid:	65518
Srcrootid:	23087	Pwsid:	72400
Srcnum:	06	Pwssrcid:	7240006
Systemname:	RIDGEFIELD PUBLIC WORKS	Systemgrou:	A
Systemtype:	Comm	Region:	SW
County:	CLARK	Smaid:	Not Reported
Ftrespopul:	4931	Resconnect:	1833
Totalconne:	2023	Srcname:	COOK STREET NO TAG
Srctype:	W	Srcusecode:	E
Srcwelldep:	142	Township:	04
Range :	01W	Section:	24
Qtrqtrsect:	NWNE		
Longitude:	-122.755		
Latitude:	45.82089		
Latlongmet:	QtrQtrSe	Srcsuscept:	N
Srcvulnioc:	Not Reported	Srcvulnvoc:	Not Reported
Srcvulnsoc:	Not Reported	Doewelltag:	Not Reported
Srctot6mo:	0	Srctot1yr:	0
Srctot5yr:	0	Srctot10yr:	0
Protection:	Assigned	Pricontact:	3608873897
Priconta 1:	Not Reported	Priconta 2:	PO BOX 608
Priconta 3:	RIDGEFIELD	Priconta 4:	WA
Priconta 5:	98642		
Priconta 6:	scott.brunson@ci.ridgefield.wa.us		
Pwseffecti:	01-JAN-70	Pwsstatusi:	A
Pwsinactiv:	Not Reported	Srcstatusi:	I
Srceffecti:	01-JAN-70	Srcinactiv:	13-FEB-91
Floodzonei:	Y	Priconta 7:	R SCOTT BRUNSON
Srcswinflu:	U	Latlongdat:	Not Reported
Site id:	WA8000000007988		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

F20
WNW
1/2 - 1 Mile
Lower

WA WELLS **WA8000000016919**

Fid:	16918	Lerootid:	65518
Srcrootid:	23086	Pwsid:	72400
Srcnum:	05	Pwssrcid:	7240005
Systemname:	RIDGEFIELD PUBLIC WORKS	Systemgrou:	A
Systemtype:	Comm	Region:	SW
County:	CLARK	Smaid:	Not Reported
Ftrespopul:	4931	Resconnect:	1833
Totalconne:	2023	Srcname:	HALL STREET NO TAG
Srctype:	W	Srcusecode:	E
Srcwelldep:	141	Township:	04
Range :	01W	Section:	24
Qtrqtrsect:	NWNE		
Longitude:	-122.755		
Latitude:	45.82089		
Latlongmet:	QtrQtrSe	Srcsuscept:	N
Srcvulnioc:	Not Reported	Srcvulnvoc:	Not Reported
Srcvulnsoc:	Not Reported	Doewelltag:	Not Reported
Srctot6mo:	0	Srctot1yr:	0
Srctot5yr:	0	Srctot10yr:	0
Protection:	Assigned	Pricontact:	3608873897
Priconta 1:	Not Reported	Priconta 2:	PO BOX 608
Priconta 3:	RIDGEFIELD	Priconta 4:	WA
Priconta 5:	98642		
Priconta 6:	scott.brunson@ci.ridgefield.wa.us		
Pwseffecti:	01-JAN-70	Pwsstatusi:	A
Pwsinactiv:	Not Reported	Srcstatusi:	I
Srceffecti:	01-JAN-70	Srcinactiv:	13-FEB-91
Floodzonei:	Y	Priconta 7:	R SCOTT BRUNSON
Srcswinflu:	U	Latlongdat:	Not Reported
Site id:	WA8000000016919		

E21
East
1/2 - 1 Mile
Lower

WA WELLS **WA8000000025030**

Fid:	25029	Lerootid:	65518
Srcrootid:	23092	Pwsid:	72400
Srcnum:	11	Pwssrcid:	7240011
Systemname:	RIDGEFIELD PUBLIC WORKS	Systemgrou:	A
Systemtype:	Comm	Region:	SW
County:	CLARK	Smaid:	Not Reported
Ftrespopul:	4931	Resconnect:	1833
Totalconne:	2023	Srcname:	ABRAMS #7 AFP608
Srctype:	W	Srcusecode:	P
Srcwelldep:	145	Township:	04

Range :	01E	Section:	19
Qtrqtrsect:	SENW		
Longitude:	-122.735016		
Latitude:	45.8173		
Latlongmet:	GPS	Srcsuscept:	L
Srcvulnioc:	M	Srcvulnvoc:	L
Srcvulnsoc:	U	Doewelltag:	AFP608
Srctot6mo:	0	Srctot1yr:	0
Srctot5yr:	0	Srctot10yr:	0
Protection:	Model	Pricontact:	3608873897
Priconta 1:	Not Reported	Priconta 2:	PO BOX 608
Priconta 3:	RIDGEFIELD	Priconta 4:	WA
Priconta 5:	98642		
Priconta 6:	scott.brunson@ci.ridgefield.wa.us		
Pwseffecti:	01-JAN-70	Pwsstatusi:	A
Pwsinactiv:	Not Reported	Srcstatusi:	A
Srceffecti:	30-APR-96	Srcinactiv:	Not Reported
Floodzonei:	Y	Priconta 7:	R SCOTT BRUNSON
Srcswinflu:	U	Latlongdat:	10-OCT-00
Site id:	WA8000000025030		

G22
NNW
1/2 - 1 Mile
Lower

FED USGS **USGS40001210431**

Org. Identifier:	USGS-WA		
Formal name:	USGS Washington Water Science Center		
Monloc Identifier:	USGS-454928122445101		
Monloc name:	04N/01W-13Q01		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	17080002	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	45.8242816
Longitude:	-122.7487123	Sourcemap scale:	24000
Horiz Acc measure:	5	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	40
Vert measure units:	feet	Vertacc measure val:	5
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refsys:	NGVD29	Countrycode:	US
Aquifername:	Not Reported		
Formation type:	Not Reported		
Aquifer type:	Not Reported		
Construction date:	19390101	Welldepth:	109
Welldepth units:	ft	Wellholedepth:	Not Reported
Wellholedepth units:	Not Reported		

Ground-water levels, Number of Measurements: 1

Date	Feet below Surface	Feet to Sealevel
1939-07-01	31	

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

E23
East
1/2 - 1 Mile
Lower | **WA WELLS** | **WA8000000016874**

Fid:	16873	Lerootid:	65518
Srcrootid:	23088	Pwsid:	72400
Srcnum:	07	Pwssrcid:	7240007
Systemname:	RIDGEFIELD PUBLIC WORKS	Systemgrou:	A
Systemtype:	Comm	Region:	SW
County:	CLARK	Smaid:	Not Reported
Ftrespopul:	4931	Resconnect:	1833
Totalconne:	2023	Srcname:	WF (S08, S09)
Srctype:	WF	Srcusecode:	P
Srcwelldep:	145	Township:	04
Range :	01E	Section:	19
Qtrqtrsect:	SENW		
Longitude:	-122.73458		
Latitude:	45.816979		
Latlongmet:	Average	Srcsuscept:	L
Srcvulnioc:	M	Srcvulnvoc:	M
Srcvulnsoc:	L	Doewelltag:	Not Reported
Srctot6mo:	440	Srctot1yr:	620
Srctot5yr:	1390	Srctot10yr:	1970
Protection:	CFR	Pricontact:	3608873897
Priconta 1:	Not Reported	Priconta 2:	PO BOX 608
Priconta 3:	RIDGEFIELD	Priconta 4:	WA
Priconta 5:	98642		
Priconta 6:	scott.brunson@ci.ridgefield.wa.us		
Pwseffecti:	01-JAN-70	Pwsstatusi:	A
Pwsinactiv:	Not Reported	Srcstatusi:	A
Srceffecti:	01-JAN-70	Srcinactiv:	Not Reported
Floodzonei:	Y	Priconta 7:	R SCOTT BRUNSON
Srcswinflu:	U	Latlongdat:	Not Reported
Site id:	WA8000000016874		

G24
NNW
1/2 - 1 Mile
Lower | **WA WELLS** | **WA8000000010930**

Fid:	10929	Lerootid:	65518
Srcrootid:	23085	Pwsid:	72400
Srcnum:	04	Pwssrcid:	7240004
Systemname:	RIDGEFIELD PUBLIC WORKS	Systemgrou:	A
Systemtype:	Comm	Region:	SW
County:	CLARK	Smaid:	Not Reported
Ftrespopul:	4931	Resconnect:	1833
Totalconne:	2023	Srcname:	RR DEPOT NO TAG
Srctype:	W	Srcusecode:	E
Srcwelldep:	117	Township:	04

Range :	01W	Section:	13
Qtrqtrsect:	SWSE		
Longitude:	-122.749		
Latitude:	45.82454		
Latlongmet:	QtrQtrSe	Srcsuscept:	N
Srcvulnioc:	Not Reported	Srcvulnvoc:	Not Reported
Srcvulnsoc:	Not Reported	Doewelltag:	Not Reported
Srctot6mo:	0	Srctot1yr:	0
Srctot5yr:	0	Srctot10yr:	0
Protection:	Assigned	Pricontact:	3608873897
Priconta 1:	Not Reported	Priconta 2:	PO BOX 608
Priconta 3:	RIDGEFIELD	Priconta 4:	WA
Priconta 5:	98642		
Priconta 6:	scott.brunson@ci.ridgefield.wa.us		
Pwseffecti:	01-JAN-70	Pwsstatusi:	A
Pwsinactiv:	Not Reported	Srcstatusi:	I
Srceffecti:	01-JAN-70	Srcinactiv:	13-FEB-91
Floodzonei:	N	Priconta 7:	R SCOTT BRUNSON
Srcswinflu:	U	Latlongdat:	Not Reported
Site id:	WA8000000010930		

E25
East
1/2 - 1 Mile
Lower

WA WELLS **WA8000000030876**

Fid:	30875	Lerootid:	65518
Srcrootid:	23090	Pwsid:	72400
Srcnum:	09	Pwssrcid:	7240009
Systemname:	RIDGEFIELD PUBLIC WORKS	Systemgrou:	A
Systemtype:	Comm	Region:	SW
County:	CLARK	Smaid:	Not Reported
Ftrespopul:	4931	Resconnect:	1833
Totalconne:	2023	Srcname:	ABRAMS #9 WW AFP606
Srctype:	WW	Srcusecode:	P
Srcwelldep:	163	Township:	04
Range :	01E	Section:	19
Qtrqtrsect:	SENW		
Longitude:	-122.734093		
Latitude:	45.816845		
Latlongmet:	GPS	Srcsuscept:	L
Srcvulnioc:	M	Srcvulnvoc:	M
Srcvulnsoc:	L	Doewelltag:	AFP606
Srctot6mo:	0	Srctot1yr:	0
Srctot5yr:	0	Srctot10yr:	0
Protection:	Model	Pricontact:	3608873897
Priconta 1:	Not Reported	Priconta 2:	PO BOX 608
Priconta 3:	RIDGEFIELD	Priconta 4:	WA
Priconta 5:	98642		
Priconta 6:	scott.brunson@ci.ridgefield.wa.us		
Pwseffecti:	01-JAN-70	Pwsstatusi:	A
Pwsinactiv:	Not Reported	Srcstatusi:	A
Srceffecti:	01-JAN-70	Srcinactiv:	Not Reported
Floodzonei:	Y	Priconta 7:	R SCOTT BRUNSON
Srcswinflu:	U	Latlongdat:	24-AUG-00
Site id:	WA8000000030876		

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

26
NNE
1/2 - 1 Mile
Higher

WA WELLS **WA8000000028995**

Fid:	28994	Lerootid:	83926
Srcrootid:	29113	Pwsid:	AA964
Srcnum:	01	Pwssrcid:	AA96401
Systemname:	STEINBRENNER	Systemgrou:	B
Systemtype:	GRPB	Region:	SW
County:	CLARK	Smaid:	Not Reported
Ftrespopul:	6	Resconnect:	2
Totalconne:	2	Srcname:	WELL #1 AGS344 STEINBRENNER
Srctype:	W	Srcusecode:	P
Srcwelldep:	0	Township:	04
Range :	01E	Section:	18
Qtrqtrsect:	SWSW		
Longitude:	-122.740415		
Latitude:	45.824478		
Latlongmet:	QtrQtrSection	Srcsuscept:	U
Srcvulnioc:	Not Reported	Srcvulnvoc:	Not Reported
Srcvulnsoc:	Not Reported	Doewelltag:	AGS344
Srctot6mo:	0	Srctot1yr:	0
Srctot5yr:	0	Srctot10yr:	0
Protection:	Assigned	Pricontact:	3608878347
Priconta 1:	Not Reported	Priconta 2:	6600 NW 287TH ST
Priconta 3:	RIDGEFIELD	Priconta 4:	WA
Priconta 5:	98642		
Priconta 6:	Not Reported		
Pwseffecti:	06-JAN-05	Pwsstatusi:	A
Pwsinactiv:	Not Reported	Srcstatusi:	A
Srceffecti:	22-JAN-03	Srcinactiv:	Not Reported
Floodzonei:	N	Priconta 7:	JOE STEINBRENNER
Srcswinflu:	Not Reported	Latlongdat:	Not Reported
Site id:	WA8000000028995		

27
NNE
1/2 - 1 Mile
Higher

WA WELLS **WA8000000017024**

Fid:	17023	Lerootid:	81336
Srcrootid:	28575	Pwsid:	AA593
Srcnum:	01	Pwssrcid:	AA59301
Systemname:	CASCADE WEST	Systemgrou:	B
Systemtype:	GRPB	Region:	SW
County:	CLARK	Smaid:	Not Reported
Ftrespopul:	5	Resconnect:	2
Totalconne:	2	Srcname:	WELL #1 AFP826
Srctype:	W	Srcusecode:	P
Srcwelldep:	285	Township:	04

Range :	01E	Section:	18
Qtrqtrsect:	SESE		
Longitude:	-122.739		
Latitude:	45.82464		
Latlongmet:	QtrQtrSe	Srcsuscept:	H
Srcvulnioc:	H	Srcvulnvoc:	H
Srcvulnsoc:	U	Doewelltag:	AFP826
Srctot6mo:	0	Srctot1yr:	0
Srctot5yr:	0	Srctot10yr:	0
Protection:	Assigned	Pricontact:	3602561338
Priconta 1:	Not Reported	Priconta 2:	6107 NE 99 ST
Priconta 3:	VANCOUVER	Priconta 4:	WA
Priconta 5:	98665		
Priconta 6:	Not Reported		
Pwseffecti:	17-FEB-04	Pwsstatusi:	I
Pwsinactiv:	17-FEB-04	Srcstatusi:	I
Srceffecti:	06-DEC-02	Srcinactiv:	Not Reported
Floodzonei:	N	Priconta 7:	LLOYD STENERSON
Srcswinflu:	N	Latlongdat:	Not Reported
Site id:	WA8000000017024		

28
SW
1/2 - 1 Mile
Lower

WA WELLS **WA8000000031197**

Fid:	31196	Lerootid:	50011
Srcrootid:	3621	Pwsid:	03239
Srcnum:	01	Pwssrcid:	0323901
Systemname:	WILLIAMS, MIKE	Systemgrou:	B
Systemtype:	GRPB	Region:	SW
County:	CLARK	Smaid:	Not Reported
Ftrespopul:	6	Resconnect:	2
Totalconne:	2	Srcname:	WELL #1
Srctype:	W	Srcusecode:	P
Srcwelldep:	90	Township:	04
Range :	01W	Section:	24
Qtrqtrsect:	SWSE		
Longitude:	-122.755598		
Latitude:	45.809921		
Latlongmet:	QtrQtrSection	Srcsuscept:	U
Srcvulnioc:	Not Reported	Srcvulnvoc:	Not Reported
Srcvulnsoc:	Not Reported	Doewelltag:	Not Reported
Srctot6mo:	0	Srctot1yr:	0
Srctot5yr:	0	Srctot10yr:	0
Protection:	Assigned	Pricontact:	3608878428
Priconta 1:	Not Reported	Priconta 2:	4104 N E 259TH STREET
Priconta 3:	RIDGEFIELD	Priconta 4:	WA
Priconta 5:	98642		
Priconta 6:	Not Reported		
Pwseffecti:	15-FEB-94	Pwsstatusi:	A
Pwsinactiv:	Not Reported	Srcstatusi:	A
Srceffecti:	15-FEB-94	Srcinactiv:	Not Reported
Floodzonei:	Y	Priconta 7:	MIKE WILLIAMS
Srcswinflu:	U	Latlongdat:	Not Reported
Site id:	WA8000000031197		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

29
NNW
1/2 - 1 Mile
Lower

FED USGS **USGS40001210467**

Org. Identifier:	USGS-WA		
Formal name:	USGS Washington Water Science Center		
Monloc Identifier:	USGS-454939122445401		
Monloc name:	04N/01W-13A03		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	17080002	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	45.8273372
Longitude:	-122.7495456	Sourcemap scale:	24000
Horiz Acc measure:	1	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	110
Vert measure units:	feet	Vertacc measure val:	5
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refsys:	NGVD29	Countrycode:	US
Aquifername:	Not Reported		
Formation type:	Not Reported		
Aquifer type:	Not Reported		
Construction date:	19710325	Welldepth:	63
Welldepth units:	ft	Wellholedepth:	Not Reported
Wellholedepth units:	Not Reported		

Ground-water levels, Number of Measurements: 1

Date	Feet below Surface	Feet to Sealevel
1971-03-25	18	

30
ESE
1/2 - 1 Mile
Lower

WA WELLS **WA8000000013439**

Fid:	13438	Lerootid:	65518
Srcrootid:	23084	Pwsid:	72400
Srcnum:	03	Pwssrcid:	7240003
Systemname:	RIDGEFIELD PUBLIC WORKS	Systemgrou:	A
Systemtype:	Comm	Region:	SW
County:	CLARK	Smaid:	Not Reported
Ftrespopul:	4931	Resconnect:	1833
Totalconne:	2023	Srcname:	PAT PARK #3 NO TAG
Srctype:	W	Srcusecode:	E
Srcwelldep:	167	Township:	04
Range :	01E	Section:	19
Qtrqtrsect:	SENW		
Longitude:	-122.730873		
Latitude:	45.813736		
Latlongmet:	QtrQtrSection	Srcsuscept:	N
Srcvulnioc:	Not Reported	Srcvulnvoc:	Not Reported
Srcvulnsoc:	Not Reported	Doewelltag:	Not Reported
Srctot6mo:	0	Srctot1yr:	0
Srctot5yr:	0	Srctot10yr:	0
Protection:	Assigned	Pricontact:	3608873897

Priconta 1:	Not Reported	Priconta 2:	PO BOX 608
Priconta 3:	RIDGEFIELD	Priconta 4:	WA
Priconta 5:	98642		
Priconta 6:	scott.brunson@ci.ridgefield.wa.us		
Pwseffecti:	01-JAN-70	Pwsstatusi:	A
Pwsinactiv:	Not Reported	Srcstatusi:	I
Srceffecti:	19-APR-06	Srcinactiv:	19-APR-06
Floodzonei:	Y	Priconta 7:	R SCOTT BRUNSON
Srcswinflu:	U	Latlongdat:	Not Reported
Site id:	WA8000000013439		

31
North
1/2 - 1 Mile
Higher

FED USGS **USGS40001210473**

Org. Identifier:	USGS-WA		
Formal name:	USGS Washington Water Science Center		
Monloc Identifier:	USGS-454943122444101		
Monloc name:	04N/01W-13J01		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	17080002	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	45.8284483
Longitude:	-122.7459345	Sourcemap scale:	24000
Horiz Acc measure:	5	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	80
Vert measure units:	feet	Vertacc measure val:	5
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refsys:	NGVD29	Countrycode:	US
Aquifername:	Not Reported		
Formation type:	Not Reported		
Aquifer type:	Not Reported		
Construction date:	Not Reported	Welldepth:	14
Welldepth units:	ft	Wellholedepth:	Not Reported
Wellholedepth units:	Not Reported		

Ground-water levels, Number of Measurements: 1

Date	Feet below Surface	Feet to Sealevel
1949-09-01	5	

32
East
1/2 - 1 Mile
Lower

FED USGS **USGS40001210321**

Org. Identifier:	USGS-WA		
Formal name:	USGS Washington Water Science Center		
Monloc Identifier:	USGS-454855122434101		
Monloc name:	04N/01E-19K01		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	17080002	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	45.815115
Longitude:	-122.7292674	Sourcemap scale:	24000

Horiz Acc measure:	5	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	60
Vert measure units:	feet	Vertacc measure val:	5
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refsys:	NGVD29	Countrycode:	US
Aquifername:	Not Reported		
Formation type:	Not Reported		
Aquifer type:	Not Reported		
Construction date:	19010101	Welldepth:	117
Welldepth units:	ft	Wellholedepth:	Not Reported
Wellholedepth units:	Not Reported		

Ground-water levels, Number of Measurements: 1

Date	Feet below Surface	Feet to Sealevel
1949-05-01	57	

33
NNE
1/2 - 1 Mile
Higher

WA WELLS **WA8000000030469**

Fid:	30468	Lerootid:	51433
Srcrootid:	5159	Pwsid:	04661
Srcnum:	01	Pwssrcid:	0466101
Systemname:	CURRIE, GILBERT	Systemgrou:	B
Systemtype:	GRPB	Region:	SW
County:	CLARK	Smaid:	Not Reported
Ftrespopul:	4	Resconnect:	2
Totalconne:	2	Srcname:	WELL #1
Srctype:	W	Srcusecode:	P
Srcwelldep:	50	Township:	04
Range :	01E	Section:	18
Qtrqtrsect:	SWNW		
Longitude:	-122.740303		
Latitude:	45.828098		
Latlongmet:	QtrQtrSection	Srcsuscept:	U
Srcvulnioc:	Not Reported	Srcvulnvoc:	Not Reported
Srcvulnsoc:	Not Reported	Doewelltag:	Not Reported
Srctot6mo:	0	Srctot1yr:	0
Srctot5yr:	0	Srctot10yr:	0
Protection:	Assigned	Pricontact:	3605760276
Priconta 1:	Not Reported	Priconta 2:	29205 NW 71ST AVENUE
Priconta 3:	RIDGEFIELD	Priconta 4:	WA
Priconta 5:	98642		
Priconta 6:	Not Reported		
Pwseffecti:	10-JUL-95	Pwsstatusi:	A
Pwsinactiv:	Not Reported	Srcstatusi:	A
Srceffecti:	10-JUL-95	Srcinactiv:	Not Reported
Floodzonei:	N	Priconta 7:	GILBERT CURRIE
Srcswinflu:	U	Latlongdat:	Not Reported
Site id:	WA8000000030469		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

