FOCUSED REMEDIAL INVESTIGATION

Former Agricultural Properties
7109 - 7601 48th Street E, Fife, WA
Map 042017-3, Parcels: 047, 048, 008, 024, 025, 018, 039, 040, 037, 038, 029, and 031

Cleanup Site ID 15535; Facility Site ID 36429

Report Prepared For:

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1.0 INTRODUCTION

Introduction and Purpose

This report documents the results of a Focused Remedial Investigation, completed by BB&A Environmental (BB&A) at the *subject property*, identified as the former residential and agricultural properties located at 7109 to 7601 (north side of) 48th Street East, in Fife, Washington (herein referred to as the *subject property).* Pierce County identifies the *subject property* as approximately 18 acres in size and composed of the following parcels within map 042017-3: 047, 048, 008, 024, 025, 018, 039, 040, 037, 038, 029, and 031.

The purpose of the Focused Remedial Investigation was to determine the magnitude and extent of residual dieldrin contamination previously identified in soil at the *subject property*. BB&A Environmental (BB&A) was retained by Papé Properties, Inc. to perform the Focused Remedial Investigation prior to light-industrial redevelopment of the *subject property* with Papé Machinery and Papé Material Handling facilities.

2.0 SITE DESCRIPTION

2.1 Location and Legal Description

The *subject property* is an approximately 18-acre, former agricultural- and residential-use property located at 7109 to 7601 (north side of) 48th Street East, in Fife, Washington. Pierce County identifies the *subject property* as approximately 18 acres in size and composed of the following parcels within map 042017-3: 047, 048, 008, 024, 025, 018, 039, 040, 037, 038, 029, and 031. The geodesic location of the *subject property* is described as the southwest quarter of Section 17, Township 20 North, Range 4 East. The general location of the *subject property* is depicted on the Site Vicinity map included as **Figure 1.** A site location map and aerial photograph are provided on the following pages as **Figures 1** and **2**. A Site Plan is provided as **Figure 3**.

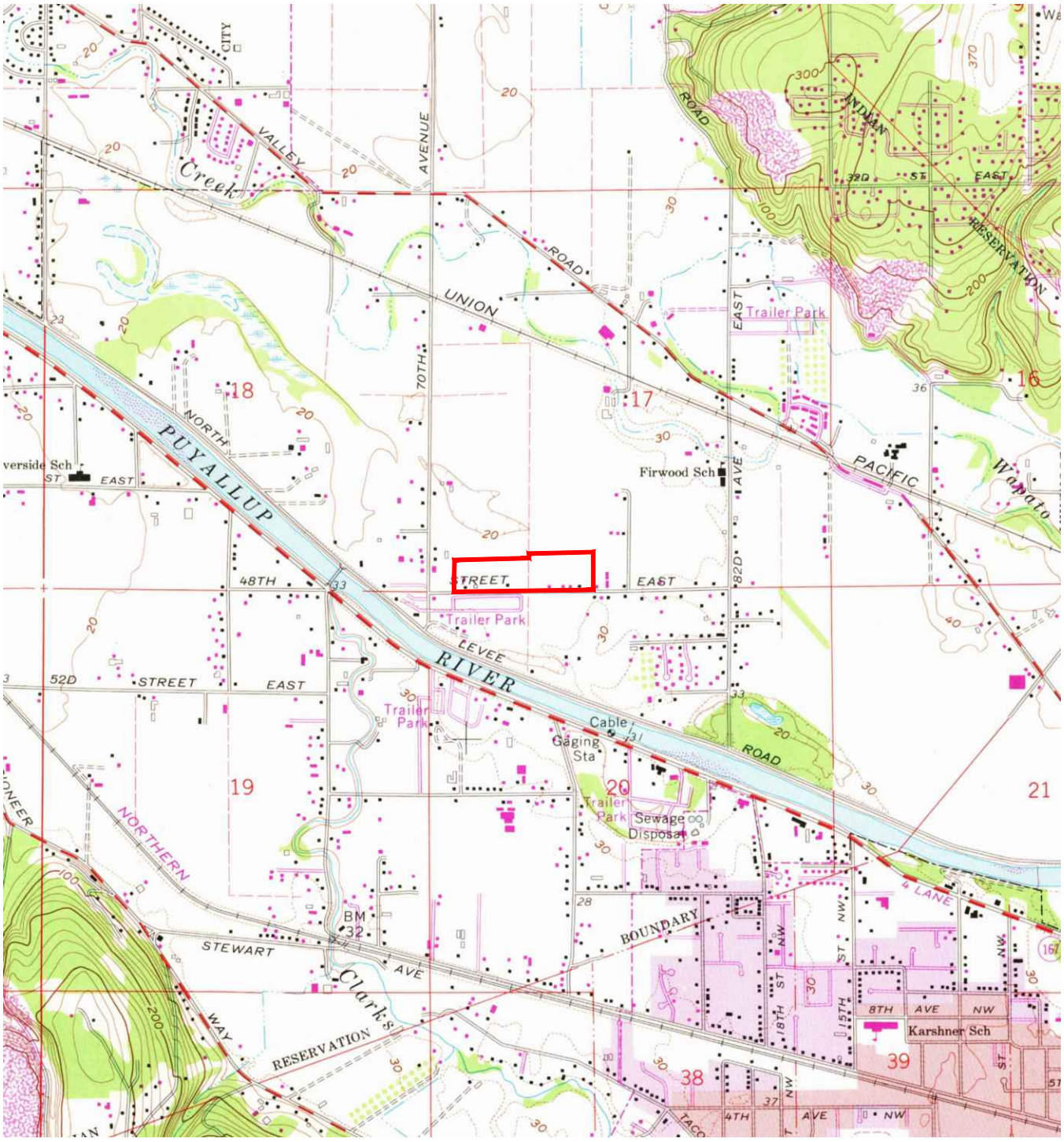
2.2 Subject Property Description

The *subject property* is an approximately 18-acre former agricultural and residential property, composed of several tax lots, located in southeast Fife, Washington. At the time of the site reconnaissance, the *subject property* was noted to be completely bare ground and absent of any former residential structures. No evidence of current agricultural operations was noted.

Adjacent and nearby properties to the north and west are primarily of industrial use, and adjacent and nearby properties to the south and east are predominantly of residential and agricultural use. It should be noted that Papé Properties also owns the three (3) industrial and residential properties (5.65-acres) to the east, and has plans to redevelop these properties as well.

N

0 1/4 1/2 1 (MILE)



SOURCE: USGS TOPOGRAPHIC QUADRANGLE
SERIES: 7.5 MINUTE, PUYPALLUP, WASHINGTON

SITE LOCATION

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SITE LOCATION MAP
PAPE MACHINERY
7109 TO 7601 48th STREET E., FIFE, WASHINGTON

FIGURE #: 1

PROJECT CODE:	DATE:	SCALE:	DRAWN:	CHECKED:
PAP182PH1.21E	02/03/21	AS SHOWN	K.D.DESIGNS	STEVE OMO

N

0 500
250
(FEET)

SITE LOCATION

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SITE AERIAL
PAPE MACHINERY
7109 TO 7601 48th STREET E., FIFE, WASHINGTON

FIGURE #: 2

PROJECT CODE:	DATE:	SCALE:	DRAWN:	CHECKED:
PAP182PH1.21E	02/03/21	AS SHOWN	K.D.DESIGNS	STEVE OMO

N

0 120
60
(FEET)

SERVICE STEEL AEROSPACE

COMMERCIAL PROPERTY

CRYSTAL DISTRIBUTION

COMMERCIAL PROPERTY

AG COMP 1

AG COMP 2

AG COMP 3

AG COMP 4

AG COMP 5

AG COMP 6

GH COMP6

GH COMP7

GH COMP8

GH COMP9

GH COMP5

GH COMP4

GH COMP3

GH COMP2

GH COMP1

TL 042017-3-047
(1.0 Acres)

GRASS

PUMPKIN

TL 042017-3-039
(1.86 Acres)

TL 042017-3-037
(1.65 Acres)

7223 48th STREET E.

TL 042017-3-024
(1.95 Acres)

TL 042017-3-025
(1.95 Acres)

TL 042017-3-018
(2.53 Acres)

7601 48th STREET E.

TL 042017-3-031
(2.15 Acres)

TL 042017-3-048
(1.92 Acres)

TL 042017-3-008
(1.92 Acres)

7109 48th STREET E.

7111 48th STREET E.

7305 48th STREET E.

Former Heating Oil AST & UST

Trash

7501 48th STREET E.

WW

USTs

7511 & 7519 48th STREET E.

TL 042017-3-029
(0.35 Acres)

TL 042017-3-040
(0.46 Acres)

AST

Drainage Ditch

48th STREET E.

Drainage Ditch

48th STREET COURT E.

TRAILER PARK PROPERTY

73th AVE. CT. E.

49th STREET E.

Private Drive to Pond

SUBJECT PROPERTY

LEGEND

- Building
- Property Line
- TL 042017-3-047 (1.0 Acres) — Tax Lot Number & Acres
- WW — Water Well
- Composite Soil Sample

FIGURE #: 3

SITE PLAN
PAPE MACHINERY
7109 TO 7601 48th STREET E., FIFE, WASHINGTON

PROJECT CODE: PAP182PH1.21E
DATE: 05/03/23
SCALE: 1"=120'
DRAWN: K.D.DESIGNS
CHECKED: STEVE OMO

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2.3 Current Zoning and Surrounding Land Use

Zoning: The *subject property* is located within the Fife city limits, and is zoned *Community Commercial*. To the north, the adjacent properties are zoned *Industrial*. To the west, east and south adjacent and nearby properties to the south are zoned *Community Commercial*. To the southeast are properties zoned *Single-Family Residential* and *Medium Density Residential*.

Land Use: The adjacent properties to the north and west appear to be of industrial use, although a small agricultural property occupies a parcel to the north. To the south, is a mobile home park that is zoned *Community Commercial*. To the east are three (3) properties (5.65-acres) owned by Papé Properties, that are of industrial and residential use. Papé Properties has plans to redevelop these properties as for industrial use.

3.0 HYDROGEOLOGIC SETTING

3.1 Physical Setting

The *subject property* is relatively level, with a very slight topographical gradient dipping to the north from a topographical high of 27 to 28 feet above mean sea level (MSL) along 48th Street, to a localized low of approximately 22 to 23 feet above MSL at the northeastern portion of the property. Local and regional topography dips gently to the west-northwest (see **Figure 1**).

3.2 Local and Regional Geologic and Hydrogeologic Conditions

According to the US Geological Survey (USGS) *Geologic Map of the Tacoma 1:100,000-Scale Quadrangle, Washington*, the *subject property* and surrounding area are underlain by alluvial (Qa) deposits of loose, stratified fluvial silt, sand, and gravel associated with the Puyallup River valley, within which, the *subject property* is located. More specifically, based on soils encountered in on-site borings, native soils encountered beneath the subject property from the surface to a depth of 10 feet below land surface (BLS) include clayey silt and silt with fine-grained sand. Groundwater was found to occur at a depths ranging between six (6) to 10.5 feet BLS, depending on the season.

Local groundwater flow beneath the *subject property* (and nearby areas) is assumed to flow generally west-northwest with decreasing topography towards and parallel to the flow of the Puyallup River.

3.3 Local and Regional Aquifers and Beneficial Groundwater Use

To confirm local stratigraphy and depth to useable aquifers, a water well query was conducted of the Washington Ecology Water Resources database. Using an approximate three-quarter (0.75) mile radius from the *subject property*, the water well query identified 57 well reports. Of these 57 well reports, eight well reports were for seven (7) domestic water wells (two [2] well reports were associated with the same water well, including initial installation, and later for deepening the water well). The water well query results for the water well reports for the nine (9) water wells are provided in **Appendix A**. The screened intervals for each of the seven (7) water wells are identified as follows:

Well ID	**Screened Interval**	**Distance from *Subject Property***
301365	168' - 175'	0.5 miles east of the *subject property*
50066	288' - 298'	0.25 miles south, beyond the Puyallup River
51348	268' - 273'	0.8 miles west-northwest of the *subject property*
52084	287' - 297'	Location Unknown, could be within 500 feet
313681	85' - 90'	0.62 miles southeast of the *subject property*
341330	105' - 110'	0.5 miles east of the *subject property*
1595809	107' - 117'	0.25 miles east of the *subject property*

The City of Fife Public Works Department confirmed that the adjacent trailer park property to the south of the *subject property* received water from the municipal water-supply system.

4.0 HISTORICAL RELEASES AND INVESTIGATIONS

4.1 Historical Releases

Based on interviews with the former property owners of the *subject property*, no on-site mixing or bulk storage of dieldrin (or pesticides) was ever conducted at the *subject property*. In addition, according to the former property owners, former use of pesticides was conducted in accordance with manufacturers directions and recommendations, and applied as standard operating practices.

4.2 February 2021 Focused Phase II ESA

As part of the Focused Phase II ESA (February 2021), BB&A conducted focused surface soil sampling at the agricultural parcels of the *subject property*, including the former greenhouses on tax parcels 042017-3-037 and 042017-3-039, on the eastern portion of the *subject property*. The purpose of the sampling event was to confirm or deny the presence (and magnitude if present) of herbicides and pesticides in shallow soil in the areas of agricultural use.

4.3 Soil Sampling Methodology

As part of the 2021 focused investigation, composite soil samples were collected from surface soils immediately beneath the tables within the greenhouses, as well as from the agricultural fields composing the *subject property*. The following sample protocols were performed for each composite soil sample:

- **Greenhouse Samples:** Within each greenhouse were raised tables for holding various potted plants. When watered or treated using herbicides or pesticides, excess water runoff from these tables dripped on the soil beneath each table. Within each greenhouse, 10 random grab samples were collected throughout the greenhouse using clean nitrile gloves. The nitrile gloves were changed between samples to prevent cross-contamination. The grab samples were combined and thoroughly mixed within a one-gallon plastic ziploc bag, from which two (2), four (4) ounce soil jars were filled to capacity.

- **Agricultural Fields:** The agricultural fields for parcels (west to east) 047, 048, 008, 024, 025, 018, 039, and 037 were divided into six (6) sampling units, approximately two (2) acres in size. The sampling units are shown on **Figure 4**, as are the approximate location of each grab sample. Within each sampling unit, 10 random grab samples were collected using a shovel and clean nitrile gloves. At each random grab sample location, a one (1) foot by one (1) foot square plug of soil, approximately eight (8) inches deep, was removed using a shovel. To prevent cross-contamination, a grab sample was collected below the root zone at approximately three (3) to eight (8) inches below the surface from the center of the plug that had not come in contact with the shovel. The grab samples were combined and thoroughly mixed within a one-gallon plastic ziploc bag, from which two (2), four (4) ounce soil jars were filled to capacity.

N

0 120
60
(FEET)

SERVICE STEEL AEROSPACE

COMMERCIAL PROPERTY

CRYSTAL DISTRIBUTION

COMMERCIAL PROPERTY

AG COMP 1
TL 042017-3-047
(1.0 Acres)
GRASS
AG COMP 1
Dieldrin= 0.0927

AG COMP 2
PUMPKIN
AG COMP 2
Dieldrin= 0.022

7223 48th STREET E.

AG COMP 3
TL 042017-3-024
(1.95 Acres)
AG COMP 3
Dieldrin= 0.115

AG COMP 4
TL 042017-3-025
(1.95 Acres)
AG COMP 4
Dieldrin= ND

AG COMP 5
TL 042017-3-018
(2.53 Acres)
AG COMP 5
Dieldrin= ND

TL 042017-3-039
(1.86 Acres)

AG COMP 6
TL 042017-3-037
(1.65 Acres)
AG COMP 6
Dieldrin= ND

GH COMP6
GH COMP7
GH COMP8
GH COMP9
GH COMP5
GH COMP4
GH COMP3
GH COMP2
GH COMP1

7601 48th STREET E.
TL 042017-3-031
(2.15 Acres)

TL 042017-3-048
(1.92 Acres)
TL 042017-3-008
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7111 48th STREET E.
7305 48th STREET E.

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Trash

WW
USTs

7501 48th STREET E.
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TL 042017-3-029
(0.35 Acres)

TL 042017-3-040
(0.46 Acres)

WW
AST

Drainage Ditch

48th STREET E.

Drainage Ditch

48th STREET COURT E.

TRAILER PARK PROPERTY

73th AVE. CT. E.

49th STREET E.

Private Drive to Pond

SUBJECT PROPERTY

LEGEND

- Building
- Property Line
- TL 042017-3-047 (1.0 Acres) — Tax Lot Number & Acres
- WW — Water Well
- Composite Soil Sample
- AG COMP 2 Dieldrin= 0.022 — Organochlorine Pesticides per EPA Method 8081B; All units in parts per million (ppb); ND= Not Detected

Yellow Highlighted Text Exceeds MTCA Method B direct contact for cancer.

FIGURE #: 4

SITE PLAN SHOWING AG COMP SAMPLE LOCATIONS & ANALYTICAL RESULTS
PAPE MACHINERY
7109 TO 7601 48th STREET E., FIFE, WASHINGTON

PROJECT CODE: PAP182PH1.21E
DATE: 05/03/23
SCALE: 1"=120'
DRAWN: K.D.DESIGNS
CHECKED: STEVE OMO

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Nitrile gloves were changed after composite sampling of soil in each sample unit to prevent additional cross-contamination. Each clean four (4) ounce glass jar was filled to capacity (i.e., no headspace), and sealed with threaded, teflon-lined caps. The sample jars were uniquely labeled, logged on a chain-of-custody document, and placed on ice in an insulated portable cooler for immediate delivery to Apex Laboratories in Tigard, Oregon.

4.4 Greenhouse Soil Sample Results

The February 2021 composite soil samples were submitted for analysis of Organochlorine Pesticides per EPA Method 8081B, and Herbicides per EPA Method 8151A. The analytical results are summarized below in **Table 1**. Laboratory analysis only detected the herbicide 2,4-D above method reporting limits in four (4) of the greenhouse soil samples. Further, pesticides were not detected in the composite soil samples from Greenhouses 4, 5, 6, and 7 (see **Figure 4**). However in all other composite samples, multiple pesticides were detected, including: Aldrin, beta-BHC, Lindane, cis-Chlordane, trans-Chlordane, 4,4'-DDD, 4,4'-DDE, 4.4'-DDT, Dieldrin, Endosulfan II, Endosulfan Sulfate, Endrin Ketone, and Heptachlor Epoxide.

To evaluate the analytical results, the detected pesticide concentrations were compared to MTCA cleanup levels. MTCA Method A cleanup levels were not available for any of the herbicides or pesticides. Instead, the detected concentrations were compared to MTCA Method B cleanup levels for unrestricted land use. MTCA Method B includes cleanup concentrations for carcinogenic and non-carcinogenic compounds. Dieldrin was found to exceed the carcinogenic MTCA Method B cleanup level of 0.63 milligrams per kilogram (mg/kg), or parts per million (ppm) in two (2) of the composite soil samples: AG Comp 1 at 0.0927 ppm at the far west end of the property, and AG Comp 3 at 0.115 ppm tax lot 024. No soil samples were found to contain dieldrin above the MTCA Method C cleanup level of 8.2 ppm for industrial use properties. It is important to note that Papé Properties has plans to redevelop the *subject property* (i.e., all tax lots) as industrial properties, including a Papé Machinery facility for sales, service and repair of large earth moving equipment, such as excavators and tractors, and Papé Material Handling Facility for sales, service, and rental of forklifts, and high-lift machinery.

4.5 Water Well Sampling

As part of the Focused Phase II ESA, the water well at 7519 48th Street E was sampled. Prior to sampling, approximately 30 gallons of water was purged from a spigot immediately outside the water well pump house at this address. Upon purging, the water samples were collected directly from the spigot under low-flow conditions. The water sample from this water well was analyzed for dissolved arsenic, nitrates, organochlorine pesticides, and herbicides. None of the potential contaminants analyzed were detected above method-reporting limits.

Table 1: Greenhouse / Agricultural Soil Sampling Analytical Results – February 2021

Multiple Parcels, 7109 - 7519 48th Street E, Fife, Washington

All concentrations in milligrams per kilogram (mg/kg), or parts per million (ppm).

ND (>0.02): Indicates contaminant was not detected above method-reporting limit shown in parenthesis.

Yellow highlighted values indicate concentration exceeding MTCA CULs.

**Except for Arsenic, MTCA A Cleanup Levels are not available. Instead, MTCA Method B Non-Cancer (B-NC) and Method B Cancer (B-C) Cleanup Levels are provided. For Dieldrin, the MTCA C Cleanup Level is also provided.

Contaminants-of-Potential-Concern	Greenhouse Composite Sample ID									Agricultural Parcel Composite Sample ID						MTCA Method B Cleanup Levels**
	GH Comp1	GH Comp2	GH Comp3	GH Comp4	GH Comp5	GH Comp6	GH Comp7	GH Comp8	GH Comp9	AG Comp1	AG Comp2	AG Comp3	AG Comp4	AG Comp5	AG Comp6	
Organochlorine Pesticides (EPA Method 8081B)																
Aldrin	ND (<0.002)	ND (<0.002)	ND (<0.002)	ND (<0.002)	ND (<0.002)	ND (<0.002)	ND (<0.002)	ND (<0.002)	ND (<0.002)	ND (<0.002)	ND (<0.002)	ND (<0.002)	**0.00894**	ND (<0.002)	ND (<0.002)	0.0588[B-C]
beta-BHC	ND (<0.002)	ND (<0.002)	**0.00295**	ND (<0.002)	ND (<0.002)	ND (<0.002)	ND (<0.002)	ND (<0.002)	**0.00917**	ND (<0.002)	ND (<0.002)	ND (<0.002)	ND (<0.002)	ND (<0.002)	ND (<0.002)	0.556[B-C]
gamma-BHC (Lindane)	ND (<0.002)	ND (<0.002)	ND (<0.002)	ND (<0.002)	ND (<0.002)	ND (<0.002)	ND (<0.002)	ND (<0.002)	ND (<0.002)	ND (<0.002)	ND (<0.002)	**0.00477**	**0.0235**	ND (<0.002)	ND (<0.002)	0.909[B-C]
cis-Chlordane	ND (<0.002)	ND (<0.002)	ND (<0.002)	ND (<0.002)	ND (<0.002)	ND (<0.002)	ND (<0.002)	ND (<0.002)	ND (<0.002)	**0.0255**	**0.00347**	ND (<0.002)	ND (<0.002)	ND (<0.002)	ND (<0.002)	2.86[B-C]
trans-Chlordane	ND (<0.002)	ND (<0.002)	ND (<0.002)	ND (<0.002)	ND (<0.002)	ND (<0.002)	ND (<0.002)	ND (<0.002)	ND (<0.002)	**0.0122**	ND (<0.002)	**0.00883**	**0.0222**	ND (<0.002)	ND (<0.002)	2.86[B-C]
4,4'-DDD	**0.00361**	ND (<0.002)	ND (<0.002)	ND (<0.002)	ND (<0.002)	ND (<0.002)	ND (<0.002)	**0.00757**	**0.00702**	**0.0219**	**0.0232**	**0.0294**	**0.0153**	ND (<0.002)	ND (<0.002)	4.17[B-C]
4,4'-DDE	**0.00256**	ND (<0.002)	ND (<0.002)	ND (<0.002)	ND (<0.002)	ND (<0.002)	ND (<0.002)	**0.00597**	**0.00583**	**0.00342**	**0.00889**	**0.0192**	**0.00743**	**0.0123**	**0.00768**	2.94[B-C]
4,4'-DDT	**0.00365**	ND (<0.002)	ND (<0.002)	ND (<0.002)	ND (<0.002)	ND (<0.002)	ND (<0.002)	**0.0122**	**0.0129**	**0.00839**	**0.0179**	**0.0429**	**0.0264**	**0.0321**	**0.00871**	2.94[B-C]
Dieldrin	ND (<0.002)	ND (<0.002)	ND (<0.002)	ND (<0.002)	ND (<0.002)	ND (<0.002)	ND (<0.002)	ND (<0.002)	ND (<0.002)	**0.0927**	**0.022**	**0.115**	ND (<0.002)	ND (<0.002)	ND (<0.002)	**0.063[B-C] / 8.2[C]**
Endosulfan II	**0.00773**	ND (<0.002)	ND (<0.002)	ND (<0.002)	ND (<0.002)	ND (<0.002)	ND (<0.002)	ND (<0.002	ND (<0.002)	ND (<0.002)	ND (<0.002)	ND (<0.002)	ND (<0.002)	ND (<0.002)	ND (<0.002)	480[B-NC]
Endosulfan Sulfate	ND (<0.002)	ND (<0.002)	ND (<0.002)	ND (<0.002)	ND (<0.002)	ND (<0.002)	ND (<0.002)	ND (<0.002	ND (<0.002)	ND (<0.002)	ND (<0.002)	**0.00743**	**0.0274**	ND (<0.002)	ND (<0.002)	480[B-NC]
Endrin Ketone	ND (<0.002)	ND (<0.002)	ND (<0.002)	ND (<0.002)	ND (<0.002)	ND (<0.002)	ND (<0.002)	ND (<0.002	ND (<0.002)	ND (<0.002)	ND (<0.002)	ND (<0.002)	**0.0145**	ND (<0.002)	ND (<0.002)	24[B-NC]
Heptachlor epoxide	ND (<0.002)	ND (<0.002)	ND (<0.002)	ND (<0.002)	ND (<0.002)	ND (<0.002)	ND (<0.002)	ND (<0.002	ND (<0.002)	ND (<0.002)	ND (<0.002)	**0.0214**	**0.0431**	ND (<0.002)	ND (<0.002)	0.11[B-C]
All other Pesticides	ND (<0.002)	ND (<0.002)	ND (<0.002)	ND (<0.002)	ND (<0.002)	ND (<0.002)	ND (<0.002)	ND (<0.002)	ND (<0.002)	ND (<0.002)	ND (<0.002)	ND (<0.002)	ND (<0.002)	ND (<0.002)	ND (<0.002)	Various
Herbicides (EPA Method 8151)																
2,4,5-T	ND (<0.013)	ND (<0.012)	ND (<0.015)	ND (<0.012)	ND (<0.012)	ND (<0.011)	ND (<0.012)	ND (<0.014)	ND (<0.013)	ND (<0.013)	ND (<0.012)	ND (<0.012)	ND (<0.013)	ND (<0.013)	ND (<0.013)	800[B-NC]
2,4,5-TP (Silvex)	ND (<0.013)	ND (<0.012)	ND (<0.015)	ND (<0.012)	ND (<0.012)	ND (<0.011)	ND (<0.012)	ND (<0.014)	ND (<0.013)	ND (<0.013)	ND (<0.012)	ND (<0.012)	ND (<0.013)	ND (<0.013)	ND (<0.013)	800[B-NC]
2,4-D	ND (<0.130)	ND (<0.120)	ND (<0.150)	ND (<0.120)	**0.092J**	**0.29**	**0.99**	ND (<0.140)	**0.59**	ND (<0.130)	ND (<0.120)	ND (<0.120)	ND (<0.130)	ND (<0.130)	ND (<0.130)	800[B-NC]
2,4-DB	ND (<0.130)	ND (<0.120)	ND (<0.150)	ND (<0.120)	ND (<0.120)	ND (<0.110)	ND (<0.120)	ND (<0.140)	ND (<0.130)	ND (<0.130)	ND (<0.120)	ND (<0.120)	ND (<0.130)	ND (<0.130)	ND (<0.130)	800[B-NC]
Dalapon	ND (<0.330)	ND (<0.290)	ND (<0.370)	ND (<0.310)	ND (<0.310)	ND (<0.280)	ND (<0.290)	ND (<0.340)	ND (<0.320)	ND (<0.320)	ND (<0.310)	ND (<0.310)	ND (<0.320)	ND (<0.320)	ND (<0.320)	2400[B-NC]
Dicamba	ND (<0.013)	ND (<0.012)	ND (<0.015)	ND (<0.012)	ND (<0.012)	ND (<0.011)	ND (<0.012)	ND (<0.014)	ND (<0.013)	ND (<0.013)	ND (<0.012)	ND (<0.012)	ND (<0.013)	ND (<0.013)	ND (<0.013)	2400[B-NC]
Dichlorprop	ND (<0.130)	ND (<0.120)	ND (<0.150)	ND (<0.120)	ND (<0.120)	ND (<0.110)	ND (<0.120)	ND (<0.140)	ND (<0.130)	ND (<0.130)	ND (<0.120)	ND (<0.120)	ND (<0.130)	ND (<0.130)	ND (<0.130)	800[B-NC]
Dinoseb	ND (<0.130)	ND (<0.120)	ND (<0.150)	ND (<0.120)	ND (<0.120)	ND (<0.110)	ND (<0.120)	ND (<0.140)	ND (<0.130)	ND (<0.130)	ND (<0.120)	ND (<0.120)	ND (<0.130)	ND (<0.130)	ND (<0.130)	80[B-NC]
MCPA	ND (<26)	ND (<23)	ND (<29)	ND (<25)	ND (<25)	ND (<22)	ND (<23)	ND (<27)	ND (<26)	ND (<26)	ND (<25)	ND (<25)	ND (<26)	ND (<26)	ND (<25)	40[B-NC]
MCPP	ND (<13)	ND (<12)	ND (<15)	ND (<12)	ND (<12)	ND (<11)	ND (<12)	ND (<14)	ND (<13)	ND (<13)	ND (<12)	ND (<12)	ND (<13)	ND (<13)	ND (<13)	80[B-NC]
Arsenic	6.44	8.86	10.2	8.14	5.06	2.80	3.71	5.84	4.97	3.32	3.95	4.91	5.43	4.51	4.46	20[A]

5.0 FOCUSED REMEDIAL INVESTIGATION

5.1 Standards and Purpose

The results of the February 2021 Focused Phase II ESA identified low-level concentrations of pesticides in surface soil samples (upper six [6] inches) from former agricultural use tax lots on the north side of 48th Street East (7109 to 7519 48th Street E), in Fife, Washington. Of all the pesticides detected, Dieldrin was identified in surface soils from two (2) tax lots at concentrations exceeding MTCA Method B (Cancer) Cleanup Levels. The detected dieldrin concentrations did not exceed the MTCA Method C cleanup level for industrial use land (see **Table 1**). No other pesticides were detected at concentrations exceeding MTCA Method B Cleanup Levels.

Based on the results of the 2021 Focused Phase II ESA, on March 16, 2023, BB&A conducted a Focused Remedial Investigation with the purpose of defining the magnitude and extent of dieldrin in soil at the *subject property*. More specifically, the former Composite 1 (COMP 1) and Composite 3 (COMP 3) sample units (shown on **Figure 4**), where dieldrin exceeded MTCA Method B (Cancer) Cleanup Levels, were subdivided and resampled.

5.2 Soil Sampling Methodology

The area identified as COMP 1, on the west portion of the *subject property* (composed of portions of tax lots 042017-3-047 and 042017-3-048), was subdivided into six (6) approximately equal sub-units. The area identified as COMP 3, identified as tax lot 042017-3-024, was subdivided into five (5) approximately equal sub-units. Within each sub-unit, 10 random grab samples were collected using a shovel and clean nitrile gloves. At each random grab sample location, a one (1) foot by one (1) foot square plug of soil, approximately eight (8) inches deep, was removed using a shovel. To prevent cross-contamination, a grab sample was collected just below the root zone at approximately two (2) to eight (8) inches below land surface, from the center of the plug that had not come in contact with the shovel. The 10 sub-unit grab samples were combined and thoroughly mixed within a one-gallon plastic ziploc bag, from which eight (8) ounce soil jars were filled to capacity. Clean nitrile gloves were used during collection of soil samples to prevent cross-contamination.

Upon collecting the grab samples at two (2) to eight (8) inches, a posthole tool was used to advance the hole to deeper depths of approximately 14 to 18 inches. Upon attaining this depth, clean nitrile gloves were used to retrieve a soil sample from the 14 to 18 inch depth, which was combined and thoroughly mixed within a one-gallon plastic ziploc bag, and then transferred to an eight (8) ounce soil jar filled to capacity. To prevent cross-contamination, clean nitrile gloves were used, and the posthole tool was decontaminated between sample sub-units.

The sample containers were uniquely labeled, logged on a chain-of-custody form, and placed on ice until delivery to Apex Laboratory (a Washington certified laboratory) in Tigard, Oregon.

5.3 Soil Sampling Analytical Results

The soil analytical results are summarized on **Table 2** and **Figure 5**. The complete laboratory report is provided in **Appendix A**.

Table 2: Composite Soil Analytical Results – Focused Remedial Investigation, March 2023
Multiple Parcels, 7109 - 7519 48th Street E, Fife, Washington

All concentrations in milligrams per kilogram (mg/kg), or parts per million (ppm).
Yellow highlighted values indicate concentration exceeding MTCA CULs.
**MTCA Method B cancer (B-C) and MTCA Method C Cleanup Levels are provided.

SURFACE SOIL SAMPLE IDENTIFICATION (0" - 6") (Composite ID – Sample Depth)	Dieldrin
COMP7 - 0"-6"	**0.080**
COMP8 - 0"-6"	**0.104**
COMP9 - 0"-6"	**0.107**
COMP10 - 0"-6"	**0.118**
COMP11 - 0"-6"	**0.110**
COMP12 - 0"-6"	**0.0925**
COMP13 - 0"-6"	**0.124**
COMP14 - 0"-6"	**0.134**
COMP15 - 0"-6"	**0.113**
COMP16 - 0"-6"	**0.133**
COMP17 - 0"-6"	**0.153**
NEAR SURFACE SOIL SAMPLE IDENTIFICATION (14" - 18")	
COMP7 - 14"-18"	**0.0648**
COMP8 - 14"-18"	**0.0608**
COMP9 - 14"-18"	**0.0375**
COMP10 - 14"-18"	**0.101**
COMP11 - 14"-18"	**0.101**
COMP12 - 14"-18"	**0.0967**
COMP13 - 14"-18"	**0.0721**
COMP14 - 14"-18"	**0.0486**
COMP15 - 14"-18"	**0.0589**
COMP16 - 14"-18"	**0.0274**
COMP17 - 14"-18"	**0.107**
Washington Ecology Model Toxics Control Act (MTCA) Method Cleanup Levels	
MTCA Methods B (Cancer) and C	**0.063[B-C] / 8.2[C]**

COMP7–0”–6”
Dieldrin= 0.0800

COMP7–14”–18”
Dieldrin= 0.0648

COMP 7

COMP8–0”–6”
Dieldrin= 0.104

COMP8–14”–18”
Dieldrin= 0.0608

COMP 8

TL 042017-3-047
(1.0 Acres)

COMP9–0”–6”
Dieldrin= 0.107

COMP9–14”–18”
Dieldrin= 0.0375

COMP 9

COMP10–0”–6”
Dieldrin= 0.118

COMP10–14”–18”
Dieldrin= 0.101

COMP 10

COMP11–0”–6”
Dieldrin= 0.110

COMP11–14”–18”
Dieldrin= 0.101

COMP 11

COMP12–0”–6”
Dieldrin= 0.0925

COMP12–14”–18”
Dieldrin= 0.0967

COMP 12

7109 48th
STREET E.

AST

WW

GRASS

7111 48th
STREET E.

TL 042017-3-048
(1.92 Acres)

7223 48th
STREET E.

TL 042017-3-008
(1.92 Acres)

COMP13–0”–6”
Dieldrin= 0.124

COMP13–14”–18”
Dieldrin= 0.0721

COMP 13

COMP14–0”–6”
Dieldrin= 0.133

COMP14–14”–18”
Dieldrin= 0.0486

COMP 14

PUMPKIN

TL 042017-3-024
(1.95 Acres)

7305 48th
STREET E.

TL 042017-3-025
(1.95 Acres)

COMP15–0”–6”
Dieldrin= 0.113

COMP15–14”–18”
Dieldrin= 0.0589

COMP 15

COMP16–0”–6”
Dieldrin= 0.133

COMP16–14”–18”
Dieldrin= 0.0274

COMP 16

Former
Heating Oil
AST & UST

COMP17–0”–6”
Dieldrin= 0.153

COMP17–14”–18”
Dieldrin= 0.107

COMP 17

SUBJECT
PROPERTY

48th STREET E.

Drainage Ditch

48th STREET COURT E.

TRAILER PARK PROPERTY

N

0 30 60
(FEET)

LEGEND

- Composite Soil Sample
- Organochlorine Pesticides per EPA Method 8081B; All units in parts per million (ppb); ND= Not Detected
- Yellow Highlighted Text Exceeds MTCA Method B direct contact for cancer.
- COMP12–0”–6” Dieldrin= 0.0925
- Building
- Property Line
- TL 042017-3-047 (1.0 Acres) — Tax Lot Number & Acres
- WW — Water Well

FIGURE #: 5

SITE PLAN SHOWING COMPOSITE SAMPLE LOCATIONS & ANALYTICAL RESULTS
PAPE MACHINERY
7109 TO 7601 48th STREET E., FIFE, WASHINGTON

PROJECT CODE: PAP182PH1.21E
DATE: 05/03/23
SCALE: 1”=60’
DRAWN: K.D.DESIGNS
CHECKED: STEVE OMO

PORTLAND OFFICE
25195 SW Parkway Ave.,#207
Wilsonville, OR
ph: 503.570.9484

EUGENE OFFICE
32986 Roberts Ct.
Coburg, OR
ph: 541.484.9484

www.BBAENV.COM

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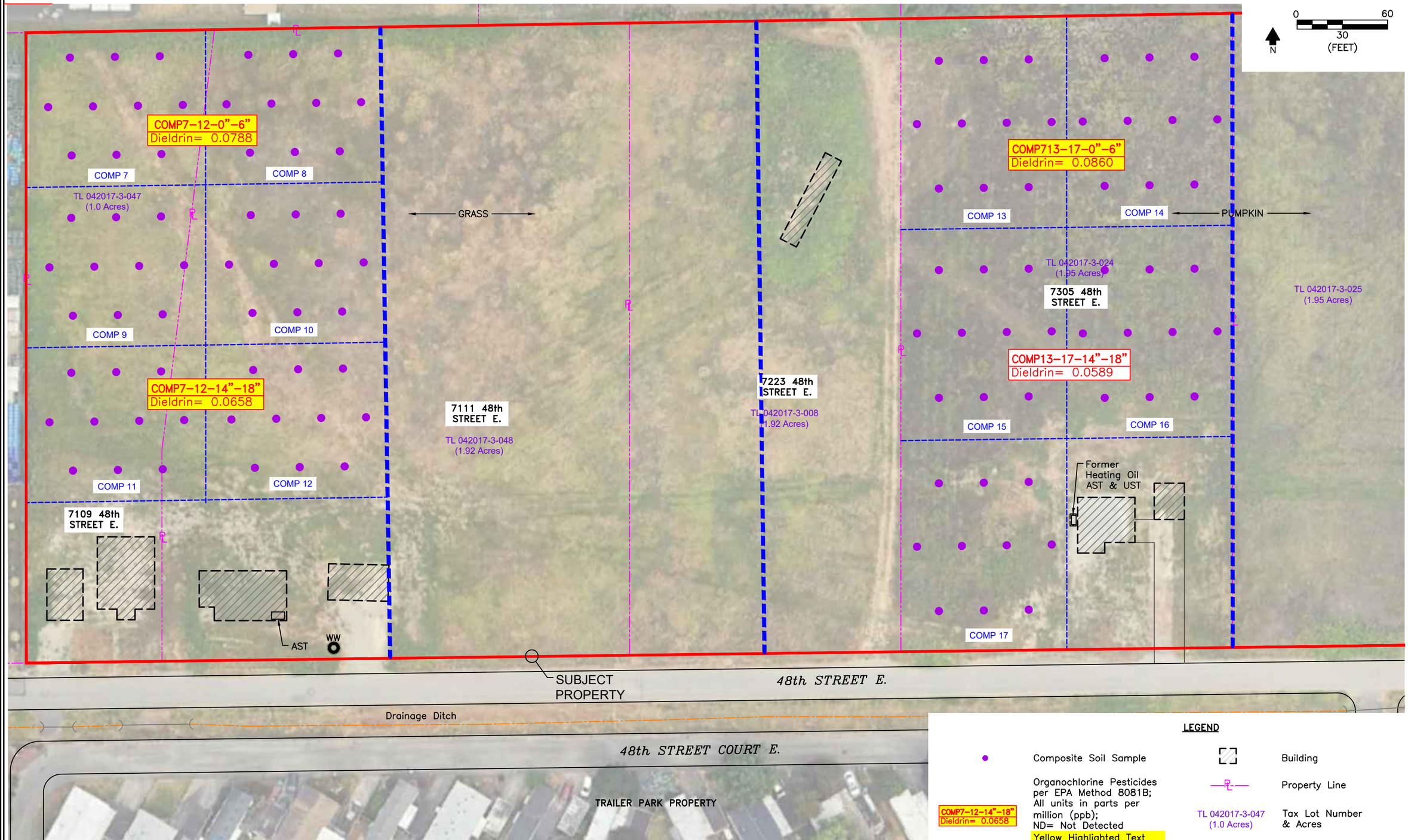

LEGEND

Composite Soil Sample	Building
Organochlorine Pesticides per EPA Method 8081B; All units in parts per million (ppb); ND= Not Detected	Property Line
COMP7-12-14"-18" Dieldrin= 0.0658	TL 042017-3-047 (1.0 Acres) — Tax Lot Number & Acres
Yellow Highlighted Text Exceeds MTCA Method B direct contact for cancer.	WW — Water Well

FIGURE #: 6

SITE PLAN SHOWING COMPOSITE SAMPLES 7-17 COMPOSITE ANALYTICAL RESULTS
PAPE MACHINERY
7109 TO 7601 48th STREET E., FIFE, WASHINGTON

PROJECT CODE: PAP182PH1.21E
DATE: 05/03/23
SCALE: 1"=60'
DRAWN: K.D.DESIGNS
CHECKED: STEVE OMO

PORTLAND OFFICE
25195 SW Parkway Ave., #207
Wilsonville, OR
ph: 503.570.9484

EUGENE OFFICE
32986 Roberts Ct.
Coburg, OR
ph: 541.484.9484

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Surface / Shallow Sub-Unit Sampling Results: As can be seen in **Table 2**, dieldrin was detected in all of the shallow soil samples (i.e., two [2] to six [6] inch depth) at fairly consistent concentrations. Within the COMP 1 sample unit, dieldrin was detected in shallow soil from the sub-units at concentrations ranging from 0.08 to 0.118 ppm, with a mean value of 0.102 ppm – all exceeding the MTCA Method B cleanup level. Within the COMP 3 sample unit, dieldrin was detected in shallow soil from the sub-units at concentrations ranging from 0.124 to 0.153 ppm, with a mean value of 0.131 ppm – all exceeding the MTCA Method B (Cancer) cleanup level.

Deeper Sub-Unit Sampling Results: Within the COMP 1 sample unit, dieldrin was detected in the deeper soil samples (i.e., 14" to 18") from the sub-units at concentrations ranging from 0.0375 to 0.101 ppm, with a mean value of 0.077 ppm. Dieldrin concentrations in two (2) of the deeper sub-unit samples were below the MTCA Method B cleanup level; however, the mean value was still above the MTCA Method B cleanup level.

Within the COMP 3 sample unit, dieldrin was detected in the deeper soil samples (i.e., 14" to 18") from the sub-units at concentrations ranging from 0.0274 to 0.107 ppm, with a mean value of 0.063 ppm. Dieldrin concentrations in three (3) of the sub-unit samples were below the MTCA Method B cleanup level, and the mean value for all of the deeper samples in the COMP 3 sample unit was at the MTCA Method B cleanup level of 0.63 ppm.

5.6 Full Composite Soil Sample Results

After collection of the composite soil samples, all remaining “like” soil from the sub-units were combined, thoroughly mixed and sampled as “full composites.” For example, after collecting the shallow soil samples from each sub-unit of COMP 1, all remaining soil in the one (1) gallon ziplock bags were combined as a “full composite,” and labeled as COMP 7-12 – 0"-6". The resulting “full composites” are identified as:

- **COMP 7-12 – 0"-6" :** A composite of all shallow soils collected from sub-units 7 through 12;
- **COMP 7-12 – 14"-18" :** A composite of all deeper soils (14" - 18") collected from sub-units 7 through 12;
- **COMP 13-17 – 0"-6" :** A composite of all shallow soils collected from sub-units 13 through 17; and
- **COMP 13-17 – 14"-18" :** A composite of all deeper soils (14" - 18") collected from sub-units 13 through 11.

The analytical results for the “full composite” samples are provided in **Table 3**. As presented, the full composite soil samples are lower than the mean values calculated for each depth and sample unit.

Table 3: Tax Lot Composite Soil Analytical Results – Remedial Investigation, March 2023
Multiple Parcels, 7109 - 7519 48th Street E, Fife, Washington

All concentrations in milligrams per kilogram (mg/kg), or parts per million (ppm).
Yellow highlighted values indicate concentration exceeding MTCA CULs.
**MTCA Method B cancer (B-C) and MTCA Method C Cleanup Levels are provided.

