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Addendum to "Remedial Investigation for the Uplands Environment of the Former Rayonier Mill Site, Port Angeles, Washington"

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1.0 Purpose of This Addendum

Rayonier Properties LLC (Rayonier) has delivered “Remedial Investigation for the Uplands Environment of the Former Rayonier Mill Site, Port Angeles, Washington” to the Washington Department of Ecology (Ecology) and proposed that it be released for public review and comment. The RI report presents the results of sampling of soil, groundwater and freshwater sediments conducted by Rayonier and EPA on and around the mill property, and the analytical results of the sampling.

One of the primary contaminants of concern at the Rayonier Mill site is a mixture of structurally-related chemicals known as polychlorinated dibenzo-p-dioxins and polychlorinated dibenzofurans (PCDD/Fs). These are often referred to collectively as dioxins.

Evaluating the effects of dioxin mixtures in the environment is complicated by the number of individual dioxins, known as congeners, and the lack of definitive information about each of their specific toxic effects. The U.S. Environmental Protection Agency has established a methodology to simplify such evaluations. It uses estimates of the relative toxic effects of the various congeners to allow them to be reduced to the effect of the equivalent concentration of a single dioxin compound, 2,3,7,8-tetrachlorodibenzo-p-dioxin (2,3,7,8-TCDD), whose toxic effects are well understood.

In its 2001 amendments to the Model Toxics Control Act, Ecology specified that cleanup proponents may use the EPA methodology when establishing cleanup levels for mixtures of dioxins. After publishing the 2001 rule amendments, Ecology prepared guidance materials describing how the EPA methodology should be used to establish cleanup levels.

In November 2005, while the RI report was being drafted, Rayonier filed a lawsuit challenging Ecology’s application of the guidance to the cleanup of the Rayonier Port Angeles Mill. The lawsuit identified an ambiguity in the state’s cleanup standards in terms of their application to mixtures of dioxins and furans and the use of the TEF methodology.

In April 2006, Ecology settled the lawsuit and agreed that Rayonier's approach was an acceptable interpretation of the current MTCA rule. The evaluation of dioxins presented in Rayonier’s RI report reflects the approach agreed upon in the settlement.

However, as Rayonier’s lawsuit was moving toward settlement, several environmental organizations requested that Ecology issue an emergency rule amendment to clarify the policies and procedures for establishing cleanup levels for dioxins/furans, PAHs, and PCBs. Ecology reviewed the request and decided to initiate a focused rule revision process. Ecology decided that amending the MTCA rule to clarify key policy decisions is preferable to repeatedly resolving this issue on a site-specific basis.

In consideration of this dynamic situation, Ecology has chosen to provide this evaluation of PCDD/Fs on and around the Rayonier Mill site using the EPA methodology as currently specified in the MTCA Cleanup Regulation and it supporting guidance document. Ecology is

also providing calculations of the equivalent concentration of 2,3,7,8-TCDD using the methodology in the proposed rule amendment.

1.1 Criteria Used In Evaluating PCDD/Fs in Soils at the Site

Section 5.1.2.1 of the RI report provides a general discussion of the origins of risk-based criteria used to evaluate chemicals in the soils at the site. Several of the key concepts as they apply to PCDD/Fs are also presented in this addendum.

The Model Toxics Control Act (MTCA) provides methods for developing chemical concentration values which can be used as criteria for evaluating PCDD/Fs found in soils at the site. These methods use assumptions about the circumstances of an individual's exposure to contaminants based on two types of land use – unrestricted land use and industrial land use.

MTCA identifies concentrations developed in the unrestricted and industrial land use scenarios as Method B values and Method C values, respectively. Method B values are based on the reasonable maximum exposure expected to occur under residential land use conditions, the land use conditions requiring the most protective cleanup levels. Method B values use a child exposure scenario. Method C values are based on the reasonable maximum exposure expected to occur under industrial land use conditions, using an adult worker exposure scenario.

The specific parameters for reasonable maximum exposures in the unrestricted and industrial land uses are provided in Sections 740 and 745, respectively, of the MTCA Cleanup Regulation (WAC 173-340). Numeric values for noncarcinogenic chemicals are derived from Equations 740-1 and 745-2, while the values for carcinogenic chemicals are derived from Equations 740-2 and 745-2. A value derived for a chemical using these equations is the highest concentration that would pose an acceptable risk to a person coming in contact with the chemical consistent with the exposure scenario in each equation.

The Method B and Method C equations can be used to develop soil criteria for 2,3,7,8-tetrachlorodibenzo-p-dioxin (2,3,7,8-TCDD) and hexachlorodibenzo-p-dioxins, but there is insufficient toxicological data to develop congener-specific criteria for the other PCDD/F congeners. The promulgated MTCA regulation provides two methods to evaluate the other PCDD/F congeners in mixtures. One method is to assume that each congener is as toxic as 2,3,7,8-TCDD.

The other method applies toxicity equivalent factors (TEFs). For PCDD/Fs, TEFs are estimates of the relative toxicity of a PCDD/F congener compared to 2,3,7,8-TCDD. The original application of TEFs uses them to calculate toxicity equivalent quotients (TEQs) of the PCDD/F congeners as the equivalent concentration of 2,3,7,8-TCDD. This is done by multiplying congener-specific results by the TEF for each congener. The TEQ values are then summed to develop a total toxicity equivalent concentration (TTEC) of 2,3,7,8-TCDD. The TTEC for each sample can then be compared to the Method B and Method C values for 2,3,7,8-TCDD. This addendum uses the latter method.

When using this method, the calculation of TEQ values for PCDD/Fs must also consider how nondetected values for individual PCDD/F congeners are to be handled. In this a value of one-half of the analytical detection limit for the individual nondetected congener result is substituted prior to calculating the TEQ for the congener. This method of substitution is commonly made when evaluating exposures to chemicals in a risk-based framework, and provides a measure of protection against overlooking chemicals may reasonably be expected to be present in a sample, but which cannot be identified due to the limitations of analytical chemistry.

1.2 Remedial Investigation Report

The RI report presents a different approach to evaluating PCDD/Fs. The RI's approach uses the TEF for each congener and the soil criterion for 2,3,7,8-TCDD to calculate congener-specific equivalent soil criteria. This is done by dividing the 2,3,7,8-TCDD unrestricted and industrial soil criteria by the TEF for each congener. Individual congener results can then be compared to the equivalent unrestricted and industrial criteria for each congener.

Section 5.1.2.1 of the RI also provides a discussion of globally-distributed substances which draws from several EPA and Ecology reports. Those reports evaluated PCDD/F concentrations using TEFs in the method described above to calculate total toxicity equivalent concentrations of 2,3,7,8-TCDD. The RI report uses the term TCDD TEQ to refer to results from these reports, rather than TTEC.

1.3 Proposed Changes in MTCA Cleanup Regulation

Ecology is currently undertaking a rulemaking process to amend the MTCA cleanup regulation. Ecology's purpose in amending the regulation is to clarify the policies and procedures for establishing cleanup levels for mixtures of PCDD/Fs and other chemicals where TEFs may be applied. Additional information on the MTCA cleanup regulation amendment is available at:

http://www.ecy.wa.gov/programs/tcp/regs/amendment_2006/amend.htm

The scope of the amendment could affect both the methods for applying TEFs and the parameters which establish a reasonable maximum exposure for PCDD/Fs from which Method B and C values are calculated. Until the rulemaking completed, a definitive evaluation of the PCDD/F data against Method B and C values that would be developed within the framework of the amended rule cannot be made.

However, the methods for applying TEFs proposed in the amended rule are consistent with the methods which have typically been used since the application of TEFs was introduced into the cleanup regulation in 2001. The principal differences proposed in the amended rule are to codify that method in the regulation, and to incorporate the most recent toxicity equivalency factors (TEFs) for PCDD/Fs recommended by the World Health Organization.

2.0 Evaluation of PCDD/Fs

This addendum PCDD/Fs using the TEF method described above, in which the concentrations of specific PCDD/F congeners are reduced to an equivalent concentration of 2,3,7,8-TCDD. The calculation of total toxic equivalent concentrations is performed using both the 1989 EPA TEFs which are referenced in the current MTCA cleanup regulation text, and the current WHO TEFs referenced in the proposed regulation amendment.

The RI report has organized its discussion of PCDD/F results into groups of samples based on areas of the site or the function of the samples in site characterization. These groups include the wood mill, the log yard, the main process area, ecological evaluation samples, the east side of the mill property, and residential soil samples. This addendum follows the RI's organization of results. For consistency with the RI report, the Method B and Method C values are referred to in this addendum as unrestricted and industrial criteria, respectively.

As noted previously, the proposed amendment to the MTCA Cleanup Regulation may result in changes to exposure assumptions used for PCDD/Fs in the Method B and Method C equations. Because of this, no Method B and Method C values are listed on the tables in this addendum which present the TTEC values using the WHO TEFs. However, in order to place this site in context with other sites where PCDD/Fs have been analyzed, the current unrestricted and industrial criteria for 2,3,7,8-TCDD are shown on the tables which calculate TTECs using the 1989 EPA TEFs, consistent with the typical application of TEFs for PCDD/Fs within the MTCA framework.

The reader should note that any numeric criteria are provided in this addendum for reference only, and do not establish any specific requirements for cleanup action. Values derived from the Method B and Method C formulas are not in themselves cleanup levels which drive a cleanup action. Cleanup levels will be established in a subsequent document, the Cleanup Action Plan. They will be developed after consideration of additional requirements, including the contributions of other soil contaminants and exposures to other contaminated media to the overall risks associated with the site.

2.1 Wood Mill

Sampling of the wood mill area is described in Section 5.1.2.5 and PCDD/F results are shown in Figure 5-6 of the RI report. Surface and subsurface soil samples were collected at two locations (WM20 and WM21) during the RI and analyzed for PCDD/Fs. The surface soil samples were collected across a depth interval of 0 to 3 inches below ground surface (BGS). The subsurface samples were collected from 3 inched BGS to the depth where groundwater was encountered.

PCDD/F concentrations for WM20 and WM21 are shown Table 2.1-1. TEQ concentrations and TTECs using the 1989 EPA TEFs and the WHO TEFs are provided in Tables 2.1-2 and 2.1-3, respectively. Using the 1989 EPA TEFs, TTECs for both the surface and subsurface

samples at WM20 exceeded the unrestricted criterion for 2,3,7,8-TCDD of 6.7 parts per trillion [ppt]. The surface sample TTEC at WM20 is 204.3 ppt, and the TTEC in the subsurface sample is 129.5 ppt. TTECs at WM21 are 0.60 ppt in the surface sample and 0.65 ppt in the subsurface sample.

Using the WHO TEFs, the TTEC at WM20 is 154.1 ppt in the surface sample and 125.2 ppt in the subsurface sample. At WM21, the surface sample's TTEC is 0.57 ppt and the subsurface sample's TTEC is 0.60 ppt.

2.2 Log Yard

The RI report discusses the log yard and its sampling in Section 5.1.2.6, and presents the sampling locations and PCDD/F results in Figure 5-10. The log yard data includes results from both EPA's 1998 Expanded Site Investigation (ESI) and Rayonier's RI sampling events. The ESI sampling involved collecting samples in 2 foot increments across depth intervals ranging from 0-2 feet BGS to 0-10 feet BGS. The sampled intervals were influenced by the presence of rock fill material at varying depths across the area. The RI sampling collected surface samples from the 0 to 3 inches BGS interval and subsurface samples from 3 inches BGS to the depth of groundwater. One additional RI surface soil sample (ECO35), collected primarily for the terrestrial ecological evaluation, is also within the area of the log yard and is included in this group of data. It was collected from the depth interval of 0 to 15 centimeters BGS.

Results of analyses for PCDD/Fs in the log yard ESI and RI samples are presented in Table 2.2-1. TEQ concentrations and TTECs using the 1989 EPA TEFs and the WHO TEFs are provided in Table 2.2-2 and Table 2.2-3, respectively. The TTEC for surface sample location LY21 is 1799.66 ppt, which exceeds the industrial criterion for 2,3,7,8-TCDD of 875 ppt. In addition to LY21, the following surface soil samples exceed the unrestricted criterion for 2,3,7,8-TCDD:

- ECO35 – TTEC = 47.04 ppt
- LY20 – TTEC = 17.06 ppt
- LY22 – TTEC = 6.72 ppt
- GB03 – TTEC = 10.78 ppt
- GB07 – TTEC = 8.27 ppt
- LY15 – TTEC = 10.30 ppt

The unrestricted criterion is also exceeded in the subsurface sample at LY21, with a TTEC of 89.79 ppt.

When the WHO TEFs are used to calculate TEQs, the TTECs for these locations are as follows:

- LY21 (Surface) – TTEC = 2236.68 ppt
- LY21 (Subsurface) – TTEC = 109.91 ppt

- ECO35 (Surface) – TTEC = 47.77 ppt
- LY20 (Surface) – TTEC = 20.84 ppt
- LY22 (Surface) – TTEC = 7.99 ppt
- GB03 (Surface) – TTEC = 13.25 ppt
- GB07 (Surface) – TTEC = 10.20 ppt
- LY15 (Surface) – TTEC = 12.95 ppt

2.3 Ecological Samples

The ecological sampling was conducted to support the terrestrial ecological evaluation, and is described in Section 5.1.2.7 of the RI report. Figure 5-13 of the RI report depicts the locations of the fifteen ecological samples and tabulates PCDD/F results at those locations.

The PCDD/F results for the ecological samples are reproduced in Table 2.3-1. Calculation of TEQs and TTECs based the 1989 EPA TEFs is shown in table 2.3-2. Table 2.3-3 provides the calculation of TEQs and TTECs using the WHO TEFs.

The unrestricted criterion for 2,3,7,8-TCDD was exceeded in eight ecological soil sample locations:

- ECO22 – TTEC = 13.01 ppt
- ECO27 – TTEC = 12.60 ppt
- ECO28 – TTEC = 10.34 ppt
- ECO30 – TTEC = 12.99 ppt
- ECO32 – TTEC = 14.18 ppt
- ECO33 – TTEC = 110.20 ppt
- ECO34 – TTEC = 39.52 ppt
- ECO35 – TTEC = 47.04 ppt

No TTECs for ecological samples were above the industrial criterion.

TTECs calculated from the WHO TEFs for these samples are:

- ECO22 – TTEC = 16.07 ppt
- ECO27 – TTEC = 14.80 ppt
- ECO28 – TTEC = 12.13 ppt
- ECO30 – TTEC = 15.17 ppt
- ECO32 – TTEC = 17.14 ppt
- ECO33 – TTEC = 123.81 ppt
- ECO34 – TTEC = 30.59 ppt
- ECO35 – TTEC = 47.77 ppt

2.4 Main Process Area

The RI report discusses the main process in Section 5.1.2.8 and its subsections. Figures 5-17a and 5-17b in the RI report present the sample locations and results for surface and subsurface soils, respectively.

The data for the main process area includes results of samples from both the ESI and RI sampling events. Most samples for the ESI were collected from depth intervals of 0 to 3 inches BGS and 0 to 2 feet BGS. The RI report and this addendum categorize the ESI samples collected in the 0 to 2 foot BGS interval as subsurface samples. Three ESI samples at two locations were collected from deeper intervals – a sample at RB03 was collected from the 8 to 10 foot BGS interval, and samples at RB04 were collected from the 4 to 6 foot BGS and 8 to 10 foot BGS intervals.

The RI sampling collected both surface and subsurface samples. Surface samples were collected from the depth interval of 0 to 3 inches BGS, while subsurface samples were collected across the interval from 3 inches BGS to the depth of groundwater. One additional RI surface soil sample (ECO34), collected primarily for the terrestrial ecological evaluation, is also within the area of the main process area yard and is included in this group of data. It was collected from the depth interval of 0 to 15 centimeters BGS.

RI surface samples were taken at three locations to verify ESI results which had indicated particularly high levels of PCDD/Fs. These locations are AP03, FR02, and SR03.

Two RI surface samples were taken at PC20, due to the presence of a significant layer of concrete rubble at the location. The first sample, designated PC20C, was collected from fine-grained material within the concrete rubble. The second sample was taken from soil and fill material beneath the rubble. See Section 4.1.4 of the RI report for additional discussion of the sampling at PC20.

Following the format of the RI report, surface soil and subsurface soils results will be presented separately.

2.4.1 Surface Soils

Table 2.4-1 presents the surface sample results for PCDD/Fs from the ESI and RI. Sample TEQs and TTECs calculated with the EPA TEFs are shown in Table 2.4-2. Sample TEQs and TTECS calculated using the WHO TEFs are provided in Table 2.4-3.

TTECs exceeded the unrestricted criterion of 6.67 ppt for 2,3,7,8-TCDD in a total of 28 ESI or RI samples at 24 sampling locations.

- AP02 – TTEC = 436.93 ppt
- AP03 – TTEC (ESI sample) = 530 ppt
  TTEC (RI sample) = 86.63 ppt

- BL03 – TTEC = 41.23 ppt
- BL20 – TTEC = 56.96 ppt
- BP04 – TTEC = 581.73 ppt
- BP20 – TTEC = 596.17 ppt
- DB21 – TTEC = 171.13 ppt
- DK20 – TTEC = 81.16 ppt
- ECO34 – TTEC = 39.52 ppt
- FR02 – TTEC (ESI sample) = 2879.40 ppt
  TTEC (RI sample) = 170.73 ppt
- FR20 – TTEC = 102.67 ppt
- MR06 – TTEC = 80.04 ppt
- MR09 – TTEC = 182.51 ppt
- MR11 – TTEC = 150.15 ppt
- MR20 – TTEC = 27.73 ppt
- PC20 – TTEC (PC20C rubble sample) = 42.79 ppt
  TTEC (PC20 soil/fill sample) = 259.44 ppt
- RB01 – TTEC = 191.67 ppt
- RB02 – TTEC = 350.31 ppt
- RB21 – TTEC = 128.04 ppt
- SR03 – TTEC (ESI sample) = 1912.15 ppt;
  TTEC (RI Sample) = 1504.13 ppt
- SR20 – TTEC = 141.04 ppt
- SR21 – TTEC = 34.07 ppt
- SR23 – TTEC = 354.02 ppt
- SR24 – TTEC = 59.82 ppt

During the ESI, the TTECs at locations FR02 and SR03 exceeded the industrial criterion for 2,3,7,8-TCDD of 875 ppt. The RI sampling results confirmed an exceedence of the industrial criterion at location SR03, but not at FR02.

The TTECs for these locations when calculated with the WHO TEFs are:

- AP02 – TTEC = 549.81 ppt
- AP03 – TTEC (ESI sample) = 491.54 ppt
  TTEC (RI sample) = 62.08 ppt
- BL03 – TTEC = 43.03 ppt
- BL20 – TTEC = 53.12 ppt
- BP04 – TTEC = 582.42 ppt

- BP20 – TTEC = 515.19 ppt
- DB21 – TTEC = 132.39 ppt
- DK20 – TTEC = 85.05 ppt
- ECO34 – TTEC = 30.59 ppt
- FR02 – TTEC (ESI sample) = 2881.94 ppt
  TTEC (RI sample) = 12.6.78 ppt
- FR20 – TTEC = 57.62 ppt
- MR06 – TTEC = 59.50 ppt
- MR09 – TTEC = 137.35 ppt
- MR11 – TTEC = 141.99 ppt
- MR20 – TTEC = 26.82 ppt
- PC20 – TTEC (PC20C rubble sample) = 30.28 ppt
  TTEC (PC20 soil/fill sample) = 162.44 ppt
- RB01 – TTEC = 188.22 ppt
- RB02 – TTEC = 327.61 ppt
- RB21 – TTEC = 135.48 ppt
- SR03 – TTEC (ESI sample) = 1470.04 ppt;
  TTEC (RI Sample) = 1257.29 ppt
- SR20 – TTEC = 86.23 ppt
- SR21 – TTEC = 30.68 ppt
- SR23 – TTEC = 289.04 ppt
- SR24 – TTEC = 43.31 ppt

2.4.2 Subsurface soils

Table 2.4-4 lists the ESI and RI subsurface soil PCDD/F sample results. Sample TEQs and TTECs calculated with the EPA TEFs are shown in Table 2.4-5. Sample TEQs and TTECS calculated using the WHO TEFs are provided in Table 2.4-6.

TTECs exceeded the unrestricted criterion for 2,3,7,8-TCDD in 11 locations:

- AP03 – TTEC = 14.51 ppt
- BL20 – TTEC = 20.35 ppt
- DB21 – TTEC = 41.64 ppt
- DK20 – TTEC = 25.07 ppt
- FR02 – TTEC = 68.87 ppt
- FR20 – TTEC = 25.81 ppt
- PC20 – TTEC = 7.35 ppt

- RB04 – TTEC (ESI sample; 0 to 2 foot BGS interval) = 18.01 ppt
- SR03 – TTEC = 198.24 ppt
- SR20 – TTEC = 66.48 ppt
- SR23 – TTEC = 6.95 ppt

There were no exceedences of the industrial criterion in the subsurface soil samples.

TTECs using the WHO TEFs for these 11 locations are:

- AP03 – TTEC = 12.09 ppt
- BL20 – TTEC = 19.95 ppt
- DB21 – TTEC = 44.30 ppt
- DK20 – TTEC = 29.11 ppt
- FR02 – TTEC = 53.44 ppt
- FR20 – TTEC = 23.55 ppt
- PC20 – TTEC = 6.70 ppt
- RB04 – TTEC (ESI sample; 0 to 2 foot BGS interval) = 14.04 ppt
- SR03 – TTEC = 168.22 ppt
- SR20 – TTEC = 50.04 ppt
- SR23 – TTEC = 5.86 ppt

TTECs exceeded the unrestricted criterion in both surface and subsurface soil samples at 10 locations - AP03, BL20, DB21, DK20, FR02, FR20, PC20, SR03, SR20, and SR23. At all of these locations, the subsurface TTECs are lower than the values obtained in the surface samples.

The inclusion of location RB04 in the list of subsurface samples which exceed the unrestricted criterion merits additional discussion. Figure 5-17b of the RI tabulates this ESI sample, which was collected in the 0 to 2 foot BGS interval, with the RI subsurface samples results. This may have been done on the belief that the sampled interval would not be comparable to the 0 to 3 inch BGS interval where the RI surface samples were typically collected. This gives rise to the appearance that RB04 is the only location sampled in the main process area where TTECs are found in higher concentrations in the subsurface. However, it could also be explained by considering this sampled interval at RB04 as being reflective of higher surface TTECs concentrations which are observed elsewhere in the main process area. This explanation is also consistent with the lower TTECs found in the samples from the deeper intervals at RB04.

2.5 Soils on the East Side of the Site

The RI report discusses the surface soils on the east side of the site in Section 5.1.2.9. Figure 5-22 in the RI report shows the locations of the one ESI sample and 11 RI samples used in characterizing this area.

The focus of the RI sampling on the east side of the site was on surface soils to identify contamination that may have originated from mill stack emissions. Particulates from the stack emissions are expected to have settled on the ground surface in this area, but not to move into the subsurface to a significant degree.

RI surface samples were collected from the depth interval of 0 to 3 inches BGS, while subsurface samples were collected across the interval from 3 inches BGS to the depth of groundwater. Five additional RI surface soil sample, collected primarily for the terrestrial ecological evaluation, are also within the area of the main process area yard and is included in this group of data. These were collected from the depth interval of 0 to 15 centimeters BGS.

Table 2.5-1 presents the results from the ESI and RI sampling for PCDD/Fs. Table 2.5-2 provides the TEQs for the east side samples and TTECs calculated using the 1989 EPA TEFs. Table 2.5-3 calculates TEQs and TTECs using the WHO TEFs.

TTECs in these five locations exceeded the unrestricted criterion for 2,3,7,8-TCDD:

- ECO30 – TTEC = 12.99 ppt
- ECO32 – TTEC = 14.18 ppt
- ECO33 – TTEC = 110.20 ppt
- SL20 – TTEC = 31.02 ppt
- SL21 – TTEC = 72.63 ppt

No samples exceeded the industrial criterion.

TTECs calculated using the WHO TEFs for these locations are:

- ECO30 – TTEC = 15.17 ppt
- ECO32 – TTEC = 17.14 ppt
- ECO33 – TTEC = 123.8 ppt
- SL20 – TTEC = 33.52 ppt
- SL21 – TTEC = 71.90 ppt

2.6 Offsite Residential Soil

During the ESI, surface soils were sampled at 20 locations in the vicinity of the mill property. The RI discusses the ESI sampling in Section 5.2 and subsequent sections. The locations where the ESI samples were collected and the results are shown of Figure 5-24 of the RI report. All of these samples were collected from the 0 to 3 inch BGS depth interval. In several instances, two sample locations were sited on the same parcel.

Table 2.6-1 presents the PCDD/F results of the off-property ESI sampling in the vicinity of the mill site. Table 2.6-2 provides the TEQs and TTECs using the 1989 EPA TEFs. Table 2.6-3 calculates TEFs and TTECs using the WHO TEFs.