34
NNE
1/2 - 1 Mile
Higher

WA WELLS **WA8000000002440**

Fid:	2439	Lerootid:	50182
Srcrootid:	3816	Pwsid:	03410
Srcnum:	01	Pwssrcid:	0341001
Systemname:	OVIATT, ROGER L	Systemgrou:	B
Systemtype:	GRPB	Region:	SW
County:	CLARK	Smaid:	Not Reported
Ftrespopul:	7	Resconnect:	2
Totalconne:	2	Srcname:	WELL #1
Srctype:	W	Srcusecode:	P
Srcwelldep:	346	Township:	04
Range :	01E	Section:	18
Qtrqtrsect:	NESW		
Longitude:	-122.73735		
Latitude:	45.82789		
Latlongmet:	GPS	Srcsuscept:	U
Srcvulnioc:	Not Reported	Srcvulnvoc:	Not Reported
Srcvulnsoc:	Not Reported	Doewelltag:	Not Reported
Srctot6mo:	0	Srctot1yr:	0
Srctot5yr:	0	Srctot10yr:	0
Protection:	Assigned	Pricontact:	3608873889
Priconta 1:	Not Reported	Priconta 2:	28517 NW 66TH AVE
Priconta 3:	RIDGEFIELD	Priconta 4:	WA
Priconta 5:	98642		
Priconta 6:	Not Reported		
Pwseffecti:	11-MAY-94	Pwsstatusi:	A
Pwsinactiv:	Not Reported	Srcstatusi:	A
Srceffecti:	11-MAY-94	Srcinactiv:	Not Reported
Floodzonei:	N	Priconta 7:	ROGER OVIATT
Srcswinflu:	U	Latlongdat:	03-MAR-08
Site id:	WA8000000002440		

H35
NNW
1/2 - 1 Mile
Lower

FED USGS **USGS40001210488**

Org. Identifier:	USGS-WA		
Formal name:	USGS Washington Water Science Center		
Monloc Identifier:	USGS-454948122445401		
Monloc name:	04N/01W-13H01		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	17080002	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	45.8298372
Longitude:	-122.7495457	Sourcemap scale:	24000

Horiz Acc measure:	1	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	110
Vert measure units:	feet	Vertacc measure val:	5
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refsys:	NGVD29	Countrycode:	US
Aquifername:	Not Reported		
Formation type:	Not Reported		
Aquifer type:	Not Reported		
Construction date:	19700304	Welldepth:	70
Welldepth units:	ft	Wellholedepth:	Not Reported
Wellholedepth units:	Not Reported		

Ground-water levels, Number of Measurements: 1

Date	Feet below Surface	Feet to Sealevel
1970-03-04	32	

H36
NNW
1/2 - 1 Mile
Lower

FED USGS **USGS40001210489**

Org. Identifier:	USGS-WA		
Formal name:	USGS Washington Water Science Center		
Monloc Identifier:	USGS-454948122445501		
Monloc name:	04N/01W-13H03		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	17080002	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	45.8298372
Longitude:	-122.7498235	Sourcemap scale:	24000
Horiz Acc measure:	1	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	109
Vert measure units:	feet	Vertacc measure val:	5
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refsys:	NGVD29	Countrycode:	US
Aquifername:	Not Reported		
Formation type:	Not Reported		
Aquifer type:	Not Reported		
Construction date:	19710802	Welldepth:	168
Welldepth units:	ft	Wellholedepth:	Not Reported
Wellholedepth units:	Not Reported		

Ground-water levels, Number of Measurements: 1

Date	Feet below Surface	Feet to Sealevel
1971-08-02	80	

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS
RADON

AREA RADON INFORMATION

Federal EPA Radon Zone for CLARK County: 1

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 Zip Code: 98642

Number of sites tested: 2

Area	Average Activity	% <4 pCi/L	% 4-20 pCi/L	% >20 pCi/L
Living Area - 1st Floor	0.300 pCi/L	100%	0%	0%
Living Area - 2nd Floor	Not Reported	Not Reported	Not Reported	Not Reported
Basement	0.850 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.

Current USGS 7.5 Minute Topographic Map
Source: U.S. Geological Survey

HYDROLOGIC INFORMATION

Flood Zone Data: This data was obtained from the Federal Emergency Management Agency (FEMA). It depicts 100-year and 500-year flood zones as defined by FEMA. It includes the National Flood Hazard Layer (NFHL) which incorporates Flood Insurance Rate Map (FIRM) data and Q3 data from FEMA in areas not covered by NFHL.
Source: FEMA
Telephone: 877-336-2627
Date of Government Version: 2003, 2015

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002, 2005 and 2010 from the U.S. Fish and Wildlife Service.

State Wetlands Data: Wetland Inventory
Source: Department of Ecology
Telephone: 360-407-6121

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 Service (NRCS)
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 Service (NRCS)
Telephone: 800-672-5559
SSURGO is the most detailed level of mapping done by the Natural Resources Conservation Service, 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

Earthquake Fault Lines: The fault lines displayed on EDR's Topographic map are digitized quaternary faultlines, prepared in 1975 by the United State Geological Survey

PHYSICAL SETTING SOURCE RECORDS SEARCHED

STREET AND ADDRESS INFORMATION

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Appendix D
Ecology Fact Sheet

Yard Soil Replacement Work Complete for 2017

CONTACTS & INFORMATION

For More Information:

Craig Rankine
Ecology Site Manager
Phone: (360) 690-4795
E-mail: craig.rankine@ecy.wa.gov

Website:

https://fortress.wa.gov/ecy/gsp/Sitepage.aspx?csid=3020

Public Involvement:

Stacy Galleher
Public Involvement Coordinator
Phone: (360) 407-6255
Email: Stacy.Galleher@ecy.wa.gov

Construction Questions

Blair Paulik—Maul Foster Alongi
Project Administrator
Phone: (360) 947-2210
Email: bpaulik@maulfoster.com

Special Accommodations

To request ADA accommodation including materials in a format for the visually impaired, call Ecology at (360) 407-6300.

Persons with impaired hearing may call Washington Relay Service at 711. Persons with speech disability may call TTY at (877) 833-6341.

Facility Site ID #: 1019

Cleanup Site ID #: 3020

This summer, the Department of Ecology and the Port of Ridgefield (port) removed dioxin contaminated soil in nine residential yards and some right-of-way areas in the neighborhood east of the port property (off-property phase 1 area, see map) at the Pacific Wood Treating cleanup site. Remaining yards in the rest of the off-property area (phase 2) will be cleaned up in the future.

We are finishing work in the last few yards

While most of the construction is complete for 2017, we are still finishing up replacing plants in a few yards. We expect to finish this work by mid- September.

What Happens Next?

- Once we find the extent of contamination, we will offer soil sampling to those last remaining homeowners.
- We have almost completed sampling in the off-property area,. Once it is complete we will release a report for public comment
- We will keep the website updated with the latest news.

How can I keep my family safe from possible contamination?

There are still some homes within the off property area that need to be cleaned up. In the meantime, there are several ways you can reduce your exposure to dioxins and other types of soil contamination. For example you can:

- Wash hands before eating and after playing or working outside.
- Remove your shoes before going inside.
- Prevent children from eating dirt.
- Wash children's toys and pacifiers often.
- Mop, vacuum, and dust with a damp cloth often.

Background

From 1964-1993, Pacific Wood Treating (PWT) operated on the Port of Ridgefield property. PWT pressure treated wood products with a variety of toxic chemicals. In 2009, the port began sampling in right-of-ways to define the extent of contamination in the off-property area. Dioxins were the only contaminant found above cleanup levels. From the right-of-way sample results it was clear that dioxins were also in yards. The yard soil sampling program started spring 2015.

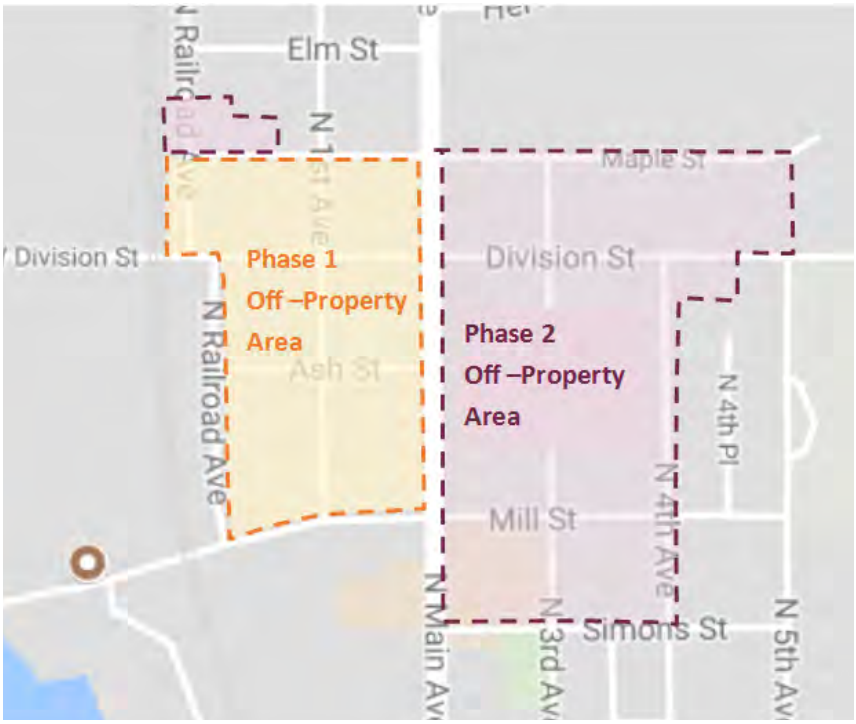
We have not found the current extent of contamination. We will continue to collect additional soil samples see map for locations (phase 2 area). Once we have found the extent we will release a remedial investigation and feasibility study report for public comment.

DEPARTMENT OF ECOLOGY
State of Washington

PO Box 47775

Olympia, WA 98504-7775

Yard Soil Replacement Complete for 2017



Ecology and the port removed contaminated soil from nine yards and some right-of-ways in the off-property area (orange area in map). We are continuing to sample soil in the phase 2 area (purple area in map). We do not yet know when we will replace soil in the phase 2 area.

¿Habla Español? Si necesita esta información en español, contáctenos a preguntas@ecy.wa.gov.

For more information visit www.ecology.wa.gov and search for "csid 3020"

Facility Site ID #: 1019
Cleanup Site ID #: 3020

Appendix E
Ecology Files

Letter Health Consultation

Park Laundry Site, Indoor Air Results for November 2012
Ridgefield, Clark County, Washington

March 13, 2013

Prepared by

The Washington State Department of Health
Under a Cooperative Agreement with the
Agency for Toxic Substances and Disease Registry

334-321 March 2013

Foreword

The Washington State Department of Health (DOH) prepared this health consultation under a cooperative agreement with the Agency for Toxic Substances and Disease Registry (ATSDR). ATSDR is part of the U.S. Department of Health and Human Services. ATSDR is responsible for health issues related to hazardous substances

The purpose of a health consultation is to assess the health threat posed by hazardous substances in the environment. If needed, a health consultation will also recommend steps or actions to protect public health. Health consultations are initiated in response to health concerns raised by residents or agencies about exposure to hazardous substances.

This health consultation was prepared in accordance with ATSDR methodologies and guidelines. However, the report has not been reviewed and cleared by ATSDR. The findings in this report are relevant to conditions at the site during the time the report was written. It should not be relied upon if site conditions or land use changes in the future.

Use of trade names is for identification only and does not imply endorsement by state or federal health agencies.

For additional information, please contact us at 1-877-485-7316 or visit our web site at www.doh.wa.gov/consults.

For persons with disabilities this document is available on request in other formats. To submit a request, please call 1-800-525-0127 (voice) or 1-800-833-6388 (TTY/TDD).

For more information about ATSDR, contact the CDC Information Center at 1-800-CDC-INFO (1-800-232-4636) or visit the agency's web site at www.atsdr.cdc.gov.

STATE OF WASHINGTON
DEPARTMENT OF HEALTH
OFFICE OF ENVIRONMENTAL HEALTH, SAFETY AND TOXICOLOGY
243 Israel Road SE • PO Box 47846 • Olympia, Washington 98504-7846
TDD Relay Service: 1-800-833-6388

March 13, 2013

Guy Barrett
Washington Department of Ecology
Southwest Regional Office
Toxics Cleanup Program
PO Box 47775
Olympia, Washington 98504-7775

Re: Letter Health Consultation
November 2012 Indoor Air Results
Park Laundry Site
Ridgefield, Clark County, Washington

Dear Mr. Barrett:

At the request of Washington Department of Ecology (Ecology), the Washington Department of Health (DOH) evaluated indoor air data collected at the Park Laundry site in November 2012. The data was collected as part of a vapor intrusion investigation. DOH's evaluation was done to determine whether the chemicals found in indoor air pose a health threat to building occupants. DOH conducts health consultations in cooperation with the Agency for Toxic Substances and Disease Registry (ATSDR).

Background and Statement of Issues

The former Park Laundry facility operated at 122 N. Main Avenue; Ridgefield, Clark County, Washington. The facility may have performed dry cleaning operations and released tetrachloroethylene (also known as perchloroethylene or PCE) to soil and groundwater. This has resulted in a plume of contaminated groundwater, which extends in a northwesterly direction away from the property. The full extent of the plume is currently unknown.

PCE and its breakdown products, such as trichloroethylene (TCE), are considered volatile organic compounds (VOCs). When found in soil or groundwater, these chemicals can evaporate and move through the soil. Vapors can enter buildings through cracks or other openings in the foundation. If this occurs, it may pose a health threat depending on concentrations measured in indoor air.

To evaluate whether PCE and its breakdown products are a possible indoor air health threat, the potentially liable party (PLP) offered to test some homes and businesses that overlie or are near the plume. Occupants at three residences and six commercial buildings, including the fire station, agreed to participate in the testing. Sampling occurred in November 2012. The PLP also tested vapor concentrations in outdoor air, soil gas, and crawlspace air. Indoor air, outdoor air, and crawlspace air were collected for about 24 hours. Soil gas was collected for about 30 minutes. All samples were collected using Summa canisters.

Discussion

The vapor intrusion pathway is complex. Because of that, it can be difficult to determine if contaminated soil or groundwater is affecting indoor air quality at nearby buildings. It is particularly challenging when the levels of chemicals found in soil gas and indoor air are very low, which is generally the case for this site. Much of what was found in indoor air at the Park Laundry site in November 2012 appears to be the result of chemicals found in ambient air and/or consumer products used or stored in the buildings. However, it is possible that a very small amount may be coming from contaminated groundwater or soil. Further work is being done to assess that.

The November 2012 indoor air sampling locations and analytical data are provided in Appendix A. Not all VOCs analyzed were detected above the reporting limits. Some chemicals, like PCE, TCE, and 1,2-Dichloroethane (1,2-DCA) were detected. Table 1 summarizes the concentration range for each chemical tested.

Table 1: November 2012 Indoor Air Chemical Concentrations ($\mu g/m^3$) for Residences and Commercial Buildings, Park Laundry Site, Ridgefield, Washington

Chemical	Concentration Range ($\mu g/m^3$)			
	Minimum		Maximum	
1,1-Dichloroethane	0.11	U	0.23	U
1,1-Dichloroethene	0.053	U	0.11	U
1,2-Dichloroethane	0.074	J	1.5	
Chloroethane	0.18	U	0.38	U
Cis 1,2-Dichloroethene	0.11	U	0.23	U
Tetrachloroethylene (PCE)	0.18	U	0.27	
Trans 1,2-Dichloroethene	0.53	U	1.1	U
Trichloroethylene (TCE)	0.026	J	1.2	
Vinyl Chloride	0.034	U	0.074	U

$\mu g/m^3$ - microgram per cubic meter; U - result is non-detect at the reporting limit;
J - result is an estimated value; PCE – perchloroethylene (tetrachloroethylene)

Exposure Pathways

Exposure to VOCs in indoor air can occur when someone breathes in the chemicals. However, there are many factors that determine if the exposure will cause health effects. These factors include the dose (how much), the duration (how long), and how someone comes in contact with the chemicals (breathing in the chemical). A person's age and the number of chemicals they are exposed to are a few other factors.

Chemicals of Potential Concern

DOH compared the highest amount of each VOC measured in indoor air to cancer and non-cancer health comparison values. This comparison allows DOH to determine if any of the tested chemicals might be a health concern. The health comparison values are set at concentrations much lower than what might cause harmful effects in people. This is done to be protective of the most sensitive individuals (i.e., children and older adults). It also accounts for the general lack of certainty regarding low levels of chemical exposure. If a chemical was below a reporting limit[a], DOH used the reporting limit for that chemical to compare to the health comparison values.

The air comparison values used by DOH included chemical-specific Cancer Risk Evaluation Guide (CREG) and chronic Environmental Media Evaluation Guide (EMEG) developed by ATSDR.(1) The CREG is the concentration of a chemical in air expected to cause less than one additional cancer case in a million persons exposed over a lifetime. An EMEG is the concentration of a chemical in air below which adverse non-cancer health effects are not expected to occur.

If no ATSDR comparison values were available, DOH used inhalation reference concentrations (RfCs) or Regional Screening Levels (RSL) for residential air developed by U.S. Environmental Protection Agency (EPA).(2) An RfC is a concentration of a chemical in air below which non-cancer health effects are not expected to occur during a lifetime. The regional screening levels correspond to a cancer risk of less than one case in a million people exposed or a hazard quotient (HQ) of one for non-carcinogens.

Table 2 provides a comparison of the maximum indoor air concentration with the comparison values.

[a] Reporting limits are the lowest concentration at which a chemical can be detected in a sample and its concentration can be reported with a reasonable degree of accuracy and precision.

Table 2: Comparison of the Maximum November 2012 Indoor Air Results (µg/m^3) to Health-based Comparison Values (CV), Park Laundry Site, Ridgefield, Washington

Chemical	Cancer Class	Maximum Concentration (µg/m^3)		Non-Cancer CV	Type of CV	Cancer CV	Type of CV
1,1-Dichloroethane	C	0.23	U	2,400	Chronic EMEG for 1,2-DCA	1.5	RSL
1,1-Dichloroethene	NS	0.11	U	200	RfC	NA	--
1,2-Dichloroethane	B2	**1.5**		2,400	Chronic EMEG	0.038	CREG
Chloroethane	3	0.38	U	10,000	RfC	NA	--
cis-1,2-Dichloroethene	IN	0.23	U	63	RSL for trans-1,2-DCE	NA	--
Tetrachloroethylene (PCE)	LC	0.27		40	RfC	3.8	CREG
trans-1,2-Dichloroethene	IN	1.1	U	63	RSL	NA	--
Trichloroethylene (TCE)	CH	**1.2**		2	RfC	0.24	CREG
Vinyl Chloride	KL	0.074	U	100	RfC	0.11	CREG

Cancer Classification Key:
- CH Carcinogenic to humans based on EPA 2005 cancer guidelines
- KL Known/Likely human carcinogen based on EPA 1996 cancer guidelines
- C Possible human carcinogen (no human, limited animal studies) based on EPA 1986 cancer guidelines
- LC Likely to be carcinogenic to humans based on EPA 2005 guidelines
- B2 Probable human carcinogen (inadequate human, sufficient animal studies) based on EPA 1986 cancer guidelines
- NS Suggestive evidence of carcinogenicity, but not sufficient to assess human carcinogenic potential based on EPA 1999 cancer guidelines
- 3 Not Classifiable based on International Agency for Research on Cancer (IARC) guidelines
- IN Inadequate information to assess carcinogenic potential based on EPA 2005 cancer guidelines

µg/m^3 – microgram per cubic meter; U - result is non-detect at the method reporting limit; NA – not applicable ATSDR – Agency for Toxic Substances and Disease Registry; EPA – Environmental Protection Agency; CREG - Cancer Risk Evaluation Guide (ATSDR); EMEG - Environmental Media Evaluation Guide (ATSDR); RfC – inhalation reference concentration (EPA); RSL – regional screening level (EPA); Shaded boxes indicate that a comparison value has been exceeded and will be further evaluated; PCE – perchloroethylene (tetrachloroethylene); 1,2-DCA – 1,2-Dichloroethane; trans 1,2-DCE – trans 1,2-Dichloroethene; CREG - Cancer Risk Evaluation Guides

As shown in Table 2, all chemicals detected and non-detected are below the non-cancer comparison values. As a result, no further assessment of the non-cancer health effects is necessary. Two of the nine tested chemicals were above the cancer comparison values: 1,2-DCA and TCE. These two chemicals were evaluated further to assess the carcinogenic health threat.

TCE was only found above the cancer comparison value at the fire station building. Therefore, the carcinogenic health threat associated with TCE was only evaluated for a fire station worker. 1,2-DCA was found in all the residential and commercial buildings. It is important to understand that exceeding the cancer comparison value does not mean people will develop cancer when exposed to these levels. A more complete discussion of cancer risk is provided below.

