



## Conclusions

**Cesium-137** - Based on the results of the statistical analysis of Appendix 1, soil to be excavated from the Happy Valley ISRA area does not exceed the local background for Cs-137. The incremental dose from Cs-137 above background is therefore zero mrem/y. The highest Cs-137 result is 0.113 pCi/g which is less than the highest background result. The highest non-background subtracted Cs-137 result is less than an effective dose of 0.08 mrem/y<sup>6</sup>.

**Strontium-90** - Based on the results of the statistical analysis of Appendix 1, soil to be excavated from the Happy Valley ISRA area does not exceed the local background for Sr-90. The incremental dose from Sr-90 above background is therefore zero mrem/y. The highest Sr-90 result is 0.042 pCi/g which is less than the highest background result. The highest non-background subtracted Sr-90 result is less than an effective dose of 0.013 mrem/y<sup>6</sup>.

**Tritium** - All tritium results are non-detect, the average tritium result is -0.22 pCi/g and the highest non-detect tritium result is 0.39 pCi/g. The highest non-detect, non-background subtracted tritium result is less than an effective dose of 0.0055 mrem/y<sup>6</sup>.

This waste is certified to be “radiologically” acceptable for shipment to, and disposal at, any Class 1, 2 or 3 disposal facility. There are no radiological controls or restrictions imposed on future disposition or use of this soil.

This waste meets the requirements of disposal facility permits<sup>7,8</sup> and complies with the California Health & Safety Code<sup>9</sup>.

The Governor’s Executive Order D-62-02 prohibits the “*disposal of decommissioned materials to Class III landfills or unclassified management units.*” The soil from the Happy Valley ISRA area is

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<sup>6</sup> EPA dose compliance concentrations for radionuclides - <http://epa-dccs.ornl.gov/>. Soil concentrations that meet the 10<sup>-6</sup> residential risk PRG are < 0.1 mrem/y. The Cs-137 residential PRG of 0.0597 pCi/g is equivalent to 0.042 mrem/y. The Sr-90 residential PRG of 0.231 pCi/g is equivalent to 0.071 mrem/y. The tritium residential PRG of 2.28 pCi/g is equivalent to 0.032 mrem/y.

<sup>7</sup> This waste is exempt from regulation and licensing or is expressly authorized for disposal under the Radiation Control Law (Division 104, Part 9, Chapter 8 of the California Health & Safety Code).

<sup>8</sup> This waste is not prohibited from disposal by any government agency with jurisdictional authority over this waste.

<sup>9</sup> Division 104, Part 9, Chapter 5, Article 1, Section 114715, “No person shall bury, throw away, or in any manner dispose of radioactive wastes within the state except in a manner and at locations as will result in no significant radioactive contamination of the environment.” For the purposes of this requirement, “significant” is defined in Section 114710 as amounts of radioactive materials that are likely to expose persons to ionizing radiation greater than the guide levels published by the Federal Radiation Council (FRC). The FRC no longer exists, but the applicable guide level last published by the FRC was 500 mrem per year to a member of the public. Because the regulatory dose limit to members of the public has since been lowered to 100 mrem per year, CDPH/RHB conservatively utilizes the lower dose for purposes of defining “significant” radioactive contamination in this Article of the California Health and Safety Code.  
<http://www.leginfo.ca.gov/cgi-bin/displaycode?section=hsc&group=114001-115000&file=114705-114780>

not decommissioned material, and does not originate from the proximity of any radiological facility. The sampling in this certification has therefore been conducted as a best management practice that also complies with the requirements of D-62-02. Verification sampling and/or approval by the California Department of Public Health (CDPH) Radiologic Health Branch (RHB) are not required for the off-site disposal of decommissioned material or of the subject material<sup>10</sup>.



Phil Rutherford  
Manager, Health, Safety & Radiation Services

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<sup>10</sup> The California Department of Public Health (CDPH) Radiologic Health Branch (RHB) has stated in a November 9, 2007 email to Phil Rutherford (Boeing) ... *"The Governor's Executive Order D-62-02, does not specifically require the Department of Health Services (now the Department of Public Health) to perform verification sampling of decommissioned material or to provide approval for disposal of specific decommissioned material shipped offsite (e.g., to Class I or II landfills). The California DPH has not imposed a requirement that Boeing or the Department of Energy (DOE) seek DPH verification sampling or approval of all decommissioned material destined for Class I or II landfills in compliance with the Governor's Executive Order."*

**Appendix 1**

**Wilcoxon Rank Sum Statistical Test for Cesium-137 and Strontium-90**

**Wilcoxon Rank Sum Test -- (Cesium-137)**

**General Information:**

**Instruction on how to use this template:**



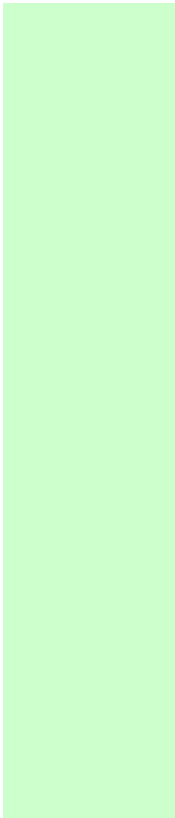
**Test Result:**

**Survey sample concentrations do not exceed those in the background by more than the DCGL**

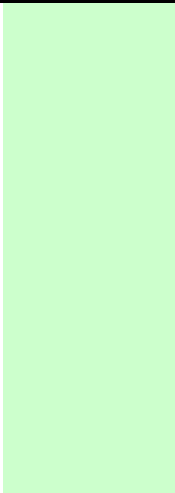
**Bkgd Ref (R)      Survey (S)**

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No.	Soil ID	Cs-137	Adjusted Cs-137	Area	Ranks	Reference Ranks
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No.	Soil ID	Cs-137	Adjusted Cs-137	Area	Ranks	Reference Ranks
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**Wilcoxon Rank Sum Test -- (Strontium-90)**