TTECs exceeded the unrestricted criterion for 2,3,7,8-TCDD at twelve sampling locations:

- AGD-01 – TTEC = 8.46 ppt
- CTR-01 – TTEC = 9.13 ppt
- ENR-01 – TTEC = 8.70 ppt
- ENR-02 – TTEC = 11.42 ppt
- GLR-01 – TTEC = 9.40 ppt
- JNR-01 – TTEC = 29.58 ppt
- JNR-02 – TTEC = 11.62 ppt
- JWR-02 – TTEC = 21.82 ppt
- MSR-01 – TTEC = 8.22 ppt
- TBS-01 – TTEC = 29.55 ppt
- ZMR-01 – TTEC = 11.44 ppt
- ZMR-02 – TTEC = 19.40 ppt

TTECS calculated using the WHO TEFs for these locations are:

- AGD-01 – TTEC = 8.97 ppt
- CTR-01 – TTEC = 11.22 ppt
- ENR-01 – TTEC = 7.95 ppt
- ENR-02 – TTEC = 12.16 ppt
- GLR-01 – TTEC = 9.36 ppt
- JNR-01 – TTEC = 35.25 ppt
- JNR-02 – TTEC = 13.86 ppt
- JWR-02 – TTEC = 23.85 ppt
- MSR-01 – TTEC = 8.77 ppt
- TBS-01 – TTEC = 33.70 ppt
- ZMR-01 – TTEC = 14.28 ppt
- ZMR-02 – TTEC = 24.23 ppt

3.0 Summary

PCDD/F results from soil samples collected during EPA's expanded site investigation sampling and Rayonier's remedial investigation of the Port Angeles Mill have been evaluated using the using the EPA TEF methodology currently described in the MTCA Cleanup Regulation and it supporting guidance document. A total of 69 samples from the

ESI and the RI exceeded the PCDD/F unrestricted criterion of 6.67 ppt TTEC. Two RI samples exceeded the industrial criterion of 875 ppt TTEC. Table 3.0-1 tabulates the numbers of samples by area or group which were found to exceed the PCDD/F criteria.

4.0 References

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Tables

Table 2.1-1 - Wood Mill

Remedial Investigation PCDD/F Data

Location	WM20				WM21			
Phase	RI				RI			
Depth	0-3"		3"-GW		0-3"		3"-GW	
Congener	[ppt]	qual	[ppt]	qual	[ppt]	qual	[ppt]	qual
1,2,3,4,6,7,8-HpCDD	5391.24		1681.29		12.16	J	12.94	J
1,2,3,4,6,7,8-HpCDF	600.86		205.2		1.18	J	1.64	J
1,2,3,4,7,8,9-HpCDF	49.15	J	15.16		0.52	U	0.52	U
1,2,3,4,7,8-HxCDD	31.5	J	24.11		0.29	U	0.27	U
1,2,3,4,7,8-HxCDF	57.59	J	66.15	K	0.21	U	0.28	U
1,2,3,6,7,8-HxCDD	208.55		91.96		0.32	U	0.31	U
1,2,3,6,7,8-HxCDF	19.94	J	15.82		0.21	U	0.27	U
1,2,3,7,8,9-HxCDD	93.42		42.29		0.29	U	0.28	U
1,2,3,7,8,9-HxCDF	6.55	U	1.5	U	0.34	U	0.39	U
1,2,3,7,8-PeCDD	23.18	J	24.63		0.26	U	0.26	U
1,2,3,7,8-PeCDF	19.52	J	39.32	K	0.24	U	0.21	U
2,3,4,6,7,8-HxCDF	33.23	J	23.34	K	0.21	U	0.25	U
2,3,4,7,8-PeCDF	24.08	J	77.27		0.23	U	0.21	U
2,3,7,8-TCDD	3.88	JK	4.85		0.27	U	0.27	U
2,3,7,8-TCDF	23.09	C	78.98	C	0.33	U	0.36	CJ
OCDD	65502.5	B	17354.7	BE	82.79		99.77	
OCDF	2797.48	B	981.76		3.96	JK	3.78	JK

Data Qualifiers - RI samples:

D - Sample was diluted for analysis.
J - Result is below the calibration range. Reported concentration is an estimate.
U - Analyte was not detected. Reported concentration is the detection limit.
B - Analyte was present in the method blank.
C - TCDF result was obtained from confirmation column.
E - Result is above the calibration range. Reported concentration is an estimate.
K - Estimated maximum possible concentration.

Table 2.1-2 - Wood Mill

TEQs and TTECs as 2,3,7,8 TCDD - 1989 EPA TEFs

Location		WM20				WM21			
Phase		RI				RI			
Depth		0-3"		3"-GW		0-3"		3"-GW	
Congener	TEF	[ppt TEQ]	qual	[ppt TEQ]	qual	[ppt TEQ]	qual	[ppt TEQ]	qual
1,2,3,4,6,7,8-HpCDD	0.01	53.9124		16.8129		0.1216	J	0.1294	J
1,2,3,4,6,7,8-HpCDF	0.01	6.0086		2.052		0.0118	J	0.0164	J
1,2,3,4,7,8,9-HpCDF	0.01	0.4915	J	0.1516		0.0026	U	0.0026	U
1,2,3,4,7,8-HxCDD	0.1	3.15	J	2.411		0.0145	U	0.0135	U
1,2,3,4,7,8-HxCDF	0.1	5.759	J	6.615	K	0.0105	U	0.014	U
1,2,3,6,7,8-HxCDD	0.1	20.855		9.196		0.016	U	0.0155	U
1,2,3,6,7,8-HxCDF	0.1	1.994	J	1.582		0.0105	U	0.0135	U
1,2,3,7,8,9-HxCDD	0.1	9.342		4.229		0.0145	U	0.014	U
1,2,3,7,8,9-HxCDF	0.1	0.3275	U	0.075	U	0.017	U	0.0195	U
1,2,3,7,8-PeCDD	0.5	11.59	J	12.315		0.065	U	0.065	U
1,2,3,7,8-PeCDF	0.05	0.976	J	1.966	K	0.006	U	0.00525	U
2,3,4,6,7,8-HxCDF	0.1	3.323	J	2.334	K	0.0105	U	0.0125	U
2,3,4,7,8-PeCDF	0.5	12.04	J	38.635		0.0575	U	0.0525	U
2,3,7,8-TCDD	1	3.88	JK	4.85		0.135	U	0.135	U
2,3,7,8-TCDF	0.1	2.309	C	7.898	C	0.0165	U	0.036	CJ
OCDD	0.001	65.50254	B	17.35467	BE	0.08279		0.09977	
OCDF	0.001	2.79748	B	0.98176		0.00396	JK	0.00378	JK
TTEC as 2,3,7,8-TCDD		204.3		129.5		0.60		0.65	

Unrestricted criterion = 6.67 ppt
Industrial criterion = 875 ppt

Table 2.1-3 - Wood Mill

TEFs and TTECs as 2,3,7,8-TCDD - WHO TEFs

Location		WM20				WM21			
Phase		RI				RI			
Depth		0-3"		3"-GW		0-3"		3"-GW	
Congener	TEF	[ppt TEQ]	qual	[ppt TEQ]	qual	[ppt TEQ]	qual	[ppt TEQ]	qual
1,2,3,4,6,7,8-HpCDD	0.01	53.9124		16.8129		0.1216	J	0.1294	J
1,2,3,4,6,7,8-HpCDF	0.01	6.0086		2.052		0.0118	J	0.0164	J
1,2,3,4,7,8,9-HpCDF	0.01	0.4915	J	0.1516		0.0026	U	0.0026	U
1,2,3,4,7,8-HxCDD	0.1	3.15	J	2.411		0.0145	U	0.0135	U
1,2,3,4,7,8-HxCDF	0.1	5.759	J	6.615	K	0.0105	U	0.014	U
1,2,3,6,7,8-HxCDD	0.1	20.855		9.196		0.016	U	0.0155	U
1,2,3,6,7,8-HxCDF	0.1	1.994	J	1.582		0.0105	U	0.0135	U
1,2,3,7,8,9-HxCDD	0.1	9.342		4.229		0.0145	U	0.014	U
1,2,3,7,8,9-HxCDF	0.01	0.03275	U	0.0075	U	0.0017	U	0.00195	U
1,2,3,7,8-PeCDD	1	23.18	J	24.63		0.13	U	0.13	U
1,2,3,7,8-PeCDF	0.05	0.976	J	1.966	K	0.006	U	0.00525	U
2,3,4,6,7,8-HxCDF	0.1	3.323	J	2.334	K	0.0105	U	0.0125	U
2,3,4,7,8-PeCDF	0.5	12.04	J	38.635		0.0575	U	0.0525	U
2,3,7,8-TCDD	1	3.88	JK	4.85		0.135	U	0.135	U
2,3,7,8-TCDF	0.1	2.309	C	7.898	C	0.0165	U	0.036	CJ
OCDD	0.0001	6.550254	B	1.735467	BE	0.008279		0.009977	
OCDF	0.0001	0.279748	B	0.098176		0.000396	JK	0.000378	JK
TTEC as 2,3,7,8-TCDD		154.1		125.2		0.57		0.60	

Table 2.2-1 - Log Yard

Expanded Site Investigation and Remedial Investigation PCDD/F Data

Location	**ECO35**		**LY-20**				**LY-21**				**LY-22**			
Phase	RI		RI				RI				RI			
Depth	0-15cm		0-3"		3"-GW		0-3"		3"-GW		0-3"		3"-GW	
Congener	[ppt]	qual	[ppt]	qual	[ppt]	qual	[ppt]	qual	[ppt]	qual	[ppt]	qual	[ppt]	qual
1,2,3,4,6,7,8 - HpCDD	735.31		122.64		4.13	J	12692.15		636.78		55.71		14.35	
1,2,3,4,6,7,8 - HpCDF	573.54		14.68		0.42	J	1198.94		0.85	U	7.74		3.48	J
1,2,3,4,7,8,9 - HpCDF	15.45		0.76	J	0.14	U	108.34		3.88	J	0.54	U	2.59	U
1,2,3,4,7,8 - HxCDD	11.8		7.98		0.31	J	911.49		45.21		2.78	JK	1	U
1,2,3,4,7,8 - HxCDF	14.03	K	5.89	K	0.35	J	398.64	K	19.52	K	2.36	JK	0.73	U
1,2,3,6,7,8 - HxCDD	62.58		17.45		0.77	JK	1740.46		114.05		7.61		1.14	U
1,2,3,6,7,8 - HxCDF	8.46		3.27	J	0.15	J	239.98		14.07		1.18	J	0.74	U
1,2,3,7,8,9 - HxCDD	30.87		17.92		0.77	J	1663.32		68.93		4.89	J	1.05	U
1,2,3,7,8,9 - HxCDF	0.47	U	0.16	J	0.05	U	46.02	J	1.11	JK	0.11	U	1.06	U
1,2,3,7,8 - PeCDD	10.39		8.58		0.38	J	985.12		43.55		3.11	J	0.73	U
1,2,3,7,8 - PeCDF	5.32	JK	4.34	K	0.23	JK	417.87	K	19.67		2.1	JK	0.46	U
2,3,4,6,7,8 - HxCDF	16.41	K	3.13	K	0.17	J	311.84	K	14.11		1.34	J	0.81	U
2,3,4,7,8 - PeCDF	6.2		5.53		0.42	JK	597.5		30.85	K	2.19	JK	0.87	JK
2,3,7,8 - TCDD	4.86		1.79		0.12	JK	220.13		12.65	K	0.74	JK	0.32	U
2,3,7,8 - TCDF	10.04	C	4.84	C	0.88	C	390.54	CE	31.14	C	2.6	C	1.5	C
OCDD	3938.63		537.74		8.99		53752.1	B	1650.27		285.27		88.17	B
OCDF	995.92		19.02		0.59	J	3291.74	B	83.22		21.76		8.94	JK

Data Qualifiers - RI samples:

D - Sample was diluted for analysis.
J - Result is below the calibration range. Reported concentration is an estimate.
U - Analyte was not detected. Reported concentration is the detection limit.
B - Analyte was present in the method blank.
C - TCDF result was obtained from confirmation column.
E - Result is above the calibration range. Reported concentration is an estimate.
K - Estimated maximum possible concentration.

Data Qualifiers - ESI samples:

H - High bias.
J - The analyte was positively detected. The associated numerical value is an estimate.
JQ - The result is estimated because the value is less than the Contract Required Detection Limit.
U - The analyte was not detected at or above the reported result.
UJ - The analyte was not detected at or above the reported result. The associated numerical value is an estimate of the quantitation limit in this sample.

Table 2.2-1 - Log Yard

Expanded Site Investigation and Remedial Investigation PCDD/F Data

Location	LY-23				LY-24				LY-25				GB03	
Phase	RI				RI				RI				ESI	
Depth	0-3"		3"-GW		0-3"		3"-GW		0-3"		3"-GW		0-2'	
Congener	[ppt]	qual	[ppt]	qual	[ppt]	qual	[ppt]	qual	[ppt]	qual	[ppt]	qual	[ppt]	qual
1,2,3,4,6,7,8 - HpCDD	3.5	J	13.91		17.17		14.31		39.24		4.11	J	85	JH
1,2,3,4,6,7,8 - HpCDF	0.95	U	3.32	J	2.28	U	5.04		7.24		0.22	U	2.3	U
1,2,3,4,7,8,9 - HpCDF	1.92	U	1.96	U	3.66	U	0.84	U	0.69	U	0.37	U	0.71	U
1,2,3,4,7,8 - HxCDD	0.69	U	0.51	U	2.07	U	0.62	J	0.23	U	0.18	U	7.7	
1,2,3,4,7,8 - HxCDF	0.41	U	1.56	JK	1.15	U	2.48	J	1.11	J	0.15	U	2.4	JQ
1,2,3,6,7,8 - HxCDD	0.74	U	0.6	U	2.39	U	1.73	J	2.13	J	0.2	U	17	
1,2,3,6,7,8 - HxCDF	0.43	U	0.37	U	1.15	U	1.09	J	0.21	U	0.15	U	1.6	U
1,2,3,7,8,9 - HxCDD	0.67	U	0.54	U	2.18	U	1.77	J	1.17	JK	0.18	U	18	
1,2,3,7,8,9 - HxCDF	0.69	U	0.59	U	1.68	U	0.19	U	0.33	U	0.22	U	0.44	U
1,2,3,7,8 - PeCDD	0.28	U	0.24	U	5.04		1.03	J	0.15	U	0.1	U	5.2	
1,2,3,7,8 - PeCDF	0.24	U	0.99	J	2.3	J	1.73	J	0.14	U	0.15	U	1.9	U
2,3,4,6,7,8 - HxCDF	0.45	U	0.41	U	1.32	U	1.21	J	0.2	U	0.15	U	1.6	U
2,3,4,7,8 - PeCDF	0.22	U	1.81	J	2.7	J	2.61	J	0.14	U	0.16	U	2.9	JQ
2,3,7,8 - TCDD	0.18	U	0.11	U	0.44	U	0.36	JK	0.1	U	0.09	U	0.92	JQ
2,3,7,8 - TCDF	0.38	J	1.5	C	4.5	C	2.77	C	0.44	J	0.32	J	1.6	U
OCDD	18.38		195.68	B	11.9	U	89.06		396.49		13.56		120	
OCDF	5.18	U	32.03		12.38	U	7.04		21.83		1	U	3.1	U

Table 2.2-1 - Log Yard

Expanded Site Investigation and Remedial Investigation PCDD/F Data

Location	GB07				GB09		LY-15		PA-01		PA-02		PA-04	
Phase	ESI				ESI		ESI		ESI		ESI		ESI	
Depth	0-2'		2-4'		2-4'		0-2'		0-2'		0-2'		2-4'	
Congener	[ppt]	qual	[ppt]	qual	[ppt]	qual	[ppt]	qual	[ppt]	qual	[ppt]	qual	[ppt]	qual
1,2,3,4,6,7,8 - HpCDD	53	JH	5.9	JH	2.7	JQ	57	JH	15		31		0.77	U
1,2,3,4,6,7,8 - HpCDF	4.5	JQ	3	JQ	0.57	U	3.7	JQ	3.4	JQ	2	U	0.18	U
1,2,3,4,7,8,9 - HpCDF	0.56	U	0.27	U	0.25	U	0.38	U	0.42	U	0.3	U	0.23	U
1,2,3,4,7,8 - HxCDD	5.4		0.37	U	0.58	U	8		0.78	U	2.3	U	0.68	U
1,2,3,4,7,8 - HxCDF	2.1	U	0.45	U	0.36	U	2.2	U	1.4	U	0.89	U	0.3	U
1,2,3,6,7,8 - HxCDD	10		0.69	U	0.54	U	13		2.2	U	5.6		0.63	U
1,2,3,6,7,8 - HxCDF	1.3	U	0.4	U	0.1	U	1.7	U	0.64	U	0.55	U	0.3	U
1,2,3,7,8,9 - HxCDD	10		0.83	U	0.56	U	16		2	U	5.5		0.61	U
1,2,3,7,8,9 - HxCDF	0.17	U	0.16	U	0.13	U	0.27	U	0.19	U	0.32	U	0.31	U
1,2,3,7,8 - PeCDD	4.3	JQ	0.32	U	0.25	U	5.5		0.84	U	1.6	U	0.36	U
1,2,3,7,8 - PeCDF	2.2	U	0.52	U	0.35	U	2.1	U	1	U	0.76	U	0.19	U
2,3,4,6,7,8 - HxCDF	1.4	U	0.42	U	0.44	U	1.5	U	0.12	U	0.63	U	0.38	U
2,3,4,7,8 - PeCDF	2.7	JQ	0.57	U	0.47	U	3.1	JQ	1.1	U	0.9	U	0.2	U
2,3,7,8 - TCDD	1		0.23	U	0.18	U	0.97	JQ	0.32	U	0.39	U	0.24	U
2,3,7,8 - TCDF	2.3	U	0.87	JQ	0.35	U	2.9		1.7		2.8	U	0.15	U
OCDD	220		28		30		95		78		54		6.7	JQ
OCDF	12		3.8	U	4.3	U	3.6	U	8.3	JQ	1.8	U	0.64	U

Table 2.2-2 - Log Yard

TEQs and TTECs as 2,3,7,8-TCDD - 1989 EPA TEFs

Location		**ECO35**		**LY-20**				**LY-21**				**LY-22**			
Phase		RI		RI				RI				RI			
Depth		0-15cm		0-3"		3"-GW		0-3"		3"-GW		0-3"		3"-GW	
Congener	TEF	[ppt TEQ]	qual	[ppt TEQ]	qual	[ppt TEQ]	qual	[ppt TEQ]	qual	[ppt TEQ]	qual	[ppt TEQ]	qual	[ppt TEQ]	qual
1,2,3,4,6,7,8-HpCDD	0.01	7.3531		1.2264		0.0413	J	126.9215		6.3678		0.5571		0.1435	
1,2,3,4,6,7,8-HpCDF	0.01	5.7354		0.1468		0.0042	J	11.9894		0.00425	U	0.0774		0.0348	J
1,2,3,4,7,8,9-HpCDF	0.01	0.1545		0.0076	J	0.0007	U	1.0834		0.0388	J	0.0027	U	0.01295	U
1,2,3,4,7,8-HxCDD	0.1	1.18		0.798		0.031	J	91.149		4.521		0.278	JK	0.05	U
1,2,3,4,7,8-HxCDF	0.1	1.403	K	0.589	K	0.035	J	39.864	K	1.952	K	0.236	JK	0.0365	U
1,2,3,6,7,8-HxCDD	0.1	6.258		1.745		0.077	JK	174.046		11.405		0.761		0.057	U
1,2,3,6,7,8-HxCDF	0.1	0.846		0.327	J	0.015	J	23.998		1.407		0.118	J	0.037	U
1,2,3,7,8,9-HxCDD	0.1	3.087		1.792		0.077	J	166.332		6.893		0.489	J	0.0525	U
1,2,3,7,8,9-HxCDF	0.1	0.0235	U	0.016	J	0.0025	U	4.602	J	0.111	JK	0.0055	U	0.053	U
1,2,3,7,8-PeCDD	0.5	5.195		4.29		0.19	J	492.56		21.775		1.555	J	0.1825	U
1,2,3,7,8-PeCDF	0.05	0.266	JK	0.217	K	0.0115	JK	20.8935	K	0.9835		0.105	JK	0.0115	U
2,3,4,6,7,8-HxCDF	0.1	1.641	K	0.313	K	0.017	J	31.184	K	1.411		0.134	J	0.0405	U
2,3,4,7,8-PeCDF	0.5	3.1		2.765		0.21	JK	298.75		15.425	K	1.095	JK	0.435	JK
2,3,7,8-TCDD	1	4.86		1.79		0.12	JK	220.13		12.65	K	0.74	JK	0.16	U
2,3,7,8-TCDF	0.1	1.004	C	0.484	C	0.088	C	39.054	CE	3.114	C	0.26	C	0.15	C
OCDD	0.001	3.93863		0.53774		0.00899		53.7521	B	1.65027		0.28527		0.08817	B
OCDF	0.001	0.99592		0.01902		0.00059	J	3.29174	B	0.08322		0.02176		0.00894	JK
TTEC as 2,3,7,8-TCDD		47.04		17.06		0.93		1799.60		89.79		6.72		1.55	

Unrestricted criterion = 6.67 ppt TTEC
Industrial criterion = 875 ppt TTEC

Table 2.2-2 - Log Yard

TEQs and TTECs as 2,3,7,8-TCDD - 1989 EPA TEFs

Location		**LY-23**				**LY-24**				**LY-25**				**GB03**	
Phase		RI				RI				RI				ESI	
Depth		0-3"		3"-GW		0-3"		3"-GW		0-3"		3"-GW		0-2'	
Congener	TEF	[ppt TEQ]	qual	[ppt TEQ]	qual	[ppt TEQ]	qual	[ppt TEQ]	qual	[ppt TEQ]	qual	[ppt TEQ]	qual	[ppt TEQ]	qual
1,2,3,4,6,7,8-HpCDD	0.01	0.035	J	0.1391		0.1717		0.1431		0.3924		0.0411	J	0.85	JH
1,2,3,4,6,7,8-HpCDF	0.01	0.00475	U	0.0332	J	0.0114	U	0.0504		0.0724		0.0011	U	0.0115	U
1,2,3,4,7,8,9-HpCDF	0.01	0.0096	U	0.0098	U	0.0183	U	0.0042	U	0.00345	U	0.00185	U	0.00355	U
1,2,3,4,7,8-HxCDD	0.1	0.0345	U	0.0255	U	0.1035	U	0.062	J	0.0115	U	0.009	U	0.77	
1,2,3,4,7,8-HxCDF	0.1	0.0205	U	0.156	JK	0.0575	U	0.248	J	0.111	J	0.0075	U	0.24	JQ
1,2,3,6,7,8-HxCDD	0.1	0.037	U	0.03	U	0.1195	U	0.173	J	0.213	J	0.01	U	1.7	
1,2,3,6,7,8-HxCDF	0.1	0.0215	U	0.0185	U	0.0575	U	0.109	J	0.0105	U	0.0075	U	0.08	U
1,2,3,7,8,9-HxCDD	0.1	0.0335	U	0.027	U	0.109	U	0.177	J	0.117	JK	0.009	U	1.8	
1,2,3,7,8,9-HxCDF	0.1	0.0345	U	0.0295	U	0.084	U	0.0095	U	0.0165	U	0.011	U	0.022	U
1,2,3,7,8-PeCDD	0.5	0.07	U	0.06	U	2.52		0.515	J	0.0375	U	0.025	U	2.6	
1,2,3,7,8-PeCDF	0.05	0.006	U	0.0495	J	0.115	J	0.0865	J	0.0035	U	0.00375	U	0.0475	U
2,3,4,6,7,8-HxCDF	0.1	0.0225	U	0.0205	U	0.066	U	0.121	J	0.01	U	0.0075	U	0.08	U
2,3,4,7,8-PeCDF	0.5	0.055	U	0.905	J	1.35	J	1.305	J	0.035	U	0.04	U	1.45	JQ
2,3,7,8-TCDD	1	0.09	U	0.055	U	0.22	U	0.36	JK	0.05	U	0.045	U	0.92	JQ
2,3,7,8-TCDF	0.1	0.038	J	0.15	C	0.45	C	0.277	C	0.044	J	0.032	J	0.08	U
OCDD	0.001	0.01838		0.19568	B	0.00595	U	0.08906		0.39649		0.01356		0.12	
OCDF	0.001	0.00259	U	0.03203		0.00619	U	0.00704		0.02183		0.0005	U	0.00155	U
TTEC as 2,3,7,8-TCDD		0.53		1.94		5.47		3.74		1.55		0.27		10.78	