TCE and 1,2-DCA Use and Carcinogenic Health Effects

TCE is a breakdown product of PCE but is also used in industry. Mainly, TCE is used as a solvent to remove grease from metal parts. It is also used to make other chemicals. TCE can be found in household products including typewriter correction fluid, paint removers, adhesives, and spot removers.(3) EPA classifies TCE as carcinogenic to humans by all routes of exposure. This is based on convincing evidence of a causal association between people exposed to TCE and kidney cancer. There is also some evidence suggesting an association between TCE exposure and non-Hodgkin's lymphoma and liver cancer.(4)

1,2-DCA is a breakdown product of PCE but it is also used in industrial processes. 1,2-DCA is used to make vinyl chloride. Vinyl chloride is used to make various plastic and vinyl products including polyvinyl chloride (PVC) pipes, packaging materials, furniture and automobile upholstery, wall coverings, house wares, and automobile parts. In the past, 1,2-DCA was used as a solvent for degreasing and was also found in cleaning products. EPA classifies 1,2-DCA as a probable human carcinogen based on animal studies although it was unclear whether breathing 1,2-DCA causes cancer in animals. Some studies of cancers in people exposed to 1,2-DCA have been inconclusive. Because of the cancer findings in animals, the possibility of cancer in humans cannot be ruled out.(5)

Evaluating Cancer Risk

Some VOCs, like 1,2-DCA and TCE, have the ability to increase people's risk of developing cancer. Because current risk assessment practice assumes there is no "safe dose" of a carcinogen, any dose of a carcinogen will result in some additional increased cancer risk. Cancer risk estimates are not yes/no answers but measures of chance (probability). Such measures, however uncertain, are useful in determining the magnitude of a cancer threat.

Cancer Risk

Cancer risk estimates do not reach zero no matter how low the level of exposure to a carcinogen. Terms used to describe this risk are defined below as the number of cancer cases for the number of persons similarly exposed over a lifetime:

Term		# of Excess Cancers
moderate	is approximately equal to	1 in 1,000
low	is approximately equal to	1 in 10,000
very low	is approximately equal to	1 in 100,000
slight	is approximately equal to	1 in 1,000,000
insignificant	is less than	1 in 1,000,000

Cancer is a common illness and its occurrence in a population increases with the age of the population. There are many different forms of cancer resulting from a variety of causes; not all are fatal. Approximately 1 in 3 to 1 in 2 people living in the United States will develop cancer at some point in their lives.(6)

To evaluate the inhalation cancer risk, DOH used the maximum chemical concentration detected for each building type (residence and commercial). This was done for 1,2-DCA at the residences and 1,2-DCA and TCE at the commercial buildings.[b] For residences, DOH conservatively assumed that

[b] TCE was only detected above the comparison value at the fire station.

exposures would be 24 hours per day, 7 days per week, for 50 weeks out of the year (2 weeks were allowed for vacations away from home). For workers at commercial buildings, including the fire station, DOH conservatively assumed exposures would be 24 hours per day, 5 days per week, for 50 weeks out of the year (2 weeks were allowed for vacations away from the building). Appendix B contains the equation, assumptions (Tables B1 and B2), and results of DOH's estimated cancer risk evaluation (Table B3).

As noted in Appendix B, Table B3, DOH estimated the following cancer risks for children, older children, and adults exposed to the maximum amount 1,2-DCA in a residential setting for a lifetime:

- 5 additional cancer cases per 1,000,000 similarly exposed children.
- 6 additional cancer cases per 1,000,000 similarly exposed older children.
- 6 additional cancer cases per 1,000,000 similarly exposed adults.
- This is a lifetime cancer risk of 2 additional cases for every 100,000 similarly exposed people.

DOH estimated the following cancer risk for workers exposed to the maximum amount 1,2-DCA and TCE at the commercial buildings:

- 1 additional cancer cases per 1,000,000 workers similarly exposed to 1,2-DCA.
- 6 additional cancer cases per 10,000,000 workers similarly exposed to TCE.
- For workers similarly exposed to both chemicals, this would be about 2 additional cancers in 1,000,000.

When compared to the cancer risk terms provided on page 6, the estimated cancer risks for 1,2-DCA detected in the homes is considered slight to very low. Cancer risk for workers exposed to 1,2-DCA in commercial buildings or 1,2-DCA and TCE at the fire station are considered insignificant. These risk levels are all below a level DOH considers a health threat.[c] It is important to note that these estimates are for excess cancers that might occur in addition to those normally expected in an unexposed population. It is also important to note that these are estimated risk estimates and the actual risk could be as low as zero.

Conclusions

DOH concludes that breathing the maximum concentrations of VOCs found in indoor air at the residential and commercial buildings during November 2012 are not expected to cause harmful health effects.

[c] DOH generally considers there to be an increased health threat when an assessment shows 1 additional cancer in a population of 10,000.

Recommendations

DOH recommends the vapor intrusion investigation work scheduled for late spring 2013 continue as planned. This testing will allow further assessment of the vapor intrusion pathway at the site.

DOH appreciates this opportunity to assist Ecology with this project. Please contact me at 360-236-3373 if you have any questions.

Sincerely,

Barbara Trejo
Health Assessor, Hydrogeologist
Site Assessments and Toxicology Section

cc: Joanne Snarski, Department of Health

Appendix A

Figure A1
Indoor Air Sampling Locations
Park Laundry Site
Ridgefield, Washington

Legend

Indoor Air Sampling Locations

Former Park Laundry Property

2/8/2013 Background Imagery: ESRI, Bing Maps
Map Disclosure Statement:The Washington State Department of Health does not warrant the accuracy, reliability or timeliness of any information published in this map and assumes no responsibility for errors in the content of the information provided. Persons or entities that rely on any information obtained from this map do so at their own risk.

Table A1: November 2012 Indoor Air Results (µg/m^3) for Residential and Commercial Buildings, Park Laundry Site, Ridgefield, Washington

Building Location	1,1-Dichloro-ethane	1,1-Dichloro-ethene	1,2-Dichloro-ethane	Chloro-ethane	cis-1,2-Dichloro-ethene	Tetrachloro-ethene (PCE)	trans-1,2-dichloro-ethene	Trichloro-ethene (TCE)	Vinyl chloride
1-IA1	0.12 U	0.059 U	**0.31**	0.2 U	0.12 U	0.2 U	0.59 U	**1.2**	0.038 U
1-IA2	0.11 U	0.053 U	**0.2**	0.18 U	0.11 U	0.18 U	0.53 U	**1**	0.034 U
1-IA3	0.13 U	0.063 U	**0.086 J**	0.21 U	0.12 U	0.21 U	0.63 U	**1**	0.04 U
5-IA1	0.12 U	0.061 U	**0.093 J**	0.2 U	0.12 U	**0.23**	0.61 U	**0.063 J**	0.04 U
5-IA2	0.12 U	0.06 U	**0.11 J**	0.2 U	0.12 U	**0.22**	0.6 U	**0.17**	0.039 U
5-IA3	0.13 U	0.065 U	**0.074 J**	0.22 U	0.13 U	0.22 U	0.65 U	**0.058 J**	0.042 U
7-IA1	0.12 U	0.06 U	**0.12**	0.2 U	0.12 U	0.2 U	0.6 U	**0.12 J**	0.039 U
7-IA2	0.12 U	0.059 U	**0.08 J**	0.2 U	0.12 U	**0.2 J**	0.59 U	**0.074 J**	0.038 U
9-IA1	0.23 U	0.11 U	**0.16 J**	0.38 U	0.23 U	0.39 U	1.1 U	**0.12 J**	0.074 U
9-IA2	0.14 U	0.069 U	**0.12 J**	0.23 U	0.14 U	0.24 U	0.69 U	**0.056 J**	0.044 U
10-IA1	0.14 U	0.069 U	**0.33**	0.23 U	0.14 U	0.24 U	0.69 U	**0.03 J**	0.045 U
10-IA2	0.13 U	0.064 U	**0.44**	0.21 U	0.13 U	0.22 U	0.64 U	**0.026 J**	0.041 U
11-IA1	0.13 U	0.063 U	**0.22**	0.21 U	0.13 U	**0.23**	0.63 U	**0.043 J**	0.041 U
11-IA2	0.12 U	0.06 U	**0.2**	0.2 U	0.12 U	0.21 U	0.6 U	**0.051 J**	0.039 U
11-IA3	0.12 U	0.06 U	**0.19**	0.2 U	0.12 U	**0.27**	0.6 U	**0.035 J**	0.039 U
13-IA1	0.13 U	0.062 U	**0.48**	0.2 U	0.12 U	0.21 U	0.62 U	**0.03 J**	0.04 U
13-IA2	0.13 U	0.063 U	**0.67**	0.21 U	0.13 U	0.22 U	0.63 U	**0.095 J**	0.041 U
24-IA1	0.12 U	0.061 U	**0.08 J**	0.2 U	0.12 U	0.21 U	0.61 U	**0.068 J**	0.039 U
24-IA2	0.12 U	0.061 U	**0.08 J**	0.2 U	0.12 U	0.21 U	0.61 U	**0.029 J**	0.04 U
27-IA1	0.12 U	0.061 U	**1.5**	0.2 U	0.12 U	0.21 U	0.61 U	**0.083 J**	0.04 U
27-IA2	0.14 U	0.067 U	**1.5**	0.22 U	0.13 U	0.23 U	0.67 U	0.052 UJ	0.043 U

µg/m^3 – micrograms per cubic meter; U- result not detected at the reporting limit; J – estimated value; **Bold** – detected results

Commercial Building Residence

Appendix B

This section provides the equation and assumptions used for determining the estimated increased cancer risk. We considered a child (0-5 years), an older child, and an adult inhaling the maximum concentration of 1,2-Dichloroethane (1,2-DCA) at a residence and commercial building located at the Park Laundry site in Ridgefield, Washington. It also provides the assumptions and estimated increased cancer risk for a worker inhaling the maximum amount of trichloroethylene (TCE) and 1,2-DCA at the fire station.

$$\text{Estimated increased cancer risk} = \frac{Ca \times IR \times EF \times ED \times CSF}{BW \times AT}$$

Table B1: Exposure assumptions used to estimate the increased cancer risk associated with maximum concentration of 1,2-DCA found in indoor air at residences, Park Laundry Site, Ridgefield, Washington.

Parameter	Value	Unit	Comments
Concentration (Ca)	Variable	mg/m^3	Maximum detected value 1,2-Dichloroethane = 0.0015
Inhalation Rate (IR) - child	8.3	m^3/day	Exposure Factors Handbook (7)
Inhalation Rate (IR) - older child	14		
Inhalation Rate (IR) - adult	15		
Exposure Frequency (EF)	350	days/year	7 days a week with a 2 week vacation
Exposure Duration (ED) - child	5	years	Exposure Factors Handbook (7)
Exposure Duration (ED) - older child	10		
Exposure Duration (ED) - adult	15		
Body Weight (BW) - child	15	kg	0-5 year-old child average body weight (7)
Body Weight (BW) - older child	41		Older child mean body weight (7)
Body Weight (BW) - adult	72		Adult mean body weight (7)
Averaging $Time_{cancer}$ (AT)	27375	days	75 years (7)
Inhalation Cancer Slope Factor (CSF)	Variable	$mg/kg\text{-}day^{-1}$	1,2-Dichloroethane = 0.091 (8)

Table B2: Exposure assumptions used to estimate the increased cancer risk associated with maximum concentration of 1,2-DCA and TCE found in indoor air at commercial buildings and fire department at the Park Laundry Site, Ridgefield, Washington.

Parameter	Value	Unit	Comments
Concentration (Ca)	Variable	mg/m^3	Maximum detected value 1,2-Dichloroethane = 0.00044 TCE = 0.0012
Inhalation Rate (IR) - adult	10.4		Mean inhalation rate for outdoor workers (1.3 m3/hr).(7)
Exposure Frequency (EF)	250	days/year	5 days a week with a 2 week vacation
Exposure Duration (ED) - adult	25	years	Exposure Factors Handbook (7)
Body Weight (BW) - adult	72	kg	Adult mean body weight (7)
Averaging $Time_{cancer}$ (AT)	27375	days	75 years (7)
Inhalation Cancer Slope Factor (CSF)	Variable	$mg/kg\text{-}day^{-1}$	1,2-Dichloroethane = 0.091 (8) TCE = 0.014 (9)

Table B3: Estimated increased cancer risk associated with 1,2-DCA and TCE found in indoor air at the Park Laundry Site, Ridgefield, Washington.

Chemical	Cancer Risk - Residence			Cancer Risk Worker
	Child	Older Child	Adult	
1,2-DCA	4.83E-06	5.96E-06	5.53E-06	1.32E-06
TCE	NA	NA	NA	5.54E-07
Total Cancer Risk	1.63E-05			1.87E-06

NA – not applicable – indoor air concentrations below the cancer comparison value

Reference List

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VAPOR INTRUSION EXPOSURE ASSESSMENT REPORT

FORMER PARK LAUNDRY SITE

Prepared for

UNION RIDGE INVESTMENT COMPANY

RIDGEFIELD, WASHINGTON

September 24, 2013

Project No. 8006.31.03

MAUL FOSTER ALONGI

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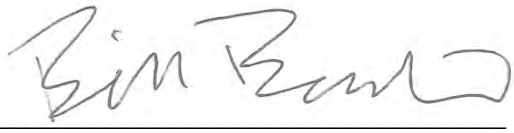
VAPOR INTRUSION EXPOSURE ASSESSMENT REPORT

FORMER PARK LAUNDRY SITE

The material and data in this report were prepared under the supervision and direction of the undersigned.

MAUL FOSTER & ALONGI, INC.



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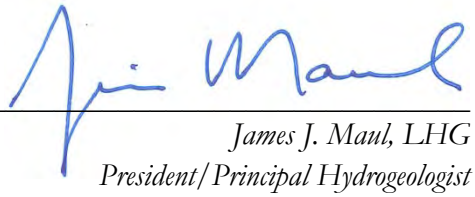
Principal Industrial Hygienist



James J. Maul, LHG
President/Principal Hydrogeologist

CONTENTS

TABLES AND ILLUSTRATIONS

ACRONYMS AND ABBREVIATIONS

CSM	conceptual site model
DCA	dichloroethane
DCE	dichloroethene
DOH	Washington State Department of Health
E&E	Ecology and Environment, Inc.
Ecology	Washington State Department of Ecology
GC/MS	gas chromatograph/mass spectrometer
MFA	Maul Foster & Alongi, Inc.
$\mu g/m^3$	micrograms per cubic meter
PCE	tetrachloroethene
Property	122 N. Main Avenue, Ridgefield, Washington
RI	remedial investigation
Sampling Plan	air sampling work plan
TCE	trichloroethene
URIC	Union Ridge Investment Company
VOC	volatile organic compound

SUMMARY

Maul Foster & Alongi, Inc. has prepared this report to summarize the vapor intrusion exposure assessment conducted for the former Park Laundry site in Ridgefield, Washington (the site). Work was coordinated with the Washington State Department of Ecology with input from the Washington State Department of Health.

Buildings on the site were prioritized for sampling, based on identified risk factors for vapor intrusion, such as proximity to groundwater with the highest concentrations of chlorinated solvents, type of building construction, and the identification of preferential exposure pathways. The exposure assessment included sampling in and around approximately ten of the highest-priority buildings in November 2012 and again in July 2013.

Despite the identification of risk factors, the evaluation failed to identify vapor intrusion into any of the buildings on the site. This supports the conclusion that there is currently no indoor air exposure resulting from vapor intrusion on the site. The potential for future exposure on the properties on the site should be considered in the human health risk assessment necessary for completion of the remedial investigation.

1 INTRODUCTION

Maul Foster & Alongi, Inc. (MFA) has prepared this report on behalf of Union Ridge Investment Company (URIC) for the former Park Laundry site in Ridgefield, Washington (the site). Park Laundry was previously located at 122 N. Main Avenue (the Property). A remedial investigation (RI) is being performed pursuant to Agreed Order No. DE 6829 (Washington State Department of Ecology [Ecology], 2009a). The first phases of the RI indicated that volatile organic compounds (VOCs) are present in soil and groundwater on the Property and on neighboring properties. The Property historically was used by Park Laundry, which may have performed dry cleaning operations that resulted in the release of tetrachloroethene (PCE). In a letter dated July 30, 2012, Ecology ordered URIC to develop a plan for approval by Ecology and conduct sampling to assess the potential for vapor intrusion on the site (Ecology, 2012a).

MFA worked with Ecology and the Washington State Department of Health (DOH), to develop an Ecology-approved sampling plan (Sampling Plan) (MFA, 2012b) as part of an overall vapor intrusion assessment strategy consistent with Ecology's draft vapor intrusion guidance (Ecology, 2009b). MFA also provided a supplementary document to clarify the criteria used to select sampling locations at each property (MFA, 2012c). Ecology approved the Sampling Plan and MFA conducted assessment and sampling activities from November 12 through 17, 2012, and again from July 29 through July 31, 2013.

MFA provided Ecology with a data submittal after each of the vapor intrusion sampling events (MFA, 2013a,b). This report summarizes both sampling events and provides conclusions and recommendations based on the exposure assessment results, taking into consideration the groundwater monitoring data, historical soil gas data, and vapor intrusion modeling results.

2 EXPOSURE ASSESSMENT SCOPE AND METHODOLOGY

As recommended in Ecology's draft vapor intrusion guidance (Ecology, 2009b), the vapor intrusion exposure assessment was conducted using a tiered approach, consisting of a preliminary assessment, a Tier I assessment, and a Tier II assessment.

2.1 Preliminary Assessment

The goal of the preliminary assessment was to determine the potential for vapor intrusion on a site. Previous site investigations have identified VOC impacts in the soil and groundwater near occupied buildings, which provided the justification for continuing with a Tier I assessment (Clark County Health, 2006; E&E, 2008; Hahn, 2006; MFA, 2001).

2.2 Tier I Assessment

The Tier I assessment included collecting data to define the nature and extent of contamination in the subsurface and developing preliminary conceptual site models CSMs) for each building on or within 100 feet of the groundwater plume to identify locations with the greatest potential for vapor intrusion.

2.2.1 Subsurface Characterization

MFA installed groundwater monitoring wells and collected soil samples to characterize the nature and extent of contamination on the site. The results indicated a shallow source of chlorinated VOCs below several properties on the site. MFA and Ecology defined a vapor intrusion study area provided in Figure 1, which generally represents properties above, or within 100 feet of the groundwater plume boundary. The detailed results of the subsurface characterization have been provided in a series documents previously submitted to Ecology, e.g., Data Submittal for March 2012 Investigation at Former Park Laundry Property (MFA, 2012a).

2.2.2 Preliminary Conceptual Site Model and Sampling Plan Development

MFA developed preliminary CSMs based on information from written building surveys issued to occupants by Ecology and information gathered from a site walk. The purpose of the CSMs was to identify possible exposure pathways and prioritize buildings for sampling based on the potential for vapor intrusion. MFA compiled the information collected from the building surveys and site walk, and then coordinated with Ecology to develop the Sampling Plan with input from DOH. The buildings included in the Sampling Plan were considered to have the highest potential for vapor intrusion on the site, based on factors such as proximity to the groundwater plume, building construction type, and identification of exposure pathways, such as foundation cracks and utility penetrations. Three vacant properties were also included in the Sampling Plan to assess the probability that indoor air could be impacted should a building be constructed in the future.

2.3 Tier II Assessment—Vapor Intrusion Sampling

2.3.1 Sampling Scope and Methodology—November, 2012

Samples were collected in stainless steel Summa canisters and analyzed for PCE and associated breakdown products (trichloroethene [TCE]; 1,1-dichloroethene [1,1-DCE]; cis-1,2-DCE; trans-1,2-DCE; 1,1-dichloroethane [1,1-DCA]; 1,2-DCA; chloroethane; and vinyl chloride) by Modified U.S. Environmental Protection Agency Method TO-15 selected ion monitoring. Analytical data has consistently shown that the only hazardous substance associated with the site is PCE and there is no indication of the presence of associated breakdown products from any of the media analyzed, i.e., groundwater, soil gas, or soil.

Forty-eight samples were collected and analyzed during the 2012 mobilization:

- Twenty-one indoor air samples
- Three crawlspace air samples
- Seven soil gas samples
- Eleven subslab soil gas samples
- Six outdoor background air samples

The sampling scope for properties on the site is summarized in Table 1. Figure 2 shows soil gas, outdoor air, and groundwater sampling locations for 2012 and 2013. Wind roses used to evaluate and select background sampling locations are included in Appendix A.

Table 1
2012 Sampling Summary

ID	Property	Foundation Type	Number of Indoor Air Samples	Number of Subslab Samples	Number of Crawlspace Samples	Number of Soil Gas Samples
1*	117 N. 3rd Ave—Fire Station	Slab-on-grade	3	3	0	1
5*	210 N. Main Ave—Community Center	Slab-on-grade	3	0	0	1
7	116 N. Main Ave—Police Dept.	Slab-on-grade	2	3	0	0
9	121 N. Main Ave—Sportsman Bar & Grill	Crawlspace (inaccessible)	2	0	0	0
10*	127 N. Main Ave—Sales Office	Crawlspace	2	0	1	0
11*	201/205 N. Main Ave—Post Office	Slab-on-grade	3	4	0	1
13*	305 N. Main Ave	Slab-on-grade	2	1	0	1
24*	322 N. 1st Ave	Partial basement, partial crawlspace	2	0	1	1
27*	304 N. 1st Ave	Crawlspace	2	0	1	1
44*	122 N. Main Ave—Former Park Laundry Property, Vacant Lot	N/A	0	0	0	0
45*	126 N. Main Ave—Vacant Lot	N/A	0	0	0	1
46*	Main Ave/Mill Street Intersection—Vacant Lot	N/A	0	0	0	1

*A soil gas sampling port was installed at the property. Soil gas samples were taken only from locations where groundwater was not encountered.

As described in the Sampling Plan, a two-phase approach was used to assess each property. The preliminary site visit included occupant interviews, an inspection to identify sampling locations, and the removal of potential indoor chemical sources. Information and representative photographs collected during the site survey and occupant interviews are summarized in Appendix B, Field Data Summary.

MFA used a portable gas chromatograph/mass spectrometer (GC/MS) to screen the indoor air in each building to identify potential indoor sources of chlorinated VOCs. Subslab and/or soil gas sampling ports, if applicable, were also installed during the preliminary visit. Samples were collected, consistent with the Sampling Plan, approximately 24 hours after the preliminary visit.

2.3.2 Sampling Scope and Methodology—July 2013

The sampling scope and methodology in 2013 were the same as in 2012, with the following exceptions.

Forty-seven samples were collected and analyzed during the 2013 mobilization:

- Twenty-two indoor air samples
- Two crawlspace air samples
- Nine soil gas samples
- Thirteen subslab soil gas samples
- Two outdoor background air samples

The sampling scope for properties on the site is summarized in Table 2.