**General Information:**

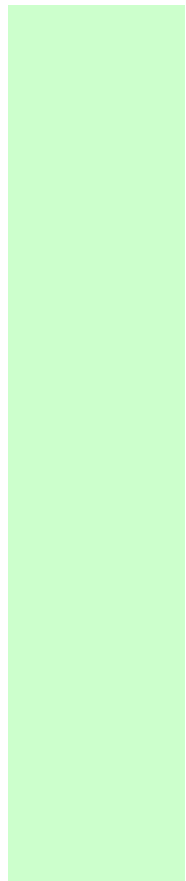
**Instruction on how to use this template:**



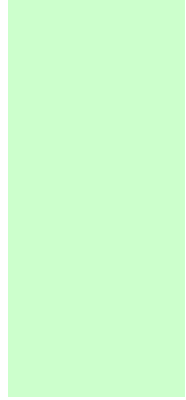


No.	Soil ID	Sr-90	Adjusted Sr-90	Area	Ranks	Reference Ranks
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No.	Soil ID	Sr-90	Adjusted Sr-90	Area	Ranks	Reference Ranks
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Activity	+/- 2	Error	MDA	Non-detect?	Activity	+/- 2	Error	MDA	Non-detect?	Activity	+/- 2	Error	MDA	Non-detect?
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### Soil Data from Happy Valley ISRA

Sampling Date	Laboratory Batch	Activity	Cesium-137 (pCi/g)				Strontium-90 (pCi/g)				Tritium (pCi/g)			
			+/- 2	Error	MDA	Non-detect?	Activity	+/- 2	Error	MDA	Non-detect?	Activity	+/- 2	Error

