

**WASTE CHARACTERIZATION: IN-SITU SOIL LOCATED AT AREA II  
ISRA OUTFALL 009 PLANNED EXCAVATION AP/STP-1E-2**

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This report presents supporting detailed information for the July 30, 2010 in-situ characterization sampling of prospective soil wastes from planned SSFL Area II ISRA excavations in the vicinity of the former Area II incinerator.

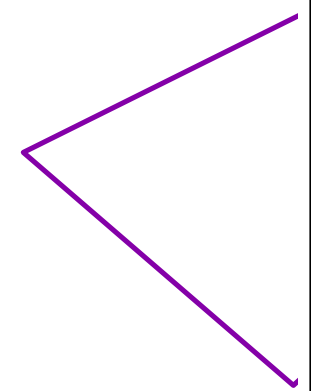
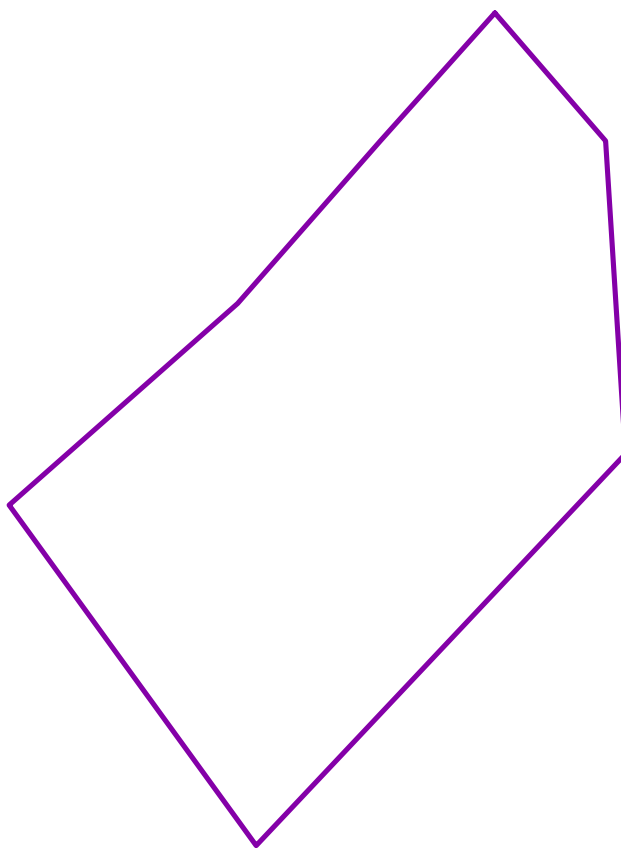
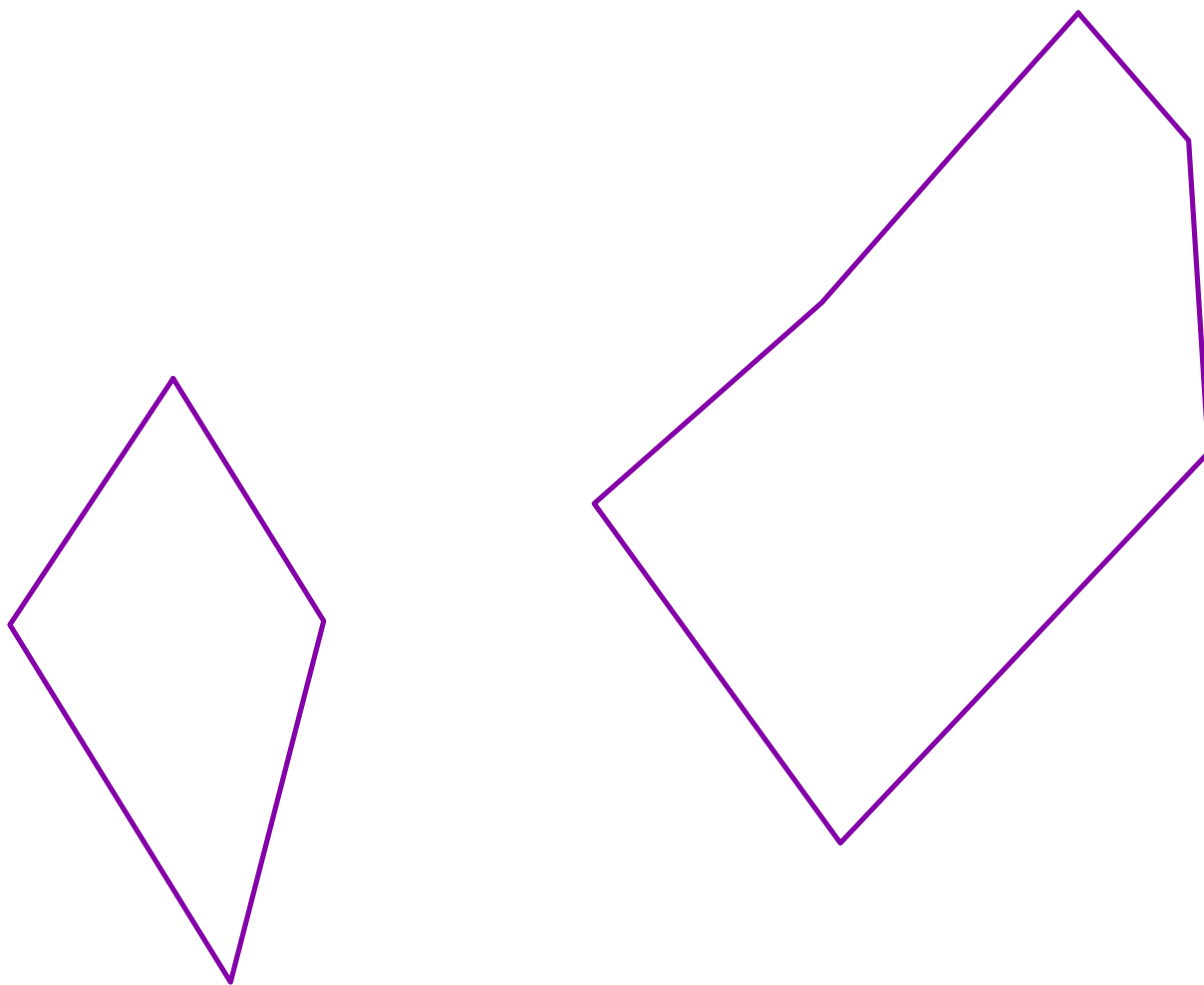
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In-situ characterization was performed for soil destined to be excavated from designated locations in SSFL Area II in accordance with the ISRA Workplan. A step-by-step approach was followed to accomplish characterization of the soil prior to excavation. The first step was to review available information regarding historical area usage and existing analytical data from past soil sampling in or near planned excavation sites. The objective was to identify all substances potentially ethe identified substances were present at