SURFACE SOIL SAMPLE IDENTIFICATION (0" - 6") (Composite ID – Sample Depth)	Dieldrin
COMP 7-12 – 0"-6"	**0.0788**
COMP 13-17 – 0"-6"	**0.086**
NEAR SURFACE SOIL SAMPLE IDENTIFICATION (14" - 18")	
COMP 7-12 – 14"-18"	**0.0658**
COMP 13-17 – 14"-18"	**0.0589**
Washington Ecology Model Toxics Control Act (MTCA) Method Cleanup Levels	
Methods A & B for Unrestricted Land Use	**0.063[B-C] / 8.2[C]**

6.0 PRELIMINARY CONCEPTUAL SITE MODEL

The purpose of a Conceptual Site Model (CSM) is to evaluate potential exposure pathways, mechanisms, media, and routes by which human and ecological receptors may be potentially exposed to hazardous substances (in this case, petroleum contamination) at the *subject property*. As part of the CSM process, the following factors were considered:

- Current and future Land and Resource Use (e.g., zoning, land use, use of groundwater);
- Source and extent of contamination;
- Types of contaminants and constituents of potential concern;
- Types of media impacted (e.g., soil, water, vapor, surface water, etc.); and
- Route of exposure (e.g., inhalation, dermal contact, ingestion, etc.)

6.1 Current and Future Land and Resource Use

The *subject property* is located within the Fife city limits, and is zoned *Community Commercial*. To the north, the adjacent properties are zoned *Industrial* and operate as distribution warehouses. In general, properties to the west are of industrial use as waste transfer and recycling facilities, but are zoned *Community Commercial*. Papé Properties owns the three (3) residential properties (5.65-acres) to the east, and plans to redevelop these properties for industrial use as well. Properties to the south are of residential use as a trailer park, but are zoned *Community Commercial*.

Washington Administrative Code (WAC) 173-340-200 defines "Industrial properties" as those that are zoned “industrial use” by city or county (i.e., local jurisdiction), and/or “have been characterized by, or are to be committed to, traditional industrial uses such as processing or manufacturing of materials, marine terminal and transportation areas and facilities, fabrication, assembly, treatment, or distribution of manufactured products, or storage of bulk materials.” Based on this definition, future use of the *subject property* is considered industrial use, since Papé intends to redevelop the *subject property* with a Papé Machinery facility for sales, service and repair of large earth moving equipment, and a Papé Material Handling facility for sales, service, and rental of forklifts, and high-lift machinery.

6.2 Contaminants of Concern

Based on the results of the February 10, 2021, Focused Phase II ESA, **dieldrin** is considered the only Contaminant of Concern (COC) associated with the *subject property*. According to the U.S. Department of Health Agency for Toxic Substances and Disease Registry (ATSDR), dieldrin is a chlorinated pesticide that was manufactured and used from 1948 to the early 1970's. Dieldrin has a strong affinity for organic matter and sorbs tightly to soil, with little to no leaching to groundwater, and no volatility. It should be noted that aldrin, another chlorinated pesticide, is found to break down in the environment and within insects to form dieldrin.

6.3 Source and Extent of Contamination

The source of contamination identified in soil is the result of historical application of pesticides on the former agricultural portions of tax lots 042017-3-047, 042017-3-048, and 042017-3-024. According to the former owners, pesticides were applied per standard operating practices and manufacturers recommendations. No spills or inadvertent releases of pesticides occurred onsite.

Horizontal and Vertical Extent of Contamination in Soil

- **Vertical:** The findings of the Focused Remedial Investigation did not identify the vertical extent of dieldrin in soil. During surface and shallow soil sampling, the upper 12 to 14 inches were noted to consist of soft silty soils – likely due to the frequent tilling operations of the past. At depths of 16 to 18 inches, the soils were moderately hard and compact. It is suspected that the denser and more compact soils at depths greater than 16 to 18 inches retarded the vertical migration of dieldrin.

- **Horizontal:** The findings of the 2021 Focused Phase II ESA suggest that dieldrin contamination in soil exceeding MTCA Method B cleanup levels is limited to tax lots 042017-3-047, 042017-3-048, and 042017-3-024.

Extent of Groundwater Contamination: It is unknown if groundwater beneath the *subject property* has been impacted by dieldrin. Previous investigations at another portion of the *subject property* found uppermost groundwater to occur at depths ranging between eight (8) and 10.5 feet below land surface. It is important to note that pesticides were not detected in groundwater from an on-site water well.

6.4 Human-Health Routes of Exposure

Based on current and reasonably likely future use of the *subject property*, current use of municipal water-supply sources, depth to soil and groundwater, this Preliminary Conceptual Site Model (CSM) considers the following exposure pathways and receptor scenarios to be reasonably applicable:

- Ingestion, dermal contact, and/or inhalation of soil particulates by Excavation Workers is considered a complete exposure pathway.

- The results of the water well query completed in **Section 3.3** identified seven (7) domestic water wells within three-quarter (0.75) mile radius from the *subject property* – the closest being 0.25 to 0.5 miles to the east, upgradient of the *subject property*. The screened interval for the seven (7) domestic water wells ranged from 85 to 90 feet below land surface (BLS) at the shallowest well, to 288 to 298 feet BLS in the deepest well. All of the adjacent properties were found to be connected to the municipal water-supply system. Based on these findings, uppermost groundwater does not appear to be utilized as a source of domestic water (i.e., drinking water, bathing, etc.), and is considered an incomplete pathway . Ingestion or dermal contact with groundwater by Excavation Workers is considered a complete pathway.

- Inhalation of trench air within open excavations, or vapor intrusion into future onsite buildings is considered a complete exposure pathway. However, it is important to note that dieldrin is not considered a volatile compound – especially decades after application.

6.5 Ecological Receptors

Currently, the *subject property* is bare ground, and provides suitable habitat for burrowing insects, reptiles, and mammals, and the birds and mammals that prey on them. Papé currently has plans to redevelop the *subject property* with two (2) separate industrial facilities. These plans will effectively cap the *subject property* with buildings, service shops, concrete and asphalt parking lots and driveways, and gravel yards for displaying equipment. Some minor areas of landscaping and stormwater infrastructure will be included as part of construction and development.

7.0 CLEANUP STANDARDS

7.1 Proposed Soil Cleanup Standard – MTCA Method C Industrial Use

Based on proposed future industrial[1] land use of the *subject property* and adjacent properties to the east, plus zoning and land use of the adjacent properties to the north and west, and the findings of the Preliminary CSM, Model Toxics Control Act (MTCA) Method C cleanup levels for industrial land use are proposed for soil at the *subject property*. Method C cleanup levels were developed with industrial sites in mind, utilizing less stringent exposure assumptions, based on a 1 in 100,000 (10^{-5}) cancer risk, and are considered protective of human exposure via direct contact pathway for the *subject property* future land use.

7.2 Proposed Groundwater Cleanup Standards – MTCA Method B (Cancer) and C

Based on the results of the water well query completed in **Section 3.3**, uppermost groundwater does not appear to be utilized as a source of domestic water (i.e., drinking water, bathing, etc.). Further, based on proposed future industrial land use of the *subject property* and adjacent properties to the east, and industrial use and zoning to the west and north (downgradient), and the findings of the Preliminary CSM, MTCA Method C cleanup levels for industrial land use are proposed for groundwater beneath the *subject property*.

It is important to note that pesticides were not detected in groundwater from an on-site water well.

[1] Washington Administrative Code (WAC) 173-340-200 defines "Industrial properties" as those that are zoned “industrial use” by city or county (i.e., local jurisdiction), and/or “have been characterized by, or are to be committed to, traditional industrial uses such as processing or manufacturing of materials, marine terminal and transportation areas and facilities, fabrication, assembly, treatment, or distribution of manufactured products, or storage of bulk materials. Based on this definition, future use of the *subject property* as a Papé Machinery facility (sales, service and repair of large earth moving equipment), and Papé Material Handling facility (sales, service, and rental of forklifts, and high-lift machinery) is considered industrial use.

8.0 SUMMARY

The results of this Focused Remedial Investigation are summarized as follows:

Site Description

- The *subject property* is an approximately 18-acre, former agricultural- and residential-use property located at 7109 to 7601 (north side of) 48th Street East, in Fife, Washington. Pierce County identifies the *subject property* to be composed of the following parcels within map 042017-3: 047, 048, 008, 024, 025, 018, 039, 040, 037, 038, 029, and 031. At the time of the remedial investigation, the *subject property* was noted to be completely bare ground and absent of any former residential structures.

- Adjacent and nearby properties to the north and west are primarily of industrial use, and adjacent and nearby properties to the south and east are predominantly of residential and agricultural use. Papé Properties also owns the three (3) industrial and residential properties (5.65-acres) to the east, and has plans to redevelop these properties for industrial use.

- **Site History:** Based on historical aerials and County information, the *subject property* appears to have always been predominantly of agricultural use since at least the 1940's, with several residences along the southern portion of the property, adjacent to 48th Street East.

Focused Phase II Investigation

- In February 2021, a Focused Phase II ESA was conducted at the *subject property.* As part of the focused investigation, composite soil samples were collected from surface soils immediately beneath the plant-growing tables in the former greenhouses, as well as from the agricultural fields composing the *subject property*. Each composite sample was composed of 10 random surface / near-surface soil samples. Similarly, the agricultural parcels were subdivided into six (6) segments, where 10 random grab samples were collected and combined for six (6) composite soil samples (collected just beneath the root zone). Clean nitrile gloves were changed between samples to prevent cross-contamination.

  Soil Analytical Results: Laboratory analysis of the composite soil samples detected the herbicide 2,4-D in four (4) greenhouse composite samples and the following pesticides in most of the greenhouse and agricultural field samples: Aldrin, beta-BHC, Lindane, cis-Chlordane, trans-Chlordane, 4,4'-DDD, 4,4'-DDE, 4.4'-DDT, Dieldrin, Endosulfan II, Endosulfan Sulfate, Endrin Ketone, and Heptachlor Epoxide.

MTCA Cleanup Level Comparison: To evaluate the herbicide and pesticide analytical results, the detected concentrations were compared to applicable MTCA Method B cleanup levels for unrestricted land use. Dieldrin was found to slightly exceed the *carcinogenic* MTCA Method B cleanup level in two (2) soil samples from the agricultural fields. All other detected herbicide and pesticide concentrations were generally orders of magnitude below MTCA Method B cleanup levels. The analytical results appear to show that historical use of pesticides occurred across most of the agricultural fields, and to some extent inside the greenhouses.

- **Water Well Sampling**: As part of the Focused Phase II ESA, the water well at 7519 48th Street E was sampled for dissolved arsenic, nitrates, organochlorine pesticides, and herbicides. None of the potential contaminants analyzed for were detected above method-reporting limits.

Remedial Investigation

- In March 2023, BB&A conducted a Focused Remedial Investigation with the purpose of defining the magnitude and extent of dieldrin in soil at the *subject property*. More specifically, the former Composite 1 (COMP 1) and Composite 3 (COMP 3) sample units, where dieldrin exceeded MTCA Method B (Cancer) Cleanup Levels, were subdivided and resampled.

- As part of the Remedial Investigation, the area identified as COMP 1, on the west portion of the *subject property* (composed of portions of tax lots 042017-3-047 and 042017-3-048), was subdivided into six (6) approximately equal sub-units. The area identified as COMP 3, identified as tax lot 042017-3-024, was subdivided into five (5) approximately equal sub-units. Within each sub-unit, 10 random grab samples were collected at depths of two (2) to eight (8) inches, and again at a depth of 14 to 18 inches. Care was taken to prevent cross-contamination. The 10 sub-unit grab samples were combined and thoroughly mixed within a one-gallon plastic ziploc bag, from which eight (8) ounce soil jars were filled to capacity.

  Surface / Shallow Sub-Unit Sampling Results: Laboratory analysis detected dieldrin in all of the shallow soil samples (i.e., two [2] to six [6] inch depth) at fairly consistent concentrations: dieldrin was detected in the sub-units of the COMP 1 sample unit at concentrations ranging from 0.08 to 0.118 ppm; and dieldrin was detected in the sub-units of the COMP 3 sample unit at concentrations ranging from 0.124 to 0.153 ppm – all exceeding the MTCA Method B (Cancer) cleanup level of 0.063 ppm.

Deeper Sub-Unit Sampling Results: Within the COMP 1 sub-units, dieldrin was detected in the deeper soil samples (i.e., 14" to 18") at concentrations ranging from 0.0375 to 0.101 ppm (mean value of 0.077 ppm), with dieldrin concentrations in two (2) of the deeper sub-unit samples were below the MTCA Method B cleanup level.

Within the COMP 3 sub-units, dieldrin was detected in the deeper soil samples (i.e., 14" to 18") at concentrations ranging from 0.0274 to 0.107 ppm, with a mean value of 0.063 ppm (at MTCA Method B cleanup level), and dieldrin concentrations in three (3) sub-units below the MTCA Method B cleanup level of 0.63 ppm.

Full Composite Samples: After collection of the composite soil samples, all remaining "like" soil from the sub-units were combined, mixed and sampled as "full composites." The full composite soil sample results were lower than the mean values calculated for each sub-unit, likely due to high sample variability. The "full composite" sample for all of the shallow (2" - 6") sub-unit samples for Comp 7 through 12 detected dieldrin at 0.0788 ppm; the "full composite" sample for all of the shallow (2" - 6") sub-unit samples for Comp 13 through 17 detected dieldrin at 0.086 ppm; the "full composite" sample for all of the deeper (14" - 18") sub-unit samples for Comp 7 through 12 detected dieldrin at 0.0658 ppm; and, the "full composite" sample for all of the deeper (14" - 18") sub-unit samples for Comp 13 through 17 detected dieldrin at 0.0589 ppm.

Conceptual Site Model (CSM): BB&A developed a preliminary CSM for the *subject property*. The results of the CSM identified the following receptors and exposure pathways as reasonably applicable and complete:

- Ingestion, dermal contact, or inhalation of soil particulates by Excavation Workers;
- Ingestion, dermal contact, and inhalation with groundwater by Excavation Workers (Shallow groundwater [less than 15 feet] as a drinking water source is considered an incomplete pathway);
- Inhalation of trench air within open excavations, or vapor intrusion into future onsite buildings.

9.0 CONCLUSIONS AND OPINIONS

Based on the findings of the Remedial Investigation, the following conclusions, opinions, and recommendations are provided:

- Historical application of chlorinated pesticides on former agricultural fields at the *subject property* has adversely impacted shallow soil on the western portion of the *subject property*. The findings of this Remedial Investigation found dieldrin in shallow soil (uppermost eight [8] inches) consistently at concentrations exceeding MTCA Method B (Cancer) cleanup level; slightly deeper soil samples (14 to 18 inch depth) had lower dieldrin concentrations, some below the MTCA Method B (Cancer) cleanup level. The detected dieldrin concentrations do not exceed MTCA Method C cleanup levels for industrial use.

- Papé Properties plans to redevelop the *subject property* (i.e., all tax lots, plus adjacent tax lots to the east) as industrial properties, including a Papé Machinery facility for sales, service and repair of large earth moving equipment, such as excavators and tractors, and Papé Material Handling Facility for sales, service, and rental of forklifts, and high-lift machinery.

- Based on future industrial use of the subject property, and the fact that all samples were well below MTCA Method C cleanup levels, adverse exposure to dieldrin by future on-site workers after redevelopment is not likely. If warranted, personal protective equipment should be utilized by excavation workers during redevelopment of the site.

10.0 LIMITATIONS

The professional services of BB&A Environmental have been rendered using the degree of care and skill ordinarily exercised under similar circumstances by reputable environmental consulting firms practicing in this or similar locations. No other warranty expressed or implied is made.

Soil samples were analyzed to identify and delineate surface and near-surface impact in areas most likely to have been impacted by historical applications of chlorinated pesticides. The results of their analyses only indicate the presence or absence of pesticides (i.e., specifically dieldrin) in those discrete and composited sample locations. Analytical data from the laboratory samples should only be considered as indicators of site conditions and not a guarantee of the absence of pesticides (i.e., dieldrin) in areas not sampled.

The conclusions presented in this report are based only on the observations made during field investigation and data provided by others. The accuracy of these findings is based upon the accuracy of data and information provided by others. The findings of this assessment should not be considered as scientific certainties, but rather as professional opinion based upon selected and limited data.

If you have any questions concerning the information contained in this report, please do not hesitate to contact us.

Stephen M. Omo, RG
Project Manager / Geologist

Randall J. Boese, RG/LHG
Senior Hydrogeologist

APPENDIX A

Water Well Query – Three-Quarter Mile Radius

Water Well Query Results

Well ID	Use	Address	Distance from Subject Property	Depth	Depth of Screened Interval
45329	Domestic Water Well	8105 48th St E, Fife	0.5 miles E	45'	38' - 45'
50066	Domestic Water Well	7022 River Rd, Puyallup	0.25 mile S, beyond Puyallup River	298'	288' - 298'
51348	Domestic Water Well	7807 60th St E, Fife	0.8 miles W-NW	276'	268' - 273'
52084	Domestic Water Well	NE 1/2 or NW 1/2 Section 20	Unknown -- could be within 500'	306'	287' - 297'
301365	Domestic Water Well	8105 48th St E, Fife	0.5 miles E	175'	168' - 175'
313681	Domestic Water Well	5707 76TH Ave E	0.62 miles SE , beyond Puyallup River	95'	85' - 90'
341330	Domestic Water Well	4524 E Freeman Rd	0.5 miles E	118'	105' - 110'
428754	Resource Protection Well	4622 70th Ave E	0.13 miles W	16'	Not a water well
428756	Resource Protection Well	4622 70th Ave E	0.13 miles W	16'	Not a water well
428757	Resource Protection Well	4622 70th Ave E	0.13 miles W	16'	Not a water well
428758	Resource Protection Well	4622 70th Ave E	0.13 miles W	16'	Not a water well
428759	Resource Protection Well	4622 70th Ave E	0.13 miles W	16'	Not a water well
428761	Resource Protection Well	4622 70th Ave E	0.13 miles W	16'	Not a water well
469724	Resource Protection Well	4622 70th Ave E	0.13 miles W	16'	Not a water well
469724	Resource Protection Well	4609 70th Ave E	0.13 miles W	12'	Not a water well
469726	Resource Protection Well	4609 70th Ave E	0.13 miles W	12'	Not a water well
469728	Resource Protection Well	4609 70th Ave E	0.13 miles W	12'	Not a water well
469730	Resource Protection Well	4609 70th Ave E	0.13 miles W	12'	Not a water well
469732	Resource Protection Well	4609 70th Ave E	0.13 miles W	12'	Not a water well
469734	Resource Protection Well	4609 70th Ave E	0.13 miles W	12'	Not a water well
469736	Resource Protection Well	4609 70th Ave E	0.13 miles W	12'	Not a water well
469738	Resource Protection Well	4609 70th Ave E	0.13 miles W	12'	Not a water well
469740	Resource Protection Well	4609 70th Ave E	0.13 miles W	12'	Not a water well
469742	Resource Protection Well	4609 70th Ave E	0.13 miles W	12'	Not a water well
469744	Resource Protection Well	4609 70th Ave E	0.13 miles W	16'	Not a water well
469746	Resource Protection Well	4609 70th Ave E	0.13 miles W	10'	Not a water well
574562	Resource Protection Well	8105 48th St E, Fife	0.47 miles E	10'	Not a water well
574563	Resource Protection Well	8105 48th St E, Fife	0.47 miles E	10'	Not a water well
598212	Monitoring Well	70th Ave & 45th Ct E, Fife	0.23 miles W-NW	19'	Not a water well
598214	Monitoring Well	70th Ave & 45th Ct E, Fife	0.23 miles W-NW	24'	Not a water well
598216	Monitoring Well	70th Ave & 45th Ct E, Fife	0.23 miles W-NW	24'	Not a water well
598218	Monitoring Well	70th Ave & 45th Ct E, Fife	0.23 miles W-NW	19'	Not a water well
598220	Monitoring Well	70th Ave & 45th Ct E, Fife	0.23 miles W-NW	19'	Not a water well
598222	Monitoring Well	70th Ave & 45th Ct E, Fife	0.23 miles W-NW	24'	Not a water well
598224	Monitoring Well	70th Ave & 45th Ct E, Fife	0.23 miles W-NW	24'	Not a water well
598226	Monitoring Well	70th Ave & 45th Ct E, Fife	0.23 miles W-NW	24'	Not a water well
598228	Monitoring Well	70th Ave & 45th Ct E, Fife	0.23 miles W-NW	24'	Not a water well
599109	Monitoring Well	North Levee Rd	0.16 miles S	21.5'	Not a water well
599110	Monitoring Well	North Levee Rd	0.16 miles S	21.5'	Not a water well
599111	Monitoring Well	North Levee Rd	0.16 miles S	21.5'	Not a water well
599112	Monitoring Well	North Levee Rd	0.16 miles S	21.5'	Not a water well
599113	Monitoring Well	North Levee Rd	0.16 miles S	21.5'	Not a water well
599114	Monitoring Well	North Levee Rd	0.16 miles S	21.5'	Not a water well
658137	Monitoring Well	North Levee Rd	0.16 miles S	20'	Not a water well
887269	Resource Protection Well	4617 70th Ave E	Adjacent property to the W	15'	Not a water well
887271	Resource Protection Well	4617 70th Ave E	Adjacent property to the W	15'	Not a water well
887287	Resource Protection Well	4617 70th Ave E	Adjacent property to the W	15'	Not a water well
890776	Resource Protection Well	4617 70th Ave E	Adjacent property to the W	15'	Not a water well
928611	Resource Protection Well	7218 45th Ct E	Adjacent property to the N-NE	19'	Not a water well
928629	Resource Protection Well	7218 45th Ct E	Adjacent property to the N-NE	19'	Not a water well
1557247	Resource Protection Well	8105 48th St E	0.47 miles E	50'	Not a water well
1557249	Resource Protection Well	8105 48th St E	0.47 miles E	50'	Not a water well
1595809	Domestic Water Well	7801 48th St E	0.25 miles E	120'	107' - 117'
1600728	Resource Protection Well	4617 70th Ave E	Adjacent property to the W	30'	Not a water well
1996333	Resource Protection Well	7400 48th St E	Adjacent property to the SE	20'	Not a water well
1996336	Resource Protection Well	7400 48th St E	Adjacent property to the SE	20'	Not a water well
1996368	Resource Protection Well	7400 48th St E	Adjacent property to the SE	20'	Not a water well
2070258	Resource Protection Well	7305 48th St E	Subject Property, Former Heating Oil Tank	20'	Not a water well

Water Well Query Results

Well ID	Use	Address	Distance from Subject Property	Depth	Depth of Screened Interval
45329	Domestic Water Well	8105 48th St E, Fife	0.5 miles E	45'	38' - 45'
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2070258	Resource Protection Well	7305 48th St E	Subject Property, Former Heating Oil Tank	20'	Not a water well

45329

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

WATER WELL REPORT

STATE OF WASHINGTON

Start Card No. 029303

Water Right Permit No. _____

(1) OWNER: Name Clara John Address 8105 48th St. E- Tacoma

(2) LOCATION OF WELL: County Pierce SW ¼ SW ¼ Sec 17 T. 20 N., R. 4E W.M.

(2a) STREET ADDDRESS OF WELL (or nearest address) 8105 48th St E. - Tacoma ½ mile E

(3) PROPOSED USE: [X] Domestic [ ] Irrigation [ ] DeWater [ ] Industrial [ ] Test Well [ ] Municipal [ ] Other

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

(5) DIMENSIONS: Diameter of well 6 inches. Drilled 48 feet. Depth of completed well 45 ft.

(6) CONSTRUCTION DETAILS:
Casing Installed: 6 " Diam. from +1 ft. to 38 ft.
Welded [X] Liner installed [ ] Threaded [ ] _____ " Diam. from _____ ft. to _____ ft.
Perforations: Yes [ ] No [X]
Type of perforator used _____
SIZE of perforations _____ in. by _____ in.
_____ perforations from _____ ft. to _____ ft.
_____ perforations from _____ ft. to _____ ft.
_____ perforations from _____ ft. to _____ ft.
Screens: Yes [X] No [ ]
Manufacturer's Name Westco
Type Stainless Model No. _____
Diam. 5 7/8 Slot size 1.5 from 38 ft. to 45 ft.
Diam. _____ Slot size _____ from _____ ft. to _____ ft.
Gravel packed: Yes [ ] No [X] Size of gravel _____
Gravel placed from _____ ft. to _____ ft.
Surface seal: Yes [X] No [ ] To what depth? 18 ft.
Material used in seal Bentonite
Did any strata contain unusable water? Yes [ ] No [X]
Type of water? _____ Depth of strata _____
Method of sealing strata off _____

(7) PUMP: Manufacturer's Name Gould's
Type: Submersible H.P. ½

(8) WATER LEVELS: Land-surface elevation above mean sea level _____ ft.
Static level 12 ft. 8½ in. below top of well Date 11-1-89
Artesian pressure _____ lbs. per square inch Date _____
Artesian water is controlled by _____ (Cap, valve, etc.)

(9) WELL TESTS: Drawdown is amount water level is lowered below static level
Was a pump test made? Yes [X] No [ ] If yes, by whom? CNC
Yield: 20 gal./min. with 1 ft. 4½ in. drawdown after 2 hrs.
" " " "
" " " "

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

Time	Water Level	Time	Water Level	Time	Water Level
15:05	14 ft. 3 in.	15:08	12 ft. 9 in.	15:15	12 ft. 8½ in.
15:06	12 ft. 10 in.	15:09	12 ft. 8¾ in.		
15:07	12 ft. 9¼ in.	15:10	12 ft. 8½ in.		

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

(10) WELL LOG or ABANDONMENT PROCEDURE DESCRIPTION

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

MATERIAL	FROM	TO
Sandy loam brown	0	8
Silt & Sand brown	8	36
Silt, Sand & gravel "	36	37
Sand & gravel Black with red flecks	37	43
Sand & silt	43	-

Work started 10-30-89 19. Completed 11-1 19 89

WELL CONSTRUCTOR CERTIFICATION:

I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

NAME Carpenter Drilling Company (PERSON, FIRM, OR CORPORATION) (TYPE OR PRINT)
Address 2032 S. Bay Rd. - Olympia
(Signed) Larry L. Carpenter (WELL DRILLER) License No. 067
Contractor's Registration No. CARPEC*040D Date Nov. 6 19 89

(USE ADDITIONAL SHEETS IF NECESSARY)

ECY 050-1-20 (10/87) -1398-

Department of Ecology
Second Copy — Owner's Copy
Third Copy — Driller's Copy

WATER WELL REPORT #50066

STATE OF WASHINGTON

Application No. .....

Permit No. .....

(1) OWNER: Name Majestic Mobile, Inc. Address 7022 River Rd, Puyallup, Wa. 98371

(2) LOCATION OF WELL: County Pierce — NW ¼ NW ¼ Sec 20 T. 20 N., R. 4E W.M.

Bearing and distance from section or subdivision corner

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

(4) TYPE OF WORK: Owner's number of well (if more than one) .....

New well ☒ Method: Dug ☐ Bored ☐
Deepened ☐ Cable ☒ Driven ☐
Reconditioned ☐ Rotary ☐ Jetted ☐

(5) DIMENSIONS: Diameter of well 8 inches.
Drilled 298 ft. Depth of completed well 298 ft.

(6) CONSTRUCTION DETAILS:

Casing installed: 8 " Diam. from 0 ft. to 288 ft.
Threaded ☐ " Diam. from ft. to ft.
Welded ☒ " Diam. from ft. to ft.

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

Screens: Yes ☒ No ☐
Manufacturer's Name Johnson Well Screen
Type Stainless Steel Model No.
Diam. 6 Slot size 10 from 288 ft. to 298 ft.
Diam. Slot size from ft. to ft.

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

Surface seal: Yes ☒ No ☐ To what depth? 20 ft.
Material used in seal Bentonite
Did any strata contain unusable water? Yes ☐ No ☒
Type of water? Depth of strata
Method of sealing strata off

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

(8) WATER LEVELS: Land-surface elevation above mean sea level .... ft.
Static level 0 ft. below top of well Date 11-4-81
Artesian pressure lbs. per square inch Date
Artesian water is controlled by (Cap, valve, etc.)

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

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

Time	Water Level	Time	Water Level	Time	Water Level

Date of test
Bailer test 45 gal./min. with 140 ft. drawdown after 1 hrs.
Artesian flow g.p.m. Date 11-4-81
Temperature of water Was a chemical analysis made? Yes ☐ No ☒

(10) WELL LOG:

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

MATERIAL	FROM	TO
Top soil	0	3
Grey sand (dry)	3	25
Grey Sand (dry)	25	35
Grey Sand & peat & wood chip (seep)	35	39
Grey sand (seep)	39	49
Black sand (some water)	49	54
Black sand & gravel (some water)	54	62
Grey sandy clay	62	95
Grey sandy clay	95	118
Hard packed silt	118	132
Blue silt (heaves)	132	140
Blue clay	140	180
Blue clay	180	217
Blue clay	217	245
Blue clay	245	270
Sandy blue clay	270	276
Compacted silt & sand (dirty-heaves)	276	290
Fine black sand (water bearing)	290	293
Fine black sand (water bearing)	293	298

RECEIVED
JAN 13 1982
DEPARTMENT OF ECOLOGY
SOUTHWEST REGIONAL OFFICE

Work started 10-20 19 81 Completed 11-5 19 81

WELL DRILLER'S STATEMENT:

This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.

NAME Richardson Well Drilling Co.
(Person, firm, or corporation) (Type or print)

Address P.O. Box 44427 Tacoma, Wa. 98444

[Signed] (Well Driller)

License No. 223-02-6500 Date 1-11 19 82

(USE ADDITIONAL SHEETS IF NECESSARY)

Pierce County Assessor-Treasurer's Office

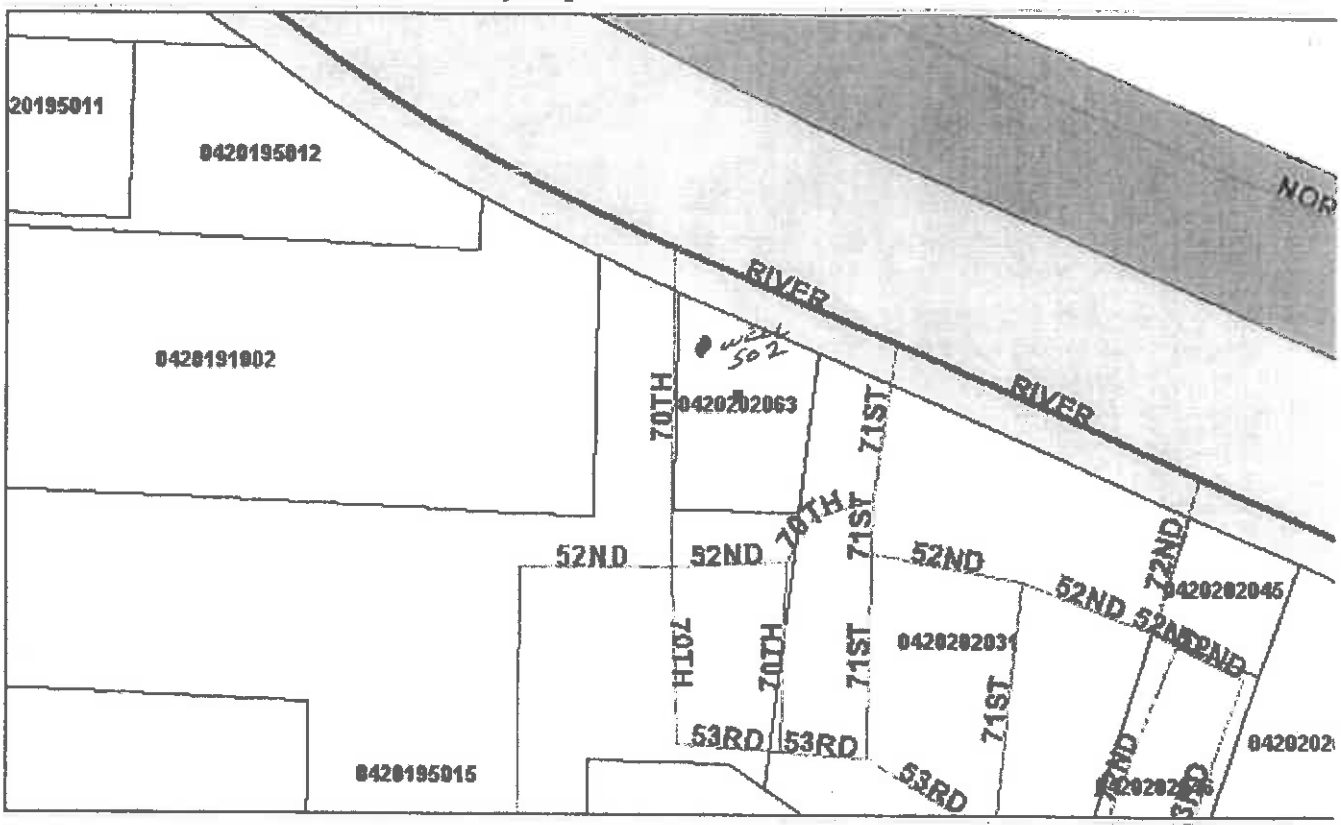
Parcel: R0420202063 Sep-22-2000, 10:04 AM
Name: TATE ROBERT D
Site Address: 7022 RIVER RD E
Mailing Address: 7022 RIVER RD E , PUYALLUP WA 98371
Use Code: 1101 SINGLE FAMILY DWELLING.
Mh Code:

Click One | Tax & Assessment | Land Characteristics | Building Characteristics | Parcel Map | Recorded Data | Back to Search

Zoom Level: 5.0 Zoom

---North---

RTSQ: 04-20-20-2-3 **School Dist:** Puyallup



Pierce County Assessor-Treasurer
2401 South 35th St Room 142
Tacoma, Washington 98409
(253)798-6111 or Fax (253)798-3142

I acknowledge and agree to the prohibitions listed in RCW 42.17.260(9) against releasing and/or using lists of individuals for commercial purposes.

#51348

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

WATER WELL REPORT

STATE OF WASHINGTON

Start Card No. 000922

Water Right Permit No. _____

(1) OWNER: Name Pierce County Housing Authority Address P.O.Box 45410, Tacoma 98444

(2) LOCATION OF WELL: County Pierce NW ¼ NW ¼ Sec 20 T. 20 N., R 4E W.M.

(2a) STREET ADDDRESS OF WELL (or nearest address) 7807-60th St.E. Fife

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

(4) TYPE OF WORK: Owner's number of well (if more than one) _____

Abandoned ☐ New well ☒ Method: Dug ☐ Bored ☐ Deepened ☐ Cable ☐ Driven ☐ Reconditioned ☐ Rotary ☒ Jetted ☐

(5) DIMENSIONS: Diameter of well 6 inches. Drilled 276 feet. Depth of completed well 276 ft.

(6) CONSTRUCTION DETAILS:

Casing installed: 6 " Diam. from +3 ft. to 268 ft.
Welded ☒ Liner installed ☐ Threaded ☐ _____ " Diam. from _____ ft. to _____ ft.

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

Screens: Yes ☒ No ☐
Manufacturer's Name Johnson
Type stainless steel Model No. _____
Diam. 5" Slot size .010 from 268 ft. to 273 ft.
Diam. _____ Slot size _____ from _____ ft. to _____ ft.

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

Surface seal: Yes ☒ No ☐ To what depth? 18 ft.
Material used in seal Bentonite
Did any strata contain unusable water? Yes ☐ No ☐
Type of water? _____ Depth of strata _____
Method of sealing strata off _____

(7) PUMP: Manufacturer's Name Berkeley
Type: submersible H.P. 1

(8) WATER LEVELS: Land-surface elevation above mean sea level _____ ft.
Static level +1 ft. below top of well Date 12/8/87
Artesian pressure 0 lbs. per square inch Date 12/8/87
Artesian water is controlled by 3" Stk Kup (Cap, valve, etc.)

(9) WELL TESTS: Drawdown is amount water level is lowered below static level
Was a pump test made? Yes ☒ No ☐ If yes, by whom? Wair
Yield: 75 gal./min. with _____ ft. drawdown after _____ hrs.
" " " " " " " "

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

Time	Water Level	Time	Water Level	Time	Water Level

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

(10) WELL LOG or ABANDONMENT PROCEDURE DESCRIPTION

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

MATERIAL	FROM	TO
Topsoil	0	5
Brn/Gray silt, damp sand	5	30
Same with gravels	30	35
Brn silts and sand	35	50
Gray sand, gravel, wood chips water	50	60
Gray silt sand, water	60	100
Same	100	120
Brn silt, sand and water	120	160
Brn silty sand, clay wood chips, water	160	240
Brn sand gravel, water	240	265
Blk sand ,gravel, water	265	276

RECEIVED JUL 25 '88 AM 11:12 WASH. STATE DEPT. OF ECOLOGY

Work started 12/3/87 19. Completed 12/8 1987

WELL CONSTRUCTOR CERTIFICATION:

I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

NAME OELKE DRILLING, INC. (PERSON, FIRM, OR CORPORATION) (TYPE OR PRINT)

Address 4312-166th Ave. E. Sumner 98390

(Signed) Dave Johnson (WELL DRILLER) License No. 1526

Contractor's Registration No. OELKEDI136QC Date 6/20/ 1988

(USE ADDITIONAL SHEETS IF NECESSARY)

ECY 050-1-20 (10/87) -1329-

#52084

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

WATER WELL REPORT

STATE OF WASHINGTON

Application No. .....

Permit No. .....

(1) OWNER: Name Robert Chittack Address 2021 Broadway E., Seattle, WA 98102

(2) LOCATION OF WELL: County Pierce — NE ¼ NW ¼ Sec. 20 T. 20 N., R. 4E W.M.

Bearing and distance from section or subdivision corner NE¼ of above

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

(4) TYPE OF WORK: Owner's number of well (if more than one) ....

New well ☒ Method: Dug ☐ Bored ☐
Deepened ☐ Cable ☒ Driven ☐
Reconditioned ☐ Rotary ☐ Jetted ☐

(5) DIMENSIONS: Diameter of well 6 inches.
Drilled 300 ft. Depth of completed well 300 ft.

(6) CONSTRUCTION DETAILS:

Casing installed: 6 " Diam. from 0 ft. to 289 ft.
Threaded ☐ " Diam. from ft. to ft.
Welded ☒ " Diam. from ft. to ft.

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

Screens: Yes ☒ No ☐
Manufacturer's Name Johnson
Type stainless Model No.
Diam. 6 Slot size 20 from 287 ft. to 297 ft.
Diam. Slot size from ft. to ft.

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

Surface seal: Yes ☒ No ☐ To what depth? 18 ft.
Material used in seal bentonite
Did any strata contain unusable water? Yes ☐ No ☒
Type of water? Depth of strata
Method of sealing strata off

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

(8) WATER LEVELS: Land-surface elevation above mean sea level .... ft.
Static level ft. below top of well Date
Artesian pressure approx. 4 lbs. per square inch Date 2/2/80
Artesian water is controlled by Cap (Cap, valve, etc.)

(9) WELL TESTS: Drawdown is amount water level is lowered below static level
Was a pump test made? Yes ☒ No ☐ If yes, by whom? Indrebo
Yield: 55 gal./min. with 5 ft. drawdown after 1½ hrs.
" " " "
" " " "

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

Time	Water Level	Time	Water Level	Time	Water Level
½/min.	flowing				

Date of test 2/2/80
Bailer test gal./min. with ft. drawdown after hrs.
Artesian flow 7 g.p.m. Date 2/2/80
Temperature of water Was a chemical analysis made? Yes ☐ No ☒

(10) WELL LOG:

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

MATERIAL	FROM	TO
Topsoil	0	2
Dark brown muddy sand	2	18
Black sand, water bearing	18	22
Black & brown layers of sand	22	70
Brown muddy sand & clay, little water - "stinks"	70	80
Brown clay with little sand	80	90
Black & brown sand, dirty	90	110
Black sand, water bearing	110	115
Brownish muddy sand & clay	115	141
Grey clay & sand	141	152
Black sand & dark grey clay	152	170
Grey clay, rubbery	170	180
Blackish grey sand & clay-"stinks"	180	190
Grey sandy clay	190	211
Same, with layers of soft & hard	211	251
Black muddy sand, water bearing	251	261
Black muddy sand & gravel, water bearing	261	281
Black sand & gravel, water bearing	281	290
Grey & black muddy sand with water	290	306

RECEIVED
FEB 19 1980
DEPARTMENT OF ECOLOGY
SOUTHWEST REGIONAL OFFICE

Work started Oct. 10 19 79 Completed Feb. 2 19 80

WELL DRILLER'S STATEMENT:

This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.

NAME Indrebo Drilling Corporation
(Person, firm, or corporation) (Type or print)

Address 1653 So. 95th, Tacoma, WA 98444

[Signed] David Sherratt
(Well Driller)

License No. 1047 Date Feb. 4, 19 80

(USE ADDITIONAL SHEETS IF NECESSARY)

ECY 050-1-20

#301365

File Original and First Copy with Department of Ecology
Second Copy - Owner's Copy
Third Copy - Driller's copy 84762

WATER WELL REPORT

STATE OF WASHINGTON

Notice of Intent W 128232
UNIQUE WELL I D # AFJ983
Water Right Permit No

(1) OWNER Name Indian Health Service - Clara Johns Address 2201 Sixth Avenue Room 200, Seattle, WA 98121

(2) LOCATION OF WELL County Pierce - SW 1/4 SW 1/4 Sec 17 T 20 N R 4 E WM

(2a) STREET ADDRESS OF WELL (or nearest address) 8105 48th, Fife

TAX PARCEL NO

(3) PROPOSED USE [X] Domestic [ ] Industrial [ ] Municipal [ ] Irrigation [ ] Test Well [ ] Other [ ] DeWater

(4) TYPE OF WORK Owner's number of well (if more than one)
[X] New Well Method [ ] Dug [ ] Bored [ ] Deepened [ ] Cable [ ] Driven [ ] Reconditioned [ ] Rotary [ ] Jetted [ ] Decommission

(5) DIMENSIONS Diameter of well 6 inches
Drilled 175 feet Depth of completed well 175 ft

(6) CONSTRUCTION DETAILS
Casing Installed
[X] Welded 6 " Diam from +2 ft to 167 ft
[ ] Liner installed " Diam from ft to ft
[ ] Threaded " Diam from ft to ft

Perforations [ ] Yes [X] No
Type of perforator used
SIZE of perforations in by in
perforations from ft to ft
perforations from ft to ft
perforations from ft to ft

Screens [X] Yes [ ] No [ ] K-Pac Location 2' extension on bottom, 5' ext on top
Manufacturer's Name Johnson
Type Super 6 Model No
Diam 6 Slot size 6 from 168 ft to 173 ft
Diam Slot size from ft to ft

Gravel/Filter packed [ ] Yes [X] No [ ] Size of gravel/sand
Material placed from ft to ft

Surface seal [X] Yes [ ] No To what depth? 25 ft
Material used in seal Bentonite
Did any strata contain unusable water? [ ] Yes [X] No
Type of water? Depth of strata
Method of sealing strata off

(7) PUMP Manufacturer's Name
Type H P

(8) WATER LEVELS Land-surface elevation above mean sea level ft
Static level 5 ft below top of well Date 12/1/2000
Artesian pressure lbs per square inch Date
Artesian water is controlled by (Cap, valve, etc)

(9) WELL TESTS Drawdown is amount water level is lowered below static level
Was a pump test made? [X] Yes [ ] No If yes, by whom? Scott Fowler
Yield 7 gal./min with 8 125 ft drawdown after 4 hrs hrs
Yield gal./min with ft drawdown after hrs
Yield gal./min with ft drawdown after hrs

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

Time	Water Level	Time	Water Level	Time	Water Level
75	11 inch				

Date of test 12/4/2000
Bailer test gal /min with ft drawdown after hrs
Airtest 7.5+ gal /min with stem set at ft for 2 hrs
Artesian flow g p m Date
Temperature of water Was a chemical analyses made? [X] Yes [ ] No

(10) WELL LOG or DECOMMISSIONING PROCEDURE DESCRIPTION
Formation Describe by color character size of material and structure and the kind and nature of the material in each stratum penetrated with at least one entry for each change of information Indicate all water encountered

MATERIAL	FROM	TO
Brown silty sand	0	22
Grey silty sand & water	22	33
Grey sand gravel & water	33	40
Grey clay	40	48
Medium grey sand & water	48	62
Gravel sand & water	62	67
Grey sand wood & water	67	85
Grey sandy clay	85	97
Fine grey sand & water	97	102
Brown sandy clay with seashells @ 110 feet	102	130
Fine grey sand & water	130	138
Grey clay	138	150
Brown silty clay	150	168
Grey silty sand & water	168	173
Brown grey clay	173	175

RECEIVED
DEC 27 2000
DEPT OF ECOLOGY

Work Started 11/29/2000 19 Completed 12/1/2000 , 19

WELL CONSTRUCTION CERTIFICATION

I constructed and/or accept responsibility for construction of this well and its compliance with all Washington well construction standards Materials used and the information reported above are true to my best knowledge and belief

Type or Print Name Ralph Riggles License No 2043
(Licensed Driller/Engineer)
Trainee Name License No
Drilling Company Dahlman Pump & Well Drilling Inc
(Signed) Ralph W. Riggles License No
(Licensed Driller/Engineer)
Address P. O Box 422, Burlington, WA 98233
Contractor's Registration No DAHLMPW123LC Date 12/4/2000 19

(USE ADDITIONAL SHEETS IF NECESSARY)

Ecology is an Equal Opportunity and Affirmative Action employer For special accommodation needs, contact the Water Resources Program at (360) 407-6600 The TDD number is (360) 407-6006

#313681

File Original and First Copy with Department of Ecology
Second Copy — Owner's Copy
Third Copy — Driller's Copy 97767

WATER WELL REPORT
STATE OF WASHINGTON

Start Card No W136959
UNIQUE WELL ID # AUF899
Water Right Permit No

(1) OWNER Name Rob Thurston Address

(2) LOCATION OF WELL County Pierce NE 1/4 NW 1/4 Sec 20 T 20 N R 4E WM

(2a) STREET ADDRESS OF WELL (or nearest address) 5707 76th AVE E Fife WA 98371

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

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

(5) DIMENSIONS Diameter of well 6" inches
Drilled 90 feet Depth of completed well 90 ft

(6) CONSTRUCTION DETAILS
Casing installed 6" ☑ Diam from 0' ft to 56' ft
Welded ☑
Liner installed ☐ Diam from ft to ft
Threaded ☐ Diam from ft to ft

Perforations Yes ☐ No ☑
Type of perforator used
SIZE of perforations in by in
perforations from ft to ft
perforations from ft to ft
perforations from ft to ft

Screens Yes ☑ No ☐
Manufacturer's Name Johnson
Type Stainless Model No
Diam 5" Slot size 17 from 85' ft to 90' ft
Diam Slot size from ft to ft

Gravel packed Yes ☐ No ☑ Size of gravel
Gravel placed from ft to ft

Surface seal Yes ☑ No ☐ To what depth? 20' ft
Material used in seal Cement & Chips
Did any strata contain unusable water? Yes ☐ No ☑
Type of water? Depth of strata
Method of sealing strata off

(7) PUMP Manufacturer's Name
Type H P

(8) WATER LEVELS: Land-surface elevation above mean sea level ft
Static level 8' ft below top of well Date 5-22-01
Artesian pressure lbs per square inch Date
Artesian water is controlled by (Cap valve etc)

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

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

Time	Water Level	Time	Water Level	Time	Water Level

Date of test
Bailer test 10 gal /min with 30' ft drawdown after 2 hrs
Airtest gal /min with stem set at ft for hrs
Artesian flow g p m Date
Temperature of water Was a chemical analysis made? Yes ☐ No ☐

(10) WELL LOG or ABANDONMENT PROCEDURE DESCRIPTION

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

MATERIAL	FROM	TO
Brown Sandy Loam & Clay, Logs	0	20'
Gray Sandy Clay & Gravel	21'	36'
Brown Clay Sand - Logs	37'	60'
Gray Sandy Clay Logs Cemented	61'	75'
Gray Sandy Clay	77'	73'
Gray Sand - Water	77'	90'
Gray Clay	91'	93'

RECEIVED
JUL 05 2001
Washington State Department of Ecology

Work Started 5/17 19 Completed 5/22 19 01

WELL CONSTRUCTOR CERTIFICATION.