Santa Susana Field Laboratory











ISRA Soil Sample Results for Happy Valley

Project Name	Sampling Organization	Sampling Date	Sampling Location (General)	Sampling Location (Specific)	Sample Serial Number	Media Type	Isotope	Value	Error (+/-)	MDA	Non-Detect?	Units	Error Type	Analysis Protocol	Analysis Organization	Document	Status
ISRA HV Waste Characterization	MWH	07/01/2009	Happy Valley	ISWC0015	ISWC0015S001	Soil	Europium-152	-0.0101	0.0618	0.0996	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	233955	Pre-remedial
ISRA HV Waste Characterization	MWH	07/01/2009	Happy Valley	ISWC0016	ISWC0016S001	Soil	Europium-152	-0.054	0.0752	0.101	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	233955	Pre-remedial
ISRA HV Waste Characterization	MWH	07/01/2009	Happy Valley	ISWC0019	ISWC0019S001	Soil	Europium-152	-0.039	0.0587	0.0825	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	233955	Pre-remedial
ISRA HV Waste Characterization	MWH	07/01/2009	Happy Valley	ISWC0020	ISWC0020S001	Soil	Europium-152	0.00197	0.0418	0.0652	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	233955	Pre-remedial
ISRA HV Waste Characterization	MWH	07/01/2009	Happy Valley	ISWC0023	ISWC0023S001	Soil	Europium-152	-0.0179	0.05	0.0662	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	233955	Pre-remedial
ISRA HV Waste Characterization	MWH	07/01/2009	Happy Valley	ISWC0024	ISWC0024S001	Soil	Europium-152	-0.00356	0.061	0.0825	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	233955	Pre-remedial
ISRA HV Waste Characterization	MWH	07/01/2009	Happy Valley	ISWC0028	ISWC0028S001	Soil	Europium-152	-0.00641	0.073	0.098	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	233955	Pre-remedial
ISRA HV Waste Characterization	MWH	07/01/2009	Happy Valley	ISWC0041	ISWC0041S001	Soil	Europium-152	0.0195	0.0496	0.0761	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	233955	Pre-remedial
ISRA HV Waste Characterization	MWH	07/01/2009	Happy Valley	ISWC0042	ISWC0042S001	Soil	Europium-152	-0.0414	0.0725	0.11	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	233955	Pre-remedial
ISRA HV Waste Characterization	MWH	07/01/2009	Happy Valley	ISWC0043	ISWC0043S001	Soil	Europium-152	-0.0291	0.058	0.0919	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	233955	Pre-remedial
ISRA HV Waste Characterization	MWH	07/01/2009	Happy Valley	ISWC0044	ISWC0044S001	Soil	Europium-152	-0.0552	0.0597	0.0886	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	233955	Pre-remedial
ISRA HV Waste Characterization	MWH	07/01/2009	Happy Valley	ISWC0045	ISWC0045S001	Soil	Europium-152	-0.00271	0.0605	0.0983	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	233955	Pre-remedial
ISRA HV Waste Characterization	MWH	07/01/2009	Happy Valley	ISWC0046	ISWC0046S001	Soil	Europium-152	-0.0289	0.0467	0.0697	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	233955	Pre-remedial
ISRA HV Waste Characterization	MWH	07/01/2009	Happy Valley	ISWC0047	ISWC0047S001	Soil	Europium-152	0.0212	0.0514	0.0859	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	233955	Pre-remedial
ISRA HV Waste Characterization	MWH	07/01/2009	Happy Valley	ISWC0048	ISWC0048S001	Soil	Europium-152	-0.0197	0.0718	0.115	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	233955	Pre-remedial
ISRA HV Waste Characterization	MWH	7/29/2009	Happy Valley	ISWC0077	ISWC0077RadS001	Soil	Europium-152	-0.0127	0.0512	0.0759	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	234325	Pre-remedial
ISRA HV Waste Characterization	MWH	7/29/2009	Happy Valley	ISWC0078	ISWC0078RadS001	Soil	Europium-152	0.0259	0.0755	0.0962	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	234325	Pre-remedial
ISRA HV Waste Characterization	MWH	7/29/2009	Happy Valley	ISWC0079	ISWC0079RadS001	Soil	Europium-152	-0.0146	0.0489	0.0857	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	234325	Pre-remedial
ISRA HV Waste Characterization	MWH	7/29/2009	Happy Valley	ISWC0080	ISWC0080RadS001	Soil	Europium-152	-0.0172	0.0782	0.107	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	234325	Pre-remedial
ISRA HV Waste Characterization	MWH	7/29/2009	Happy Valley	ISWC0081	ISWC0081RadS001	Soil	Europium-152	0.000825	0.0577	0.102	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	234325	Pre-remedial
ISRA HV Waste Characterization	MWH	7/29/2009	Happy Valley	ISWC0084	ISWC0084RadS001	Soil	Europium-152	-0.0612	0.0718	0.109	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	234325	Pre-remedial
ISRA HV Waste Characterization	MWH	7/29/2009	Happy Valley	ISWC0085	ISWC0085RadS001	Soil	Europium-152	-0.011	0.0859	0.117	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	234325	Pre-remedial
ISRA HV Waste Characterization	MWH	7/29/2009	Happy Valley	ISWC0086	ISWC0086RadS001	Soil	Europium-152	0.0103	0.0672	0.103	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	234325	Pre-remedial
ISRA HV Waste Characterization	MWH	7/29/2009	Happy Valley	ISWC0087	ISWC0087RadS001	Soil	Europium-152	-0.0939	0.0866	0.104	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	234325	Pre-remedial
ISRA HV Waste Characterization	MWH	7/29/2009	Happy Valley	ISWC0088	ISWC0088RadS001	Soil	Europium-152	0.0371	0.0645	0.111	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	234325	Pre-remedial