gation. In addition, the initial random sampling results  
ical adequacy of the data provided for waste  
s presented in U.S. EPA SW-846. Soil was  
alyte concentrations among the samples exhibited a  
as satisfactory margin between the mean of the samples  
otherwise, additional samples would be collected and  
er testing, the soil was summarily characterized as  
ed in SW-846 are performed as necessary to determine  
nd the upper confidence levels of analytical results.

existing analytical data relevant to planned excavation  
Group 2 RFI results. Evaluation of these data and other  
ng recent sampling conducted specifically for ISRA,  
117), Volatile Organic Compounds (VOC),

VOCs were detected in two samples only, with Acetone observed at concentrations of 0.0089 ppm and 0.020 ppm. Trichloro



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|                             |       |    |           | A 0501<br>A 0501 001<br>7/30/2010<br>0.5 - 1.0 | A 0502<br>A 0502 001<br>7/30/2010<br>0.5 - 1.0 | A 0503<br>A 0503 001<br>7/30/2010<br>0.5 - 1.0 | A 0504<br>A 0504 001<br>7/30/2010<br>0.5 - 1.0 | A 0505<br>A 0505 001<br>7/30/2010<br>0.5 - 1.0 |
|-----------------------------|-------|----|-----------|--|--|--|--|--|
| A A                         | L     |    |           | L  | L  | L  | L  | L  |
| 1,1-Dichloroethane          | ug/kg | -- | --        | <1.1 {<0.55}                                   | <1.1 {<0.55}                                   | <0.97 {<0.48}                                  | <1.1 {<0.55}                                   | <1.1 {<0.56}                                   |
| 1,1-Dichloroethene          | ug/kg | -- | 14,000    | <2.2 {<0.66}                                   | <2.2 {<0.66}                                   | <1.9 {<0.58}                                   | <2.2 {<0.67}                                   | <2.2 {<0.67}                                   |
| 1,1-Dichloropropene         | ug/kg | -- | --        | <1.1 {<0.44}                                   | <1.1 {<0.44}                                   | <0.97 {<0.39}                                  | <1.1 {<0.44}                                   | <1.1 {<0.44}                                   |
| 1,2,3-Trichlorobenzene      | ug/kg | -- | --        | <2.2 {<1.1}                                    | <2.2 {<1.1}                                    | <1.9 {<0.97}                                   | <2.2 {<1.1}                                    | <2.2 {<1.1}                                    |
| 1,2,3-Trichloropropane      | ug/kg | -- | --        | <2.2 {<1.1}                                    | <2.2 {<1.1}                                    | <1.9 {<0.97}                                   | <2.2 {<1.1}                                    | <2.2 {<1.1}                                    |
| 1,2,4-Trichlorobenzene      | ug/kg | -- | --        | <2.2 {<1.1}                                    | <2.2 {<1.1}                                    | <1.9 {<0.97}                                   | <2.2 {<1.1}                                    | <2.2 {<1.1}                                    |
| 1,2,4-Trimethylbenzene      | ug/kg | -- | --        | <1.1 {<0.86}                                   | <1.1 {<0.86}                                   | <0.97 {<0.76}                                  | <1.1 {<0.86}                                   | <1.1 {<0.87}                                   |
| 1,2-Dibromo-3-chloropropane | ug/kg | -- | --        | <11 {<1.7}                                     | <11 {<1.7}                                     | <9.7 {<1.5}                                    | <11 {<1.7}                                     | <11 {<1.7}                                     |
| 1,2-Dibromoethane (EDB)     | ug/kg | -- | --        | <1.1 {<0.88}                                   | <1.1 {<0.88}                                   | <0.97 {<0.78}                                  | <1.1 {<0.89}                                   | <1.1 {<0.89}                                   |
| 1,2-Dichlorobenzene         | ug/kg | -- | --        | <1.1 {<1.1}                                    | <1.1 {<1}                                      | <0.97 {<0.92}                                  | <1.1 {<1.1}                                    | <1.1 {<1.1}                                    |