Unrestricted criterion = 6.67 ppt TTEC
Industrial criterion = 875 ppt TTEC

Table 2.2-2 - Log Yard

TEQs and TTECs as 2,3,7,8-TCDD - 1989 EPA TEFs

Location		**GB07**				**GB09**		**LY-15**		**PA-01**		**PA-02**		**PA-04**	
Phase		ESI				ESI		ESI		ESI		ESI		ESI	
Depth		0-2'		2-4'		2-4'		0-2'		0-2'		0-2'		2-4'	
Congener	TEF	[ppt TEQ]	qual	[ppt TEQ]	qual	[ppt TEQ]	qual	[ppt TEQ]	qual	[ppt TEQ]	qual	[ppt TEQ]	qual	[ppt TEQ]	qual
1,2,3,4,6,7,8-HpCDD	0.01	0.53	JH	0.059	JH	0.027	JQ	0.57	JH	0.15		0.31		0.00385	U
1,2,3,4,6,7,8-HpCDF	0.01	0.045	JQ	0.03	JQ	0.00285	U	0.037	JQ	0.034	JQ	0.01	U	0.0009	U
1,2,3,4,7,8,9-HpCDF	0.01	0.0028	U	0.00135	U	0.00125	U	0.0019	U	0.0021	U	0.0015	U	0.00115	U
1,2,3,4,7,8-HxCDD	0.1	0.54		0.0185	U	0.029	U	0.8		0.039	U	0.115	U	0.034	U
1,2,3,4,7,8-HxCDF	0.1	0.105	U	0.0225	U	0.018	U	0.11	U	0.07	U	0.0445	U	0.015	U
1,2,3,6,7,8-HxCDD	0.1	1		0.0345	U	0.027	U	1.3		0.11	U	0.56		0.0315	U
1,2,3,6,7,8-HxCDF	0.1	0.065	U	0.02	U	0.005	U	0.085	U	0.032	U	0.0275	U	0.015	U
1,2,3,7,8,9-HxCDD	0.1	1		0.0415	U	0.028	U	1.6		0.1	U	0.55		0.0305	U
1,2,3,7,8,9-HxCDF	0.1	0.0085	U	0.008	U	0.0065	U	0.0135	U	0.0095	U	0.016	U	0.0155	U
1,2,3,7,8-PeCDD	0.5	2.15	JQ	0.08	U	0.0625	U	2.75		0.21	U	0.4	U	0.09	U
1,2,3,7,8-PeCDF	0.05	0.055	U	0.013	U	0.00875	U	0.0525	U	0.025	U	0.019	U	0.00475	U
2,3,4,6,7,8-HxCDF	0.1	0.07	U	0.021	U	0.022	U	0.075	U	0.006	U	0.0315	U	0.019	U
2,3,4,7,8-PeCDF	0.5	1.35	JQ	0.1425	U	0.1175	U	1.55	JQ	0.275	U	0.225	U	0.05	U
2,3,7,8-TCDD	1	1		0.115	U	0.09	U	0.97	JQ	0.16	U	0.195	U	0.12	U
2,3,7,8-TCDF	0.1	0.115	U	0.087	JQ	0.0175	U	0.29		0.17		0.14	U	0.0075	U
OCDD	0.001	0.22		0.028		0.03		0.095		0.078		0.054		0.0067	JQ
OCDF	0.001	0.012		0.0019	U	0.00215	U	0.0018	U	0.0083	JQ	0.0009	U	0.00032	U
TTEC as 2,3,7,8-TCDD		8.27		0.72		0.50		10.30		1.48		2.70		0.45	

Unrestricted criterion = 6.67 ppt TTEC
Industrial criterion = 875 ppt TTEC

Table 2.2-3 - Log Yard

TEQs and TTECs as 2,3,7,8-TCDD - WHO TEFs

Location		**ECO35**		**LY-20**				**LY-21**				**LY-22**			
Phase		RI		RI				RI				RI			
Depth		0-15cm		0-3"		3"-GW		0-3"		3"-GW		0-3"		3"-GW	
Congener	TEF	[ppt TEQ]	qual	[ppt TEQ]	qual	[ppt TEQ]	qual	[ppt TEQ]	qual	[ppt TEQ]	qual	[ppt TEQ]	qual	[ppt TEQ]	qual
1,2,3,4,6,7,8-HpCDD	0.01	7.3531		1.2264		0.0413	J	126.9215		6.3678		0.5571		0.1435	
1,2,3,4,6,7,8-HpCDF	0.01	5.7354		0.1468		0.0042	J	11.9894		0.00425	U	0.0774		0.0348	J
1,2,3,4,7,8,9-HpCDF	0.01	0.1545		0.0076	J	0.0007	U	1.0834		0.0388	J	0.0027	U	0.01295	U
1,2,3,4,7,8-HxCDD	0.1	1.18		0.798		0.031	J	91.149		4.521		0.278	JK	0.05	U
1,2,3,4,7,8-HxCDF	0.1	1.403	K	0.589	K	0.035	J	39.864	K	1.952	K	0.236	JK	0.0365	U
1,2,3,6,7,8-HxCDD	0.1	6.258		1.745		0.077	JK	174.046		11.405		0.761		0.057	U
1,2,3,6,7,8-HxCDF	0.1	0.846		0.327	J	0.015	J	23.998		1.407		0.118	J	0.037	U
1,2,3,7,8,9-HxCDD	0.1	3.087		1.792		0.077	J	166.332		6.893		0.489	J	0.0525	U
1,2,3,7,8,9-HxCDF	0.01	0.00235	U	0.0016	J	0.00025	U	0.4602	J	0.0111	JK	0.00055	U	0.0053	U
1,2,3,7,8-PeCDD	1	10.39		8.58		0.38	J	985.12		43.55		3.11	J	0.365	U
1,2,3,7,8-PeCDF	0.05	0.266	JK	0.217	K	0.0115	JK	20.8935	K	0.9835		0.105	JK	0.0115	U
2,3,4,6,7,8-HxCDF	0.1	1.641	K	0.313	K	0.017	J	31.184	K	1.411		0.134	J	0.0405	U
2,3,4,7,8-PeCDF	0.5	3.1		2.765		0.21	JK	298.75		15.425	K	1.095	JK	0.435	JK
2,3,7,8-TCDD	1	4.86		1.79		0.12	JK	220.13		12.65	K	0.74	JK	0.16	U
2,3,7,8-TCDF	0.1	1.004	C	0.484	C	0.088	C	39.054	CE	3.114	C	0.26	C	0.15	C
OCDD	0.0001	0.393863		0.053774		0.000899		5.37521	B	0.165027		0.028527		0.008817	B
OCDF	0.0001	0.099592		0.001902		0.000059	J	0.329174	B	0.008322		0.002176		0.000894	JK
TTEC as 2,3,7,8-TCDD		47.77		20.84		1.11		2236.68		109.91		7.99		1.60	

Table 2.2-3 - Log Yard

TEQs and TTECs as 2,3,7,8-TCDD - WHO TEFs

Location		LY-23				LY-24				LY-25				GB03	
Phase		RI				RI				RI				ESI	
Depth		0-3"		3"-GW		0-3"		3"-GW		0-3"		3"-GW		0-2'	
Congener	TEF	[ppt TEQ]	qual	[ppt TEQ]	qual	[ppt TEQ]	qual	[ppt TEQ]	qual	[ppt TEQ]	qual	[ppt TEQ]	qual	[ppt TEQ]	qual
1,2,3,4,6,7,8-HpCDD	0.01	0.035	J	0.1391		0.1717		0.1431		0.3924		0.0411	J	0.85	JH
1,2,3,4,6,7,8-HpCDF	0.01	0.00475	U	0.0332	J	0.0114	U	0.0504		0.0724		0.0011	U	0.0115	U
1,2,3,4,7,8,9-HpCDF	0.01	0.0096	U	0.0098	U	0.0183	U	0.0042	U	0.00345	U	0.00185	U	0.00355	U
1,2,3,4,7,8-HxCDD	0.1	0.0345	U	0.0255	U	0.1035	U	0.062	J	0.0115	U	0.009	U	0.77	
1,2,3,4,7,8-HxCDF	0.1	0.0205	U	0.156	JK	0.0575	U	0.248	J	0.111	J	0.0075	U	0.24	JQ
1,2,3,6,7,8-HxCDD	0.1	0.037	U	0.03	U	0.1195	U	0.173	J	0.213	J	0.01	U	1.7	
1,2,3,6,7,8-HxCDF	0.1	0.0215	U	0.0185	U	0.0575	U	0.109	J	0.0105	U	0.0075	U	0.08	U
1,2,3,7,8,9-HxCDD	0.1	0.0335	U	0.027	U	0.109	U	0.177	J	0.117	JK	0.009	U	1.8	
1,2,3,7,8,9-HxCDF	0.01	0.00345	U	0.00295	U	0.0084	U	0.00095	U	0.00165	U	0.0011	U	0.0022	U
1,2,3,7,8-PeCDD	1	0.14	U	0.12	U	5.04		1.03	J	0.075	U	0.05	U	5.2	
1,2,3,7,8-PeCDF	0.05	0.006	U	0.0495	J	0.115	J	0.0865	J	0.0035	U	0.00375	U	0.0475	U
2,3,4,6,7,8-HxCDF	0.1	0.0225	U	0.0205	U	0.066	U	0.121	J	0.01	U	0.0075	U	0.08	U
2,3,4,7,8-PeCDF	0.5	0.055	U	0.905	J	1.35	J	1.305	J	0.035	U	0.04	U	1.45	JQ
2,3,7,8-TCDD	1	0.09	U	0.055	U	0.22	U	0.36	JK	0.05	U	0.045	U	0.92	JQ
2,3,7,8-TCDF	0.1	0.038	J	0.15	C	0.45	C	0.277	C	0.044	J	0.032	J	0.08	U
OCDD	0.0001	0.001838		0.019568	B	0.000595	U	0.008906		0.039649		0.001356		0.012	
OCDF	0.0001	0.000259	U	0.003203		0.000619	U	0.000704		0.002183		0.00005	U	0.000155	U
TTEC as 2,3,7,8-TCDD		0.55		1.76		7.90		4.16		1.19		0.27		13.25	

Table 2.2-3 - Log Yard

TEQs and TTECs as 2,3,7,8-TCDD - WHO TEFs

Location		**GB07**				**GB09**		**LY-15**		**PA-01**		**PA-02**		**PA-04**	
Phase		ESI				ESI		ESI		ESI		ESI		ESI	
Depth		0-2'		2-4'		2-4'		0-2'		0-2'		0-2'		2-4'	
Congener	TEF	[ppt TEQ]	qual	[ppt TEQ]	qual	[ppt TEQ]	qual	[ppt TEQ]	qual	[ppt TEQ]	qual	[ppt TEQ]	qual	[ppt TEQ]	qual
1,2,3,4,6,7,8-HpCDD	0.01	0.53	JH	0.059	JH	0.027	JQ	0.57	JH	0.15		0.31		0.00385	U
1,2,3,4,6,7,8-HpCDF	0.01	0.045	JQ	0.03	JQ	0.00285	U	0.037	JQ	0.034	JQ	0.01	U	0.0009	U
1,2,3,4,7,8,9-HpCDF	0.01	0.0028	U	0.00135	U	0.00125	U	0.0019	U	0.0021	U	0.0015	U	0.00115	U
1,2,3,4,7,8-HxCDD	0.1	0.54		0.0185	U	0.029	U	0.8		0.039	U	0.115	U	0.034	U
1,2,3,4,7,8-HxCDF	0.1	0.105	U	0.0225	U	0.018	U	0.11	U	0.07	U	0.0445	U	0.015	U
1,2,3,6,7,8-HxCDD	0.1	1		0.0345	U	0.027	U	1.3		0.11	U	0.56		0.0315	U
1,2,3,6,7,8-HxCDF	0.1	0.065	U	0.02	U	0.005	U	0.085	U	0.032	U	0.0275	U	0.015	U
1,2,3,7,8,9-HxCDD	0.1	1		0.0415	U	0.028	U	1.6		0.1	U	0.55		0.0305	U
1,2,3,7,8,9-HxCDF	0.01	0.00085	U	0.0008	U	0.00065	U	0.00135	U	0.00095	U	0.0016	U	0.00155	U
1,2,3,7,8-PeCDD	1	4.3	JQ	0.16	U	0.125	U	5.5		0.42	U	0.8	U	0.18	U
1,2,3,7,8-PeCDF	0.05	0.055	U	0.013	U	0.00875	U	0.0525	U	0.025	U	0.019	U	0.00475	U
2,3,4,6,7,8-HxCDF	0.1	0.07	U	0.021	U	0.022	U	0.075	U	0.006	U	0.0315	U	0.019	U
2,3,4,7,8-PeCDF	0.5	1.35	JQ	0.1425	U	0.1175	U	1.55	JQ	0.275	U	0.225	U	0.05	U
2,3,7,8-TCDD	1	1		0.115	U	0.09	U	0.97	JQ	0.16	U	0.195	U	0.12	U
2,3,7,8-TCDF	0.1	0.115	U	0.087	JQ	0.0175	U	0.29		0.17		0.14	U	0.0075	U
OCDD	0.0001	0.022		0.0028		0.003		0.0095		0.0078		0.0054		0.00067	JQ
OCDF	0.0001	0.0012		0.00019	U	0.000215	U	0.00018	U	0.00083	JQ	0.00009	U	0.000032	U
TTEC as 2,3,7,8-TCDD		10.20		0.77		0.52		12.95		1.60		3.04		0.52	

Table 2.3-1 - Ecological Samples

Remedial Investigation PCDD/F Data

Location	ECO20		ECO21		ECO22		ECO23		ECO25		ECO26		ECO27		ECO28	
Phase	RI		RI		RI		RI		RI		RI		RI		RI	
Depth	0-20cm		0-20cm		0-20cm		0-15cm		0-15cm		0-10cm		0-15cm		0-15cm	
Congener	[ppt]	qual	[ppt]	qual	[ppt]	qual	[ppt]	qual	[ppt]	qual	[ppt]	qual	[ppt]	qual	[ppt]	qual
1,2,3,4,6,7,8 - HpCDD	16.22		24.07		69.79		23.8		9.27		53.78		90.86		65.93	
1,2,3,4,6,7,8 - HpCDF	3.33	J	4.45	J	10.41		3.43	J	1.5	J	10.1		11.39		11.5	
1,2,3,4,7,8,9 - HpCDF	0.33	U	0.35	U	0.62	J	0.61	U	0.53	U	0.57	J	0.76	U	0.62	U
1,2,3,4,7,8 - HxCDD	1.44	J	0.8	JK	5.58		1.7	J	0.27	U	1.32	J	4.04	J	3.36	J
1,2,3,4,7,8 - HxCDF	1.18	JK	0.62	J	3.34	J	0.97	J	0.46	J	2.05	JK	3.7	JK	3.12	JK
1,2,3,6,7,8 - HxCDD	2.84	J	2.26	J	12.87		4.13	J	1.04	J	4.09	J	10.53		9.05	
1,2,3,6,7,8 - HxCDF	0.72	J	0.37	JK	2.09	J	0.56	J	0.17	U	0.88	J	2.39	J	1.83	J
1,2,3,7,8,9 - HxCDD	3.74	J	2.03	J	12.6		4.01	J	0.77	J	3.81	J	9.88		9.5	
1,2,3,7,8,9 - HxCDF	0.12	U	0.13	U	0.19	J	0.2	U	0.23	U	0.19	J	0.16	U	0.1	U
1,2,3,7,8 - PeCDD	1.67	J	1.03	J	6.58		1.93	J	0.38	JK	1.23	J	4.87	J	4.22	J
1,2,3,7,8 - PeCDF	1.38	JK	0.58	J	3.46	JK	0.93	JK	0.24	U	1.06	JK	4.16	JK	3.22	JK
2,3,4,6,7,8 - HxCDF	0.83	JK	0.38	JK	2.27	JK	0.57	JK	0.2	U	1.03	JK	2.52	JK	1.99	JK
2,3,4,7,8 - PeCDF	1.8	J	0.67	JK	4.48	J	1.08	J	0.24	U	1.36	J	5.22		3.88	J
2,3,7,8 - TCDD	0.55	JK	0.79	J	1.89		0.49	JK	0.23	U	0.42	JK	2.13		1.58	
2,3,7,8 - TCDF	2.27	C	0.9	CJ	4.74	C	2.29	C	0.55	C	1.31	C	6.27	C	5.36	C
OCDD	43.24	B	149.62	B	217.31	B	96.46		57.28		382.57	B	237.39	B	325.94	B
OCDF	3.58	J	6.65	J	20.07		5.82	J	4.57	J	28.13		15.81		22.73	

Data Qualifiers - RI samples:

D - Sample was diluted for analysis.
J - Result is below the calibration range. Reported concentration is an estimate.
U - Analyte was not detected. Reported concentration is the detection limit.
B - Analyte was present in the method blank.
C - TCDF result was obtained from confirmation column.
E - Result is above the calibration range. Reported concentration is an estimate.
K - Estimated maximum possible concentration.

Table 2.3-1 - Ecological Samples

Remedial Investigation PCDD/F Data

Location	ECO29		ECO30		ECO31		ECO32		ECO33		ECO34		ECO35	
Phase	RI		RI		RI		RI		RI		RI		RI	
Depth	0-15cm		0-10cm		0-15cm		0-15cm		0-15cm		0-15cm		0-15cm	
Congener	[ppt]	qual	[ppt]	qual	[ppt]	qual	[ppt]	qual	[ppt]	qual	[ppt]	qual	[ppt]	qual
1,2,3,4,6,7,8 - HpCDD	23.32		126.7		12.29		63.39		1318.2		1220.96		735.31	
1,2,3,4,6,7,8 - HpCDF	4.64	J	47.22		1.82	J	10.48		186.96		147.87		573.54	
1,2,3,4,7,8,9 - HpCDF	0.55	U	1.17	J	0.28	U	0.78	JK	9.99		7.07		15.45	
1,2,3,4,7,8 - HxCDD	1.31	J	4.56	J	1.38	J	5.76		34.24		5.42	JK	11.8	
1,2,3,4,7,8 - HxCDF	1.11	J	3.41	JK	0.63	J	4.67	JK	31.49	K	9.08		14.03	K
1,2,3,6,7,8 - HxCDD	3.3	J	20.83		2.61	J	10.1		132.25		47.25		62.58	
1,2,3,6,7,8 - HxCDF	0.69	J	1.96	J	0.34	JK	2.76	J	15.85		3.84	J	8.46	
1,2,3,7,8,9 - HxCDD	3.23	J	11.77		2.53	J	10.8		83.94		17.96		30.87	
1,2,3,7,8,9 - HxCDF	0.14	U	0.49	U	0.22	U	0.17	JK	1.95	J	0.5	U	0.47	U
1,2,3,7,8 - PeCDD	1.49	J	5.09	J	1.45	J	6.35		41.08		3.54	J	10.39	
1,2,3,7,8 - PeCDF	1.26	JK	3.3	JK	0.59	JK	4.85	JK	28.15	K	3.27	K	5.32	JK
2,3,4,6,7,8 - HxCDF	0.84	J	2.95	J	0.38	J	2.97	K	17.46	K	6.77		16.41	K
2,3,4,7,8 - PeCDF	1.6	J	3.92	J	0.75	J	6.24		30.12	K	4.06	J	6.2	
2,3,7,8 - TCDD	0.62	J	1.19	J	0.48	JK	1.93	K	11.18		0.65	JK	4.86	
2,3,7,8 - TCDF	2.04	C	4.23	C	1.27	C	10.23	C	76.37	C	2.26	C	10.04	C
OCDD	87.85	B	341.92		43.44		202.7		6991.5		11270.9	E	3938.63	
OCDF	7.6	J	40.28		2.56	J	16.1		513.98		596.32		995.92	

Table 2.3-2 - Ecological Samples

TEQs and TTECs as 2,3,7,8-TCDD - 1989 EPA TEFs

Location		**ECO20**		**ECO21**		**ECO22**		**ECO23**		**ECO25**	
Phase		RI		RI		RI		RI		RI	
Depth		0-20cm		0-20cm		0-20cm		0-15cm		0-15cm	
Congener	TEF	[ppt TEQ]	qual	[ppt TEQ]	qual	[ppt TEQ]	qual	[ppt TEQ]	qual	[ppt TEQ]	qual
1,2,3,4,6,7,8-HpCDD	0.01	0.1622		0.2407		0.6979		0.238		0.0927	
1,2,3,4,6,7,8-HpCDF	0.01	0.0333	J	0.0445	J	0.1041		0.0343	J	0.015	J
1,2,3,4,7,8,9-HpCDF	0.01	0.00165	U	0.00175	U	0.0062	J	0.00305	U	0.00265	U
1,2,3,4,7,8-HxCDD	0.1	0.144	J	0.08	JK	0.558		0.17	J	0.0135	U
1,2,3,4,7,8-HxCDF	0.1	0.118	JK	0.062	J	0.334	J	0.097	J	0.046	J
1,2,3,6,7,8-HxCDD	0.1	0.284	J	0.226	J	1.287		0.413	J	0.104	J
1,2,3,6,7,8-HxCDF	0.1	0.072	J	0.037	JK	0.209	J	0.056	J	0.0085	U
1,2,3,7,8,9-HxCDD	0.1	0.374	J	0.203	J	1.26		0.401	J	0.077	J
1,2,3,7,8,9-HxCDF	0.1	0.006	U	0.0065	U	0.019	J	0.01	U	0.0115	U
1,2,3,7,8-PeCDD	0.5	0.835	J	0.515	J	3.29		0.965	J	0.19	JK
1,2,3,7,8-PeCDF	0.05	0.069	JK	0.029	J	0.173	JK	0.0465	JK	0.006	U
2,3,4,6,7,8-HxCDF	0.1	0.083	JK	0.038	JK	0.227	JK	0.057	JK	0.01	U
2,3,4,7,8-PeCDF	0.5	0.9	J	0.335	JK	2.24	J	0.54	J	0.06	U
2,3,7,8-TCDD	1	0.55	JK	0.79	J	1.89		0.49	JK	0.115	U
2,3,7,8-TCDF	0.1	0.227	C	0.09	CJ	0.474	C	0.229	C	0.055	C
OCDD	0.001	0.04324	B	0.14962	B	0.21731	B	0.09646		0.05728	
OCDF	0.001	0.00358	J	0.00665	J	0.02007		0.00582	J	0.00457	J
TTEC as 2,3,7,8-TCDD		3.91		2.85		13.01		3.85		0.87	

Unrestricted criterion = 6.67 ppt TTEC
Industrial criterion = 875 ppt TTEC

Table 2.3-2 - Ecological Samples

TEQs and TTECs as 2,3,7,8-TCDD - 1989 EPA TEFs

Location		**ECO26**		**ECO27**		**ECO28**		**ECO29**		**ECO30**	
Phase		RI		RI		RI		RI		RI	
Depth		0-10cm		0-15cm		0-15cm		0-15cm		0-10cm	
Congener	TEF	[ppt TEQ]	qual	[ppt TEQ]	qual	[ppt TEQ]	qual	[ppt TEQ]	qual	[ppt TEQ]	qual
1,2,3,4,6,7,8-HpCDD	0.01	0.5378		0.9086		0.6593		0.2332		1.267	
1,2,3,4,6,7,8-HpCDF	0.01	0.101		0.1139		0.115		0.0464	J	0.4722	
1,2,3,4,7,8,9-HpCDF	0.01	0.0057	J	0.0038	U	0.0031	U	0.00275	U	0.0117	J
1,2,3,4,7,8-HxCDD	0.1	0.132	J	0.404	J	0.336	J	0.131	J	0.456	J
1,2,3,4,7,8-HxCDF	0.1	0.205	JK	0.37	JK	0.312	JK	0.111	J	0.341	JK
1,2,3,6,7,8-HxCDD	0.1	0.409	J	1.053		0.905		0.33	J	2.083	
1,2,3,6,7,8-HxCDF	0.1	0.088	J	0.239	J	0.183	J	0.069	J	0.196	J
1,2,3,7,8,9-HxCDD	0.1	0.381	J	0.988		0.95		0.323	J	1.177	
1,2,3,7,8,9-HxCDF	0.1	0.019	J	0.008	U	0.005	U	0.007	U	0.0245	U
1,2,3,7,8-PeCDD	0.5	0.615	J	2.435	J	2.11	J	0.745	J	2.545	J
1,2,3,7,8-PeCDF	0.05	0.053	JK	0.208	JK	0.161	JK	0.063	JK	0.165	JK
2,3,4,6,7,8-HxCDF	0.1	0.103	JK	0.252	JK	0.199	JK	0.084	J	0.295	J
2,3,4,7,8-PeCDF	0.5	0.68	J	2.61		1.94	J	0.8	J	1.96	J
2,3,7,8-TCDD	1	0.42	JK	2.13		1.58		0.62	J	1.19	J
2,3,7,8-TCDF	0.1	0.131	C	0.627	C	0.536	C	0.204	C	0.423	C
OCDD	0.001	0.38257	B	0.23739	B	0.32594	B	0.08785	B	0.34192	
OCDF	0.001	0.02813		0.01581		0.02273		0.0076	J	0.04028	
TTEC as 2,3,7,8-TCDD		4.29		12.60		10.34		3.86		12.99	