I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards Materials used and the information reported above are true to my best knowledge and belief

NAME Harris Water Well Drilling (PERSON FIRM OR CORPORATION) (TYPE OR PRINT)

Address 10119 Aqueduct Dr E Tac 98445

(Signed) Randy Harris (WELL DRILLER) License No 1377

Contractor's Registration No HARRIWO3400 Date 5/22/01 19

(USE ADDITIONAL SHEETS IF NECESSARY)

Ecology is an Equal Opportunity and Affirmative Action employer For special accommodation needs, contact the Water Resources Program at (206) 407-6600 The TDD number is (206) 407-6006

11976

341330

File Orig & First Copy - Dept of Ecology
Second Copy - Owner Third Copy - Driller

WATER WELL REPORT
State of Washington

Start Card No W159197
Unique Well ID AGN192
Water Right Permit No

(1) OWNER Name MARY FRANK Address 2002 E 28TH ST TACOMA WA 98404 Page 1 of
(2) LOCATION OF WELL County PIERCE SE 1/4 SW 1/4 Sec 17 T 20 N R 4 E
(2a) STREET ADDRESS OF WELL (or nearest address) 4524 E FREEMAN RD PUYALLUP WA

(3) PROPOSED USE DOMESTIC
(4) Type of work NEW WELL
Method ROTARY

(5) DIMENSIONS Diameter of well 6 inches
Drilled 118 feet Depth of completed well 110 ft

(6) CONSTRUCTION DETAILS
Casing installd 6 " Diam from 0 ft to 105 ft
Welded X " Diam from ft to ft
Liner _ " Diam from ft to ft
Threaded _

Perforations Yes _ No X
Type of perforator used
Size of perforations in by in
perforations from ft to in
perforations from ft to in
perforations from ft to in

Screens Yes X No _
Manufacturer's Name JOHNSON
Type STAINLESS Model No
Diam 6 Slot size 012 from 105 ft to 110 ft
Diam Slot size from ft to ft

Gravel packed Yes _ No X Size of gravel
Gravel placed from ft to ft

Surface seal Yes X No _ To what depth? 18 ft
Material used in seal BENTONITE
Did any strata contain unusable water? Yes _ No X
Type of water? Depth of strata
Method of sealing strata off

(7) PUMP Manufacturer's Name JACUZZI
Type SUBMERSIBLE H P 0 75

(8) WATER LEVELS Surface elev above mean sea level ft
Static level 3 7 ft below top of well Date 07/08/02
Artesian pressure lbs per sq in Date
Artesian pressure is controlled by

(9) WELL TESTS Pump test made? ___ By whom?
Yield 0 gal /min with ft drawdown after hrs
Yield 0 gal /min with ft drawdown after hrs
Yield 0 gal /min with ft drawdown after hrs
Recovery data

Time	Wtr Lvl	Time	Wtr Lvl	Time	Wtr Lvl

Date of test
Bailer test 0 gal/min with ft drawdown after hr
Airtest 30 gal/min with stem set at 100 ft for 2 hrs
Artesian flow 0 gal/min Date
Temperature of water Was chemical analysis made? YES

(10) WELL LOG or DECOMMISSIONING PROCEDURE DESCRIPTION

Material	From	To
BROWN ORGANIC SILT FINE SAND & PEAT	0	10
GREY SILT SOME FINE SAND AND WOOD	10	26
GREY FINE TO MED SAND TRACE OF SMALL GRAVEL (WATER BEARING)	26	35
GREY-BLACK FINE TO MEDUIM SAND SOME SMALL TO MEDUIM GRAVEL TRACE OF SILT (WATER BEARING)	35	51
GREY FINE SAND AND SILT, SOME WOOD (WATER BEARING)	51	62
BROWN SANDY CLAY (WATER BEARING)	62	65
GREY FINE SAND W/BROWN SILT WATER BEAR	65	112
GREY FINE SAND BROWN SILT TRACE OF WOOD (WATER BEARING)	112	118

RECEIVED
SEP 2 0 2002
Washington State
Department of Ecology

Work Started 07/03/02 Completed 07/08/02

WELL CONSTRUCTOR CERTIFICATION
I constructed and/or accept responsibility for construction o this well, and its compliance with all Washington well construction standards Materials used and the information reporte above are true to my best knowledge and belief
Name RICHARDSON WELL DRILLING
Address P O Box 44427 Tacoma WA 98444

(Signed) _____ Lic No 2081
(Well Driller)

Contractor's Registration No RICHAW*3210B Date 07/16/1
Based on form ECL 050-1-20 (2/93)**f-1329- by Speed Systems Cor

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED) #428754

CURRENT Notice of Intent No. E004598

Construction/Decommission ("x" in circle)
- (X) Construction
- ( ) Decommission *ORIGINAL INSTALLATION Notice of Intent Number* 188544

Type of Well ("x" in circle)
- (X) Resource Protection
- ( ) Geotech Soil Boring

Consulting Firm: Klein Felder

Unique Ecology Well ID Tag No: B3

Property Owner: Murrey's Disposal Compan

Site Address: 4622 70th Ave E

City: Fife County: Pierce

Location SW¼ SW¼ Sec 17 Twp 20N R. 4 (E/W/M) circle one or WWM

Lat/Long (s, t, r still REQUIRED) Lat Deg ____ Lat Min/Sec ____ Long Deg ____ Long Min/Sec ____

Tax Parcel No. ____

Cased or Uncased Diameter 2" Static Level 16'

Work/Decommission Start Date 9-21-05

Work/Decommission Completed Date 9-21-05

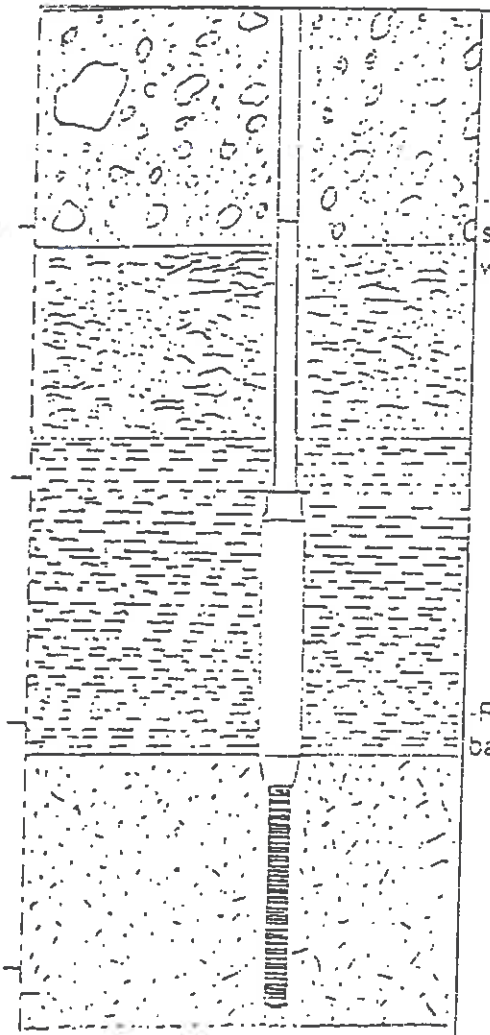
WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

[X] Driller [ ] Engineer [ ] Trainee Name (Print) Todd Klein

Driller/Engineer/Trainee Signature Todd Klein

Driller or Trainee License No. 2712

If trainee, licensed driller's Signature and License no. ____

Construction/Design	Well Data	Formation Description
	-Drove a retractable stainless steel screen down to depth and collected a water sample Boring depth: 16' Screened: 16-19' -Removed all rods from boring and backfilled with bentonite	silty fine sand 0-16'

RECEIVED
JAN 11 2006
DEPARTMENT OF ECOLOGY

Scale 1"=

ECY 050-12 (Rev 2/01)

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

428756

CURRENT Notice of Intent No. E 004598

Construction/Decommission ("x" in circle)

(X) Construction

( ) Decommission *ORIGINAL INSTALLATION Notice of Intent Number* 188543

Type of Well ("x" in circle)

(X) Resource Protection

( ) Geotech Soil Boring

Consulting Firm: Klein Felder

Property Owner: Murrey's Disposal Company

Site Address: 4622 70th Ave E

Unique Ecology Well ID Tag No: B2

City: Fife County: Pierce

Location SW¼ SW¼ Sec 17 Twp 20N R 4 (E/W/M) of WWM

Lat/Long (s, t, r still REQUIRED) Lat Deg ____ Lat Min/Sec ____ Long Deg ____ Long Min/Sec ____

Tax Parcel No. ____

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

(X) Driller ( ) Engineer ( ) Trainee Name (Print) Todd Klein

Driller/Engineer/Trainee Signature Todd Klein

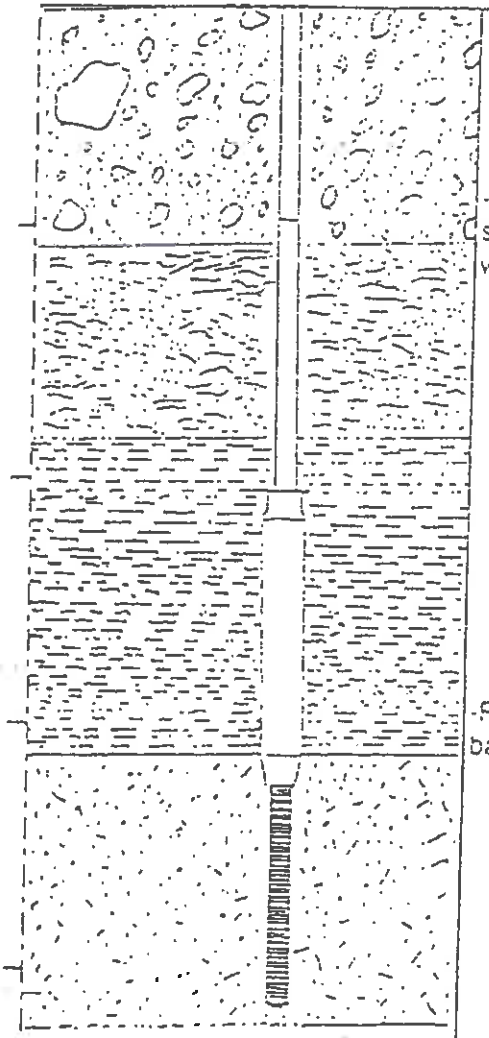
Driller or Trainee License No. 2712

Cased or Uncased Diameter 2" Static Level 16'

Work/Decommission Start Date 9-21-05

Work/Decommission Completed Date 9-21-05

If trainee, licensed driller's Signature and License no. ____

Construction/Design	Well Data	Formation Description
	-Drove a retractable stainless steel screen down to depth and collected a water sample Boring depth: 16' Screened: 16-19' -Removed all rods from boring and backfilled with bentonite	silty fine sand 0-16'

RECEIVED
JAN 11 2006
DEPARTMENT OF ECOLOGY

Scale 1"=

ECY 050-12 (Rev 2/01)

RESOURCE PROTECTION WELL REPORT
(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

#4287587

CURRENT
Notice of Intent No. E004598

Construction/Decommission *("x" in circle)*
☒ Construction
○ Decommission *ORIGINAL INSTALLATION Notice of Intent Number* 188542

Type of Well *("x" in circle)*
☒ Resource Protection
○ Geotech Soil Boring

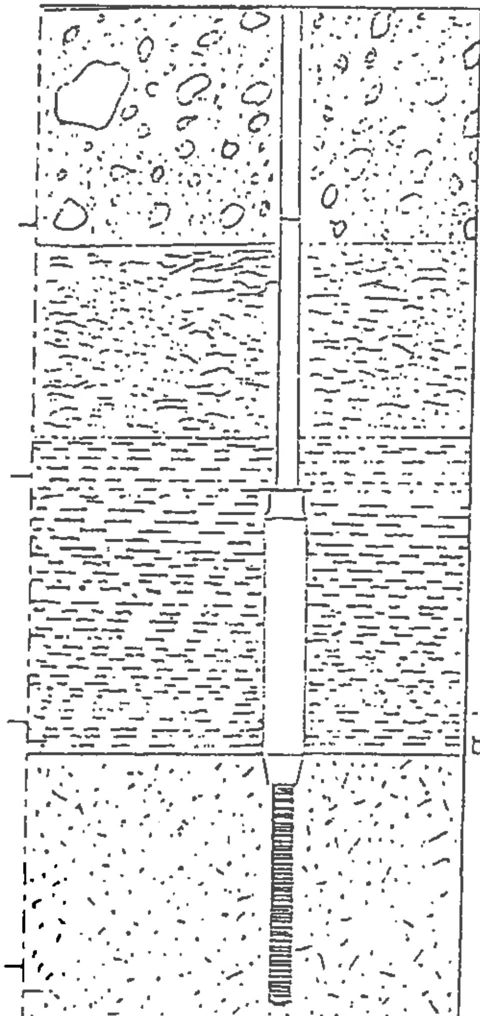
Consulting Firm: Klein felder
Unique Ecology Well ID Tag No: B1

Property Owner: Murrey's Disposal Company
Site Address: 4622 70th Ave E
City: Fife County: Pierce
Location: SW 1/4 SW 1/4 Sec 17 Twn 20N R 4 EWM (circle) or WWM
Lat/Long (s, t, r still REQUIRED): Lat Deg ____ Lat Min/Sec ____ Long Deg ____ Long Min/Sec ____
Tax Parcel No. ____
Cased or Uncased Diameter: 2" Static Level: 16'
Work/Decommission Start Date: 9-21-05
Work/Decommission Completed Date: 9-21-05

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

☒ Driller ☐ Engineer ☐ Trainee Name (Print): Todd Klein
Driller/Engineer/Trainee Signature: [signature]
Driller or Trainee License No.: 2712

If trainee, licensed driller's Signature and License no. ____

Construction/Design	Well Data	Formation Description
	-Drove a retractable stainless steel screen down to depth and collected a water sample Boring depth: 16' Screened: 16'-19' -Removed all rods from boring and backfilled with bentonite	silty fine sand 0-16'

'06 JAN 12 A8 :50
DEPT. OF ECOLOGY
FISCAL & BUDGET

RECEIVED
JAN 11 2006
DEPARTMENT OF ECOLOGY
WELL DRILLING UNIT

Scale 1"= ____

ECY 050-12 (Rev 2/01)

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

Notice of Intent No. A 71498

#428758

Construction/Decommission ("x" in circle)

O Construction

X Decommission ORIGINAL INSTALLATION Notice of Intent Number E004598

188541

Consulting Firm Klein Felder

Unique Ecology Well ID

Tag No: B3

Type of Well ("x" in circle)

X Resource Protection

O Geotech Soil Boring

Property Owner Murrays Disposal Company

Site Address 4622 70th Ave E

City Fife County: Pierce

Location SW¼ SW¼ Sec 17 Twp 20N R 4 E/W of WWM

Lat/Long (s,t,r still REQUIRED) Lat Deg ____ Lat Min/Sec ____

Long Deg ____ Long Min/Sec ____

Tax Parcel No. ____

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

X Driller ☐ Engineer ☐ Trainee Name (Print) Todd Klein

Driller/Engineer/Trainee Signature Todd R Klein

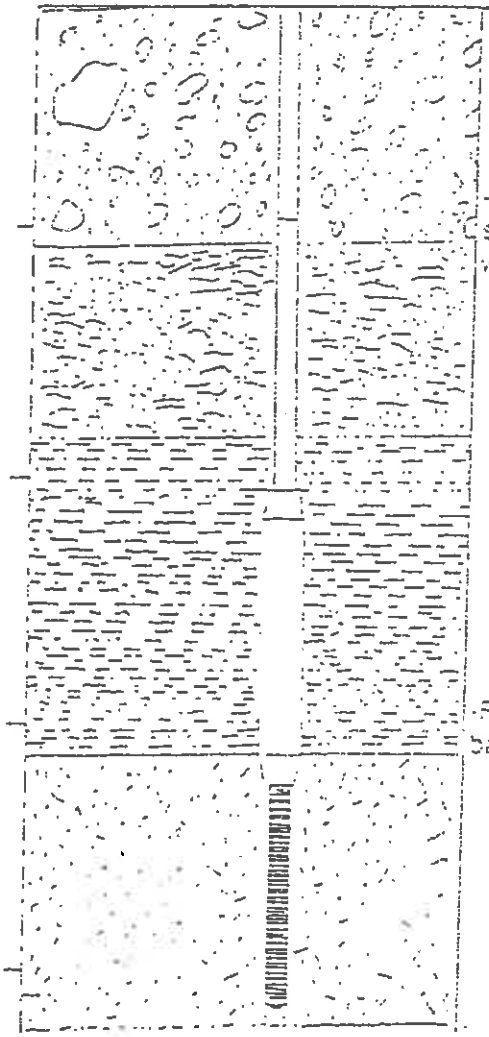
Driller or Trainee License No 2712

If trainee, licensed driller's Signature and License no. ____

Cased or Uncased Diameter 2" Static Level 16'

Work/Decommission Start Date 9-21-05

Work/Decommission Completed Date 9-21-05

Construction/Design	Well Data	Formation Description
	-Drive a retractable stainless steel screen down to depth and collected a water sample Boring depth 16' Screened 16'-14' -Removed all rods from boring and backfilled with bentonite.	silty fine sand 0-16'

RECEIVED
JAN 11 2006
DEPARTMENT OF ECOLOGY

Scale 1"= ____

ECY 050-12 (Rev 2/01)

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

Notice of Intent No. A 71498

#428759

Construction/Decommission ("x" in circle)

- ○ Construction
- ⊗ Decommission ORIGINAL INSTALLATION Notice of Intent Number E004598

Type of Well ("x" in circle)

- ⊗ Resource Protection
- ○ Geotech Soil Boring

188540

Consulting Firm Klein Felder

Unique Ecology Well ID Tag No B2

Property Owner Murrey's Disposal Company

Site Address 4622 70th Ave E

City Fife County: Pierce

Location SW¼ SW¼ Sec 17 Twp 20N R 4 E/W WWM

Lat/Long (s, t, r still REQUIRED) Lat Deg ____ Lat Min/Sec ____ Long Deg ____ Long Min/Sec ____

Tax Parcel No. ____

WELL CONSTRUCTION CERTIFICATION: I constructed and or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

☑ Driller ☐ Engineer ☐ Trainee Name (Print) Todd Klein

Driller Engineer/Trainee Signature Todd Klein

Driller or Trainee License No 2712

Cased or Uncased Diameter 2" Static Level 16'

Work/Decommission Start Date 9-21-05

Work Decommission Completed Date 9-21-05

If trainee, licensed driller's Signature and License no. ____

Construction/Design	Well Data	Formation Description
	-Drove a retractable stainless steel screen down to depth and collected a water sample	silty fine sand
	Boring depth: 16'	C-16'
	Screened 16-11'	
	-Removed all rods from boring and backfilled with bentonite	

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Scale 1"= ____

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RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

#428761

Notice of Intent No. A71498

Construction/Decommission ("x" in circle)

O Construction

X Decommission *ORIGINAL INSTALLATION Notice*

188539 *of Intent Number* E004598

Consulting Firm Klein Felder

Unique Ecology Well ID

Tag No: B1

Type of Well ("x" in circle)

X Resource Protection

O Geotech Soil Boring

Property Owner Murrey's Disposal Compan

Site Address 4622 70th Ave E

City Fife County: Pierce

Location SW¼ SW¼ Sec 17 Twp 20N R 4 E W W M (circle one)

Lat/Long (s, t, r still REQUIRED) Lat Deg _____ Lat Min/Sec _____

Long Deg _____ Long Min/Sec _____

Tax Parcel No. _____

Cased or Uncased Diameter 2" Static Level 16'

Work/Decommission Start Date 9-21-05

Work/Decommission Completed Date 9-21-05

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief

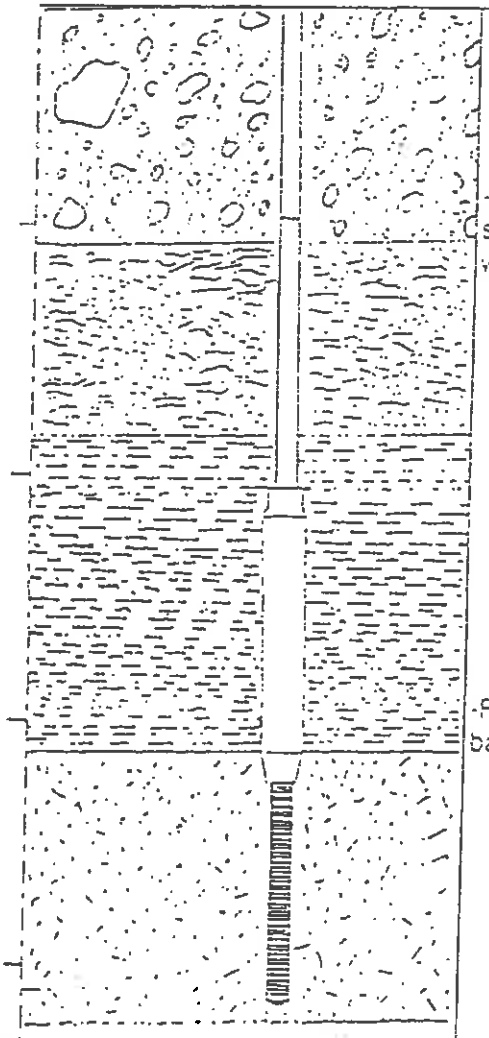
☑ Driller ☐ Engineer ☐ Trainee Name (Print) Todd Klein

Driller/Engineer/Trainee Signature Todd Klein

Driller or Trainee License No. 2712

If trainee, licensed driller's Signature and License no. _____

Construction/Design



Well Data

-Drove a retractable stainless steel screen down to depth and collected a water sample

Boring depth: 16'

Screened: 16-19'

-Removed all rods from boring and backfilled with bentonite

Formation Description

silty fine sand

0-16'

'06 JAN 12 AB 50

DEPT. OF ECOLOGY FISCAL & BUDGET

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DEPARTMENT OF ECOLOGY WELL DRILLING UNIT

Scale 1"= _____

ECY 050-12 (Rev 2/01)

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED) #469724

CURRENT Notice of Intent No. A128282

Construction/Decommission 253880

[ ] Construction

[X] Decommission *ORIGINAL INSTALLATION Notice of Intent Number* E 006664

Type of Well

[X] Resource Protection

[ ] Geotechnical Soil Boring

Consulting Firm: Arcadis, Geraghty & Miller

Property Owner: Premier Buiding Systems

Site Address: 4609 70th Ave E

City: Fife County: Pierce

Unique Ecology Well ID

Tag No.

Location 1/4 SW 1/4 SW Sec 17 Twr 20N R 4E [EWM] or WWM

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief

Lat/Long (s,t,r still Required) Lat Deg x Lat Min/Sec x Long Deg x Long Min/Sec x

[ ] Driller [x] Trainee Name (Print) Elijah Floyd

Driller/Trainee Signature Elijah Floyd

Driller/Trainee License No. 2842T

Tax Parcel No.

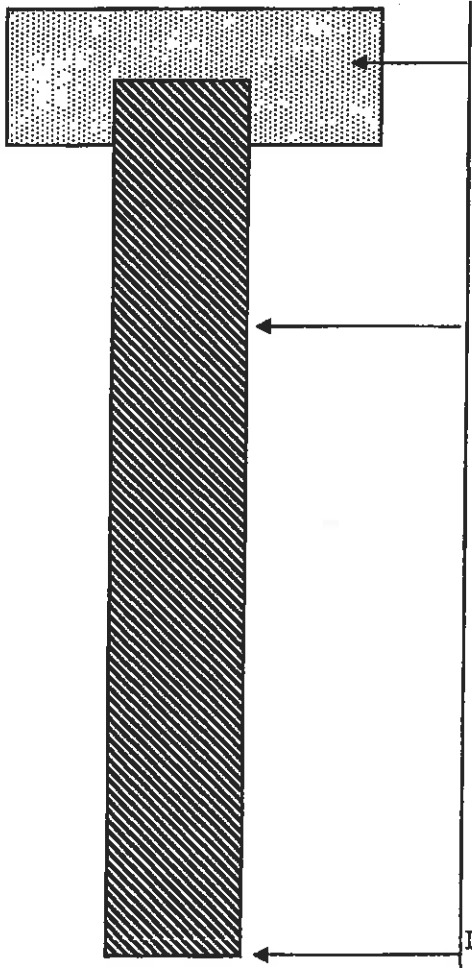
Cased or Uncased Diameter 2" Static Level 8'

If trainee, licesned drillers' Signature and License No. 2330

Work/Decommision Start Date 2/15/07

Work/Decommision Completed Date 2/15/07

Construction/Design — Well Data W07-131 — Formation Description



CONCRETE SURFACE SEAL 2' FT

BACKFILL 10' FT

Bentonite chips

DEPTH OF BORING 12' FT

0 - 8' FT
Silts light Brown

0 - 10' FT
Silts + sand light grey

0 - 12' FT
Sand small and Fine Dark grey ish silts

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RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT
Notice of Intent No. A128282

Construction/Decommission 253879 #469726

[ ] Construction

[X] Decommission *ORIGINAL INSTALLATION Notice of Intent Number* E 006664

Type of Well

[X] Resource Protection

[ ] Geotechnical Soil Boring

Consulting Firm Arcadis, Geraghty & Miller

Property Owner Premier Buiding Systems

Site Address 4609 70th Ave E

City Fife **County** Pierce

Unique Ecology Well ID

Tag No. _____

Location 1/4 SW 1/4 SW Sec 17 Twr. 20N R 4E [EWM] or WWM

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief

Lat/Long (s,t,r still Required) Lat Deg x Lat Min/Sec x Long Deg x Long Min/Sec x

[ ] Driller [x] Trainee Name (Print) Elijah Floyd

Driller/Trainee Signature Elijah Floyd

Driller/Trainee License No. 2842T

Tax Parcel No. _____

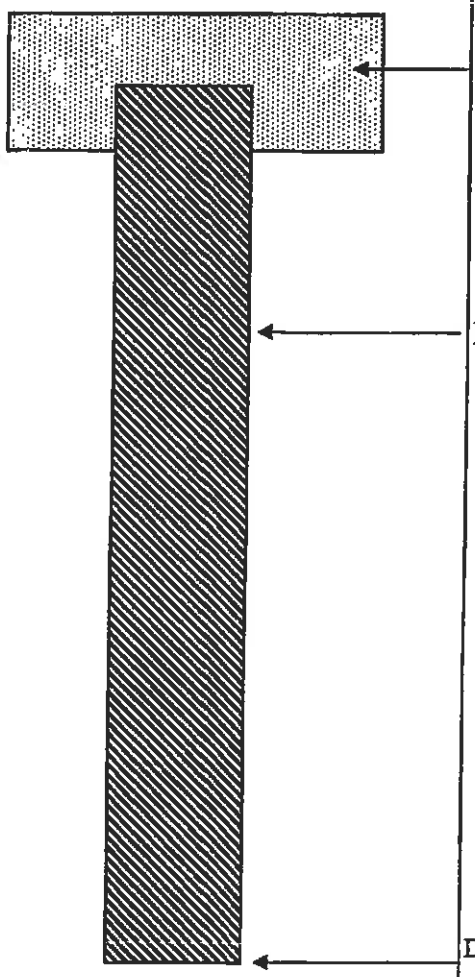
Cased or Uncased Diameter 2" **Static Level** 7'

Work/Decommision Start Date 2/15/07

If trainee, licesned drillers' Signature and License No. 2330

Work/Decommision Completed Date 2/15/07

Construction/Design — **Well Data** W07-131 — **Formation Description**



CONCRETE SURFACE SEAL 2' FT

BACKFILL 10' FT

Bentonite chips

DEPTH OF BORING 12' FT

0 - 6' FT
Silts + sands light Brown

0 - 10' FT
silts + sands some small Rocks up to 2" in. light grey

0 - 12 FT
clean sands Dark grey

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RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT
Notice of Intent No. A 128282

Construction/Decommission 253878 #469728

[ ] Construction

[X] Decommission *ORIGINAL INSTALLATION Notice of Intent Number* E 006664

Type of Well

[X] Resource Protection

[ ] Geotechnical Soil Boring

Property Owner: Premier Buiding Systems

Site Address: 4609 70th Ave E

Consulting Firm: Arcadis, Geraghty & Miller

City: Fife County: Pierce

Unique Ecology Well ID

Tag No.

Location 1/4 SW 1/4 SW Sec 17 Twn 20N R 4E [EWM] or [WWM]

Lat/Long (s,t,r still Required) Lat Deg x Lat Min/Sec x Long Deg x Long Min/Sec x

Tax Parcel No.

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

[ ] Driller [x] Trainee Name (Print) Elijah Floyd

Driller/Trainee Signature Elijah Floyd

Driller/Trainee License No. 2842T

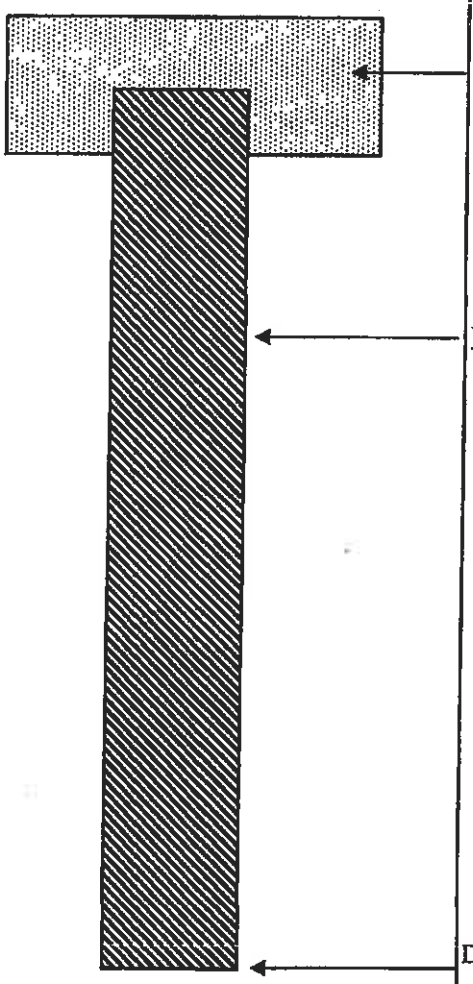
If trainee, licesned drillers' Signature and License No. 2330

Cased or Uncased Diameter 2" Static Level 8'

Work/Decommision Start Date 2/15/07

Work/Decommision Completed Date 2/15/07

Construction/Design | **Well Data** W07-131 | **Formation Description**



CONCRETE SURFACE SEAL 2' FT

BACKFILL 10' FT

Bentonite chips

DEPTH OF BORING 12' FT

0 - 6' FT
Silts light Brown

0 - 10' FT
Silts + Sand light Brown

0 - 12' FT
Sands clean very Dark grey

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Scale 1" = _____ Page _____ of _____

ECY 050-12 (Rev 2/01)

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT
Notice of Intent No. A 128282

Construction/Decommission 253877 #469730

[ ] Construction

[X] Decommission *ORIGINAL INSTALLATION Notice of Intent Number* E 006664

Type of Well

[X] Resource Protection

[ ] Geotechnical Soil Boring

Property Owner: Premier Buiding Systems

Site Address: 4609 70th Ave E

Consulting Firm: Arcadis, Geraghty & Miller

City: Fife County: Pierce

Unique Ecology Well ID

Tag No.

Location: 1/4 SW 1/4 SW Sec 17 Twr 20N R 4E EWM or WWM

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief

Lat/Long (s,t,r still Required) Lat Deg x Lat Min/Sec x Long Deg x Long Min/Sec x

Tax Parcel No.

[ ] Driller [x] Trainee Name (Print) Elijah Floyd

Driller/Trainee Signature Elijah Floyd

Driller/Trainee License No. 2842T

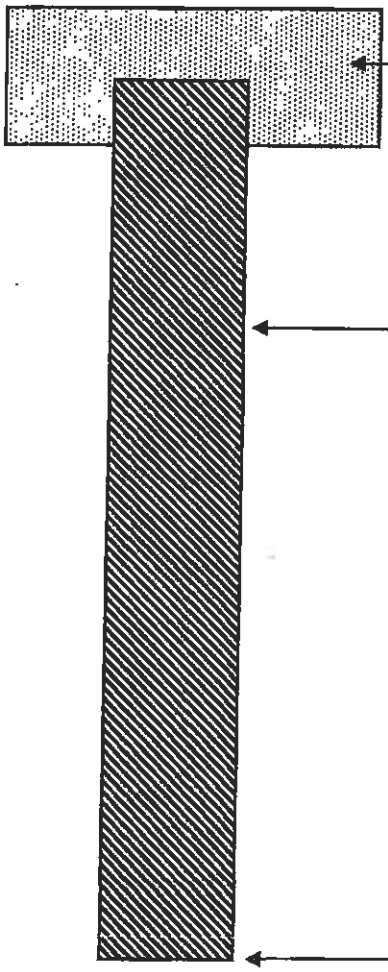
Cased or Uncased Diameter 2" Static Level 8'

If trainee, licesned drillers' Signature and License No. 2330

Work/Decommision Start Date 2/15/07

Work/Decommision Completed Date 2/15/07

Construction/Design



Well Data W07-131

CONCRETE SURFACE SEAL 2' FT

BACKFILL 10' FT

Bentonite chips

DEPTH OF BORING 12 FT

Formation Description

0 - 7' FT
Silts light Brown

0 - 10 FT
silty sands light grey with layers of Brown

0 - 12' FT
Sands ne silts clean Dark grey

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ECY 050-12 (Rev 2/01)

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT

Notice of Intent No. A 128282

Construction/Decommission 253876 #46732

☐ Construction

☒ Decommission *ORIGINAL INSTALLATION Notice of Intent Number* E 006664

Type of Well

☒ Resource Protection

☐ Geotechnical Soil Boring

Property Owner Premier Buiding Systems

Site Address 4609 70th Ave E

Consulting Firm Arcadis, Geraghty & Miller

City Fife **County** Pierce

Unique Ecology Well ID

Tag No.

Location 1/4 SW 1/4 SW Sec 17 Twr 20N R 4E ☐ EWM ☒ WWM

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief

Lat/Long (s,t,r still Required) Lat Deg x Lat Min/Sec x Long Deg x Long Min/Sec x

Tax Parcel No.

☐ Driller ☒ Trainee Name (Print) Elijah Floyd

Driller/Trainee Signature Elijah Floyd

Driller/Trainee License No. 2842T

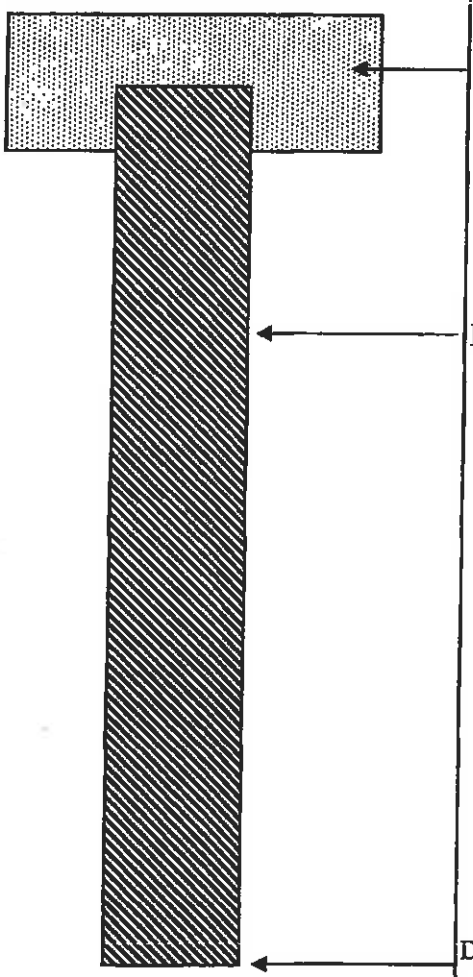
Cased or Uncased Diameter 2" **Static Level** 8

Work/Decommision Start Date 2/15/07

If trainee, licesned drillers' Signature and License No. 2330

Work/Decommision Completed Date 2/15/07

Construction/Design | **Well Data** W07-131 | **Formation Description**



CONCRETE SURFACE SEAL 2' FT

BACKFILL 14 FT — Bentonite chips

DEPTH OF BORING 16 FT

0 - 8' FT — Fine silts light Brown

0 - 16' FT — silts and sands Dark grey in color

0 - FT

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RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

#46913A

CURRENT
Notice of Intent No. A 128282

Construction/Decommission

[ ] Construction 253875

[X] Decommission *ORIGINAL INSTALLATION Notice of Intent Number* E 006664

Type of Well

[X] Resource Protection

[ ] Geotechnical Soil Boring

Consulting Firm Arcadis, Geraghty & Miller

Property Owner Premier Buiding Systems

Site Address 4609 70th Ave E

City Fife **County** Pierce

Unique Ecology Well ID

Tag No.

Location 1/4 SW 1/4 SW Sec 17 Twr. 20N R 4E [EWM] or [WWM]

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Lat/Long (s,t,r still Required) Lat Deg x Lat Min/Sec x Long Deg x Long Min/Sec x

[ ] Driller [x] Trainee Name (Print) Elijah Floyd

Driller/Trainee Signature Elijah Floyd

Driller/Trainee License No. 2842T

Tax Parcel No.