ISRA HV Waste Characterization	MWH	7/29/2009	Happy Valley	ISWC0089	ISWC0089RadS001	Soil	Europium-152	-0.037	0.0663	0.0957	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	234325	Pre-remedial
ISRA HV Waste Characterization	MWH	7/29/2009	Happy Valley	ISWC0090	ISWC0090RadS001	Soil	Europium-152	-0.0256	0.0765	0.0997	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	234325	Pre-remedial
ISRA HV Waste Characterization	MWH	7/29/2009	Happy Valley	ISWC0091	ISWC0091RadS001	Soil	Europium-152	0.0209	0.0685	0.109	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	234325	Pre-remedial
ISRA HV Waste Characterization	MWH	7/29/2009	Happy Valley	ISWC0092	ISWC0092RadS001	Soil	Europium-152	0.0267	0.0564	0.0945	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	234325	Pre-remedial
ISRA HV Waste Characterization	MWH	7/29/2009	Happy Valley	ISWC0093	ISWC0093RadS001	Soil	Europium-152	0.0389	0.0835	0.105	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	234325	Pre-remedial
ISRA HV Waste Characterization	MWH	7/30/2009	Happy Valley	ISWC0082	ISWC0082RadS001	Soil	Europium-152	0.0142	0.0595	0.0944	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	234376	Pre-remedial
ISRA HV Waste Characterization	MWH	7/30/2009	Happy Valley	ISWC0083	ISWC0083RadS001	Soil	Europium-152	-0.0594	0.0702	0.101	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	234376	Pre-remedial
ISRA HV Waste Characterization	MWH	8/17/2009	Happy Valley	ISWC0094	ISWC0094RadS001	Soil	Europium-152	0.0137	0.0983	0.12	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	235405	Pre-remedial
ISRA HV Waste Characterization	MWH	8/17/2009	Happy Valley	ISWC0095	ISWC0095RadS001	Soil	Europium-152	-0.00132	0.0584	0.0998	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	235405	Pre-remedial
ISRA HV Waste Characterization	MWH	9/14/2009	Happy Valley	ISWC0112	ISWC0112S001	Soil	Europium-152	-0.0843	0.0883	0.11	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	237286	Pre-remedial
ISRA HV Waste Characterization	MWH	10/22/2009	Happy Valley	ISWC0113	ISWC0113S001	Soil	Europium-152	-0.0419	0.0694	0.0993	NDA	pCi/g	2 sigma	DOE HASL 300, 4.5.2.3/Ga-01-R	GEL	239640	Waste
ISRA HV Waste Characterization	MWH	07/01/2009	Happy Valley	ISWC0001	ISWC0001S001	Soil	Europium-154	-0.138	0.101	0.156	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	233955	Pre-remedial
ISRA HV Waste Characterization	MWH	07/01/2009	Happy Valley	ISWC0002	ISWC0002S001	Soil	Europium-154	-0.000749	0.0669	0.115	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	233955	Pre-remedial
ISRA HV Waste Characterization	MWH	07/01/2009	Happy Valley	ISWC0003	ISWC0003S001	Soil	Europium-154	-0.0349	0.0906	0.148	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	233955	Pre-remedial
ISRA HV Waste Characterization	MWH	07/01/2009	Happy Valley	ISWC0004	ISWC0004S001	Soil	Europium-154	0.0704	0.0724	0.131	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	233955	Pre-remedial
ISRA HV Waste Characterization	MWH	07/01/2009	Happy Valley	ISWC0005	ISWC0005S001	Soil	Europium-154	-0.0516	0.0888	0.14	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	233955	Pre-remedial
ISRA HV Waste Characterization	MWH	07/01/2009	Happy Valley	ISWC0006	ISWC0006S001	Soil	Europium-154	-0.149	0.111	0.161	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	233955	Pre-remedial
ISRA HV Waste Characterization	MWH	07/01/2009	Happy Valley	ISWC0009	ISWC0009S001	Soil	Europium-154	-0.0306	0.0663	0.109	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	233955	Pre-remedial
ISRA HV Waste Characterization	MWH	07/01/2009	Happy Valley	ISWC0010	ISWC0010S001	Soil	Europium-154	0.0191	0.0552	0.0959	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	233955	Pre-remedial
ISRA HV Waste Characterization	MWH	07/01/2009	Happy Valley	ISWC0011	ISWC0011S001	Soil	Europium-154	0.0217	0.0849	0.149	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	233955	Pre-remedial
ISRA HV Waste Characterization	MWH	07/01/2009	Happy Valley	ISWC0012	ISWC0012S001	Soil	Europium-154	-0.0927	0.0959	0.149	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	233955	Pre-remedial
ISRA HV Waste Characterization	MWH	07/01/2009	Happy Valley	ISWC0013	ISWC0013S001	Soil	Europium-154	-0.0543	0.075	0.122	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	233955	Pre-remedial
ISRA HV Waste Characterization	MWH	07/01/2009	Happy Valley	ISWC0014	ISWC0014S001	Soil	Europium-154	0.0197	0.0692	0.121	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	233955	Pre-remedial
ISRA HV Waste Characterization	MWH	07/01/2009	Happy Valley	ISWC0015	ISWC0015S001	Soil	Europium-154	-0.0445	0.0795	0.129	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	233955	Pre-remedial
ISRA HV Waste Characterization	MWH	07/01/2009	Happy Valley	ISWC0016	ISWC0016S001	Soil	Europium-154	-0.0337	0.0842	0.142	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	233955	Pre-remedial
ISRA HV Waste Characterization	MWH	07/01/2009	Happy Valley	ISWC0019	ISWC0019S001	Soil	Europium-154	-0.0265	0.0662	0.112	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	233955	Pre-remedial
ISRA HV Waste Characterization	MWH	07/01/2009	Happy Valley	ISWC0020	ISWC0020S001	Soil	Europium-154	-0.0328	0.0705	0.137	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	233955	Pre-remedial