Unrestricted criterion = 6.67 ppt TTEC
Industrial criterion = 875 ppt TTEC

Table 2.3-2 - Ecological Samples

TEQs and TTECs as 2,3,7,8-TCDD - 1989 EPA TEFs

Location		**ECO31**		**ECO32**		**ECO33**		**ECO34**		**ECO35**	
Phase		RI		RI		RI		RI		RI	
Depth		0-15cm		0-15cm		0-15cm		0-15cm		0-15cm	
Congener	TEF	[ppt TEQ]	qual	[ppt TEQ]	qual	[ppt TEQ]	qual	[ppt TEQ]	qual	[ppt TEQ]	qual
1,2,3,4,6,7,8-HpCDD	0.01	0.1229		0.6339		13.1816		12.2096		7.3531	
1,2,3,4,6,7,8-HpCDF	0.01	0.0182	J	0.1048		1.8696		1.4787		5.7354	
1,2,3,4,7,8,9-HpCDF	0.01	0.0014	U	0.0078	JK	0.0999		0.0707		0.1545	
1,2,3,4,7,8-HxCDD	0.1	0.138	J	0.576		3.424		0.542	JK	1.18	
1,2,3,4,7,8-HxCDF	0.1	0.063	J	0.467	JK	3.149	K	0.908		1.403	K
1,2,3,6,7,8-HxCDD	0.1	0.261	J	1.01		13.225		4.725		6.258	
1,2,3,6,7,8-HxCDF	0.1	0.034	JK	0.276	J	1.585		0.384	J	0.846	
1,2,3,7,8,9-HxCDD	0.1	0.253	J	1.08		8.394		1.796		3.087	
1,2,3,7,8,9-HxCDF	0.1	0.011	U	0.017	JK	0.195	J	0.025	U	0.0235	U
1,2,3,7,8-PeCDD	0.5	0.725	J	3.175		20.54		1.77	J	5.195	
1,2,3,7,8-PeCDF	0.05	0.0295	JK	0.2425	JK	1.4075	K	0.1635	K	0.266	JK
2,3,4,6,7,8-HxCDF	0.1	0.038	J	0.297	K	1.746	K	0.677		1.641	K
2,3,4,7,8-PeCDF	0.5	0.375	J	3.12		15.06	K	2.03	J	3.1	
2,3,7,8-TCDD	1	0.48	JK	1.93	K	11.18		0.65	JK	4.86	
2,3,7,8-TCDF	0.1	0.127	C	1.023	C	7.637	C	0.226	C	1.004	C
OCDD	0.001	0.04344		0.20273		6.99146		11.27094	E	3.93863	
OCDF	0.001	0.00256	J	0.0161		0.51398		0.59632		0.99592	
TTEC as 2,3,7,8-TCDD		2.72		14.18		110.20		39.52		47.04	

Unrestricted criterion = 6.67 ppt TTEC
Industrial criterion = 875 ppt TTEC

Table 2.3-3 - Ecological Samples

TEQs and TTECs as 2,3,7,8-TCDD - WHO TEFs

Location		**ECO20**		**ECO21**		**ECO22**		**ECO23**		**ECO25**	
Phase		RI		RI		RI		RI		RI	
Depth		0-20cm		0-20cm		0-20cm		0-15cm		0-15cm	
Congener	TEF	[ppt TEQ]	qual	[ppt TEQ]	qual	[ppt TEQ]	qual	[ppt TEQ]	qual	[ppt TEQ]	qual
1,2,3,4,6,7,8-HpCDD	0.01	0.1622		0.2407		0.6979		0.238		0.0927	
1,2,3,4,6,7,8-HpCDF	0.01	0.0333	J	0.0445	J	0.1041		0.0343	J	0.015	J
1,2,3,4,7,8,9-HpCDF	0.01	0.00165	U	0.00175	U	0.0062	J	0.00305	U	0.00265	U
1,2,3,4,7,8-HxCDD	0.1	0.144	J	0.08	JK	0.558		0.17	J	0.0135	U
1,2,3,4,7,8-HxCDF	0.1	0.118	JK	0.062	J	0.334	J	0.097	J	0.046	J
1,2,3,6,7,8-HxCDD	0.1	0.284	J	0.226	J	1.287		0.413	J	0.104	J
1,2,3,6,7,8-HxCDF	0.1	0.072	J	0.037	JK	0.209	J	0.056	J	0.0085	U
1,2,3,7,8,9-HxCDD	0.1	0.374	J	0.203	J	1.26		0.401	J	0.077	J
1,2,3,7,8,9-HxCDF	0.01	0.0006	U	0.00065	U	0.0019	J	0.001	U	0.00115	U
1,2,3,7,8-PeCDD	1	1.67	J	1.03	J	6.58		1.93	J	0.38	JK
1,2,3,7,8-PeCDF	0.05	0.069	JK	0.029	J	0.173	JK	0.0465	JK	0.006	U
2,3,4,6,7,8-HxCDF	0.1	0.083	JK	0.038	JK	0.227	JK	0.057	JK	0.01	U
2,3,4,7,8-PeCDF	0.5	0.9	J	0.335	JK	2.24	J	0.54	J	0.06	U
2,3,7,8-TCDD	1	0.55	JK	0.79	J	1.89		0.49	JK	0.115	U
2,3,7,8-TCDF	0.1	0.227	C	0.09	CJ	0.474	C	0.229	C	0.055	C
OCDD	0.0001	0.004324	B	0.014962	B	0.021731	B	0.009646		0.005728	
OCDF	0.0001	0.000358	J	0.000665	J	0.002007		0.000582	J	0.000457	J
TTEC as 2,3,7,8-TCDD		4.69		3.22		16.07		4.72		0.99	

Table 2.3-3 - Ecological Samples

TEQs and TTECs as 2,3,7,8-TCDD - WHO TEFs

Location		**ECO26**		**ECO27**		**ECO28**		**ECO29**		**ECO30**	
Phase		RI		RI		RI		RI		RI	
Depth		0-10cm		0-15cm		0-15cm		0-15cm		0-10cm	
Congener	TEF	[ppt TEQ]	qual	[ppt TEQ]	qual	[ppt TEQ]	qual	[ppt TEQ]	qual	[ppt TEQ]	qual
1,2,3,4,6,7,8-HpCDD	0.01	0.5378		0.9086		0.6593		0.2332		1.267	
1,2,3,4,6,7,8-HpCDF	0.01	0.101		0.1139		0.115		0.0464	J	0.4722	
1,2,3,4,7,8,9-HpCDF	0.01	0.0057	J	0.0038	U	0.0031	U	0.00275	U	0.0117	J
1,2,3,4,7,8-HxCDD	0.1	0.132	J	0.404	J	0.336	J	0.131	J	0.456	J
1,2,3,4,7,8-HxCDF	0.1	0.205	JK	0.37	JK	0.312	JK	0.111	J	0.341	JK
1,2,3,6,7,8-HxCDD	0.1	0.409	J	1.053		0.905		0.33	J	2.083	
1,2,3,6,7,8-HxCDF	0.1	0.088	J	0.239	J	0.183	J	0.069	J	0.196	J
1,2,3,7,8,9-HxCDD	0.1	0.381	J	0.988		0.95		0.323	J	1.177	
1,2,3,7,8,9-HxCDF	0.01	0.0019	J	0.0008	U	0.0005	U	0.0007	U	0.00245	U
1,2,3,7,8-PeCDD	1	1.23	J	4.87	J	4.22	J	1.49	J	5.09	J
1,2,3,7,8-PeCDF	0.05	0.053	JK	0.208	JK	0.161	JK	0.063	JK	0.165	JK
2,3,4,6,7,8-HxCDF	0.1	0.103	JK	0.252	JK	0.199	JK	0.084	J	0.295	J
2,3,4,7,8-PeCDF	0.5	0.68	J	2.61		1.94	J	0.8	J	1.96	J
2,3,7,8-TCDD	1	0.42	JK	2.13		1.58		0.62	J	1.19	J
2,3,7,8-TCDF	0.1	0.131	C	0.627	C	0.536	C	0.204	C	0.423	C
OCDD	0.0001	0.038257	B	0.023739	B	0.032594	B	0.008785	B	0.034192	
OCDF	0.0001	0.002813		0.001581		0.002273		0.00076	J	0.004028	
TTEC as 2,3,7,8-TCDD		4.52		14.80		12.13		4.52		15.17	

Table 2.3-3 - Ecological Samples

TEQs and TTECs as 2,3,7,8-TCDD - WHO TEFs

Location		**ECO31**		**ECO32**		**ECO33**		**ECO34**		**ECO35**	
Phase		RI		RI		RI		RI		RI	
Depth		0-15cm		0-15cm		0-15cm		0-15cm		0-15cm	
Congener	TEF	[ppt TEQ]	qual	[ppt TEQ]	qual	[ppt TEQ]	qual	[ppt TEQ]	qual	[ppt TEQ]	qual
1,2,3,4,6,7,8-HpCDD	0.01	0.1229		0.6339		13.1816		12.2096		7.3531	
1,2,3,4,6,7,8-HpCDF	0.01	0.0182	J	0.1048		1.8696		1.4787		5.7354	
1,2,3,4,7,8,9-HpCDF	0.01	0.0014	U	0.0078	JK	0.0999		0.0707		0.1545	
1,2,3,4,7,8-HxCDD	0.1	0.138	J	0.576		3.424		0.542	JK	1.18	
1,2,3,4,7,8-HxCDF	0.1	0.063	J	0.467	JK	3.149	K	0.908		1.403	K
1,2,3,6,7,8-HxCDD	0.1	0.261	J	1.01		13.225		4.725		6.258	
1,2,3,6,7,8-HxCDF	0.1	0.034	JK	0.276	J	1.585		0.384	J	0.846	
1,2,3,7,8,9-HxCDD	0.1	0.253	J	1.08		8.394		1.796		3.087	
1,2,3,7,8,9-HxCDF	0.01	0.0011	U	0.0017	JK	0.0195	J	0.0025	U	0.00235	U
1,2,3,7,8-PeCDD	1	1.45	J	6.35		41.08		3.54	J	10.39	
1,2,3,7,8-PeCDF	0.05	0.0295	JK	0.2425	JK	1.4075	K	0.1635	K	0.266	JK
2,3,4,6,7,8-HxCDF	0.1	0.038	J	0.297	K	1.746	K	0.677		1.641	K
2,3,4,7,8-PeCDF	0.5	0.375	J	3.12		15.06	K	2.03	J	3.1	
2,3,7,8-TCDD	1	0.48	JK	1.93	K	11.18		0.65	JK	4.86	
2,3,7,8-TCDF	0.1	0.127	C	1.023	C	7.637	C	0.226	C	1.004	C
OCDD	0.0001	0.004344		0.020273		0.699146		1.127094	E	0.393863	
OCDF	0.0001	0.000256	J	0.00161		0.051398		0.059632		0.099592	
TTEC as 2,3,7,8-TCDD		3.40		17.14		123.81		30.59		47.77	

Table 2.4-1 - Main Process Area Surface Soils

Expanded Site Investigation and Remedial Investigation PCDD/F Data

Location	AP02		AP03				BL03		BL20		BP04		BP20	
Phase	ESI		ESI		RI		ESI		RI		ESI		RI	
Depth	0-3"		0-3"		0-3"		0-3"		0-3"		0-3"		0-3"	
Congener	[ppt]	qual	[ppt]	qual	[ppt]	qual	[ppt]	qual	[ppt]	qual	[ppt]	qual	[ppt]	qual
1,2,3,4,6,7,8-HpCDD	5500	JH	12000		2428.72		370	JH	1076.38		14000		19312.51	
1,2,3,4,6,7,8-HpCDF	490		13000		394.02		46		186.71		2200		930.44	
1,2,3,4,7,8,9-HpCDF	47		120		25.41	J	5.2		16.87		110		85.71	J
1,2,3,4,7,8-HxCDD	290		150		6.85	JK	10		7.92		240		143.74	J
1,2,3,4,7,8-HxCDF	120		75		40.07		34		35	K	160		111.1	JK
1,2,3,6,7,8-HxCDD	530	JH	460		84.96		36		84.61		1100		467.81	
1,2,3,6,7,8-HxCDF	78		71		8.71	J	5.9		8.5	K	110		46.15	J
1,2,3,7,8,9-HxCDD	550	JH	300	JH	16.5	J	33		31.89		510		353.41	
1,2,3,7,8,9-HxCDF	7.9		4	JQ	9.62	JK	0.29	U	1.2	U	7.7		5.59	
1,2,3,7,8-PeCDD	230		84		5.28	J	6.8	JH	7.26		130		102.54	J
1,2,3,7,8-PeCDF	88		36		5.51	JK	12		10.52	K	75	UJH	65.79	JK
2,3,4,6,7,8-HxCDF	44		33		16.92	J	5.5		12.27	K	86		61.99	JK
2,3,4,7,8-PeCDF	120	JH	43		11.61	J	21		17.94	K	78		88.5	JK
2,3,7,8-TCDD	26		12		2.39	U	1.9		1.56		15		18.88	JK
2,3,7,8-TCDF	76		32		6.23	C	64		31.56	C	57		98.33	C
OCDD	270		81000		27212.84	B	1700		7789.18	E	67000		139583	B
OCDF	1300		8000		2031.32		59		450.47		3700		6795.81	B

Data Qualifiers - RI samples:

D - Sample was diluted for analysis.
J - Result is below the calibration range. Reported concentration is an estimate.
U - Analyte was not detected. Reported concentration is the detection limit.
B - Analyte was present in the method blank.
C - TCDF result was obtained from confirmation column.
E - Result is above the calibration range. Reported concentration is an estimate.
K - Estimated maximum possible concentration.

Data Qualifiers - ESI samples:

H - High bias.
J - The analyte was positively detected. The associated numerical value is an estimate.
JQ - The result is estimated because the value is less than the Contract Required Detection Limit.
U - The analyte was not detected at or above the reported result.
UJ - The analyte was not detected at or above the reported result. The associated numerical value is an estimate of the quantitation limit in this sample.

Table 2.4-1 - Main Process Area Surface Soils

Expanded Site Investigation and Remedial Investigation PCDD/F Data

Location	**CS20**		**DB21**		**DK20**		**ECO34**		**FR02**				**FR20**	
Phase	RI		RI		RI		RI		ESI		RI		RI	
Depth	0-3"		0-3"		0-3"		0-15 cm		0-3"		0-3"		0-3"	
Congener	[ppt]	qual	[ppt]	qual	[ppt]	qual	[ppt]	qual	[ppt]	qual	[ppt]	qual	[ppt]	qual
1,2,3,4,6,7,8-HpCDD	28.4		5197.73		1318.33		1220.96		120000		5451.39		2812.45	
1,2,3,4,6,7,8-HpCDF	4.97		617.53		115.55		147.87		13000		895.99		272.88	
1,2,3,4,7,8,9-HpCDF	0.38	U	36.52	K	6.95		7.07		150		78.2	J	21.84	J
1,2,3,4,7,8-HxCDD	0.16	U	44.4		15.44		5.42	JK	140		43.59	J	10.8	J
1,2,3,4,7,8-HxCDF	0.43	J	42.14		18.49	K	9.08		570		54.83	J	16.34	J
1,2,3,6,7,8-HxCDD	1.02	JK	212.26		162.87		47.25		3500		142.6		72.31	
1,2,3,6,7,8-HxCDF	0.1	U	13.54	J	8.83		3.84	J	330		19.05	J	5.13	J
1,2,3,7,8,9-HxCDD	0.32	JK	71.1		79.37		17.96		2800		56.04	J	12.52	JK
1,2,3,7,8,9-HxCDF	0.12	U	3.83	U	0.4	U	0.5	U	14		3.82	U	1.97	U
1,2,3,7,8-PeCDD	0.13	U	19.46	J	18.72		3.54	J	580		12.09	JK	5.41	J
1,2,3,7,8-PeCDF	0.08	U	6.08	JK	15.18	K	3.27	K	140	UJH	5.44	JK	2.89	JK
2,3,4,6,7,8-HxCDF	0.1	U	27.1	J	11.37	K	6.77		180		39.58	J	8.39	JK
2,3,4,7,8-PeCDF	0.32	J	11.91	J	16.72		4.06	J	190		10.95	J	3.02	J
2,3,7,8-TCDD	0.13	U	2.18	U	4.63		0.65	JK	74		4.5	U	1.62	U
2,3,7,8-TCDF	0.54	UC	6.28	C	79.23	C	2.26	C	140		13.08	CJ	8.14	C
OCDD	293.53		50916.93	E	5786.61	B	11270.94	E	250000	JL	51174.2	B	51223.68	BE
OCDF	26.52		2739.94		273.24	B	596.32		68000		4190.24		1747.57	

Table 2.4-1 - Main Process Area Surface Soils

Expanded Site Investigation and Remedial Investigation PCDD/F Data

Location	**MR06**		**MR09**		**MR11**		**MR20**		**MS20**		**PC20**		**PC20C**	
Phase	ESI		ESI		ESI		RI		RI		RI		RI	
Depth	0-3"		0-3"		0-3"		0-3"		0-3"		0-3"		0-3"	
Congener	[ppt]	qual	[ppt]	qual	[ppt]	qual	[ppt]	qual	[ppt]	qual	[ppt]	qual	[ppt]	qual
1,2,3,4,6,7,8-HpCDD	1900		5400	JH	2300		256.02		69.31		1200.92		7391.06	
1,2,3,4,6,7,8-HpCDF	210		660		2100		96.59		16.69		174.86		895.75	
1,2,3,4,7,8,9-HpCDF	20		47		85		23.13		1.52	J	8.65		54.89	JK
1,2,3,4,7,8-HxCDD	18		30		44		1.11	U	1.68	J	3.7	J	25.79	J
1,2,3,4,7,8-HxCDF	24		77		190		48.77		2.25	J	15.06		69.13	JK
1,2,3,6,7,8-HxCDD	61		180		130		38.04		5.67		50.91		247.68	
1,2,3,6,7,8-HxCDF	12		34		74		5.32		1.39	J	4.97		20.11	J
1,2,3,7,8,9-HxCDD	34		75		95		12.3		5.42		12.83		57.26	JK
1,2,3,7,8,9-HxCDF	0.54	U	3.9	JQ	1.9	U	0.49	U	0.26	U	1.2	U	23.67	U
1,2,3,7,8-PeCDD	9.9		11		24		1.51	J	1.73	J	2.15	J	7.81	U
1,2,3,7,8-PeCDF	8.3		23		12		6.19		1.16	JK	4.47		19.25	JK
2,3,4,6,7,8-HxCDF	4.5	JQ	17		30		6.29		1.8	J	8.37		28.17	JK
2,3,4,7,8-PeCDF	10		27		20		11.61		1.43	J	4.78		24.95	JK
2,3,7,8-TCDD	1.9		2		2.9		0.37	U	0.28	JK	0.32	J	7.43	U
2,3,7,8-TCDF	28		17		11		39.4	C	1.27	C	2.64	C	21.55	C
OCDD	27000	JH	54000		20000		1608.61		586.37	B	14635.26	E	105356.3	B
OCDF	1300		1900		2300		221.26		42.48		396.28		3411.39	

Table 2.4-1 - Main Process Area Surface Soils

Expanded Site Investigation and Remedial Investigation PCDD/F Data

Location	**PS20**		**RB01**		**RB02**		**RB21**		**SR03**			
Phase	RI		ESI		ESI		RI		ESI		RI	
Depth	0-3"		0-3"		0-3"		0-3"		0-3"		0-3"	
Congener	[ppt]	qual	[ppt]	qual	[ppt]	qual	[ppt]	qual	[ppt]	qual	[ppt]	qual
1,2,3,4,6,7,8-HpCDD	2.71	J	3500		5900	JL	2068.24		74000		52080.64	
1,2,3,4,6,7,8-HpCDF	0.65	JK	610		940		313.23		6900		6331.92	
1,2,3,4,7,8,9-HpCDF	0.77	U	69		90		18.01	J	900		499.32	
1,2,3,4,7,8-HxCDD	0.38	U	56		860		48.18		410		303.37	J
1,2,3,4,7,8-HxCDF	0.22	U	100		140		39.56		340		337	
1,2,3,6,7,8-HxCDD	0.44	U	190		300		139.59		2600		2827.54	
1,2,3,6,7,8-HxCDF	0.22	U	50	JH	500		16.72	J	130		141.1	
1,2,3,7,8,9-HxCDD	0.4	U	120		2.1		106.16		830		768.73	
1,2,3,7,8,9-HxCDF	0.32	U	5.8		5.7		1.22	JK	9		74.32	JK
1,2,3,7,8-PeCDD	0.27	U	44		46		47.38		120		106.25	J
1,2,3,7,8-PeCDF	0.22	U	40		25	UJH	21	J	39		85.95	J
2,3,4,6,7,8-HxCDF	0.24	U	31		32		22	J	98		342.32	
2,3,4,7,8-PeCDF	0.23	U	68		33		26.55	J	39		87.15	J
2,3,7,8-TCDD	0.21	U	5.9		5.3		7.56	JK	12		3.61	JK
2,3,7,8-TCDF	0.24	U	30		14		31.97	C	20		51.04	C
OCDD	24.95	B	26000		48000	JL	17031.63	B	530000		311155.6	BE
OCDF	3.55	BJ	1700		2200		893.87	B	27000		14704.65	

Table 2.4-1 - Main Process Area Surface Soils

Expanded Site Investigation and Remedial Investigation PCDD/F Data

Location	**SR20**		**SR21**		**SR22**		**SR23**		**SR24**	
Phase	RI		RI		RI		RI		RI	
Depth	0-3"		0-3"		0-3"		0-3"		0-3"	
Congener	[ppt]	qual	[ppt]	qual	[ppt]	qual	[ppt]	qual	[ppt]	qual
1,2,3,4,6,7,8-HpCDD	3747.95		795.65		145.57		11477.2		1749.93	
1,2,3,4,6,7,8-HpCDF	460.36		121.56		18.46		1919.85		233.82	
1,2,3,4,7,8,9-HpCDF	25.68	J	8.79		0.86	JK	134.94	J	18.48	J
1,2,3,4,7,8-HxCDD	17.12	JK	7.7		1.03	J	110.36	J	10.88	J
1,2,3,4,7,8-HxCDF	49.98		12.24	K	1.07	J	122.53	J	5.2	J
1,2,3,6,7,8-HxCDD	7.59	J	43.48		5.73	J	37.23	J	54.17	J
1,2,3,6,7,8-HxCDF	11.76	J	5.06		0.53	JK	47.29	J	5.2	J
1,2,3,7,8,9-HxCDD	127.06		21.89		2.7		612.09		27.01	
1,2,3,7,8,9-HxCDF	9.86	JK	0.15	U	0.19	U	26.7	JK	7.92	JK
1,2,3,7,8-PeCDD	3.41	JK	6.12		0.67	J	18.97	U	6	J
1,2,3,7,8-PeCDF	14.79	J	4.47	JK	0.25	JK	19.88	U	3.72	J
2,3,4,6,7,8-HxCDF	18.16	JK	7.44	K	0.88	JK	94.25	J	9.89	J
2,3,4,7,8-PeCDF	15.42	J	5.93		0.49	JK	25.35	J	5.6	J
2,3,7,8-TCDD	1.89	U	1.04		0.13	U	38.79	U	0.93	U
2,3,7,8-TCDF	16.42	C	5.75		0.47	U	30.87	U	4.37	C
OCDD	60079.2	BE	6741.36		1196.37	B	68973.5	B	19806.2	B
OCDF	1722.02		419.32		62.87		5833.29		1071.66	

Table 2.4-2 - Main Process Area Surface Soils

TEQs and TTECs as 2,3,7,8-TCDD - 1989 EPA TEFs

Location		AP02		AP03				BL03		BL20		BP04		BP20	
Phase		ESI		ESI		RI		ESI		RI		ESI		RI	
Depth		0-3"		0-3"		0-3"		0-3"		0-3"		0-3"		0-3"	
Congener	TEF	[ppt TEQ]	qual	[ppt TEQ]	qual	[ppt TEQ]	qual	[ppt TEQ]	qual	[ppt TEQ]	qual	[ppt TEQ]	qual	[ppt TEQ]	qual
1,2,3,4,6,7,8-HpCDD	0.01	55	JH	120		24.2872		3.7	JH	10.7638		140		193.1251	
1,2,3,4,6,7,8-HpCDF	0.01	4.9		130		3.9402		0.46		1.8671		22		9.3044	
1,2,3,4,7,8,9-HpCDF	0.01	0.47		1.2		0.2541	J	0.052		0.1687		1.1		0.8571	J
1,2,3,4,7,8-HxCDD	0.1	29		15		0.685	JK	1		0.792		24		14.374	J
1,2,3,4,7,8-HxCDF	0.1	12		7.5		4.007		3.4		3.5	K	16		11.11	JK
1,2,3,6,7,8-HxCDD	0.1	53	JH	46		8.496		3.6		8.461		110		46.781	
1,2,3,6,7,8-HxCDF	0.1	7.8		7.1		0.871	J	0.59		0.85	K	11		4.615	J
1,2,3,7,8,9-HxCDD	0.1	55	JH	30	JH	1.65	J	3.3		3.189		51		35.341	
1,2,3,7,8,9-HxCDF	0.1	0.79		0.4	JQ	0.962	JK	0.0145	U	0.06	U	0.77		0.559	
1,2,3,7,8-PeCDD	0.5	115		42		2.64	J	3.4	JH	3.63		65		51.27	J
1,2,3,7,8-PeCDF	0.05	4.4		1.8		0.2755	JK	0.6		0.526	K	1.875	UJH	3.2895	JK
2,3,4,6,7,8-HxCDF	0.1	4.4		3.3		1.692	J	0.55		1.227	K	8.6		6.199	JK
2,3,4,7,8-PeCDF	0.5	60	JH	21.5		5.805	J	10.5		8.97	K	39		44.25	JK
2,3,7,8-TCDD	1	26		12		1.195	U	1.9		1.56		15		18.88	JK
2,3,7,8-TCDF	0.1	7.6		3.2		0.623	C	6.4		3.156	C	5.7		9.833	C
OCDD	0.001	0.27		81		27.21284	B	1.7		7.78918	E	67		139.583	B
OCDF	0.001	1.3		8		2.03132		0.059		0.45047		3.7		6.79581	B
TTEC as 2,3,7,8-TCDD		436.93		530.00		86.63		41.23		56.96		581.75		596.17	