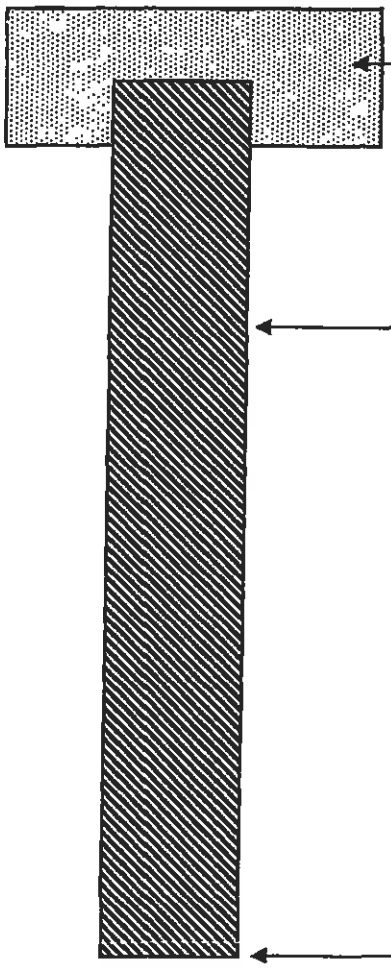
Cased or Uncased Diameter 2" **Static Level** 7

Work/Decommision Start Date 2/15/07

If trainee, licesned drillers' Signature and License No. 2330

Work/Decommision Completed Date 2/15/07

Construction/Design — **Well Data** W07-131 — **Formation Description**



CONCRETE SURFACE SEAL 2' FT

BACKFILL 8' FT

Bentonite chips

DEPTH OF BORING 10 FT

0 - 6' FT
Fine silts / medium Brown

0 - 10' FT
Fine silts and sands
Dark grey

0 - FT

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ECY 050-12 (Rev 2/01)

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

#469736

CURRENT Notice of Intent No. E 006664 ~~E 00664~~

Construction/Decommission

[X] Construction 253874

[ ] Decommission *ORIGINAL INSTALLATION Notice of Intent Number* _____

Type of Well

[X] Resource Protection

[ ] Geotechnical Soil Boring

Consulting Firm: Arcadis, Geraghty & Miller

Property Owner: Premier Buiding Systems

Site Address: 4609 70th Ave E

City: Fife County: Pierce

Unique Ecology Well ID

Tag No. _____

Location: 1/4 SW 1/4 SW Sec 17 Twr 20N R 4E [EWM] or WWM

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief

Lat/Long (s,t,r still Required) Lat Deg x Lat Min/Sec x Long Deg x Long Min/Sec x

[ ] Driller [x] Trainee Name (Print): Elijah Floyd

Driller/Trainee Signature: Elijah Floyd

Driller/Trainee License No.: 2842T

Tax Parcel No. _____

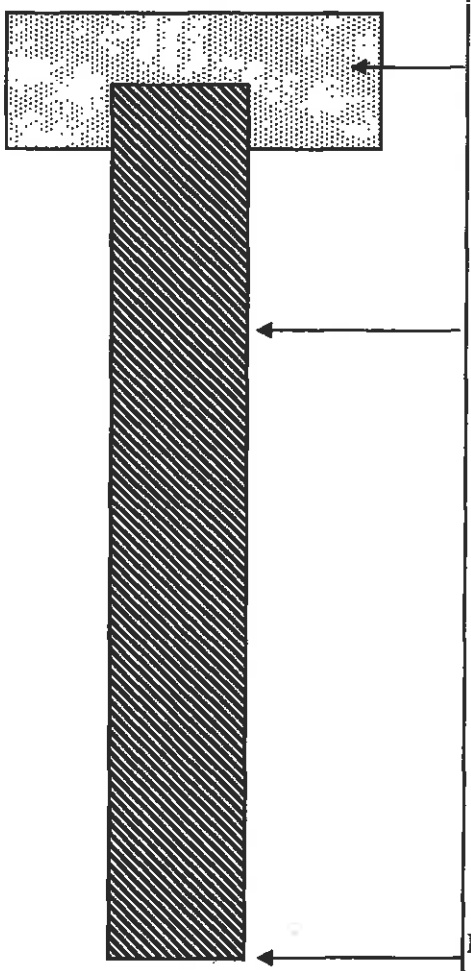
Cased or Uncased Diameter: 2" Static Level: 8'

If trainee, licesned drillers' Signature and License No.: 2330

Work/Decommision Start Date: 2/15/07

Work/Decommision Completed Date: 2/15/07

Construction/Design | Well Data W07-131 | Formation Description



CONCRETE SURFACE SEAL 2' FT

BACKFILL 10' FT

Bentonite chips

DEPTH OF BORING 12' FT

0 - 8' FT
Silts light Brown

0 - 10' FT
Silts + Sand light grey

0 - 12' FT
Sand small and Fine
Dark grey no silts

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ECY 050-12 (Rev 2/01)

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT Notice of Intent No. E 006664 ~~E 00664~~

469738

Construction/Decommission

253873

[X] Construction

[ ] Decommission *ORIGINAL INSTALLATION Notice of Intent Number* _____

Type of Well

[X] Resource Protection

[ ] Geotechnical Soil Boring

Property Owner: Premier Buiding Systems

Site Address: 4609 70th Ave E

Consulting Firm: Arcadis, Geraghty & Miller

City: Fife County: Pierce

Unique Ecology Well ID

Tag No. _____

Location: 1/4 SW 1/4 SW Sec 17 Twr 20N R 4E [EWM] or [WWM]

Lat/Long (s,t,r still Required): Lat Deg x Lat Min/Sec x; Long Deg x Long Min/Sec x

Tax Parcel No. _____

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

[ ] Driller [x] Trainee Name (Print): Elijah Floyd

Driller/Trainee Signature: Elijah Floyd

Driller/Trainee License No.: 2842T

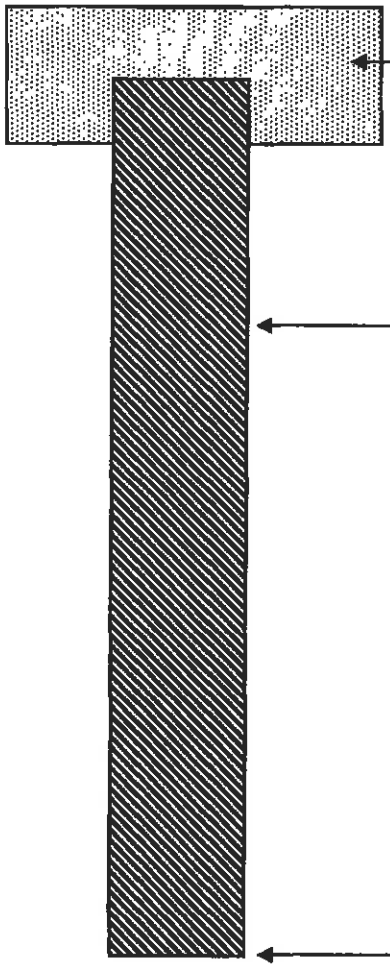
If trainee, licesned drillers' Signature and License No.: 2330

Cased or Uncased Diameter: 2" Static Level: 7'

Work/Decommision Start Date: 2/15/07

Work/Decommision Completed Date: 2/15/07

Construction/Design — **Well Data** W07-131 — **Formation Description**



CONCRETE SURFACE SEAL 2' FT

BACKFILL 10' FT

Bentonite chips

DEPTH OF BORING 12' FT

0 - 6' FT
Silts + sands light Brown

0 - 10' FT
silts + sands some small Rocks up to 2" in. light grey

0 - 12 FT
Clean sands Dark grey

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ECY 050-12 (Rev 2/01)

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

#469740

CURRENT Notice of Intent No. E006664 ~~E 00664~~

Construction/Decommission

253872

[X] Construction

[ ] Decommission *ORIGINAL INSTALLATION Notice of Intent Number* _____

Type of Well

[X] Resource Protection

[ ] Geotechnical Soil Boring

Property Owner: Premier Buiding Systems

Site Address: 4609 70th Ave E

Consulting Firm: Arcadis, Geraghty & Miller

City: Fife County: Pierce

EWM

Unique Ecology Well ID

Tag No. _____

Location 1/4 SW 1/4 SW Sec 17 Twr 20N R 4E or WWM

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Lat/Long (s,t,r still Required) Lat Deg x Lat Min/Sec x Long Deg x Long Min/Sec x

[ ] Driller [x] Trainee Name (Print) Elijah Floyd

Tax Parcel No. _____

Driller/Trainee Signature Elijah Floyd

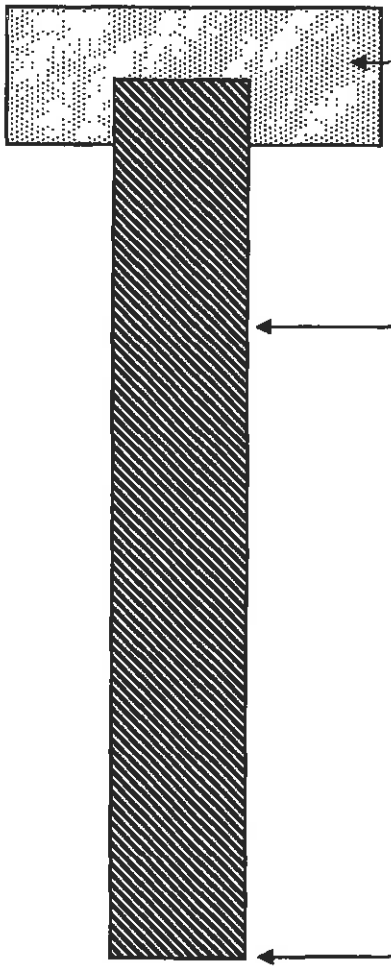
Cased or Uncased Diameter 2" Static Level 8'

Driller/Trainee License No. 2842T

Work/Decommision Start Date 2/15/07

If trainee, licesned drillers' Signature and License No. 2330

Work/Decommision Completed Date 2/15/07

Construction/Design	Well Data W07-131	Formation Description
	CONCRETE SURFACE SEAL 2' FT BACKFILL 10' FT Bentonite chips DEPTH OF BORING 12' FT	0 - 6' FT Silts light Brown 0 - 10' FT Silts + Sand light Brown 0 - 12' FT Sands clean very Dark grey

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Washington State Department of Ecology

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

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT Notice of Intent No. E 006664 ~~E 00664~~

#469742

Construction/Decommission

253871

[X] Construction

[ ] Decommission *ORIGINAL INSTALLATION Notice of Intent Number* _____

Type of Well

[X] Resource Protection

[ ] Geotechnical Soil Boring

Property Owner: Premier Buiding Systems

Site Address: 4609 70th Ave E

Consulting Firm: Arcadis, Geraghty & Miller

City: Fife County: Pierce

EWM

Unique Ecology Well ID

Tag No. _____

Location 1/4 SW 1/4 SW Sec 17 Twr 20N R 4E or WWM

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief

Lat/Long (s,t,r still Required) Lat Deg x Lat Min/Sec x Long Deg x Long Min/Sec x

Tax Parcel No. _____

[ ] Driller [x] Trainee Name (Print) Elijah Floyd

Driller/Trainee Signature Elijah Floyd

Driller/Trainee License No. 2842T

Cased or Uncased Diameter 2" Static Level 8'

Work/Decommision Start Date 2/15/07

If trainee, licesned drillers' Signature and License No. 2330

Work/Decommision Completed Date 2/15/07

Construction/Design	Well Data W07-131	Formation Description
CONCRETE SURFACE SEAL	2' FT	0 - 7' FT Silts light Brown
BACKFILL	10' FT Bentonite chips	0 - 10 FT silty sands light grey with layers of Brown
		0 - 12' FT Sands no silts clean Dark grey
DEPTH OF BORING	12 FT	

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Washington State Department of Ecology

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RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT Notice of Intent No. E 00664 E00664

#469744

Construction/Decommission 253870

[X] Construction

[ ] Decommission *ORIGINAL INSTALLATION Notice of Intent Number* _____

Type of Well

[X] Resource Protection

[ ] Geotechnical Soil Boring

Property Owner: Premier Buiding Systems

Site Address: 4609 70th Ave E

Consulting Firm: Arcadis, Geraghty & Miller

City: Fife County: Pierce

EWM

Unique Ecology Well ID

Tag No. _____

Location 1/4 SW 1/4 SW Sec 17 Twr 20N R 4E or WWM

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards

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

Lat/Long (s,t,r still Required) Lat Deg x Lat Min/Sec x Long Deg x Long Min/Sec x

Tax Parcel No. _____

[ ] Driller [x] Trainee Name (Print) Elijah Floyd

Driller/Trainee Signature Elijah Floyd

Driller/Trainee License No. 2842T

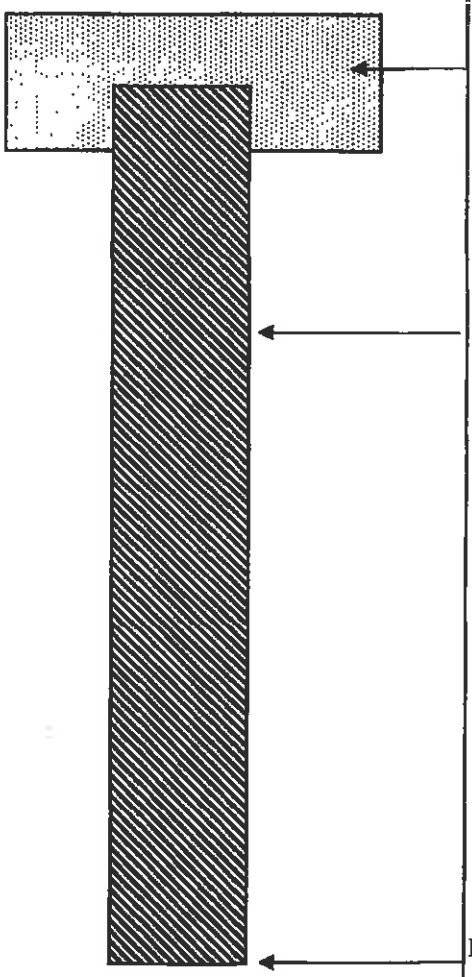
Cased or Uncased Diameter 2" Static Level 8

If trainee, licesned drillers' Signature and License No. 2330

Work/Decommision Start Date 2/15/07

Work/Decommision Completed Date 2/15/07

Construction/Design | Well Data W07-131 | Formation Description



CONCRETE SURFACE SEAL 2' FT

BACKFILL 14 FT

Bentonite chips

DEPTH OF BORING 16 FT

0 - 8' FT
Fine silts light Brown

0 - 16' FT
silts and sands Dark grey in color

0 - FT

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Scale 1" = _____ Page _____ of _____

ECY 050-12 (Rev 2/01)

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT Notice of Intent No. 006664 ~~E 00664~~

Construction/Decommission

[X] Construction 2538609 # 469746

[ ] Decommission *ORIGINAL INSTALLATION Notice of Intent Number* _____

Type of Well

[X] Resource Protection

[ ] Geotechnical Soil Boring

Consulting Firm: Arcadis, Geraghty & Miller

Property Owner: Premier Buiding Systems

Site Address: 4609 70th Ave E

City: Fife County: Pierce

Unique Ecology Well ID

Tag No. _____

Location: 1/4 SW 1/4 SW Sec 17 Twr 20N R 4E [EWM] or [WWM]

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Lat/Long (s,t,r still Required) Lat Deg x Lat Min/Sec x Long Deg x Long Min/Sec x

[ ] Driller [x] Trainee Name (Print): Elijah Floyd

Driller/Trainee Signature: Elijah Floyd

Driller/Trainee License No.: 2842T

Tax Parcel No. _____

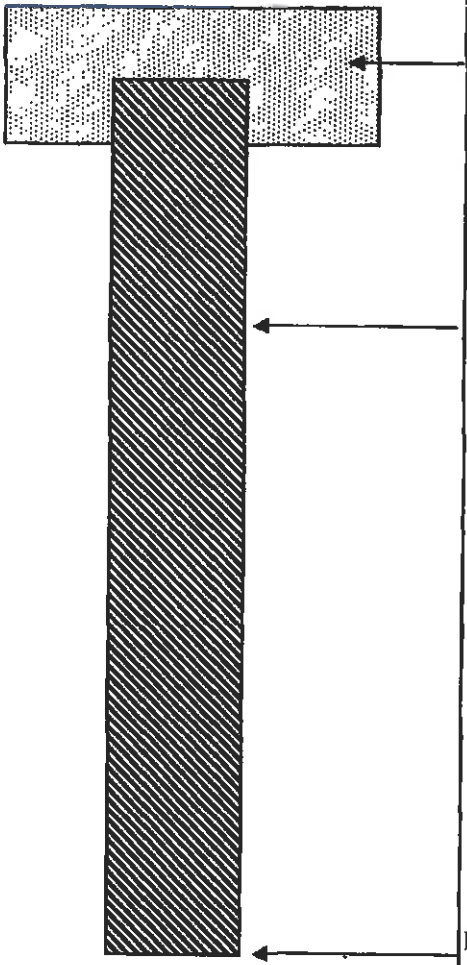
Cased or Uncased Diameter: 2" Static Level: 7

If trainee, licesned drillers' Signature and License No.: 2332

Work/Decommision Start Date: 2/15/07

Work/Decommision Completed Date: 2/15/07

Construction/Design | Well Data W07-131 | Formation Description



CONCRETE SURFACE SEAL 2' FT

BACKFILL 8' FT

Bentonite chips

DEPTH OF BORING 10 FT

0 - 6' FT
Fine silts / medium Brown

0 - 10' FT
Fine silts and sands
Darker grey

0 - FT

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Scale 1" = _____

Page _____ of _____

ECY 050-12 (Rev 2/01)

#574562

331743

RESOURCE PROTECTION WELL REPORT

START CARD NO. R46141

PROJECT NAME: IHS - Fife
WELL IDENTIFICATION NO. B-2
DRILLING METHOD: Direct Push
DRILLER: Eric Nassen
FIRM: T.E.G. NW
SIGNATURE: [signature]
CONSULTING FIRM: Indian Health Services
REPRESENTATIVE: Ken Espus

COUNTY: Pierce A51625
LOCATION: SW¼ SW¼ Sec 17 Twn 20N R 4E
STREET ADDRESS OF WELL: 8105 48th St E Fife
WATER LEVEL ELEVATION: 17' BGS
GROUND SURFACE ELEVATION: Not Surveyed
INSTALLED: 8/29/00 9/5/00 ESS
DEVELOPED: 8/29/00 9/5/00

AS-BUILT	WELL DATA	FORMATION DESCRIPTION
10 20 30 40 50	Water was sampled through a retractable stainless steel screen set at 20', 30', 40', & 50' BGS the screen was removed decontaminated and redriven to the next depth. Well was removed and backfilled w/bentonite.	not observed

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DEPARTMENT OF ECOLOGY
WELL DRILLING UNIT

SCALE: 1" = 10'

PAGE 2 OF 2

ECY 050-12 (Rev. 11/89)

#574563

331742

RESOURCE PROTECTION WELL REPORT

START CARD NO. R46142

PROJECT NAME: IHS - Fife
WELL IDENTIFICATION NO. B-1
DRILLING METHOD: Direct Push
DRILLER: Eric Nassen
FIRM: T.E.G. NW
SIGNATURE: [signature]
CONSULTING FIRM: Indian Health Services
REPRESENTATIVE: Ken Espin

COUNTY: Pierce A51625
LOCATION: SW1/4 SW1/4 Sec 17 Twn 20N R 4E
STREET ADDRESS OF WELL: 8105 48th St E
Fife
WATER LEVEL ELEVATION: 17' BGS
GROUND SURFACE ELEVATION: Not Surveyed
INSTALLED: 8/29/00
DEVELOPED: 8/29/00

AS-BUILT	WELL DATA	FORMATION DESCRIPTION
10 20 30 40 50	Water was sampled through a retractable stainless steel screen set at 20', 30', 40', & 50' BGS the screen was removed, decontaminated and redriven to the next depth. Well was removed and backfilled w/bentonite.	not observed

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WELL DRILLING UNIT

SCALE: 1" = 10'

PAGE 1 OF 2

ECY 050-12 (Rev. 11/99)

598212

MONITORING WELL REPORT

348141

Well ID# BBK590

Start Card # RED3427

(1) OWNER/PROJECT
Name City of Fife WELL NO
Address 5411 23rd St E
City Fife State WA Zip 98424

(2) TYPE OF WORK
☒ New construction ☐ Alteration (Repair/Recondition)
☐ Conversion ☐ Deepening ☐ Abandonment

(3) DRILLING METHOD
☐ Rotary Air ☐ Rotary Mud ☐ Cable
☒ Hollow Stem Auger ☐ Other

(4) BORE HOLE CONSTRUCTION:
Special Standards Yes ☐ No ☒ Depth of Completed Well 19 ft.

Vault 0 ft. Special Standards
1 TO ft
Seal 1 ft
8 TO ft.
Filter pack: 8 ft.
19 TO ft

Water-tight cover
Surface flush vault
Locking cap
Casing diameter 2 in
Material PVC
Welded ☐ Threaded ☒ Glued ☐

Well Seal
Material Bentonite Chips
Amount
Grout weight

Borehole diameter
10 in. from ft to 19 ft
in. from ft to ft

Bentonite plug at least 3 ft thick

Screen
Material 2" PVC
From ft to
Slot size 10 in

Filter pack
Material Colorado sand
Size 10/20

(5) WELL TESTS:
☐ Pump ☐ Bailer ☐ Air ☐ Flowing Artesian
Permeability Yield GPM
Conductivity PH
Temperature of water OF/C Depth artesian flow found ft
Was water analysis done? ☐ Yes ☐ No
By whom?
Depth of strata to be analyzed. From ft. to ft
Remarks
Name Of Supervising Geologist/Engineer Landau

(6) LOCATION OF WELL By *legal description:*
County Pierce Latitude Longitude
Township 20N (N or S) Range 4E (E or W) Section 17
SW 1/4 of SW 1/4 of above section.
Street address of well location 70th Ave E & 45th St CT E
Fife WA 98424
Tax lot number of well location Roadway ROW

(7) STATIC WATER LEVEL:
Ft below land surface Date
Artesian Pressure lb/sq in Date

(8) WATER BEARING ZONES:
Depth at which water was first found

From	To	Est. Flow Rate	SWL

(9) WELL LOG:
Ground Elevation

Material	From	To	SWL
SLT	0	19	

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WELL CONSTRUCTION CERTIFICATION.
I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief

Type or Print Name Jerrod Thompson License No 2823
Trainee Name License No
Drilling Company Holocene Drilling Inc
(Signed) License No 2823
Address 10121 Todd Rd E Edgewood WA 98372
Registration No HOLOCDI044KH Date 6/1/09

#598214

MONITORING WELL REPORT

348140

Well ID# BBK591

Start Card # RE03427

(1) OWNER/PROJECT

Name City of Fife WELL NO

Address 5411 23rd St E

City Fife State WA Zip 98424

(2) TYPE OF WORK

☒ New construction ☐ Alteration (Repair/Recondition)

☐ Conversion ☐ Deepening ☐ Abandonment

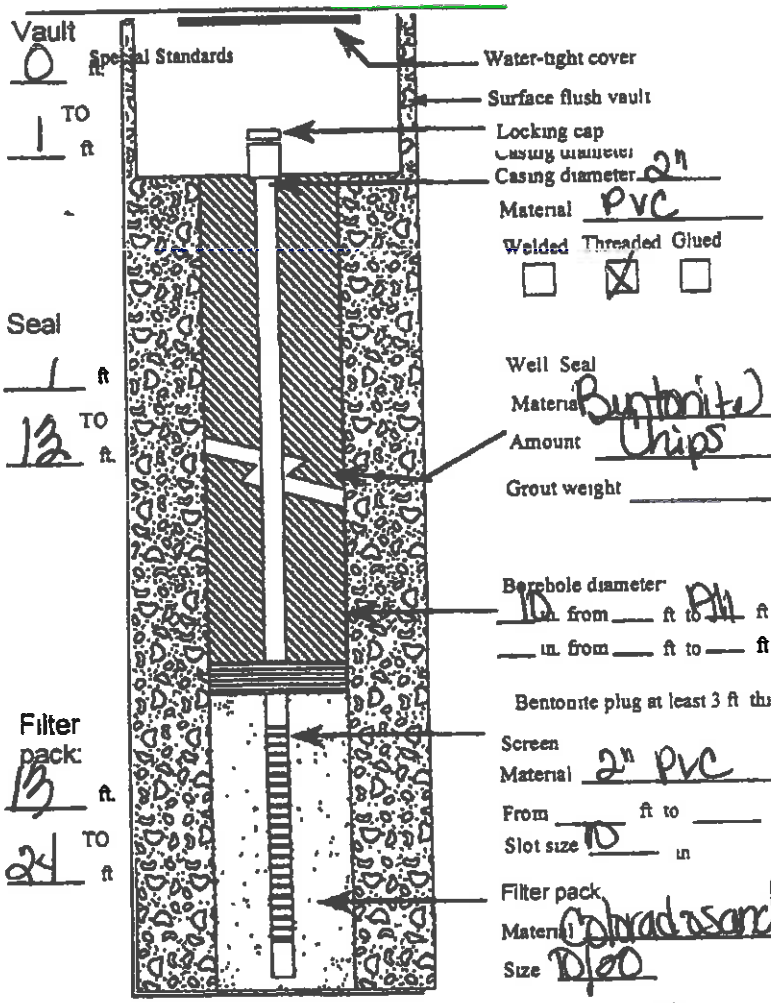
(3) DRILLING METHOD

☐ Rotary Air ☐ Rotary Mud ☐ Cable

☒ Hollow Stein Auger ☐ Other

(4) BORE HOLE CONSTRUCTION:

Special Standards Yes ☐ No ☒ Depth of Completed Well 24 ft.



(5) WELL TESTS:

☐ Pump ☐ Bailer ☐ Air ☐ Flowing Artesian

Permeability Yield GPM

Conductivity PH

Temperature of water °F/C Depth artesian flow found ft

Was water analysis done? ☐ Yes ☐ No

By whom?

Depth of strata to be analyzed From ft to ft

Remarks:

Name Of Supervising Geologist/Engineer Landau

(6) LOCATION OF WELL By *legal description:*

County Pierce Latitude Longitude

Township 20N (N or S) Range 4E (E or W) Section 17

SW 1/4 of SW 1/4 of above section

Street address of well location 70th Ave E & 45th St CTE Fife WA 98424

Tax lot number of well location Roadway ROW

(7) STATIC WATER LEVEL:

Ft below land surface Date

Artesian Pressure lb/sq in Date

(8) WATER BEARING ZONES:

Depth at which water was first found

From	To	Est. Flow Rate	SWL

(9) WELL LOG.

Ground Elevation

Material	From	To	SWL
Silt	0	24	

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WELL CONSTRUCTION CERTIFICATION

I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief

Type or Print Name Jerrod Thompson License No 2823

Trainee Name License No

Drilling Company Holocene Drilling Inc

(Signed) License No 2823

Address 10621 Todd Rd E Edgewood WA 98372

Registration No HOLOCDI044KH Date

MONITORING WELL REPORT

#598216

Well ID# BBK592

Start Card # RE03427

348139

(1) OWNER/PROJECT
Name City of Fife WELL NO
Address 5411 23rd St E
City Fife State WA Zip 98424

(2) TYPE OF WORK
☒ New construction ☐ Alteration (Repair/Recondition)
☐ Conversion ☐ Deepening ☐ Abandonment

(3) DRILLING METHOD
☐ Rotary Air ☐ Rotary Mud ☐ Cable
☒ Hollow Stem Auger ☐ Other

(4) BORE HOLE CONSTRUCTION:
Special Standards ☐ Yes ☒ No Depth of Completed Well 24 ft.

Vault 0 ft
Special Standards
Water-tight cover
Surface flush vault
1 TO ft
Locking cap
Casing diameter 2"
Material PVC
Welded ☐ Threaded ☒ Glued ☐

Seal 1 ft
Well Seal Material Bentonite Chips
13 TO ft
Amount
Grout weight

Borehole diameter 10 in. from ft to 24 ft
in. from ft to ft

Bentonite plug at least 3 ft thick

Filter pack: 13 ft
Screen Material 2" PVC
24 TO ft
From ft to
Slot size 10 in
Filter pack Material Colorado sand
Size 10/20

(5) WELL TESTS:
☐ Pump ☐ Bailer ☐ Air ☐ Flowing Artesian
Permeability Yield GPM
Conductivity PH
Temperature of water OF/C Depth artesian flow found ft
Was water analysis done? ☐ Yes ☐ No
By whom?
Depth of strata to be analyzed From ft to ft
Remarks
Name Of Supervising Geologist/Engineer Landau

(6) LOCATION OF WELL By *legal description:*
County Pierce Latitude Longitude
Township 20N (N or S) Range 4E (E or W) Section 17
SW 1/4 of SW 1/4 of above section.
Street address of well location 70th Ave E & 45th St Ct E Fife WA 98424
Tax lot number of well location Roadway ROW

(7) STATIC WATER LEVEL:
Ft below land surface Date
Artesian Pressure lb/sq in Date

(8) WATER BEARING ZONES:
Depth at which water was first found

From	To	Est. Flow Rate	SWL

(9) WELL LOG:
Ground Elevation

Material	From	To	SWL
silt	0	24	

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WELL CONSTRUCTION CERTIFICATION.
I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief

Type or Print Name Jerrod Thompson License No 2823
Trainee Name License No
Drilling Company Holocene Drilling Inc
(Signed) License No 2823
Address 1021 Todd Rd E Edgewood WA 98372
Registration No HOLOCDI044KH Date 6/1/09

598218

ONITORING WELL REPORT
348138

Well ID# BBK593
Start Card # RE03427

OWNER/PROJECT
ie City of Fife WELL NO
ress 5411 23rd St E
Fife State WA Zip 98424

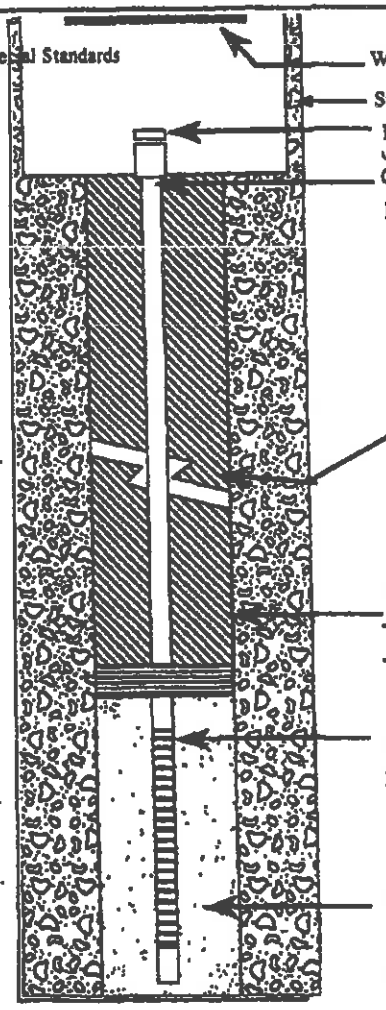
TYPE OF WORK
☒ New construction ☐ Alteration (Repair/Recondition)
☐ Conversion ☐ Deepening ☐ Abandonment

DRILLING METHOD
☐ Rotary Air ☐ Rotary Mud ☐ Cable
☒ Hollow Stem Auger ☐ Other

(6) LOCATION OF WELL By *legal description:*
Count Pierce Lantude Longitude
Township 20N (N or S) Range 4E (E or W) Section 17
SW 1/4 of SW 1/4 of above section.
Street address of well location 70th Ave E & 45th St CtE Fife WA 98424
Tax lot number of well location Roadway ROW

(7) STATIC WATER LEVEL:
Ft below land surface Date
Artesian Pressure lb/sq in Date

BORE HOLE CONSTRUCTION:
ecial Standards Yes ☐ No ☒ Depth of Completed Well 19 ft.



(8) WATER BEARING ZONES:
Depth at which water was first found

From	To	Est. Flow Rate	SWL

(9) WELL LOG:
Ground Elevation

Material	From	To	SWL
Silt	0	19	

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) WELL TESTS:
☐ Pump ☐ Bailer ☐ Air ☐ Flowing Artesian
Permeability Yield GPM
Conductivity PH
Temperature of water OF/C Depth artesian flow found ft
Was water analysis done? ☐ Yes ☒ No
By whom?
Depth of strata to be analyzed From ft to ft
Remarks
Name Of Supervising Geologist/Engineer Landau

WELL CONSTRUCTION CERTIFICATION:
I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief
Type or Print Name Jerrod Thompson License No 2823
Trainee Name License No
Drilling Company Holocene Drilling Inc
(Signed) License No 2823
Address 10621 Todd Rd E Edgewood WA 98372
Registration No. HOLOCDI044KH Date 6/1/09

#598220

MONITORING WELL REPORT

Well ID# BBK595
Start Card # RE03427

348137

1) OWNER/PROJECT
Name City of Fife WELL NO
Address 5411 23rd St E
City Fife State WA Zip 98424

2) TYPE OF WORK
☒ New construction ☐ Alteration (Repair/Recondition)
☐ Conversion ☐ Deepening ☐ Abandonment

3) DRILLING METHOD
☐ Rotary Air ☐ Rotary Mud ☐ Cable
☒ Hollow Stem Auger ☐ Other

4) BORE HOLE CONSTRUCTION:
Special Standards Yes ☐ No ☒ Depth of Completed Well 19 ft.

Vault 0 ft
Special Standards
Water-tight cover
Surface flush vault
1 TO 1 ft
Locking cap
Casing diameter 2"
Material PVC
Welded ☐ Threaded ☒ Glued ☐

Seal 1 ft
8 TO 8 ft
Well Seal
Material Bentonite Chips
Amount
Grout weight

Borehole diameter
10 in. from ft to 19 ft
in. from ft to ft
Bentonite plug at least 3 ft thick

Filter pack: 8 ft
19 TO 19 ft
Screen
Material PVC 2"
From ft to
Slot size 10 in
Filter pack
Material Colorado sand
Size 10/20

(5) WELL TESTS:
☐ Pump ☐ Bailer ☐ Air ☐ Flowing Artesian
Permeability Yield GPM
Conductivity PH
Temperature of water OF/C Depth artesian flow found ft
Was water analysis done? ☐ Yes ☒ No
By whom?
Depth of strata to be analyzed From ft to ft
Remarks
Name Of Supervising Geologist/Engineer Landau

(6) LOCATION OF WELL By *legal description:*
County Pierce Latitude Longitude
Township 20N (N or S) Range 4E (E or W) Section 17
SW 1/4 of SW 1/4 of above section.
Street address of well location 70th Ave E & 45th St Ct E
Fife WA 98424
Tax lot number of well location Roadway ROW

(7) STATIC WATER LEVEL:
Ft below land surface Date
Artesian Pressure lb/sq in Date

(8) WATER BEARING ZONES:
Depth at which water was first found

From	To	Est. Flow Rate	SWL

(9) WELL LOG:
Ground Elevation

Material	From	To	SWL
SILT	0	19	

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Date started 5/28/09 Completed 5/28/09

WELL CONSTRUCTION CERTIFICATION:
I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief

Type or Print Name Jerrod Thompson License No 2823
Trainee Name License No
Drilling Company Holocene Drilling Inc
(Signed) License No 2823
Address 10621 Todd Rd E Edgewood WA 98372
Registration No HOLOCDI044KH Date 6/1/09

#598222

ONITORING WELL REPORT

Well ID# Custech Soil Boring
Start Card # AE01039

348135

OWNER/PROJECT WELL NO
City of Fife
ress 3411 23rd St E
Fife State WA Zip 98424

TYPE OF WORK
☐ New construction ☐ Alteration (Repair/Recondition)
☐ Conversion ☐ Deepening ☒ Abandonment SE04674

DRILLING METHOD
☐ Rotary Air ☐ Rotary Mud ☐ Cable
☒ Hollow Stem Auger ☐ Other

(6) LOCATION OF WELL By *legal description:*
Coun Pierce Latitude Longitude
Township 20N (N or S) Range 4E (E or W) Section 17
SW 1/4 of SW 1/4 of above section.
Street address of well location 70th Ave E & 45th St Ct E
Fife WA 98424
Tax lot number of well location Roadway ROW

(7) STATIC WATER LEVEL:
Ft below land surface Date
Artesian Pressure lb/sq in Date

BORE HOLE CONSTRUCTION:
ecial Standards Yes No Depth of Completed Well 24 ft.

(8) WATER BEARING ZONES:
Depth at which water was first found

From	To	Est. Flow Rate	SWL

Vault
Special Standards
ft.
TO
ft.

Seal
ft
TO
ft

Filter pack:
ft.
TO
ft.

Water-tight cover
Surface flush vault
Locking cap
Casing diameter
Material
Welded Threaded Glued

Well Seal
Material Bentonite Chips
Amount
Grout weight

Borehole diameter
in. from ft to ft
in. from ft. to ft

Bentonite plug at least 3 ft thick

Screen
Material
From ft to
Slot size in

Filter pack.
Material
Size

(9) WELL LOG:
Ground Elevation

Material	From	To	SWL
Backfilled from Bottom to top with Bentonite Chips	0	24	

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Date started 5/27/09 Completed 5/27/09

(5) WELL TESTS:
☐ Pump ☐ Bailer ☐ Air ☐ Flowing Artesian
Permeability Yield GPM
Conductivity PH
Temperature of water C/F Depth artesian flow found ft
Was water analysis done? ☐ Yes ☐ No
By whom?
Depth of strata to be analyzed. From ft. to ft
Remarks

Name Of Supervising Geologist/Engineer Landau

WELL CONSTRUCTION CERTIFICATION:
constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief

Type or Print Name Jerrod Thompson License No 2823
Trainee Name License No
Drilling Company Holocene Drilling Inc
(Signed) License No 2823
Address 10621 Todd Rd E Edgewood WA 98372
Registration No HOLOCDI044KH Date 6/1/09

ONITORING WELL REPORT

598224

348134

Well ID# Geotech Soil Boring

Start Card # AE01039

OWNER/PROJECT WELL NO

City of Fife

5411 23rd St E

Fife State WA Zip 98424

(6) LOCATION OF WELL By *legal description:*

County Pierce Latitude Longitude

Township 20N (N or S) Range 4E (E or W) Section 17

SW 1/4 of SW 1/4 of above section.

Street address of well location 70th Ave E & 54th St CT E

Fife WA 98424

Tax lot number of well location Roadway ROW

TYPE OF WORK

☐ New construction ☐ Alteration (Repair/Recondition)

☐ Conversion ☐ Deepening ☒ Abandonment

SE04674

DRILLING METHOD

☐ Rotary Air ☐ Rotary Mud ☐ Cable

☒ Hollow Stem Auger ☐ Other

(7) STATIC WATER LEVEL:

Ft below land surface Date

Artesian Pressure lbs/sq in Date

BORE HOLE CONSTRUCTION:

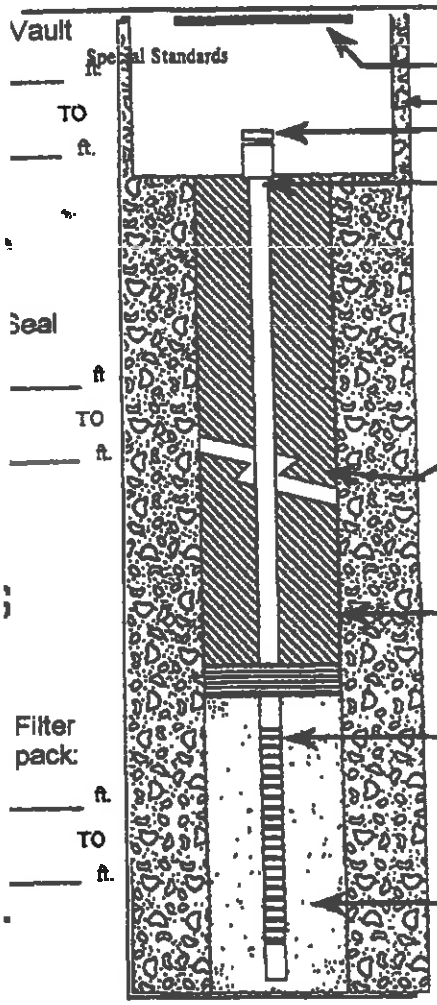
Special Standards Yes ☐ No ☒

Depth of Completed Well 24 ft.

(8) WATER BEARING ZONES:

Depth at which water was first found

From	To	Est. Flow Rate	SWL



Water-tight cover

Surface flush vault

Locking cap

Casing diameter

Material

Welded ☐ Threaded ☐ Glued ☐

Well Seal

Material Bentonite Chips

Amount

Grout weight

Borehole diameter

in. from ft to ft

in. from ft to ft

Bentonite plug at least 3 ft thick

Screen

Material

From ft to

Slot size in

Filter pack

Material

Size

(9) WELL LOG:

Ground Elevation

Material	From	To	SWL
Backfilled from Bottom to top	0	24	
With Bentonite Chips			

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Date started 5/27/09 Completed 5/27/09

(5) WELL TESTS:

☐ Pump ☐ Bailer ☐ Air ☐ Flowing Artesian

Permeability Yield GPM

Conductivity PH

Temperature of water °F/C Depth artesian flow found ft

Was water analysis done? ☐ Yes ☐ No

By whom?

Depth of strata to be analyzed From ft. to ft

Remarks

Name Of Supervising Geologist/Engineer Landau

WELL CONSTRUCTION CERTIFICATION:

I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief

Type or Print Name Jerrod Thompson License No 2823

Trainee Name License No

Drilling Company Holocene Drilling Inc

(Signed) License No 2823

Address 10621 Todd Rd E Edgewood WA 98372

Registration No. HOLOCDI044KH Date 6/1/09

MONITORING WELL REPORT

#598226

346133

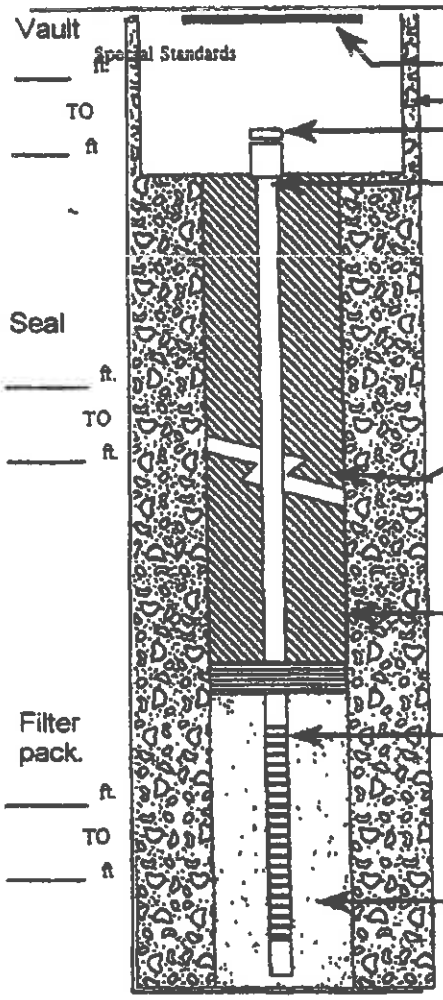
Well ID# Geotech Soil Boring
Start Card # SE04674

(1) OWNER/PROJECT
Name City of Fife WELL NO
Address 5411 23rd St E
City Fife State WA Zip 98424

(2) TYPE OF WORK
☒ New construction ☐ Alteration (Repair/Recondition)
☐ Conversion ☐ Deepening ☐ Abandonment

(3) DRILLING METHOD
☐ Rotary Air ☐ Rotary Mud ☐ Cable
☒ Hollow Stem Auger ☐ Other

(4) BORE HOLE CONSTRUCTION:
Special Standards Yes ☐ No ☒ Depth of Completed Well 24 ft.



(5) WELL TESTS:
☐ Pump ☐ Bailer ☐ Air ☐ Flowing Artesian
Permeability Yield GPM
Conductivity PH
Temperature of water Did any O/C Depth artesian flow found ft
Was water analysis done? ☐ Yes ☐ No
By whom?
Depth of strata to be analyzed From ft to ft
Remarks
Name Of Supervising Geologist/Engineer Landau

(6) LOCATION OF WELL By *legal description:*
County Pierce Latitude Longitude
Township 20N (N or S) Range 4E (E or W) Section 17
SW 1/4 of SW 1/4 of above section.
Street address of well location 70th Ave E & 45th St CT E Fife WA 98424
Tax lot number of well location Roadway ROW

(7) STATIC WATER LEVEL.
Ft below land surface Date
Artesian Pressure lb/sq in Date

(8) WATER BEARING ZONES:
Depth at which water was first found

From	To	Est. Flow Rate	SWL

(9) WELL LOG:
Ground Elevation

Material	From	To	SWL
Silt	0	24	

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Washington State Department of Ecology

Date started 5/27/09 Completed 5/27/09

WELL CONSTRUCTION CERTIFICATION.
I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Type or Print Name Jerrod Thompson License No 2823
Trainee Name License No
Drilling Company Holocene Drilling Inc
(Signed) License No 2823
Address 10621 Todd Rd E Edgewood WA 98372
Registration No HOLOCDI044KH Date 6/1/09

MONITORING WELL REPORT

#598228

348132

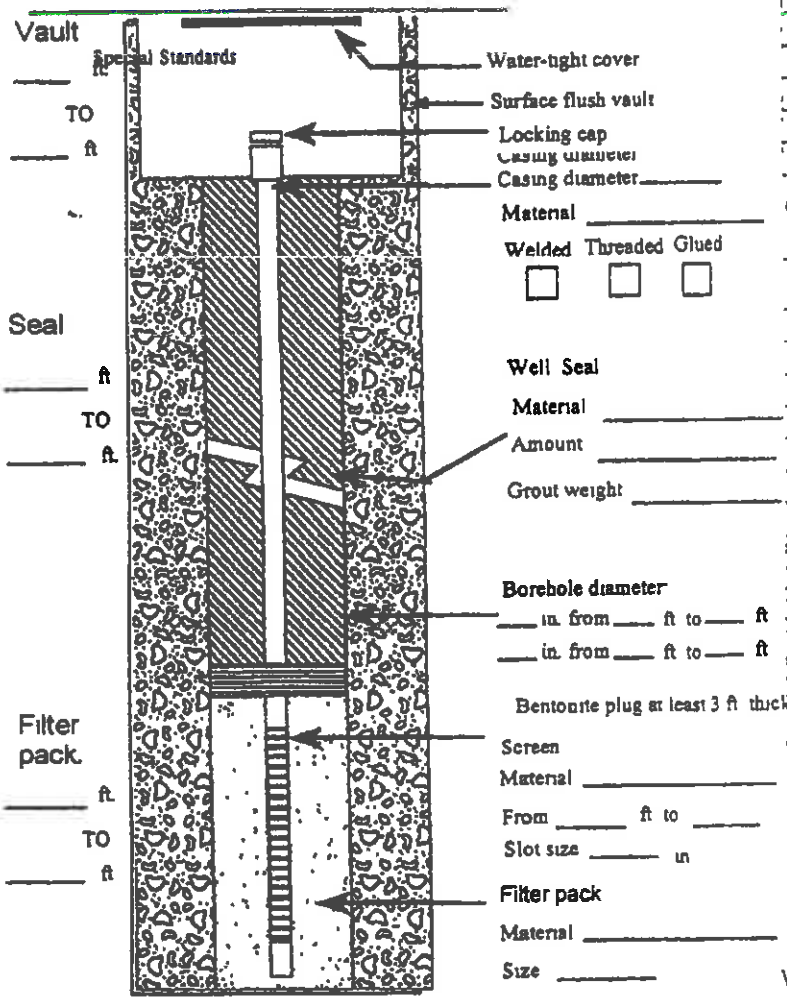
Well ID# Geotech Soil Boring
Start Card # SE04674

(1) OWNER/PROJECT
Name City of Fife WELL NO
Address 5411 23rd St E
City Fife State WA Zip 98424

(2) TYPE OF WORK
☒ New construction ☐ Alteration (Repair/Recondition)
☐ Conversion ☐ Deepening ☐ Abandonment

(3) DRILLING METHOD
☐ Rotary Air ☐ Rotary Mud ☐ Cable
☒ Hollow Stem Auger ☐ Other

(4) BORE HOLE CONSTRUCTION:
Special Standards Yes ☐ No ☒ Depth of Completed Well 24 ft.



(5) WELL TESTS:
☐ Pump ☐ Bailer ☐ Air ☐ Flowing Artesian
Permeability Yield GPM
Conductivity PH
Temperature of water OEAC Depth artesian flow found
Was water analysis done? ☐ Yes ☐ No
By whom?
Depth of strata to be analyzed From ft to ft
Remarks:
Name Of Supervising Geologist/Engineer Landau

(6) LOCATION OF WELL By *legal description:*
County Pierce Latitude Longitude
Township 20N (N or S) Range 4E (E or W) Section 17
SW 1/4 of SW 1/4 of above section.
Street address of well location 70th Ave E & 45th St Ct E Fife WA 98424
Tax lot number of well location Roadway/ROW

(7) STATIC WATER LEVEL.
Ft below land surface Date
Artesian Pressure lb/sq in Date

(8) WATER BEARING ZONES:
Depth at which water was first found

From	To	Est. Flow Rate	SWL

(9) WELL LOG.
Ground Elevation

Material	From	To	SWL
Silt	0	24	

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JUN 02 2009
Washington State Department of Ecology

Date started 5/27/09 Completed 5/27/09

WELL CONSTRUCTION CERTIFICATION.
I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Type or Print Name Jarrod Thompson License No 2823
Trainee Name License No
Drilling Company Holocene Drilling Inc
(Signed) License No 2823
Address 1021 Todd Rd E Edgewood WA 98372
Registration No HOLOCDI044KH Date 6/1/09

MONITORING WELL REPORT

347742 # 599109

Well ID# Geotech Soil Boring

Start Card # AE05988

(1) OWNER/PROJECT

Name City of Fife WELL NO

Address 3411 23rd St E

City Fife State WA Zip 98424

(2) TYPE OF WORK

☐ New construction ☐ Alteration (Repair/Reconditon)

☐ Conversion ☐ Deepening ☒ Abandonment

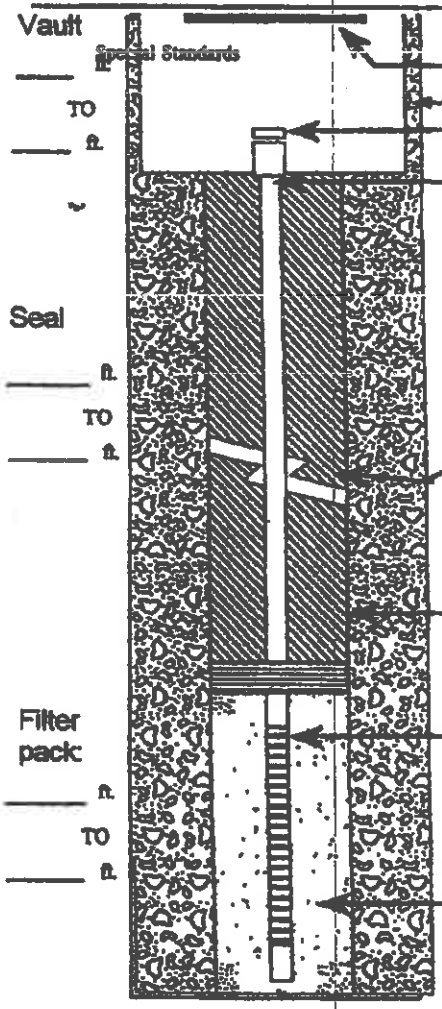
(3) DRILLING METHOD

☐ Rotary Air ☐ Rotary Mud ☐ Cable

☒ Hollow Stem Auger ☐ Other

(4) BORE HOLE CONSTRUCTION:

Special Standards ☐ Yes ☒ No Depth of Completed Well 21.5 ft.