ISRA Soil Sample Results for Happy Valley

Project Name	Sampling Organization	Sampling Date	Sampling Location (General)	Sampling Location (Specific)	Sample Serial Number	Media Type	Isotope	Value	Error (+/-)	MDA	Non-Detect?	Units	Error Type	Analysis Protocol	Analysis Organization	Document	Status
ISRA HV Waste Characterization	MWH	7/29/2009	Happy Valley	ISWC0084	ISWC0084RadS001	Soil	Europium-154	0.018	0.0856	0.145	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	234325	Pre-remedial
ISRA HV Waste Characterization	MWH	7/29/2009	Happy Valley	ISWC0085	ISWC0085RadS001	Soil	Europium-154	-0.0414	0.118	0.19	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	234325	Pre-remedial
ISRA HV Waste Characterization	MWH	7/29/2009	Happy Valley	ISWC0086	ISWC0086RadS001	Soil	Europium-154	0.0322	0.0777	0.134	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	234325	Pre-remedial
ISRA HV Waste Characterization	MWH	7/29/2009	Happy Valley	ISWC0087	ISWC0087RadS001	Soil	Europium-154	-0.00591	0.0832	0.137	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	234325	Pre-remedial
ISRA HV Waste Characterization	MWH	7/29/2009	Happy Valley	ISWC0088	ISWC0088RadS001	Soil	Europium-154	0.000284	0.0797	0.138	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	234325	Pre-remedial
ISRA HV Waste Characterization	MWH	7/29/2009	Happy Valley	ISWC0089	ISWC0089RadS001	Soil	Europium-154	0.0414	0.0816	0.143	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	234325	Pre-remedial
ISRA HV Waste Characterization	MWH	7/29/2009	Happy Valley	ISWC0090	ISWC0090RadS001	Soil	Europium-154	0.0491	0.0803	0.138	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	234325	Pre-remedial
ISRA HV Waste Characterization	MWH	7/29/2009	Happy Valley	ISWC0091	ISWC0091RadS001	Soil	Europium-154	-0.0475	0.0897	0.145	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	234325	Pre-remedial
ISRA HV Waste Characterization	MWH	7/29/2009	Happy Valley	ISWC0092	ISWC0092RadS001	Soil	Europium-154	0.0351	0.0722	0.128	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	234325	Pre-remedial
ISRA HV Waste Characterization	MWH	7/29/2009	Happy Valley	ISWC0093	ISWC0093RadS001	Soil	Europium-154	0.0427	0.0726	0.127	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	234325	Pre-remedial
ISRA HV Waste Characterization	MWH	7/30/2009	Happy Valley	ISWC0082	ISWC0082RadS001	Soil	Europium-154	-0.0536	0.0733	0.12	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	234376	Pre-remedial
ISRA HV Waste Characterization	MWH	7/30/2009	Happy Valley	ISWC0083	ISWC0083RadS001	Soil	Europium-154	-0.0204	0.0771	0.129	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	234376	Pre-remedial
ISRA HV Waste Characterization	MWH	8/17/2009	Happy Valley	ISWC0094	ISWC0094RadS001	Soil	Europium-154	-0.00746	0.106	0.176	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	235405	Pre-remedial
ISRA HV Waste Characterization	MWH	8/17/2009	Happy Valley	ISWC0095	ISWC0095RadS001	Soil	Europium-154	0.106	0.084	0.155	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	235405	Pre-remedial
ISRA HV Waste Characterization	MWH	9/14/2009	Happy Valley	ISWC0112	ISWC0112S001	Soil	Europium-154	-0.0308	0.0892	0.146	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	234376	Pre-remedial
ISRA HV Waste Characterization	MWH	10/22/2009	Happy Valley	ISWC0113	ISWC0113S001	Soil	Europium-154	-0.0456	0.0795	0.128	NDA	pCi/g	2 sigma	DOE HASL 300, 4.5.2.3	GEL	MV1964007/01/2009	Pre-remedial
ISRA HV Waste Characterization	MWH	07/01/2009	Happy Valley	ISWC0002	ISWC0002S001	Soil	Manganese-54	0.0286	0.0216	0.0375	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEGEL	233856	Pre-remedial
ISRA HV Waste Characterization	MWH	07/01/2009	Happy Valley	ISWC0002	ISWC0002S001	Soil	Manganese-54	0.00706	0.0216	0.0375	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	233955	Pre-remedial