Unrestricted criterion = 6.67 ppt TTEC
Industrial criterion = 875 ppt TTEC

Table 2.4-2 - Main Process Area Surface Soils

TEQs and TTECs as 2,3,7,8-TCDD - 1989 EPA TEFs

Location		CS20		DB21		DK20		ECO34		FR02				FR20	
Phase		RI		RI		RI		RI		ESI		RI		RI	
Depth		0-3"		0-3"		0-3"		0-15 cm		0-3"		0-3"		0-3"	
Congener	TEF	[ppt TEQ]	qual	[ppt TEQ]	qual	[ppt TEQ]	qual	[ppt TEQ]	qual	[ppt TEQ]	qual	[ppt TEQ]	qual	[ppt TEQ]	qual
1,2,3,4,6,7,8-HpCDD	0.01	0.284		51.9773		13.1833		12.2096		1200		54.5139		28.1245	
1,2,3,4,6,7,8-HpCDF	0.01	0.0497		6.1753		1.1555		1.4787		130		8.9599		2.7288	
1,2,3,4,7,8,9-HpCDF	0.01	0.0019	U	0.3652	K	0.0695		0.0707		1.5		0.782	J	0.2184	J
1,2,3,4,7,8-HxCDD	0.1	0.008	U	4.44		1.544		0.542	JK	14		4.359	J	1.08	J
1,2,3,4,7,8-HxCDF	0.1	0.043	J	4.214		1.849	K	0.908		57		5.483	J	1.634	J
1,2,3,6,7,8-HxCDD	0.1	0.102	JK	21.226		16.287		4.725		350		14.26		7.231	
1,2,3,6,7,8-HxCDF	0.1	0.005	U	1.354	J	0.883		0.384	J	33		1.905	J	0.513	J
1,2,3,7,8,9-HxCDD	0.1	0.032	JK	7.11		7.937		1.796		280		5.604	J	1.252	JK
1,2,3,7,8,9-HxCDF	0.1	0.006	U	0.1915	U	0.02	U	0.025	U	1.4		0.191	U	0.0985	U
1,2,3,7,8-PeCDD	0.5	0.0325	U	9.73	J	9.36		1.77	J	290		6.045	JK	2.705	J
1,2,3,7,8-PeCDF	0.05	0.002	U	0.304	JK	0.759	K	0.1635	K	3.5	UJH	0.272	JK	0.1445	JK
2,3,4,6,7,8-HxCDF	0.1	0.005	U	2.71	J	1.137	K	0.677		18		3.958	J	0.839	JK
2,3,4,7,8-PeCDF	0.5	0.16	J	5.955	J	8.36		2.03	J	95		5.475	J	1.51	J
2,3,7,8-TCDD	1	0.065	U	1.09	U	4.63		0.65	JK	74		2.25	U	0.81	U
2,3,7,8-TCDF	0.1	0.027	UC	0.628	C	7.923	C	0.226	C	14		1.308	CJ	0.814	C
OCDD	0.001	0.29353		50.91693	E	5.78661	B	11.27094	E	250	JL	51.1742	B	51.22368	BE
OCDF	0.001	0.02652		2.73994		0.27324	B	0.59632		68		4.19024		1.74757	
TTEC as 2,3,7,8-TCDD		1.14		171.13		81.16		39.52		2879.40		170.73		102.67	

Unrestricted criterion = 6.67 ppt TTEC
Industrial criterion = 875 ppt TTEC

Table 2.4-2 - Main Process Area Surface Soils

TEQs and TTECs as 2,3,7,8-TCDD - 1989 EPA TEFs

Location		**MR06**		**MR09**		**MR11**		**MR20**		**MS20**		**PC20**		**PC20C**	
Phase		ESI		ESI		ESI		RI		RI		RI		RI	
Depth		0-3"		0-3"		0-3"		0-3"		0-3"		0-3"		0-3"	
Congener	TEF	[ppt TEQ]	qual	[ppt TEQ]	qual	[ppt TEQ]	qual	[ppt TEQ]	qual	[ppt TEQ]	qual	[ppt TEQ]	qual	[ppt TEQ]	qual
1,2,3,4,6,7,8-HpCDD	0.01	19		54	JH	23		2.5602		0.6931		12.0092		73.9106	
1,2,3,4,6,7,8-HpCDF	0.01	2.1		6.6		21		0.9659		0.1669		1.7486		8.9575	
1,2,3,4,7,8,9-HpCDF	0.01	0.2		0.47		0.85		0.2313		0.0152	J	0.0865		0.5489	JK
1,2,3,4,7,8-HxCDD	0.1	1.8		3		4.4		0.0555	U	0.168	J	0.37	J	2.579	J
1,2,3,4,7,8-HxCDF	0.1	2.4		7.7		19		4.877		0.225	J	1.506		6.913	JK
1,2,3,6,7,8-HxCDD	0.1	6.1		18		13		3.804		0.567		5.091		24.768	
1,2,3,6,7,8-HxCDF	0.1	1.2		3.4		7.4		0.532		0.139	J	0.497		2.011	J
1,2,3,7,8,9-HxCDD	0.1	3.4		7.5		9.5		1.23		0.542		1.283		5.726	JK
1,2,3,7,8,9-HxCDF	0.1	0.027	U	0.39	JQ	0.095	U	0.0245	U	0.013	U	0.06	U	1.1835	U
1,2,3,7,8-PeCDD	0.5	4.95		5.5		12		0.755	J	0.865	J	1.075	J	1.9525	U
1,2,3,7,8-PeCDF	0.05	0.415		1.15		0.6		0.3095		0.058	JK	0.2235		0.9625	JK
2,3,4,6,7,8-HxCDF	0.1	0.45	JQ	1.7		3		0.629		0.18	J	0.837		2.817	JK
2,3,4,7,8-PeCDF	0.5	5		13.5		10		5.805		0.715	J	2.39		12.475	JK
2,3,7,8-TCDD	1	1.9		2		2.9		0.185	U	0.28	JK	0.32	J	3.715	U
2,3,7,8-TCDF	0.1	2.8		1.7		1.1		3.94	C	0.127	C	0.264	C	2.155	C
OCDD	0.001	27	JH	54		20		1.60861		0.58637	B	14.63526	E	105.3563	B
OCDF	0.001	1.3		1.9		2.3		0.22126		0.04248		0.39628		3.41139	
TTEC as 2,3,7,8-TCDD		80.04		182.51		150.15		27.73		5.38		42.79		259.44	

Unrestricted criterion = 6.67 ppt TTEC
Industrial criterion = 875 ppt TTEC

Table 2.4-2 - Main Process Area Surface Soils

TEQs and TTECs as 2,3,7,8-TCDD - 1989 EPA TEFs

Location		PS20		RB01		RB02		RB21		SR03			
Phase		RI		ESI		ESI		RI		ESI		RI	
Depth		0-3"		0-3"		0-3"		0-3"		0-3"		0-3"	
Congener	TEF	[ppt TEQ]	qual	[ppt TEQ]	qual	[ppt TEQ]	qual	[ppt TEQ]	qual	[ppt TEQ]	qual	[ppt TEQ]	qual
1,2,3,4,6,7,8-HpCDD	0.01	0.0271	J	35		59	JL	20.6824		740		520.8064	
1,2,3,4,6,7,8-HpCDF	0.01	0.0065	JK	6.1		9.4		3.1323		69		63.3192	
1,2,3,4,7,8,9-HpCDF	0.01	0.00385	U	0.69		0.9		0.1801	J	9		4.9932	
1,2,3,4,7,8-HxCDD	0.1	0.019	U	5.6		86		4.818		41		30.337	J
1,2,3,4,7,8-HxCDF	0.1	0.011	U	10		14		3.956		34		33.7	
1,2,3,6,7,8-HxCDD	0.1	0.022	U	19		30		13.959		260		282.754	
1,2,3,6,7,8-HxCDF	0.1	0.011	U	5	JH	50		1.672	J	13		14.11	
1,2,3,7,8,9-HxCDD	0.1	0.02	U	12		0.21		10.616		83		76.873	
1,2,3,7,8,9-HxCDF	0.1	0.016	U	0.58		0.57		0.122	JK	0.9		7.432	JK
1,2,3,7,8-PeCDD	0.5	0.0675	U	22		23		23.69		60		53.125	J
1,2,3,7,8-PeCDF	0.05	0.0055	U	2		0.625	UJH	1.05	J	1.95		4.2975	J
2,3,4,6,7,8-HxCDF	0.1	0.012	U	3.1		3.2		2.2	J	9.8		34.232	
2,3,4,7,8-PeCDF	0.5	0.0575	U	34		16.5		13.275	J	19.5		43.575	J
2,3,7,8-TCDD	1	0.105	U	5.9		5.3		7.56	JK	12		3.61	JK
2,3,7,8-TCDF	0.1	0.012	U	3		1.4		3.197	C	2		5.104	C
OCDD	0.001	0.02495	B	26		48	JL	17.03163	B	530		311.1556	BE
OCDF	0.001	0.00355	BJ	1.7		2.2		0.89387	B	27		14.70465	
TTEC as 2,3,7,8-TCDD		0.42		191.67		350.31		128.04		1912.15		1504.13	

Unrestricted criterion = 6.67 ppt TTEC
Industrial criterion = 875 ppt TTEC

Table 2.4-2 - Main Process Area Surface Soils

TEQs and TTECs as 2,3,7,8-TCDD - 1989 EPA TEFs

Location		**SR20**		**SR21**		**SR22**		**SR23**		**SR24**	
Phase		RI		RI		RI		RI		RI	
Depth		0-3"		0-3"		0-3"		0-3"		0-3"	
Congener	TEF	[ppt TEQ]	qual	[ppt TEQ]	qual	[ppt TEQ]	qual	[ppt TEQ]	qual	[ppt TEQ]	qual
1,2,3,4,6,7,8-HpCDD	0.01	37.4795		7.9565		1.4557		114.772		17.4993	
1,2,3,4,6,7,8-HpCDF	0.01	4.6036		1.2156		0.1846		19.1985		2.3382	
1,2,3,4,7,8,9-HpCDF	0.01	0.2568	J	0.0879		0.0086	JK	1.3494	J	0.1848	J
1,2,3,4,7,8-HxCDD	0.1	1.712	JK	0.77		0.103	J	11.036	J	1.088	J
1,2,3,4,7,8-HxCDF	0.1	4.998		1.224	K	0.107	J	12.253	J	0.52	J
1,2,3,6,7,8-HxCDD	0.1	0.759	J	4.348		0.573	J	3.723	J	5.417	J
1,2,3,6,7,8-HxCDF	0.1	1.176	J	0.506		0.053	JK	4.729	J	0.52	J
1,2,3,7,8,9-HxCDD	0.1	12.706		2.189		0.27		61.209		2.701	
1,2,3,7,8,9-HxCDF	0.1	0.986	JK	0.0075	U	0.0095	U	2.67	JK	0.792	JK
1,2,3,7,8-PeCDD	0.5	1.705	JK	3.06		0.335	J	4.7425	U	3	J
1,2,3,7,8-PeCDF	0.05	0.7395	J	0.2235	JK	0.0125	JK	0.497	U	0.186	J
2,3,4,6,7,8-HxCDF	0.1	1.816	JK	0.744	K	0.088	JK	9.425	J	0.989	J
2,3,4,7,8-PeCDF	0.5	7.71	J	2.965		0.245	JK	12.675	J	2.8	J
2,3,7,8-TCDD	1	0.945	U	1.04		0.065	U	19.395	U	0.465	U
2,3,7,8-TCDF	0.1	1.642	C	0.575		0.0235	U	1.5435	U	0.437	C
OCDD	0.001	60.0792	BE	6.74136		1.19637	B	68.9735	B	19.8062	B
OCDF	0.001	1.72202		0.41932		0.06287		5.83329		1.07166	
TTEC as 2,3,7,8-TCDD		141.04		34.07		4.79		354.02		59.82	

Unrestricted criterion = 6.67 ppt TTEC
Industrial criterion = 875 ppt TTEC

Table 2.4-3 - Main Process Area Surface Soils

TEQs and TTECs as 2,3,7,8-TCDD - WHO TEFs

Location		**AP02**		**AP03**				**BL03**		**BL20**		**BP04**		**BP20**	
Phase		ESI		ESI		RI		ESI		RI		ESI		RI	
Depth		0-3"		0-3"		0-3"		0-3"		0-3"		0-3"		0-3"	
Congener	TEF	[ppt TEQ]	qual	[ppt TEQ]	qual	[ppt TEQ]	qual	[ppt TEQ]	qual	[ppt TEQ]	qual	[ppt TEQ]	qual	[ppt TEQ]	qual
1,2,3,4,6,7,8-HpCDD	0.01	55	JH	120		24.2872		3.7	JH	10.7638		140		193.1251	
1,2,3,4,6,7,8-HpCDF	0.01	4.9		130		3.9402		0.46		1.8671		22		9.3044	
1,2,3,4,7,8,9-HpCDF	0.01	0.47		1.2		0.2541	J	0.052		0.1687		1.1		0.8571	J
1,2,3,4,7,8-HxCDD	0.1	29		15		0.685	JK	1		0.792		24		14.374	J
1,2,3,4,7,8-HxCDF	0.1	12		7.5		4.007		3.4		3.5	K	16		11.11	JK
1,2,3,6,7,8-HxCDD	0.1	53	JH	46		8.496		3.6		8.461		110		46.781	
1,2,3,6,7,8-HxCDF	0.1	7.8		7.1		0.871	J	0.59		0.85	K	11		4.615	J
1,2,3,7,8,9-HxCDD	0.1	55	JH	30	JH	1.65	J	3.3		3.189		51		35.341	
1,2,3,7,8,9-HxCDF	0.01	0.079		0.04	JQ	0.0962	JK	0.00145	U	0.006	U	0.077		0.0559	
1,2,3,7,8-PeCDD	1	230		84		5.28	J	6.8	JH	7.26		130		102.54	J
1,2,3,7,8-PeCDF	0.05	4.4		1.8		0.2755	JK	0.6		0.526	K	1.875	UJH	3.2895	JK
2,3,4,6,7,8-HxCDF	0.1	4.4		3.3		1.692	J	0.55		1.227	K	8.6		6.199	JK
2,3,4,7,8-PeCDF	0.5	60	JH	21.5		5.805	J	10.5		8.97	K	39		44.25	JK
2,3,7,8-TCDD	1	26		12		1.195	U	1.9		1.56		15		18.88	JK
2,3,7,8-TCDF	0.1	7.6		3.2		0.623	C	6.4		3.156	C	5.7		9.833	C
OCDD	0.0001	0.027		8.1		2.721284	B	0.17		0.778918	E	6.7		13.9583	B
OCDF	0.0001	0.13		0.8		0.203132		0.0059		0.045047		0.37		0.679581	B
TTEC as 2,3,7,8-TCDD		549.81		491.54		62.08		43.03		53.12		582.42		515.19	

Table 2.4-3 - Main Process Area Surface Soils

TEQs and TTECs as 2,3,7,8-TCDD - WHO TEFs

Location		CS20		DB21		DK20		ECO34		FR02				FR20	
Phase		RI		RI		RI		RI		ESI		RI		RI	
Depth		0-3"		0-3"		0-3"		0-15 cm		0-3"		0-3"		0-3"	
Congener	TEF	[ppt TEQ]	qual	[ppt TEQ]	qual	[ppt TEQ]	qual	[ppt TEQ]	qual	[ppt TEQ]	qual	[ppt TEQ]	qual	[ppt TEQ]	qual
1,2,3,4,6,7,8-HpCDD	0.01	0.284		51.9773		13.1833		12.2096		1200		54.5139		28.1245	
1,2,3,4,6,7,8-HpCDF	0.01	0.0497		6.1753		1.1555		1.4787		130		8.9599		2.7288	
1,2,3,4,7,8,9-HpCDF	0.01	0.0019	U	0.3652	K	0.0695		0.0707		1.5		0.782	J	0.2184	J
1,2,3,4,7,8-HxCDD	0.1	0.008	U	4.44		1.544		0.542	JK	14		4.359	J	1.08	J
1,2,3,4,7,8-HxCDF	0.1	0.043	J	4.214		1.849	K	0.908		57		5.483	J	1.634	J
1,2,3,6,7,8-HxCDD	0.1	0.102	JK	21.226		16.287		4.725		350		14.26		7.231	
1,2,3,6,7,8-HxCDF	0.1	0.005	U	1.354	J	0.883		0.384	J	33		1.905	J	0.513	J
1,2,3,7,8,9-HxCDD	0.1	0.032	JK	7.11		7.937		1.796		280		5.604	J	1.252	JK
1,2,3,7,8,9-HxCDF	0.01	0.0006	U	0.01915	U	0.002	U	0.0025	U	0.14		0.0191	U	0.00985	U
1,2,3,7,8-PeCDD	1	0.065	U	19.46	J	18.72		3.54	J	580		12.09	JK	5.41	J
1,2,3,7,8-PeCDF	0.05	0.002	U	0.304	JK	0.759	K	0.1635	K	3.5	UJH	0.272	JK	0.1445	JK
2,3,4,6,7,8-HxCDF	0.1	0.005	U	2.71	J	1.137	K	0.677		18		3.958	J	0.839	JK
2,3,4,7,8-PeCDF	0.5	0.16	J	5.955	J	8.36		2.03	J	95		5.475	J	1.51	J
2,3,7,8-TCDD	1	0.065	U	1.09	U	4.63		0.65	JK	74		2.25	U	0.81	U
2,3,7,8-TCDF	0.1	0.027	UC	0.628	C	7.923	C	0.226	C	14		1.308	CJ	0.814	C
OCDD	0.0001	0.029353		5.091693	E	0.578661	B	1.127094	E	25	JL	5.11742	B	5.122368	BE
OCDF	0.0001	0.002652		0.273994		0.027324	B	0.059632		6.8		0.419024		0.174757	
TTEC as 2,3,7,8-TCDD		0.88		132.39		85.05		30.59		2881.94		126.78		57.62	

Table 2.4-3 - Main Process Area Surface Soils

TEQs and TTECs as 2,3,7,8-TCDD - WHO TEFs

Location		**MR06**		**MR09**		**MR11**		**MR20**		**MS20**		**PC20**		**PC20C**	
Phase		ESI		ESI		ESI		RI		RI		RI		RI	
Depth		0-3"		0-3"		0-3"		0-3"		0-3"		0-3"		0-3"	
Congener	TEF	[ppt TEQ]	qual	[ppt TEQ]	qual	[ppt TEQ]	qual	[ppt TEQ]	qual	[ppt TEQ]	qual	[ppt TEQ]	qual	[ppt TEQ]	qual
1,2,3,4,6,7,8-HpCDD	0.01	19		54	JH	23		2.5602		0.6931		12.0092		73.9106	
1,2,3,4,6,7,8-HpCDF	0.01	2.1		6.6		21		0.9659		0.1669		1.7486		8.9575	
1,2,3,4,7,8,9-HpCDF	0.01	0.2		0.47		0.85		0.2313		0.0152	J	0.0865		0.5489	JK
1,2,3,4,7,8-HxCDD	0.1	1.8		3		4.4		0.0555	U	0.168	J	0.37	J	2.579	J
1,2,3,4,7,8-HxCDF	0.1	2.4		7.7		19		4.877		0.225	J	1.506		6.913	JK
1,2,3,6,7,8-HxCDD	0.1	6.1		18		13		3.804		0.567		5.091		24.768	
1,2,3,6,7,8-HxCDF	0.1	1.2		3.4		7.4		0.532		0.139	J	0.497		2.011	J
1,2,3,7,8,9-HxCDD	0.1	3.4		7.5		9.5		1.23		0.542		1.283		5.726	JK
1,2,3,7,8,9-HxCDF	0.01	0.0027	U	0.039	JQ	0.0095	U	0.00245	U	0.0013	U	0.006	U	0.11835	U
1,2,3,7,8-PeCDD	1	9.9		11		24		1.51	J	1.73	J	2.15	J	3.905	U
1,2,3,7,8-PeCDF	0.05	0.415		1.15		0.6		0.3095		0.058	JK	0.2235		0.9625	JK
2,3,4,6,7,8-HxCDF	0.1	0.45	JQ	1.7		3		0.629		0.18	J	0.837		2.817	JK
2,3,4,7,8-PeCDF	0.5	5		13.5		10		5.805		0.715	J	2.39		12.475	JK
2,3,7,8-TCDD	1	1.9		2		2.9		0.185	U	0.28	JK	0.32	J	3.715	U
2,3,7,8-TCDF	0.1	2.8		1.7		1.1		3.94	C	0.127	C	0.264	C	2.155	C
OCDD	0.0001	2.7	JH	5.4		2		0.160861		0.058637	B	1.463526	E	10.53563	B
OCDF	0.0001	0.13		0.19		0.23		0.022126		0.004248		0.039628		0.341139	
TTEC as 2,3,7,8-TCDD		59.50		137.35		141.99		26.82		5.67		30.28		162.44	

Table 2.4-3 - Main Process Area Surface Soils

TEQs and TTECs as 2,3,7,8-TCDD - WHO TEFs

Location		PS20		RB01		RB02		RB21		SR03			
Phase		RI		ESI		ESI		RI		ESI		RI	
Depth		0-3"		0-3"		0-3"		0-3"		0-3"		0-3"	
Congener	TEF	[ppt TEQ]	qual	[ppt TEQ]	qual	[ppt TEQ]	qual	[ppt TEQ]	qual	[ppt TEQ]	qual	[ppt TEQ]	qual
1,2,3,4,6,7,8-HpCDD	0.01	0.0271	J	35		59	JL	20.6824		740		520.8064	
1,2,3,4,6,7,8-HpCDF	0.01	0.0065	JK	6.1		9.4		3.1323		69		63.3192	
1,2,3,4,7,8,9-HpCDF	0.01	0.00385	U	0.69		0.9		0.1801	J	9		4.9932	
1,2,3,4,7,8-HxCDD	0.1	0.019	U	5.6		86		4.818		41		30.337	J
1,2,3,4,7,8-HxCDF	0.1	0.011	U	10		14		3.956		34		33.7	
1,2,3,6,7,8-HxCDD	0.1	0.022	U	19		30		13.959		260		282.754	
1,2,3,6,7,8-HxCDF	0.1	0.011	U	5	JH	50		1.672	J	13		14.11	
1,2,3,7,8,9-HxCDD	0.1	0.02	U	12		0.21		10.616		83		76.873	
1,2,3,7,8,9-HxCDF	0.01	0.0016	U	0.058		0.057		0.0122	JK	0.09		0.7432	JK
1,2,3,7,8-PeCDD	1	0.135	U	44		46		47.38		120		106.25	J
1,2,3,7,8-PeCDF	0.05	0.0055	U	2		0.625	UJH	1.05	J	1.95		4.2975	J
2,3,4,6,7,8-HxCDF	0.1	0.012	U	3.1		3.2		2.2	J	9.8		34.232	
2,3,4,7,8-PeCDF	0.5	0.0575	U	34		16.5		13.275	J	19.5		43.575	J
2,3,7,8-TCDD	1	0.105	U	5.9		5.3		7.56	JK	12		3.61	JK
2,3,7,8-TCDF	0.1	0.012	U	3		1.4		3.197	C	2		5.104	C
OCDD	0.0001	0.002495	B	2.6		4.8	JL	1.703163	B	53		31.11556	BE
OCDF	0.0001	0.000355	BJ	0.17		0.22		0.089387	B	2.7		1.470465	
TTEC as 2,3,7,8-TCDD		0.45		188.22		327.61		135.48		1470.04		1257.29	

