# WASTE CHARACTERIZATION: IN-SITU SOIL LOCATED AT ISRA HAPPY VALLEY PLANNED EXCAVATION HVS-1

## [illegible]

This report presents supporting detailed information for the July 16, 2009 in-situ characterization of prospective soil wastes from planned ISRA excavations at Happy Valley.

## [illegible]

In-situ characterization of soil destined to be excavated from Happy Valley in accordance with the ISRA Workplan was performed. 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 the Happy Valley (HV). The objective was to identify all substances that could have an impact on the determination of whether soil in each planned excavation footprint was hazardous or not.

The next step was to develop a random sampling plan for each of the planned excavation footprints to determine whether any of the identified substances are present at concentrations that require further investigation. An evaluation of the results of the initial random sampling was performed to determine whether the data was adequate for waste characterization based on the exhibited variance of any detected analytes and the relative difference between detected concentrations and regulatory thresholds. The soil was characterized non-hazardous when analyte concentrations among the samples exhibited a reasonably small variance and there was satisfactory margin between the mean of the samples and applicable regulatory thresholds. Otherwise, additional samples were collected and subjected to analysis or the soil was characterized as hazardous.

The review of historical information and existing analytical data relevant to planned excavation HVS-1 was based largely on the Group 1A RFI results. No major concerns with respect to hazardous waste characterization were revealed by the review, but it did suggest that any further analysis should focus on regulated metals. To obtain additional data relating to regulated metals, a random sampling plan was developed for collection of eight (8) samples from the planned excavation footprint. The samples were to be analyzed for CAM 17 metals. All samples were collected, contained, and handled according to field practice requirements in SW-846.

## [illegible]

Analytical results for the HVS-1 planned excavation area are presented in TestAmerica report ISG0119, issued on 7/15/09. All regulated metals were well below applicable regulatory thresholds. Chromium and Lead were most significant from a regulatory standpoint, but both were well below their respective RCRA and California hazardous waste thresholds. Chromium ranged from 4.7 ppm to 19 ppm compared to the TCLP 20 X threshold of 100 ppm, the CA TTLC threshold of 2,500 ppm, and the CA STLC 10 X threshold of 50 ppm. Similarly, Lead ranged 3 ppm to 8.7 ppm compared to the TCLP 20 X threshold of 100 ppm, the CA TTLC threshold of 1,000 ppm, and the CA STLC 10 X threshold of 50 ppm. All other regulated metals were well below regulatory thresholds.

According to analytical results and generator knowledge, the soil in the planned excavation footprint of Happy Valley HVS-1:

Is Not a Listed Waste (generator knowledge)
Is Not ignitable (generator knowledge)
Is Not corrosive (generator knowledge)
Is Not reactive (generator knowledge)
Is Not toxic (analytical results and generator knowledge)
- Is Not Extremely or Acutely Hazardous Waste
- Does Not exceed any RCRA or Title 22 thresholds
- Is Not subject to the Prop. 65 listing
- Is Not subject to Title 22 Appendix X list
- Is Not known by experience or testing to pose a hazard to human health or environment because of its carcinogenicity, acute toxicity, chronic toxicity, bio-accumulative properties, or persistence in the environment.

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | V | V | V | V | V | V |
| | | | | | Sample Name: | ISWC0001S001 | ISWC0002S001 | ISWC0003S001 | ISWC0004S001 | ISWC0005S001 | ISWC0006S001 |
| | | | | | Collection Date: | 7/1/2009 | 7/1/2009 | 7/1/2009 | 7/1/2009 | 7/1/2009 | 7/1/2009 |
| | | | | | Sample Depth (feet): | 1.5 - 2.0 | 1.5 - 2.0 | 1.5 - 2.0 | 1.5 - 2.0 | 0 - 0.5 | 1.5 - 2.0 |
| V | | | V | | | | | | | | |
| | | | | | | | | | | | |
| Antimony | mg/kg | 500 | 150 | -- | <10 | <10 | <10 | <10 M2 | <10 | <10 |
| Arsenic | mg/kg | 500 | 50 | 100 | 5.6 | 7.4 | 7.1 | 5.6 | <2 | 4.8 |
| Barium | mg/kg | 10,000 | 1,000 | 2,000 | 67 | 67 | 72 | 56 | 120 | 92 |
| Beryllium | mg/kg | 75 | 7.5 | -- | 0.62 | 0.66 | 0.83 | 0.94 | 0.96 | 1.2 |
| Cadmium | mg/kg | 100 | 10 | 20 | <0.5 | <0.5 | <0.5 | 0.29 J | 0.2 J | <0.5 |
| Chromium | mg/kg | 500 | 50 | 100 | 17 | 18 | 18 | 16 | 4.7 | 11 |
| Cobalt | mg/kg | 8,000 | 800 | -- | 4.6 | 5 | 4.9 | 4.4 | 5 | 4.5 |
| Copper | mg/kg | 2,500 | 250 | -- | 7.7 | 8 | 8.3 | 8 | 7.8 | 9.3 |
| Lead | mg/kg | 1,000 | 50 | 100 | 4.3 | 5.6 | 6.7 | 8.6 | 3 | 6.3 |
| Mercury | mg/kg | | | | | | | | | |