

CSID 4150

**WORKSHEET 1
SUMMARY SCORE SHEET**

Site Name/Location:

Briggs Nursery
4407 Henderson Blvd. SE
Olympia, WA 98501
Facility ID: 35797926

Thurston County, S36/T18/R2W
Parcel# numerous
Lat: 47° 0' 21.49"
Long: 122° 52' 50.84"
Site scored/ranked for August
17, 2004 update.

Site Description:

Briggs Nursery has been in the business of growing and wholesaling landscape plant material at this site since 1912, and consists of approximately 135 acres. This site is located in the southeast portion of the City of Olympia at the intersection of Henderson Boulevard and Yelm Highway. This site is relatively complex in its topography with multiple elevated areas and natural depressions. There are five kettles located throughout the site. A wood frame building functions as the facility office. Another building is located near the office and functions as the shop and maintenance area. Across Henderson Boulevard and to the east of the main facility is another structure functioning as a research laboratory. There are numerous small permanent and temporary structures on the site. These structures function as storage areas for products and chemicals, areas for mixing soils and chemicals, or greenhouse for immature plants. Currently, two underground storage tanks are used at the facility. The tanks consist of a 1000-gallon tank containing gasoline and a 500-gallon tank containing diesel fuel. The tanks were tested in February 1998 and showed they were not leaking and are structurally sound.

A natural depression located on the property was historically used as an on-site debris landfill commonly referred to as the "Debris Field". The site was ranked a "2", cleaned up and was delisted by Ecology. This area is excluded from this assessment.

The area to the east of the subject site is a small lake known as Wards Lake. To the west and north of the site is a relatively heavily forested area with sparse residential housing. To the south of the Nursery is a YMCA. Potable water is provided by the City of Olympia water system. There are several septic systems on site, located near the major structures.

There are three area within the center of the site, or "shop area", that had hits of dieldrin that are above the Method B soil cleanup level for unrestricted land use, carcinogenic level. Two of the samples around the Fertilizer Injector Shed had values of 0.19 mg/kg and 0.12 mg/kg. The cleanup level is 0.062 mg/kg. The other sample was collected from the north side of the site at an unspecific location, that to date we cannot precisely locate. The result of this sample showed dieldrin at 0.13 mg/kg.

The nursery is in the process of relocating to a site in Grays Harbor County. Relocation of nursery facilities would occur in phases designed to correlate with the Briggs Village Master Plan.

Special Considerations

The areas of contamination appear to be limited in extent and contained in small areas, mainly located within the area with the buildings and the "shop area". The toxicity value of dieldrin, used in this scoring method is high. The final score is also influenced by the edge of major wellheads that border the 2-mile radius of the site. The location and depth of the wells are such, that there is low potential for contamination.

ROUTE SCORES:

Surface Water/Human Health: 16.8	Surface Water/Environ: 39.6
Air/Human Health: 17.7	Air/Environmental: 25.3
Ground Water/Human Health: 41.1	OVERALL RANK: 2

WORKSHEET 2
ROUTE DOCUMENTATION

1. SURFACE WATER ROUTE

List those substances to be considered for scoring. Source: 3,4

Dieldrin

Explain basis for choice of substance(s) to be used in scoring.

Level of contamination exceed MTCA Method B cleanup standard.

List those management units to be considered for scoring. Source: 3,4

Contaminated soil.

Explain basis for choice of unit to be used in scoring.

Level of contamination exceed MTCA Method B cleanup standard.

2. AIR ROUTE

List those substances to be considered for scoring. Source: 3,4

Dieldrin

Explain basis for choice of substance(s) to be used in scoring.

Level of contamination exceed MTCA Method B cleanup standard.

List those management units to be considered for scoring. Source: 3,4

Contaminated soil

Explain basis for choice of unit to be used in scoring.

Level of contamination exceed MTCA Method B cleanup standard.

3. GROUND WATER ROUTE

List those substances to be considered for scoring. Source: 3,4

Dieldrin

Explain basis for choice of substance(s) to be used in scoring.

Level of contamination exceed MTCA Method B cleanup standard.

List those management units to be considered for scoring. Source: 3,4

Contaminated soil

Explain basis for choice of unit to be used in scoring.

Level of contamination exceed MTCA Method B cleanup standard.