Table 2.4-3 - Main Process Area Surface Soils

TEQs and TTECs as 2,3,7,8-TCDD - WHO TEFs

Location		**SR20**		**SR21**		**SR22**		**SR23**		**SR24**	
Phase		RI		RI		RI		RI		RI	
Depth		0-3"		0-3"		0-3"		0-3"		0-3"	
Congener	TEF	[ppt TEQ]	qual	[ppt TEQ]	qual	[ppt TEQ]	qual	[ppt TEQ]	qual	[ppt TEQ]	qual
1,2,3,4,6,7,8-HpCDD	0.01	37.4795		7.9565		1.4557		114.772		17.4993	
1,2,3,4,6,7,8-HpCDF	0.01	4.6036		1.2156		0.1846		19.1985		2.3382	
1,2,3,4,7,8,9-HpCDF	0.01	0.2568	J	0.0879		0.0086	JK	1.3494	J	0.1848	J
1,2,3,4,7,8-HxCDD	0.1	1.712	JK	0.77		0.103	J	11.036	J	1.088	J
1,2,3,4,7,8-HxCDF	0.1	4.998		1.224	K	0.107	J	12.253	J	0.52	J
1,2,3,6,7,8-HxCDD	0.1	0.759	J	4.348		0.573	J	3.723	J	5.417	J
1,2,3,6,7,8-HxCDF	0.1	1.176	J	0.506		0.053	JK	4.729	J	0.52	J
1,2,3,7,8,9-HxCDD	0.1	12.706		2.189		0.27		61.209		2.701	
1,2,3,7,8,9-HxCDF	0.01	0.0986	JK	0.00075	U	0.00095	U	0.267	JK	0.0792	JK
1,2,3,7,8-PeCDD	1	3.41	JK	6.12		0.67	J	9.485	U	6	J
1,2,3,7,8-PeCDF	0.05	0.7395	J	0.2235	JK	0.0125	JK	0.497	U	0.186	J
2,3,4,6,7,8-HxCDF	0.1	1.816	JK	0.744	K	0.088	JK	9.425	J	0.989	J
2,3,4,7,8-PeCDF	0.5	7.71	J	2.965		0.245	JK	12.675	J	2.8	J
2,3,7,8-TCDD	1	0.945	U	1.04		0.065	U	19.395	U	0.465	U
2,3,7,8-TCDF	0.1	1.642	C	0.575		0.0235	U	1.5435	U	0.437	C
OCDD	0.0001	6.00792	BE	0.67414		0.11964	B	6.89735	B	1.98062	B
OCDF	0.0001	0.1722		0.04193		0.00629		0.58333		0.10717	
TTEC as 2,3,7,8-TCDD		86.23		30.68		3.99		289.04		43.31	

Table 2.4-4 - Main Process Area Subsurface Soils

Expanded Site Investigation and Remedial Investigation PCDD/F Data

Location	**AP03**		**BL20**		**CS20**		**DB21**		**DK20**		**FR02**		**FR20**	
Phase	RI		RI		RI		RI		RI		RI		RI	
Depth	3"-GW		3"-GW		3"-GW		3"-GW		3"-GW		3"-GW		3"-GW	
Congener	[ppt]	qual	[ppt]	qual	[ppt]	qual	[ppt]	qual	[ppt]	qual	[ppt]	qual	[ppt]	qual
1,2,3,4,6,7,8-HpCDD	307.52		147.22		31.06		566.02		192.79		2115.791	E	474.03	
1,2,3,4,6,7,8-HpCDF	49.32		133.93		4.64		134.88		38.84		251.143		43.54	
1,2,3,4,7,8,9-HpCDF	2.79	J	25.73		0.9	U	7.04		2.48	J	28.042		3.98	J
1,2,3,4,7,8-HxCDD	2.67	J	1.17	JK	0.21	U	15.69		8.39		19.215		7.24	
1,2,3,4,7,8-HxCDF	4.79	J	53.63		0.14	U	18.65		11.08	K	15.373	K	5.93	K
1,2,3,6,7,8-HxCDD	12.24		10.6		0.81	J	44.08		20.81		56.486		28.6	
1,2,3,6,7,8-HxCDF	2.18	JK	9.19		0.13	U	8.75		4.8		5.978		2.57	
1,2,3,7,8,9-HxCDD	6.48		6.94		0.27	J	31.18		18.56		38.014		17.8	
1,2,3,7,8,9-HxCDF	0.31	JK	0.38	U	0.18	U	0.28	JK	0.37	U	0.297	JK	0.21	U
1,2,3,7,8-PeCDD	2.11	J	1.48	J	0.17	U	12.3		10.73		7.257		6.31	
1,2,3,7,8-PeCDF	2.59	JK	4.07	JK	0.14	U	9.76	K	7.09	K	4.324	JK	3.6	JK
2,3,4,6,7,8-HxCDF	3.04	J	9.46		0.13	U	9.61		4.74		10.875		3.4	J
2,3,4,7,8-PeCDF	4.37	J	9.51		0.15	U	15.12	K	8.9		5.566	K	5.06	K
2,3,7,8-TCDD	0.26	U	0.36	J	0.12	U	2.5		2.87		1.282		1.41	
2,3,7,8-TCDF	4.09	C	8.53	CK	0.54	UC	11.86	C	13.79	C	12.406	C	7.51	C
OCDD	3544.08		1031.49	B	333.35		3646.46		1363.11	B	19639.07	E	5766.62	
OCDF	285.44		222.73	B	24.91		206.01		94.47	B	1505.022		238.9	

Data Qualifiers - RI samples:

D - Sample was diluted for analysis.
J - Result is below the calibration range. Reported concentration is an estimate.
U - Analyte was not detected. Reported concentration is the detection limit.
B - Analyte was present in the method blank.
C - TCDF result was obtained from confirmation column.
E - Result is above the calibration range. Reported concentration is an estimate.
K - Estimated maximum possible concentration.

Data Qualifiers - ESI samples:

H - High bias.
J - The analyte was positively detected. The associated numerical value is an estimate.
JQ - The result is estimated because the value is less than the Contract Required Detection Limit.
U - The analyte was not detected at or above the reported result.
UJ - The analyte was not detected at or above the reported result. The associated numerical value is an estimate of the quantitation limit in this sample.

Table 2.4-4 - Main Process Area Subsurface Soils

Expanded Site Investigation and Remedial Investigation PCDD/F Data

Location	**MS20**		**PC20**		**PS20**		**RB04**		**RB04**		**RB04**		**RB21**	
Phase	RI		RI		RI		ESI		ESI		ESI		RI	
Depth	3"-GW		3"-GW		3"-GW		0-2'		4-6'		8-10'		3"-GW	
Congener	[ppt]	qual	[ppt]	qual	[ppt]	qual	[ppt]	qual	[ppt]	qual	[ppt]	qual	[ppt]	qual
1,2,3,4,6,7,8-HpCDD	21.26		103.96		0.62	J	340		9.4		1.1	U	55.27	
1,2,3,4,6,7,8-HpCDF	16.28		21.04		0.24	U	130		2.9	JQ	0.45	U	8.91	
1,2,3,4,7,8,9-HpCDF	0.55	JK	1.91	J	0.41	U	8.1		0.57	U	0.25	U	1.89	U
1,2,3,4,7,8-HxCDD	0.58	J	0.83	J	0.24	U	3.3	JQ	0.64	U	0.11	U	2.4	J
1,2,3,4,7,8-HxCDF	1.65	J	5.54		0.15	U	11	JQ	1.4	U	0.2	U	1.79	J
1,2,3,6,7,8-HxCDD	1.81	J	4.91	J	0.27	U	14		0.81	U	0.19	U	5.35	
1,2,3,6,7,8-HxCDF	0.9	J	1.27	J	0.14	U	4.3	JQ	0.27	U	0.23	U	0.82	J
1,2,3,7,8,9-HxCDD	1.49	J	3.03	J	0.25	U	7.5		1.1	U	0.16	U	4.56	
1,2,3,7,8,9-HxCDF	0.05	U	0.15	U	0.2	U	0.49	U	0.24	U	0.14	U	0.39	U
1,2,3,7,8-PeCDD	0.51	JK	0.67	J	0.18	U	2.1	U	1.3	U	0.16	U	1.9	JK
1,2,3,7,8-PeCDF	0.71	JK	2.37	J	0.16	U	3.2	JQ	1.2	U	0.36	U	1.02	J
2,3,4,6,7,8-HxCDF	1.21	J	2.08	J	0.16	U	3.3	JQ	0.51	U	0.37	U	0.84	J
2,3,4,7,8-PeCDF	1.1	J	4.8	J	0.18	U	4.8	JQ	1.3	U	0.37	U	1.32	JK
2,3,7,8-TCDD	0.29	J	0.07	U	0.22	U	0.85	U	0.38	U	0.12	U	0.4	JK
2,3,7,8-TCDF	1.02	C	3.33	C	0.22	U	3.9		0.95	U	0.23	U	1.82	C
OCDD	147.02	B	1034.76		3.01	BJ	4100		79		10		378.78	B
OCDF	17.43		54.2		0.78	BJ	860		14		1.6	U	19.78	

Table 2.4-4 - Main Process Area Subsurface Soils

Expanded Site Investigation and Remedial Investigation PCDD/F Data

Location	**SR03**		**SR20**		**SR21**		**SR22**		**SR23**		**SR24**	
Phase	RI		RI		RI		RI		RI		RI	
Depth	3"-GW		3"-GW		3"-GW		3"-GW		3"-GW		3"-GW	
Congener	[ppt]	qual	[ppt]	qual	[ppt]	qual	[ppt]	qual	[ppt]	qual	[ppt]	qual
1,2,3,4,6,7,8-HpCDD	6674.65		1671.56		31.25		137.54		201.9		12.96	
1,2,3,4,6,7,8-HpCDF	850.38		270.13		7.25		15.83		39.8		3.23	J
1,2,3,4,7,8,9-HpCDF	62.2		12.15	K	0.42	JK	1.18	U	1.27	J	0.35	U
1,2,3,4,7,8-HxCDD	43.66		28.27		0.65	J	0.64	J	0.13	U	0.17	U
1,2,3,4,7,8-HxCDF	44.62		28.62		0.98	JK	1.84	J	2.33	J	6.1	
1,2,3,6,7,8-HxCDD	382.88		3.14	J	2.37	J	3.92	JK	12.41		0.54	U
1,2,3,6,7,8-HxCDF	19.1	J	9.38		0.46	JK	0.82	J	1.03	J	0.84	J
1,2,3,7,8,9-HxCDD	73.16		106.22		1.63	J	2.07	J	2.92	J	0.17	JK
1,2,3,7,8,9-HxCDF	14.33	J	1.31	J	0.4	JK	0.22	U	0.41	U	0.18	U
1,2,3,7,8-PeCDD	18.84	J	2.7	J	0.72	J	0.57	J	0.45	J	0.14	U
1,2,3,7,8-PeCDF	12.63	J	8.19	K	0.64	J	0.67	J	0.96	J	2.55	J
2,3,4,6,7,8-HxCDF	44.96		14.09		0.61	J	1.29	J	1.9	J	1.56	J
2,3,4,7,8-PeCDF	11.45	J	9.82		0.78	J	1.27	J	1.1	J	6.55	
2,3,7,8-TCDD	1.21	JK	0.72	J	0.27	J	0.25	J	0.1	JK	0.08	U
2,3,7,8-TCDF	7.17	C	8.17	C	1.67	C	0.82	C	0.72	C	2.65	C
OCDD	40317.23	BE	19097.7	E	246.88	B	1131.83		1355.74		95.11	
OCDF	2078.07		533.7		21.9		45.19		84.2		7.12	J

Table 2.4-5 - Main Process Area Subsurface Soils

TEQs and TTECs as 2,3,7,8-TCDD - 1989 EPA TEFs

Location		**AP03**		**BL20**		**CS20**		**DB21**		**DK20**		**FR02**		**FR20**	
Phase		RI		RI		RI		RI		RI		RI		RI	
Depth		3"-GW		3"-GW		3"-GW		3"-GW		3"-GW		3"-GW		3"-GW	
Congener	TEF	[ppt TEQ]	qual	[ppt TEQ]	qual	[ppt TEQ]	qual	[ppt TEQ]	qual	[ppt TEQ]	qual	[ppt TEQ]	qual	[ppt TEQ]	qual
1,2,3,4,6,7,8-HpCDD	0.01	3.0752		1.4722		0.3106		5.6602		1.9279		21.15791	E	4.7403	
1,2,3,4,6,7,8-HpCDF	0.01	0.4932		1.3393		0.0464		1.3488		0.3884		2.51143		0.4354	
1,2,3,4,7,8,9-HpCDF	0.01	0.0279	J	0.2573		0.0045	U	0.0704		0.0248	J	0.28042		0.0398	J
1,2,3,4,7,8-HxCDD	0.1	0.267	J	0.117	JK	0.0105	U	1.569		0.839		1.9215		0.724	
1,2,3,4,7,8-HxCDF	0.1	0.479	J	5.363		0.007	U	1.865		1.108	K	1.5373	K	0.593	K
1,2,3,6,7,8-HxCDD	0.1	1.224		1.06		0.081	J	4.408		2.081		5.6486		2.86	
1,2,3,6,7,8-HxCDF	0.1	0.218	JK	0.919		0.0065	U	0.875		0.48		0.5978		0.257	
1,2,3,7,8,9-HxCDD	0.1	0.648		0.694		0.027	J	3.118		1.856		3.8014		1.78	
1,2,3,7,8,9-HxCDF	0.1	0.031	JK	0.019	U	0.009	U	0.028	JK	0.0185	U	0.0297	JK	0.0105	U
1,2,3,7,8-PeCDD	0.5	1.055	J	0.74	J	0.0425	U	6.15		5.365		3.6285		3.155	
1,2,3,7,8-PeCDF	0.05	0.1295	JK	0.2035	JK	0.0035	U	0.488	K	0.3545	K	0.2162	JK	0.18	JK
2,3,4,6,7,8-HxCDF	0.1	0.304	J	0.946		0.0065	U	0.961		0.474		1.0875		0.34	J
2,3,4,7,8-PeCDF	0.5	2.185	J	4.755		0.0375	U	7.56	K	4.45		2.783	K	2.53	K
2,3,7,8-TCDD	1	0.13	U	0.36	J	0.06	U	2.5		2.87		1.282		1.41	
2,3,7,8-TCDF	0.1	0.409	C	0.853	CK	0.027	UC	1.186	C	1.379	C	1.2406	C	0.751	C
OCDD	0.001	3.54408		1.03149	B	0.33335		3.64646		1.36311	B	19.63907	E	5.76662	
OCDF	0.001	0.28544		0.22273	B	0.02491		0.20601		0.09447	B	1.505022		0.2389	
TTEC as 2,3,7,8-TCDD		14.51		20.35		1.04		41.64		25.07		68.87		25.81	

Unrestricted criterion - 6.67 ppt TTEC
Industrial criterion = 875 ppt TTEC

Table 2.4-5 - Main Process Area Subsurface Soils

TEQs and TTECs as 2,3,7,8-TCDD - 1989 EPA TEFs

Location		**MS20**		**PC20**		**PS20**		**RB04**		**RB04**		**RB04**		**RB21**	
Phase		RI		RI		RI		ESI		ESI		ESI		RI	
Depth		3"-GW		3"-GW		3"-GW		0-2'		4-6'		8-10'		3"-GW	
Congener	TEF	[ppt TEQ]	qual	[ppt TEQ]	qual	[ppt TEQ]	qual	[ppt TEQ]	qual	[ppt TEQ]	qual	[ppt TEQ]	qual	[ppt TEQ]	qual
1,2,3,4,6,7,8-HpCDD	0.01	0.2126		1.0396		0.0062	J	3.4		0.094		0.0055	U	0.5527	
1,2,3,4,6,7,8-HpCDF	0.01	0.1628		0.2104		0.0012	U	1.3		0.029	JQ	0.00225	U	0.0891	
1,2,3,4,7,8,9-HpCDF	0.01	0.0055	JK	0.0191	J	0.00205	U	0.081		0.00285	U	0.00125	U	0.00945	U
1,2,3,4,7,8-HxCDD	0.1	0.058	J	0.083	J	0.012	U	0.33	JQ	0.032	U	0.0055	U	0.24	J
1,2,3,4,7,8-HxCDF	0.1	0.165	J	0.554		0.0075	U	1.1	JQ	0.07	U	0.01	U	0.179	J
1,2,3,6,7,8-HxCDD	0.1	0.181	J	0.491	J	0.0135	U	1.4		0.0405	U	0.0095	U	0.535	
1,2,3,6,7,8-HxCDF	0.1	0.09	J	0.127	J	0.007	U	0.43	JQ	0.0135	U	0.0115	U	0.082	J
1,2,3,7,8,9-HxCDD	0.1	0.149	J	0.303	J	0.0125	U	0.75		0.055	U	0.008	U	0.456	
1,2,3,7,8,9-HxCDF	0.1	0.0025	U	0.0075	U	0.01	U	0.0245	U	0.012	U	0.007	U	0.0195	U
1,2,3,7,8-PeCDD	0.5	0.255	JK	0.335	J	0.045	U	0.525	U	0.325	U	0.04	U	0.95	JK
1,2,3,7,8-PeCDF	0.05	0.0355	JK	0.1185	J	0.004	U	0.16	JQ	0.03	U	0.009	U	0.051	J
2,3,4,6,7,8-HxCDF	0.1	0.121	J	0.208	J	0.008	U	0.33	JQ	0.0255	U	0.0185	U	0.084	J
2,3,4,7,8-PeCDF	0.5	0.55	J	2.4	J	0.045	U	2.4	JQ	0.325	U	0.0925	U	0.66	JK
2,3,7,8-TCDD	1	0.29	J	0.035	U	0.11	U	0.425	U	0.19	U	0.06	U	0.4	JK
2,3,7,8-TCDF	0.1	0.102	C	0.333	C	0.011	U	0.39		0.0475	U	0.0115	U	0.182	C
OCDD	0.001	0.14702	B	1.03476		0.00301	BJ	4.1		0.079		0.01		0.37878	B
OCDF	0.001	0.01743		0.0542		0.00078	BJ	0.86		0.014		0.0008	U	0.01978	
TTEC as 2,3,7,8-TCDD		2.54		7.35		0.30		18.01		1.38		0.30		4.89	

Unrestricted criterion - 6.67 ppt TTEC
Industrial criterion = 875 ppt TTEC

Table 2.4-5 - Main Process Area Subsurface Soils

TEQs and TTECs as 2,3,7,8-TCDD - 1989 EPA TEFs

Location		**SR03**		**SR20**		**SR21**		**SR22**		**SR23**		**SR24**	
Phase		RI		RI		RI		RI		RI		RI	
Depth		3"-GW		3"-GW		3"-GW		3"-GW		3"-GW		3"-GW	
Congener	TEF	[ppt TEQ]	qual	[ppt TEQ]	qual	[ppt TEQ]	qual	[ppt TEQ]	qual	[ppt TEQ]	qual	[ppt TEQ]	qual
1,2,3,4,6,7,8-HpCDD	0.01	66.7465		16.7156		0.3125		1.3754		2.019		0.1296	
1,2,3,4,6,7,8-HpCDF	0.01	8.5038		2.7013		0.0725		0.1583		0.398		0.0323	J
1,2,3,4,7,8,9-HpCDF	0.01	0.622		0.1215	K	0.0042	JK	0.0059	U	0.0127	J	0.00175	U
1,2,3,4,7,8-HxCDD	0.1	4.366		2.827		0.065	J	0.064	J	0.0065	U	0.0085	U
1,2,3,4,7,8-HxCDF	0.1	4.462		2.862		0.098	JK	0.184	J	0.233	J	0.61	
1,2,3,6,7,8-HxCDD	0.1	38.288		0.314	J	0.237	J	0.392	JK	1.241		0.027	U
1,2,3,6,7,8-HxCDF	0.1	1.91	J	0.938		0.046	JK	0.082	J	0.103	J	0.084	J
1,2,3,7,8,9-HxCDD	0.1	7.316		10.622		0.163	J	0.207	J	0.292	J	0.017	JK
1,2,3,7,8,9-HxCDF	0.1	1.433	J	0.131	J	0.04	JK	0.011	U	0.0205	U	0.009	U
1,2,3,7,8-PeCDD	0.5	9.42	J	1.35	J	0.36	J	0.285	J	0.225	J	0.035	U
1,2,3,7,8-PeCDF	0.05	0.6315	J	0.4095	K	0.032	J	0.0335	J	0.048	J	0.1275	J
2,3,4,6,7,8-HxCDF	0.1	4.496		1.409		0.061	J	0.129	J	0.19	J	0.156	J
2,3,4,7,8-PeCDF	0.5	5.725	J	4.91		0.39	J	0.635	J	0.55	J	3.275	
2,3,7,8-TCDD	1	1.21	JK	0.72	J	0.27	J	0.25	J	0.1	JK	0.04	U
2,3,7,8-TCDF	0.1	0.717	C	0.817	C	0.167	C	0.082	C	0.072	C	0.265	C
OCDD	0.001	40.31723	BE	19.09766	E	0.24688	B	1.13183		1.35574		0.09511	
OCDF	0.001	2.07807		0.5337		0.0219		0.04519		0.0842		0.00712	J
TTEC as 2,3,7,8-TCDD		198.24		66.48		2.59		5.07		6.95		4.92	

Unrestricted criterion - 6.67 ppt TTEC
Industrial criterion = 875 ppt TTEC

Table 2.4-6 - Main Process Area Subsurface Soil

TEQ and TTECs as 2,3,7,8-TCDD - WHO TEFs

Location		**AP03**		**BL20**		**CS20**		**DB21**		**DK20**		**FR02**		**FR20**	
Phase		RI		RI		RI		RI		RI		RI		RI	
Depth		3"-GW		3"-GW		3"-GW		3"-GW		3"-GW		3"-GW		3"-GW	
Congener	TEF	[ppt TEQ]	qual	[ppt TEQ]	qual	[ppt TEQ]	qual	[ppt TEQ]	qual	[ppt TEQ]	qual	[ppt TEQ]	qual	[ppt TEQ]	qual
1,2,3,4,6,7,8-HpCDD	0.01	3.0752		1.4722		0.3106		5.6602		1.9279		21.15791	E	4.7403	
1,2,3,4,6,7,8-HpCDF	0.01	0.4932		1.3393		0.0464		1.3488		0.3884		2.51143		0.4354	
1,2,3,4,7,8,9-HpCDF	0.01	0.0279	J	0.2573		0.0045	U	0.0704		0.0248	J	0.28042		0.0398	J
1,2,3,4,7,8-HxCDD	0.1	0.267	J	0.117	JK	0.0105	U	1.569		0.839		1.9215		0.724	
1,2,3,4,7,8-HxCDF	0.1	0.479	J	5.363		0.007	U	1.865		1.108	K	1.5373	K	0.593	K
1,2,3,6,7,8-HxCDD	0.1	1.224		1.06		0.081	J	4.408		2.081		5.6486		2.86	
1,2,3,6,7,8-HxCDF	0.1	0.218	JK	0.919		0.0065	U	0.875		0.48		0.5978		0.257	
1,2,3,7,8,9-HxCDD	0.1	0.648		0.694		0.027	J	3.118		1.856		3.8014		1.78	
1,2,3,7,8,9-HxCDF	0.01	0.0031	JK	0.0019	U	0.0009	U	0.0028	JK	0.00185	U	0.00297	JK	0.00105	U
1,2,3,7,8-PeCDD	1	2.11	J	1.48	J	0.085	U	12.3		10.73		7.257		6.31	
1,2,3,7,8-PeCDF	0.05	0.1295	JK	0.2035	JK	0.0035	U	0.488	K	0.3545	K	0.2162	JK	0.18	JK
2,3,4,6,7,8-HxCDF	0.1	0.304	J	0.946		0.0065	U	0.961		0.474		1.0875		0.34	J
2,3,4,7,8-PeCDF	0.5	2.185	J	4.755		0.0375	U	7.56	K	4.45		2.783	K	2.53	K
2,3,7,8-TCDD	1	0.13	U	0.36	J	0.06	U	2.5		2.87		1.282		1.41	
2,3,7,8-TCDF	0.1	0.409	C	0.853	CK	0.027	UC	1.186	C	1.379	C	1.2406	C	0.751	C
OCDD	0.0001	0.354408		0.103149	B	0.033335		0.364646		0.136311	B	1.963907	E	0.576662	
OCDF	0.0001	0.028544		0.022273	B	0.002491		0.020601		0.009447	B	0.150502		0.02389	
TTEC as 2,3,7,8-TCDD		12.09		19.95		0.75		44.30		29.11		53.44		23.55	