Project													Analysis Protocol	Analysis Organization	Document	Status	
ISRA HV Waste Characterization	MWH	7/29/2009	Happy Valley	ISWC0084	ISWC0084RadS001	Soil	Potassium-40	21.9	1.76	0.353		pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	233955	Pre-remedial
ISRA HV Waste Characterization	MWH	7/29/2009	Happy Valley	ISWC0085	ISWC0085RadS001	Soil	Potassium-40	23.4	2.35	0.478		pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	233955	Pre-remedial
ISRA HV Waste Characterization	MWH	7/29/2009	Happy Valley	ISWC0086	ISWC0086RadS001	Soil	Potassium-40	22	1.8	0.335		pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	233955	Pre-remedial
ISRA HV Waste Characterization	MWH	7/29/2009	Happy Valley	ISWC0087	ISWC0087RadS001	Soil	Potassium-40	23.4	2.23	0.324		pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	233955	Pre-remedial
ISRA HV Waste Characterization	MWH	7/29/2009	Happy Valley	ISWC0088	ISWC0088RadS001	Soil	Potassium-40	22.8	1.95	0.363		pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	233955	Pre-remedial
ISRA HV Waste Characterization	MWH	7/29/2009	Happy Valley	ISWC0089	ISWC0089RadS001	Soil	Potassium-40	21.7	1.88	0.388		pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	233955	Pre-remedial
ISRA HV Waste Characterization	MWH	7/29/2009	Happy Valley	ISWC0090	ISWC0090RadS001	Soil	Potassium-40	19.1	1.45	0.353		pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	233955	Pre-remedial
ISRA HV Waste Characterization	MWH	7/29/2009	Happy Valley	ISWC0091	ISWC0091RadS001	Soil	Potassium-40	23.1	1.79	0.413		pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	233955	Pre-remedial
ISRA HV Waste Characterization	MWH	7/29/2009	Happy Valley	ISWC0092	ISWC0092RadS001	Soil	Potassium-40	24.1	2.29	0.337		pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	233955	Pre-remedial
ISRA HV Waste Characterization	MWH	7/29/2009	Happy Valley	ISWC0093	ISWC0093RadS001	Soil	Potassium-40	24	1.87	0.338		pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	233955	Pre-remedial
ISRA HV Waste Characterization	MWH	7/30/2009	Happy Valley	ISWC0082	ISWC0082RadS001	Soil	Potassium-40	23.9	1.97	0.336		pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	234376	Pre-remedial
ISRA HV Waste Characterization	MWH	7/30/2009	Happy Valley	ISWC0083	ISWC0083RadS001	Soil	Potassium-40	26	2.46	0.355		pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	234376	Pre-remedial
ISRA HV Waste Characterization	MWH	8/17/2009	Happy Valley	ISWC0094	ISWC0094RadS001	Soil	Potassium-40	21.4	2.19	0.372		pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	235405	Pre-remedial
ISRA HV Waste Characterization	MWH	8/17/2009	Happy Valley	ISWC0095	ISWC0095RadS001	Soil	Potassium-40	20.1	1.62	0.383		pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	235405	Pre-remedial
ISRA HV Waste Characterization	MWH	9/14/2009	Happy Valley	ISWC0112	ISWC0112S001	Soil	Potassium-40	22.5	1.87	0.37		pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	237286	Pre-remedial
ISRA HV Waste Characterization	MWH	10/22/2009	Happy Valley	ISWC0113	ISWC0113S001	Soil	Potassium-40	22.6	1.9	0.463		pCi/g	2 sigma	DOE HASL 300, 4.5.2.3/Ga-01-R	GEL	239640	Waste
ISRA HV Waste Characterization	MWH	07/01/2009	Happy Valley	ISWC0001	ISWC0001S001	Soil	Sodium-22	-0.0494	0.0361	0.0564	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	233955	Pre-remedial
ISRA HV Waste Characterization	MWH	07/01/2009	Happy Valley	ISWC0002	ISWC0002S001	Soil	Sodium-22	-0.00381	0.0242	0.0413	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	233955	Pre-remedial
ISRA HV Waste Characterization	MWH	07/01/2009	Happy Valley	ISWC0003	ISWC0003S001	Soil	Sodium-22	-0.0136	0.0326	0.0531	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	233955	Pre-remedial
ISRA HV Waste Characterization	MWH	07/01/2009	Happy Valley	ISWC0004	ISWC0004S001	Soil	Sodium-22	0.0228	0.0261	0.0472	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	233955	Pre-remedial
ISRA HV Waste Characterization	MWH	07/01/2009	Happy Valley	ISWC0005	ISWC0005S001	Soil	Sodium-22	-0.0186	0.032	0.0505	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	233955	Pre-remedial
ISRA HV Waste Characterization	MWH	07/01/2009	Happy Valley	ISWC0006	ISWC0006S001	Soil	Sodium-22	-0.0535	0.0398	0.058	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	233955	Pre-remedial
ISRA HV Waste Characterization	MWH	07/01/2009	Happy Valley	ISWC0009	ISWC0009S001	Soil	Sodium-22	-0.0108	0.0239	0.0393	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	233955	Pre-remedial
ISRA HV Waste Characterization	MWH	07/01/2009	Happy Valley	ISWC0010	ISWC0010S001	Soil	Sodium-22	0.00835	0.0199	0.0347	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	233955	Pre-remedial
ISRA HV Waste Characterization	MWH	07/01/2009	Happy Valley	ISWC0011	ISWC0011S001	Soil	Sodium-22	0.013	0.0304	0.0538	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	233955	Pre-remedial
ISRA HV Waste Characterization	MWH	07/01/2009	Happy Valley	ISWC0012	ISWC0012S001	Soil	Sodium-22	-0.0272	0.0342	0.0539	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	233955	Pre-remedial
ISRA HV Waste Characterization	MWH	07/01/2009	Happy Valley	ISWC0013	ISWC0013S001	Soil	Sodium-22	-0.0185	0.0269	0.0439	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	233955	Pre-remedial
ISRA HV Waste Characterization	MWH	07/01/2009	Happy Valley	ISWC0014	ISWC0014S001	Soil	Sodium-22	-0.000413	0.0252	0.0433	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	233955	Pre-remedial
ISRA HV Waste Characterization	MWH	07/01/2009	Happy Valley	ISWC0015	ISWC0015S001	Soil	Sodium-22	-0.0155	0.0287	0.0468	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	233955	Pre-remedial
ISRA HV Waste Characterization	MWH	07/01/2009	Happy Valley	ISWC0016	ISWC0016S001	Soil	Sodium-22	-0.0123	0.0304	0.0513	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	233955	Pre-remedial
ISRA HV Waste Characterization	MWH	07/01/2009	Happy Valley	ISWC0019	ISWC0019S001	Soil	Sodium-22	-0.00966	0.0238	0.0402	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	233955	Pre-remedial
ISRA HV Waste Characterization	MWH	07/01/2009	Happy Valley	ISWC0020	ISWC0020S001	Soil	Sodium-22	-0.00351	0.0181	0.0309	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	233955	Pre-remedial
ISRA HV Waste Characterization	MWH	07/01/2009	Happy Valley	ISWC0023	ISWC0023S001	Soil	Sodium-22	-0.00216	0.0188	0.0316	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	233955	Pre-remedial
ISRA HV Waste Characterization	MWH	07/01/2009	Happy Valley	ISWC0024	ISWC0024S001	Soil	Sodium-22	-0.0127	0.0228	0.0332	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	233955	Pre-remedial
ISRA HV Waste Characterization	MWH	07/01/2009	Happy Valley	ISWC0028	ISWC0028S001	Soil	Sodium-22	-0.00556	0.0272	0.0454	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	233955	Pre-remedial
ISRA HV Waste Characterization	MWH	07/01/2009	Happy Valley	ISWC0041	ISWC0041S001	Soil	Sodium-22	-0.0166	0.0179	0.0287	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	233955	Pre-remedial
ISRA HV Waste Characterization	MWH	07/01/2009	Happy Valley	ISWC0042	ISWC0042S001	Soil	Sodium-22	-0.0267	0.0268	0.0413	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	233955	Pre-remedial
ISRA HV Waste Characterization	MWH	07/01/2009	Happy Valley	ISWC0043	ISWC0043S001	Soil	Sodium-22	-0.0241	0.0247	0.0391	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	233955	Pre-remedial
ISRA HV Waste Characterization	MWH	07/01/2009	Happy Valley	ISWC0044	ISWC0044S001	Soil	Sodium-22	0.00749	0.0232	0.0401	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	233955	Pre-remedial
ISRA HV Waste Characterization	MWH	07/01/2009	Happy Valley	ISWC0045	ISWC0045S001	Soil	Sodium-22	-0.00943	0.0259	0.0426	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	233955	Pre-remedial