WORKSHEET 3 (If Required)
SUBSTANCE CHARACTERISTICS WORKSHEET
FOR MULTIPLE UNIT/SUBSTANCE SITES

Unit: NA

	<u>Combination 1</u>	<u>Combination 2</u>	<u>Combination 3</u>
<u>1. SURFACE WATER ROUTE</u> Substance(s):			
Human Toxicity Value:			
Environ. Toxicity Value:			
Containment Value:			
Rationale:			
Surface Water Human Subscore:	(+3)(+1)= () () =	(+3)(+1)= () () =	(+3)(+1)= () () =
Surface Water Environ. Subscore:	(+3)(+1)= () () =	(+3)(+1)= () () =	(+3)(+1)= () () =
<u>2. AIR ROUTE</u> Substance(s):			
Human Toxicity/Mobility Value:			
Containment Value:			
Rationale:			
Air Human Subscore:	(+3)(+1)= () () =	(+3)(+1)= () () =	(+3)(+1)= () () =
Air Environ. Subscore:	(+3)(+1)= () () =	(+3)(+1)= () () =	(+3)(+1)= () () =
<u>3. GROUND WATER ROUTE</u> Substance(s):			
Human Toxicity Value:			
Containment Value:			
Rationale:			
Ground Water Subscore:	(+3)(+1)= () () =	(+3)(+1)= () () =	(+3)(+1)= () () =

Based on their respective highest scoring toxicity/containment combinations, the following management units will be used for route scoring:

- Surface Water -
- Air -
- Ground Water -

**WORKSHEET 4
SURFACE WATER ROUTE**

1.0 SUBSTANCE CHARACTERISTICS

1.1 Human Toxicity

Substance	Drinking Water Standard		Acute Toxicity		Chronic Toxicity		Carcinogenicity		
	µg/L	Val.	mg/kg-bw	Val	Mg/kg/day	Val.	WOE	PF*	Val
Dieldrin	ND	-	38.3RAT	10	5E-5	8	B2	9	7

PF*= Potency Factor

Source: 1,2

Highest Value: (Max.=10) +2 Bonus Points?

Final Toxicity Value: 10

1.2 Environmental Toxicity

Substance	(x) Freshwater () Marine Acute Water Quality Criteria		Non-human Mammalian Acute Toxicity	
	(ug/l)	Value	(mg/kg)	Value
Dieldrin	2.5	8	38.3RAT	10

Source: 1,2 Value: 8 (Max. =10)

1.3 Substance Quantity: UNKNOWN

Source: 5 Value: 1 (Max. =10)

2.0 MIGRATION POTENTIAL

2.1 Containment
Explain basis: Numerous Spills
Non covered areas

Source: 3 Value: 10 (Max. =10)

2.2 Surface Soil Permeability
SAND/SILT LOAM

Source: 5 Value: 1 (Max. =7)

2.3 Total Annual Precipitation (inches)
51 INCHES

Source: 7 Value: 4 (Max. =5)

2.4 Max. 2-yr/24-hr precipitation (inches)
2.5 INCHES

Source:2 Value: 3 (Max. =5)

2.5 Flood Plain: NO

Source: 5 Value: 0 (Max. =2)

2.6 Terrain Slope >2% to 5%

Source: 5 Value: 2 (Max. =5)

3.0 TARGETS

3.1 Distance to Surface Water: Source: 5 Value: 7 (Max. =10)
Ward Lake 1400 feet

3.2 Population Served within 2 miles Source: 5 Value: 0 (Max. =75)
See WARM Scoring Manual Regarding Direction
 $\sqrt{\text{pop.}} = \sqrt{x} = n$

3.3 Area Irrigated within 2 miles Source: 5 Value: 0 (Max. =30)
See WARM Scoring Manual Regarding Direction
 $0.75\sqrt{\# \text{ of acres}} = 0$
 $0.75\sqrt{x} = 0.75(y) = n$

3.4 Distance to Nearest Fishery Resource Source: 5 Value: 6 (Max. =12)
3600FT DESCHUTES RIVER

3.5 Distance to and Names of Nearest Sensitive Environments
DESCHUTES RIVER 3600FT (FISHERY), WARD LAKE 1400FT (FRESHWATER WETLAND)
Source: 5 Value: 9 (Max. =12)

4.0 RELEASE

Explain the basis for scoring a release to surface water
NO CONFIRMED/DOCUMENTED RELEASE
Source: Value: 0 (Max. =5)

**WORKSHEET 5
AIR ROUTE**

1.0 SUBSTANCE CHARACTERISTICS

1.1 Introduction (WARM Scoring Manual) - Please review before scoring

1.2 Human Toxicity

Substance	Air Standard		Acute Toxicity		Chronic Toxicity		Carcinogenicity		
	(ug/m ³)	Val.	(mg/m ³)	Val.	(mg/kg/day)	Val.	WOF	PF	Val.
Dieldrin	0.8	10	13rat	10	-	-	B2	9	7

Source: 1,2 Value: 10 (Max. =10)
+2 Bonus Points?
Final Toxicity Value: 10

1.3 Mobility

(Use numbers to refer to above listed substances)

1.3.1 Gaseous Mobility (NOT SCORED)

Vapor Pressures (mmHg)

Source: Value: _____ (Max. =4)

- 1.
- 2.
- 3.
- 4.
- 5.