Table 2.4-6 - Main Process Area Subsurface Soil

TEQ and TTECs as 2,3,7,8-TCDD - WHO TEFs

Location		**MS20**		**PC20**		**PS20**		**RB04**		**RB04**		**RB04**		**RB21**	
Phase		RI		RI		RI		ESI		ESI		ESI		RI	
Depth		3"-GW		3"-GW		3"-GW		0-2'		4-6'		8-10'		3"-GW	
Congener	TEF	[ppt TEQ]	qual	[ppt TEQ]	qual	[ppt TEQ]	qual	[ppt TEQ]	qual	[ppt TEQ]	qual	[ppt TEQ]	qual	[ppt TEQ]	qual
1,2,3,4,6,7,8-HpCDD	0.01	0.2126		1.0396		0.0062	J	3.4		0.094		0.0055	U	0.5527	
1,2,3,4,6,7,8-HpCDF	0.01	0.1628		0.2104		0.0012	U	1.3		0.029	JQ	0.00225	U	0.0891	
1,2,3,4,7,8,9-HpCDF	0.01	0.0055	JK	0.0191	J	0.00205	U	0.081		0.00285	U	0.00125	U	0.00945	U
1,2,3,4,7,8-HxCDD	0.1	0.058	J	0.083	J	0.012	U	0.33	JQ	0.032	U	0.0055	U	0.24	J
1,2,3,4,7,8-HxCDF	0.1	0.165	J	0.554		0.0075	U	1.1	JQ	0.07	U	0.01	U	0.179	J
1,2,3,6,7,8-HxCDD	0.1	0.181	J	0.491	J	0.0135	U	1.4		0.0405	U	0.0095	U	0.535	
1,2,3,6,7,8-HxCDF	0.1	0.09	J	0.127	J	0.007	U	0.43	JQ	0.0135	U	0.0115	U	0.082	J
1,2,3,7,8,9-HxCDD	0.1	0.149	J	0.303	J	0.0125	U	0.75		0.055	U	0.008	U	0.456	
1,2,3,7,8,9-HxCDF	0.01	0.00025	U	0.00075	U	0.001	U	0.00245	U	0.0012	U	0.0007	U	0.00195	U
1,2,3,7,8-PeCDD	1	0.51	JK	0.67	J	0.09	U	1.05	U	0.65	U	0.08	U	1.9	JK
1,2,3,7,8-PeCDF	0.05	0.0355	JK	0.1185	J	0.004	U	0.16	JQ	0.03	U	0.009	U	0.051	J
2,3,4,6,7,8-HxCDF	0.1	0.121	J	0.208	J	0.008	U	0.33	JQ	0.0255	U	0.0185	U	0.084	J
2,3,4,7,8-PeCDF	0.5	0.55	J	2.4	J	0.045	U	2.4	JQ	0.325	U	0.0925	U	0.66	JK
2,3,7,8-TCDD	1	0.29	J	0.035	U	0.11	U	0.425	U	0.19	U	0.06	U	0.4	JK
2,3,7,8-TCDF	0.1	0.102	C	0.333	C	0.011	U	0.39		0.0475	U	0.0115	U	0.182	C
OCDD	0.0001	0.014702	B	0.103476		0.000301	BJ	0.41		0.0079		0.001		0.037878	B
OCDF	0.0001	0.001743		0.00542		0.000078	BJ	0.086		0.0014		0.00008	U	0.001978	
TTEC as 2,3,7,8-TCDD		2.65		6.70		0.33		14.04		1.62		0.33		5.46	

Table 2.4-6 - Main Process Area Subsurface Soil

TEQ and TTECs as 2,3,7,8-TCDD - WHO TEFs

Location		**SR03**		**SR20**		**SR21**		**SR22**		**SR23**		**SR24**	
Phase		RI		RI		RI		RI		RI		RI	
Depth		3"-GW		3"-GW		3"-GW		3"-GW		3"-GW		3"-GW	
Congener	TEF	[ppt TEQ]	qual	[ppt TEQ]	qual	[ppt TEQ]	qual	[ppt TEQ]	qual	[ppt TEQ]	qual	[ppt TEQ]	qual
1,2,3,4,6,7,8-HpCDD	0.01	66.7465		16.7156		0.3125		1.3754		2.019		0.1296	
1,2,3,4,6,7,8-HpCDF	0.01	8.5038		2.7013		0.0725		0.1583		0.398		0.0323	J
1,2,3,4,7,8,9-HpCDF	0.01	0.622		0.1215	K	0.0042	JK	0.0059	U	0.0127	J	0.00175	U
1,2,3,4,7,8-HxCDD	0.1	4.366		2.827		0.065	J	0.064	J	0.0065	U	0.0085	U
1,2,3,4,7,8-HxCDF	0.1	4.462		2.862		0.098	JK	0.184	J	0.233	J	0.61	
1,2,3,6,7,8-HxCDD	0.1	38.288		0.314	J	0.237	J	0.392	JK	1.241		0.027	U
1,2,3,6,7,8-HxCDF	0.1	1.91	J	0.938		0.046	JK	0.082	J	0.103	J	0.084	J
1,2,3,7,8,9-HxCDD	0.1	7.316		10.622		0.163	J	0.207	J	0.292	J	0.017	JK
1,2,3,7,8,9-HxCDF	0.01	0.1433	J	0.0131	J	0.004	JK	0.0011	U	0.00205	U	0.0009	U
1,2,3,7,8-PeCDD	1	18.84	J	2.7	J	0.72	J	0.57	J	0.45	J	0.07	U
1,2,3,7,8-PeCDF	0.05	0.6315	J	0.4095	K	0.032	J	0.0335	J	0.048	J	0.1275	J
2,3,4,6,7,8-HxCDF	0.1	4.496		1.409		0.061	J	0.129	J	0.19	J	0.156	J
2,3,4,7,8-PeCDF	0.5	5.725	J	4.91		0.39	J	0.635	J	0.55	J	3.275	
2,3,7,8-TCDD	1	1.21	JK	0.72	J	0.27	J	0.25	J	0.1	JK	0.04	U
2,3,7,8-TCDF	0.1	0.717	C	0.817	C	0.167	C	0.082	C	0.072	C	0.265	C
OCDD	0.0001	4.031723	BE	1.909766	E	0.024688	B	0.113183		0.135574		0.009511	
OCDF	0.0001	0.207807		0.05337		0.00219		0.004519		0.00842		0.000712	J
TTEC as 2,3,7,8-TCDD		168.22		50.04		2.67		4.29		5.86		4.85	

Table 2.5-1 - East Side of the Site

Expanded Site Investigation and Remedial Investigation PCDD/F Data

Location	ECO25		ECO30		ECO31		ECO32		ECO33		PF03	
Phase	RI		RI		RI		RI		RI		ESI	
Depth	0-15cm		0-10cm		0-15cm		0-15cm		0-15cm		2-4'	
Congener	[ppt]	qual	[ppt]	qual	[ppt]	qual	[ppt]	qual	[ppt]	qual	[ppt]	qual
1,2,3,4,6,7,8 - HpCDD	53.78		126.7		12.29		63.39		1318.16		1.8	U
1,2,3,4,6,7,8 - HpCDF	10.1		47.22		1.82	J	10.48		186.96		0.29	U
1,2,3,4,7,8,9 - HpCDF	0.57	J	1.17	J	0.28	U	0.78	JK	9.99		0.29	U
1,2,3,4,7,8 - HxCDD	1.32	J	4.56	J	1.38	J	5.76		34.24		0.84	U
1,2,3,4,7,8 - HxCDF	2.05	JK	3.41	JK	0.63	J	4.67	JK	31.49	K	0.35	U
1,2,3,6,7,8 - HxCDD	4.09	J	20.83		2.61	J	10.1		132.25		0.82	U
1,2,3,6,7,8 - HxCDF	0.88	J	1.96	J	0.34	JK	2.76	J	15.85		0.35	U
1,2,3,7,8,9 - HxCDD	3.81	J	11.77		2.53	J	10.8		83.94		0.82	U
1,2,3,7,8,9 - HxCDF	0.19	J	0.49	U	0.22	U	0.17	JK	1.95	J	0.38	U
1,2,3,7,8 - PeCDD	1.23	J	5.09	J	1.45	J	6.35		41.08		1.3	U
1,2,3,7,8 - PeCDF	1.06	JK	3.3	JK	0.59	JK	4.85	JK	28.15	K	0.8	U
2,3,4,6,7,8 - HxCDF	1.03	JK	2.95	J	0.38	J	2.97	K	17.46	K	0.38	U
2,3,4,7,8 - PeCDF	1.36	J	3.92	J	0.75	J	6.24		30.12	K	0.86	U
2,3,7,8 - TCDD	0.42	JK	1.19	J	0.48	JK	1.93	K	11.18		0.54	U
2,3,7,8 - TCDF	1.31	C	4.23	C	1.27	C	10.23	C	76.37	C	0.49	U
OCDD	382.57	B	341.92		43.44		202.73		6991.46		9.9	JQ
OCDF	28.13		40.28		2.56	J	16.1		513.98		0.92	U

Data Qualifiers - RI samples:

D - Sample was diluted for analysis.
J - Result is below the calibration range. Reported concentration is an estimate.
U - Analyte was not detected. Reported concentration is the detection limit.
B - Analyte was present in the method blank.
C - TCDF result was obtained from confirmation column.
E - Result is above the calibration range. Reported concentration is an estimate.
K - Estimated maximum possible concentration.

Data Qualifiers - ESI samples:

H - High bias.
J - The analyte was positively detected. The associated numerical value is an estimate.
JQ - The result is estimated because the value is less than the Contract Required Detection Limit.
U - The analyte was not detected at or above the reported result.
UJ - The analyte was not detected at or above the reported result. The associated numerical value is an estimate of the quantitation limit in this sample.

Table 2.5-1 - East Side of the Site

Expanded Site Investigation and Remedial Investigation PCDD/F Data

Location	RS20				SL20		SL21		SL22			
Phase	RI				RI		RI		RI			
Depth	0-3"		3"-GW		0-3"		0-3"		0-3"		3"-GW	
Congener	[ppt]	qual	[ppt]	qual	[ppt]	qual	[ppt]	qual	[ppt]	qual	[ppt]	qual
1,2,3,4,6,7,8 - HpCDD	2.5	J	22.29		555.55		1541.44		3.39	J	5.77	
1,2,3,4,6,7,8 - HpCDF	1.94	J	5.59		51.35		194.59		0.52	J	0.9	J
1,2,3,4,7,8,9 - HpCDF	0.68	U	0.42	U	2.38	JK	18.42		0.31	U	0.13	U
1,2,3,4,7,8 - HxCDD	0.33	JK	1.03	J	11.11		26.45		0.16	U	0.22	JK
1,2,3,4,7,8 - HxCDF	0.53	JK	0.98	J	9.18	K	15.3	K	0.13	U	0.17	JK
1,2,3,6,7,8 - HxCDD	0.33	JK	2.47	J	41.56		72.37		0.17	U	0.69	J
1,2,3,6,7,8 - HxCDF	0.24	U	0.53	J	4.13	J	14.98		0.12	U	0.06	U
1,2,3,7,8,9 - HxCDD	0.33	U	2.2	J	39.69		62.74		0.16	U	0.6	JK
1,2,3,7,8,9 - HxCDF	0.39	U	0.21	U	0.66	U	0.42	U	0.18	U	0.06	U
1,2,3,7,8 - PeCDD	0.42	U	0.76	JK	10.84		22.42		0.13	U	0.33	JK
1,2,3,7,8 - PeCDF	0.24	U	0.91	JK	4.54	K	6.23	K	0.15	U	0.06	U
2,3,4,6,7,8 - HxCDF	0.3	U	0.53	JK	5.17	K	14.84	K	0.11	U	0.05	U
2,3,4,7,8 - PeCDF	0.27	U	1.2	J	5.55		6.08		0.18	J	0.05	U
2,3,7,8 - TCDD	0.27	U	0.35	J	1.66		6.26		0.1	U	0.09	U
2,3,7,8 - TCDF	0.83	UC	2.04	C	5.11	C	3.32	C	0.26	U	0.25	U
OCDD	10.45	BJ	114.26		3166.79		12700.75	E	27.35		32.68	B
OCDF	3.5	BJ	16.86		54.59		546.31		1.54	J	1.99	J

Table 2.5-2 - East Side of the Site

TEQs and TTECs as 2,3,7,8-TCDD - 1989 EPA TEFs

Location		**ECO25**		**ECO30**		**ECO31**		**ECO32**		**ECO33**		**PF03**	
Phase		RI		RI		RI		RI		RI		ESI	
Depth		0-15cm		0-10cm		0-15cm		0-15cm		0-15cm		2-4'	
Congener	TEF	[ppt TEQ]	qual	[ppt TEQ]	qual	[ppt TEQ]	qual	[ppt TEQ]	qual	[ppt TEQ]	qual	[ppt TEQ]	qual
1,2,3,4,6,7,8-HpCDD	0.01	0.5378		1.267		0.1229		0.6339		13.1816		0.5378	
1,2,3,4,6,7,8-HpCDF	0.01	0.101		0.4722		0.0182	J	0.1048		1.8696		0.101	
1,2,3,4,7,8,9-HpCDF	0.01	0.0057	J	0.0117	J	0.0014	U	0.0078	JK	0.0999		0.0057	J
1,2,3,4,7,8-HxCDD	0.1	0.132	J	0.456	J	0.138	J	0.576		3.424		0.132	J
1,2,3,4,7,8-HxCDF	0.1	0.205	JK	0.341	JK	0.063	J	0.467	JK	3.149	K	0.205	JK
1,2,3,6,7,8-HxCDD	0.1	0.409	J	2.083		0.261	J	1.01		13.225		0.409	J
1,2,3,6,7,8-HxCDF	0.1	0.088	J	0.196	J	0.034	JK	0.276	J	1.585		0.088	J
1,2,3,7,8,9-HxCDD	0.1	0.381	J	1.177		0.253	J	1.08		8.394		0.381	J
1,2,3,7,8,9-HxCDF	0.1	0.019	J	0.0245	U	0.011	U	0.017	JK	0.195	J	0.019	J
1,2,3,7,8-PeCDD	0.5	0.615	J	2.545	J	0.725	J	3.175		20.54		0.615	J
1,2,3,7,8-PeCDF	0.05	0.053	JK	0.165	JK	0.0295	JK	0.2425	JK	1.4075	K	0.053	JK
2,3,4,6,7,8-HxCDF	0.1	0.103	JK	0.295	J	0.038	J	0.297	K	1.746	K	0.103	JK
2,3,4,7,8-PeCDF	0.5	0.68	J	1.96	J	0.375	J	3.12		15.06	K	0.68	J
2,3,7,8-TCDD	1	0.42	JK	1.19	J	0.48	JK	1.93	K	11.18		0.42	JK
2,3,7,8-TCDF	0.1	0.131	C	0.423	C	0.127	C	1.023	C	7.637	C	0.131	C
OCDD	0.001	0.38257	B	0.34192		0.04344		0.20273		6.99146		0.38257	B
OCDF	0.001	0.02813		0.04028		0.00256	J	0.0161		0.51398		0.02813	
TTEC as 2,3,7,8-TCDD		4.29		12.99		2.72		14.18		110.20		4.29	

Unrestricted criterion = 6.67 ppt TTEC
Industrial Criterion = 875 ppt TTEC

Table 2.5-2 - East Side of the Site

TEQs and TTECs as 2,3,7,8-TCDD - 1989 EPA TEFs

Location		**RS20**				**SL20**		**SL21**		**SL22**			
Phase		RI				RI		RI		RI			
Depth		0-3"		3"-GW		0-3"		0-3"		0-3"		3"-GW	
Congener	TEF	[ppt TEQ]	qual	[ppt TEQ]	qual	[ppt TEQ]	qual	[ppt TEQ]	qual	[ppt TEQ]	qual	[ppt TEQ]	qual
1,2,3,4,6,7,8-HpCDD	0.01	0.025	J	0.2229		5.5555		15.4144		0.0339	J	0.0577	
1,2,3,4,6,7,8-HpCDF	0.01	0.0194	J	0.0559		0.5135		1.9459		0.0052	J	0.009	J
1,2,3,4,7,8,9-HpCDF	0.01	0.0034	U	0.0021	U	0.0238	JK	0.1842		0.00155	U	0.00065	U
1,2,3,4,7,8-HxCDD	0.1	0.033	JK	0.103	J	1.111		2.645		0.008	U	0.022	JK
1,2,3,4,7,8-HxCDF	0.1	0.053	JK	0.098	J	0.918	K	1.53	K	0.0065	U	0.017	JK
1,2,3,6,7,8-HxCDD	0.1	0.033	JK	0.247	J	4.156		7.237		0.0085	U	0.069	J
1,2,3,6,7,8-HxCDF	0.1	0.012	U	0.053	J	0.413	J	1.498		0.006	U	0.003	U
1,2,3,7,8,9-HxCDD	0.1	0.0165	U	0.22	J	3.969		6.274		0.008	U	0.06	JK
1,2,3,7,8,9-HxCDF	0.1	0.0195	U	0.0105	U	0.033	U	0.021	U	0.009	U	0.003	U
1,2,3,7,8-PeCDD	0.5	0.105	U	0.38	JK	5.42		11.21		0.0325	U	0.165	JK
1,2,3,7,8-PeCDF	0.05	0.006	U	0.0455	JK	0.227	K	0.3115	K	0.00375	U	0.0015	U
2,3,4,6,7,8-HxCDF	0.1	0.015	U	0.053	JK	0.517	K	1.484	K	0.0055	U	0.0025	U
2,3,4,7,8-PeCDF	0.5	0.0675	U	0.6	J	2.775		3.04		0.09	J	0.0125	U
2,3,7,8-TCDD	1	0.135	U	0.35	J	1.66		6.26		0.05	U	0.045	U
2,3,7,8-TCDF	0.1	0.0415	UC	0.204	C	0.511	C	0.332	C	0.013	U	0.0125	U
OCDD	0.001	0.01045	BJ	0.11426		3.16679		12.70075	E	0.02735		0.03268	B
OCDF	0.001	0.0035	BJ	0.01686		0.05459		0.54631		0.00154	J	0.00199	J
TTEC as 2,3,7,8-TCDD		0.60		2.78		31.02		72.63		0.31		0.52	

Unrestricted criterion = 6.67 ppt TTEC
Industrial Criterion = 875 ppt TTEC

Table 2.5-3 - East Side of the Site

TEQs and TTECs as 2,3,7,8-TCDD - WHO TEFs

Location		ECO25		ECO30		ECO31		ECO32		ECO33		PF03	
Phase		RI		RI		RI		RI		RI		ESI	
Depth		0-15cm		0-10cm		0-15cm		0-15cm		0-15cm		2-4'	
Congener	TEF	[ppt TEQ]	qual	[ppt TEQ]	qual	[ppt TEQ]	qual	[ppt TEQ]	qual	[ppt TEQ]	qual	[ppt TEQ]	qual
1,2,3,4,6,7,8-HpCDD	0.01	0.5378		1.267		0.1229		0.6339		13.1816		0.5378	
1,2,3,4,6,7,8-HpCDF	0.01	0.101		0.4722		0.0182	J	0.1048		1.8696		0.101	
1,2,3,4,7,8,9-HpCDF	0.01	0.0057	J	0.0117	J	0.0014	U	0.0078	JK	0.0999		0.0057	J
1,2,3,4,7,8-HxCDD	0.1	0.132	J	0.456	J	0.138	J	0.576		3.424		0.132	J
1,2,3,4,7,8-HxCDF	0.1	0.205	JK	0.341	JK	0.063	J	0.467	JK	3.149	K	0.205	JK
1,2,3,6,7,8-HxCDD	0.1	0.409	J	2.083		0.261	J	1.01		13.225		0.409	J
1,2,3,6,7,8-HxCDF	0.1	0.088	J	0.196	J	0.034	JK	0.276	J	1.585		0.088	J
1,2,3,7,8,9-HxCDD	0.1	0.381	J	1.177		0.253	J	1.08		8.394		0.381	J
1,2,3,7,8,9-HxCDF	0.01	0.0019	J	0.00245	U	0.0011	U	0.0017	JK	0.0195	J	0.0019	J
1,2,3,7,8-PeCDD	1	1.23	J	5.09	J	1.45	J	6.35		41.08		1.23	J
1,2,3,7,8-PeCDF	0.05	0.053	JK	0.165	JK	0.0295	JK	0.2425	JK	1.4075	K	0.053	JK
2,3,4,6,7,8-HxCDF	0.1	0.103	JK	0.295	J	0.038	J	0.297	K	1.746	K	0.103	JK
2,3,4,7,8-PeCDF	0.5	0.68	J	1.96	J	0.375	J	3.12		15.06	K	0.68	J
2,3,7,8-TCDD	1	0.42	JK	1.19	J	0.48	JK	1.93	K	11.18		0.42	JK
2,3,7,8-TCDF	0.1	0.131	C	0.423	C	0.127	C	1.023	C	7.637	C	0.131	C
OCDD	0.0001	0.038257	B	0.034192		0.004344		0.020273		0.699146		0.038257	B
OCDF	0.0001	0.002813		0.004028		0.000256	J	0.00161		0.051398		0.002813	
TTEC as 2,3,7,8-TCDD		4.52		15.17		3.40		17.14		123.81		4.52	

Table 2.5-3 - East Side of the Site

TEQs and TTECs as 2,3,7,8-TCDD - WHO TEFs

Location		**RS20**				**SL20**		**SL21**		**SL22**			
Phase		RI				RI		RI		RI			
Depth		0-3"		3"-GW		0-3"		0-3"		0-3"		3"-GW	
Congener	TEF	[ppt TEQ]	qual	[ppt TEQ]	qual	[ppt TEQ]	qual	[ppt TEQ]	qual	[ppt TEQ]	qual	[ppt TEQ]	qual
1,2,3,4,6,7,8-HpCDD	0.01	0.025	J	0.2229		5.5555		15.4144		0.0339	J	0.0577	
1,2,3,4,6,7,8-HpCDF	0.01	0.0194	J	0.0559		0.5135		1.9459		0.0052	J	0.009	J
1,2,3,4,7,8,9-HpCDF	0.01	0.0034	U	0.0021	U	0.0238	JK	0.1842		0.00155	U	0.00065	U
1,2,3,4,7,8-HxCDD	0.1	0.033	JK	0.103	J	1.111		2.645		0.008	U	0.022	JK
1,2,3,4,7,8-HxCDF	0.1	0.053	JK	0.098	J	0.918	K	1.53	K	0.0065	U	0.017	JK
1,2,3,6,7,8-HxCDD	0.1	0.033	JK	0.247	J	4.156		7.237		0.0085	U	0.069	J
1,2,3,6,7,8-HxCDF	0.1	0.012	U	0.053	J	0.413	J	1.498		0.006	U	0.003	U
1,2,3,7,8,9-HxCDD	0.1	0.0165	U	0.22	J	3.969		6.274		0.008	U	0.06	JK
1,2,3,7,8,9-HxCDF	0.01	0.00195	U	0.00105	U	0.0033	U	0.0021	U	0.0009	U	0.0003	U
1,2,3,7,8-PeCDD	1	0.21	U	0.76	JK	10.84		22.42		0.065	U	0.33	JK
1,2,3,7,8-PeCDF	0.05	0.006	U	0.0455	JK	0.227	K	0.3115	K	0.00375	U	0.0015	U
2,3,4,6,7,8-HxCDF	0.1	0.015	U	0.053	JK	0.517	K	1.484	K	0.0055	U	0.0025	U
2,3,4,7,8-PeCDF	0.5	0.0675	U	0.6	J	2.775		3.04		0.09	J	0.0125	U
2,3,7,8-TCDD	1	0.135	U	0.35	J	1.66		6.26		0.05	U	0.045	U
2,3,7,8-TCDF	0.1	0.0415	UC	0.204	C	0.511	C	0.332	C	0.013	U	0.0125	U
OCDD	0.0001	0.001045	BJ	0.011426		0.316679		1.270075	E	0.002735		0.003268	B
OCDF	0.0001	0.00035	BJ	0.001686		0.005459		0.054631		0.000154	J	0.000199	J
TTEC as 2,3,7,8-TCDD		0.67		3.03		33.52		71.90		0.31		0.65	

Table 2.6-1 - Offsite Residential Soil

Expanded Site Investigation PCDD/F data

Location	AGD-01		BDC-01		CTR-01		ECP-01		ENR-01		ENR-02		GLR-01		JNR-01		JNR-02		JWR-01	
Phase	ESI		ESI		ESI		ESI		ESI		ESI		ESI		ESI		ESI		ESI	
Depth	0-3"		0-3"		0-3"		0-3"		0-3"		0-3"		0-3"		0-3"		0-3"		0-3"	
Congener	[ppt]	qual	[ppt]	qual	[ppt]	qual	[ppt]	qual	[ppt]	qual	[ppt]	qual	[ppt]	qual	[ppt]	qual	[ppt]	qual	[ppt]	qual
1,2,3,4,6,7,8-HpCDD	62	JH	19	JH	78	UJH	3.2	UJH	200		150	JH	66		140	JH	83	JH	15	
1,2,3,4,6,7,8-HpCDF	11		3.4	JQ	14		0.38	U	31		38		9.1		18		12		3.9	JQ
1,2,3,4,7,8,9-HpCDF	0.68	U	0.31	U	1.4	U	0.07	U	2.4	U	2	U	0.67	U	1.8	U	0.97	U	1.5	U
1,2,3,4,7,8-HxCDD	4.2	U	0.65	U	5.2		0.25	U	2.3	U	4	JQ	3.2	JQ	15		10		0.98	U
1,2,3,4,7,8-HxCDF	3.9	U	0.59	U	2	U	0.12	U	3.8	U	3.2	JQ	1.6	U	8.9	JQ	3.5	JQ	1	U
1,2,3,6,7,8-HxCDD	7.8	JQ	1.6	U	9.6		0.43	U	13		9.8		7.5		22		13		1.4	U
1,2,3,6,7,8-HxCDF	2.6	U	0.34	U	1.1	U	0.071	U	1.7	U	2.3	U	91	U	5.7	JQ	2.3	U	1	U
1,2,3,7,8,9-HxCDD	7.1	JQ	1.6	U	12		0.48	U	4.2	U	7.4		6.1		25		15		2.4	U
1,2,3,7,8,9-HxCDF	0.27	U	0.053	U	0.84	U	0.37	U	1.4	U	0.38	U	0.1	U	0.7	U	0.29	U	1.2	U
1,2,3,7,8-PeCDD	3.5	U	0.34	U	5.3		0.42	U	1.9	U	3.3	JQ	1.8	U	12		5.2		3.8	U
1,2,3,7,8-PeCDF	3.5	U	0.36	U	2	U	0.19	U	1.4	U	2.2	U	0.6	U	9.8	U	2.3	U	2.1	U
2,3,4,6,7,8-HxCDF	2.3	U	0.56	U	1.3	U	0.25	U	2	U	1.8	U	0.94	U	4.4	U	1.8	U	1.1	U
2,3,4,7,8-PeCDF	4.7	U	0.47	U	2.2	U	0.19	U	1.8	U	2.8	JQ	1.1	U	13		2.4	U	2.2	U
2,3,7,8-TCDD	2.3		0.19	U	1.4		0.11	U	1.7		2.3		0.72	JQ	5.1		1.8		0.46	U
2,3,7,8-TCDF	7.4	JH	1.2		4.2		0.4	U	3.6		4.7		2.8		19		8.5		2.1	
OCDD	370		130		490		22		1200		890		530		310		360		85	
OCDF	28		10		93		1.2	U	86		100		16		25		26		4.8	U

Data Qualifiers - ESI samples:

H - High bias.