Table 2
2013 Sampling Summary

ID	Property	Foundation Type	Number of Indoor Air Samples	Number of Subslab Samples	Number of Crawlspace Samples	Number of Soil Gas Samples
1*	117 N. 3rd Ave—Fire Station	Slab-on-grade	3	3	0	0
5*	210 N. Main Ave—Community Center	Slab-on-grade	3	2	0	1
7	116 N. Main Ave—Police Dept.	Slab-on-grade	2	3	0	0
9	121 N. Main Ave—Sportsman Bar & Grill	Crawlspace (inaccessible)	2	0	0	0
10*	127 N. Main Ave—Sales Office	Crawlspace	2	0	1	0
11*	201/205 N. Main Ave—Post Office	Slab-on-grade	3	4	0	1
13*	305 N. Main Ave	Slab-on-grade	2	1	0	1
24*	322 N. 1st Ave	Partial basement, partial crawlspace	0	0	0	1
27*	304 N. 1st Ave	Crawlspace	2	0	1	1
28*	305 N. 1st Ave	Basement	3	0	0	1
44*	122 N. Main Ave—Former Park Laundry Property, Vacant Lot	N/A	0	0	0	1

ID	Property	Foundation Type	Number of Indoor Air Samples	Number of Subslab Samples	Number of Crawlspace Samples	Number of Soil Gas Samples
45*	126 N. Main Ave—Vacant Lot	N/A	0	0	0	1
46*	Main Ave/Mill Street Intersection—Vacant Lot	N/A	0	0	0	1
*A soil gas sampling port was installed at the property. Soil gas samples were taken only from locations where groundwater was not encountered.						

MFA limited the assessment of potential indoor sources of chlorinated VOCs to interviews and a visual inspection instead of using a portable GC/MS.

2.3.3 Refined Conceptual Site Models

MFA refined the CSM for each of the buildings included in the Sampling Plan, based on the information gathered during the visual inspection. The results are provided in Appendix C, Conceptual Site Models, and the content of the CSM is consistent with Section 3.2 of Ecology's draft vapor intrusion guidance (Ecology, 2009b).

3 EXPOSURE ASSESSMENT SAMPLING CRITERIA

Results from the assessment were compared to screening levels summarized in Table 3.

Table 3
Analytes and Screening Levels (µg/m³)

Analyte	CAS Number	Screening Level—Air	Screening Level—Soil Gas
PCE	127-18-4	9.6	96
TCE	79-01-6	0.37	3.7
1,1-DCE	75-35-4	91	910
cis-1,2-DCE	156-59-2	16	160
trans-1,2-DCE	156-60-5	32	320
1,1-DCA	75-34-3	320	3200
1,2-DCA	107-06-2	0.096	0.96
Chloroethane	75-00-3	3	30
Vinyl chloride	75-01-4	0.28	2.8
NOTES: Screening levels are based on Table B-1 (Ecology, 2009b). Values for PCE and TCE are based on CLARC guidance (Ecology, 2012b). CAS = Chemical Abstract Service. µg/m³ = micrograms per cubic meter.			

4 SAMPLING RESULTS

Sampling results are summarized in the attached analytical tables (Tables 4 and 5). Complete laboratory reports and data validation are also provided in Appendices D and E, respectively.

4.1 Soil Gas Samples

4.1.1 November 2012

- PCE was detected in one soil gas sample (Property 45, Vacant Lot at 126 N. Main Avenue) that exceeded the screening level (96 $\mu g/m^3$), with a concentration of 2,800 $\mu g/m^3$.
- TCE was detected in one soil gas sample (Property 11, Post Office) that exceeded the screening level (3.7 $\mu g/m^3$), with a concentration of 4.7$\mu g/m^3$.
- Vinyl chloride was detected in one soil gas sample (Property 11, Post Office) that exceeded the screening level (2.8 $\mu g/m^3$), with a concentration of 4.7 $\mu g/m^3$.

4.1.2 July 2013

- PCE results exceeded the screening level of 96 $\mu g/m^3$ in five soil gas samples. Each of the three vacant lots had exceedances, with results ranging from 100 $\mu g/m^3$ at Property 46, the corner of Main Avenue and Mill Street, to 9,500 $\mu g/m^3$ at Property 44, the Property. The soil gas result for Property 5, the Community Center, was 250 $\mu g/m^3$, and the result for Property 28, 305 N. 1st Avenue, was 16,000 $\mu g/m^3$.
- TCE results exceeded the screening level of 3.7 $\mu g/m^3$ in one soil gas sample. The soil gas concentration at Property 11, the Post Office, was 5.2 $\mu g/m^3$. TCE is not a site-related hazardous substance.

4.2 Subslab Samples

4.2.1 November 2012

- No subslab sample results exceeded the screening level for any analytes.
- Helium was detected in three subslab samples, with reported concentrations of 0.24 percent and 0.59 percent (Property 7, Police Department), and 0.38% (Property 11, Post Office).

4.2.2 July 2013

- PCE results exceeded the screening level of 96 μg/m^3 in both of the subslab samples at Property 5, the Community Center, with results of 320 μg/m^3 and 750 μg/m^3. PCE was not detected in indoor air samples.

4.3 Indoor and Outdoor Air Samples

4.3.1 November 2012

- TCE was detected above the screening level (0.37 μg/m^3) in all three indoor air samples collected from Property 1, the Fire Station, with results between 1 μg/m^3 and 1.2 μg/m^3. Results from all three subslab samples at the Fire Station showed that TCE concentrations were either non-detect or estimated to be 0.35 μg/m^3 or less.
- 1,2-DCA was detected above the screening level of 0.096 μg/m^3 in 15 out of 21 indoor air and two out of six outdoor air (background) samples. Reported indoor air concentrations ranged from 0.074 μg/m^3 to 1.5 μg/m^3. Reported outdoor air concentrations ranged from 0.056 μg/m^3 to 0.81 μg/m^3.
- 1,2-DCA was not detected above the screening level or method reporting limit in any subsurface samples, including both subslab and soil gas.
- Each sample had an initial starting canister pressure of at least -28 inches of mercury. Two samples (1-IA2-111512, collected from upstairs of the Fire Station, and sample 27-CS1-111512, collected from the crawlspace of 304 N. 1st Avenue) were received by the lab with a final canister pressure of 0 inches of mercury.

4.3.2 July 2013

- TCE was detected above the screening level (0.37 μg/m^3) in two of the three indoor air samples collected from Property 1, the Fire Station, with results between 0.47 μg/m^3 and 2.2 μg/m^3. TCE was not detected in any of the three subslab sampling locations at the Fire Station.
- TCE was detected above the screening level (0.37 μg/m^3) in one of the three indoor air samples collected from Property 5, the Community Center, with a result of 0.68 μg/m^3. TCE was not detected in either of the two subslab sampling locations at the Community Center.
- TCE was detected above the screening level (0.37 μg/m^3) in one of the two indoor air samples collected from Property 9, the Sportsman Bar & Grill, with a result of 1.3 μg/m^3.
- PCE and TCE were both detected in one of the two outdoor air (background) samples, but results were below the screening levels.

- 1,2-DCA was detected above the screening level of 0.096 $\mu g/m^3$ in 17 out of 22 indoor air and one out of two outdoor air (background) samples. Reported indoor air concentrations ranged from 0.069 $\mu g/m^3$ to 2.6 $\mu g/m^3$. Reported outdoor air concentrations ranged from 0.061 $\mu g/m^3$ to 0.16 $\mu g/m^3$.
- 1,2-DCA was not detected above the screening level or method reporting limit in any subsurface samples, including both subslab and soil gas.

5 DISCUSSION

There appears to be no vapor intrusion into buildings on this site. This conclusion is based on multiple lines of evidence, including the lack of any constituents above screening levels in the indoor air that were simultaneously found in corresponding soil gas or subslab samples.

The presence of PCE above the screening level in the soil gas on the two vacant lots immediately north of the former Park Laundry property (see Figure 1) warrants consideration of possible vapor intrusion into buildings that may be constructed in the future as part of the human health risk assessment.

Although PCE was detected above the soil gas screening level near and below the slab of the Community Center, PCE was not identified in indoor air above the screening level after two rounds of sampling. Similarly, PCE was identified above the screening level in the soil gas near 305 N. 1st Avenue and near the Post Office, but was not detected in the indoor air in either location. TCE and vinyl chloride were also detected above the screening level in the soil gas near the Post Office, but were not above the screening level in the subslab sample or in indoor air.

TCE and 1,2-DCA were the only constituents detected in indoor air above the screening level in any of the buildings. Neither TCE or 1,2-DCA are site-related hazardous substances. TCE appears related to indoor sources, based on the lack of TCE in corresponding subsurface samples. The groundwater level was too high to collect a soil gas sample near the Sportsman Bar & Grill. The general lack of TCE in the subsurface throughout the site makes it unlikely that the result at the Sportsman Bar & Grill is due to vapor intrusion.

There appears to be at least one background source of 1,2-DCA, indicated by the generally consistent concentrations in the indoor air and in some of the background samples, and by the absence of 1,2-DCA above screening levels or the method reporting limit in the soil gas or subslab samples. According to literature sources, 1,2-DCA is an additive to many common products, including leaded gasoline, paints, and adhesives, such as those used in wallpaper glue or carpeting (ATSDR, 2001). The presence of TCE in one of the background samples collected in 2013 suggests that there is either a background source near the site, or that the background sample was sufficiently downwind during the sampling period to be affected by the site contaminants.

Helium detected in three of the subslab samples collected in 2012 indicates the potential infiltration of ambient air, which suggests that the detected constituents in these samples are likely to be underestimated. However, each property with subslab sampling data had at least one sample result with no helium detected. Therefore, the subslab data provide a strong line of evidence on which to base conclusions about the lack of vapor intrusion.

6 RECOMMENDATIONS

Based on the results of the assessment, MFA recommends the following:

1. Communicate the assessment results to building owners and occupants.

2. The potential for future exposure on the properties on the site should be considered in the human health risk assessment necessary for completion of the RI.

3. The indoor air assessment for the site should be considered concluded.

LIMITATIONS

The services undertaken in completing this report were performed consistent with generally accepted professional consulting principles and practices. No other warranty, express or implied, is made. These services were performed consistent with our agreement with our client. This report is solely for the use and information of our client unless otherwise noted. Any reliance on this report by a third party is at such party's sole risk.

Opinions and recommendations contained in this report apply to conditions existing when services were performed and are intended only for the client, purposes, locations, time frames, and project parameters indicated. We are not responsible for the impacts of any changes in environmental standards, practices, or regulations subsequent to performance of services. We do not warrant the accuracy of information supplied by others, or the use of segregated portions of this report.

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ANALYTICAL TABLES

Table 4
Air Results (µg/m^3)
Former Park Laundry
Ridgefield, Washington

Property	Location	Sample ID	Date Collected	1,1-Dichloro-ethane	1,1-Dichloro-ethene	1,2-Dichloro-ethane	Chloroethane	cis-1,2-Dichloroethene	PCE	trans-1,2-Dichloroethene	TCE	Vinyl Chloride
MTCA Method B Indoor Air Screening Level[a,b]				320	91	0.096	3	16	9.6	32	0.37	0.28
Indoor Air												
117 N. 3rd Ave—Fire Station	1-IA1	1-IA1-111512	11/15/2012	0.12 U	0.059 U	**0.31**	0.2 U	0.12 U	0.2 U	0.59 U	**1.2**	0.038 U
	1-IA2	1-IA2-111512	11/15/2012	0.11 U	0.053 U	**0.2**	0.18 U	0.11 U	0.18 U	0.53 U	**1**	0.034 U
	1-IA3	1-IA3-111512	11/15/2012	0.13 U	0.063 U	**0.086 J**	0.21 U	0.12 U	0.21 U	0.63 U	**1**	0.04 U
	1-IA1	1-IA1-072913	07/29/2013	0.13 U	0.063 U	**0.17**	0.21 U	0.12 U	0.21 U	0.63 U	**2.2**	0.040 U
	1-IA2	1-IA2-072913	07/29/2013	0.12 U	0.061 U	**0.074 J**	0.20 U	0.12 U	0.21 U	0.61 U	**0.47**	0.040 U
	1-IA3	1-IA3-072913	07/29/2013	0.12 U	0.059 U	**0.069 J**	0.20 U	0.12 U	0.20 U	0.59 U	**0.29**	0.038 U
210 N. Main Ave—Community Center	5-IA1	5-IA1-111412	11/14/2012	0.12 U	0.061 U	**0.093 J**	0.2 U	0.12 U	**0.23**	0.61 U	**0.063 J**	0.04 U
	5-IA2	5-IA2-111412	11/14/2012	0.12 U	0.06 U	**0.11 J**	0.2 U	0.12 U	**0.22**	0.6 U	**0.17**	0.039 U
	5-IA3	5-IA3-111412	11/14/2012	0.13 U	0.065 U	**0.074 J**	0.22 U	0.13 U	0.22 U	0.65 U	**0.058 J**	0.042 U
	5-IA1	5-IA1-073013	07/30/2013	0.12 U	0.061 U	**0.064 J**	0.20 U	0.12 U	**0.44**	0.61 U	0.16 U	0.039 U
	5-IA2	5-IA2-073013	07/30/2013	0.12 U	0.061 U	**0.081 J**	0.20 U	0.12 U	**0.52**	0.61 U	0.16 U	0.039 U
	5-IA3	5-IA3-073013	07/30/2013	0.13 U	0.062 U	**0.15**	0.21 U	0.12 U	**0.81**	0.62 U	**0.68**	0.040 U
116 N. Main Ave—Police Department	7-IA1	7-IA1-111512	11/15/2012	0.12 U	0.06 U	**0.12**	0.2 U	0.12 U	0.2 U	0.6 U	**0.12 J**	0.039 U
	7-IA2	7-IA2-111512	11/15/2012	0.12 U	0.059 U	**0.08 J**	0.2 U	0.12 U	**0.2 J**	0.59 U	**0.074 J**	0.038 U
	7-IA1	7-IA1-072913	07/29/2013	0.13 U	0.062 U	**0.076 J**	0.20 U	0.12 U	0.21 U	0.62 U	0.17 U	0.040 U
	7-IA2	7-IA2-072913	07/29/2013	0.12 U	0.057 U	**0.10 J**	0.19 U	0.11 U	0.20 U	0.57 U	0.15 U	0.037 U
121 N. Main Ave—Sportsman Grill	9-IA1	9-IA1-111212	11/12/2012	0.23 U	0.11 U	**0.16 J**	0.38 U	0.23 U	0.39 U	1.1 U	**0.12 J**	0.074 U
	9-IA2	9-IA2-111212	11/12/2012	0.14 U	0.069 U	**0.12 J**	0.23 U	0.14 U	0.24 U	0.69 U	**0.056 J**	0.044 U
	9-IA1	9-IA1-072913	07/29/2013	0.25 U	0.12 U	**0.47**	0.41 U	0.25 U	**1.1**	1.2 U	**1.3**	**0.083**
	9-IA2	9-IA2-072913	07/29/2013	0.12 U	0.059 U	**0.14**	0.20 U	0.12 U	0.20 U	0.59 U	0.16 U	0.038 U
127 N. Main Ave—Sales Office	10-IA1	10-IA1-111512	11/15/2012	0.14 U	0.069 U	**0.33**	0.23 U	0.14 U	0.24 U	0.69 U	**0.03 J**	0.045 U
	10-IA2	10-IA2-111512	11/15/2012	0.13 U	0.064 U	**0.44**	0.21 U	0.13 U	0.22 U	0.64 U	**0.026 J**	0.041 U
	10-IA1	10-IA1-072913	07/29/2013	0.12 U	0.058 U	**0.37**	0.19 U	0.12 U	**0.25**	0.58 U	0.16 U	0.038 U
	10-IA2	10-IA2-072913	07/29/2013	0.12 U	0.060 U	**0.33**	0.20 U	0.12 U	0.20 U	0.60 U	0.16 U	0.038 U
201 / 205 N. Main Ave—Post Office	11-IA1	11-IA1-111512	11/15/2012	0.13 U	0.063 U	**0.22**	0.21 U	0.13 U	**0.23**	0.63 U	**0.043 J**	0.041 U
	11-IA2	11-IA2-111512	11/15/2012	0.12 U	0.06 U	**0.2**	0.2 U	0.12 U	0.21 U	0.6 U	**0.051 J**	0.039 U
	11-IA3	11-IA3-111512	11/15/2012	0.12 U	0.06 U	**0.19**	0.2 U	0.12 U	**0.27**	0.6 U	**0.035 J**	0.039 U
	11-IA1	11-IA1-072913	07/29/2013	0.12 U	0.059 U	**0.54**	0.20 U	0.12 U	**0.46**	0.59 U	0.16 U	**0.074**
	11-IA2	11-IA2-072913	07/29/2013	0.12 U	0.059 U	**0.54**	0.20 U	0.12 U	0.20 U	0.59 U	0.16 U	0.038 U
	11-IA3	11-IA3-072913	07/29/2013	0.12 U	0.059 U	**0.39**	0.20 U	0.12 U	**0.29**	0.59 U	0.16 U	0.038 U
305 N. Main Ave	13-IA1	13-IA1-111612	11/16/2012	0.13 U	0.062 U	**0.48**	0.2 U	0.12 U	0.21 U	0.62 U	**0.03 J**	0.04 U
	13-IA2	13-IA2-111612	11/16/2012	0.13 U	0.063 U	**0.67**	0.21 U	0.13 U	0.22 U	0.63 U	**0.095 J**	0.041 U
	13-IA1	13-IA1-073013	07/30/2013	0.13 U	0.065 U	**0.57**	0.22 U	0.13 U	0.22 U	0.65 U	0.18 U	0.042 U
	13-IA2	13-IA2-073013	07/30/2013	0.11 U	0.055 U	**2.2**	0.18 U	0.11 U	**0.36**	0.55 U	0.15 U	0.036 U
322 N. 1st Ave	24-IA1	24-IA1-111612	11/16/2012	0.12 U	0.061 U	**0.08 J**	0.2 U	0.12 U	0.21 U	0.61 U	**0.068 J**	0.039 U
	24-IA2	24-IA2-111612	11/16/2012	0.12 U	0.061 U	**0.08 J**	0.2 U	0.12 U	0.21 U	0.61 U	**0.029 J**	0.04 U

Table 4
Air Results (µg/m^3)
Former Park Laundry
Ridgefield, Washington

Property	Location	Sample ID	Date Collected	1,1-Dichloro-ethane	1,1-Dichloro-ethene	1,2-Dichloro-ethane	Chloroethane	cis-1,2-Dichloroethene	PCE	trans-1,2-Dichloroethene	TCE	Vinyl Chloride
MTCA Method B Indoor Air Screening Level[a,b]				320	91	0.096	3	16	9.6	32	0.37	0.28
304 N. 1st Ave	27-IA1	27-IA1-111512	11/15/2012	0.12 U	0.061 U	**1.5**	0.20 U	0.12 U	0.21 U	0.61 U	**0.083 J**	0.04 U
	27-IA2	27-IA2-111512	11/15/2012	0.14 U	0.067 U	**1.5**	0.22 U	0.13 U	0.23 U	0.67 U	0.052 UJ	0.043 U
	27-IA1	27-IA1-073013	07/30/2013	0.12 U	0.061 U	**2.1**	0.20 U	0.12 U	**1.1**	0.61 U	0.16 U	0.039 U
	27-IA2	27-IA2-073013	07/30/2013	0.13 U	0.063 U	**2.6**	0.21 U	0.13 U	**1.2**	0.63 U	0.17 U	0.041 U
305 N. 1st Ave	28-IA1	28-IA1-073013	07/30/2013	0.14 U	0.068 U	**0.32**	0.22 U	0.14 U	**0.85**	0.68 U	0.18 U	0.044 U
	28-IA2	28-IA2-073013	07/30/2013	0.13 U	0.064 U	**0.82**	0.21 U	0.13 U	**0.30**	0.64 U	0.17 U	0.041 U
	28-IA3	28-IA3-073013	07/30/2013	0.12 U	0.060 U	**0.51**	0.20 U	0.12 U	**0.27**	0.60 U	0.16 U	**0.043**
Crawlspace												
127 N. Main Ave—Sales Office	10-CS1	10-CS1-111512	11/15/2012	0.11 U	0.055 U	**0.063 J**	0.18 U	0.11 U	0.19 U	0.55 U	**0.035 J**	0.035 U
	10-CS1	10-CS1-072913	07/29/2013	0.12 U	0.060 U	**0.055 J**	0.20 U	0.12 U	0.20 U	0.60 U	0.16 U	0.038 U
322 N. 1st Ave	24-CS1	24-CS1-111512	11/15/2012	0.13 U	0.065 U	**0.061 J**	0.22 U	0.13 U	0.22 U	0.65 U	0.052 UJ	0.042 U
304 N. 1st Ave	27-CS1	27-CS1-111512	11/15/2012	0.11 U	0.053 U	**0.17**	0.18 U	0.11 U	0.18 U	0.53 U	**0.053 J**	**0.039**
	27-CS1	27-CS1-073013	07/30/2013	0.12 U	0.059 U	**0.093 J**	0.20 U	0.12 U	0.20 U	0.59 U	**0.17**	0.038 U
Outdoor Air (Background)												
Living Center	OA1	OA1-111512	11/15/2012	0.12 U	0.06 U	**0.81 J**	0.2 U	0.12 U	0.21 U	0.6 U	**0.053 J**	0.039 U
	OA1	OA1-111612	11/16/2012	0.12 U	0.061 U	**0.062 J**	0.2 U	0.12 U	0.21 U	0.61 U	**0.047 J**	0.04 U
El Rancho Viejo	OA2	OA2-111512	11/15/2012	0.1 U	0.05 U	**0.056 J**	0.17 U	0.1 U	0.17 U	0.5 U	**0.048 J**	0.032 U
	OA2	OA2-111612	11/16/2012	0.12 U	0.057 U	**0.069 J**	0.19 U	0.11 U	0.2 U	0.57 U	**0.047 J**	0.037 U
Davis Park	OA3	OA3-111512	11/15/2012	0.12 U	0.061 U	**0.26**	0.2 U	0.12 U	0.21 U	0.61 U	**0.064 J**	0.04 U
	OA3	OA3-111612	11/16/2012	0.12 U	0.06 U	**0.068 J**	0.2 U	0.12 U	0.21 U	0.6 U	**0.06 J**	0.039 U
	OA3	OA3-072913	07/29/2013	0.12 U	0.059 U	**0.16**	0.20 U	0.12 U	**0.63**	0.59 U	**0.26**	0.038 U
	OA3	OA3-073013	07/30/2013	0.13 U	0.063 U	**0.061 J**	0.21 U	0.13 U	0.22 U	0.63 U	0.17 U	0.041 U

NOTES:
Detections are in bold font.
Detections that exceed MTCA Method B screening levels are shaded.
J = Result is estimated value.
MTCA = Model Toxics Control Act.
µg/m^3 = micrograms per cubic meter
PCE = tetrachloroethene.
TCE = trichloroethene.
U = Result is non-detect to method detection limit for 1,2-dichloroethane results for samples collected in July 2013. Result is non-detect to method reporting limit for all other results.
[a]MTCA Method B for Indoor Air from Table B-1 (Ecology, 2009).
[b]Screening level values for PCE and TCE are based on CLARC guidance dated September 2012.