Water-tight cover

Surface finish vault

Locking cap

Casing diameter

Material

Welded ☐ Threaded ☐ Glued ☐

Well Seal:

Material Bentonite

Amount Chips

Grout weight

Borehole diameter:

in. from ft. to ft.

m. from ft. to ft.

Bentonite plug at least 3 ft. thick

Screen

Material

From ft. to

Slot size in.

Filter pack:

Material

Size

(5) WELL TESTS:

☐ Pump ☐ Bailer ☐ Air ☐ Flowing Artesian

Permeability Yield GPM

Conductivity PH

Temperature of water OF/C Depth artesian flow found ft

Was water analysis done? ☐ Yes ☐ No

By whom?

Depth of strata to be analyzed. From ft. to ft

Remarks:

Name Of Supervising Geologist/Engineer Terra Associates

(6) LOCATION OF WELL By *legal description:*

County Pierce Latitude Longitude

Township 20N (N or S) Range 4E (E or W) Section 20

NE 1/4 of NW 1/4 of above section.

Street address of well location North Levee Rd E

Fife WA 98424

Tax lot number of well location Roadway

(7) STATIC WATER LEVEL:

Ft. below land surface. Date

Artesian Pressure lb/sq in. Date

(8) WATER BEARING ZONES:

Depth at which water was first found

From	To	Est. Flow Rate	SWL

(9) WELL LOG:

Ground Elevation

Material	From	To	SWL
Backfilled from Bottom to top with Bentonite Chips	0	21.5	

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AUG 10 2009

Washington State Department of Ecology

Date started 6/22/09 Completed 6/22/09

WELL CONSTRUCTION CERTIFICATION:

I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief

Type or Print Name Jeremey Carlson License No. 2989

Trainee Name License No

Drilling Company Holocene Drilling Inc

(Signed) License No 2989

Address 10621 Todd Rd E Edgewood WA 98372

Registration No HOLOCDI044KH Date 8/7/09

MONITORING WELL REPORT

347741

#599110

Well ID# Geotech Soil Boring

Start Card # AE05988

(1) OWNER/PROJECT

Name City of Fife WELL NO

Address 3411 23rd St E

City Fife State WA Zip 98424

(2) TYPE OF WORK

☐ New construction ☐ Alteration (Repair/Reconditon)

☐ Conversion ☐ Deepening ☒ Abandonment

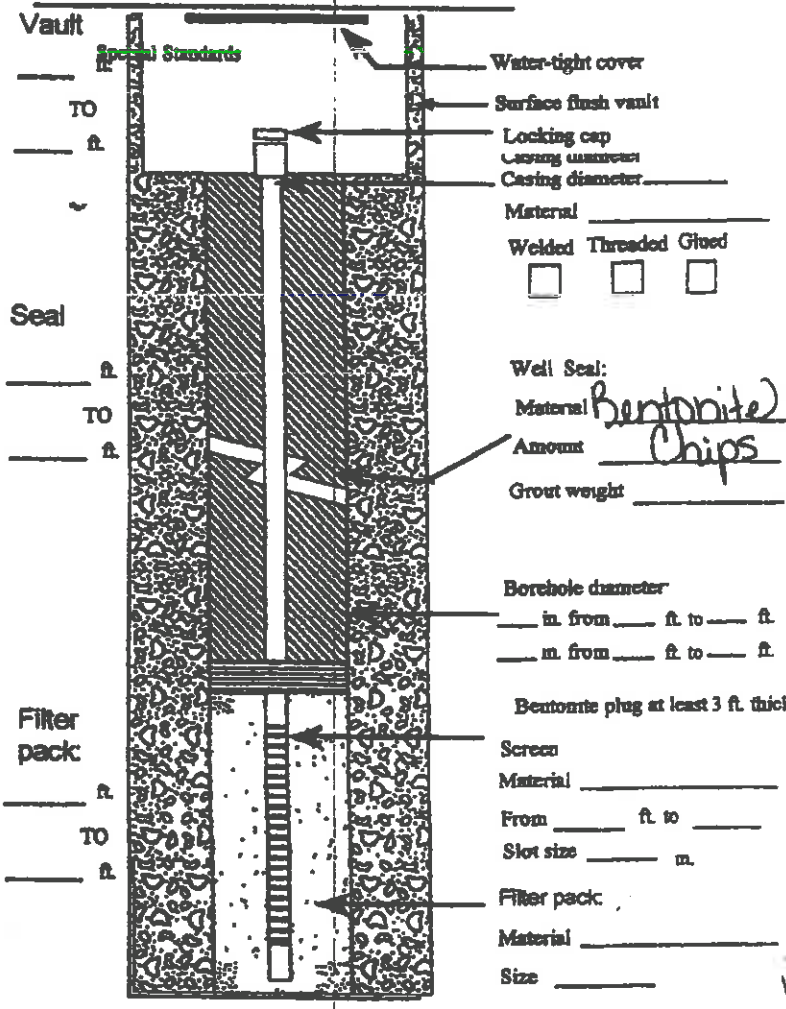
(3) DRILLING METHOD

☐ Rotary Air ☐ Rotary Mud ☐ Cable

☒ Hollow Stem Auger ☐ Other

(4) BORE HOLE CONSTRUCTION:

Special Standards Yes ☐ No ☒ Depth of Completed Well 21.5 ft.



(5) WELL TESTS:

☐ Pump ☐ Bailer ☐ Air ☐ Flowing Artesian

Permeability Yield GPM

Conductivity PH

Temperature of water OF/C-Depth artesian flow found ft

Was water analysis done? ☐ Yes ☐ No

By whom?

Depth of strata to be analyzed. From ft. to ft

Remarks:

Name Of Supervising Geologist/Engineer Terra Associates

(6) LOCATION OF WELL By *legal description:*

County Pierce Latitude Longitude

Township 20N (N or S) Range 4E (E or W) Section 20

NE 1/4 of NW 1/4 of above section

Street address of well location North Levee Rd E Fife WA 98424

Tax lot number of well location Roadway

(7) STATIC WATER LEVEL:

Ft. below land surface. Date

Artesian Pressure lb/sq. in Date

(8) WATER BEARING ZONES:

Depth at which water was first found

From	To	Est. Flow Rate	SWL

(9) WELL LOG

Ground Elevation

Material	From	To	SWL
Backfilled from Bottom to top with Bentonite Chips	0	21.5	

RECEIVED
AUG 10 2009
Washington State Department of Ecology

Date started 6/22/09 Completed 6/22/09

WELL CONSTRUCTION CERTIFICATION:

I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief

Type or Print Name Jeremey Carlson License No 2989

Trainee Name License No

Drilling Company Holocene Drilling Inc

(Signed) License No 2989

Address 10421 Todd Rd E Edgewood WA 98372

Registration No HOLOCDI044KH Date 8/7/09

MONITORING WELL REPORT

347740 #599111

Well ID# Geotech Soil Boring

Start Card # AE05988

(1) OWNER/PROJECT

Name City of Fife WELL NO. _____

Address 3411 23rd St E

City Fife State WA Zip 98424

(2) TYPE OF WORK

☐ New construction ☐ Alteration (Repair/Reconditon)

☐ Conversion ☐ Deepening ☒ Abandonment

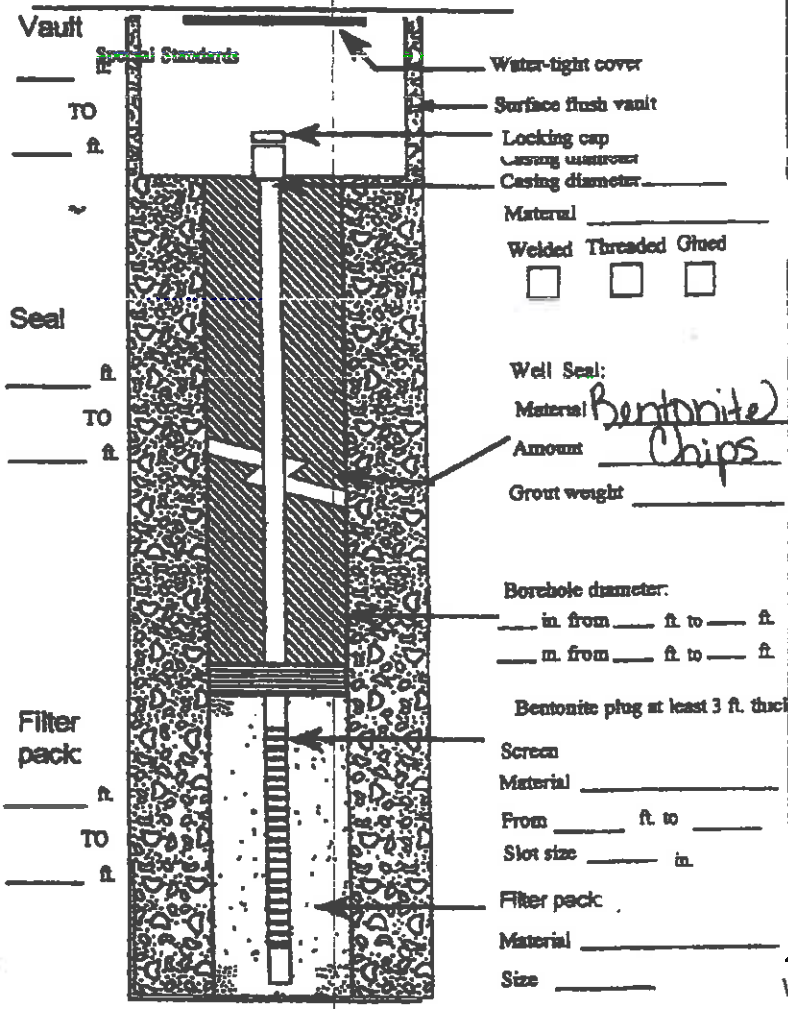
(3) DRILLING METHOD

☐ Rotary Air ☐ Rotary Mud ☐ Cable

☒ Hollow Stem Auger ☐ Other _____

(4) BORE HOLE CONSTRUCTION:

Special Standards Yes ☐ No ☒ Depth of Completed Well 21.5 ft.



(5) WELL TESTS:

☐ Pump ☐ Bailer ☐ Air ☐ Flowing Artesian

Permeability _____ Yield _____ GPM

Conductivity _____ PH _____

Temperature of water _____ OF/C Depth artesian flow found _____ ft

Was water analysis done? ☐ Yes ☐ No

By whom? _____

Depth of strata to be analyzed. From _____ ft. to _____ ft

Remarks: _____

Name Of Supervising Geologist/Engineer Terra Associates

(6) LOCATION OF WELL By *legal description:*

County Pierce Latitude _____ Longitude _____

Township 20N (N or S) Range 4E (E or W) Section 20

NE 1/4 of NW 1/4 of above section.

Street address of well location North Levee Rd E

Fife WA 98424

Tax lot number of well location Roadway

(7) STATIC WATER LEVEL:

_____ Ft. below land surface. Date _____

Artesian Pressure _____ lb/sq in. Date

(8) WATER BEARING ZONES:

Depth at which water was first found _____

From	To	Est. Flow Rate	SWL

(9) WELL LOG:

Ground Elevation _____

Material	From	To	SWL
Backfilled from bottom to top with Bentonite Chips	0	21.5	

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Washington State Department of Ecology

Date started 6/22/09 Completed 6/22/09

WELL CONSTRUCTION CERTIFICATION:

I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief

Type or Print Name Jeremey Carlson License No. 2989

Trainee Name _____ License No _____

Drilling Company Holocene Drilling Inc

(Signed) _____ License No 2989

Address 10621 Todd Rd E Edgewood WA 98372

Registration No. HOLOCDI044KH Date 8/7/09

ONITORING WELL REPORT #599112

347739

Well ID# Geotech Monitoring

Start Card # SEQ4613

) OWNER/PROJECT

me City of Fife WELL NO

dress 3411 23rd St E

y Fife State WA Zip 98424

) TYPE OF WORK

☒ New construction ☐ Alteration (Repair/Reconditron)

☐ Conversion ☐ Deepening ☐ Abandonment

) DRILLING METHOD

☐ Rotary Air ☐ Rotary Mud ☐ Cable

☒ Hollow Stem Auger ☐ Other

(6) LOCATION OF WELL By *legal description:*

County Pierce Latitude Longitude

Township 20N (N or S) Range 4E (E or W) Section 20

NE 1/4 of NW 1/4 of above section.

Street address of well location North Levee Rd E

Fife WA 98424

Tax lot number of well location Roadway

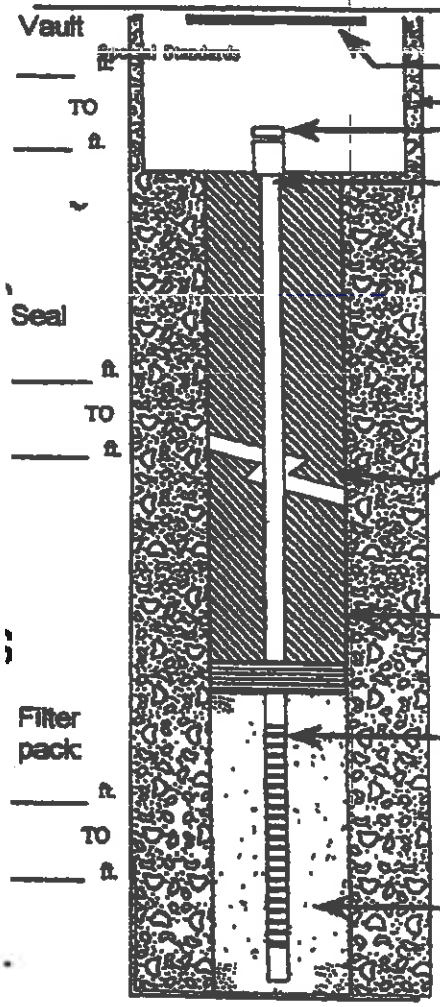
(7) STATIC WATER LEVEL:

Ft. below land surface. Date

Artesian Pressure lb/sq in Date

) BORE HOLE CONSTRUCTION:

ecial Standards Yes ☐ No ☒ Depth of Completed Well 21.5 ft.



Water-tight cover

Surface flush vault

Locking cap

Casing diameter

Material

Welded ☐ Threaded ☐ Glued ☐

Well Seal

Material

Amount

Grout weight

Borehole diameter:

in. from ft. to ft.

in. from ft. to ft.

Bentonite plug at least 3 ft. thick

Screen

Material

From ft. to

Slot size in.

Filter pack:

Material

Size

(8) WATER BEARING ZONES:

Depth at which water was first found

From	To	Est. Flow Rate	SWL

(9) WELL LOG.

Ground Elevation

Material	From	To	SWL
Sands, silts	0	21.5	

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AUG 10 2009

Washington State Department of Ecology

Date started 6/22/09 Completed 6/22/09

) WELL TESTS:

☐ Pump ☐ Baller ☐ Air ☐ Flowing Artesian

Permeability Yield GPM

Conductivity PH

Temperature of water OF/C Depth artesian flow found ft

Was water analysis done? ☐ Yes ☐ No

By whom?

Depth of strata to be analyzed. From ft. to ft

Remarks:

Name Of Supervising Geologist/Engineer Terra Associates

WELL CONSTRUCTION CERTIFICATION.

I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief

Type or Print Name Jeremey Carlson License No 2989

Trainee Name License No

Drilling Company Holocene Drilling Inc

(Signed) License No 2989

Address 10621 Todd Rd E Edgewood WA 98372

Registration No HOLOCDI044KH Date 8/7/09

ONITORING WELL REPORT

347738

#599113

Well ID# Western Sanitation

Start Card # SEQ4613

(1) OWNER/PROJECT

Name City of Fife WELL NO

Address 5411 23rd St E

City Fife State WA Zip 98424

(2) TYPE OF WORK

☒ New construction ☐ Alteration (Repair/Reconditon)

☐ Conversion ☐ Deepening ☐ Abandonment

(3) DRILLING METHOD

☐ Rotary Air ☐ Rotary Mud ☐ Cable

☒ Hollow Stem Auger ☐ Other

(4) BORE HOLE CONSTRUCTION:

Special Standards ☐ Yes ☒ No Depth of Completed Well 21.5 ft.

Vault

Water-tight cover

Surface flush vault

Locking cap

Casing diameter

Material

Welded ☐ Threaded ☐ Glued ☐

TO ft.

Seal

ft.

TO ft.

Well Seal

Material

Amount

Grout weight

Borehole diameter:

in. from ft. to ft.

in. from ft. to ft.

Bentonite plug at least 3 ft. thick

Filter pack:

ft.

TO ft.

Screen

Material

From ft. to

Slot size in.

Filter pack

Material

Size

(5) WELL TESTS:

☐ Pump ☐ Bailer ☐ Air ☐ Flowing Artesian

Permeability Yield GPM

Conductivity PH

Temperature of water OF/C Depth artesian flow found ft

Was water analysis done? ☐ Yes ☐ No

By whom?

Depth of strata to be analyzed. From ft. to ft

Remarks:

Name Of Supervising Geologist/Engineer Terra Associates

(6) LOCATION OF WELL By *legal description:*

County Pierce Latitude Longitude

Township 20N (N or S) Range 4E (E or W) Section 20

NE 1/4 of NW 1/4 of above section.

Street address of well location North Levee Rd E

Fife WA 98424

Tax lot number of well location Roadway

(7) STATIC WATER LEVEL:

Ft. below land surface. Date

Artesian Pressure lb/sq in. Date

(8) WATER BEARING ZONES:

Depth at which water was first found

From	To	Est. Flow Rate	SWL

(9) WELL LOG

Ground Elevation

Material	From	To	SWL
Sands, silts	0	21.5	

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AUG 10 2009

Washington State Department of Ecology

Date started 6/22/09 Completed 6/22/09

WELL CONSTRUCTION CERTIFICATION:

I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief

Type or Print Name Jeremey Carlson License No. 2989

Trainee Name License No

Drilling Company Holocene Drilling Inc

(Signed) License No 2989

Address 10121 Todd Rd E Edgewood WA 98372

Registration No HOLOCDI044KH Date 8/7/09

ONITORING WELL REPORT #599114

347737

Well ID# Clintech Landfarming

Start Card # SEQ4613

) OWNER/PROJECT

WELL NO

me City of Fife

dress 3411 23rd St E

y Fife State WA Zip 98424

(6) LOCATION OF WELL By *legal description:*

County Pierce Latitude Longitude

Township 20N (N or S) Range 4E (E or W) Section 20

NE 1/4 of NW 1/4 of above section.

Street address of well location North Levee Rd E Fife WA 98424

Tax lot number of well location Roadway

:) TYPE OF WORK

☒ New construction ☐ Alteration (Repair/Reconditon)

☐ Conversion ☐ Deepening ☐ Abandonment

) DRILLING METHOD

☐ Rotary Air ☐ Rotary Mud ☐ Cable

☒ Hollow Stem Auger ☐ Other

(7) STATIC WATER LEVEL:

Ft. below land surface. Date

Artesian Pressure lb/sq in. Date

) BORE HOLE CONSTRUCTION:

pecial Standards Yes ☐ No ☒ Depth of Completed Well 21.5 ft.

(8) WATER BEARING ZONES:

Depth at which water was first found

From	To	Est. Flow Rate	SWL

Vault

Special Standards

TO ft.

Water-tight cover

Surface flush vault

Locking cap

Casing diameter

Material

Welded ☐ Threaded ☐ Glued ☐

Seal

ft.

TO ft.

Well Seal:

Material

Amount

Grout weight

Borehole diameter:

in. from ft. to ft.

in. from ft. to ft.

Bentonite plug at least 3 ft. thick

Filter pack

ft.

TO ft.

Screen

Material

From ft. to

Slot size in.

Filter pack:

Material

Size

(9) WELL LOG.

Ground Elevation

Material	From	To	SWL
Sands, silts	0	21.5	

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AUG 10 2009

Washington State Department of Ecology

Date started 6/22/09 Completed 6/22/09

5) WELL TESTS:

☐ Pump ☐ Bailer ☐ Air ☐ Flowing Artesian

Permeability Yield GPM

Conductivity PH

Temperature of water OF/C Depth artesian flow found ft

Was water analysis done? ☐ Yes ☐ No

By whom?

Depth of strata to be analyzed. From ft. to ft

Remarks:

Name Of Supervising Geologist/Engineer Terra Associates

WELL CONSTRUCTION CERTIFICATION:

I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief

Type or Print Name Jeremey Carlson License No. 2989

Trainee Name License No

Drilling Company Holocene Drilling Inc

(Signed) License No 2989

Address 10421 Todd Rd E Edgewood WA 98372

Registration No HOLOCDI044KH Date 8/7/09

ONITORING WELL REPORT

3778413

#658137

Well ID# BBK582

Start Card # RE03401

OWNER/PROJECT WELL NO.

Name City of Fife

Address 5411 23rd St E

Fife State WA Zip 98424

TYPE OF WORK

☒ New construction ☐ Alteration (Repair/Recondition)

☐ Conversion ☐ Deepening ☐ Abandonment

DRILLING METHOD

☐ Rotary Air ☐ Rotary Mud ☐ Cable

☒ Hollow Stem Auger ☐ Other

BORE HOLE CONSTRUCTION:

Special Standards ☐ Yes ☒ No Depth of Completed Well 20 ft.

Vault 0

Special Standards

1 TO ft.

Seal 1 ft.

9 TO ft.

Filter pack 9 ft.

20 TO ft.

Water-tight cover

Surface flush vault

Locking cap

Casing diameter 2 in.

Material PVC

Welded ☐ Threaded ☒ Glued ☐

Well Seal:

Material Bentonite Chips

Amount

Grout weight

Borehole diameter:

10 in. from ft. to BOH ft.

in. from ft. to ft.

Bentonite plug at least 3 ft. thick

Screen:

Material PVC 2"

From ft. to

Slot size 10 in.

Filter pack:

Material Colorado sand

Size 10/20

(6) LOCATION OF WELL By *legal description:*

County Pierce Latitude Longitude

Township 20N (N or S) Range 4E (E or W) Section 20

NE 1/4 of NW 1/4 of above section.

Street address of well location North Levee Rd E

Fife WA 98424

Tax lot number of well location Roadway

(7) STATIC WATER LEVEL:

Ft. below land surface. Date

Artesian Pressure lb/sq. in. Date

(8) WATER BEARING ZONES:

Depth at which water was first found

From	To	Est. Flow Rate	SWL

(9) WELL LOG:

Ground Elevation

Material	From	To	SWL
Sandy Silts	0	20	

Date started 6/22/09 Completed 6/22/09

RECEIVED JUL 16 2009 DEPARTMENT OF ECOLOGY SW REGIONAL OFFICE

WELL CONSTRUCTION CERTIFICATION:

I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Type or Print Name Jeremey Carlson License No. 2989

Trainee Name License No.

Drilling Company Holocene Drilling Inc

(Signed) License No. 2989

Address 10621 Todd Rd E Edgewood WA 98372

Registration No. HOLOCDI044KH Date 8/7/09

WELL TESTS:

☐ Pump ☐ Bailer ☐ Air ☐ Flowing Artesian

Permeability Yield GPM

Conductivity PH

Temperature of water OF/C Depth artesian flow found ft.

Was water analysis done? ☐ Yes ☐ No

By whom?

Depth of strata to be analyzed. From ft. to ft.

Remarks:

Name Of Supervising Geologist/Engineer Terra Associates

#887269

500081

Please print, sign and return to the Department of Ecology

RESOURCE PROTECTION WELL REPORT

CURRENT Notice of Intent No. SE49023

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

Construction/Decommission *("x" in box)*

☒ Construction

☐ Decommission

ORIGINAL INSTALLATION Notice of Intent Number: ______

Consulting Firm ______

Unique Ecology Well IDTag No. ______

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

☒ Driller ☐ Engineer ☐ Trainee

Name (Print Last, First Name) Fadich, Nick

Driller/Engineer /Trainee Signature Nick Fadich

Driller or Trainee License No. 1529

If trainee, licensed driller's Signature and License Number: ______

Type of Well *("x" in box)*

☐ Resource Protection

☒ Geotech Soil Boring

Property Owner Murrey Disposal Co

Site Address 4617 70th ave E

City Fife County Pierce

Location SW 1/4-1/4 SW 1/4 Sec 17 Twn 20 R 4

EWM ☑ or WWM ☐

Lat/Long (s, t, r still REQUIRED) Lat Deg ___ Min ___ Sec ___

Long Deg ___ Min ___ Sec ___

Tax Parcel No. ______

Cased or Uncased Diameter 6" Static Level ______

Work/Decommission Start Date 10/11/13

Work/Decommission Completed Date 10/11/13

Construction Design	Well Data	Formation Description
 15 ft	0 ft to 15 ft bentonite chips	0 ft to 5 ft medium dense black gravelly sand 5 ft to 15 ft medium dense black wet sand + gravel ___ ft to ___ ft ___ ft to ___ ft

SCALE: 1"= NTS PAGE 1 OF 2

#887271

500082

Please print, sign and return to the Department of Ecology

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT Notice of Intent No. SE49623

Construction/Decommission *("x" in box)*
☒ Construction
☐ Decommission

ORIGINAL INSTALLATION Notice of Intent Number:

Consulting Firm

Unique Ecology Well IDTag No.

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

☒ Driller ☐ Engineer ☐ Trainee
Name (Print Last, First Name) Fadich, Nick
Driller/Engineer /Trainee Signature [signature]
Driller or Trainee License No. 1529

If trainee, licensed driller's Signature and License Number:

Type of Well *("x in box)*
☐ Resource Protection
☒ Geotech Soil Boring

Property Owner Murrey Disposal Co
Site Address 4617 70th ave E
City Fife County Pierce
Location SW 1/4-1/4 SW 1/4 Sec 17 Twn 20 R 4
EWM ☑ or WWM ☐
Lat/Long (s, t, r still REQUIRED) Lat Deg ___ Min ___ Sec ___
Long Deg ___ Min ___ Sec ___
Tax Parcel No.
Cased or Uncased Diameter 6" Static Level
Work/Decommission Start Date 10/11/13
Work/Decommission Completed Date 10/11/13

Construction Design	Well Data	Formation Description
15 ft	0 ft to 15 ft bentonite chips	0 ft to 5 ft medium dense black gravelly sand 5 ft to 15 ft medium dense black wet sand + gravel ___ ft to ___ ft ___ ft to ___ ft

SCALE: 1"= NTS PAGE 2 OF 2

#887285

500090

Please print, sign and return to the Department of Ecology

RESOURCE PROTECTION WELL REPORT

CURRENT Notice of Intent No. AE 24120

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

Construction/Decommission *("x" in box)*

☐ Construction

☒ Decommission

ORIGINAL INSTALLATION Notice of Intent Number: SE 49623

Type of Well *("x in box)*

☐ Resource Protection

☒ Geotech Soil Boring

Department of Ecology

DEC 20 2013

Water Resources Progra

Consulting Firm _____

Unique Ecology Well IDTag No. _____

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

☒ Driller ☐ Engineer ☐ Trainee

Name (Print Last, First Name) Fadich, Nick

Driller/Engineer /Trainee Signature Nick Fadich

Driller or Trainee License No. 1529

If trainee, licensed driller's Signature and License Number:

Property Owner Murrey Disposal Co

Site Address 4617 70th Ave E

City Fife County Pierce

Location SW 1/4-1/4 SW 1/4 Sec 17 Twn 20 R 4

EWM ☑ or WWM ☐

Lat/Long (s, t, r still REQUIRED) Lat Deg _____ Min _____ Sec _____

Long Deg _____ Min _____ Sec _____

Tax Parcel No. _____

Cased or Uncased Diameter 6" Static Level _____

Work/Decommission Start Date 10/11/13

Work/Decommission Completed Date 10/11/13

Construction Design	Well Data	Formation Description
15 ft	0 ft to 15 ft Bentonite chips	0 ft to 5 ft medium dense black gravelly sand 5 ft to 15 ft medium dense black wet sand & gravel _____ ft to _____ ft _____ ft to _____ ft

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WA State Department of Ecology (SWRO)

SCALE: 1"= NTS PAGE 1 OF 2

ECY 050-12 (Rev. 7/06)

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5020091

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RESOURCE PROTECTION WELL REPORT

CURRENT Notice of Intent No. AE24120

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

Department of Ecology
DEC 20 2013
Water Resources Program

Construction/Decommission *("x" in box)*
☐ Construction
☒ Decommission

ORIGINAL INSTALLATION Notice of Intent Number: SE 49623

Consulting Firm ______

Unique Ecology Well IDTag No. ______

Type of Well *("x in box)*
☐ Resource Protection
☒ Geotech Soil Boring

Property Owner Murrey Disposal Co

Site Address 4617 70th ave E

City Fife County Pierce

Location SW 1/4-1/4 SW 1/4 Sec 17 Twn 20 R 4

EWM ☑ or WWM ☐

Lat/Long (s, t, r still REQUIRED) Lat Deg ____ Min ____ Sec ____
Long Deg ____ Min ____ Sec ____

Tax Parcel No. ______

Cased or Uncased Diameter 6" Static Level ______

Work/Decommission Start Date 10/11/13

Work/Decommission Completed Date 10/11/13

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

☒ Driller ☐ Engineer ☐ Trainee

Name (Print Last, First Name) Fadich, Nick

Driller/Engineer /Trainee Signature Nick Fadich

Driller or Trainee License No. 1529

If trainee, licensed driller's Signature and License Number: ______

Construction Design	Well Data	Formation Description
 15 ft	0 ft to 15 ft ▩ bentonite chips	0 ft to 5 ft medium dense black gravelly sand 5 ft to 15 ft medium dense black wet sand & gravel ____ ft to ____ ft ____ ft to ____ ft

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WA State Department of Ecology (SWRO)

SCALE: 1"= NTS PAGE 2 OF 2

#890776

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RESOURCE PROTECTION WELL REPORT

CURRENT Notice of Intent No. RE09128

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

Construction/Decommission *("x" in box)*

☒ Construction
☐ Decommission

ORIGINAL INSTALLATION Notice of Intent Number:

Consulting Firm

Unique Ecology Well IDTag No. BCB 007

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

☒ Driller ☐ Engineer ☐ Trainee

Name (Print Last, First Name) Fadich, Nick

Driller/Engineer /Trainee Signature

Driller or Trainee License No. 2862

If trainee, licensed driller's Signature and License Number:

Type of Well *("x in box)*

☒ Resource Protection
☐ Geotech Soil Boring

Department of Ecology
DEC 20 2013
Water Resources Program

Property Owner Murrey Disposal

Site Address 4617 70th ave E

City Fife County Pierce

Location SW 1/4-1/4 SW 1/4 Sec 17 Twn 20 R 4

EWM ☒ or WWM ☐

Lat/Long (s, t, r still REQUIRED) Lat Deg ____ Min ____ Sec ____

Long Deg ____ Min ____ Sec ____

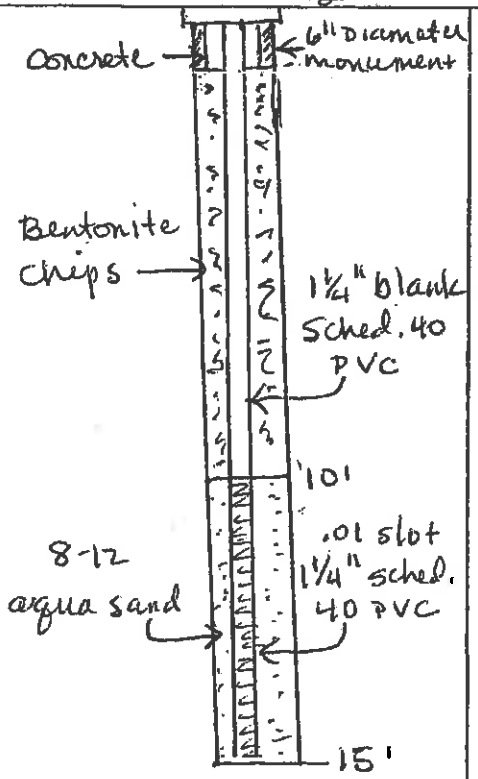
Tax Parcel No.

Cased or Uncased Diameter 6" Static Level 5.1'

Work/Decommission Start Date 10/11/13

Work/Decommission Completed Date 10/11/13

Construction Design



Well Data

0'-1' concrete

1'-10' bentonite chips

10'-15' 8-12 aqua sand

Formation Description

0 ft to 5 ft
medium dense black gravelly sand

5 ft to 15 ft
medium dense black wet sand & gravel

____ ft to ____ ft

____ ft to ____ ft

____ ft to ____ ft

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SCALE: 1"=NTS PAGE 1 OF 1

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928611

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RESOURCE PROTECTION WELL REPORT

CURRENT Notice of Intent No. AE 279 29

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

Construction/Decommission *("x" in box)*

☐ Construction

☒ Decommission

ORIGINAL INSTALLATION Notice of Intent Number: RE03427

Type of Well *("x in box)*

☐ Resource Protection

☒ Geotech Soil Boring

Property Owner DCT Industrial Trust

Site Address 7218 - 45th ct. E

Consulting Firm _____

City Fife County Pierce - 27

Unique Ecology Well IDTag No. BBK595

Location SW 1/4-1/4 SW 1/4 Sec 17 Twn 20N R 4E

EWM ☑ or WWM ☐

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Lat/Long (s, t, r still REQUIRED) Lat Deg _____ Min _____ Sec _____

Long Deg _____ Min _____ Sec _____

Tax Parcel No. _____

☒ Driller ☐ Engineer ☐ Trainee

Name (Print Last, First Name) BAUER, Carl

Driller/Engineer /Trainee Signature Carl Bauer

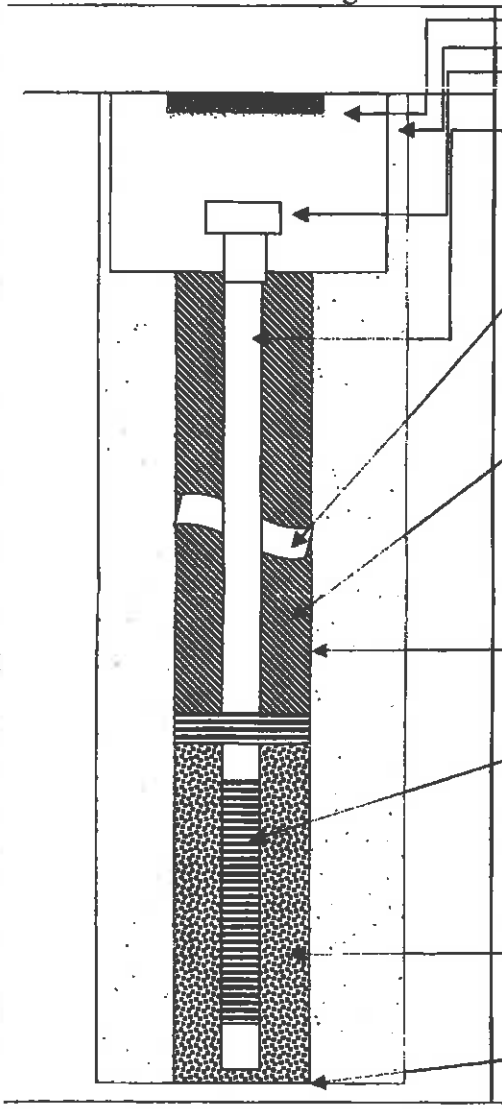
Driller or Trainee License No. 2883

Cased or Uncased Diameter 2" Static Level Ø

Work/Decommission Start Date 7/25/2014

Work/Decommission Completed Date 8/6/2014

If trainee, licensed driller's Signature and License Number:

Construction Design	Well Data	Formation Description
	Water-tight cover Surface flush vault Locking Cap/Lock Casing Diameter 2 in. Material PVC Welded __ Threaded X Glued __ Well Seal From 1 ft. To 8 ft. Material Bentonite Amount _____ Grout Weight _____ Drilling Method _____ Hollow –Stem Auger _____ Air Rotary _____ Mud Rotary _____ Push Probe _____ Other Borehole Diameter 10 in. Screen Material 2" PVC Interval(s): From _____ To _____ From _____ To _____ Slot Size 10 in. Filter Pack: From 8 To 19 Material: Colorado Sand Size: 10/20 Completed Depth: 19	Backfilled from bottom to top with Bentonite chip 0/19

SCALE: 1"= _____ PAGE _____ OF _____

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#928629

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RESOURCE PROTECTION WELL REPORT

CURRENT Notice of Intent No. AE 27929

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

Construction/Decommission *("x" in box)*

☐ Construction

☒ Decommission

ORIGINAL INSTALLATION Notice of Intent Number: REO 3427

Type of Well *("x in box)*

☐ Resource Protection

☒ Geotech Soil Boring

Property Owner DCT Industrial Trust

Site Address 70th AVE E & 45 St. Ct E.

City Fife County Pierce -27

Location SW 1/4-1/4 SW 1/4 Sec 17 Twn 20N R 4E

EWM ☒ or WWM ☐

Lat/Long (s, t, r still REQUIRED) Lat Deg ____ Min ____ Sec ____

Long Deg ____ Min ____ Sec ____

Tax Parcel No. ____

Consulting Firm ____

Unique Ecology Well IDTag No. BBK590

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

☒ Driller ☐ Engineer ☐ Trainee

Name (Print Last, First Name) BAUER, Carl

Driller/Engineer /Trainee Signature Carl Bauer

Driller or Trainee License No. 2883

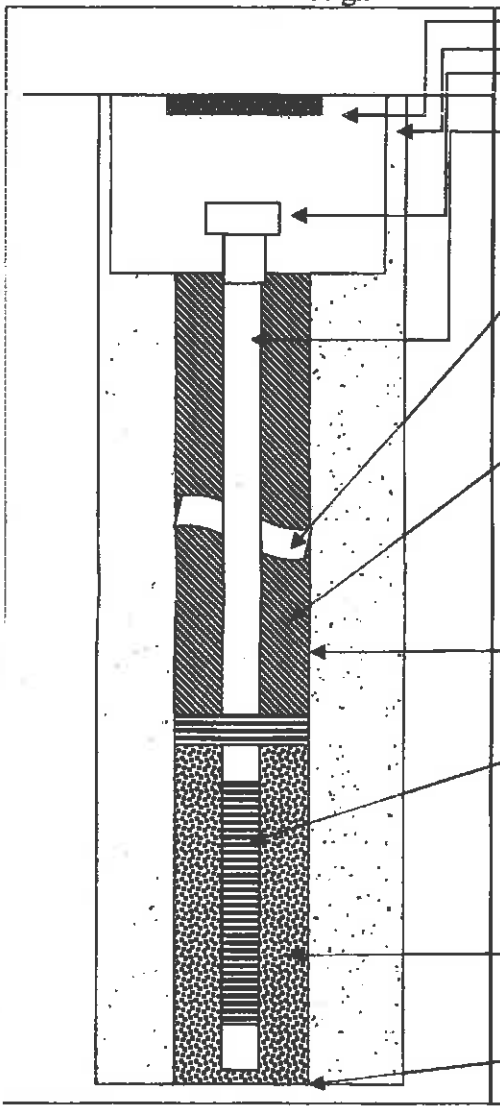
If trainee, licensed driller's Signature and License Number:

Cased or Uncased Diameter 2" Static Level Ø

Work/Decommission Start Date 7/25/2014

Work/Decommission Completed Date 8/6/2014

Construction Design



Well Data

- Water-tight cover
- Surface flush vault
- Locking Cap/Lock
- Casing Diameter 2 in.
- Material PVC
- Welded __ Threaded X Glued __
- Well Seal From 1 ft. To 8 ft.
- Material Bentonite chip
- Amount ____
- Grout Weight ____
- Drilling Method
  - ____ Hollow –Stem Auger
  - ____ Air Rotary
  - ____ Mud Rotary
  - ____ Push Probe
  - ____ Other
- Borehole Diameter 10 in.
- Screen
- Material 2" PVC
- Interval(s):
  - From ____ To ____
  - From ____ To ____
- Slot Size 10 in.
- Filter Pack:
  - From 8 To 19
  - Material: Colorado Sand
  - Size: 10/20
- Completed Depth: 19

Formation Description

Backfilled from bottom to Top with Bentonite chip

0/19

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WA State Department of Ecology

SCALE: 1"= ____ PAGE ____ OF ____

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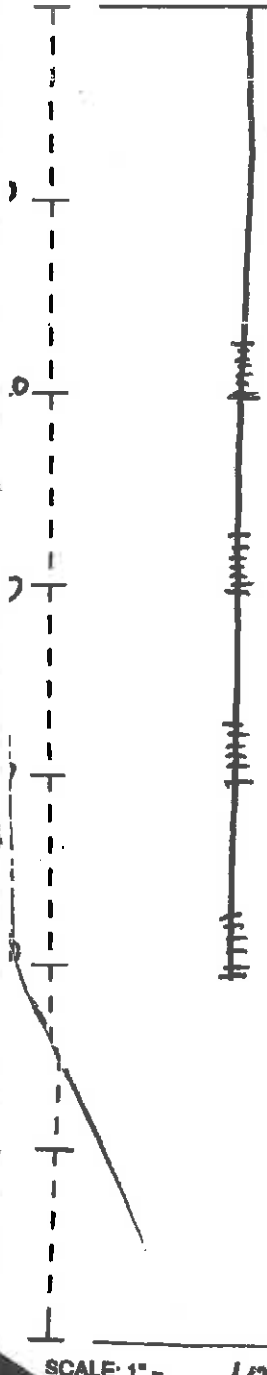
#1557247

RESOURCE PROTECTION WELL REPORT

START CARD NO. R46142

PROJECT NAME: IHS - Fife
WELL IDENTIFICATION NO. B-1
DRILLING METHOD: Direct Push
DRILLER: Eric Nassach
FIRM: T.E.G. NW
SIGNATURE: [signature]
CONSULTING FIRM: Indian Health Services
REPRESENTATIVE: Ken Espin

COUNTY: Pierce A51625
LOCATION: SW¼ SW¼ Sec 17 Twn 20N R 4E
STREET ADDRESS OF WELL: 8105 48th St E Fife
WATER LEVEL ELEVATION: 17' BGS
GROUND SURFACE ELEVATION: Not Surveyed
INSTALLED: 8/29/00
DEVELOPED: 8/29/00

AS-BUILT	WELL DATA	FORMATION DESCRIPTION
	Water was sampled through a retractable stainless steel screen set at 20', 30', 40', & 50' BGS the screen was removed, decontaminated and redriven to the next depth. Well was removed and backfilled w/bentonite.	Not Observed

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OCT 12 2000
DEPARTMENT OF ECOLOGY
WELL DRILLING UNIT

SCALE: 1" = 10'

PAGE 1 OF 2

050-12 (Rev. 11/89)

#1557249

RESOURCE PROTECTION WELL REPORT

START CARD NO. R46142
A51625

PROJECT NAME: IHS - Fife
WELL IDENTIFICATION NO. B-2
DRILLING METHOD: Direct Push
DRILLER: Eric Nassen
FIRM: T.E.G. NW
SIGNATURE: Eric Nassen
CONSULTING FIRM: Indian Health Services
REPRESENTATIVE: Ken Espin

COUNTY: Pierce
LOCATION: SW¼ SW¼ Sec 17 Twn 20N R 4E
STREET ADDRESS OF WELL: 8105 48th St E
Fife
WATER LEVEL ELEVATION: 17' BGS
GROUND SURFACE ELEVATION: Not Surveyed
INSTALLED: ~~8/29/00~~ 9/5/00 Esp
DEVELOPED: ~~8/29/00~~ 9/5/00

AS-BUILT	WELL DATA	FORMATION DESCRIPTION
	Water was sampled through a retractable stainless steel screen set at 20', 30', 40', & 50' BGS the screen was removed, decontaminated and redriven to the next depth. Well was removed and backfilled w/bentonite.	Not observed

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DEPARTMENT OF ECOLOGY
WELL DRILLING UNIT

SCALE: 1" = 10'

PAGE 2 OF 2

ECY 050-12 (Rev. 11/89)

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#1595809

WATER WELL REPORT

Original & 1st copy – Ecology, 2nd copy – owner, 3rd copy – driller

Construction/Decommission *("x" in circle)*

☒ Construction

☐ Decommission *ORIGINAL INSTALLATION Notice of Intent Number* _____

CURRENT

Notice of Intent No. W353247

Unique Ecology Well ID Tag No. BAF-108

Water Right Permit No. _____

Property Owner Name Puyallup Tribe of Indians

Well Street Address 7801 48th St. E.