J - The analyte was positively detected. The associated numerical value is an estimate.

JQ - The result is estimated because the value is less than the Contract Required Detection Limit.

U - The analyte was not detected at or above the reported result.

UJ - The analyte was not detected at or above the reported result. The associated numerical value is an estimate of the quantitation limit in this sample.

Table 2.6-1 - Offsite Residential Soil

Expanded Site Investigation PCDD/F data

Location	JWR-02		MSR-01		MSR-02		OMH-01		OMH-02		TBS-01		VMP-01		WPI-01		ZMR-01		ZMR-02	
Phase	ESI		ESI		ESI		ESI		ESI		ESI		ESI		ESI		ESI		ESI	
Depth	0-3"		0-3"		0-3"		0-3"		0-3"		0-3"		0-3"		0-3"		0-3"		0-3"	
Congener	[ppt]	qual	[ppt]	qual	[ppt]	qual	[ppt]	qual	[ppt]	qual	[ppt]	qual	[ppt]	qual	[ppt]	qual	[ppt]	qual	[ppt]	qual
1,2,3,4,6,7,8-HpCDD	110	JH	55	JH	31	JH	96	JH	35		140	JH	150		45		52	JH	75	JH
1,2,3,4,6,7,8-HpCDF	29		7.1		4.8	JQ	13		4.4	JQ	57		8.8	UJH	11		4.6	U	6.2	JQ
1,2,3,4,7,8,9-HpCDF	1.6	U	0.58	U	0.44	U	1.4	U	0.73	U	3.7	JQ	0.87	U	0.49	U	0.57	U	0.79	U
1,2,3,4,7,8-HxCDD	4.7	JQ	3.8	JQ	1.6	U	2.4	U	2	U	11		0.73	U	1.4	U	6.8	J	12	
1,2,3,4,7,8-HxCDF	4.7	JQ	2.8	JQ	0.86	U	0.9	U	1.2	U	14		0.82	U	1.2	U	2.4	U	3.9	U
1,2,3,6,7,8-HxCDD	10		7.1		2.8	JQ	5.3		4.1	JQ	19		4.3	JQ	3.6	U	10		16	
1,2,3,6,7,8-HxCDF	3.2	JQ	1.7	U	0.84	U	1	U	1.2	U	13		0.39	U	0.91	U	1.6	U	2.7	U
1,2,3,7,8,9-HxCDD	11		7.2		3	U	5.3		5.5		21		2.2	U	2.9	U	12		20	
1,2,3,7,8,9-HxCDF	0.81	U	0.45	U	1.2	U	0.58	U	1.5	U	0.97	U	0.091	U	0.76	U	0.93	U	0.38	U
1,2,3,7,8-PeCDD	6		2.9	U	1.6	U	2.4	U	2.1	U	9		0.35	U	0.81	U	6	J	10	
1,2,3,7,8-PeCDF	4.4	UJH	3.1	U	1.1	U	1.2	U	1.8	U	11		0.35	U	0.61	U	2.7	U	4.6	U
2,3,4,6,7,8-HxCDF	3.2	JQ	1.3	U	0.96	U	1.1	U	1.3	U	11		0.55	U	1.4	U	1.6	U	2.4	U
2,3,4,7,8-PeCDF	5.3	JQ	3.7	JQ	1.7	U	1.3	U	1.9	U	16		0.36	U	0.96	U	3.1	U	6.1	JQ
2,3,7,8-TCDD	8.9		1.7		0.91	JQ	0.25	U	0.67	JQ	3.5		0.18	U	0.87	U	3.2		4.1	
2,3,7,8-TCDF	10		7.3		2.8		0.94		1.2		17		0.55	JQ	1.9	JQ	5.1		8.8	
OCDD	990		240		160		700		240		310		2400		460		130		170	
OCDF	56		11		12		42		11		32		40		25		4.9	U	7.4	U

Table 2.6-2 - Offsite Residential Soil

TEQs and TTECs as 2,3,7,8-TCDD - 1989 EPA TEFs

Location		AGD-01		BDC-01		CTR-01		ECP-01		ENR-01		ENR-02		GLR-01	
Phase		ESI		ESI		ESI		ESI		ESI		ESI		ESI	
Depth		0-3"		0-3"		0-3"		0-3"		0-3"		0-3"		0-3"	
Congener	TEF	[ppt TEQ]	qual	[ppt TEQ]	qual	[ppt TEQ]	qual	[ppt TEQ]	qual	[ppt TEQ]	qual	[ppt TEQ]	qual	[ppt TEQ]	qual
1,2,3,4,6,7,8-HpCDD	0.01	0.62	JH	0.19	JH	0.39	UJH	0.016	UJH	2		1.5	JH	0.66	
1,2,3,4,6,7,8-HpCDF	0.01	0.11		0.034	JQ	0.14		0.0019	U	0.31		0.38		0.091	
1,2,3,4,7,8,9-HpCDF	0.01	0.0034	U	0.00155	U	0.007	U	0.00035	U	0.012	U	0.01	U	0.00335	U
1,2,3,4,7,8-HxCDD	0.1	0.21	U	0.0325	U	0.52		0.0125	U	0.115	U	0.4	JQ	0.32	JQ
1,2,3,4,7,8-HxCDF	0.1	0.195	U	0.0295	U	0.1	U	0.006	U	0.19	U	0.32	JQ	0.08	U
1,2,3,6,7,8-HxCDD	0.1	0.78	JQ	0.08	U	0.96		0.0215	U	1.3		0.98		0.75	
1,2,3,6,7,8-HxCDF	0.1	0.13	U	0.017	U	0.055	U	0.00355	U	0.085	U	0.115	U	4.55	U
1,2,3,7,8,9-HxCDD	0.1	0.71	JQ	0.08	U	1.2		0.024	U	0.21	U	0.74		0.61	
1,2,3,7,8,9-HxCDF	0.1	0.0135	U	0.00265	U	0.042	U	0.0185	U	0.07	U	0.019	U	0.005	U
1,2,3,7,8-PeCDD	0.5	0.875	U	0.085	U	2.65		0.105	U	0.475	U	1.65	JQ	0.45	U
1,2,3,7,8-PeCDF	0.05	0.0875	U	0.009	U	0.05	U	0.00475	U	0.035	U	0.055	U	0.015	U
2,3,4,6,7,8-HxCDF	0.1	0.115	U	0.028	U	0.065	U	0.0125	U	0.1	U	0.09	U	0.047	U
2,3,4,7,8-PeCDF	0.5	1.175	U	0.1175	U	0.55	U	0.0475	U	0.45	U	1.4	JQ	0.275	U
2,3,7,8-TCDD	1	2.3		0.095	U	1.4		0.055	U	1.7		2.3		0.72	JQ
2,3,7,8-TCDF	0.1	0.74	JH	0.12		0.42		0.02	U	0.36		0.47		0.28	
OCDD	0.001	0.37		0.13		0.49		0.022		1.2		0.89		0.53	
OCDF	0.001	0.028		0.01		0.093		0.0006	U	0.086		0.1		0.016	
TTEC as 2,3,7,8-TCDD		8.46		1.06		9.13		0.37		8.70		11.42		9.40	

Unrestricted criterion = 6.67 ppt TTEC

Table 2.6-2 - Offsite Residential Soil

TEQs and TTECs as 2,3,7,8-TCDD - 1989 EPA TEFs

Location		JNR-01		JNR-02		JWR-01		JWR-02		MSR-01		MSR-02		OMH-01	
Phase		ESI		ESI		ESI		ESI		ESI		ESI		ESI	
Depth		0-3"		0-3"		0-3"		0-3"		0-3"		0-3"		0-3"	
Congener	TEF	[ppt TEQ]	qual	[ppt TEQ]	qual	[ppt TEQ]	qual	[ppt TEQ]	qual	[ppt TEQ]	qual	[ppt TEQ]	qual	[ppt TEQ]	qual
1,2,3,4,6,7,8-HpCDD	0.01	1.4	JH	0.83	JH	0.15		1.1	JH	0.55	JH	0.31	JH	0.96	JH
1,2,3,4,6,7,8-HpCDF	0.01	0.18		0.12		0.039	JQ	0.29		0.071		0.048	JQ	0.13	
1,2,3,4,7,8,9-HpCDF	0.01	0.009	U	0.00485	U	0.0075	U	0.008	U	0.0029	U	0.0022	U	0.007	U
1,2,3,4,7,8-HxCDD	0.1	1.5		1		0.049	U	0.47	JQ	0.38	JQ	0.08	U	0.12	U
1,2,3,4,7,8-HxCDF	0.1	0.89	JQ	0.35	JQ	0.05	U	0.47	JQ	0.28	JQ	0.043	U	0.045	U
1,2,3,6,7,8-HxCDD	0.1	2.2		1.3		0.07	U	1		0.71		0.28	JQ	0.53	
1,2,3,6,7,8-HxCDF	0.1	0.57	JQ	0.115	U	0.05	U	0.32	JQ	0.085	U	0.042	U	0.05	U
1,2,3,7,8,9-HxCDD	0.1	2.5		1.5		0.12	U	1.1		0.72		0.15	U	0.53	
1,2,3,7,8,9-HxCDF	0.1	0.035	U	0.0145	U	0.06	U	0.0405	U	0.0225	U	0.06	U	0.029	U
1,2,3,7,8-PeCDD	0.5	6		2.6		0.95	U	3		0.725	U	0.4	U	0.6	U
1,2,3,7,8-PeCDF	0.05	0.245	U	0.0575	U	0.0525	U	0.11	UJH	0.0775	U	0.0275	U	0.03	U
2,3,4,6,7,8-HxCDF	0.1	0.22	U	0.09	U	0.055	U	0.32	JQ	0.065	U	0.048	U	0.055	U
2,3,4,7,8-PeCDF	0.5	6.5		0.6	U	0.55	U	2.65	JQ	1.85	JQ	0.425	U	0.325	U
2,3,7,8-TCDD	1	5.1		1.8		0.23	U	8.9		1.7		0.91	JQ	0.125	U
2,3,7,8-TCDF	0.1	1.9		0.85		0.21		1		0.73		0.28		0.094	
OCDD	0.001	0.31		0.36		0.085		0.99		0.24		0.16		0.7	
OCDF	0.001	0.025		0.026		0.0024	U	0.056		0.011		0.012		0.042	
TTEC as 2,3,7,8-TCDD		29.58		11.62		2.73		21.82		8.22		3.28		4.37	

Unrestricted criterion = 6.67 ppt TTEC

Table 2.6-2 - Offsite Residential Soil

TEQs and TTECs as 2,3,7,8-TCDD - 1989 EPA TEFs

Location		**OMH-02**		**TBS-01**		**VMP-01**		**WPI-01**		**ZMR-01**		**ZMR-02**	
Phase		ESI		ESI		ESI		ESI		ESI		ESI	
Depth		0-3"		0-3"		0-3"		0-3"		0-3"		0-3"	
Congener	TEF	[ppt TEQ]	qual	[ppt TEQ]	qual	[ppt TEQ]	qual	[ppt TEQ]	qual	[ppt TEQ]	qual	[ppt TEQ]	qual
1,2,3,4,6,7,8-HpCDD	0.01	0.35		1.4	JH	1.5		0.45		0.52	JH	0.75	JH
1,2,3,4,6,7,8-HpCDF	0.01	0.044	JQ	0.57		0.044	UJH	0.11		0.023	U	0.062	JQ
1,2,3,4,7,8,9-HpCDF	0.01	0.00365	U	0.037	JQ	0.00435	U	0.00245	U	0.00285	U	0.00395	U
1,2,3,4,7,8-HxCDD	0.1	0.1	U	1.1		0.0365	U	0.07	U	0.68	J	1.2	
1,2,3,4,7,8-HxCDF	0.1	0.06	U	1.4		0.041	U	0.06	U	0.12	U	0.195	U
1,2,3,6,7,8-HxCDD	0.1	0.41	JQ	1.9		0.43	JQ	0.18	U	1		1.6	
1,2,3,6,7,8-HxCDF	0.1	0.06	U	1.3		0.0195	U	0.0455	U	0.08	U	0.135	U
1,2,3,7,8,9-HxCDD	0.1	0.55		2.1		0.11	U	0.145	U	1.2		2	
1,2,3,7,8,9-HxCDF	0.1	0.075	U	0.0485	U	0.00455	U	0.038	U	0.0465	U	0.019	U
1,2,3,7,8-PeCDD	0.5	0.525	U	4.5		0.0875	U	0.2025	U	3	J	5	
1,2,3,7,8-PeCDF	0.05	0.045	U	0.55		0.00875	U	0.01525	U	0.0675	U	0.115	U
2,3,4,6,7,8-HxCDF	0.1	0.065	U	1.1		0.0275	U	0.07	U	0.08	U	0.12	U
2,3,4,7,8-PeCDF	0.5	0.475	U	8		0.09	U	0.24	U	0.775	U	3.05	JQ
2,3,7,8-TCDD	1	0.67	JQ	3.5		0.09	U	0.435	U	3.2		4.1	
2,3,7,8-TCDF	0.1	0.12		1.7		0.055	JQ	0.19	JQ	0.51		0.88	
OCDD	0.001	0.24		0.31		2.4		0.46		0.13		0.17	
OCDF	0.001	0.011		0.032		0.04		0.025		0.00245	U	0.0037	U
TTEC as 2,3,7,8-TCDD		3.80		29.55		4.99		2.74		11.44		19.40	

Unrestricted criterion = 6.67 ppt TTEC

Table 2.6-3 - Offsite Residential Soil

TEQs and TTECs as 2,3,7,8-TCDD - WHO TEFs

Location		AGD-01		BDC-01		CTR-01		ECP-01		ENR-01		ENR-02		GLR-01	
Phase		ESI		ESI		ESI		ESI		ESI		ESI		ESI	
Depth		0-3"		0-3"		0-3"		0-3"		0-3"		0-3"		0-3"	
Congener	TEF	[ppt TEQ]	qual	[ppt TEQ]	qual	[ppt TEQ]	qual	[ppt TEQ]	qual	[ppt TEQ]	qual	[ppt TEQ]	qual	[ppt TEQ]	qual
1,2,3,4,6,7,8-HpCDD	0.01	0.62	JH	0.19	JH	0.39	UJH	0.016	UJH	2		1.5	JH	0.66	
1,2,3,4,6,7,8-HpCDF	0.01	0.11		0.034	JQ	0.14		0.0019	U	0.31		0.38		0.091	
1,2,3,4,7,8,9-HpCDF	0.01	0.0034	U	0.00155	U	0.007	U	0.00035	U	0.012	U	0.01	U	0.00335	U
1,2,3,4,7,8-HxCDD	0.1	0.21	U	0.0325	U	0.52		0.0125	U	0.115	U	0.4	JQ	0.32	JQ
1,2,3,4,7,8-HxCDF	0.1	0.195	U	0.0295	U	0.1	U	0.006	U	0.19	U	0.32	JQ	0.08	U
1,2,3,6,7,8-HxCDD	0.1	0.78	JQ	0.08	U	0.96		0.0215	U	1.3		0.98		0.75	
1,2,3,6,7,8-HxCDF	0.1	0.13	U	0.017	U	0.055	U	0.00355	U	0.085	U	0.115	U	4.55	U
1,2,3,7,8,9-HxCDD	0.1	0.71	JQ	0.08	U	1.2		0.024	U	0.21	U	0.74		0.61	
1,2,3,7,8,9-HxCDF	0.01	0.00135	U	0.000265	U	0.0042	U	0.00185	U	0.007	U	0.0019	U	0.0005	U
1,2,3,7,8-PeCDD	1	1.75	U	0.17	U	5.3		0.21	U	0.95	U	3.3	JQ	0.9	U
1,2,3,7,8-PeCDF	0.05	0.0875	U	0.009	U	0.05	U	0.00475	U	0.035	U	0.055	U	0.015	U
2,3,4,6,7,8-HxCDF	0.1	0.115	U	0.028	U	0.065	U	0.0125	U	0.1	U	0.09	U	0.047	U
2,3,4,7,8-PeCDF	0.5	1.175	U	0.1175	U	0.55	U	0.0475	U	0.45	U	1.4	JQ	0.275	U
2,3,7,8-TCDD	1	2.3		0.095	U	1.4		0.055	U	1.7		2.3		0.72	JQ
2,3,7,8-TCDF	0.1	0.74	JH	0.12		0.42		0.02	U	0.36		0.47		0.28	
OCDD	0.0001	0.037		0.013		0.049		0.0022		0.12		0.089		0.053	
OCDF	0.0001	0.0028		0.001		0.0093		0.00006	U	0.0086		0.01		0.0016	
TTEC as 2,3,7,8-TCDD		8.97		1.02		11.22		0.44		7.95		12.16		9.36	

Table 2.6-3 - Offsite Residential Soil

TEQs and TTECs as 2,3,7,8-TCDD - WHO TEFs

Location		JNR-01		JNR-02		JWR-01		JWR-02		MSR-01		MSR-02		OMH-01	
Phase		ESI		ESI		ESI		ESI		ESI		ESI		ESI	
Depth		0-3"		0-3"		0-3"		0-3"		0-3"		0-3"		0-3"	
Congener	TEF	[ppt TEQ]	qual	[ppt TEQ]	qual	[ppt TEQ]	qual	[ppt TEQ]	qual	[ppt TEQ]	qual	[ppt TEQ]	qual	[ppt TEQ]	qual
1,2,3,4,6,7,8-HpCDD	0.01	1.4	JH	0.83	JH	0.15		1.1	JH	0.55	JH	0.31	JH	0.96	JH
1,2,3,4,6,7,8-HpCDF	0.01	0.18		0.12		0.039	JQ	0.29		0.071		0.048	JQ	0.13	
1,2,3,4,7,8,9-HpCDF	0.01	0.009	U	0.00485	U	0.0075	U	0.008	U	0.0029	U	0.0022	U	0.007	U
1,2,3,4,7,8-HxCDD	0.1	1.5		1		0.049	U	0.47	JQ	0.38	JQ	0.08	U	0.12	U
1,2,3,4,7,8-HxCDF	0.1	0.89	JQ	0.35	JQ	0.05	U	0.47	JQ	0.28	JQ	0.043	U	0.045	U
1,2,3,6,7,8-HxCDD	0.1	2.2		1.3		0.07	U	1		0.71		0.28	JQ	0.53	
1,2,3,6,7,8-HxCDF	0.1	0.57	JQ	0.115	U	0.05	U	0.32	JQ	0.085	U	0.042	U	0.05	U
1,2,3,7,8,9-HxCDD	0.1	2.5		1.5		0.12	U	1.1		0.72		0.15	U	0.53	
1,2,3,7,8,9-HxCDF	0.01	0.0035	U	0.00145	U	0.006	U	0.00405	U	0.00225	U	0.006	U	0.0029	U
1,2,3,7,8-PeCDD	1	12		5.2		1.9	U	6		1.45	U	0.8	U	1.2	U
1,2,3,7,8-PeCDF	0.05	0.245	U	0.0575	U	0.0525	U	0.11	UJH	0.0775	U	0.0275	U	0.03	U
2,3,4,6,7,8-HxCDF	0.1	0.22	U	0.09	U	0.055	U	0.32	JQ	0.065	U	0.048	U	0.055	U
2,3,4,7,8-PeCDF	0.5	6.5		0.6	U	0.55	U	2.65	JQ	1.85	JQ	0.425	U	0.325	U
2,3,7,8-TCDD	1	5.1		1.8		0.23	U	8.9		1.7		0.91	JQ	0.125	U
2,3,7,8-TCDF	0.1	1.9		0.85		0.21		1		0.73		0.28		0.094	
OCDD	0.0001	0.031		0.036		0.0085		0.099		0.024		0.016		0.07	
OCDF	0.0001	0.0025		0.0026		0.00024	U	0.0056		0.0011		0.0012		0.0042	
TTEC as 2,3,7,8-TCDD		35.25		13.86		3.55		23.85		8.70		3.47		4.28	

Table 2.6-3 - Offsite Residential Soil

TEQs and TTECs as 2,3,7,8-TCDD - WHO TEFs

Location		**OMH-02**		**TBS-01**		**VMP-01**		**WPI-01**		**ZMR-01**		**ZMR-02**	
Phase		ESI		ESI		ESI		ESI		ESI		ESI	
Depth		0-3"		0-3"		0-3"		0-3"		0-3"		0-3"	
Congener	TEF	[ppt TEQ]	qual	[ppt TEQ]	qual	[ppt TEQ]	qual	[ppt TEQ]	qual	[ppt TEQ]	qual	[ppt TEQ]	qual
1,2,3,4,6,7,8-HpCDD	0.01	0.35		1.4	JH	1.5		0.45		0.52	JH	0.75	JH
1,2,3,4,6,7,8-HpCDF	0.01	0.044	JQ	0.57		0.044	UJH	0.11		0.023	U	0.062	JQ
1,2,3,4,7,8,9-HpCDF	0.01	0.00365	U	0.037	JQ	0.00435	U	0.00245	U	0.00285	U	0.00395	U
1,2,3,4,7,8-HxCDD	0.1	0.1	U	1.1		0.0365	U	0.07	U	0.68	J	1.2	
1,2,3,4,7,8-HxCDF	0.1	0.06	U	1.4		0.041	U	0.06	U	0.12	U	0.195	U
1,2,3,6,7,8-HxCDD	0.1	0.41	JQ	1.9		0.43	JQ	0.18	U	1		1.6	
1,2,3,6,7,8-HxCDF	0.1	0.06	U	1.3		0.0195	U	0.0455	U	0.08	U	0.135	U
1,2,3,7,8,9-HxCDD	0.1	0.55		2.1		0.11	U	0.145	U	1.2		2	
1,2,3,7,8,9-HxCDF	0.01	0.0075	U	0.00485	U	0.000455	U	0.0038	U	0.00465	U	0.0019	U
1,2,3,7,8-PeCDD	1	1.05	U	9		0.175	U	0.405	U	6	J	10	
1,2,3,7,8-PeCDF	0.05	0.045	U	0.55		0.00875	U	0.01525	U	0.0675	U	0.115	U
2,3,4,6,7,8-HxCDF	0.1	0.065	U	1.1		0.0275	U	0.07	U	0.08	U	0.12	U
2,3,4,7,8-PeCDF	0.5	0.475	U	8		0.09	U	0.24	U	0.775	U	3.05	JQ
2,3,7,8-TCDD	1	0.67	JQ	3.5		0.09	U	0.435	U	3.2		4.1	
2,3,7,8-TCDF	0.1	0.12		1.7		0.055	JQ	0.19	JQ	0.51		0.88	
OCDD	0.0001	0.024		0.031		0.24		0.046		0.013		0.017	
OCDF	0.0001	0.0011		0.0032		0.004		0.0025		0.000245	U	0.00037	U
TTEC as 2,3,7,8-TCDD		4.04		33.70		2.88		2.47		14.28		24.23	

Table 3.0-1 - Summary of Results

Sample Group	Sample Type	Number of Samples	Number of Samples Exceeding Criterion	
			Unrestricted	Industrial
Wood Mill	Surface	2 RI	1	0
	Subsurface	2 RI	1	0
Log Yard	Surface	13 (6 ESI / 7 RI)	7 (3 ESI / 4 RI)	1 RI
	Subsurface	9 (3 ESI / 6 RI)	1 RI	0
Ecological Samples	Surface	15 RI	8	0
Main Process Area	Surface	32 (11 ESI / 21 RI)	28 (3 ESI / 25 RI) see note 1	3 (2 ESI / 1 RI) see note 2
	Subsurface	20 (3 ESI / 17 RI) see note 3	11 (1 ESI / 10 RI)	0
East Side of the Site	Surface	9 RI	5	0
	Subsurface	3 (1 ESI / 2 RI)	0	0
Offsite Residential Soils	Surface	20 ESI	12	0

Notes:

1 - During the ESI, locations AP03, FR02 and SR03 exceeded the unrestricted criterion for 2,3,7,8-TCDD. The RI sampling results confirmed exceedences of the unrestricted criterion at all three locations.

2 - During the ESI, locations FR02 and SR03 exceeded the industrial criterion for 2,3,7,8-TCDD. The RI sampling results confirmed an exceedence of the industrial criterion at location SR03, but not at FR02

3 - The ESI samples are all from location RB04, but were collected from three different depth intervals.