Table 5
Soil Gas Results (µg/m^3)
Former Park Laundry
Ridgefield, Washington

Property	Location	Sample ID	Date Collected	1,1-Dichloro-ethane	1,1-Dichloro-ethene	1,2-Dichloro-ethane	Chloroethane	cis-1,2-Dichloroethene	PCE	trans-1,2-Dichloroethene	TCE	Vinyl Chloride	Helium (%)
MTCA Method B Soil Gas Screening Level[a,b]				3200	910	0.96	30	160	96	320	3.7	2.8	
Subslab													
117 N. 3rd Ave—Fire Station	1-SS1	1-SS1-111512	11/15/2012	0.92 U	0.9 U	0.075 U	3 U	0.9 U	1.5 U	0.9 U	**0.29 J**	0.58 U	0.11 U
	1-SS2	1-SS2-111512	11/15/2012	0.89 U	0.88 U	0.073 U	2.9 U	0.88 U	**2.2**	0.88 U	0.18 U	0.56 U	0.11 U
	1-SS3	1-SS3-111512	11/15/2012	0.91 U	0.9 U	0.074 U	3 U	0.9 U	1.5 U	0.9 U	**0.35 J**	0.58 U	0.11 U
	1-SS1	1-SS1-072913	07/29/2013	4.7 U	4.6 U	0.89 U	12 U	4.6 U	7.9 U	4.6 U	1.6 U	0.77 U	NA
	1-SS2	1-SS2-072913	07/29/2013	4.7 U	4.6 U	0.89 U	12 U	4.6 U	7.9 U	4.6 U	1.6 U	0.77 U	NA
	1-SS3	1-SS3-072913	07/29/2013	4.7 U	4.6 U	0.88 U	12 U	4.6 U	7.9 U	4.6 U	1.6 U	0.76 U	NA
210 N. Main Ave—Community Center	5-SS1	5-SS1-073013	07/30/2013	4.5 U	4.4 U	0.86 U	12 U	4.4 U	**750**	4.4 U	1.6 U	0.74 U	NA
	5-SS2	5-SS2-073013	07/30/2013	4.6 U	4.6 U	0.88 U	12 U	4.6 U	**320**	4.6 U	1.6 U	0.76 U	NA
116 N. Main Ave—Police Department	7-SS1	7-SS1-111512	11/15/2012	0.94 U	0.92 U	0.076 U	3 U	0.92 U	**12**	0.92 U	**0.31 J**	0.59 U	0.12 U
	7-SS2	7-SS2-111512	11/15/2012	0.97 U	0.95 U	0.079 U	3.2 U	0.95 U	**7.8 J**	0.95 U	**0.36 J**	0.61 U	0.59
	7-SS3	7-SS3-111512	11/15/2012	0.91 U	0.9 U	0.074 U	3 U	0.9 U	**14 J**	0.9 U	0.19 U	0.58 U	0.24
	7-SS1	7-SS1-072913	07/29/2013	4.8 U	4.7 U	0.90 U	12 U	4.7 U	8.0 U	4.7 U	1.6 U	0.78 U	NA
	7-SS2	7-SS2-072913	07/29/2013	4.8 U	4.6 U	0.90 U	12 U	4.6 U	8.0 U	4.6 U	1.6 U	0.78 U	NA
	7-SS3	7-SS3-072913	07/29/2013	5.0 U	4.8 U	0.94 U	13 U	4.8 U	8.3 U	4.8 U	1.7 U	0.81 U	NA
201 / 205 N. Main Ave—Post Office	11-SS1	11-SS1-111512	11/15/2012	0.82 U	0.8 U	**0.22 J**	2.7 U	0.8 U	1.4 U	0.8 U	0.17 U	0.52 U	0.1 U
	11-SS2	11-SS2-111512	11/15/2012	1.9 U	1.8 U	**0.72 J**	6.1 U	1.8 U	3.1 U	1.8 U	0.38 U	1.2 U	0.38
	11-SS3	11-SS3-111512	11/15/2012	2.1 U	2 U	0.17 U	6.8 U	2 U	3.5 U	2 U	0.42 U	1.3 U	0.13 U
	11-SS4	11-SS4-111512	11/15/2012	2.9 U	2.8 U	0.23 U	9.4 U	2.8 U	**6.9**	2.8 U	0.59 U	1.8 U	0.11 U
	11-SS1	11-SS1-073113	07/31/2013	4.8 U	4.6 U	0.78 U	12 U	4.6 U	**10**	4.6 U	1.1 U	0.88 U	NA
	11-SS2	11-SS2-073113	07/31/2013	5.0 U	4.9 U	0.81 U	13 U	4.9 U	8.3 U	4.9 U	1.2 U	0.92 U	NA
	11-SS3	11-SS3-073113	07/31/2013	4.6 U	4.5 U	0.76 U	12 U	4.5 U	7.8 U	4.5 U	1.1 U	0.85 U	NA
	11-SS4	11-SS4-073113	07/31/2013	4.6 U	4.6 U	0.76 U	12 U	4.6 U	7.8 U	4.6 U	1.1 U	0.86 U	NA
305 N. Main Ave	13-SS1	13-SS1-111612	11/16/2012	0.87 U	0.86 U	0.071 U	2.8 U	0.86 U	**1.9**	0.86 U	0.18 U	0.55 U	0.11 U
	13-SS1	13-SS1-073013	07/30/2013	5.2 U	5.1 U	0.85 U	14 U	5.1 U	8.7 U	5.1 U	1.2 U	0.96 U	NA
Soil Gas													
117 N. 3rd Ave—Fire Station	1-SG1	1-SG1-111512	11/15/2012	0.88 U	0.86 U	**0.34 J**	2.9 U	0.86 U	**16**	0.86 U	**0.95 J**	0.56 U	0.11 U
210 N. Main Ave—Community Center	5-SG1	5-SG1-111512	11/15/2012	0.93 U	0.91 U	**0.16 J**	3 U	0.91 U	**92**	0.91 U	**0.48 J**	0.59 U	0.12 U
	5-SG1	5-SG1-073013	07/30/2013	4.7 U	4.6 U	0.89 U	12 U	4.6 U	**250**	4.6 U	1.6 U	0.77 U	NA
201 / 205 N. Main Ave—Post Office	11-SG1	11-SG1-111612	11/16/2012	0.93 U	0.91 U	0.076 U	3 U	**3.3**	1.6 U	0.91 U	**4.7**	**4.7**	0.12 U
	11-SG1	11-SG1-073113	07/31/2013	5.0 U	4.9 U	0.94 U	13 U	**13**	**34**	4.9 U	**5.2 J**	**2.7 J**	NA
305 N. Main Ave	13-SG1	13-SG1-111512	11/15/2012	1 U	0.99 U	0.082 U	3.3 U	0.99 U	**26**	0.99 U	**0.4 J**	0.64 U	0.12 U
	13-SG1	13-SG1-073013	07/30/2013	5.3 U	5.2 U	0.99 U	14 U	5.2 U	**30**	5.2 U	**2.4 J**	0.86 U	NA
322 N. 1st Ave	24-SG1	24-SG1-111512	11/15/2012	0.99 U	0.97 U	0.08 U	3.2 U	0.97 U	**2.6**	0.97 U	**0.35 J**	0.62 U	0.12 U
	24-SG1	24-SG1-073013	07/30/2013	5.3 U	5.2 U	1.0 U	14 U	5.2 U	8.9 U	5.2 U	1.8 U	0.87 U	NA
304 N. 1st Ave	27-SG1	27-SG1-111512	11/15/2012	0.88 U	0.86 U	**0.21 J**	2.9 U	0.86 U	**5.9**	0.86 U	**0.5 J**	0.56 U	0.11 U
	27-SG1	27-SG1-072913	07/29/2013	5.1 U	5.0 U	0.96 U	13 U	5.0 U	8.5 U	5.0 U	1.7 U	0.83 U	NA

Table 5
Soil Gas Results (µg/m^3)
Former Park Laundry
Ridgefield, Washington

Property	Location	Sample ID	Date Collected	1,1-Dichloro-ethane	1,1-Dichloro-ethene	1,2-Dichloro-ethane	Chloroethane	cis-1,2-Dichloroethene	PCE	trans-1,2-Dichloroethene	TCE	Vinyl Chloride	Helium (%)
MTCA Method B Soil Gas Screening Level[a,b]				3200	910	0.96	30	160	96	320	3.7	2.8	
305 N. 1st Ave	28-SG1	28-SG1-073013	07/30/2013	33 U	32 U	6.2 U	85 U	32 U	**16000**	32 U	11 U	5.3 U	NA
122 N. Main Ave—Former Park Laundry Property	44-SG1	44-SG1-073113	07/31/2013	19 U	19 U	3.6 U	50 U	19 U	**9500**	19 U	6.5 U	3.1 U	NA
126 N. Main Ave—Adjacent to Park Laundry	45-SG1	45-SG1-111512	11/15/2012	4.6 U	4.5 U	0.37 U	15 U	4.5 U	**2800**	4.5 U	**1.6 J**	2.9 U	0.11 U
	45-SG1	45-SG1-073113	07/31/2013	4.8 U	4.7 U	0.90 U	12 U	4.7 U	**1800**	4.7 U	1.6 U	0.78 U	NA
Corner of Main Ave. and Mill St.	46-SG1	46-SG1-111512	11/15/2012	0.87 U	0.85 U	0.071 U	2.8 U	0.85 U	**56**	0.85 U	**0.25 J**	0.55 U	0.11 U
	46-SG1	46-SG1-073013	07/30/2013	5.0 U	4.9 U	5.0 U	13 U	4.9 U	**100**	4.9 U	1.7 U	0.81 U	NA

NOTES:
Detections are in bold font.
Detections that exceed MTCA Method B screening levels are shaded.
J = Result is estimated value.
MTCA = Model Toxics Control Act.
µg/m^3 = micrograms per cubic meter.
NA = Helium was not included in analysis for these samples.
PCE = tetrachloroethene.
TCE = trichloroethene.
U = Result is non-detect to method detection limit for 1,2-dichloroethane, TCE, and vinyl chloride results for samples collected in July 2013. Result is non-detect to method reporting limit for all other results.
[a] MTCA Method B for Soil Gas from Table B-1 (Ecology, 2009).
[b] Screening level values for PCE and TCE are based on CLARC guidance dated September 2012.

FIGURES

Path: X:\8006.31\Projects\05 - Vapor Intrusion CSM\Fig1_Vapor Intrusion Study Area.mxd

Source: Aerial photograph obtained from Esri ArcGIS Online

Figure 1
Vapor Intrusion Study Area

Former Park Laundry
Ridgefield, Washington

Legend

- Vapor Intrusion Study Area
- Former Park Laundry Site

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0 100 200
Feet

Print Date: 9/17/2013
Approved By: B. Beadle
Produced By: jschane
Project: 8006.31

Path: X:\8006.31\Projects\05 - Vapor Intrusion CSM\Fig2_Soil Gas Outdoor Air and Groundwater Sampling Locations.mxd

Source: Aerial photograph obtained from ESRI, Inc. ArcGIS Online.

Notes:
Soil gas ports not sampled in Nov. 2012:
10-SG1-01
28-SG1-01
44-SG1-01

Soil gas ports not sampled in July 2013:
1-SG1-01
10-SG1-01

Legend

- Soil Gas Monitoring Location (Installed July 2013)
- Soil Gas Monitoring Location (Installed November 2012)
- Soil Gas Monitoring Location (Installed June 2011)
- Groundwater Monitoring Well
- Vapor Intrusion Study Area
- Former Park Laundry Site
- Property Location
- Sampling Location (Property ID)
- Outdoor Air Sample Location
  All outdoor air samples are outside of the ground contaminant boundary

0 50 100
Feet

Figure 2
Soil Gas, Outdoor Air, and Groundwater Sampling Locations

Former Park Laundry
Ridgefield, Washington

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Project: 8006.31.01-05 Produced By: jschane Approved By: B. Beadle Print Date: 9/17/2013

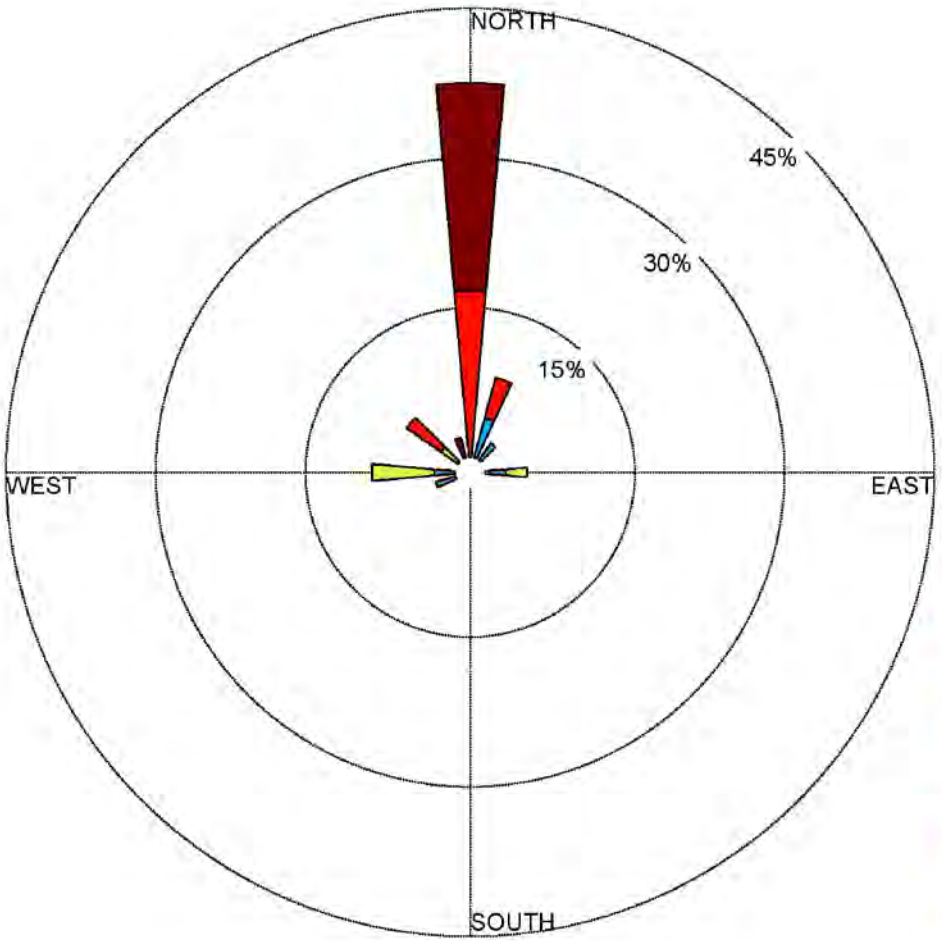
APPENDIX A

WIND ROSES

Project: 8006.31 Produced By: J. Schane/M. Murray Approved By: B. Beadle Print Date: 9/24/2013 X:\8006.31\Projects\05 - Vapor Intrusion CSM\Models\Windroses\FigA-1_Wind Rose from November 15-16, 2012.mxd

Figure A-1
Wind Rose from November 15-16, 2012

Vapor Intrusion Investigation
Former Park Laundry
Ridgefield, Washington



Legend (in MPH)

- 3.5 - 4
- 3 - 3.5
- 2.5 - 3
- 2 - 2.5
- 1.5 - 2
- 1 - 1.5
- 0.5 - 1
- 0 - 0.5

Notes:
1. MPH = miles per hour
2. Plotted data show wind origin direction.

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Project: 8006.31 Produced By: J. Schane/M. Murray Approved By: B. Beadle Print Date: 9/18/2013 X:\8006.31\Projects\05 - Vapor Intrusion CSM\Models\Windroses\FigA-2_Wind Rose from November 16-17, 2012.mxd

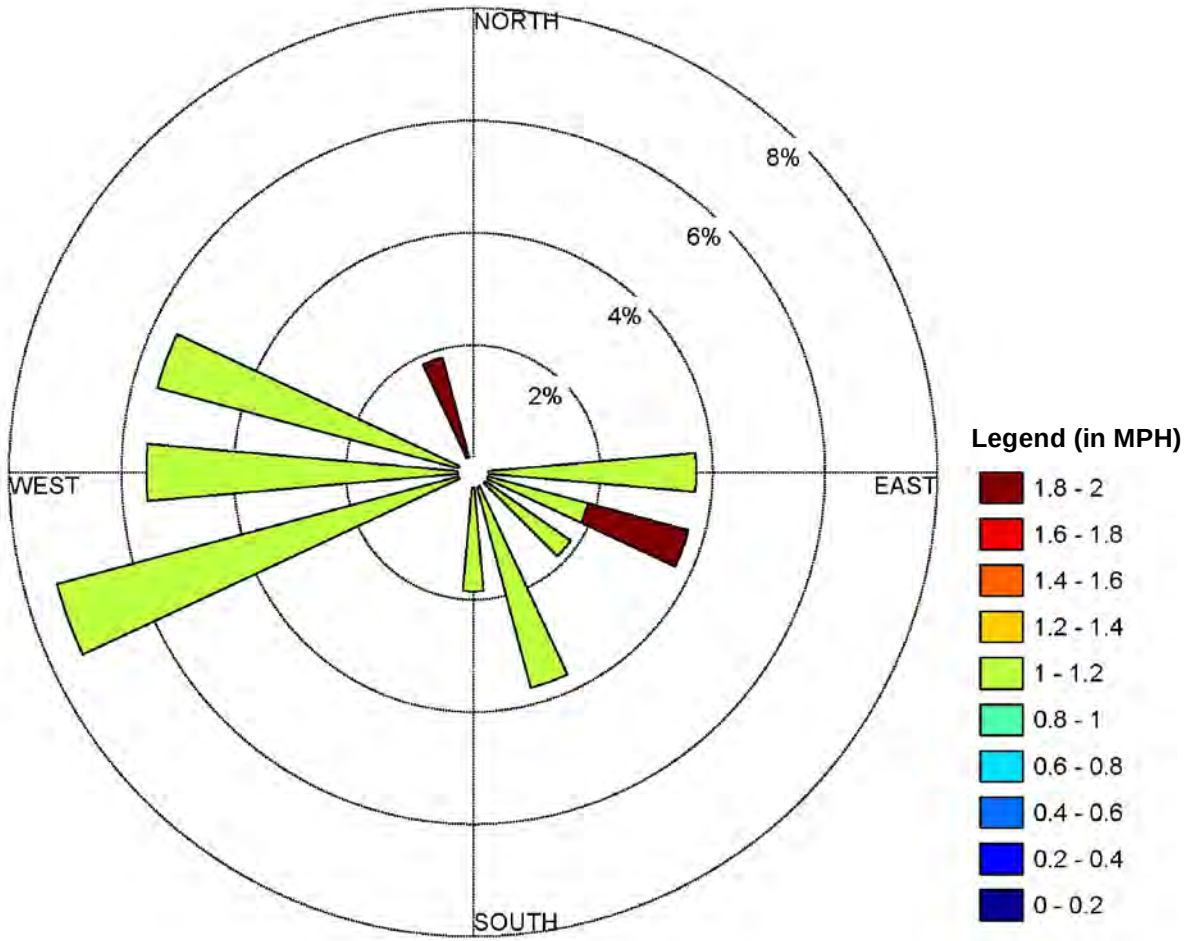

Figure A-2
Wind Rose from November 16-17, 2012

Vapor Intrusion Investigation
Former Park Laundry
Ridgefield, Washington

Notes:
1. MPH = miles per hour
2. Plotted data show wind origin direction.