City Fife **County** Pierce

Location SE 1/4-1/4 SW 1/4 Sec 17 Twn 20 R 04 EWM or WWM ☑ circle one

Lat/Long (s, t, r Still REQUIRED) Lat Deg _____ Lat Min/Sec _____ Long Deg _____ Long Min/Sec _____

Tax Parcel No. 0420178007

PROPOSED USE: ☑ Domestic ☐ Industrial ☐ Municipal ☐ DeWater ☐ Irrigation ☐ Test Well ☐ Other _____

TYPE OF WORK: Owner's number of well (if more than one) _____

☑ New well ☐ Reconditioned ☐ Deepened *Method:* ☐ Dug ☐ Bored ☐ Driven ☐ Cable ☑ Rotary ☐ Jetted

DIMENSIONS: Diameter of well 6" inches, drilled 120' ft.

Depth of completed well 117' BLS ft.

CONSTRUCTION DETAILS

Casing Installed: ☑ Welded 6" Diam. from +1.5 ft to 107' ft.

☐ Liner installed _____" Diam. from _____ ft. to _____ ft.

☐ Threaded _____" Diam. from _____ ft. to _____ ft.

Perforations: ☐ Yes ☑ No

Type of perforator used _____

SIZE of perfs _____ in. by _____ in. and no. of perfs _____ from _____ ft. to _____ ft.

Screens: ☑ Yes ☐ No ☑ K-Pac Location 106'

Manufacturer's Name Johnson

Type S.S. V-wire Model No. SS304

Diam. 6" tele Slot size 12 from 117' ft. to 107' ft.

Diam. _____ Slot size _____ from _____ ft. to _____ ft.

Gravel/Filter packed: ☐ Yes ☑ No ☐ Size of gravel/sand _____

Materials placed from _____ ft. to _____ ft.

Surface Seal: ☑ Yes ☐ No To what depth? 18' ft.

Material used in seal 3/8" bentonite chips

Did any strata contain unusable water? ☐ Yes ☑ No

Type of water? _____ Depth of strata _____

Method of sealing strata off _____

PUMP: Manufacturer's Name Grundfos

Type: 10GPM S.S. Sub H.P. 3/4 HP

WATER LEVELS: Land-surface elevation above mean sea level _____ ft.

Static level 8' ft. below top of well Date 10/12/16

Artesian pressure _____ lbs. per square inch Date _____

Artesian water is controlled by _____ (cap, valve, etc.)

WELL TESTS: Drawdown is amount water level is lowered below static level

Was a pump test made? ☑ Yes ☐ No If yes, by whom? Bison

Yield: 15 gal./min. with 23' ft. drawdown after 1.0 hrs.

Yield: _____ gal./min. with _____ ft. drawdown after _____ hrs.

Yield: _____ gal./min. with _____ ft. drawdown after _____ hrs.

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

Time	Water Level	Time	Water Level	Time	Water Level

Date of test _____

Bailer test 10 gal./min. with 20' ft. drawdown after 1.0 hrs.

Airtest _____ gal./min. with stem set at _____ ft. for _____ hrs.

Artesian flow _____ g.p.m. Date _____

Temperature of water _____ Was a chemical analysis made? ☑ Yes ☐ No

CONSTRUCTION OR DECOMMISSION PROCEDURE

Formation: Describe by color, character, size of material and structure, and the kind and nature of the material in each stratum penetrated, with at least one entry for each change of information. (USE ADDITIONAL SHEETS IF NECESSARY.)

MATERIAL	FROM	TO
brown silty sand	0	9
grey silt	9	14
grey clay	14	32
grey silty sand	32	41
grey silt	41	87
grey sand	87	93
grey silty sand w/wood & brown silt lenses	93	107
layered water bearing grey sand w/grey silt lenses	107	117
grey silt	117	120

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OCT 31 2016

WA State Department of Ecology (SWRO)

Start Date 10/06/2016 Completed Date 10/11/2016

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

☑ Driller ☐ Engineer ☐ Trainee Name (Print) Driller - Darrell Feavel

Driller/Engineer/Trainee Signature _____

Driller or trainee License No. 2398

IF TRAINEE,

Driller's Licensed No. _____

Driller's Signature _____

Drilling Company Bison Well Drilling & Septic, LLC

Address PO Box 5142

City, State, Zip Spanaway, WA 98387

Contractor's Registration No. BISONWD945R9 Date 10/26/2016

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ECY 050-1-20 (Rev 3/05) **The Department of Ecology does NOT warranty the Data and/or Information on this Well Report.**

THE DEPARTMENT OF ECOLOGY DOES NOT WARRANTY THE DATA AND/OR INFORMATION ON THIS WELL REPORT

MONITORING WELL REPORT

#1600728

Well ID# BJV 851
Start Card # RE 13630

) OWNER/PROJECT WELL NO. _____
ame: Murreys Disposal Co Inc
ddress 4617 70th Ave E
ty Fife State WA Zip 98424

(6) LOCATION OF WELL By *legal description:*
County Pierce Latitude _____ Longitude _____
Township 20N (N or S) Range 4E (E or W) Section 17
SW 1/4 of SW 1/4 of above section.
Street address of well location 4617 70th Ave E Fife
Tax lot number of well location _____

2) TYPE OF WORK
☒ New construction ☐ Alteration (Repair/Recondition)
☐ Conversion ☐ Deepening ☐ Abandonment

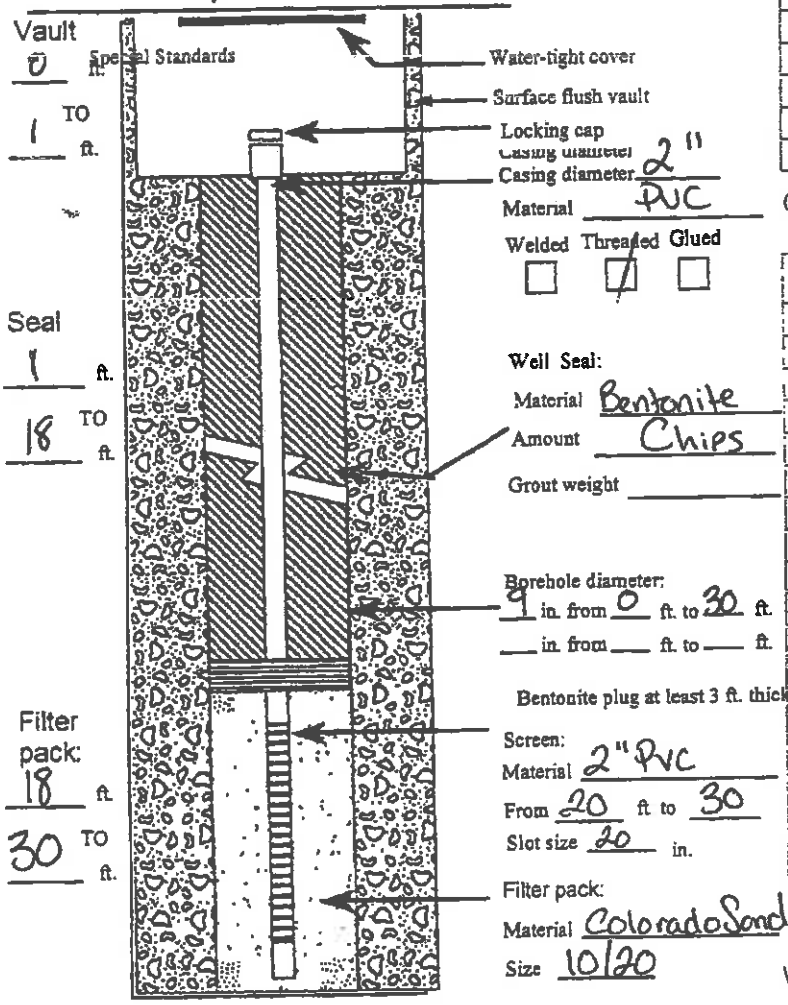
3) DRILLING METHOD
☐ Rotary Air ☐ Rotary Mud ☐ Cable
☒ Hollow Stein Auger ☐ Other _____

(7) STATIC WATER LEVEL:
_____ Ft. below land surface. Date _____
Artesian Pressure _____ lb/sq. in. Date _____

4) BORE HOLE CONSTRUCTION:
pecial Standards Yes ☐ No ☒ Depth of Completed Well 30 ft.

(8) WATER BEARING ZONES:
Depth at which water was first found _____

From	To	Est. Flow Rate	SWL



(9) WELL LOG:
Ground Elevation _____

Material	From	To	SWL
Sands	0	30	

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WA State Department of Ecology (SWRO)

Date started 11/29/16 Completed 11/29/16

(5) WELL TESTS:
☐ Pump ☐ Bailer ☐ Air ☐ Flowing Artesian
Permeability _____ Yield _____ GPM
Conductivity _____ PH _____
Temperature of water _____ Of/C Depth artesian flow found _____ ft.
Was water analysis done? ☐ Yes ☐ No
By whom? _____
Depth of strata to be analyzed. From _____ ft. to _____ ft.
Remarks: _____
Name Of Supervising Geologist/Engineer GeoEngineers

WELL CONSTRUCTION CERTIFICATION:
I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Type or Print Name Rudy Ortega License No. 3208T
Trainee Name _____ License No. _____
Drilling Company Holocene Drilling Inc
(Signed) _____ License No. 1850
Address 11412 - 22nd Ave E Puyallup WA 98373
Registration No. HOLOCDI044KH Date 12/16/16

THE DEPARTMENT OF ECOLOGY DOES NOT WARRANTY THE DATA AND/OR INTERPRETATION ON THIS WELL REPORT

#1996333

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT

Notice of Intent No. SE 75864
AE 63546

Construction/Decommission B-26-20

Type of Well

[X] Construction

[ ] Resource Protection

[ ] Decommission *ORIGINAL INSTALLATION Notice of Intent Number*

[X] Geotechnical Soil Boring

Property Owner City of Fife

Site Address 7400 20th St E

Consulting Firm Shannon Wilson

City Fife County Pierce

Unique Ecology Well ID

Tag No. B-26-20

Location 1/4 NE 1/4 NW Sec 20 Twn 20 R 4 (E/W) or WWM

Lat/Long (s,t,r still Required) Lat Deg ____ Lat Min/Sec ____ Long Deg ____ Long Min/Sec ____

Tax Parcel No. ____

WELL CONSTRUCTION CERTIFICATION: I constructed and or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

[X] Driller [ ] Trainee Name (Print) Mike McCarty

Driller/Trainee Signature

Driller/Trainee License No. 3186

Cased or Uncased Diameter 5 Static Level ____

Work Decommision Start Date 5/12/20

If trainee, licesned drillers' Signature and License No. ____

Work Decommision Completed Date 5/12/20

Construction/Design	Well Data	Formation Description
CONCRETE SURFACE SEAL	2 FT	0 - 5 FT Sandy Gravel
BACKFILL	16 FT Peak Chips	05 - 10 FT Sandy Silt
		010 - 20 FT Silty Sand
DEPTH OF BORING	20 FT	

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Scale 1" = ____ Page ____ of ____

ECY 050-12 (Rev. 2/01)

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#1996336

Please print, sign and return by mail to Department of Ecology

RESOURCE PROTECTION WELL REPORT

CURRENT Notice of Intent No. RE19356

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

Construction/Decommission *(select one)* B-28-20

☒ Construction

☐ Decommission *ORIGINAL INSTALLATION Notice of Intent Number* _____

Consulting Firm Shannon Wilson

Unique Ecology Well ID Tag No. BIAP 168

Type of Well *(select one)*

☐ Resource Protection

☐ Geotech Soil Boring

Property Owner City of Fife

Site Address 7400 48th St E

City Fife County Pierce

Location NE 1/4-1/4 NW/4 Sec 20 Twn 20 R 4 ☒ SWM ☐ WWM

Lat/Long (s, t, r still REQUIRED) Lat Deg _____ Lat Min/Sec _____ Long Deg _____ Long Min/Sec _____

Tax Parcel No. _____

Cased or Uncased Diameter 5 Static Level _____

Work/Decommission Start Date 5/12/20

Work/Decommission Completed Date 5/12/20

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

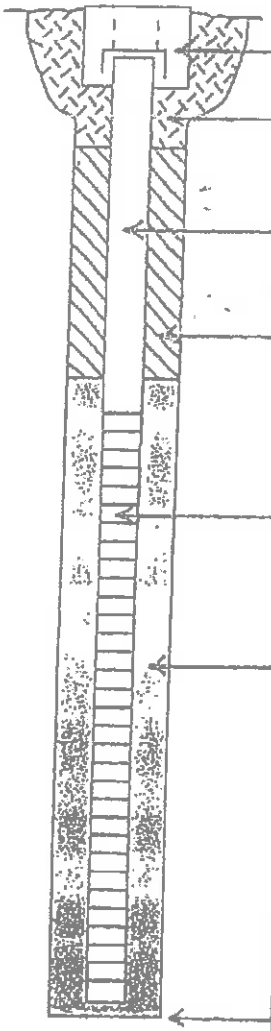
☒ Driller ☐ Engineer ☐ Trainee Name (Print) Mitch McCarley

Driller/Engineer/Trainee Signature _____

Driller or Trainee License No. 3184

If trainee, licensed driller's Signature and License No. _____

Construction/Design



MONUMENT TYPE: Flush

CONCRETE SURFACE SEAL 1 ft.

PVC BLANK 1 "x 20'

BACKFILL 19 ft.

TYPE: Neat Cement

PVC SCREEN "x '

SLOT SIZE: _____

TYPE: _____

GRAVEL PACK ft.

MATERIAL: _____

WELL DEPTH 20 '

Well Data

Formation Description

0 - 10 ft. Soft Silty Sand

10 - 20 ft. Fine Sand

- ft.

- ft.

- ft.

REMARKS

VWP @ 18'

Received

NOV 16 2020

WA State Department of Ecology (SCRO)

The Department of Ecology does NOT warranty the data and/or information on this well report.

#1996368

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT

Notice of Intent No. SE 75864
AE 63546

Construction/Decommission B-26-20

Type of Well

[X] Construction

[ ] Resource Protection

[X] Decommission *ORIGINAL INSTALLATION Notice of Intent Number* _____

[X] Geotechnical Soil Boring

Property Owner City of Fife

Site Address 7400 20th St E

Consulting Firm Shannon Wilson

City Fife County Pierce

Location 1/4 NE 1/4 NW Sec 20 Twn 20 R 4 (EWM) or WWM

Unique Ecology Well ID
Tag No. B-26-20

Lat/Long (s,t,r still Required) Lat Deg _____ Lat Min Sec _____ Long Deg _____ Long Min Sec _____

WELL CONSTRUCTION CERTIFICATION: I constructed and or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Tax Parcel No. _____

[X] Driller [ ] Trainee Name (Print) Mike McCarty

Driller Trainee Signature _____

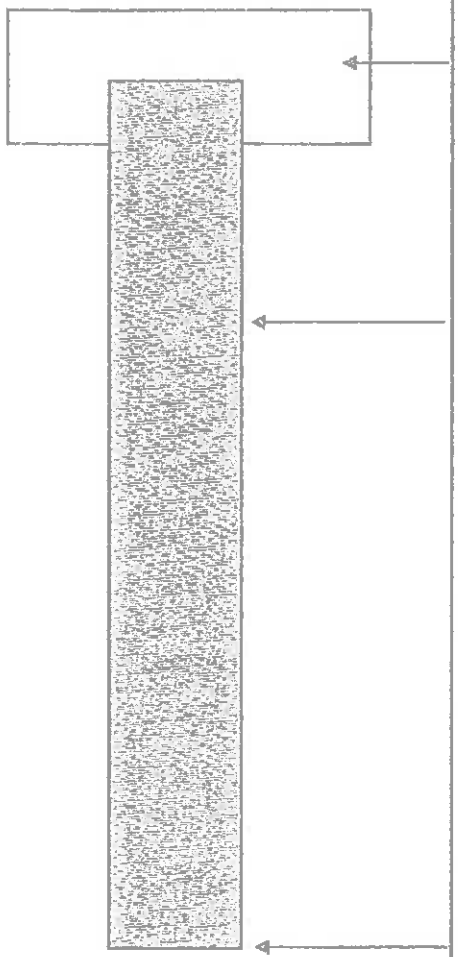
Driller-Trainee License No. 3186

Cased or Uncased Diameter 5 Static Level _____

Work Decommision Start Date 5/12/20

If trainee, licesned drillers' Signature and License No. _____

Work Decommision Completed Date 5/12/20

Construction/Design	Well Data	Formation Description
	CONCRETE SURFACE SEAL 2 FT BACKFILL 16 FT Bark Chips DEPTH OF BORING 20 FT	0 - 5 FT Sandy Gravel 05 - 10 FT Sandy Silt 010 - 20 FT Silty Sand

RECEIVED
NOV 16 2020
WA State Department of Ecology (SWRO)

Scale 1" = _____

Page _____ of _____

ECY 050-12 (Rev. 2/01)

The Department of Ecology does NOT warranty the data and/or information on this well report.

#2070258

PAP182
Fife, WA

DEPARTMENT OF ECOLOGY
State of Washington

Resource Protection Well Report

Submit one well report per well installed. See page two for instructions.

Type of Work:

☒ Construction
☐ Decommission ⇨ Original NOI No. _____

Ecology Well ID Tag No. BHU765 (MW2)

Site Well Name Residential Home

Consulting Firm _____

Was a variance approved for this well/boring? ☐ Yes ☒ No

If yes, what was the variance for? _____

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported are true to my best knowledge and belief.

☒ Driller ☐ Trainee ☐ Engineer

Name (Print Last, First Name) Boese, Robert

Driller/Engineer/Trainee Signature Robert Boese

License No. 2736

Company Name Pacific NW Drilling & Probe (OR)

If trainee box is checked, sponsor's license number: _____

Sponsor's signature _____

Notice of Intent No. RE21678

Type of Well:

☒ Resource Protection Well ☐ Injection Point
☐ Remediation Well ☐ Grounding Well
☐ Geotechnical Soil Boring ☐ Ground Source Heat Pump
☐ Environmental Boring ☐ Other _____
↳ ☐ Soil- ☐ Vapor- ☒ Water-sampling

Property Owner Residential Home

Well Street Address 7305 48th Street East

City Fife County Pierce

Tax Parcel No. _____

Location (see instructions): WWM ☐ or EWM ☒

SW ¼-¼ SW ¼, Section 17 Town 20N Range 4E

Latitude (Example: 47.12345) _____

Longitude (Example: -120.12345) _____

(WGS 84 Coordinate System)

Borehole diameter 4.5 inches Casing diameter 1.5 inches

Static water level 10 ft below top of casing Date 9/9/21

☐ Above-ground completion with bollards ☒ Flush monument

↳ Stick-up of top of well casing _____ ft above ground surface

Start Date 9/9/21 Completed Date 9/9/21

Construction Design	Well Data	Driller's Log
BHU765 (MW2) Flush mount monument (0-1') 1.5" Sch.40 PVC Casing (0-5') Bentonite chips (1'-4') Sch.40 Prepack Screen (5'-20') Filter pack/Sand (4'-20')	DTW- 10'	Silty-Sandy, sl.clay, brown-grey, moist to wet. (0-20')

Department of Ecology
Water Resources Program

The Department of Ecology does NOT warrant the data and/or information on this well report.

APPENDIX B

Laboratory Report and Chain-of-Custody Documents

Apex Laboratories, LLC
6700 S.W. Sandburg Street
Tigard, OR 97223
503-718-2323
ORELAP ID: **OR100062**

ANALYTICAL REPORT

Thursday, April 6, 2023

Steve Omo
BB&A Environmental - Wilsonville
25195 SW Parkway Ave, Suite #207
Wilsonville, OR 97070

RE: A3C0680 - Fife AG Fields - PAP182MAG.23E

Thank you for using Apex Laboratories. We greatly appreciate your business and strive to provide the highest quality services to the environmental industry.

Enclosed are the results of analyses for work order A3C0680, which was received by the laboratory on 3/17/2023 at 10:22:00AM.

If you have any questions concerning this report or the services we offer, please feel free to contact me by email at: DAuvil@apex-labs.com, or by phone at 503-718-2323.

Please note: All samples will be disposed of within 30 days of sample receipt, unless prior arrangements have been made.

Cooler Receipt Information

(See Cooler Receipt Form for details)

Default Cooler	3.6 degC

This Final Report is the official version of the data results for this sample submission, unless superseded by a subsequent, labeled amended report.
All other deliverables derived from this data, including Electronic Data Deliverables (EDDs), CLP-like forms, client requested summary sheets, and all other products are considered secondary to this report.

Apex Laboratories

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Darrell Auvil, Client Services Manager

Apex Laboratories, LLC
6700 S.W. Sandburg Street
Tigard, OR 97223
503-718-2323
ORELAP ID: OR100062

ANALYTICAL REPORT

BB&A Environmental - Wilsonville	Project: **Fife AG Fields**	
25195 SW Parkway Ave, Suite #207	Project Number: **PAP182MAG.23E**	**Report ID:**
Wilsonville, OR 97070	Project Manager: **Steve Omo**	**A3C0680 - 04 06 23 1114**

ANALYTICAL REPORT FOR SAMPLES

SAMPLE INFORMATION

Client Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
PAP182-COMP7-0-6''	A3C0680-01	Soil	03/16/23 10:50	03/17/23 10:22
PAP182-COMP8-0-6''	A3C0680-02	Soil	03/16/23 11:10	03/17/23 10:22
PAP182-COMP9-0-6''	A3C0680-03	Soil	03/16/23 11:30	03/17/23 10:22
PAP182-COMP10-0-6''	A3C0680-04	Soil	03/16/23 11:50	03/17/23 10:22
PAP182-COMP11-0-6''	A3C0680-05	Soil	03/16/23 12:30	03/17/23 10:22
PAP182-COMP12-0-6''	A3C0680-06	Soil	03/16/23 12:10	03/17/23 10:22
PAP182-COMP13-0-6''	A3C0680-07	Soil	03/16/23 14:10	03/17/23 10:22
PAP182-COMP14-0-6''	A3C0680-08	Soil	03/16/23 14:30	03/17/23 10:22
PAP182-COMP15-0-6''	A3C0680-09	Soil	03/16/23 14:55	03/17/23 10:22
PAP182-COMP16-0-6''	A3C0680-10	Soil	03/16/23 15:20	03/17/23 10:22
PAP182-COMP17-0-6''	A3C0680-11	Soil	03/16/23 13:50	03/17/23 10:22
PAP182-COMP7-14-18''	A3C0680-12	Soil	03/16/23 10:55	03/17/23 10:22
PAP182-COMP8-14-18''	A3C0680-13	Soil	03/16/23 11:15	03/17/23 10:22
PAP182-COMP9-14-18''	A3C0680-14	Soil	03/16/23 11:35	03/17/23 10:22
PAP182-COMP10-14-18''	A3C0680-15	Soil	03/16/23 11:55	03/17/23 10:22
PAP182-COMP11-14-18''	A3C0680-16	Soil	03/16/23 12:35	03/17/23 10:22
PAP182-COMP12-14-18''	A3C0680-17	Soil	03/16/23 12:15	03/17/23 10:22
PAP182-COMP13-14-18''	A3C0680-18	Soil	03/16/23 14:15	03/17/23 10:22
PAP182-COMP14-14-18''	A3C0680-19	Soil	03/16/23 14:35	03/17/23 10:22
PAP182-COMP15-14-18''	A3C0680-20	Soil	03/16/23 15:00	03/17/23 10:22
PAP182-COMP16-14-18''	A3C0680-21	Soil	03/16/23 15:25	03/17/23 10:22
PAP182-COMP17-14-18''	A3C0680-22	Soil	03/16/23 13:55	03/17/23 10:22

Apex Laboratories

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Darrell Auvil, Client Services Manager

Apex Laboratories, LLC
6700 S.W. Sandburg Street
Tigard, OR 97223
503-718-2323
ORELAP ID: OR100062

ANALYTICAL REPORT

BB&A Environmental - Wilsonville	Project: Fife AG Fields	
25195 SW Parkway Ave, Suite #207	Project Number: PAP182MAG.23E	Report ID:
Wilsonville, OR 97070	Project Manager: Steve Omo	A3C0680 - 04 06 23 1114

ANALYTICAL SAMPLE RESULTS

Organochlorine Pesticides by EPA 8081B

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
PAP182-COMP7-0-6" (A3C0680-01RE1)				**Matrix: Soil**		**Batch: 23C0748**		**C-05**
Dieldrin	**80.0**	---	2.35	ug/kg dry	1	03/21/23 14:51	EPA 8081B	
Surrogate: 2,4,5,6-TCMX (Surr)		*Recovery: 62 %*	*Limits: 42-129 %*		*1*	*03/21/23 14:51*	*EPA 8081B*	
Decachlorobiphenyl (Surr)		*108 %*	*55-130 %*		*1*	*03/21/23 14:51*	*EPA 8081B*	
PAP182-COMP8-0-6" (A3C0680-02RE1)				**Matrix: Soil**		**Batch: 23C0748**		**C-05**
Dieldrin	**104**	---	2.39	ug/kg dry	1	03/21/23 15:24	EPA 8081B	
Surrogate: 2,4,5,6-TCMX (Surr)		*Recovery: 61 %*	*Limits: 42-129 %*		*1*	*03/21/23 15:24*	*EPA 8081B*	
Decachlorobiphenyl (Surr)		*98 %*	*55-130 %*		*1*	*03/21/23 15:24*	*EPA 8081B*	
PAP182-COMP9-0-6" (A3C0680-03RE1)				**Matrix: Soil**		**Batch: 23C0748**		**C-05**
Dieldrin	**107**	---	2.38	ug/kg dry	1	03/21/23 15:40	EPA 8081B	
Surrogate: 2,4,5,6-TCMX (Surr)		*Recovery: 70 %*	*Limits: 42-129 %*		*1*	*03/21/23 15:40*	*EPA 8081B*	
Decachlorobiphenyl (Surr)		*124 %*	*55-130 %*		*1*	*03/21/23 15:40*	*EPA 8081B*	
PAP182-COMP10-0-6" (A3C0680-04RE1)				**Matrix: Soil**		**Batch: 23C0748**		**C-05**
Dieldrin	**118**	---	2.38	ug/kg dry	1	03/21/23 14:25	EPA 8081B	
Surrogate: 2,4,5,6-TCMX (Surr)		*Recovery: 81 %*	*Limits: 42-129 %*		*1*	*03/21/23 14:25*	*EPA 8081B*	
Decachlorobiphenyl (Surr)		*130 %*	*55-130 %*		*1*	*03/21/23 14:25*	*EPA 8081B*	
PAP182-COMP11-0-6" (A3C0680-05RE1)				**Matrix: Soil**		**Batch: 23C0748**		**C-05**
Dieldrin	**110**	---	2.39	ug/kg dry	1	03/21/23 14:42	EPA 8081B	
Surrogate: 2,4,5,6-TCMX (Surr)		*Recovery: 75 %*	*Limits: 42-129 %*		*1*	*03/21/23 14:42*	*EPA 8081B*	
Decachlorobiphenyl (Surr)		*129 %*	*55-130 %*		*1*	*03/21/23 14:42*	*EPA 8081B*	
PAP182-COMP12-0-6" (A3C0680-06RE1)				**Matrix: Soil**		**Batch: 23C0748**		**C-05**
Dieldrin	**92.5**	---	2.37	ug/kg dry	1	03/21/23 15:00	EPA 8081B	
Surrogate: 2,4,5,6-TCMX (Surr)		*Recovery: 77 %*	*Limits: 42-129 %*		*1*	*03/21/23 15:00*	*EPA 8081B*	
Decachlorobiphenyl (Surr)		*121 %*	*55-130 %*		*1*	*03/21/23 15:00*	*EPA 8081B*	
PAP182-COMP13-0-6" (A3C0680-07RE1)				**Matrix: Soil**		**Batch: 23C0748**		**C-05**
Dieldrin	**124**	---	2.46	ug/kg dry	1	03/21/23 15:17	EPA 8081B	
Surrogate: 2,4,5,6-TCMX (Surr)		*Recovery: 65 %*	*Limits: 42-129 %*		*1*	*03/21/23 15:17*	*EPA 8081B*	
Decachlorobiphenyl (Surr)		*107 %*	*55-130 %*		*1*	*03/21/23 15:17*	*EPA 8081B*	
PAP182-COMP14-0-6" (A3C0680-08RE1)				**Matrix: Soil**		**Batch: 23C0748**		**C-05**

Apex Laboratories

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Darrell Auvil, Client Services Manager

APEX LABORATORIES

Apex Laboratories, LLC
6700 S.W. Sandburg Street
Tigard, OR 97223
503-718-2323
ORELAP ID: **OR100062**

ANALYTICAL REPORT

BB&A Environmental - Wilsonville
25195 SW Parkway Ave, Suite #207
Wilsonville, OR 97070

Project: **Fife AG Fields**
Project Number: **PAP182MAG.23E**
Project Manager: **Steve Omo**

Report ID:
A3C0680 - 04 06 23 1114

ANALYTICAL SAMPLE RESULTS

Organochlorine Pesticides by EPA 8081B

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
PAP182-COMP14-0-6" (A3C0680-08RE1)				**Matrix: Soil**		**Batch: 23C0748**		**C-05**
Dieldrin	**134**	---	2.53	ug/kg dry	1	03/21/23 15:34	EPA 8081B	
Surrogate: 2,4,5,6-TCMX (Surr)		*Recovery: 69 %*	*Limits: 42-129 %*		*1*	*03/21/23 15:34*	*EPA 8081B*	
Decachlorobiphenyl (Surr)		*119 %*	*55-130 %*		*1*	*03/21/23 15:34*	*EPA 8081B*	
PAP182-COMP15-0-6" (A3C0680-09RE2)				**Matrix: Soil**		**Batch: 23C0748**		**C-05**
Dieldrin	**113**	---	2.44	ug/kg dry	1	03/21/23 16:09	EPA 8081B	
Surrogate: 2,4,5,6-TCMX (Surr)		*Recovery: 74 %*	*Limits: 42-129 %*		*1*	*03/21/23 16:09*	*EPA 8081B*	
Decachlorobiphenyl (Surr)		*110 %*	*55-130 %*		*1*	*03/21/23 16:09*	*EPA 8081B*	
PAP182-COMP16-0-6" (A3C0680-10RE1)				**Matrix: Soil**		**Batch: 23C0748**		**C-05**
Dieldrin	**133**	---	2.47	ug/kg dry	1	03/21/23 16:26	EPA 8081B	
Surrogate: 2,4,5,6-TCMX (Surr)		*Recovery: 61 %*	*Limits: 42-129 %*		*1*	*03/21/23 16:26*	*EPA 8081B*	
Decachlorobiphenyl (Surr)		*102 %*	*55-130 %*		*1*	*03/21/23 16:26*	*EPA 8081B*	
PAP182-COMP17-0-6" (A3C0680-11RE1)				**Matrix: Soil**		**Batch: 23C0748**		**C-05**
Dieldrin	**153**	---	2.46	ug/kg dry	1	03/21/23 15:56	EPA 8081B	
Surrogate: 2,4,5,6-TCMX (Surr)		*Recovery: 60 %*	*Limits: 42-129 %*		*1*	*03/21/23 15:56*	*EPA 8081B*	
Decachlorobiphenyl (Surr)		*111 %*	*55-130 %*		*1*	*03/21/23 15:56*	*EPA 8081B*	
PAP182-COMP7-14-18" (A3C0680-12RE1)				**Matrix: Soil**		**Batch: 23C0987**		**C-05**
Dieldrin	**64.8**	---	2.29	ug/kg dry	1	03/28/23 12:14	EPA 8081B	
Surrogate: 2,4,5,6-TCMX (Surr)		*Recovery: 67 %*	*Limits: 42-129 %*		*1*	*03/28/23 12:14*	*EPA 8081B*	
Decachlorobiphenyl (Surr)		*117 %*	*55-130 %*		*1*	*03/28/23 12:14*	*EPA 8081B*	
PAP182-COMP8-14-18" (A3C0680-13RE1)				**Matrix: Soil**		**Batch: 23C0987**		**C-05**
Dieldrin	**60.8**	---	2.36	ug/kg dry	1	03/28/23 14:16	EPA 8081B	
Surrogate: 2,4,5,6-TCMX (Surr)		*Recovery: 78 %*	*Limits: 42-129 %*		*1*	*03/28/23 14:16*	*EPA 8081B*	
Decachlorobiphenyl (Surr)		*126 %*	*55-130 %*		*1*	*03/28/23 14:16*	*EPA 8081B*	
PAP182-COMP9-14-18" (A3C0680-14RE2)				**Matrix: Soil**		**Batch: 23C0987**		**C-05**
Dieldrin	**37.5**	---	2.31	ug/kg dry	1	03/29/23 17:31	EPA 8081B	
Surrogate: 2,4,5,6-TCMX (Surr)		*Recovery: 76 %*	*Limits: 42-129 %*		*1*	*03/29/23 17:31*	*EPA 8081B*	
Decachlorobiphenyl (Surr)		*126 %*	*55-130 %*		*1*	*03/29/23 17:31*	*EPA 8081B*	
PAP182-COMP10-14-18" (A3C0680-15RE1)				**Matrix: Soil**		**Batch: 23C0987**		**C-05**

Apex Laboratories

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Darrell Auvil, Client Services Manager

Apex Laboratories, LLC
6700 S.W. Sandburg Street
Tigard, OR 97223
503-718-2323
ORELAP ID: **OR100062**

ANALYTICAL REPORT

BB&A Environmental - Wilsonville	Project: **Fife AG Fields**	
25195 SW Parkway Ave, Suite #207	Project Number: **PAP182MAG.23E**	**Report ID:**
Wilsonville, OR 97070	Project Manager: **Steve Omo**	**A3C0680 - 04 06 23 1114**

ANALYTICAL SAMPLE RESULTS

Organochlorine Pesticides by EPA 8081B

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
PAP182-COMP10-14-18" (A3C0680-15RE1)				**Matrix: Soil**		**Batch: 23C0987**		**C-05**
Dieldrin	**101**	---	2.36	ug/kg dry	1	03/28/23 14:51	EPA 8081B	
Surrogate: 2,4,5,6-TCMX (Surr)		*Recovery: 84 %*	*Limits: 42-129 %*		*1*	*03/28/23 14:51*	*EPA 8081B*	
Decachlorobiphenyl (Surr)		*129 %*	*55-130 %*		*1*	*03/28/23 14:51*	*EPA 8081B*	
PAP182-COMP11-14-18" (A3C0680-16RE1)				**Matrix: Soil**		**Batch: 23C0987**		**C-05**
Dieldrin	**101**	---	2.36	ug/kg dry	1	03/28/23 15:08	EPA 8081B	
Surrogate: 2,4,5,6-TCMX (Surr)		*Recovery: 85 %*	*Limits: 42-129 %*		*1*	*03/28/23 15:08*	*EPA 8081B*	
Decachlorobiphenyl (Surr)		*118 %*	*55-130 %*		*1*	*03/28/23 15:08*	*EPA 8081B*	
PAP182-COMP12-14-18" (A3C0680-17RE2)				**Matrix: Soil**		**Batch: 23C0987**		**C-05**
Dieldrin	**96.7**	---	2.30	ug/kg dry	1	03/29/23 17:48	EPA 8081B	
Surrogate: 2,4,5,6-TCMX (Surr)		*Recovery: 86 %*	*Limits: 42-129 %*		*1*	*03/29/23 17:48*	*EPA 8081B*	
Decachlorobiphenyl (Surr)		*124 %*	*55-130 %*		*1*	*03/29/23 17:48*	*EPA 8081B*	
PAP182-COMP13-14-18" (A3C0680-18RE1)				**Matrix: Soil**		**Batch: 23C0987**		**C-05**
Dieldrin	**72.1**	---	2.40	ug/kg dry	1	03/28/23 15:43	EPA 8081B	
Surrogate: 2,4,5,6-TCMX (Surr)		*Recovery: 70 %*	*Limits: 42-129 %*		*1*	*03/28/23 15:43*	*EPA 8081B*	
Decachlorobiphenyl (Surr)		*121 %*	*55-130 %*		*1*	*03/28/23 15:43*	*EPA 8081B*	
PAP182-COMP14-14-18" (A3C0680-19RE1)				**Matrix: Soil**		**Batch: 23C0987**		**C-05**
Dieldrin	**48.6**	---	2.45	ug/kg dry	1	03/28/23 16:07	EPA 8081B	
Surrogate: 2,4,5,6-TCMX (Surr)		*Recovery: 72 %*	*Limits: 42-129 %*		*1*	*03/28/23 16:07*	*EPA 8081B*	
Decachlorobiphenyl (Surr)		*114 %*	*55-130 %*		*1*	*03/28/23 16:07*	*EPA 8081B*	
PAP182-COMP15-14-18" (A3C0680-20RE1)				**Matrix: Soil**		**Batch: 23C0987**		**C-05**
Dieldrin	**58.9**	---	2.41	ug/kg dry	1	03/29/23 18:04	EPA 8081B	
Surrogate: 2,4,5,6-TCMX (Surr)		*Recovery: 73 %*	*Limits: 42-129 %*		*1*	*03/29/23 18:04*	*EPA 8081B*	
Decachlorobiphenyl (Surr)		*130 %*	*55-130 %*		*1*	*03/29/23 18:04*	*EPA 8081B*	
PAP182-COMP16-14-18" (A3C0680-21RE1)				**Matrix: Soil**		**Batch: 23C0987**		**C-05**
Dieldrin	**27.4**	---	2.38	ug/kg dry	1	03/29/23 18:20	EPA 8081B	
Surrogate: 2,4,5,6-TCMX (Surr)		*Recovery: 71 %*	*Limits: 42-129 %*		*1*	*03/29/23 18:20*	*EPA 8081B*	
Decachlorobiphenyl (Surr)		*105 %*	*55-130 %*		*1*	*03/29/23 18:20*	*EPA 8081B*	
PAP182-COMP17-14-18" (A3C0680-22RE1)				**Matrix: Soil**		**Batch: 23C0987**		**C-05**

Apex Laboratories

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Darrell Auvil, Client Services Manager

Apex Laboratories, LLC
6700 S.W. Sandburg Street
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503-718-2323
ORELAP ID: **OR100062**

ANALYTICAL REPORT

BB&A Environmental - Wilsonville	Project: **Fife AG Fields**	
25195 SW Parkway Ave, Suite #207	Project Number: **PAP182MAG.23E**	**Report ID:**
Wilsonville, OR 97070	Project Manager: **Steve Omo**	**A3C0680 - 04 06 23 1114**

ANALYTICAL SAMPLE RESULTS

Organochlorine Pesticides by EPA 8081B

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
PAP182-COMP17-14-18" (A3C0680-22RE1)				**Matrix: Soil**		**Batch: 23C0987**		**C-05**
Dieldrin	**107**	---	2.42	ug/kg dry	1	03/29/23 18:37	EPA 8081B	
Surrogate: 2,4,5,6-TCMX (Surr)		*Recovery:*	*66 %*	*Limits: 42-129 %*	*1*	*03/29/23 18:37*	*EPA 8081B*	
Decachlorobiphenyl (Surr)			*110 %*	*55-130 %*	*1*	*03/29/23 18:37*	*EPA 8081B*	

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Darrell Auvil, Client Services Manager

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503-718-2323
ORELAP ID: OR100062

ANALYTICAL REPORT

BB&A Environmental - Wilsonville	Project: Fife AG Fields	
25195 SW Parkway Ave, Suite #207	Project Number: PAP182MAG.23E	Report ID:
Wilsonville, OR 97070	Project Manager: Steve Omo	A3C0680 - 04 06 23 1114

ANALYTICAL SAMPLE RESULTS

Percent Dry Weight

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
PAP182-COMP7-0-6" (A3C0680-01)				**Matrix: Soil**		**Batch: 23C0750**		
% Solids	84.9	---	1.00	%	1	03/21/23 06:34	EPA 8000D	
PAP182-COMP8-0-6" (A3C0680-02)				**Matrix: Soil**		**Batch: 23C0750**		
% Solids	82.8	---	1.00	%	1	03/21/23 06:34	EPA 8000D	
PAP182-COMP9-0-6" (A3C0680-03)				**Matrix: Soil**		**Batch: 23C0750**		
% Solids	84.1	---	1.00	%	1	03/21/23 06:34	EPA 8000D	
PAP182-COMP10-0-6" (A3C0680-04)				**Matrix: Soil**		**Batch: 23C0750**		
% Solids	83.9	---	1.00	%	1	03/21/23 06:34	EPA 8000D	
PAP182-COMP11-0-6" (A3C0680-05)				**Matrix: Soil**		**Batch: 23C0750**		
% Solids	83.6	---	1.00	%	1	03/21/23 06:34	EPA 8000D	
PAP182-COMP12-0-6" (A3C0680-06)				**Matrix: Soil**		**Batch: 23C0750**		
% Solids	83.9	---	1.00	%	1	03/21/23 06:34	EPA 8000D	
PAP182-COMP13-0-6" (A3C0680-07)				**Matrix: Soil**		**Batch: 23C0750**		
% Solids	80.7	---	1.00	%	1	03/21/23 06:34	EPA 8000D	
PAP182-COMP14-0-6" (A3C0680-08)				**Matrix: Soil**		**Batch: 23C0750**		
% Solids	79.1	---	1.00	%	1	03/21/23 06:34	EPA 8000D	
PAP182-COMP15-0-6" (A3C0680-09)				**Matrix: Soil**		**Batch: 23C0750**		
% Solids	81.5	---	1.00	%	1	03/21/23 06:34	EPA 8000D	
PAP182-COMP16-0-6" (A3C0680-10)				**Matrix: Soil**		**Batch: 23C0750**		
% Solids	80.2	---	1.00	%	1	03/21/23 06:34	EPA 8000D	
PAP182-COMP17-0-6" (A3C0680-11)				**Matrix: Soil**		**Batch: 23C0750**		
% Solids	80.5	---	1.00	%	1	03/21/23 06:34	EPA 8000D	
PAP182-COMP7-14-18" (A3C0680-12)				**Matrix: Soil**		**Batch: 23C0928**		
% Solids	86.8	---	1.00	%	1	03/24/23 06:38	EPA 8000D	
PAP182-COMP8-14-18" (A3C0680-13)				**Matrix: Soil**		**Batch: 23C0928**		

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ANALYTICAL REPORT

BB&A Environmental - Wilsonville	Project: Fife AG Fields	
25195 SW Parkway Ave, Suite #207	Project Number: PAP182MAG.23E	Report ID:
Wilsonville, OR 97070	Project Manager: Steve Omo	A3C0680 - 04 06 23 1114

ANALYTICAL SAMPLE RESULTS

Percent Dry Weight

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
PAP182-COMP8-14-18" (A3C0680-13)				**Matrix: Soil**		**Batch: 23C0928**		
% Solids	**84.1**	---	1.00	%	1	03/24/23 06:38	EPA 8000D	
PAP182-COMP9-14-18" (A3C0680-14)				**Matrix: Soil**		**Batch: 23C0928**		
% Solids	**86.0**	---	1.00	%	1	03/24/23 06:38	EPA 8000D	
PAP182-COMP10-14-18" (A3C0680-15)				**Matrix: Soil**		**Batch: 23C0928**		
% Solids	**84.2**	---	1.00	%	1	03/24/23 06:38	EPA 8000D	
PAP182-COMP11-14-18" (A3C0680-16)				**Matrix: Soil**		**Batch: 23C0928**		
% Solids	**84.4**	---	1.00	%	1	03/24/23 06:38	EPA 8000D	
PAP182-COMP12-14-18" (A3C0680-17)				**Matrix: Soil**		**Batch: 23C0928**		
% Solids	**86.4**	---	1.00	%	1	03/24/23 06:38	EPA 8000D	
PAP182-COMP13-14-18" (A3C0680-18)				**Matrix: Soil**		**Batch: 23C0928**		
% Solids	**83.1**	---	1.00	%	1	03/24/23 06:38	EPA 8000D	
PAP182-COMP14-14-18" (A3C0680-19)				**Matrix: Soil**		**Batch: 23C0928**		
% Solids	**81.5**	---	1.00	%	1	03/24/23 06:38	EPA 8000D	
PAP182-COMP15-14-18" (A3C0680-20)				**Matrix: Soil**		**Batch: 23C0928**		
% Solids	**82.7**	---	1.00	%	1	03/24/23 06:38	EPA 8000D	
PAP182-COMP16-14-18" (A3C0680-21)				**Matrix: Soil**		**Batch: 23C0928**		
% Solids	**83.7**	---	1.00	%	1	03/24/23 06:38	EPA 8000D	
PAP182-COMP17-14-18" (A3C0680-22)				**Matrix: Soil**		**Batch: 23C0928**		
% Solids	**82.0**	---	1.00	%	1	03/24/23 06:38	EPA 8000D	