1.3.2 Particulate Mobility

Source: 5 Value: 1 (Max. =4)

Soil Type: SAND/SILT LOAM

Erodibility: 47-86

Climactic Factor: <1

1.4 Highest Human Health Toxicity/Mobility Matrix Value (from Table A-7)

Equals Final Matrix Value

Source: 2 Value: 5 (Max. =24)

1.5 Environmental Toxicity/Mobility

Non-human Mammalian Acute (Table A-7)

Substance	Inhalation Toxicity (mg/m ³)	Value	Mobility (mmHg)	Value	Matrix Value
Dieldrin	13	10	particulate	1	5

Highest Environmental Toxicity/Mobility Matrix Value (From Table A-7) equals
Final Matrix Value: 5 (MAX=24)

- 1.6 Substance Quantity: UNKNOWN Source: 5 Value: 1 (Max. =10)
- 2.0 **MIGRATION POTENTIAL**
- 2.1 Containment: Source: 3 Value: 10 (Max. =10)
Evidence of Spills
- 3.0 **TARGETS**
- 3.1 Nearest Population: 1584FT Source: 5 Value: 8 (Max. =10)
- 3.2 Distance to and Names of Nearest Sensitive Environments
Fresh water wetlands 1400FT
Source: 5 Value: 6 (Max. =7)
- 3.3 Population within 0.5 miles: Source: 5 Value: 43 (Max. =75)
 $\sqrt{\text{pop.}} = \sqrt{1800} = 42.4$
- 4.0 **RELEASE**
Explain basis for scoring a release to air:
No confirmed/documented release
Source: Value: 0 (Max. =75)

**WORKSHEET 6
GROUND WATER ROUTE**

1.0 SUBSTANCE CHARACTERISTICS

1.1 Human Toxicity

Substance	Drinking Water Standard		Acute Toxicity		Chronic Toxicity		Carcinogenicity		
	(ug/m ³)	Val	(mg/kg/bw)	Val	(mg/kg/day)	Val	WOE	PF	Val
Dieldrin	-	-	38.3 RAT	10	5E-5	8	B2	9	7

Source: 1,2 Value: 10 (Max. =10)
+2 Bonus Points?

Final Toxicity Value: 10

1.2 Mobility

(Use numbers to refer to above listed substances)
Cations/Anions (NOT SCORED)

- 1.
- 2.
- 3.
- 4.
- 5.

OR Solubility

Source: 1 Value: 0 (Max. =3)

- 1.
- 2.
3. Dieldrin = .2 = 0
- 4.
- 5.

1.3 Substance Quantity

Source: Value: 1 (Max. =10)

Explain basis: UNKNOWN, DEFAULT VALUE

2.0 MIGRATION POTENTIAL

2.1 Containment

Source: 2 Value: 10 (Max. =10)

Explain Basis: contaminated soil

2.2 Net Precipitation (inches);

Source: 2 Value: 3 (Max. =5)

TP: Nov-April 38.8

Evap: Nov-April = 11.74 Net: 27.06

2.3 Subsurface Hydraulic Conductivity:

Source: 2 Value: 3 (Max. =4)

10-5 TO 10-3

2.4 Vertical Depth to Ground Water:

Source: 3 Value: 4 (Max. =8)

90 feet

3.0 Targets

- 3.1 Ground Water Usage: Source: 5 Value: 4 (Max. =10)
public supply w/alt. Source available
- 3.2 Distance to Nearest Drinking Well (ft): Source: 5 Value: 2 (Max. =5)
3696 feet
- 3.3 Population Served within 2 miles: Source: 5 Value: 100 (Max. =100)
 $\sqrt{\text{pop.}} = \sqrt{>10000} = 100$
- 3.4 Area irrigated by Wells within 2 miles: Source: 5 Value: 9 (Max. =50)
154 acres, $0.75\sqrt{154}$ of acres = 9.3

- 4.0 **RELEASE** Source: Value: 0 (Max. =5)
Explain basis for scoring a release to ground water:
NO CONFIRMED/DOCUMENTED RELEASE

SOURCES USED IN SCORING

1. Wash. Dept. of Ecology, Toxicology Database for Use in WARM Scoring, Jan. 1992.
2. Wash. Dept. of Ecology, Washington Ranking Method, Scoring Manual, April, 1992.
3. Site Report, L.C. Lee and Associates, Inc., Scott R. Stewart, January, 2001.
4. Entrix Environmental Consultants, Analytical Report-Sample Results, May, 2002.
5. Thurston County Geodata, Includes map by Sammy Berg, July, 2002.
6. Table 16 - Estimated Evapotranspiration, E.M. 2462, p42, for Thurston County Airport.
7. City of Olympia Web Site, Precipitation Data, July, 2002.
8. Limited Phase I site Assessment, Briggs Nursery, PSC, March 26, 1998.
9. Briggs Village Master Plan Draft EIS, February 2003.