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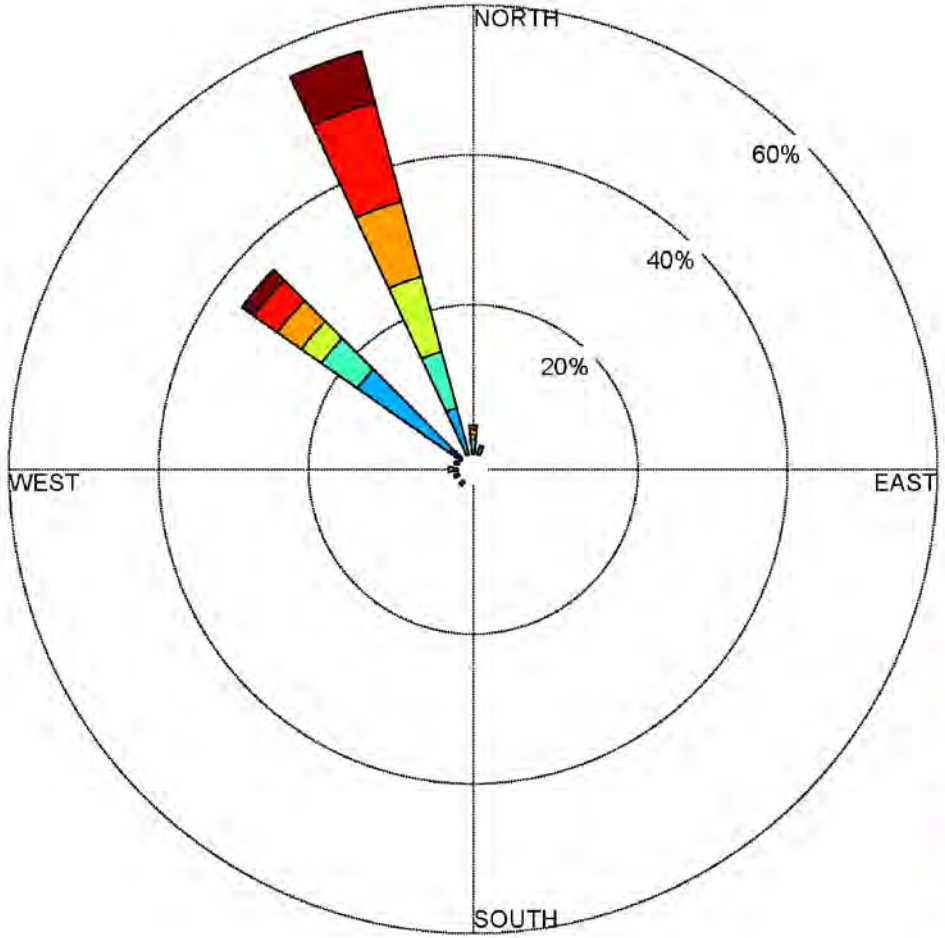
Project: 8006.31 Produced By: J. Schane/M. Murray Approved By: B. Beadle Print Date: 9/18/2013 Path: X:\8006.31\Projects\05 - Vapor Intrusion CSM\Models\Windroses\FigA-3_Wind Rose from July 29-30, 2013.mxd

Figure A-3
Wind Rose from July 29-30, 2013

Vapor Intrusion Investigation
Former Park Laundry
Ridgefield, Washington



Legend (in MPH)

- 7 - 8
- 6 - 7
- 5 - 6
- 4 - 5
- 3 - 4
- 2 - 3
- 1 - 2
- 0 - 1

Notes:
1. MPH = miles per hour
2. Plotted data show wind origin direction.

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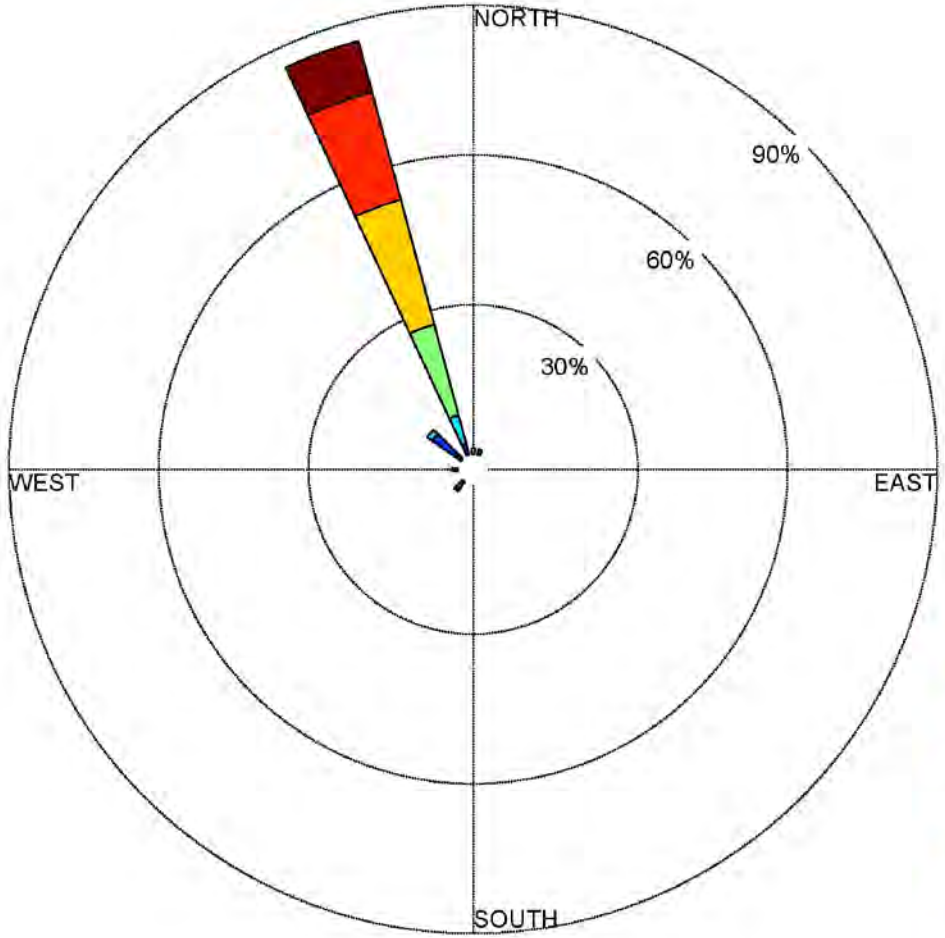
Project: 8006.31 Produced By: J. Schane/M. Murray Approved By: B. Beadle Print Date: 9/18/2013 Path: X:\8006.31\Projects\05 - Vapor Intrusion CSM\Models\Windroses\FigA-4_Wind Rose from July 30-31, 2013.mxd



Legend (in MPH)

- 8 - 9
- 7 - 8
- 6 - 7
- 5 - 6
- 4 - 5
- 3 - 4
- 2 - 3

Figure A-4
Wind Rose from July 30-31, 2013

Vapor Intrusion Investigation
Former Park Laundry
Ridgefield, Washington

Notes:
1. MPH = miles per hour
2. Plotted data show wind origin direction.

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APPENDIX B

FIELD DATA SUMMARY

Table B-1
Field Notes—Property Observations and Interview Results—November 2012

Property	**Property ID**	1	5	7	9	10	11	13	24	27
	Property Address	117 N 3rd Ave—Fire Station	210 N Main Ave—Community Center	116 N Main Ave—Police Department	121 N Main Ave—Sportsman Bar & Grill	127 N Main Ave—Sales Office	201/205 N Main Ave—Post Office	305 N Main Ave	322 N 1st Ave	304 N 1st Ave
	Property Contact	Abe Rommel	Sean McGill	Carrie Greene	Terry Hurd	Catrina Johnson	Bob Welch	Shawna	Jason Laycoe	Patrick Campbell
	Type of Occupancy	Residential	Commercial	Commercial	Commercial	Office	Office	Residential	Residential	Residential
	Year Constructed	1940s	Unknown	Building in 2000, but slab in 1970s	1929	Unknown	Unknown	Unknown	1921	Original 1910, added in 1930s and 1940s, remodeled early 2000.
	Building Sq. Footage (Approx.)	2500	8250	1500	2000	1575	8250	1700	940	1400
Survey	**Date/Time**	11/12/12 10:17 AM	11/13/2012	11/13/12 9:15 AM	11/12/12 8:30 AM	11/13/12 2:29 PM	11/13/2012	11/14/12 10:00 AM	11/12/12 1:31 PM	11/13/12 1:09 PM
	Bill Beadie	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	Thomas Ashton	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	Mike Murray	Yes	No	Yes	No	No	Yes	Yes	No	Yes
	Andy Vidourek	Yes	No	Yes	No	No	Yes	No	No	No
Occupant Info	**Occupancy**	2 to 4	Average 40	3 to 4	200 when crowded, average of 60	3	14	One adult, four children	Two adults, one child (13-18)	One adult, one child (13-18)
	Foundation Type	Slab-on-grade	Slab-on-grade	Slab-on-grade	Full crawlspace	Full crawlspace	Slab-on-grade	Slab-on-grade	Partial basement and partial crawlspace	Full crawlspace
	Foundation Notes	Some cracks visible in the slab. See photos.	None	None	None	Full crawlspace with vapor barrier on soil	None	Floating floor above slab in most of living space.	Basement; crawlspace in areas that don't have a basement.	Full crawlspace
	Number of Occupied Floors BELOW Grade	0	0	0	0	0	0	0	1	0
	Occupied Floors BELOW Grade—Notes	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Unfinished basement	N/A
	Number of Occupied Floors ABOVE Grade	2	1	1	1	1	1	2	1	1
	Occupied Floors ABOVE Grade—Notes	The main floor is primarily the garage and gym. The upper floor includes the living, eating, and sleeping areas.	None	None	None	None	None	None	None	None
	Depth of Basement Below Grade (ft)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	7-8 ft	N/A
	Basement Size (sq ft)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	300	N/A
	Basement Floor Construction	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Concrete	N/A
	Basement Floor Notes	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No obvious cracks or drains. Concrete slab over former exposed dirt, according to interviews.	N/A
	Foundation Walls	N/A	N/A	N/A	Concrete	Concrete	N/A	N/A	Concrete	Concrete, cinder blocks
	Foundation Walls Notes	N/A	N/A	N/A	None	None	N/A	N/A	No obvious cracks. One penetration.	Combination of cmu and concrete. Will confirm.
	Type of Heating System	Forced-air furnace	Forced-air furnace	Forced-air furnace	Forced-air furnace	Forced-air furnace	Forced-air furnace	Forced-air furnace	Baseboard electric	Other
	Heating System Notes	Forced-air furnace supplies the upstairs area. A ceiling-mounted electric heater supplies the downstairs area.	None	None	Furnace is in the attic and a heat pump is outside	None	None	None	None	Equivalent of a window heating and cooling unit, but installed through the wall. One in the living room, one in kitchen. Five cadet wall heaters.
	Type of Heating Fuel	Natural gas, electric	Natural gas	Natural gas	Natural gas	Natural gas	Natural gas	Natural gas	Electric	Electric
	Heating Fuel Notes	None	None	None	None	None	None	None	None	None
	Ventilation System(s)	Bathroom fan, kitchen range hood fan, central furnace	Bathroom fan, kitchen range hood fan, central furnace	Bathroom fan, kitchen range hood fan, central furnace	Bathroom fan, central furnace, attic exhaust fan, kitchen range hood fan	Bathroom fan, kitchen range hood fan, central furnace, attic exhaust fan	Bathroom fan, central furnace	Bathroom fan, kitchen range hood fan, central furnace	Kitchen range hood fan	Bathroom fans, kitchen range hood fan(s)
	Ventilation System Notes	There is an automatic exhaust fan that activates anytime the overhead doors are open for 10 or 15 minutes to prevent carbon monoxide buildup. Unknown CFM.	None	Fan in the interview room	None	None	None	None	None	Unknown whether there is an attic fan.
	Basement Sump?	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	N/A
	Sump Pump?	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Water in Sump?	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Basement Sealed?	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Neither walls nor floor sealed	N/A
	Existing Radon System in Place?	No	No	No	No	No	No	No	No	No
	Subslab Vapor Barrier in Place?	No	Unknown	Unknown—Probably no vapor barrier, based on the age of slab.	N/A	NA	Unknown	Unknown	Unknown	Unknown
	Location of Floor Drains?	None	Unknown	None	Two locations: 1) under the bar, and 2) in the kitchen	None	Four total—one in each of two bathrooms, one in the custodian room, one in the electrical room	None	Unknown	Unknown
Location of Utility Penetrations?	**Location 1**	NW area—water line	None. Just bathroom toilet penetrations.	None. Just bathroom toilet penetrations.	Gas comes in above grade in SE corner.	Natural gas line comes through floor in furnace room behind lobby.	Electrical room	No penetrations noted	Water line in basement	Unknown
	Location 2	No other penetrations noted	No penetrations noted	No penetrations noted	No penetrations noted	Floor-mounted heat registers	Custodian room drains	No penetrations noted	No other penetrations noted	Unknown
	Location 3	No other penetrations noted	No penetrations noted	No penetrations noted	No penetrations noted	Drains for bathrooms and sink	No other penetrations noted	No penetrations noted	No other penetrations noted	Unknown
Potential Indoor Sources-Source Materials	**Gasoline Storage Cans**	Yes	No	No	No	No	No	Unknown	No	No
	Gas-powered Equipment	Yes	No	No	No	No	No	Unknown	No	No
	Paints/Thinners/Strippers	Yes	Unknown	No	Outside in the shed	No	No	Unknown	No	No
	Cleaning Solvents	Yes	Yes	Yes	Yes	Yes	Yes	Unknown	Yes	Yes
	Oven Cleaners	Yes	Unknown	No	Yes	No	No	Unknown	No	No
	Insecticides	Yes	Unknown	No	No	No	No	Unknown	No	No
Occupant/ Building Details	**Do any occupants smoke?**	No	No	No	No	No	No	Unknown	Yes	No
	Notes (last time occupants smoked)	N/A	N/A	N/A	N/A	N/A	N/A	Unknown	Smokes only outside	N/A
	Does the building have an attached garage?	Yes	No	No	No	No	No	Yes	No	No
	Notes (is the car typically in the garage?)	Yes	N/A	N/A	N/A	N/A	N/A	No	N/A	N/A
	Do the occupants have items in the house dry-cleaned?	Yes	No	No	No	No	No	Unknown	No	No
	Dry-clean—if so, how often?	Weekly	N/A	N/A	N/A	N/A	N/A	Unknown	N/A	N/A
	Last time something was dry-cleaned?	Week ago	N/A	N/A	N/A	N/A	N/A	Unknown	N/A	N/A
	Do occupants use solvents at work?	No	Unknown	No	No	No	No	Unknown	No	No
	If so, what types of solvents are used?	N/A	N/A	N/A	N/A	N/A	N/A	Unknown	N/A	N/A
	If so, are clothes washed at work?	N/A	N/A	N/A	N/A	N/A	N/A	Unknown	N/A	N/A
	Have any pesticides or herbicides been applied around the building or in the yard?	Unknown	Unknown	No	No	Presumed yes. Applied by outside landscape contractors.	Outside landscapers applied something in July or August. Rootsall weed killer.	Unknown	No	Yes
	If so, what type? Frequency? Date of application?	Unknown	Unknown	N/A	N/A	Unknown	Unknown	Unknown	N/A	Green eco-friendly applied outside for spiders in the summertime.
	Has there been a fire in the building?	No	No	No	Yes	No	No	Unknown	No	No
	Fire: Notes	N/A	N/A	N/A	Approx. 20 years ago	N/A	N/A	N/A	N/A	N/A
	Painting or staining in the last six months?	No	Unknown	No	No	No	No	Unknown	No	No
	Painting/Staining Notes	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Sub-Slab Sampling Ports	**Location 1**	Near weightlifting equipment	N/A	Outside Chief Greene's office	N/A	N/A	NW corner of mail room	Laundry room	N/A	N/A
	Location 2	Closet under stairs	N/A	Interview room	N/A	N/A	Central work station	N/A	N/A	N/A
	Location 3	East area near door to upstairs	N/A	East hallway	N/A	N/A	Central east	N/A	N/A	N/A

Table B-2
Field Notes—Property Observations and Interview Results—July 2013

Property	**Property ID**	1	5	7	9	10	11	13	24	27	28
	Property Address	117 N 3rd Ave—Fire Station	210 N Main Ave—Community Center	116 N Main Ave—Police Department	121 N Main Ave—Sportsman Bar & Grill	127 N Main Ave—Sales Office	201/205 N Main Ave—Post Office	305 N Main Ave	322 N 1st Ave	304 N 1st Ave	305 N 1st Ave
	Property Contact	Abe Rommel	Sean McGill	Carrie Greene	Terry Hurd	Catrina Johnson	Bob Welch	Shauna Baker	Jason Laycoe	Maureen Kerwood	Diane Geister
	Type of Occupancy	Residential	Commercial	Commercial	Commercial	Office	Office	Residential	Residential	Residential	Residential
	Year Constructed	1940s	Unknown	Building in 2000, but slab in 1970s	1929	Unknown	Unknown	Unknown	1921	Original 1910, added in 1930s and 1940s, remodeled early 2000.	Unknown
	Building Sq. Footage (Approx.)	2500	8250	1500	2000	1575	8250	1700	940	1400	Unknown
Survey	**Date/Time**	7/29/2013	7/29/13 9:45 AM	7/29/13 9:59 AM	7/30/13 9:18 AM	7/29/13	7/29/13 1:43 PM	7/30/13 1:32 PM	N/A	7/30/13 10:32 AM	7/30/13 11:17 AM
	Bill Beadie	Yes	Yes	Yes	Yes	Yes	Yes	Yes	N/A	Yes	Yes
	Thomas Ashton	Yes	Yes	Yes	Yes	Yes	Yes	Yes	N/A	Yes	Yes
	Mike Murray	Yes	Yes	Yes	No	No	No	Yes	N/A	No	No
	Andy Vidourek	Yes	Yes	Yes	No	No	No	No	N/A	No	No
Occupant Info	**Occupancy**	2 to 4	Variable Occupancy	3 to 4	200 when crowded, average of 60	3	13	One adult, four children	Two adults, one child (13-18)	Two adults, one child (13-18)	Two adults, one child (13-18)
	Foundation Type	Slab-on-grade	Slab-on-grade	Slab-on-grade	Full crawlspace	Full crawlspace	Slab-on-grade	Slab-on-grade	Partial basement and partial crawlspace	Full crawlspace	Full basement
	Foundation Notes	Some cracks visible in the slab. See photos.	None	None	None	Full crawlspace with vapor barrier on soil	None	Floating floor above slab in most of living space.	Basement; crawlspace in areas that don't have a basement.	Full crawlspace	Cracks in basement floor and foundation walls noted
	Number of Occupied Floors BELOW Grade	0	0	0	0	0	0	0	1	0	1
	Occupied Floors BELOW Grade—Notes	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Unfinished basement	N/A	Basement
	Number of Occupied Floors ABOVE Grade	2	1	1	1	1	1	2	1	1	2
	Occupied Floors ABOVE Grade—Notes	The main floor is primarily the garage and gym. The upper floor includes the living, eating, and sleeping areas.	None	None	None	None	None	None	None	None	None
	Depth of Basement Below Grade (ft)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	7-8 ft	N/A	8 ft
	Basement Size (sq ft)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	300	N/A	N/A
	Basement Floor Construction	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Concrete	N/A	Concrete
	Basement Floor Notes	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No obvious cracks or drains. Concrete slab over former exposed dirt, according to interviews.	N/A	Cracks in floor
	Foundation Walls	N/A	N/A	N/A	Concrete	Concrete	N/A	N/A	Concrete	Concrete, cinder blocks	Cinder block and concrete
	Foundation Walls Notes	N/A	N/A	N/A	None	None	N/A	N/A	No obvious cracks. One penetration.	Combination of cmu and concrete. Will confirm.	N/A
	Type of Heating System	Forced-air furnace	Forced-air furnace	Forced-air furnace	Ductless heat pump system	Forced-air furnace	Forced-air furnace	Forced-air furnace	Baseboard electric	Other	Forced-air furnace
	Heating System Notes	Forced-air furnace supplies the upstairs area. A ceiling-mounted electric heater supplies the downstairs area.	None	None	Ductless heat pump system installed since last year. It replaced the furnace.	None	None	None	None	Equivalent of a window heating and cooling unit, but installed through the wall. One in the living room, one in kitchen. Five cadet wall heaters.	None
	Type of Heating Fuel	Natural gas, electric	Natural gas	Natural gas	Natural gas	Natural gas	Natural gas	Natural gas	Electric	Electric	Natural Gas
	Heating Fuel Notes	None	None	None	None	None	None	None	None	None	None
	Ventilation System(s)	Bathroom fan, kitchen range hood fan, central furnace	Bathroom fan, kitchen range hood fan, central furnace	Bathroom fan, kitchen range hood fan, central furnace	Bathroom fan, central furnace, attic exhaust fan, kitchen range hood fan	Bathroom fan, kitchen range hood fan, central furnace, attic exhaust fan	Bathroom fan, central furnace	Bathroom fan, kitchen range hood fan, central furnace	Kitchen range hood fan	Bathroom fans, kitchen range hood fan(s)	Bathroom fan(s), kitchen range hood fan(s)
	Ventilation System Notes	There is an automatic exhaust fan that activates anytime the overhead doors are open for 10 or 15 minutes to prevent carbon monoxide buildup. Unknown CFM.	None	Fan in the interview room	None	None	None	None	None	Unknown whether there is an attic fan.	None
	Basement Sump?	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	N/A	N/A
	Sump Pump?	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Water in Sump?	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Basement Sealed?	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Neither walls nor floor sealed	N/A	Neither walls nor floor sealed
	Existing Radon System in Place?	No	No	No	No	No	No	No	No	No	No
	Subslab Vapor Barrier in Place?	No	Unknown	Unknown—Probably no vapor barrier, based on the age of slab	N/A	NA	Unknown	Unknown	Unknown	Unknown	Unknown
	Location of Floor Drains?	None	Unknown	None	Two locations: 1) under the bar, and 2) in the kitchen	None	Four total—one in each of two bathrooms, one in the custodian room, one in the electrical room	None	Unknown	Unknown	Unknown
Location of Utility Penetrations?	**Location 1**	NW area—water line	None. Just bathroom toilet penetrations	None. Just bathroom toilet penetrations	Gas comes in above grade in SE corner.	Natural gas line comes through floor in furnace room behind lobby.	Electrical room	No penetrations noted	Water line in basement	Unknown	No penetrations noted
	Location 2	No other penetrations noted	No penetrations noted	No penetrations noted	No penetrations noted	Floor-mounted heat registers	Custodian room drains	No penetrations noted	No other penetrations noted	Unknown	No penetrations noted
	Location 3	No other penetrations noted	No penetrations noted	No penetrations noted	No penetrations noted	Drains for bathrooms and sink	No other penetrations noted	No penetrations noted	No other penetrations noted	Unknown	No penetrations noted
Potential Indoor Sources-Source Materials	**Gasoline Storage Cans**	Yes	No	No	No	No	No	Unknown	No	No	Yes
	Gas-powered Equipment	Yes	No	No	No	No	No	Unknown	No	No	Yes
	Paints/Thinners/Strippers	Yes	Unknown	No	Outside in the shed	No	Yes	Unknown	No	No	Yes
	Cleaning Solvents	Yes	Yes	Yes	Yes	Yes	Yes	Unknown	Yes	No	Yes
	Oven Cleaners	Yes	Unknown	No	Yes	No	No	Unknown	No	Yes	No
	Insecticides	Yes	Unknown	No	No	No	No	Unknown	No	No	No
Occupant/ Building Details	**Do any occupants smoke?**	No	No	No	No	No	No	Unknown	Yes	No	Yes
	Notes (last time occupants smoked)	N/A	N/A	N/A	N/A	N/A	N/A	Unknown	Smokes only outside	N/A	Within 24 hours
	Does the building have an attached garage?	Yes	No	No	No	No	No	Yes	No	No	No
	Notes (is the car typically in the garage?)	Yes	N/A	N/A	N/A	N/A	N/A	No	N/A	N/A	N/A
	Do the occupants have items in the house dry-cleaned?	Yes	No	No	No	No	No	Unknown	No	Yes	No
	Dry-clean—if so, how often?	Weekly	N/A	N/A	N/A	N/A	N/A	Unknown	N/A	3-4 times per year	N/A
	Last time something was dry-cleaned?	Week ago	N/A	N/A	N/A	N/A	N/A	Unknown	N/A	N/A	N/A
	Do occupants use solvents at work?	No	Unknown	No	No	No	No	Unknown	No	No	Yes
	If so, what types of solvents are used?	N/A	N/A	N/A	N/A	N/A	N/A	Unknown	N/A	N/A	Unknown
	If so, are clothes washed at work?	N/A	N/A	N/A	N/A	N/A	N/A	Unknown	N/A	N/A	No
	Have any pesticides or herbicides been applied around the building or in the yard?	Unknown	Unknown	No	No	Presumed yes. Applied by outside landscape contractors.	Outside landscapers applied something in July or August. Rootsall weed killer.	Unknown	No	Yes	Yes
	If so, what type? Frequency? Date of application?	Unknown	Unknown	N/A	N/A	Unknown	Unknown	Unknown	N/A	Roundup about 1 month ago in front yard	Unknown pesticide used within last month
	Has there been a fire in the building?	No	No	No	Yes	No	No	Unknown	No	No	No
	Fire: Notes	N/A	N/A	N/A	Approx. 20 years ago	N/A	N/A	N/A	N/A	N/A	N/A
	Painting or staining in the last six months?	No	Unknown	No	Yes	No	No	Unknown	No	Unknown	Yes
	Painting/staining notes	N/A	N/A	N/A	Interior was painted April through June, 2013	N/A	N/A	N/A	N/A	May have been painted before new tenant moved in	Painted much of the upstairs in March 2013 (approximately)
Subslab Sampling Ports	**Location 1**	Near weightlifting equipment	East by kitchen door	Outside Chief Greene's office	N/A	N/A	NW corner of mail room	Laundry room	N/A	N/A	N/A
	Location 2	Closet under stairs	Central Closet	Interview room	N/A	N/A	Central work station	N/A	N/A	N/A	N/A
	Location 3	East area near door to upstairs	N/A	East hallway	N/A	N/A	Central east	N/A	N/A	N/A	N/A
	Location 4	N/A	N/A	N/A	N/A	N/A	By Safe	N/A	N/A	N/A	N/A
Notes	**Property Notes**	Information from preliminary site visit in Nov. 2012 was reviewed during July 2013 sampling visit, and no changes to property were confirmed.	Information from preliminary site visit in Nov. 2012 was reviewed during July 2013 sampling visit, and no changes to property were confirmed. Two new sub-slab sampling ports were installed in July 2013.	Information from preliminary site visit in Nov. 2012 was reviewed during July 2013 sampling visit, and no changes to property were confirmed.	Information from preliminary site visit in Nov. 2012 was reviewed during July 2013 sampling visit and new changes include recent remodeling and changes to the heating system.	Information from preliminary site visit in Nov. 2012 was reviewed during July 2013 sampling visit, and no changes to property were confirmed.	Information from preliminary site visit in Nov. 2012 was reviewed during July 2013 sampling visit, and no changes to property were confirmed.	Information from preliminary site visit in Nov. 2012 was reviewed during July 2013 sampling visit, and no changes to property were confirmed.	Access to property for indoor air sampling was not granted during July 2013 sampling event. No updates to property were noted.	New tenant, Maureen Kerwood, confirmed updated property information.	Property was not sampled during November 2012 vapor intrusion sampling event.