| 1,2-Dichloroethane          | ug/kg | -- | 10,000    | <1.1 {<0.88}                                   | <1.1 {<0.88}                                   | <0.97 {<0.78}                                  | <1.1 {<0.89}                                   | <1.1 {<0.89}                                   |
| 1,2-Dichloropropane         | ug/kg | -- | --        | <1.1 {<0.88}                                   | <1.1 {<0.88}                                   | <0.97 {<0.78}                                  | <1.1 {<0.89}                                   | <1.1 {<0.89}                                   |
| 1,3,5-Trimethylbenzene      | ug/kg | -- | --        | <1.1 {<0.7}                                    | <1.1 {<0.7}                                    | <0.97 {<0.61}                                  | <1.1 {<0.7}                                    | <1.1 {<0.7}                                    |
| 1,3-Dichlorobenzene         | ug/kg | -- | --        | <1.1 {<0.93}                                   | <1.1 {<0.93}                                   | <0.97 {<0.81}                                  | <1.1 {<0.93}                                   | <1.1 {<0.93}                                   |
| 1,3-Dichloropropane         | ug/kg | -- | --        | <1.1 {<0.7}                                    | <1.1 {<0.7}                                    | <0.97 {<0.61}                                  | <1.1 {<0.7}                                    | <1.1 {<0.7}                                    |
| 1,4-Dichlorobenzene         | ug/kg | -- | --        | <1.1 {<1}                                      | <1.1 {<1}                                      | <0.97 {<0.91}                                  | <1.1 {<1}                                      | <1.1 {<1}                                      |
| 2,2-Dichloropropane         | ug/kg | -- | --        | <1.1 {<0.66}                                   | <1.1 {<0.66}                                   | <0.97 {<0.58}                                  | <1.1 {<0.67}                                   | <1.1 {<0.67}                                   |
| 2-Butanone (MEK)            | ug/kg | -- | 4,000,000 | <11 {<6.6}                                     | <11 {<6.6}                                     | <9.7 {<5.8}                                    | <11 {<6.7}                                     | <11 {<6.7}                                     |
| 2-Chlorotoluene             | ug/kg | -- | --        | <2.2 {<0.96}                                   | <2.2 {<0.96}                                   | <1.9 {<0.84}                                   | <2.2 {<0.96}                                   | <2.2 {<0.97}                                   |
| 2-Hexanone                  | ug/kg | -- | --        | <11 {<10}                                      | <11 {<10}                                      | <9.7 {<8.8}                                    | <11 {<10}                                      | <11 {<10}                                      |
| 4-Chlorotoluene             | ug/kg | -- | --        | <2.2 {<0.82}                                   | <2.2 {<0.82}                                   | <1.9 {<0.72}                                   | <2.2 {<0.82}                                   | <2.2 {<0.82}                                   |
| 4-Methyl-2-pentanone (MIBK) | ug/kg | -- | --        | <5.5 {<5}                                      | <5.5 {<5}                                      | <4.8 {<4.4}                                    | <5.5 {<5}                                      | <5.6 {<5}                                      |
| Acetone                     | ug/kg | -- | --        | 20   | <11 {<8.8}                                     | <9.7 {<7.8}                                    | 8.9 J  | <11 {<8.9}                                     |
| Benzene                     | ug/kg | -- | 10,000    | <1.1 {<0.55}                                   | <1.1 {<0.55}                                   | <0.97 {<0.48}                                  | <1.1 {<0.55}                                   | <1.1 {<0.56}                                   |
| Bromobenzene                | ug/kg | -- | --        | <2.2 {<0.93}                                   | <2.2 {<0.93}                                   | <1.9 {<0.81}                                   | <2.2 {<0.93}                                   | <2.2 {<0.93}                                   |
| Bromochloromethane          | ug/kg | -- | --        |  |  |  |  |  |