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ANALYTICAL REPORT

BB&A Environmental - Wilsonville	Project: Fife AG Fields	
25195 SW Parkway Ave, Suite #207	Project Number: PAP182MAG.23E	Report ID:
Wilsonville, OR 97070	Project Manager: Steve Omo	A3C0680 - 04 06 23 1114

QUALITY CONTROL (QC) SAMPLE RESULTS

Organochlorine Pesticides by EPA 8081B

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 23C0748 - EPA 3546/3640A (GPC)							Soil					
Blank (23C0748-BLK1)			Prepared: 03/20/23 06:20		Analyzed: 03/21/23 14:19							C-05
EPA 8081B												
Dieldrin	ND	---	2.00	ug/kg wet	1	---	---	---	---	---	---	
Surr: 2,4,5,6-TCMX (Surr)		*Recovery: 67 %*	*Limits: 42-129 %*		*Dilution: 1x*							
Decachlorobiphenyl (Surr)		*118 %*	*55-130 %*		*"*							
LCS (23C0748-BS1)			Prepared: 03/20/23 06:20		Analyzed: 03/21/23 14:35							C-05
EPA 8081B												
Dieldrin	46.9	---	2.00	ug/kg wet	1	50.0	---	94	56-136%	---	---	
Surr: 2,4,5,6-TCMX (Surr)		*Recovery: 62 %*	*Limits: 42-129 %*		*Dilution: 1x*							
Decachlorobiphenyl (Surr)		*115 %*	*55-130 %*		*"*							
Duplicate (23C0748-DUP1)			Prepared: 03/20/23 06:20		Analyzed: 03/21/23 15:07							C-05
QC Source Sample: PAP182-COMP7-0-6" (A3C0680-01RE1)												
EPA 8081B												
Dieldrin	**94.9**	---	2.34	ug/kg dry	1	---	80.0	---	---	17	30%	
Surr: 2,4,5,6-TCMX (Surr)		*Recovery: 61 %*	*Limits: 42-129 %*		*Dilution: 1x*							
Decachlorobiphenyl (Surr)		*115 %*	*55-130 %*		*"*							
Matrix Spike (23C0748-MS1)			Prepared: 03/20/23 06:20		Analyzed: 03/21/23 16:12							C-05
QC Source Sample: PAP182-COMP17-0-6" (A3C0680-11RE1)												
EPA 8081B												
Dieldrin	235	---	2.47	ug/kg dry	1	61.8	153	132	56-136%	---	---	
Surr: 2,4,5,6-TCMX (Surr)		*Recovery: 65 %*	*Limits: 42-129 %*		*Dilution: 1x*							
Decachlorobiphenyl (Surr)		*108 %*	*55-130 %*		*"*							
Batch 23C0987 - EPA 3546/3640A (GPC)							Soil					
Blank (23C0987-BLK1)			Prepared: 03/24/23 08:47		Analyzed: 03/28/23 11:39							C-05
EPA 8081B												
Aldrin	ND	---	2.00	ug/kg wet	1	---	---	---	---	---	---	
alpha-BHC	ND	---	2.00	ug/kg wet	1	---	---	---	---	---	---	
beta-BHC	ND	---	2.00	ug/kg wet	1	---	---	---	---	---	---	
delta-BHC	ND	---	2.00	ug/kg wet	1	---	---	---	---	---	---	

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ANALYTICAL REPORT

BB&A Environmental - Wilsonville	Project: **Fife AG Fields**	
25195 SW Parkway Ave, Suite #207	Project Number: **PAP182MAG.23E**	**Report ID:**
Wilsonville, OR 97070	Project Manager: **Steve Omo**	**A3C0680 - 04 06 23 1114**

QUALITY CONTROL (QC) SAMPLE RESULTS

Organochlorine Pesticides by EPA 8081B

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 23C0987 - EPA 3546/3640A (GPC)							**Soil**					
Blank (23C0987-BLK1)			Prepared: 03/24/23 08:47		Analyzed: 03/28/23 11:39							**C-05**
gamma-BHC (Lindane)	ND	---	2.00	ug/kg wet	1	---	---	---	---	---	---	
cis-Chlordane	ND	---	2.00	ug/kg wet	1	---	---	---	---	---	---	
trans-Chlordane	ND	---	2.00	ug/kg wet	1	---	---	---	---	---	---	
4,4'-DDD	ND	---	2.00	ug/kg wet	1	---	---	---	---	---	---	
4,4'-DDE	ND	---	2.00	ug/kg wet	1	---	---	---	---	---	---	
4,4'-DDT	ND	---	2.00	ug/kg wet	1	---	---	---	---	---	---	
Dieldrin	ND	---	2.00	ug/kg wet	1	---	---	---	---	---	---	
Endosulfan I	ND	---	2.00	ug/kg wet	1	---	---	---	---	---	---	
Endosulfan II	ND	---	2.00	ug/kg wet	1	---	---	---	---	---	---	
Endosulfan sulfate	ND	---	2.00	ug/kg wet	1	---	---	---	---	---	---	
Endrin	ND	---	2.00	ug/kg wet	1	---	---	---	---	---	---	
Endrin Aldehyde	ND	---	2.00	ug/kg wet	1	---	---	---	---	---	---	
Endrin ketone	ND	---	2.00	ug/kg wet	1	---	---	---	---	---	---	
Heptachlor	ND	---	2.00	ug/kg wet	1	---	---	---	---	---	---	
Heptachlor epoxide	ND	---	2.00	ug/kg wet	1	---	---	---	---	---	---	
Methoxychlor	ND	---	6.00	ug/kg wet	1	---	---	---	---	---	---	
Chlordane (Technical)	ND	---	60.0	ug/kg wet	1	---	---	---	---	---	---	
Toxaphene (Total)	ND	---	60.0	ug/kg wet	1	---	---	---	---	---	---	
Surr: 2,4,5,6-TCMX (Surr)			*Recovery: 72 %*		*Limits: 42-129 %*				*Dilution: 1x*			
Decachlorobiphenyl (Surr)			*126 %*		*55-130 %*				*"*			
LCS (23C0987-BS1)			Prepared: 03/24/23 08:47		Analyzed: 03/28/23 11:56							**C-05**
EPA 8081B												
Aldrin	39.4	---	2.00	ug/kg wet	1	50.0	---	79	45-136%	---	---	
alpha-BHC	37.9	---	2.00	ug/kg wet	1	50.0	---	76	45-137%	---	---	
beta-BHC	38.8	---	2.00	ug/kg wet	1	50.0	---	78	50-136%	---	---	
delta-BHC	44.1	---	2.00	ug/kg wet	1	50.0	---	88	47-139%	---	---	
gamma-BHC (Lindane)	38.6	---	2.00	ug/kg wet	1	50.0	---	77	49-135%	---	---	
cis-Chlordane	44.8	---	2.00	ug/kg wet	1	50.0	---	90	54-133%	---	---	
trans-Chlordane	44.2	---	2.00	ug/kg wet	1	50.0	---	88	53-135%	---	---	
4,4'-DDD	54.3	---	2.00	ug/kg wet	1	50.0	---	109	56-139%	---	---	
4,4'-DDE	51.0	---	2.00	ug/kg wet	1	50.0	---	102	56-134%	---	---	
4,4'-DDT	63.3	---	2.00	ug/kg wet	1	50.0	---	127	50-141%	---	---	
Dieldrin	52.1	---	2.00	ug/kg wet	1	50.0	---	104	56-136%	---	---	

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ANALYTICAL REPORT

BB&A Environmental - Wilsonville	Project: **Fife AG Fields**	
25195 SW Parkway Ave, Suite #207	Project Number: **PAP182MAG.23E**	**Report ID:**
Wilsonville, OR 97070	Project Manager: **Steve Omo**	**A3C0680 - 04 06 23 1114**

QUALITY CONTROL (QC) SAMPLE RESULTS

Organochlorine Pesticides by EPA 8081B

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 23C0987 - EPA 3546/3640A (GPC)							**Soil**					
LCS (23C0987-BS1)			Prepared: 03/24/23 08:47		Analyzed: 03/28/23 11:56							**C-05**
Endosulfan I	48.2	---	2.00	ug/kg wet	1	50.0	---	96	53-132%	---	---	
Endosulfan II	54.7	---	2.00	ug/kg wet	1	50.0	---	109	53-134%	---	---	
Endosulfan sulfate	55.9	---	2.00	ug/kg wet	1	50.0	---	112	55-136%	---	---	
Endrin	61.5	---	2.00	ug/kg wet	1	50.0	---	123	57-140%	---	---	
Endrin Aldehyde	45.6	---	2.00	ug/kg wet	1	50.0	---	91	35-137%	---	---	
Endrin ketone	58.9	---	2.00	ug/kg wet	1	50.0	---	118	55-136%	---	---	
Heptachlor	39.1	---	2.00	ug/kg wet	1	50.0	---	78	47-136%	---	---	
Heptachlor epoxide	44.5	---	2.00	ug/kg wet	1	50.0	---	89	52-136%	---	---	
Methoxychlor	69.8	---	6.00	ug/kg wet	1	50.0	---	140	52-143%	---	---	
Surr: 2,4,5,6-TCMX (Surr)			*Recovery: 73 %*		*Limits: 42-129 %*				*Dilution: 1x*			
Decachlorobiphenyl (Surr)			*122 %*		*55-130 %*				*"*			
Duplicate (23C0987-DUP1)			Prepared: 03/24/23 08:47		Analyzed: 03/28/23 12:31							**C-05**
QC Source Sample: PAP182-COMP7-14-18" (A3C0680-12RE1)												
EPA 8081B												
Aldrin	ND	---	2.30	ug/kg dry	1	---	ND	---	---	---	30%	
alpha-BHC	ND	---	2.30	ug/kg dry	1	---	ND	---	---	---	30%	
beta-BHC	ND	---	2.30	ug/kg dry	1	---	ND	---	---	---	30%	
delta-BHC	ND	---	2.30	ug/kg dry	1	---	ND	---	---	---	30%	
gamma-BHC (Lindane)	ND	---	2.30	ug/kg dry	1	---	ND	---	---	---	30%	
cis-Chlordane	**29.4**	---	2.30	ug/kg dry	1	---	26.5	---	---	11	30%	
trans-Chlordane	**20.3**	---	2.30	ug/kg dry	1	---	18.0	---	---	12	30%	
4,4'-DDD	ND	---	3.33	ug/kg dry	1	---	ND	---	---	---	30%	R-02
4,4'-DDE	ND	---	2.30	ug/kg dry	1	---	ND	---	---	---	30%	
4,4'-DDT	ND	---	2.30	ug/kg dry	1	---	ND	---	---	---	30%	
Dieldrin	**72.9**	---	2.30	ug/kg dry	1	---	64.8	---	---	12	30%	
Endosulfan I	ND	---	2.30	ug/kg dry	1	---	ND	---	---	---	30%	
Endosulfan II	ND	---	2.30	ug/kg dry	1	---	ND	---	---	---	30%	
Endosulfan sulfate	ND	---	2.30	ug/kg dry	1	---	ND	---	---	---	30%	
Endrin	ND	---	2.30	ug/kg dry	1	---	ND	---	---	---	30%	
Endrin Aldehyde	ND	---	2.30	ug/kg dry	1	---	ND	---	---	---	30%	
Endrin ketone	ND	---	2.30	ug/kg dry	1	---	ND	---	---	---	30%	
Heptachlor	ND	---	2.30	ug/kg dry	1	---	ND	---	---	---	30%	
Heptachlor epoxide	ND	---	2.30	ug/kg dry	1	---	ND	---	---	---	30%	

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25195 SW Parkway Ave, Suite #207	Project Number: **PAP182MAG.23E**	**Report ID:**
Wilsonville, OR 97070	Project Manager: **Steve Omo**	**A3C0680 - 04 06 23 1114**

QUALITY CONTROL (QC) SAMPLE RESULTS

Organochlorine Pesticides by EPA 8081B

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 23C0987 - EPA 3546/3640A (GPC)							**Soil**					
Duplicate (23C0987-DUP1)			Prepared: 03/24/23 08:47		Analyzed: 03/28/23 12:31							**C-05**
QC Source Sample: PAP182-COMP7-14-18'' (A3C0680-12RE1)												
Methoxychlor	ND	---	6.89	ug/kg dry	1	---	ND	---	---	---	30%	
Toxaphene (Total)	ND	---	68.9	ug/kg dry	1	---	ND	---	---	---	30%	
Surr: 2,4,5,6-TCMX (Surr)			*Recovery: 79 %*		*Limits: 42-129 %*				*Dilution: 1x*			
Decachlorobiphenyl (Surr)			*122 %*		*55-130 %*				*"*			
Duplicate (23C0987-DUP2)			Prepared: 03/24/23 08:47		Analyzed: 03/29/23 14:48							**C-05**
QC Source Sample: PAP182-COMP7-14-18'' (A3C0680-12RE2)												
EPA 8081B												
Chlordane (Technical)	**254**	---	68.9	ug/kg dry	1	---	223	---	---	13	30%	
Matrix Spike (23C0987-MS1)			Prepared: 03/24/23 08:47		Analyzed: 03/28/23 13:23							**C-05**
QC Source Sample: Non-SDG (A3C0825-02RE1)												
EPA 8081B												
Aldrin	60.4	---	2.68	ug/kg dry	1	67.0	2.04	87	45-136%	---	---	
alpha-BHC	55.8	---	2.68	ug/kg dry	1	67.0	ND	83	45-137%	---	---	
beta-BHC	69.0	---	2.68	ug/kg dry	1	67.0	ND	103	50-136%	---	---	
delta-BHC	76.7	---	2.68	ug/kg dry	1	67.0	ND	115	47-139%	---	---	
gamma-BHC (Lindane)	58.0	---	2.68	ug/kg dry	1	67.0	ND	87	49-135%	---	---	
cis-Chlordane	73.2	---	2.68	ug/kg dry	1	67.0	ND	109	54-133%	---	---	
trans-Chlordane	72.6	---	2.68	ug/kg dry	1	67.0	ND	108	53-135%	---	---	
4,4'-DDD	93.4	---	2.68	ug/kg dry	1	67.0	ND	139	56-139%	---	---	
4,4'-DDE	91.2	---	2.68	ug/kg dry	1	67.0	ND	**136**	**56-134%**	---	---	Q-01
4,4'-DDT	105	---	2.68	ug/kg dry	1	67.0	ND	**157**	**50-141%**	---	---	Q-01
Endosulfan I	72.1	---	2.68	ug/kg dry	1	67.0	ND	108	53-132%	---	---	
Endosulfan II	83.7	---	2.68	ug/kg dry	1	67.0	ND	125	53-134%	---	---	
Endosulfan sulfate	84.6	---	2.68	ug/kg dry	1	67.0	ND	126	55-136%	---	---	
Endrin	97.0	---	2.68	ug/kg dry	1	67.0	ND	**145**	**57-140%**	---	---	Q-01
Endrin Aldehyde	73.5	---	2.68	ug/kg dry	1	67.0	ND	110	35-137%	---	---	
Endrin ketone	89.9	---	2.68	ug/kg dry	1	67.0	ND	134	55-136%	---	---	
Heptachlor	59.9	---	2.68	ug/kg dry	1	67.0	ND	89	47-136%	---	---	
Heptachlor epoxide	68.7	---	2.68	ug/kg dry	1	67.0	ND	103	52-136%	---	---	
Methoxychlor	124	---	8.03	ug/kg dry	1	67.0	ND	**185**	**52-143%**	---	---	Q-01

Apex Laboratories

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Darrell Auvil, Client Services Manager

Apex Laboratories, LLC
6700 S.W. Sandburg Street
Tigard, OR 97223
503-718-2323
ORELAP ID: **OR100062**

BB&A Environmental - Wilsonville	Project: **Fife AG Fields**	
25195 SW Parkway Ave, Suite #207	Project Number: **PAP182MAG.23E**	**Report ID:**
Wilsonville, OR 97070	Project Manager: **Steve Omo**	**A3C0680 - 04 06 23 1114**

QUALITY CONTROL (QC) SAMPLE RESULTS

Organochlorine Pesticides by EPA 8081B

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 23C0987 - EPA 3546/3640A (GPC)							**Soil**					
Matrix Spike (23C0987-MS1)			Prepared: 03/24/23 08:47		Analyzed: 03/28/23 13:23							**C-05**
QC Source Sample: Non-SDG (A3C0825-02RE1)												
Surr: 2,4,5,6-TCMX (Surr)			*Recovery: 73 %*		*Limits: 42-129 %*				*Dilution: 1x*			
Decachlorobiphenyl (Surr)			*125 %*		*55-130 %*				*"*			
Matrix Spike (23C0987-MS2)			Prepared: 03/24/23 08:47		Analyzed: 03/28/23 16:42							**C-05**
QC Source Sample: Non-SDG (A3C0825-02RE2)												
EPA 8081B												
Dieldrin	444	---	13.4	ug/kg dry	5	67.0	281	**243**	**56-136%**	---	---	Q-03

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ANALYTICAL REPORT

BB&A Environmental - Wilsonville	Project: Fife AG Fields	
25195 SW Parkway Ave, Suite #207	Project Number: PAP182MAG.23E	Report ID:
Wilsonville, OR 97070	Project Manager: Steve Omo	A3C0680 - 04 06 23 1114

QUALITY CONTROL (QC) SAMPLE RESULTS

Percent Dry Weight

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 23C0750 - Total Solids (Dry Weight)							Soil					
Duplicate (23C0750-DUP1)			Prepared: 03/20/23 12:02		Analyzed: 03/21/23 06:34							
QC Source Sample: Non-SDG (A3C0662-01)												
% Solids	**84.5**	---	1.00	%	1	---	87.4	---	---	3	10%	
Duplicate (23C0750-DUP2)			Prepared: 03/20/23 12:02		Analyzed: 03/21/23 06:34							
QC Source Sample: Non-SDG (A3C0662-05)												
% Solids	**90.2**	---	1.00	%	1	---	89.5	---	---	0.8	10%	
Duplicate (23C0750-DUP3)			Prepared: 03/20/23 12:02		Analyzed: 03/21/23 06:34							
QC Source Sample: Non-SDG (A3C0662-08)												
% Solids	**91.0**	---	1.00	%	1	---	92.2	---	---	1	10%	
Duplicate (23C0750-DUP4)			Prepared: 03/20/23 12:02		Analyzed: 03/21/23 06:34							
QC Source Sample: Non-SDG (A3C0667-03)												
% Solids	**83.3**	---	1.00	%	1	---	83.5	---	---	0.3	10%	
Duplicate (23C0750-DUP5)			Prepared: 03/20/23 12:02		Analyzed: 03/21/23 06:34							
QC Source Sample: Non-SDG (A3C0667-04)												
% Solids	**87.5**	---	1.00	%	1	---	89.4	---	---	2	10%	
Duplicate (23C0750-DUP6)			Prepared: 03/20/23 17:58		Analyzed: 03/21/23 06:34							
QC Source Sample: Non-SDG (A3C0712-01)												
% Solids	**77.8**	---	1.00	%	1	---	80.4	---	---	3	10%	
Duplicate (23C0750-DUP7)			Prepared: 03/20/23 17:58		Analyzed: 03/21/23 06:34							
QC Source Sample: Non-SDG (A3C0732-01)												
% Solids	**82.1**	---	1.00	%	1	---	83.6	---	---	2	10%	

No Client related Batch QC samples analyzed for this batch. See notes page for more information.

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ORELAP ID: **OR100062**

BB&A Environmental - Wilsonville	Project: **Fife AG Fields**	
25195 SW Parkway Ave, Suite #207	Project Number: **PAP182MAG.23E**	**Report ID:**
Wilsonville, OR 97070	Project Manager: **Steve Omo**	**A3C0680 - 04 06 23 1114**

QUALITY CONTROL (QC) SAMPLE RESULTS

Percent Dry Weight

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 23C0928 - Total Solids (Dry Weight)							**Soil**					
Duplicate (23C0928-DUP1)			Prepared: 03/23/23 13:39		Analyzed: 03/24/23 06:38							
QC Source Sample: PAP182-COMP7-14-18" (A3C0680-12)												
EPA 8000D												
% Solids	**86.7**	---	1.00	%	1	---	86.8	---	---	0.07	10%	
Duplicate (23C0928-DUP2)			Prepared: 03/23/23 13:39		Analyzed: 03/24/23 06:38							
QC Source Sample: PAP182-COMP8-14-18" (A3C0680-13)												
EPA 8000D												
% Solids	**83.9**	---	1.00	%	1	---	84.1	---	---	0.1	10%	
Duplicate (23C0928-DUP3)			Prepared: 03/23/23 13:39		Analyzed: 03/24/23 06:38							
QC Source Sample: PAP182-COMP9-14-18" (A3C0680-14)												
EPA 8000D												
% Solids	**86.2**	---	1.00	%	1	---	86.0	---	---	0.2	10%	
Duplicate (23C0928-DUP4)			Prepared: 03/23/23 20:51		Analyzed: 03/24/23 06:38							
QC Source Sample: Non-SDG (A3C0846-01)												
% Solids	**72.4**	---	1.00	%	1	---	72.2	---	---	0.3	10%	
Duplicate (23C0928-DUP5)			Prepared: 03/23/23 20:51		Analyzed: 03/24/23 06:38							
QC Source Sample: Non-SDG (A3C0846-02)												
% Solids	**87.5**	---	1.00	%	1	---	89.2	---	---	2	10%	
Duplicate (23C0928-DUP6)			Prepared: 03/23/23 20:51		Analyzed: 03/24/23 06:38							
QC Source Sample: Non-SDG (A3C0846-03)												
% Solids	**73.4**	---	1.00	%	1	---	73.6	---	---	0.3	10%	

No Client related Batch QC samples analyzed for this batch. See notes page for more information.

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Darrell Auvil, Client Services Manager

APEX LABORATORIES

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6700 S.W. Sandburg Street
Tigard, OR 97223
503-718-2323
ORELAP ID: **OR100062**

ANALYTICAL REPORT

BB&A Environmental - Wilsonville	Project: **Fife AG Fields**	
25195 SW Parkway Ave, Suite #207	Project Number: **PAP182MAG.23E**	**Report ID:**
Wilsonville, OR 97070	Project Manager: **Steve Omo**	**A3C0680 - 04 06 23 1114**

SAMPLE PREPARATION INFORMATION

Organochlorine Pesticides by EPA 8081B

Prep: EPA 3546/3640A (GPC)

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 23C0748							
A3C0680-01RE1	Soil	EPA 8081B	03/16/23 10:50	03/20/23 06:20	10.03g/10mL	10g/5mL	1.99
A3C0680-02RE1	Soil	EPA 8081B	03/16/23 11:10	03/20/23 06:20	10.1g/10mL	10g/5mL	1.98
A3C0680-03RE1	Soil	EPA 8081B	03/16/23 11:30	03/20/23 06:20	10.01g/10mL	10g/5mL	2.00
A3C0680-04RE1	Soil	EPA 8081B	03/16/23 11:50	03/20/23 06:20	10.03g/10mL	10g/5mL	1.99
A3C0680-05RE1	Soil	EPA 8081B	03/16/23 12:30	03/20/23 06:20	10.02g/10mL	10g/5mL	2.00
A3C0680-06RE1	Soil	EPA 8081B	03/16/23 12:10	03/20/23 06:20	10.08g/10mL	10g/5mL	1.98
A3C0680-07RE1	Soil	EPA 8081B	03/16/23 14:10	03/20/23 06:20	10.08g/10mL	10g/5mL	1.98
A3C0680-08RE1	Soil	EPA 8081B	03/16/23 14:30	03/20/23 06:20	10.01g/10mL	10g/5mL	2.00
A3C0680-09RE2	Soil	EPA 8081B	03/16/23 14:55	03/20/23 06:20	10.05g/10mL	10g/5mL	1.99
A3C0680-10RE1	Soil	EPA 8081B	03/16/23 15:20	03/20/23 06:20	10.11g/10mL	10g/5mL	1.98
A3C0680-11RE1	Soil	EPA 8081B	03/16/23 13:50	03/20/23 06:20	10.09g/10mL	10g/5mL	1.98
Batch: 23C0987							
A3C0680-12RE1	Soil	EPA 8081B	03/16/23 10:55	03/24/23 08:47	10.07g/10mL	10g/5mL	1.99
A3C0680-13RE1	Soil	EPA 8081B	03/16/23 11:15	03/24/23 08:47	10.08g/10mL	10g/5mL	1.98
A3C0680-14RE2	Soil	EPA 8081B	03/16/23 11:35	03/24/23 08:47	10.06g/10mL	10g/5mL	1.99
A3C0680-15RE1	Soil	EPA 8081B	03/16/23 11:55	03/24/23 08:47	10.07g/10mL	10g/5mL	1.99
A3C0680-16RE1	Soil	EPA 8081B	03/16/23 12:35	03/24/23 08:47	10.03g/10mL	10g/5mL	1.99
A3C0680-17RE2	Soil	EPA 8081B	03/16/23 12:15	03/24/23 08:47	10.07g/10mL	10g/5mL	1.99
A3C0680-18RE1	Soil	EPA 8081B	03/16/23 14:15	03/24/23 08:47	10.02g/10mL	10g/5mL	2.00
A3C0680-19RE1	Soil	EPA 8081B	03/16/23 14:35	03/24/23 08:47	10.03g/10mL	10g/5mL	1.99
A3C0680-20RE1	Soil	EPA 8081B	03/16/23 15:00	03/24/23 08:47	10.03g/10mL	10g/5mL	1.99
A3C0680-21RE1	Soil	EPA 8081B	03/16/23 15:25	03/24/23 08:47	10.02g/10mL	10g/5mL	2.00
A3C0680-22RE1	Soil	EPA 8081B	03/16/23 13:55	03/24/23 08:47	10.1g/10mL	10g/5mL	1.98

Percent Dry Weight

Prep: Total Solids (Dry Weight)

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 23C0750							
A3C0680-01	Soil	EPA 8000D	03/16/23 10:50	03/20/23 12:02			NA
A3C0680-02	Soil	EPA 8000D	03/16/23 11:10	03/20/23 12:02			NA
A3C0680-03	Soil	EPA 8000D	03/16/23 11:30	03/20/23 12:02			NA
A3C0680-04	Soil	EPA 8000D	03/16/23 11:50	03/20/23 12:02			NA
A3C0680-05	Soil	EPA 8000D	03/16/23 12:30	03/20/23 12:02			NA
A3C0680-06	Soil	EPA 8000D	03/16/23 12:10	03/20/23 12:02			NA
A3C0680-07	Soil	EPA 8000D	03/16/23 14:10	03/20/23 12:02			NA

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ORELAP ID: **OR100062**

ANALYTICAL REPORT

BB&A Environmental - Wilsonville	Project: **Fife AG Fields**	
25195 SW Parkway Ave, Suite #207	Project Number: **PAP182MAG.23E**	**Report ID:**
Wilsonville, OR 97070	Project Manager: **Steve Omo**	**A3C0680 - 04 06 23 1114**

SAMPLE PREPARATION INFORMATION

Percent Dry Weight

Prep: Total Solids (Dry Weight)

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
A3C0680-08	Soil	EPA 8000D	03/16/23 14:30	03/20/23 12:02			NA
A3C0680-09	Soil	EPA 8000D	03/16/23 14:55	03/20/23 12:02			NA
A3C0680-10	Soil	EPA 8000D	03/16/23 15:20	03/20/23 12:02			NA
A3C0680-11	Soil	EPA 8000D	03/16/23 13:50	03/20/23 12:02			NA
Batch: 23C0928							
A3C0680-12	Soil	EPA 8000D	03/16/23 10:55	03/23/23 13:39			NA
A3C0680-13	Soil	EPA 8000D	03/16/23 11:15	03/23/23 13:39			NA
A3C0680-14	Soil	EPA 8000D	03/16/23 11:35	03/23/23 13:39			NA
A3C0680-15	Soil	EPA 8000D	03/16/23 11:55	03/23/23 13:39			NA
A3C0680-16	Soil	EPA 8000D	03/16/23 12:35	03/23/23 13:39			NA
A3C0680-17	Soil	EPA 8000D	03/16/23 12:15	03/23/23 13:39			NA
A3C0680-18	Soil	EPA 8000D	03/16/23 14:15	03/23/23 13:39			NA
A3C0680-19	Soil	EPA 8000D	03/16/23 14:35	03/23/23 13:39			NA
A3C0680-20	Soil	EPA 8000D	03/16/23 15:00	03/23/23 13:39			NA
A3C0680-21	Soil	EPA 8000D	03/16/23 15:25	03/23/23 13:39			NA
A3C0680-22	Soil	EPA 8000D	03/16/23 13:55	03/23/23 13:39			NA

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QUALIFIER DEFINITIONS

Client Sample and Quality Control (QC) Sample Qualifier Definitions:

Apex Laboratories

C-05	Extract has undergone a GPC (Gel-Permeation Chromatography) cleanup per EPA 3640A. Reporting levels may be raised due to dilution necessary for cleanup. Sample Final Volume includes the GPC dilution factor, see the Prep page for details.
Q-01	Spike recovery and/or RPD is outside acceptance limits.
Q-03	Spike recovery and/or RPD is outside control limits due to the high concentration of analyte present in the sample.
R-02	The Reporting Limit for this analyte has been raised to account for interference from coeluting organic compounds present in the sample.

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REPORTING NOTES AND CONVENTIONS:

Abbreviations:

DET Analyte DETECTED at or above the detection or reporting limit.

ND Analyte NOT DETECTED at or above the detection or reporting limit.

NR Result Not Reported

RPD Relative Percent Difference. RPDs for Matrix Spikes and Matrix Spike Duplicates are based on concentration, not recovery.

Detection Limits: Limit of Detection (LOD)

Limits of Detection (LODs) are normally set at a level of one half the validated Limit of Quantitation (LOQ).
If no value is listed ('-----'), then the data has not been evaluated below the Reporting Limit.

Reporting Limits: Limit of Quantitation (LOQ)

Validated Limits of Quantitation (LOQs) are reported as the Reporting Limits for all analyses where the LOQ, MRL, PQL or CRL are requested. The LOQ represents a level at or above the low point of the calibration curve, that has been validated according to Apex Laboratories' comprehensive LOQ policies and procedures.

Reporting Conventions:

Basis: Results for soil samples are generally reported on a 100% dry weight basis.
The Result Basis is listed following the units as " dry", " wet", or " " (blank) designation.

" dry" Sample results and Reporting Limits are reported on a dry weight basis. (i.e. "ug/kg dry")
See Percent Solids section for details of dry weight analysis.

" wet" Sample results and Reporting Limits for this analysis are normally dry weight corrected, but have not been modified in this case.

" " Results without 'wet' or 'dry' designation are not normally dry weight corrected. These results are considered 'As Received'.

QC Source:

In cases where there is insufficient sample provided for Sample Duplicates and/or Matrix Spikes, a Lab Control Sample Duplicate (LCS Dup) may be analyzed to demonstrate accuracy and precision of the extraction batch.

Non-Client Batch QC Samples (Duplicates and Matrix Spike/Duplicates) may not be included in this report. Please request a Full QC report if this data is required.

Miscellaneous Notes:

" --- " QC results are not applicable. For example, % Recoveries for Blanks and Duplicates, % RPD for Blanks, Blank Spikes and Matrix Spikes, etc.

" *** " Used to indicate a possible discrepancy with the Sample and Sample Duplicate results when the %RPD is not available. In this case, either the Sample or the Sample Duplicate has a reportable result for this analyte, while the other is Non Detect (ND).

Blanks:

Standard practice is to evaluate the results from Blank QC Samples down to a level equal to ½ the Reporting Limit (RL).
-For Blank hits falling between ½ the RL and the RL (J flagged hits), the associated sample and QC data will receive a 'B-02' qualifier.
-For Blank hits above the RL, the associated sample and QC data will receive a 'B' qualifier, per Apex Laboratories' Blank Policy.
For further details, please request a copy of this document.

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REPORTING NOTES AND CONVENTIONS (Cont.):

Blanks (Cont.):

Sample results flagged with a 'B' or 'B-02' qualifier are potentially biased high if the sample results are less than ten times the level found in the blank for inorganic analyses, or less than five times the level found in the blank for organic analyses.

'B' and 'B-02' qualifications are only applied to sample results detected above the Reporting Level.

Preparation Notes:

Mixed Matrix Samples:

Water Samples:

Water samples containing significant amounts of sediment are decanted or separated prior to extraction, and only the water portion analyzed, unless otherwise directed by the client.

Soil and Sediment Samples:

Soil and Sediment samples containing significant amounts of water are decanted prior to extraction, and only the solid portion analyzed, unless otherwise directed by the client.

Sampling and Preservation Notes:

Certain regulatory programs, such as National Pollutant Discharge Elimination System (NPDES), require that activities such as sample filtration (for dissolved metals, orthophosphate, hexavalent chromium, etc.) and testing of short hold analytes (pH, Dissolved Oxygen, etc.) be performed in the field (on-site) within a short time window. In addition, sample matrix spikes are required for some analyses, and sufficient volume must be provided, and billable site specific QC requested, if this is required. All regulatory permits should be reviewed to ensure that these requirements are being met.

Data users should be aware of which regulations pertain to the samples they submit for testing. If related sample collection activities are not approved for a particular regulatory program, results should be considered estimates. Apex Laboratories will qualify these analytes according to the most stringent requirements, however results for samples that are for non-regulatory purposes may be acceptable.

Samples that have been filtered and preserved at Apex Laboratories per client request are listed in the preparation section of the report with the date and time of filtration listed.

Apex Laboratories maintains detailed records on sample receipt, including client label verification, cooler temperature, sample preservation, hold time compliance and field filtration. Data is qualified as necessary, and the lack of qualification indicates compliance with required parameters.

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ANALYTICAL REPORT

BB&A Environmental - Wilsonville	Project: **Fife AG Fields**	
25195 SW Parkway Ave, Suite #207	Project Number: **PAP182MAG.23E**	**Report ID:**
Wilsonville, OR 97070	Project Manager: **Steve Omo**	**A3C0680 - 04 06 23 1114**

LABORATORY ACCREDITATION INFORMATION

ORELAP Certification ID: OR100062 (Primary Accreditation) - EPA ID: OR01039

All methods and analytes reported from work performed at Apex Laboratories are included on Apex Laboratories' ORELAP Scope of Certification, with the exception of any analyte(s) listed below:

Apex Laboratories

Matrix	Analysis	TNI_ID	Analyte	TNI_ID	Accreditation

All reported analytes are included in Apex Laboratories' current ORELAP scope.

Secondary Accreditations

Apex Laboratories also maintains reciprocal accreditation with non-TNI states (Washington DOE), as well as other state specific accreditations not listed here.

Subcontract Laboratory Accreditations

Subcontracted data falls outside of Apex Laboratories' Scope of Accreditation.
Please see the Subcontract Laboratory report for full details, or contact your Project Manager for more information.

Field Testing Parameters

Results for Field Tested data are provded by the client or sampler, and fall outside of Apex Laboratories' Scope of Accreditation.

Apex Laboratories

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ANALYTICAL REPORT

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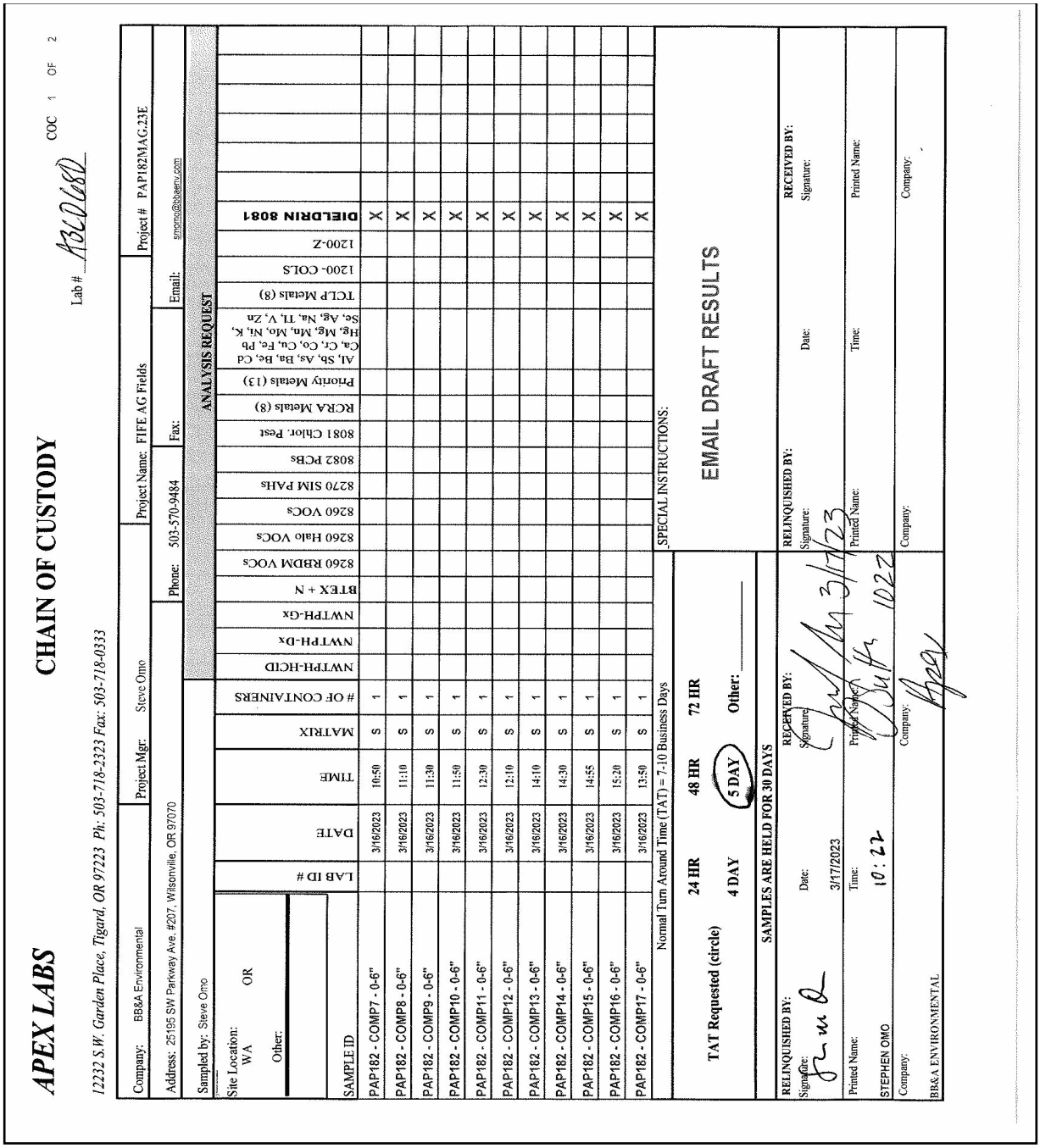
Wilsonville, OR 97070	Project Manager: **Steve Omo**	**A3C0680 - 04 06 23 1114**



APEX LABS

CHAIN OF CUSTODY

COC 1 OF 2

Lab # A3C0680

12232 S.W. Garden Place, Tigard, OR 97223 Ph: 503-718-2323 Fax: 503-718-0333

Company: BB&A Environmental | Project Mgr: Steve Omo | Project Name: FIFE AG Fields | Project # PAP182MAG.23E

Address: 25195 SW Parkway Ave, #207, Wilsonville, OR 97070 | Phone: 503-570-9484 | Fax: | Email: smoro@bbaenv.com

Sampled by: Steve Omo

Site Location: WA OR Other:

ANALYSIS REQUEST

SAMPLE ID	LAB ID #	DATE	TIME	MATRIX	# OF CONTAINERS	NWTPH-HCID	NWTPH-Dx	NWTPH-Gx	BTEX + N	8260 RBDM VOCs	8260 Halo VOCs	8260 VOCs	8270 SIM PAHs	8082 PCBs	8081 Chlor. Pest	RCRA Metals (8)	Priority Metals (13)	Al, Sb, As, Ba, Be, Cd Ca, Cr, Co, Cu, Fe, Pb Hg, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Tl, V, Zn	TCLP Metals (8)	1200- COLS	1200-Z	DIELDRIN 8081
PAP182 - COMP7 - 0-6"		3/16/2023	10:50	S	1																	X
PAP182 - COMP8 - 0-6"		3/16/2023	11:10	S	1																	X
PAP182 - COMP9 - 0-6"		3/16/2023	11:30	S	1																	X
PAP182 - COMP10 - 0-6"		3/16/2023	11:50	S	1																	X
PAP182 - COMP11 - 0-6"		3/16/2023	12:30	S	1																	X
PAP182 - COMP12 - 0-6"		3/16/2023	12:10	S	1																	X
PAP182 - COMP13 - 0-6"		3/16/2023	14:10	S	1																	X
PAP182 - COMP14 - 0-6"		3/16/2023	14:30	S	1																	X
PAP182 - COMP15 - 0-6"		3/16/2023	14:55	S	1																	X
PAP182 - COMP16 - 0-6"		3/16/2023	15:20	S	1																	X
PAP182 - COMP17 - 0-6"		3/16/2023	13:50	S	1																	X

Normal Turn Around Time (TAT) = 7-10 Business Days

SPECIAL INSTRUCTIONS:

EMAIL DRAFT RESULTS

TAT Requested (circle): 24 HR 48 HR 72 HR 4 DAY 5 DAY Other: _____

SAMPLES ARE HELD FOR 30 DAYS

RELINQUISHED BY: Signature: Date: 3/17/2023 Time: 10:22 Printed Name: STEPHEN OMO Company: BB&A ENVIRONMENTAL

RECEIVED BY: Signature: Printed Name: Company:

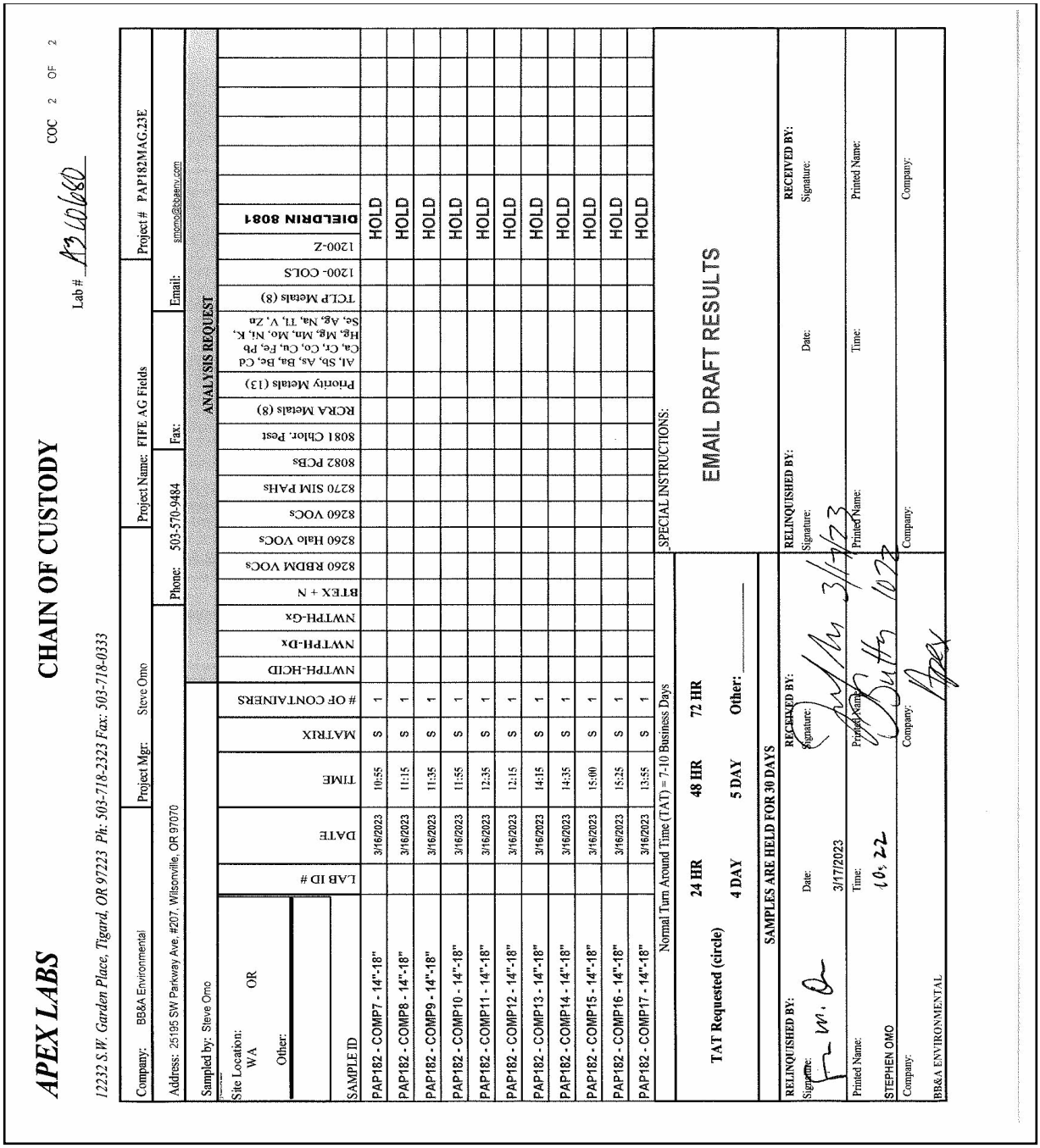
RELINQUISHED BY: Signature: Date: Time: Printed Name: Company:

RECEIVED BY: Signature: Date: 3/17/23 Time: 1022 Printed Name: Company:

Apex Laboratories, LLC
6700 S.W. Sandburg Street
Tigard, OR 97223
503-718-2323
ORELAP ID: **OR100062**

ANALYTICAL REPORT

BB&A Environmental - Wilsonville	Project: **Fife AG Fields**	
25195 SW Parkway Ave, Suite #207	Project Number: **PAP182MAG.23E**	**Report ID:**
Wilsonville, OR 97070	Project Manager: **Steve Omo**	**A3C0680 - 04 06 23 1114**



APEX LABS

CHAIN OF CUSTODY

COC 2 OF 2

Lab # A3C0680

12232 S.W. Garden Place, Tigard, OR 97223 Ph: 503-718-2323 Fax: 503-718-0333

Company: BB&A Environmental | Project Mgr: Steve Omo | Project Name: FIFE AG Fields | Project # PAP182MAG.23E

Address: 25195 SW Parkway Ave. #207, Wilsonville, OR 97070 | Phone: 503-570-9484 | Fax: | Email: smomo@bbaenv.com

Sampled by: Steve Omo

Site Location: WA OR Other:

ANALYSIS REQUEST

SAMPLE ID	LAB ID #	DATE	TIME	MATRIX	# OF CONTAINERS	NWTPH-HCID	NWTPH-Dx	NWTPH-Gx	BTEX + N	8260 RBDM VOCs	8260 Halo VOCs	8260 VOCs	8270 SIM PAHs	8082 PCBs	8081 Chlor. Pest	RCRA Metals (8)	Priority Metals (13)	Al, Sb, As, Ba, Be, Cd Ca, Cr, Co, Cu, Fe, Pb Hg, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Tl, V, Zn	TCLP Metals (8)	1200- COLS	1200-Z	DIELDRIN 8081
PAP182 - COMP7 - 14"-18"		3/16/2023	10:55	S	1																	HOLD
PAP182 - COMP8 - 14"-18"		3/16/2023	11:15	S	1																	HOLD
PAP182 - COMP9 - 14"-18"		3/16/2023	11:35	S	1																	HOLD
PAP182 - COMP10 - 14"-18"		3/16/2023	11:55	S	1																	HOLD
PAP182 - COMP11 - 14"-18"		3/16/2023	12:35	S	1																	HOLD
PAP182 - COMP12 - 14"-18"		3/16/2023	12:15	S	1																	HOLD
PAP182 - COMP13 - 14"-18"		3/16/2023	14:15	S	1																	HOLD
PAP182 - COMP14 - 14"-18"		3/16/2023	14:35	S	1																	HOLD
PAP182 - COMP15 - 14"-18"		3/16/2023	15:00	S	1																	HOLD
PAP182 - COMP16 - 14"-18"		3/16/2023	15:25	S	1																	HOLD
PAP182 - COMP17 - 14"-18"		3/16/2023	13:55	S	1																	HOLD

Normal Turn Around Time (TAT) = 7-10 Business Days

SPECIAL INSTRUCTIONS:

EMAIL DRAFT RESULTS

TAT Requested (circle): 24 HR 48 HR 72 HR 4 DAY 5 DAY Other: _____

SAMPLES ARE HELD FOR 30 DAYS

RELINQUISHED BY: Signature: Date: 3/17/2023 Time: 10:22 Printed Name: STEPHEN OMO Company: BB&A ENVIRONMENTAL

RECEIVED BY: Signature: Date: 3/17/23 Time: 10:22 Printed Name: Company: Apex

RELINQUISHED BY: Signature: Date: Time: Printed Name: Company:

RECEIVED BY: Signature: Date: Time: Printed Name: Company:

Apex Laboratories

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Darrell Auvil, Client Services Manager

APEX LABORATORIES

Apex Laboratories, LLC
6700 S.W. Sandburg Street
Tigard, OR 97223
503-718-2323
ORELAP ID: **OR100062**

ANALYTICAL REPORT

BB&A Environmental - Wilsonville	Project: **Fife AG Fields**	
25195 SW Parkway Ave, Suite #207	Project Number: **PAP182MAG.23E**	**Report ID:**
Wilsonville, OR 97070	Project Manager: **Steve Omo**	**A3C0680 - 04 06 23 1114**

APEX LABS COOLER RECEIPT FORM

Client: BB&A Environmental Element WO#: A3 C0680

Project/Project #: Fife AG Fields PAP182MAG.23E

Delivery Info:

Date/time received: 3/17/23 @ 1022 By: JS

Delivered by: Apex__Client_X_ESS___FedEx__UPS__Radio___Morgan___SDS___Evergreen___Other ___

Cooler Inspection Date/time inspected: 3/17/23 @ 1024 By: JS

Chain of Custody included? Yes Y No _____

Signed/dated by client? Yes Y No _____

	Cooler #1	Cooler #2	Cooler #3	Cooler #4	Cooler #5	Cooler #6	Cooler #7
Temperature (°C)	3.6						
Custody seals? (Y/N)	N						
Received on ice? (Y/N)	Y						
Temp. blanks? (Y/N)	N						
Ice type: (Gel/Real/Other)	Real						
Condition (In/Out):	In						

Cooler out of temp? (Y/(N)) Possible reason why: _____

Green dots applied to out of temperature samples? Yes/(No)

Out of temperature samples form initiated? Yes/(No)

Sample Inspection: Date/time inspected: 3/17/23 @ 1742 By: LS

All samples intact? Yes X No ___ Comments: _____

Bottle labels/COCs agree? Yes X No ___ Comments: No ~~time~~ date is 3/17 on comp 1706"

COC/container discrepancies form initiated? Yes ___ No X

Containers/volumes received appropriate for analysis? Yes X No ___ Comments: _____

Do VOA vials have visible headspace? Yes ___ No ___ NA X

Comments _____

Water samples: pH checked: Yes___No___NA X pH appropriate? Yes___No___NA X

Comments: _____

Additional information: _____

Labeled by: LS Witness: AW Cooler Inspected by: LS

Form Y-003 R-00

Apex Laboratories, LLC
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ANALYTICAL REPORT

Thursday, April 6, 2023

Steve Omo
BB&A Environmental - Wilsonville
25195 SW Parkway Ave, Suite #207
Wilsonville, OR 97070

RE: A3C0819 - Fife AG Fields - PAP182MAG.23E

Thank you for using Apex Laboratories. We greatly appreciate your business and strive to provide the highest quality services to the environmental industry.