Table B-3
Field Notes—Indoor Air Sampling—November 2012

Property	Property ID	1	5	7	9	10	11	13	24	27
	Property Address	117 N 3rd Ave—Fire Station	210 N Main Ave—Community Center	116 N Main Ave—Police Department	121 N Main Ave—Sportsman Bar & Grill	127 N Main Ave—Sales Office	201/205 N Main Ave—Post Office	305 N Main Ave	322 N 1st Ave	304 N 1st Ave
Survey	Bill Beadie	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	Thomas Ashton	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	Mike Murray	Yes	No	Yes	Yes	No	Yes	No	No	No
	Andy Vidourek	Yes	No	Yes	Yes	No	No	No	No	No
	Date/Time	11/15/12 1:10 PM	11/14/12 11:15 AM	11/15/12 9:45 AM	11/12/12 9:55 AM	11/15/12 10:02 AM	11/15/12 10:39 AM	11/16/12 9:34 AM	11/16/12 12:00 AM	11/15/12 8:25 AM
Preliminary Visit Notes	Potential Indoor Sources	None	None	None	None	None	None	None	None	None
	Source Materials (from site visit)	None	None	None	None	None	None	None	None	None
Indoor Air Sampling—Location 1	Location 1	Downstairs	Library office	Officer's work counter	East end of the bar	Kitchen	Custodian office	Dining room table 1st floor	Living room	Kitchen
	Indoor Temperature	65	70	70	70	70	68	68	68	68
	Indoor RH%	30	30	30	30	32	30	30	30	30
	Sample ID No.	1-IA1-111512	5-IA1-111412	7-IA1-111512	9-IA1-111212	10-IA1-111512	11-IA1-111512	13-IA1-111612	24-IA1-111612	27-IA1-111512
	Canister No.	33558	924	14122	33565	23925	34190	34241	33925	33781
	Regulator No.	33558	924	14122	33565	23925	34190	34241	33925	33781
	Regulator Setting	24-HR	24-HR	24-HR	24-HR	24-HR	24-HR	24-HR	24-HR	24-HR
	Start Date/Time	11/15/12 1:17 PM	11/14/12 11:16 AM	11/15/12 9:45 AM	11/12/12 10:03 AM	11/15/12 10:03 AM	11/15/12 10:40 AM	11/16/12 9:39 AM	11/16/12 11:49 AM	11/15/12 8:26 AM
	Stop Date/Time	11/16/12 1:17 PM	11/15/12 12:51 PM	11/16/12 12:22 PM	11/13/12 2:54 PM	11/16/12 10:38 AM	11/16/12 1:05 PM	11/17/12 11:53 AM	11/17/12 12:02 PM	11/16/12 10:11 AM
	Vacuum Gauge Start (in Hg)	-30	-30	-30	-28	-30	-30	-29	-30	-30
	Vacuum Gauge Final (in Hg)	-4.5	-3.5	-5	-3.5	-5	-5	-4	-4.5	-5
	Observations	None	None	None	None	None	None	None	None	Within 8 feet of windows
Indoor Air Sampling—Location 2	Location 2	Upstairs in TV room	Front room—SW corner	Interview room	Kitchen	Back office	Central workstation	2nd floor	Basement	Living room
	Indoor Temperature	70	70	70	70	70	68	68	65	68
	Indoor RH%	30	30	30	30	30	30	30	30	30
	Sample ID No.	1-IA2-111512	5-IA2-111412	7-IA2-111512	9-IA2-111212	10-IA2-111512	11-IA2-111512	13-IA2-111612	24-IA2-111612	27-IA2-111512
	Canister No.	3748	3734	35241	32130	32107	14010	5600	34737	5761
	Regulator No.	3748	3734	35241	32130	32107	14010	5600	34737	5761
	Regulator Setting	24-HR	24-HR	24-HR	24-HR	24-HR	24-HR	24-HR	24-HR	24-HR
	Start Date/Time	11/15/12 1:18 PM	11/14/12 11:19 AM	11/15/12 9:52 AM	11/12/12 10:02 AM	11/15/12 10:07 AM	11/15/12 10:42 AM	11/16/12 9:46 AM	11/16/12 10:58 AM	11/15/12 8:31 AM
	Stop Date/Time	11/16/12 11:59 AM	11/15/12 12:50 PM	11/16/12 12:08 PM	11/13/12 2:57 PM	11/16/12 10:26 AM	11/16/12 12:45 PM	11/17/12 11:53 AM	11/17/12 10:28 AM	11/16/12 10:46 AM
	Vacuum Gauge Start (in Hg)	-30	-30	-30	-30	-30	-30	-30	-28	-30
	Vacuum Gauge Final (in Hg)	0	-3.5	-2.5	-2	-4.5	-4	-5	-4	-5
	Observations	Canister ran out of vacuum by the time it was checked the following day.	None	None	None	None	None	Canister was brought downstairs in the morning	None	None
Indoor Air Sampling—Location 3	Location 3	Upstairs hallway	Back room—SW corner	N/A	N/A	Crawlspace	Near customer counter on top of safe	N/A	Crawlspace	Crawlspace—center of house
	Indoor Temperature	70	70	N/A	N/A	39-56	68	N/A	40-50	39-56
	Indoor RH%	30	30	N/A	N/A	63-97	30	N/A	85-97	63-97
	Sample ID No.	1-IA3-111512	5-IA3-111412	N/A	N/A	10-CS1-111512	11-IA3-111512	N/A	24-CS1-111512	27-CS1-111512
	Canister No.	34306	4383	N/A	N/A	31432	5599	N/A	12330	21013
	Regulator No.	34306	4383	N/A	N/A	31432	5599	N/A	12330	21013
	Regulator Setting	24-HR	24-HR	N/A	N/A	24-HR	24-HR	N/A	24-HR	24-HR
	Start Date/Time	11/15/12 1:20 PM	11/14/12 11:22 AM	N/A	N/A	11/15/12 10:14 AM	11/15/12 10:43 AM	N/A	11/15/12 11:34 AM	11/15/12 8:53 AM
	Stop Date/Time	11/16/12 1:15 PM	11/15/12 12:53 PM	N/A	N/A	11/16/12 10:28 AM	11/16/12 12:46 PM	N/A	11/16/12 12:59 PM	11/16/12 10:02 AM
	Vacuum Gauge Start (in Hg)	-29	-30	N/A	N/A	-30	-29.5	N/A	-30	-28
	Vacuum Gauge Final (in Hg)	-4.5	-5	N/A	N/A	-1.5	-4	N/A	-5	-0.5
	Observations	None	None	N/A	N/A	None	None	N/A	None	Some exposed soil visible in vapor barrier gaps. Estimate that vapor barrier covers 90–95% of soil.
Subslab Sampling—Location 1	Location 1	By weightlifting equipment	N/A	Near back door	N/A	N/A	NW corner of mail room	Laundry room	N/A	N/A
	Sample ID No.	1-SS1-111512	N/A	7-SS1-111512	N/A	N/A	11-SS1-111512	13-SS1-111612	N/A	N/A
	Canister No.	94521	N/A	15748	N/A	N/A	9453	9483	N/A	N/A
	Regulator No.	94521	N/A	15748	N/A	N/A	9453	9483	N/A	N/A
	Regulator Setting	30-min	N/A	30-min	N/A	N/A	30-min	30-min	N/A	N/A
	Start Date/Time	11/15/12 4:37 PM	N/A	11/15/12 1:10 PM	N/A	N/A	11/15/12 2:35 PM	11/16/12 9:49 AM	N/A	N/A
	Stop Date/Time	11/15/12 5:09 PM	N/A	11/15/12 1:53 PM	N/A	N/A	11/15/12 3:08 PM	11/16/12 10:30 AM	N/A	N/A
	Vacuum Gauge Start (in Hg)	-28	N/A	-29	N/A	N/A	-29.5	-29	N/A	N/A
	Vacuum Gauge Final (in Hg)	-4.5	N/A	-4.5	N/A	N/A	-4.5	-2.5	N/A	N/A
	Observations	None	N/A	None	N/A	N/A	None	N/A	N/A	N/A
Subslab Sampling—Location 2	Location 2	Closet under stairs	N/A	Interrogation room	N/A	N/A	Central workstation	N/A	N/A	N/A
	Sample ID No.	1-SS2-111512	N/A	7-SS2-111512	N/A	N/A	11-SS1-111512	N/A	N/A	N/A
	Canister No.	36569	N/A	35690	N/A	N/A	34609	N/A	N/A	N/A
	Regulator No.	36569	N/A	35690	N/A	N/A	34609	N/A	N/A	N/A
	Regulator Setting	30-min	N/A	30-min	N/A	N/A	30-min	N/A	N/A	N/A
	Start Date/Time	11/15/12 5:10 PM	N/A	11/15/12 1:29 PM	N/A	N/A	11/15/12 3:24 PM	N/A	N/A	N/A
	Stop Date/Time	11/15/12 6:00 PM	N/A	11/15/12 2:07 PM	N/A	N/A	11/15/12 4:13 PM	N/A	N/A	N/A
	Vacuum Gauge Start (in Hg)	-30	N/A	-28.5	N/A	N/A	-28	N/A	N/A	N/A
	Vacuum Gauge Final (in Hg)	-4.5	N/A	-4	N/A	N/A	-4.5	N/A	N/A	N/A
	Observations	None	N/A	None	N/A	N/A	None	N/A	N/A	N/A
Subslab Sampling—Location 3	Location 3	East by door	N/A	Center of building	N/A	N/A	Central east	N/A	N/A	N/A
	Sample ID No.	1-SS3-111512	N/A	7-SS3-111512	N/A	N/A	11-SS3-111512	N/A	N/A	N/A
	Canister No.	9495	N/A	97105	N/A	N/A	9518	N/A	N/A	N/A
	Regulator No.	9495	N/A	97105	N/A	N/A	9518	N/A	N/A	N/A
	Regulator Setting	30-min	N/A	30-min	N/A	N/A	30-min	N/A	N/A	N/A
	Start Date/Time	11/15/12 5:23 PM	N/A	11/15/12 2:07 PM	N/A	N/A	11/15/12 3:30 PM	N/A	N/A	N/A
	Stop Date/Time	11/15/12 6:15 PM	N/A	11/15/12 2:44 PM	N/A	N/A	11/15/12 4:05 PM	N/A	N/A	N/A
	Vacuum Gauge Start (in Hg)	-30	N/A	-30	N/A	N/A	-29.5	N/A	N/A	N/A
	Vacuum Gauge Final (in Hg)	-4.5	N/A	-4.5	N/A	N/A	-4.5	N/A	N/A	N/A
	Observations	None	N/A	None	N/A	N/A	None	N/A	N/A	N/A
Subslab Sampling—Location 4	Location 4	N/A	N/A	N/A	N/A	N/A	By safe	N/A	N/A	N/A
	Sample ID No.	N/A	N/A	N/A	N/A	N/A	11-SS4-111512	N/A	N/A	N/A
	Canister No.	N/A	N/A	N/A	N/A	N/A	93109	N/A	N/A	N/A
	Regulator No.	N/A	N/A	N/A	N/A	N/A	93109	N/A	N/A	N/A
	Regulator Setting	N/A	N/A	N/A	N/A	N/A	30-min	N/A	N/A	N/A
	Start Date/Time	N/A	N/A	N/A	N/A	N/A	11/15/12 4:22 PM	N/A	N/A	N/A
	Stop Date/Time	N/A	N/A	N/A	N/A	N/A	11/15/12 4:58 PM	N/A	N/A	N/A
	Vacuum Gauge Start (in Hg)	N/A	N/A	N/A	N/A	N/A	-28.5	N/A	N/A	N/A
	Vacuum Gauge Final (in Hg)	N/A	N/A	N/A	N/A	N/A	-4.5	N/A	N/A	N/A
	Observations	N/A	N/A	N/A	N/A	N/A	None	N/A	N/A	N/A