ISRA Soil Sample Results for Happy Valley

Project Name	Sampling Organization	Sampling Date	Sampling Location (General)	Sampling Location (Specific)	Sample Serial Number	Media Type	Isotope	Value	Error (+/-)	MDA	Non-Detect?	Units	Error Type	Analysis Protocol	Analysis Organization	Document	Status
ISRA HV Waste Characterization	MWH	07/01/2009	Happy Valley	ISWC0023	ISWC0023S001	Soil	Thorium-232	1.51	0.211	0.0899		pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	233955	Pre-remedial
ISRA HV Waste Characterization	MWH	07/01/2009	Happy Valley	ISWC0024	ISWC0024S001	Soil	Thorium-232	1.56	0.217	0.0987		pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	233955	Pre-remedial
ISRA HV Waste Characterization	MWH	07/01/2009	Happy Valley	ISWC0028	ISWC0028S001	Soil	Thorium-232	1.58	0.262	0.131		pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	233955	Pre-remedial
ISRA HV Waste Characterization	MWH	07/01/2009	Happy Valley	ISWC0041	ISWC0041S001	Soil	Thorium-232	1.49	0.237	0.0932		pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	233955	Pre-remedial
ISRA HV Waste Characterization	MWH	07/01/2009	Happy Valley	ISWC0042	ISWC0042S001	Soil	Thorium-232	1.38	0.232	0.141		pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	233955	Pre-remedial
ISRA HV Waste Characterization	MWH	07/01/2009	Happy Valley	ISWC0043	ISWC0043S001	Soil	Thorium-232	1.34	0.233	0.123		pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	233955	Pre-remedial
ISRA HV Waste Characterization	MWH	07/01/2009	Happy Valley	ISWC0044	ISWC0044S001	Soil	Thorium-232	1.39	0.212	0.122		pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	233955	Pre-remedial
ISRA HV Waste Characterization	MWH	07/01/2009	Happy Valley	ISWC0045	ISWC0045S001	Soil	Thorium-232	1.56	0.243	0.123		pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	233955	Pre-remedial
ISRA HV Waste Characterization	MWH	07/01/2009	Happy Valley	ISWC0046	ISWC0046S001	Soil	Thorium-232	1.47	0.231	0.0894		pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	233955	Pre-remedial
ISRA HV Waste Characterization	MWH	07/01/2009	Happy Valley	ISWC0047	ISWC0047S001	Soil	Thorium-232	1.64	0.26	0.12		pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	233955	Pre-remedial
ISRA HV Waste Characterization	MWH	07/01/2009	Happy Valley	ISWC0048	ISWC0048S001	Soil	Thorium-232	1.27	0.257	0.162		pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	233955	Pre-remedial
ISRA HV Waste Characterization	MWH	7/29/2009	Happy Valley	ISWC0077	ISWC0077RadS001	Soil	Thorium-232	1.46	0.229	0.106		pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	234325	Pre-remedial