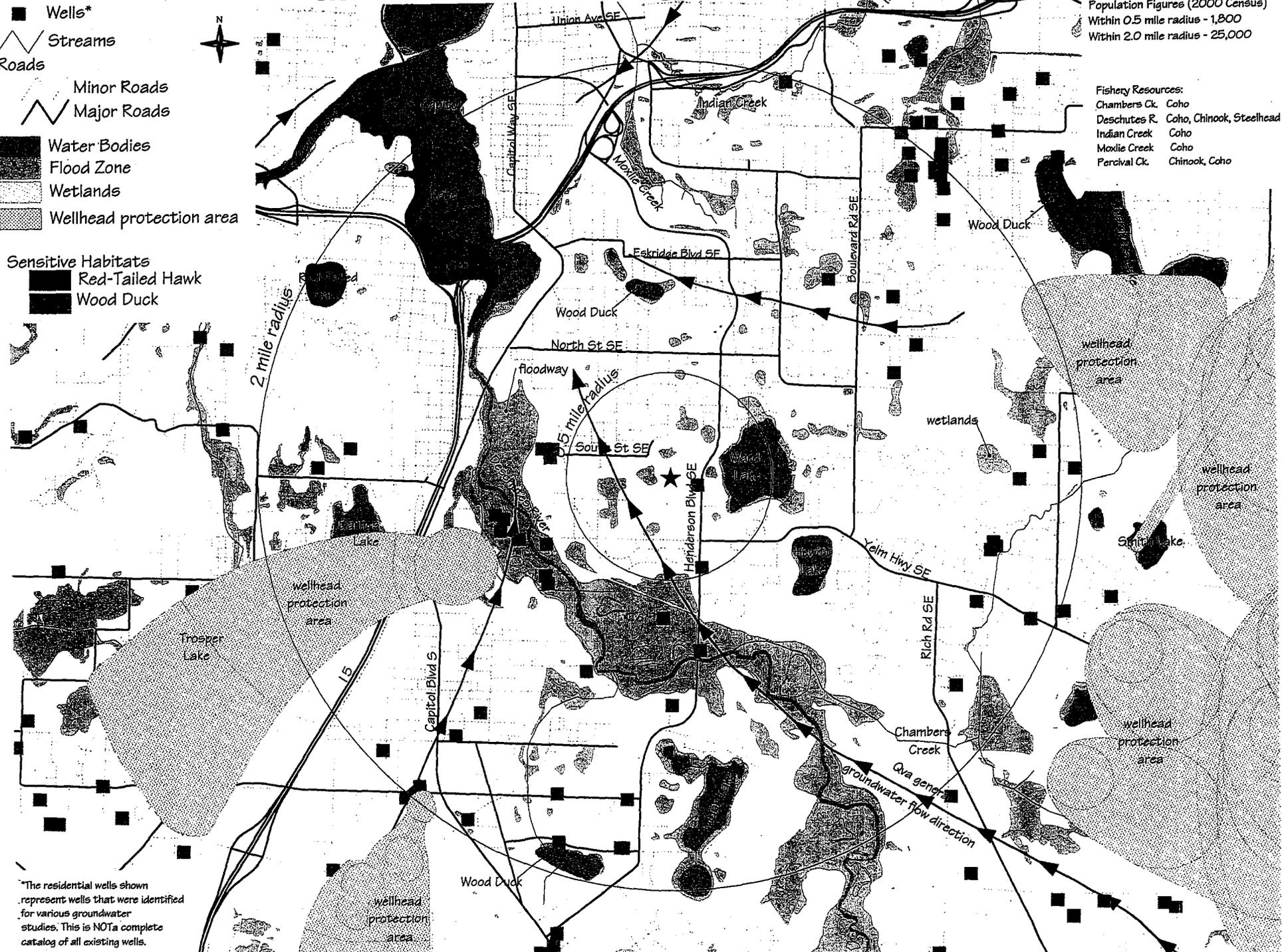
Site Hazard Assessment: Briggs Nursery

- Wells*
- ▬ Streams
- ▬ Roads
- ▬ Minor Roads
- ▬ Major Roads
- Water Bodies
- Flood Zone
- Wetlands
- Wellhead protection area

- Sensitive Habitats**
- Red-Tailed Hawk
 - Wood Duck

Population Figures (2000 Census)
 Within 0.5 mile radius - 1,800
 Within 2.0 mile radius - 25,000

Fishery Resources:
 Chambers Ck. Coho
 Deschutes R. Coho, Chinook, Steelhead
 Indian Creek Coho
 Moxlie Creek Coho
 Percival Ck. Chinook, Coho



*The residential wells shown represent wells that were identified for various groundwater studies. This is NOT a complete catalog of all existing wells.