Table B-4
Field Notes—Indoor Air Sampling—July 2013

Property	Property ID	1	5	7	9	10	11	13	24	27	28
	Property Address	117 N 3rd Ave—Fire Station	210 N Main Ave—Community Center	116 N Main Ave—Police Department	121 N Main Ave—Sportsman Bar & Grill	127 N Main Ave—Sales Office	201/205 N Main Ave—Post Office	305 N Main Ave	322 N 1st Ave	304 N 1st Ave	305 N 1st Ave
Survey	Bill Beadie	Yes	Yes	Yes	Yes	Yes	Yes	Yes	N/A	Yes	Yes
	Thomas Ashton	Yes	Yes	Yes	Yes	Yes	Yes	Yes	N/A	Yes	Yes
	Mike Murray	Yes	Yes	Yes	No	No	No	Yes	N/A	No	No
	Andy Vidourek	Yes	Yes	Yes	No	No	Yes	Yes	N/A	No	No
	Date/Time	7/29/13 12:00 PM	7/30/13 10:18 AM	7/29/13 10:09 AM	7/29/13 10:40 AM	7/29/13 11:45 AM	7/29/13 12:33 PM	7/30/13 1:30 PM	N/A	7/30/2013 10:30	7/30/2013 11:15
Preliminary Visit Notes	Potential Indoor Sources	None	None	None	None	None	None	None	N/A	None	Yes
	Source Materials (from site visit)	None	None	None	None	None	None	None	N/A	None	Paints, Thinners/Strippers, Coating Material in basement
Indoor Air Sampling—Location 1	Location 1	Downstairs	Library office	Officer's work counter	East end of the bar	Kitchen	Custodian office	Dining room table 1st floor	N/A	Kitchen	Basement
	Indoor Temperature	72	72	72	72	72	72	72	N/A	72	70
	Indoor RH%	35	40	35	35	35	35	40	N/A	40	40
	Sample ID No.	1-IA1-072913	5-IA1-073013	7-IA1-072913	9-IA1-072913	10-IA1-072913	11-IA1-072913	13-IA1-073013	N/A	27-IA1-073013	28-IA1-073013
	Canister No.	10978	94301	14113	12938	34749	5365	1588	N/A	9421	21009
	Regulator No.	10978	94301	14113	12938	34749	5365	1588	N/A	9421	21009
	Regulator Setting	24-HR	24-HR	24-HR	24-HR	24-HR	24-HR	24-HR	N/A	24-HR	24-HR
	Start Date/Time	7/29/13 12:00 PM	7/30/13 10:18 AM	7/29/13 10:04 AM	7/29/13 10:51 AM	7/29/13 11:46 AM	7/29/13 12:34 PM	7/30/13 1:36 PM	N/A	7/30/13 10:52 AM	7/30/13 12:01 PM
	Stop Date/Time	7/30/13 2:21 PM	7/31/13 12:27 PM	7/30/13 9:09 AM	7/30/13 9:31 AM	7/30/13 2:12 PM	7/30/13 12:55 PM	7/31/13 2:56 PM	N/A	7/31/13 11:03 AM	7/31/13 10:20 AM
	Vacuum Gauge Start (in Hg)	-30	-30	-30	-28	-30	-28	-30	N/A	-30	-30
	Vacuum Gauge Final (in Hg)	-5.5	-4.5	-5	-5	-5	-4	-5.5	N/A	-5	-4
	Observations	None	None	None	None	None	None	None	N/A	None	None
Indoor Air Sampling—Location 2	Location 2	Upstairs in TV room	Front room—SW corner	Interview room	Kitchen	Back office	Central workstation	2nd floor	N/A	Living room	Main Floor
	Indoor Temperature	72	72	72	72	72	72	72	N/A	72	70
	Indoor RH%	35	40	35	35	35	35	40	N/A	40	40
	Sample ID No.	1-IA2-072913	5-IA2-073013	7-IA2-072913	9-IA2-072913	10-IA2-072913	11-IA2-072913	13-IA2-073013	N/A	27-IA2-073013	28-IA2-073013
	Canister No.	10791	5763	5086	13439	1565	33909	33376	N/A	1568	5667
	Regulator No.	10791	5763	5086	13439	1565	33909	33376	N/A	1568	5667
	Regulator Setting	24-HR	24-HR	24-HR	24-HR	24-HR	24-HR	24-HR	N/A	24-HR	24-HR
	Start Date/Time	7/29/13 12:03 PM	7/30/13 10:07 AM	7/29/13 10:05 AM	7/29/13 10:43 AM	7/29/13 11:46 AM	7/29/13 12:36 PM	7/30/13 1:39 PM	N/A	7/30/13 10:51 AM	7/30/13 12:03 PM
	Stop Date/Time	7/30/13 12:48 PM	7/31/13 12:35 PM	7/30/13 9:11 AM	7/30/13 12:17 PM	7/30/13 12:44 PM	7/30/13 12:54 PM	7/31/13 2:56 PM	N/A	7/31/13 10:59 AM	7/31/13 2:17 PM
	Vacuum Gauge Start (in Hg)	-30	-30	-29	-30	-30	-30	-30	N/A	-28	-30
	Vacuum Gauge Final (in Hg)	-5	-5	-1	-4	-4.5	-3	-2.5	N/A	-4	-4.5
	Observations	None	None	None	Position in kitchen slightly altered from original	None	None	None	N/A	None	None
Indoor Air Sampling—Location 3	Location 3	Upstairs hallway	Back room—SW corner	N/A	N/A	Crawlspace	Near customer counter on top of safe	N/A	N/A	Crawlspace—center of house	Upstairs 2nd Story
	Indoor Temperature	72	72	N/A	N/A	63	72	N/A	N/A	63	70
	Indoor RH%	35	40	N/A	N/A	73	35	N/A	N/A	80	40
	Sample ID No.	1-IA3-072913	5-IA3-073013	N/A	N/A	10-CS1-072913	11-IA3-072913	N/A	N/A	27-CS1-073013	28-IA3-073013
	Canister No.	5664	4214	N/A	N/A	12958	11026	N/A	N/A	14869	9418
	Regulator No.	5664	4214	N/A	N/A	12958	11026	N/A	N/A	14869	9418
	Regulator Setting	24-HR	24-HR	N/A	N/A	24-HR	24-HR	N/A	N/A	24-HR	24-HR
	Start Date/Time	7/29/13 12:04 PM	7/30/13 10:14 AM	N/A	N/A	7/29/13 11:48 AM	7/29/13 12:38 PM	N/A	N/A	7/30/13 10:52 AM	7/30/13 12:06 PM
	Stop Date/Time	7/30/13 2:19 PM	7/31/13 3:05 PM	N/A	N/A	7/30/13 12:48 PM	7/30/13 12:53 PM	N/A	N/A	7/31/13 11:07 AM	7/31/13 1:05 PM
	Vacuum Gauge Start (in Hg)	-29.5	-29	N/A	N/A	-30	-29	N/A	N/A	-29.5	-30
	Vacuum Gauge Final (in Hg)	-4	-5	N/A	N/A	-4	-3.5	N/A	N/A	-3.5	-4
	Observations	None	None	N/A	N/A	None	None	N/A	N/A	Some exposed soil visible in vapor barrier gaps. Estimate that vapor barrier covers 90–95% of soil.	None
Subslab Sampling—Location 1	Location 1	By weightlifting equipment	East by kitchen door	Near back door	N/A	N/A	NW corner of mail room	Laundry room	N/A	N/A	N/A
	Sample ID No.	1-SS1-072913	5-SS1-073013	7-SS1-072913	N/A	N/A	11-SS1-073113	13-SS1-073013	N/A	N/A	N/A
	Canister No.	37419	34100	31796	N/A	N/A	37713	30827	N/A	N/A	N/A
	Regulator No.	37419	34100	31796	N/A	N/A	37713	30827	N/A	N/A	N/A
	Regulator Setting	30-min	30-min	30-min	N/A	N/A	30-min	30-min	N/A	N/A	N/A
	Start Date/Time	7/29/13 12:22 PM	7/30/13 10:16 AM	7/29/13 10:21 AM	N/A	N/A	7/31/13 1:02 PM	7/30/13 1:40 PM	N/A	N/A	N/A
	Stop Date/Time	7/29/13 12:52 PM	7/30/13 11:00 AM	7/29/13 10:51 AM	N/A	N/A	7/31/13 1:39 PM	7/30/13 2:11 PM	N/A	N/A	N/A
	Vacuum Gauge Start (in Hg)	-29.5	-30	-29.5	N/A	N/A	-30	-28	N/A	N/A	N/A
	Vacuum Gauge Final (in Hg)	-5	-5	-5	N/A	N/A	-5	-5	N/A	N/A	N/A
	Observations	None	None	None	N/A	N/A	None	None	N/A	N/A	N/A
Subslab Sampling—Location 2	Location 2	Closet under stairs	Central closet	Interrogation room	N/A	N/A	Central workstation	N/A	N/A	N/A	N/A
	Sample ID No.	1-SS2-072913	5-SS2-073013	7-SS2-072913	N/A	N/A	11-SS2-073113	N/A	N/A	N/A	N/A
	Canister No.	31795	12031	34169	N/A	N/A	35649	N/A	N/A	N/A	N/A
	Regulator No.	31795	12031	34169	N/A	N/A	35649	N/A	N/A	N/A	N/A
	Regulator Setting	30-min	30-min	30-min	N/A	N/A	30-min	N/A	N/A	N/A	N/A
	Start Date/Time	7/29/13 12:17 PM	7/30/13 10:11 AM	7/29/13 11:10 AM	N/A	N/A	7/31/13 12:15 PM	N/A	N/A	N/A	N/A
	Stop Date/Time	7/29/13 12:47 PM	7/30/13 10:57 AM	7/29/13 11:40 AM	N/A	N/A	7/31/13 12:52 PM	N/A	N/A	N/A	N/A
	Vacuum Gauge Start (in Hg)	-29.5	-30	-29.5	N/A	N/A	-29	N/A	N/A	N/A	N/A
	Vacuum Gauge Final (in Hg)	-5	-5	-5	N/A	N/A	-5	N/A	N/A	N/A	N/A
	Observations	None	None	None	N/A	N/A	None	N/A	N/A	N/A	N/A
Subslab Sampling—Location 3	Location 3	East by door	N/A	Center of building	N/A	N/A	Central east	N/A	N/A	N/A	N/A
	Sample ID No.	1-SS3-072913	N/A	7-SS3-072913	N/A	N/A	11-SS3-073113	N/A	N/A	N/A	N/A
	Canister No.	15770	N/A	37795	N/A	N/A	3299	N/A	N/A	N/A	N/A
	Regulator No.	15770	N/A	37795	N/A	N/A	3299	N/A	N/A	N/A	N/A
	Regulator Setting	30-min	N/A	30-min	N/A	N/A	30-min	N/A	N/A	N/A	N/A
	Start Date/Time	7/29/13 1:20 PM	N/A	7/29/13 10:31 AM	N/A	N/A	7/31/13 12:21 PM	N/A	N/A	N/A	N/A
	Stop Date/Time	7/29/13 1:50 PM	N/A	7/29/13 11:01 AM	N/A	N/A	7/31/13 1:03 PM	N/A	N/A	N/A	N/A
	Vacuum Gauge Start (in Hg)	-28	N/A	-28	N/A	N/A	-30	N/A	N/A	N/A	N/A
	Vacuum Gauge Final (in Hg)	-5	N/A	-5	N/A	N/A	-5	N/A	N/A	N/A	N/A
	Observations	None	N/A	None	N/A	N/A	None	N/A	N/A	N/A	N/A
Subslab Sampling—Location 4	Location 4	N/A	N/A	N/A	N/A	N/A	Near safe	N/A	N/A	N/A	N/A
	Sample ID No.	N/A	N/A	N/A	N/A	N/A	11-SS4-073113	N/A	N/A	N/A	N/A
	Canister No.	N/A	N/A	N/A	N/A	N/A	34088	N/A	N/A	N/A	N/A
	Regulator No.	N/A	N/A	N/A	N/A	N/A	34088	N/A	N/A	N/A	N/A
	Regulator Setting	N/A	N/A	N/A	N/A	N/A	30-min	N/A	N/A	N/A	N/A
	Start Date/Time	N/A	N/A	N/A	N/A	N/A	7/31/13 1:15 PM	N/A	N/A	N/A	N/A
	Stop Date/Time	N/A	N/A	N/A	N/A	N/A	7/31/13 1:56 PM	N/A	N/A	N/A	N/A
	Vacuum Gauge Start (in Hg)	N/A	N/A	N/A	N/A	N/A	-30	N/A	N/A	N/A	N/A
	Vacuum Gauge Final (in Hg)	N/A	N/A	N/A	N/A	N/A	-5	N/A	N/A	N/A	N/A
	Observations	N/A	N/A	N/A	N/A	N/A	None	N/A	N/A	N/A	N/A

Table B-5
Field Notes—Soil Gas Sampling

Site Details	**Property ID**	1	5	10	11
	Property Address	117 N 3rd Ave—Fire Station	210 N Main Ave—Community Center	127 N Main Ave—Sales Office	201/205 N Main Ave—Post Office
	Type of Occupancy	Office	Commercial	Office	Office
	Survey Team	N/A	Mike Murray, Andy Vidourek	N/A	Andy Vidourek
Port Install Details	**Port Install Date**	11/13/2012	11/14/2012	11/13/2012	11/14/2012
	Outdoor Temp	N/A	60	N/A	62
	Outdoor RH%	N/A	85	N/A	85
	Wind Speed (MPH)	N/A	3	N/A	6
	Wind Direction	N/A	N	N/A	NNW
	Significant Precipitation in Last 24 Hrs?	No	No	No	No
	Ground Cover Outside Building	Asphalt concrete	Asphalt concrete	Asphalt concrete	Asphalt concrete
	Soil-Gas Port ID	1-SG-01	5-SG-01	10-SG-01	11-SG-01
	Port Depth	6 ft bgs	6 ft bgs	5.5 ft bgs	6 ft bgs
	Depth to GW	GW not encountered during install	GW not encountered during install	4 ft bgs	GW not encountered during install
Sampling Details - Nov. 2012	**Location 1**	1-SG-01	5-SG-01	10-SG-01	11-SG-01
	Sample ID No.	1-SG1-111512	5-SG1-111512	N/A	11-SG1-111612
	Canister/Regulator No.	36476	33727	N/A	12040
	Regulator Setting	30-min	30-min	N/A	30-min
	Start Date/Time	11/15/12 8:35 AM	11/15/12 10:17 AM	N/A	11/16/12 7:26 AM
	Stop Date/Time	11/15/12 9:21 AM	11/15/12 10:58 AM	N/A	11/16/12 8:10 AM
	Vacuum Gauge Start (in Hg)	-30	-28	N/A	-29
	Vacuum Gauge Final (in Hg)	-4.8	-4.5	N/A	-4.5
	Observations	None	None	Not sampled during November 2012 sampling event because of shallow GW level.	None
Sampling Details - July 2013	**Location 1**	1-SG-01	5-SG-01	10-SG-01	11-SG-01
	Sample ID No.	N/A	5-SG1-073013	N/A	11-SG1-073113
	Canister/Regulator No.	N/A	37786	N/A	37414
	Regulator Setting	N/A	30-min	N/A	30-min
	Start Date/Time	N/A	7/30/13 9:19 AM	N/A	7/31/13 10:27 AM
	Stop Date/Time	N/A	7/30/13 10:00 AM	N/A	7/31/13 11:03 AM
	Vacuum Gauge Start (in Hg)	N/A	-30	N/A	-29
	Vacuum Gauge Final (in Hg)	N/A	-5	N/A	-4
	Observations	Not sampled during July 2013 sampling event because of shallow GW level.	None	Not sampled during July 2013 sampling event because of shallow GW level.	None

Table B-5
Field Notes—Soil Gas Sampling

Site Details	**Property ID**	13	24	27	28
	Property Address	305 N Main Ave	322 N 1st Ave	304 N 1st Ave	305 N 1st Ave
	Type of Occupancy	Residential	Residential	Residential	Residential
	Survey Team	Mike Murray, Andy Vidourek	Mike Murray, Andy Vidourek	Andy Vidourek	Mike Murray, Andy Vidourek
Port Install Details	**Port Install Date**	11/13/2012	11/13/2012	11/13/2012	7/29/2013
	Outdoor Temp	70	74	71	74
	Outdoor RH%	72	66	66	66
	Wind Speed (MPH)	2	3	5	3
	Wind Direction	NW	NW	NNW	NW
	Significant Precipitation in Last 24 Hrs?	No	No	No	No
	Ground Cover Outside Building	Grass	Grass	Grass	Grass
	Soil-Gas Port ID	13-SG-01	24-SG-01	27-SG-01	28-SG-01
	Port Depth	6 ft bgs	6 ft bgs	6 ft bgs	5 ft bgs
	Depth to GW	GW not encountered during install	GW not encountered during install	GW not encountered during install	6 ft bgs
Sampling Details - Nov. 2012	**Location 1**	13-SG-01	24-SG-01	27-SG-01	N/A
	Sample ID No.	13-SG1-111512	24-SG1-111512	27-SG1-111512	N/A
	Canister/Regulator No.	30818	97101	36414	N/A
	Regulator Setting	30-min	30-min	30-min	N/A
	Start Date/Time	11/15/12 11:34 AM	11/15/12 12:35 PM	11/15/12 11:38 AM	N/A
	Stop Date/Time	11/15/12 12:15 PM	11/15/12 1:16 PM	11/15/12 12:26 PM	N/A
	Vacuum Gauge Start (in Hg)	-27	-28	-30	N/A
	Vacuum Gauge Final (in Hg)	-4	-4	-4	N/A
	Observations	None	None	None	Port installed in July 2013
Sampling Details - July 2013	**Location 1**	13-SG-01	24-SG-01	27-SG-01	28-SG-01
	Sample ID No.	13-SG1-073013	24-SG1-073013	27-SG1-072913	28-SG1-073013
	Canister/Regulator No.	9311	36374	37341	1348
	Regulator Setting	30-min	30-min	30-min	30-min
	Start Date/Time	7/30/13 1:13 PM	7/30/13 2:49 PM	7/29/13 3:22 PM	7/30/13 2:30 PM
	Stop Date/Time	7/30/13 1:54 PM	7/30/13 3:37 PM	7/29/13 4:08 PM	7/30/13 3:17 PM
	Vacuum Gauge Start (in Hg)	-30	-29.5	-30	-30
	Vacuum Gauge Final (in Hg)	-4	-4.5	-4	-5
	Observations	None	None	None	None

Table B-5
Field Notes—Soil Gas Sampling

Site Details	**Property ID**	44	45	46
	Property Address	122 N Main Ave—Vacant Lot—Former Park Laundry	126 N Main Ave—Vacant Lot—Laundry Adjacent Property	Main Ave/Mill Street—Vacant Lot
	Type of Occupancy	Vacant Lot	Vacant Lot	Vacant Lot
	Survey Team	Andy Vidourek	Andy Vidourek	Mike Murray, Andy Vidourek
Port Install Details	**Port Install Date**	11/13/2012	11/13/2012	11/13/2012
	Outdoor Temp	60	60	60
	Outdoor RH%	89	89	85
	Wind Speed (MPH)	6	5	4
	Wind Direction	NNW	NNW	NNW
	Significant Precipitation in Last 24 Hrs?	No	No	No
	Ground Cover Outside Building	Grass	Grass	Grass
	Soil-Gas Port ID	44-SG-01	45-SG-01	46-SG-01
	Port Depth	5.5 ft bgs	6 ft bgs	6 ft bgs
	Depth to GW	4.5 ft bgs	GW not encountered during install	GW not encountered during install
Sampling Details - Nov. 2012	**Location 1**	44-SG-01	45-SG-01	46-SG-01
	Sample ID No.	N/A	45-SG1-111512	46-SG1-111512
	Canister/Regulator No.	N/A	37750	37749
	Regulator Setting	N/A	30-min	30-min
	Start Date/Time	N/A	11/15/12 9:10 AM	11/15/12 10:20 AM
	Stop Date/Time	N/A	11/15/12 9:52 AM	11/15/12 11:08 AM
	Vacuum Gauge Start (in Hg)	N/A	-30	-30
	Vacuum Gauge Final (in Hg)	N/A	-4.4	-3.5
	Observations	Not sampled during November 2012 sampling event because of shallow GW level.	On first attempt, canister 34091 had only -5 inches vacuum. Swapped out canister and tried again. Second canister operated well.	None
Sampling Details - July 2013	**Location 1**	44-SG-01	45-SG-01	46-SG-01
	Sample ID No.	44-SG1-073113	45-SG1-073113	46-SG1-073013
	Canister/Regulator No.	37717	37697	33400
	Regulator Setting	30-min	30-min	30-min
	Start Date/Time	7/31/13 9:17 AM	7/31/13 8:54 AM	7/30/13 9:10 AM
	Stop Date/Time	7/31/13 10:00 AM	7/31/13 9:32 AM	7/30/13 9:48 AM
	Vacuum Gauge Start (in Hg)	-30	-29	-29
	Vacuum Gauge Final (in Hg)	-4	-5	-5
	Observations	None	None	None

Table B-6
Field Notes—Outdoor Background Air

Property Details	**Property ID**	OA1	OA2	OA3
	Location	Living Center—behind entrance sign	Behind El Rancho Viejo Restaurant	Davis Park
	Survey Team	Bill Beadie, Thomas Ashton	Bill Beadie, Thomas Ashton	Bill Beadie, Thomas Ashton
Nov. 2012 Background Sample 1	**Outdoor Temperature**	39-56°F	39-56°F	39-56°F
	Outdoor RH%	63-97%	63-97%	63-97%
	Wind Speed Average	2 MPH	2 MPH	2 MPH
	Wind Direction Average	From north	From north	From north
	Significant Precipitation in the Last 24 Hrs?	No	No	No
	Sample ID	OA1-111512	OA2-111512	OA3-111512
	Canister/Regulator No.	20938	34485	33938
	Regulator Setting	24-HR	24-HR	24-HR
	Start Date/Time	Thursday, November 15, 2012, 09:37 AM	Thursday, November 15, 2012, 09:27 AM	Thursday, November 15, 2012, 09:18 AM
	Stop Date/Time	Friday, November 16, 2012, 08:47 AM	Friday, November 16, 2012, 08:57 AM	Friday, November 16, 2012, 09:04 AM
	Vacuum Gauge Start (in. Hg)	-29.5	-30	-30
	Vacuum Gauge Final (in. Hg)	-5	0	-5
	Observations	None	0 inches of vacuum remaining after 24hr.	None
Nov. 2012 Background Sample 2	**Outdoor Temperature**	40-50°F	40-50°F	40-50°F
	Outdoor RH%	85-97%	85-97%	85-97%
	Wind Speed Average	1.1 MPH	1.1 MPH	1.1 MPH
	Wind Direction Average	From east	From east	From east
	Significant Precipitation in the Last 24 Hrs?	Yes	Yes	Yes
	Sample ID	OA1-111612	OA2-111612	OA3-111612
	Canister/Regulator No.	31435	9417	9925
	Regulator Setting	24-HR	24-HR	24-HR
	Start Date/Time	Friday, November 16, 2012, 08:50 AM	Friday, November 16, 2012, 08:59 AM	Friday, November 16, 2012, 09:06 AM
	Stop Date/Time	Saturday, November 17, 2012, 09:22 AM	Saturday, November 17, 2012, 09:22 AM	Saturday, November 17, 2012, 11:43 AM
	Vacuum Gauge Start (in. Hg)	-29	-30	-30
	Vacuum Gauge Final (in. Hg)	-4.5	0	-5
	Observations	Rain overnight, sampling inlet protected by funnel.	Rain overnight, sampling inlet protected by funnel. 0 inches of vacuum remaining after 24hr.	Rain overnight, sampling inlet protected by funnel.
July 2013 Background Sample 1	**Outdoor Temperature**	62	62	62
	Outdoor RH%	74	74	76
	Wind Speed Average	4.7 MPH	4.7 MPH	4.7 MPH
	Wind Direction Average	From NW	From NW	From NW
	Significant Precipitation in the Last 24 Hrs?	No	No	No
	Sample ID	OA1-072913	OA2-072913	OA3-072913
	Canister/Regulator No.	5361	32109	10988
	Regulator Setting	24-HR	24-HR	24-HR
	Start Date/Time	7/29/13 11:32 AM	7/29/13 11:25 AM	7/29/13 11:17 AM
	Stop Date/Time	7/30/13 11:28 AM	7/30/13 9:38 AM	7/30/13 12:56 PM
	Vacuum Gauge Start (in. Hg)	-30	-29.5	-29
	Vacuum Gauge Final (in. Hg)	-5	-5	-5
	Observations	None	None	None
July 2013 Background Sample 2	**Outdoor Temperature**	69	70	70
	Outdoor RH%	71	72	72
	Wind Speed Average	6.1 MPH	6.1 MPH	6.1 MPH
	Wind Direction Average	From NW	From NW	From NW
	Significant Precipitation in the Last 24 Hrs?	No	No	No
	Sample ID	OA1-073013	OA2-073013	OA3-073013
	Canister/Regulator No.	34496	34198	12957
	Regulator Setting	24-HR	24-HR	24-HR
	Start Date/Time	7/30/13 1:05 PM	7/30/13 1:15 PM	7/30/13 1:22 PM
	Stop Date/Time	7/31/13 12:15 PM	7/31/13 2:33 PM	7/31/13 3:13 PM
	Vacuum Gauge Start (in. Hg)	-30	-29.5	-30
	Vacuum Gauge Final (in. Hg)	-5	-4	-5
	Observations	None	None	None

PHOTOGRAPHS

Project Name: Former Park Laundry Site
Project Number: 8006.31.03
Location: Ridgefield, WA

INDOOR AIR—PRELIMINARY VISIT

Photograph 1. Storage closet at the Fire Station, November 2012.

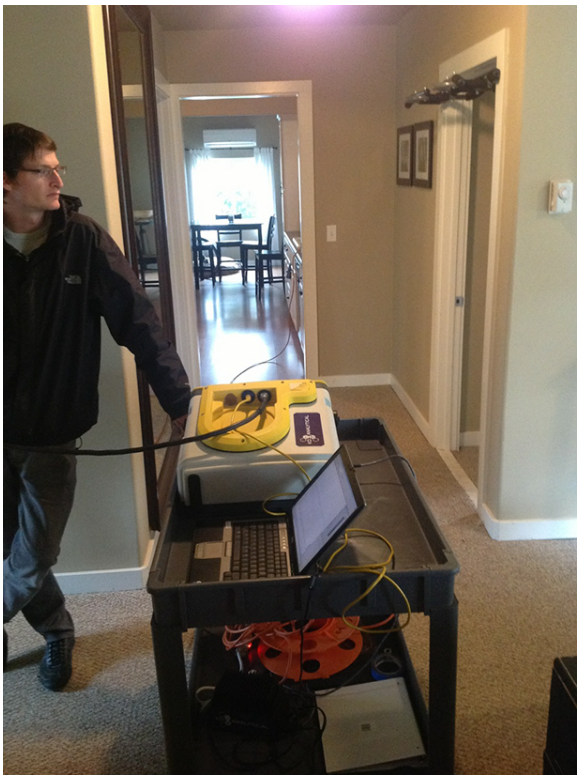
Photograph 2. Floor penetrations in the custodial closet of the Post Office, November 2012.

PHOTOGRAPHS

Project Name: Former Park Laundry Site
Project Number: 8006.31.03
Location: Ridgefield, WA

Photograph 3. Basement at 322 N 1st Avenue, November 2012.

Photograph 4. Using the Hapsite GC/MS to locate indoor sources of the chemicals of concern, November 2012.



PHOTOGRAPHS

Project Name: Former Park Laundry Site
Project Number: 8006.31.03
Location: Ridgefield, WA

INDOOR AIR—SAMPLING

Photograph 5. Indoor air sampling at the Fire Station, November 2012.

Photograph 6. Indoor air sampling at the Sportsman Bar & Grill, November 2012.

PHOTOGRAPHS

Project Name: Former Park Laundry Site
Project Number: 8006.31.03
Location: Ridgefield, WA

Photograph 7. Air sampling of the crawlspace under the Sales Office, November 2012.

Photograph 8. Indoor air sampling in the living room of 304 N 1st Avenue, November 2012.