Enclosed are the results of analyses for work order A3C0819, which was received by the laboratory on 3/22/2023 at 11:37:00AM.

If you have any questions concerning this report or the services we offer, please feel free to contact me by email at: DAuvil@apex-labs.com, or by phone at 503-718-2323.

Please note: All samples will be disposed of within 30 days of sample receipt, unless prior arrangements have been made.

Cooler Receipt Information

(See Cooler Receipt Form for details)

Default Cooler	2.0 degC

This Final Report is the official version of the data results for this sample submission, unless superseded by a subsequent, labeled amended report.
All other deliverables derived from this data, including Electronic Data Deliverables (EDDs), CLP-like forms, client requested summary sheets, and all other products are considered secondary to this report.

Apex Laboratories

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Darrell Auvil, Client Services Manager

Apex Laboratories, LLC
6700 S.W. Sandburg Street
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ORELAP ID: **OR100062**

ANALYTICAL REPORT

BB&A Environmental - Wilsonville	Project: **Fife AG Fields**	
25195 SW Parkway Ave, Suite #207	Project Number: **PAP182MAG.23E**	**Report ID:**
Wilsonville, OR 97070	Project Manager: **Steve Omo**	**A3C0819 - 04 06 23 1137**

ANALYTICAL REPORT FOR SAMPLES

SAMPLE INFORMATION

Client Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
PAP182-COMP7-12-0''-6''	A3C0819-01	Soil	03/16/23 15:30	03/22/23 11:37
PAP182-COMP7-12-14''-18''	A3C0819-02	Soil	03/16/23 15:40	03/22/23 11:37
PAP182-COMP13-17-0''-6''	A3C0819-03	Soil	03/16/23 16:00	03/22/23 11:37
PAP182-COMP13-17-14''-18''	A3C0819-04	Soil	03/16/23 15:50	03/22/23 11:37

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ANALYTICAL REPORT

BB&A Environmental - Wilsonville	Project: **Fife AG Fields**	
25195 SW Parkway Ave, Suite #207	Project Number: **PAP182MAG.23E**	**Report ID:**
Wilsonville, OR 97070	Project Manager: **Steve Omo**	**A3C0819 - 04 06 23 1137**

ANALYTICAL SAMPLE RESULTS

Organochlorine Pesticides by EPA 8081B

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
PAP182-COMP7-12-0"-6" (A3C0819-01RE1)				**Matrix: Soil**		**Batch: 23C0987**		**C-05**
Dieldrin	**78.8**	---	2.37	ug/kg dry	1	03/29/23 18:53	EPA 8081B	
Surrogate: 2,4,5,6-TCMX (Surr)		*Recovery: 69 %*	*Limits: 42-129 %*		*1*	*03/29/23 18:53*	*EPA 8081B*	
Decachlorobiphenyl (Surr)		*118 %*	*55-130 %*		*1*	*03/29/23 18:53*	*EPA 8081B*	
PAP182-COMP7-12-14"-18" (A3C0819-02RE1)				**Matrix: Soil**		**Batch: 23C0987**		**C-05**
Dieldrin	**65.8**	---	2.30	ug/kg dry	1	03/29/23 19:09	EPA 8081B	
Surrogate: 2,4,5,6-TCMX (Surr)		*Recovery: 80 %*	*Limits: 42-129 %*		*1*	*03/29/23 19:09*	*EPA 8081B*	
Decachlorobiphenyl (Surr)		*114 %*	*55-130 %*		*1*	*03/29/23 19:09*	*EPA 8081B*	
PAP182-COMP13-17-0"-6" (A3C0819-03RE1)				**Matrix: Soil**		**Batch: 23C0987**		**C-05**
Dieldrin	**86.0**	---	2.47	ug/kg dry	1	03/29/23 19:26	EPA 8081B	
Surrogate: 2,4,5,6-TCMX (Surr)		*Recovery: 77 %*	*Limits: 42-129 %*		*1*	*03/29/23 19:26*	*EPA 8081B*	
Decachlorobiphenyl (Surr)		*108 %*	*55-130 %*		*1*	*03/29/23 19:26*	*EPA 8081B*	
PAP182-COMP13-17-14"-18" (A3C0819-04RE1)				**Matrix: Soil**		**Batch: 23C0987**		**C-05**
Dieldrin	**58.9**	---	2.40	ug/kg dry	1	03/29/23 19:42	EPA 8081B	
Surrogate: 2,4,5,6-TCMX (Surr)		*Recovery: 74 %*	*Limits: 42-129 %*		*1*	*03/29/23 19:42*	*EPA 8081B*	
Decachlorobiphenyl (Surr)		*114 %*	*55-130 %*		*1*	*03/29/23 19:42*	*EPA 8081B*	

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ORELAP ID: **OR100062**

ANALYTICAL REPORT

BB&A Environmental - Wilsonville	Project: **Fife AG Fields**	
25195 SW Parkway Ave, Suite #207	Project Number: **PAP182MAG.23E**	**Report ID:**
Wilsonville, OR 97070	Project Manager: **Steve Omo**	**A3C0819 - 04 06 23 1137**

ANALYTICAL SAMPLE RESULTS

Percent Dry Weight

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
PAP182-COMP7-12-0"-6" (A3C0819-01)				**Matrix: Soil**		**Batch: 23C0928**		
% Solids	**84.1**	---	1.00	%	1	03/24/23 06:38	EPA 8000D	
PAP182-COMP7-12-14"-18" (A3C0819-02)				**Matrix: Soil**		**Batch: 23C0928**		
% Solids	**86.0**	---	1.00	%	1	03/24/23 06:38	EPA 8000D	
PAP182-COMP13-17-0"-6" (A3C0819-03)				**Matrix: Soil**		**Batch: 23C0928**		
% Solids	**80.4**	---	1.00	%	1	03/24/23 06:38	EPA 8000D	
PAP182-COMP13-17-14"-18" (A3C0819-04)				**Matrix: Soil**		**Batch: 23C0928**		
% Solids	**82.9**	---	1.00	%	1	03/24/23 06:38	EPA 8000D	

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6700 S.W. Sandburg Street
Tigard, OR 97223
503-718-2323
ORELAP ID: **OR100062**

BB&A Environmental - Wilsonville	Project: **Fife AG Fields**	
25195 SW Parkway Ave, Suite #207	Project Number: **PAP182MAG.23E**	**Report ID:**
Wilsonville, OR 97070	Project Manager: **Steve Omo**	**A3C0819 - 04 06 23 1137**

QUALITY CONTROL (QC) SAMPLE RESULTS

Organochlorine Pesticides by EPA 8081B

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 23C0987 - EPA 3546/3640A (GPC)							**Soil**					
Blank (23C0987-BLK1)			Prepared: 03/24/23 08:47		Analyzed: 03/28/23 11:39							**C-05**
EPA 8081B												
Aldrin	ND	---	2.00	ug/kg wet	1	---	---	---	---	---	---	
alpha-BHC	ND	---	2.00	ug/kg wet	1	---	---	---	---	---	---	
beta-BHC	ND	---	2.00	ug/kg wet	1	---	---	---	---	---	---	
delta-BHC	ND	---	2.00	ug/kg wet	1	---	---	---	---	---	---	
gamma-BHC (Lindane)	ND	---	2.00	ug/kg wet	1	---	---	---	---	---	---	
cis-Chlordane	ND	---	2.00	ug/kg wet	1	---	---	---	---	---	---	
trans-Chlordane	ND	---	2.00	ug/kg wet	1	---	---	---	---	---	---	
4,4'-DDD	ND	---	2.00	ug/kg wet	1	---	---	---	---	---	---	
4,4'-DDE	ND	---	2.00	ug/kg wet	1	---	---	---	---	---	---	
4,4'-DDT	ND	---	2.00	ug/kg wet	1	---	---	---	---	---	---	
Dieldrin	ND	---	2.00	ug/kg wet	1	---	---	---	---	---	---	
Endosulfan I	ND	---	2.00	ug/kg wet	1	---	---	---	---	---	---	
Endosulfan II	ND	---	2.00	ug/kg wet	1	---	---	---	---	---	---	
Endosulfan sulfate	ND	---	2.00	ug/kg wet	1	---	---	---	---	---	---	
Endrin	ND	---	2.00	ug/kg wet	1	---	---	---	---	---	---	
Endrin Aldehyde	ND	---	2.00	ug/kg wet	1	---	---	---	---	---	---	
Endrin ketone	ND	---	2.00	ug/kg wet	1	---	---	---	---	---	---	
Heptachlor	ND	---	2.00	ug/kg wet	1	---	---	---	---	---	---	
Heptachlor epoxide	ND	---	2.00	ug/kg wet	1	---	---	---	---	---	---	
Methoxychlor	ND	---	6.00	ug/kg wet	1	---	---	---	---	---	---	
Chlordane (Technical)	ND	---	60.0	ug/kg wet	1	---	---	---	---	---	---	
Toxaphene (Total)	ND	---	60.0	ug/kg wet	1	---	---	---	---	---	---	
Surr: 2,4,5,6-TCMX (Surr)			*Recovery: 72 %*		*Limits: 42-129 %*			*Dilution: 1x*				
Decachlorobiphenyl (Surr)			*126 %*		*55-130 %*			*"*				
LCS (23C0987-BS1)			Prepared: 03/24/23 08:47		Analyzed: 03/28/23 11:56							**C-05**
EPA 8081B												
Aldrin	39.4	---	2.00	ug/kg wet	1	50.0	---	79	45-136%	---	---	
alpha-BHC	37.9	---	2.00	ug/kg wet	1	50.0	---	76	45-137%	---	---	
beta-BHC	38.8	---	2.00	ug/kg wet	1	50.0	---	78	50-136%	---	---	
delta-BHC	44.1	---	2.00	ug/kg wet	1	50.0	---	88	47-139%	---	---	
gamma-BHC (Lindane)	38.6	---	2.00	ug/kg wet	1	50.0	---	77	49-135%	---	---	
cis-Chlordane	44.8	---	2.00	ug/kg wet	1	50.0	---	90	54-133%	---	---	

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Darrell Auvil, Client Services Manager

APEX LABORATORIES

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ORELAP ID: **OR100062**

ANALYTICAL REPORT

BB&A Environmental - Wilsonville	Project: **Fife AG Fields**	
25195 SW Parkway Ave, Suite #207	Project Number: **PAP182MAG.23E**	**Report ID:**
Wilsonville, OR 97070	Project Manager: **Steve Omo**	**A3C0819 - 04 06 23 1137**

QUALITY CONTROL (QC) SAMPLE RESULTS

Organochlorine Pesticides by EPA 8081B

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 23C0987 - EPA 3546/3640A (GPC)							**Soil**					
LCS (23C0987-BS1)			Prepared: 03/24/23 08:47		Analyzed: 03/28/23 11:56							**C-05**
trans-Chlordane	44.2	---	2.00	ug/kg wet	1	50.0	---	88	53-135%	---	---	
4,4'-DDD	54.3	---	2.00	ug/kg wet	1	50.0	---	109	56-139%	---	---	
4,4'-DDE	51.0	---	2.00	ug/kg wet	1	50.0	---	102	56-134%	---	---	
4,4'-DDT	63.3	---	2.00	ug/kg wet	1	50.0	---	127	50-141%	---	---	
Dieldrin	52.1	---	2.00	ug/kg wet	1	50.0	---	104	56-136%	---	---	
Endosulfan I	48.2	---	2.00	ug/kg wet	1	50.0	---	96	53-132%	---	---	
Endosulfan II	54.7	---	2.00	ug/kg wet	1	50.0	---	109	53-134%	---	---	
Endosulfan sulfate	55.9	---	2.00	ug/kg wet	1	50.0	---	112	55-136%	---	---	
Endrin	61.5	---	2.00	ug/kg wet	1	50.0	---	123	57-140%	---	---	
Endrin Aldehyde	45.6	---	2.00	ug/kg wet	1	50.0	---	91	35-137%	---	---	
Endrin ketone	58.9	---	2.00	ug/kg wet	1	50.0	---	118	55-136%	---	---	
Heptachlor	39.1	---	2.00	ug/kg wet	1	50.0	---	78	47-136%	---	---	
Heptachlor epoxide	44.5	---	2.00	ug/kg wet	1	50.0	---	89	52-136%	---	---	
Methoxychlor	69.8	---	6.00	ug/kg wet	1	50.0	---	140	52-143%	---	---	
Surr: 2,4,5,6-TCMX (Surr)			*Recovery: 73 %*		*Limits: 42-129 %*				*Dilution: 1x*			
Decachlorobiphenyl (Surr)			*122 %*		*55-130 %*				*"*			
Duplicate (23C0987-DUP1)			Prepared: 03/24/23 08:47		Analyzed: 03/28/23 12:31							**C-05**
QC Source Sample: Non-SDG (A3C0680-12RE1)												
Aldrin	ND	---	2.30	ug/kg dry	1	---	ND	---	---	---	30%	
alpha-BHC	ND	---	2.30	ug/kg dry	1	---	ND	---	---	---	30%	
beta-BHC	ND	---	2.30	ug/kg dry	1	---	ND	---	---	---	30%	
delta-BHC	ND	---	2.30	ug/kg dry	1	---	ND	---	---	---	30%	
gamma-BHC (Lindane)	ND	---	2.30	ug/kg dry	1	---	ND	---	---	---	30%	
cis-Chlordane	**29.4**	---	2.30	ug/kg dry	1	---	26.5	---	---	11	30%	
trans-Chlordane	**20.3**	---	2.30	ug/kg dry	1	---	18.0	---	---	12	30%	
4,4'-DDD	ND	---	3.33	ug/kg dry	1	---	ND	---	---	---	30%	R-02
4,4'-DDE	ND	---	2.30	ug/kg dry	1	---	ND	---	---	---	30%	
4,4'-DDT	ND	---	2.30	ug/kg dry	1	---	ND	---	---	---	30%	
Dieldrin	**72.9**	---	2.30	ug/kg dry	1	---	64.8	---	---	12	30%	
Endosulfan I	ND	---	2.30	ug/kg dry	1	---	ND	---	---	---	30%	
Endosulfan II	ND	---	2.30	ug/kg dry	1	---	ND	---	---	---	30%	
Endosulfan sulfate	ND	---	2.30	ug/kg dry	1	---	ND	---	---	---	30%	
Endrin	ND	---	2.30	ug/kg dry	1	---	ND	---	---	---	30%	

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ORELAP ID: **OR100062**

BB&A Environmental - Wilsonville	Project: **Fife AG Fields**	
25195 SW Parkway Ave, Suite #207	Project Number: **PAP182MAG.23E**	**Report ID:**
Wilsonville, OR 97070	Project Manager: **Steve Omo**	**A3C0819 - 04 06 23 1137**

QUALITY CONTROL (QC) SAMPLE RESULTS

Organochlorine Pesticides by EPA 8081B

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 23C0987 - EPA 3546/3640A (GPC)							**Soil**					
Duplicate (23C0987-DUP1)			Prepared: 03/24/23 08:47		Analyzed: 03/28/23 12:31							**C-05**
QC Source Sample: Non-SDG (A3C0680-12RE1)												
Endrin Aldehyde	ND	---	2.30	ug/kg dry	1	---	ND	---	---	---	30%	
Endrin ketone	ND	---	2.30	ug/kg dry	1	---	ND	---	---	---	30%	
Heptachlor	ND	---	2.30	ug/kg dry	1	---	ND	---	---	---	30%	
Heptachlor epoxide	ND	---	2.30	ug/kg dry	1	---	ND	---	---	---	30%	
Methoxychlor	ND	---	6.89	ug/kg dry	1	---	ND	---	---	---	30%	
Toxaphene (Total)	ND	---	68.9	ug/kg dry	1	---	ND	---	---	---	30%	
Surr: 2,4,5,6-TCMX (Surr)			*Recovery: 79 %*		*Limits: 42-129 %*				*Dilution: 1x*			
Decachlorobiphenyl (Surr)			*122 %*		*55-130 %*				*"*			
Duplicate (23C0987-DUP2)			Prepared: 03/24/23 08:47		Analyzed: 03/29/23 14:48							**C-05**
QC Source Sample: Non-SDG (A3C0680-12RE2)												
Chlordane (Technical)	**254**	---	68.9	ug/kg dry	1	---	223	---	---	13	30%	
Matrix Spike (23C0987-MS1)			Prepared: 03/24/23 08:47		Analyzed: 03/28/23 13:23							**C-05**
QC Source Sample: Non-SDG (A3C0825-02RE1)												
EPA 8081B												
Aldrin	60.4	---	2.68	ug/kg dry	1	67.0	2.04	87	45-136%	---	---	
alpha-BHC	55.8	---	2.68	ug/kg dry	1	67.0	ND	83	45-137%	---	---	
beta-BHC	69.0	---	2.68	ug/kg dry	1	67.0	ND	103	50-136%	---	---	
delta-BHC	76.7	---	2.68	ug/kg dry	1	67.0	ND	115	47-139%	---	---	
gamma-BHC (Lindane)	58.0	---	2.68	ug/kg dry	1	67.0	ND	87	49-135%	---	---	
cis-Chlordane	73.2	---	2.68	ug/kg dry	1	67.0	ND	109	54-133%	---	---	
trans-Chlordane	72.6	---	2.68	ug/kg dry	1	67.0	ND	108	53-135%	---	---	
4,4'-DDD	93.4	---	2.68	ug/kg dry	1	67.0	ND	139	56-139%	---	---	
4,4'-DDE	91.2	---	2.68	ug/kg dry	1	67.0	ND	**136**	**56-134%**	---	---	Q-01
4,4'-DDT	105	---	2.68	ug/kg dry	1	67.0	ND	**157**	**50-141%**	---	---	Q-01
Endosulfan I	72.1	---	2.68	ug/kg dry	1	67.0	ND	108	53-132%	---	---	
Endosulfan II	83.7	---	2.68	ug/kg dry	1	67.0	ND	125	53-134%	---	---	
Endosulfan sulfate	84.6	---	2.68	ug/kg dry	1	67.0	ND	126	55-136%	---	---	
Endrin	97.0	---	2.68	ug/kg dry	1	67.0	ND	**145**	**57-140%**	---	---	Q-01
Endrin Aldehyde	73.5	---	2.68	ug/kg dry	1	67.0	ND	110	35-137%	---	---	
Endrin ketone	89.9	---	2.68	ug/kg dry	1	67.0	ND	134	55-136%	---	---	

Apex Laboratories

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Darrell Auvil, Client Services Manager

Apex Laboratories, LLC
6700 S.W. Sandburg Street
Tigard, OR 97223
503-718-2323
ORELAP ID: **OR100062**

BB&A Environmental - Wilsonville	Project: **Fife AG Fields**	
25195 SW Parkway Ave, Suite #207	Project Number: **PAP182MAG.23E**	**Report ID:**
Wilsonville, OR 97070	Project Manager: **Steve Omo**	**A3C0819 - 04 06 23 1137**

QUALITY CONTROL (QC) SAMPLE RESULTS

Organochlorine Pesticides by EPA 8081B

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 23C0987 - EPA 3546/3640A (GPC)							**Soil**					
Matrix Spike (23C0987-MS1)			Prepared: 03/24/23 08:47		Analyzed: 03/28/23 13:23							**C-05**
QC Source Sample: Non-SDG (A3C0825-02RE1)												
Heptachlor	59.9	---	2.68	ug/kg dry	1	67.0	ND	89	47-136%	---	---	
Heptachlor epoxide	68.7	---	2.68	ug/kg dry	1	67.0	ND	103	52-136%	---	---	
Methoxychlor	124	---	8.03	ug/kg dry	1	67.0	ND	**185**	**52-143%**	---	---	Q-01
Surr: 2,4,5,6-TCMX (Surr)			*Recovery: 73 %*		*Limits: 42-129 %*			*Dilution: 1x*				
Decachlorobiphenyl (Surr)			*125 %*		*55-130 %*			*"*				
Matrix Spike (23C0987-MS2)			Prepared: 03/24/23 08:47		Analyzed: 03/28/23 16:42							**C-05**
QC Source Sample: Non-SDG (A3C0825-02RE2)												
EPA 8081B												
Dieldrin	444	---	13.4	ug/kg dry	5	67.0	281	**243**	**56-136%**	---	---	Q-03

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ANALYTICAL REPORT

BB&A Environmental - Wilsonville	Project: Fife AG Fields	
25195 SW Parkway Ave, Suite #207	Project Number: PAP182MAG.23E	Report ID:
Wilsonville, OR 97070	Project Manager: Steve Omo	A3C0819 - 04 06 23 1137

QUALITY CONTROL (QC) SAMPLE RESULTS

Percent Dry Weight

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 23C0928 - Total Solids (Dry Weight)							Soil					
Duplicate (23C0928-DUP1)			Prepared: 03/23/23 13:39		Analyzed: 03/24/23 06:38							
QC Source Sample: Non-SDG (A3C0680-12)												
% Solids	**86.7**	---	1.00	%	1	---	86.8	---	---	0.07	10%	
Duplicate (23C0928-DUP2)			Prepared: 03/23/23 13:39		Analyzed: 03/24/23 06:38							
QC Source Sample: Non-SDG (A3C0680-13)												
% Solids	**83.9**	---	1.00	%	1	---	84.1	---	---	0.1	10%	
Duplicate (23C0928-DUP3)			Prepared: 03/23/23 13:39		Analyzed: 03/24/23 06:38							
QC Source Sample: Non-SDG (A3C0680-14)												
% Solids	**86.2**	---	1.00	%	1	---	86.0	---	---	0.2	10%	
Duplicate (23C0928-DUP4)			Prepared: 03/23/23 20:51		Analyzed: 03/24/23 06:38							
QC Source Sample: Non-SDG (A3C0846-01)												
% Solids	**72.4**	---	1.00	%	1	---	72.2	---	---	0.3	10%	
Duplicate (23C0928-DUP5)			Prepared: 03/23/23 20:51		Analyzed: 03/24/23 06:38							
QC Source Sample: Non-SDG (A3C0846-02)												
% Solids	**87.5**	---	1.00	%	1	---	89.2	---	---	2	10%	
Duplicate (23C0928-DUP6)			Prepared: 03/23/23 20:51		Analyzed: 03/24/23 06:38							
QC Source Sample: Non-SDG (A3C0846-03)												
% Solids	**73.4**	---	1.00	%	1	---	73.6	---	---	0.3	10%	

No Client related Batch QC samples analyzed for this batch. See notes page for more information.

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ANALYTICAL REPORT

BB&A Environmental - Wilsonville	Project: Fife AG Fields	
25195 SW Parkway Ave, Suite #207	Project Number: PAP182MAG.23E	Report ID:
Wilsonville, OR 97070	Project Manager: Steve Omo	A3C0819 - 04 06 23 1137

SAMPLE PREPARATION INFORMATION

Organochlorine Pesticides by EPA 8081B

Prep: EPA 3546/3640A (GPC)

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 23C0987							
A3C0819-01RE1	Soil	EPA 8081B	03/16/23 15:30	03/24/23 08:47	10.02g/10mL	10g/5mL	2.00
A3C0819-02RE1	Soil	EPA 8081B	03/16/23 15:40	03/24/23 08:47	10.13g/10mL	10g/5mL	1.97
A3C0819-03RE1	Soil	EPA 8081B	03/16/23 16:00	03/24/23 08:47	10.07g/10mL	10g/5mL	1.99
A3C0819-04RE1	Soil	EPA 8081B	03/16/23 15:50	03/24/23 08:47	10.05g/10mL	10g/5mL	1.99

Percent Dry Weight

Prep: Total Solids (Dry Weight)

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 23C0928							
A3C0819-01	Soil	EPA 8000D	03/16/23 15:30	03/23/23 13:39			NA
A3C0819-02	Soil	EPA 8000D	03/16/23 15:40	03/23/23 13:39			NA
A3C0819-03	Soil	EPA 8000D	03/16/23 16:00	03/23/23 13:39			NA
A3C0819-04	Soil	EPA 8000D	03/16/23 15:50	03/23/23 13:39			NA

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BB&A Environmental - Wilsonville	Project: **Fife AG Fields**	
25195 SW Parkway Ave, Suite #207	Project Number: **PAP182MAG.23E**	**Report ID:**
Wilsonville, OR 97070	Project Manager: **Steve Omo**	**A3C0819 - 04 06 23 1137**

QUALIFIER DEFINITIONS

Client Sample and Quality Control (QC) Sample Qualifier Definitions:

Apex Laboratories

C-05	Extract has undergone a GPC (Gel-Permeation Chromatography) cleanup per EPA 3640A. Reporting levels may be raised due to dilution necessary for cleanup. Sample Final Volume includes the GPC dilution factor, see the Prep page for details.
Q-01	Spike recovery and/or RPD is outside acceptance limits.
Q-03	Spike recovery and/or RPD is outside control limits due to the high concentration of analyte present in the sample.
R-02	The Reporting Limit for this analyte has been raised to account for interference from coeluting organic compounds present in the sample.

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ANALYTICAL REPORT

BB&A Environmental - Wilsonville	Project: **Fife AG Fields**	
25195 SW Parkway Ave, Suite #207	Project Number: **PAP182MAG.23E**	**Report ID:**
Wilsonville, OR 97070	Project Manager: **Steve Omo**	**A3C0819 - 04 06 23 1137**

REPORTING NOTES AND CONVENTIONS:

Abbreviations:

DET Analyte DETECTED at or above the detection or reporting limit.

ND Analyte NOT DETECTED at or above the detection or reporting limit.

NR Result Not Reported

RPD Relative Percent Difference. RPDs for Matrix Spikes and Matrix Spike Duplicates are based on concentration, not recovery.

Detection Limits: Limit of Detection (LOD)

Limits of Detection (LODs) are normally set at a level of one half the validated Limit of Quantitation (LOQ).
If no value is listed ('-----'), then the data has not been evaluated below the Reporting Limit.

Reporting Limits: Limit of Quantitation (LOQ)

Validated Limits of Quantitation (LOQs) are reported as the Reporting Limits for all analyses where the LOQ, MRL, PQL or CRL are requested. The LOQ represents a level at or above the low point of the calibration curve, that has been validated according to Apex Laboratories' comprehensive LOQ policies and procedures.

Reporting Conventions:

Basis: Results for soil samples are generally reported on a 100% dry weight basis.
The Result Basis is listed following the units as " dry", " wet", or " " (blank) designation.

" dry" Sample results and Reporting Limits are reported on a dry weight basis. (i.e. "ug/kg dry")
See Percent Solids section for details of dry weight analysis.

" wet" Sample results and Reporting Limits for this analysis are normally dry weight corrected, but have not been modified in this case.

" " Results without 'wet' or 'dry' designation are not normally dry weight corrected. These results are considered 'As Received'.

QC Source:

In cases where there is insufficient sample provided for Sample Duplicates and/or Matrix Spikes, a Lab Control Sample Duplicate (LCS Dup) may be analyzed to demonstrate accuracy and precision of the extraction batch.

Non-Client Batch QC Samples (Duplicates and Matrix Spike/Duplicates) may not be included in this report. Please request a Full QC report if this data is required.

Miscellaneous Notes:

" --- " QC results are not applicable. For example, % Recoveries for Blanks and Duplicates, % RPD for Blanks, Blank Spikes and Matrix Spikes, etc.

" *** " Used to indicate a possible discrepancy with the Sample and Sample Duplicate results when the %RPD is not available. In this case, either the Sample or the Sample Duplicate has a reportable result for this analyte, while the other is Non Detect (ND).

Blanks:

Standard practice is to evaluate the results from Blank QC Samples down to a level equal to ½ the Reporting Limit (RL).
-For Blank hits falling between ½ the RL and the RL (J flagged hits), the associated sample and QC data will receive a 'B-02' qualifier.
-For Blank hits above the RL, the associated sample and QC data will receive a 'B' qualifier, per Apex Laboratories' Blank Policy.
For further details, please request a copy of this document.

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REPORTING NOTES AND CONVENTIONS (Cont.):

Blanks (Cont.):

Sample results flagged with a 'B' or 'B-02' qualifier are potentially biased high if the sample results are less than ten times the level found in the blank for inorganic analyses, or less than five times the level found in the blank for organic analyses.

'B' and 'B-02' qualifications are only applied to sample results detected above the Reporting Level.

Preparation Notes:

Mixed Matrix Samples:

Water Samples:

Water samples containing significant amounts of sediment are decanted or separated prior to extraction, and only the water portion analyzed, unless otherwise directed by the client.

Soil and Sediment Samples:

Soil and Sediment samples containing significant amounts of water are decanted prior to extraction, and only the solid portion analyzed, unless otherwise directed by the client.

Sampling and Preservation Notes:

Certain regulatory programs, such as National Pollutant Discharge Elimination System (NPDES), require that activities such as sample filtration (for dissolved metals, orthophosphate, hexavalent chromium, etc.) and testing of short hold analytes (pH, Dissolved Oxygen, etc.) be performed in the field (on-site) within a short time window. In addition, sample matrix spikes are required for some analyses, and sufficient volume must be provided, and billable site specific QC requested, if this is required. All regulatory permits should be reviewed to ensure that these requirements are being met.

Data users should be aware of which regulations pertain to the samples they submit for testing. If related sample collection activities are not approved for a particular regulatory program, results should be considered estimates. Apex Laboratories will qualify these analytes according to the most stringent requirements, however results for samples that are for non-regulatory purposes may be acceptable.

Samples that have been filtered and preserved at Apex Laboratories per client request are listed in the preparation section of the report with the date and time of filtration listed.

Apex Laboratories maintains detailed records on sample receipt, including client label verification, cooler temperature, sample preservation, hold time compliance and field filtration. Data is qualified as necessary, and the lack of qualification indicates compliance with required parameters.

Apex Laboratories, LLC
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Wilsonville, OR 97070	Project Manager: **Steve Omo**	**A3C0819 - 04 06 23 1137**

LABORATORY ACCREDITATION INFORMATION

ORELAP Certification ID: OR100062 (Primary Accreditation) - EPA ID: OR01039

All methods and analytes reported from work performed at Apex Laboratories are included on Apex Laboratories' ORELAP Scope of Certification, with the exception of any analyte(s) listed below:

Apex Laboratories

Matrix	Analysis	TNI_ID	Analyte	TNI_ID	Accreditation

All reported analytes are included in Apex Laboratories' current ORELAP scope.

Secondary Accreditations

Apex Laboratories also maintains reciprocal accreditation with non-TNI states (Washington DOE), as well as other state specific accreditations not listed here.

Subcontract Laboratory Accreditations

Subcontracted data falls outside of Apex Laboratories' Scope of Accreditation.
Please see the Subcontract Laboratory report for full details, or contact your Project Manager for more information.

Field Testing Parameters

Results for Field Tested data are provded by the client or sampler, and fall outside of Apex Laboratories' Scope of Accreditation.

Apex Laboratories, LLC
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ANALYTICAL REPORT

BB&A Environmental - Wilsonville	Project: **Fife AG Fields**	
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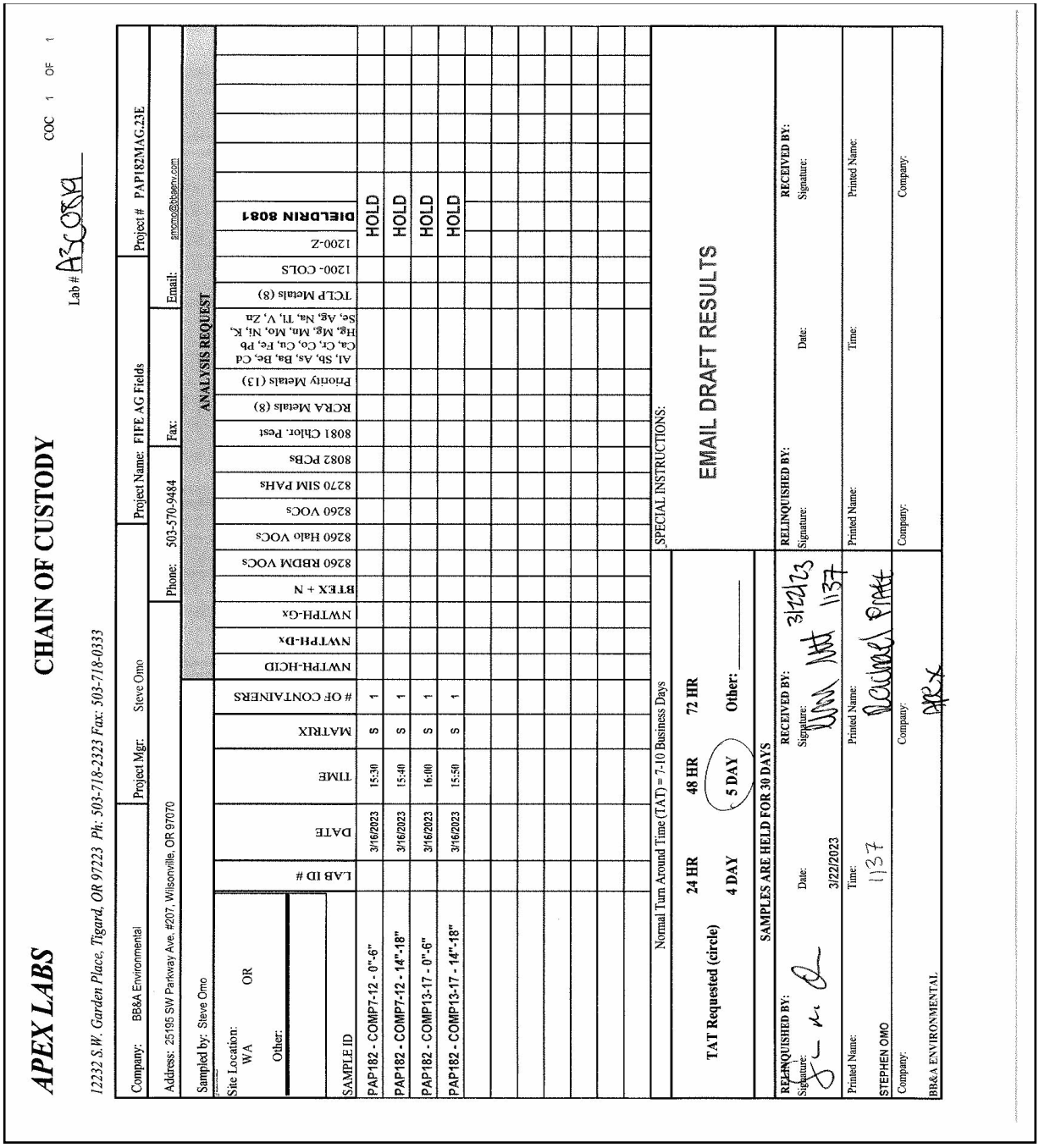

APEX LABS

CHAIN OF CUSTODY

COC 1 OF 1

Lab # A3C0819

12232 S.W. Garden Place, Tigard, OR 97223 Ph: 503-718-2323 Fax: 503-718-0333

Company: BB&A Environmental | Project Mgr: Steve Omo | Project Name: FIFE AG Fields | Project # PAP182MAG.23E

Address: 25195 SW Parkway Ave, #207, Wilsonville, OR 97070 | Phone: 503-570-9484 | Fax: | Email: smomo@bbaenv.com

Sampled by: Steve Omo

Site Location: WA OR

Other:

ANALYSIS REQUEST

SAMPLE ID	LAB ID #	DATE	TIME	MATRIX	# OF CONTAINERS	NWTPH-HCID	NWTPH-Dx	NWTPH-Gx	BTEX + N	8260 RBDM VOCs	8260 Halo VOCs	8260 VOCs	8270 SIM PAHs	8082 PCBs	8081 Chlor. Pest	RCRA Metals (8)	Priority Metals (13)	Al, Sb, As, Ba, Be, Cd Ca, Cr, Co, Cu, Fe, Pb Hg, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Tl, V, Zn	TCLP Metals (8)	1200- COLS	1200-Z	DIELDRIN 8081
PAP182 - COMP7-12 - 0"-6"		3/16/2023	15:30	S	1																	HOLD
PAP182 - COMP7-12 - 14"-18"		3/16/2023	15:40	S	1																	HOLD
PAP182 - COMP13-17 - 0"-6"		3/16/2023	16:00	S	1																	HOLD
PAP182 - COMP13-17 - 14"-18"		3/16/2023	15:50	S	1																	HOLD

SPECIAL INSTRUCTIONS:

EMAIL DRAFT RESULTS

Normal Turn Around Time (TAT) = 7-10 Business Days

TAT Requested (circle): 24 HR | 48 HR | 72 HR | 4 DAY | 5 DAY | Other: _____

SAMPLES ARE HELD FOR 30 DAYS

RELINQUISHED BY: Signature: Date: 3/22/2023 Time: 1137 Printed Name: STEPHEN OMO Company: BB&A ENVIRONMENTAL

RECEIVED BY: Signature: Date: 3/22/23 Time: 1137 Printed Name: Darrell Pratt Company: APEX

RELINQUISHED BY: Signature: Date: Time: Printed Name: Company:

RECEIVED BY: Signature: Date: Time: Printed Name: Company:

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ORELAP ID: **OR100062**

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25195 SW Parkway Ave, Suite #207	Project Number: **PAP182MAG.23E**	**Report ID:**
Wilsonville, OR 97070	Project Manager: **Steve Omo**	**A3C0819 - 04 06 23 1137**

APEX LABS COOLER RECEIPT FORM

Client: BB&A Environmental Element WO#: A3C0819

Project/Project #: Fife AG Fields / PAP182MAG.23E

Delivery Info:

Date/time received: 3/22/23 @ 1137 By: RMP

Delivered by: Apex__Client X ESS__FedEx__UPS__Radio__Morgan__SDS__Evergreen__Other__

Cooler Inspection Date/time inspected: 3/22/23 @ 1140 By: RMP

Chain of Custody included? Yes X No _____

Signed/dated by client? Yes X No _____

	Cooler #1	Cooler #2	Cooler #3	Cooler #4	Cooler #5	Cooler #6	Cooler #7
Temperature (°C)	2.6						
Custody seals? (Y/N)	N						
Received on ice? (Y/N)	Y						
Temp. blanks? (Y/N)	Y						
Ice type: (Gel/Real/Other)	gel						
Condition (In/Out):	In						

Cooler out of temp? (Y/(N)) Possible reason why: _____

Green dots applied to out of temperature samples? Yes/(No)

Out of temperature samples form initiated? Yes/(No) 3/22/23

Sample Inspection: Date/time inspected: ~~3/23~~ 3/22/23 @ 15:54 By: RMP

RMP 3/22

All samples intact? Yes X No ___ Comments: _____

Bottle labels/COCs agree? Yes X No ___ Comments: _____

COC/container discrepancies form initiated? Yes ___ No X

Containers/volumes received appropriate for analysis? Yes X No ___ Comments: _____

Do VOA vials have visible headspace? Yes ___ No ___ NA X

Comments _____

Water samples: pH checked: Yes___No___NA X pH appropriate? Yes___No___NA X

Comments: _____

Additional information: _____

Labeled by:	Witness:	Cooler Inspected by:
RMP	DKK	RMP

Form Y-003 R-00

Apex Laboratories

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