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| A A                            | L     |           | A          |            | A 0501       | A 0502       | A 0503        | A 0504       | A 0505       |
|--------------------------------|-------|-----------|------------|------------|--------------|--------------|---------------|--------------|--------------|
|                                |       |           | A 0501 001 | A 0502 001 | A 0503 001   | A 0504 001   | A 0505 001    |              |              |
|                                |       |           |            |            | 7/30/2010    | 7/30/2010    | 7/30/2010     | 7/30/2010    | 7/30/2010    |
|                                |       |           |            |            | 0.5 - 1.0    | 0.5 - 1.0    | 0.5 - 1.0     | 0.5 - 1.0    | 0.5 - 1.0    |
|                                |       |           |            |            | L            | L            | L             | L            | L            |
| cis-1,3-Dichloropropene        | ug/kg | --        | --         | --         | <1.1 {<0.49} | <1.1 {<0.49} | <0.97 {<0.43} | <1.1 {<0.49} | <1.1 {<0.49} |
| Dibromochloromethane           | ug/kg | --        | --         | --         | <1.1 {<0.77} | <1.1 {<0.77} | <0.97 {<0.68} | <1.1 {<0.78} | <1.1 {<0.78} |
| Dibromomethane                 | ug/kg | --        | --         | --         | <1.1 {<1}    | <1.1 {<0.99} | <0.97 {<0.87} | <1.1 {<1}    | <1.1 {<1}    |
| Dichlorodifluoromethane        | ug/kg | --        | --         | --         | <5.5 {<1.7}  | <5.5 {<1.7}  | <4.8 {<1.5}   | <5.5 {<1.7}  | <5.6 {<1.7}  |
| Ethylbenzene                   | ug/kg | --        | --         | --         | <1.1 {<0.55} | <1.1 {<0.55} | <0.97 {<0.48} | <1.1 {<0.55} | <1.1 {<0.56} |
| Hexachlorobutadiene            | ug/kg | --        | --         | --         | <2.2 {<0.88} | <2.2 {<0.88} | <1.9 {<0.78}  | <2.2 {<0.89} | <2.2 {<0.89} |
| Isopropylbenzene               | ug/kg | --        | --         | --         | <1.1 {<0.6}  | <1.1 {<0.6}  | <0.97 {<0.52} | <1.1 {<0.6}  | <1.1 {<0.6}  |
| m,p-Xylenes                    | ug/kg | --        | --         | --         | <2.2 {<0.88} | <2.2 {<0.88} | <1.9 {<0.78}  | <2.2 {<0.89} | <2.2 {<0.89} |
| Methylene chloride             | ug/kg | --        | --         | --         | <11 {<7.2}   | <11 {<7.2}   | <9.7 {<6.3}   | <11 {<7.2}   | <11 {<7.2}   |
| Methyl-tert-butyl Ether (MTBE) | ug/kg | --        | --         | --         | <2.2 {<1.1}  | <2.2 {<1.1}  | <1.9 {<0.97}  | <2.2 {<1.1}  | <2.2 {<1.1}  |
| n-Butylbenzene                 | ug/kg | --        | --         | --         | <2.2 {<0.8}  | <2.2 {<0.79} | <1.9 {<0.7}   | <2.2 {<0.8}  | <2.2 {<0.8}  |
| n-Propylbenzene                | ug/kg | --        | --         | --         | <1.1 {<0.67} | <1.1 {<0.67} | <0.97 {<0.59} | <1.1 {<0.68} | <1.1 {<0.68} |
| Naphthalene                    | ug/kg | --        | --         | --         | <2.2 {<1.2}  | <2.2 {<1.2}  | <1.9 {<1.1}   | <2.2 {<1.2}  | <2.2 {<1.2}  |
| o-Xylene                       | ug/kg | --        | --         | --         | <1.1 {<0.55} | <1.1 {<0.55} | <0.97 {<0.48} | <1.1 {<0.55} | <1.1 {<0.56} |
| p-Isopropyltoluene             | ug/kg | --        | --         | --         | <1.1 {<0.8}  | <1.1 {<0.79} | <0.97 {<0.7}  | <1.1 {<0.8}  | <1.1 {<0.8}  |
| sec-Butylbenzene               | ug/kg | --        | --         | --         | <2.2 {<0.74} | <2.2 {<0.74} | <1.9 {<0.65}  | <2.2 {<0.74} | <2.2 {<0.74} |
| Styrene                        | ug/kg | --        | --         | --         | <1.1 {<0.64} | <1.1 {<0.64} | <0.97 {<0.56} | <1.1 {<0.64} | <1.1 {<0.64} |
| tert-Butylbenzene              | ug/kg | --        | --         | --         | <2.2 {<0.69} | <2.2 {<0.68} | <1.9 {<0.6}   | <2.2 {<0.69} | <2.2 {<0.69} |
| Tetrachloroethene              | ug/kg | --        | --         | 14,000     | <1.1 {<0.54} | <1.1 {<0.54} | <0.97 {<0.47} | <1.1 {<0.54} | <1.1 {<0.54} |
| Toluene                        | ug/kg | --        | --         | --         | <1.1 {<0.55} | <1.1 {<0.55} | <0.97 {<0.48} | <1.1 {<0.55} | <1.1 {<0.56} |
| trans-1,2-Dichloroethene       | ug/kg | --        | --         | --         | <1.1 {<0.77} | <1.1 {<0.77} | <0.97 {<0.68} | <1.1 {<0.78} | <1.1 {<0.78} |
| trans-1,3-Dichloropropene      | ug/kg | --        | --         | --         | <1.1 {<0.67} | <1.1 {<0.67} | <0.97 {<0.59} | <1.1 {<0.68} | <1.1 {<0.68} |
| Trichloroethene                | ug/kg | 2,040,000 | 2,040,000  | 10,000     | <1.1 {<0.55} | <1.1 {<0.55} | <0.97 {<0.48} | 0.55 J       | <1.1 {<0.56} |
| Trichlorofluoromethane         | ug/kg | --        | --         | --         | <2.2 {<0.6}  | <2.2 {<0.6}  | <1.9 {<0.52}  | <2.2 {<0.6}  | <2.2 {<0.6}  |
| Vinyl acetate                  | ug/kg | --        | --         | --         | <5.5 {<2.8}  | <5.5 {<2.8}  | <4.8 {<2.4}   | <5.5 {<2.8}  | <5.6 {<2.8}  |
| Vinyl chloride                 | ug/kg | --        | --         | 4,000      | <2.2 {<1}    | <2.2 {<1}    | <1.9 {<0.88}  | <2.2 {<1}    | <2.2 {<1}    |
| A L                            | --    | --        | --         | --         | R            | R            | R             | R            | R            |

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