ISRA Soil Sample Results for Happy Valley

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ISRA HV Waste Characterization	MWH	7/29/2009	Happy Valley	ISWC0088	ISWC0088RadS001	Soil	Tritium	0.155	0.342	0.598	NDA	pCi/g	2 sigma	EPA 906.0 Modified	GEL	234325	Pre-remedial
ISRA HV Waste Characterization	MWH	7/29/2009	Happy Valley	ISWC0089	ISWC0089RadS001	Soil	Tritium	-0.0415	0.528	0.943	NDA	pCi/g	2 sigma	EPA 906.0 Modified	GEL	234325	Pre-remedial
ISRA HV Waste Characterization	MWH	7/29/2009	Happy Valley	ISWC0090	ISWC0090RadS001	Soil	Tritium	-0.0613	0.484	0.898	NDA	pCi/g	2 sigma	EPA 906.0 Modified	GEL	234325	Pre-remedial
ISRA HV Waste Characterization	MWH	7/29/2009	Happy Valley	ISWC0091	ISWC0091RadS001	Soil	Tritium	-0.183	0.513	0.987	NDA	pCi/g	2 sigma	EPA 906.0 Modified	GEL	234325	Pre-remedial
ISRA HV Waste Characterization	MWH	7/29/2009	Happy Valley	ISWC0092	ISWC0092RadS001	Soil	Tritium	0.0279	0.537	0.951	NDA	pCi/g	2 sigma	EPA 906.0 Modified	GEL	234325	Pre-remedial
ISRA HV Waste Characterization	MWH	7/29/2009	Happy Valley	ISWC0093	ISWC0093RadS001	Soil	Tritium	-0.331	0.483	0.963	NDA	pCi/g	2 sigma	EPA 906.0 Modified	GEL	234325	Pre-remedial
ISRA HV Waste Characterization	MWH	7/30/2009	Happy Valley	ISWC0082	ISWC0082RadS001	Soil	Tritium	0.217	0.391	0.677	NDA	pCi/g	2 sigma	EPA 906.0 Modified	GEL	234376	Pre-remedial
ISRA HV Waste Characterization	MWH	7/30/2009	Happy Valley	ISWC0083	ISWC0083RadS001	Soil	Tritium	0.0694	0.379	0.677	NDA	pCi/g	2 sigma	EPA 906.0 Modified	GEL	234376	Pre-remedial
ISRA HV Waste Characterization	MWH	8/17/2009	Happy Valley	ISWC0094	ISWC0094RadS001	Soil	Tritium	-0.0872	0.703	1.25	NDA	pCi/g	2 sigma	EPA 906.0 Modified	GEL	235405	Pre-remedial
ISRA HV Waste Characterization	MWH	8/17/2009	Happy Valley	ISWC0095	ISWC0095RadS001	Soil	Tritium	-0.423	0.678	1.24	NDA	pCi/g	2 sigma	EPA 906.0 Modified	GEL	235405	Pre-remedial
ISRA HV Waste Characterization	MWH	9/14/2009	Happy Valley	ISWC0112	ISWC0112S001	Soil	Tritium	0.187	0.603	1.03	NDA	pCi/g	2 sigma	EPA 906.0 Modified	GEL	237286	Pre-remedial
ISRA HV Waste Characterization	MWH	10/22/2009	Happy Valley	ISWC0113	ISWC0113S001	Soil	Tritium	0.182	0.408	0.702	NDA	pCi/g	2 sigma	EPA 906.0 Modified	GEL	239640	Waste
ISRA HV Waste Characterization	MWH	07/01/2009	Happy Valley	ISWC0001	ISWC0001S001	Soil	Uranium-235	0.131	0.126	0.227	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	233955	Pre-remedial
ISRA HV Waste Characterization	MWH	07/01/2009	Happy Valley	ISWC0002	ISWC0002S001	Soil	Uranium-235	0.0664	0.127	0.226	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	233955	Pre-remedial
ISRA HV Waste Characterization	MWH	07/01/2009	Happy Valley	ISWC0003	ISWC0003S001	Soil	Uranium-235	0.025	0.135	0.24	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	233955	Pre-remedial
ISRA HV Waste Characterization	MWH	07/01/2009	Happy Valley	ISWC0004	ISWC0004S001	Soil	Uranium-235	0.028	0.122	0.208	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	233955	Pre-remedial
ISRA HV Waste Characterization	MWH	07/01/2009	Happy Valley	ISWC0005	ISWC0005S001	Soil	Uranium-235	0.0804	0.153	0.244	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	233955	Pre-remedial
ISRA HV Waste Characterization	MWH	07/01/2009	Happy Valley	ISWC0006	ISWC0006S001	Soil	Uranium-235	0.0383	0.168	0.267	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	233955	Pre-remedial
ISRA HV Waste Characterization	MWH	07/01/2009	Happy Valley	ISWC0009	ISWC0009S001	Soil	Uranium-235	0.0737	0.104	0.179	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	233955	Pre-remedial
ISRA HV Waste Characterization	MWH	07/01/2009	Happy Valley	ISWC0010	ISWC0010S001	Soil	Uranium-235	0.121	0.132	0.171	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	233955	Pre-remedial
ISRA HV Waste Characterization	MWH	07/01/2009	Happy Valley	ISWC0011	ISWC0011S001	Soil	Uranium-235	0.0514	0.129	0.228	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	233955	Pre-remedial

ISRA Soil Sample Results for Happy Valley

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ISRA HV Waste Characterization	MWH	07/01/2009	Happy Valley	ISWC0011	ISWC0011S001	Soil	Uranium-238	1.32	1.41	1.87	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	233955	Pre-remedial
ISRA HV Waste Characterization	MWH	07/01/2009	Happy Valley	ISWC0012	ISWC0012S001	Soil	Uranium-238	1.7	0.686	0.713		pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	233955	Pre-remedial
ISRA HV Waste Characterization	MWH	07/01/2009	Happy Valley	ISWC0013	ISWC0013S001	Soil	Uranium-238	0.889	0.947	1.66	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	233955	Pre-remedial
ISRA HV Waste Characterization	MWH	07/01/2009	Happy Valley	ISWC0014	ISWC0014S001	Soil	Uranium-238	1.47	1.47	1.74	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	233955	Pre-remedial
ISRA HV Waste Characterization	MWH	07/01/2009	Happy Valley	ISWC0015	ISWC0015S001	Soil	Uranium-238	1.14	1.15	1.31	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	233955	Pre-remedial
ISRA HV Waste Characterization	MWH	07/01/2009	Happy Valley	ISWC0016	ISWC0016S001	Soil	Uranium-238	1.42	0.661	0.615		pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	233955	Pre-remedial
ISRA HV Waste Characterization	MWH	07/01/2009	Happy Valley	ISWC0019	ISWC0019S001	Soil	Uranium-238	1.06	0.533	0.476		pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	233955	Pre-remedial
ISRA HV Waste Characterization	MWH	07/01/2009	Happy Valley	ISWC0020	ISWC0020S001	Soil	Uranium-238	1.28	1.05	1.28	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	233955	Pre-remedial
ISRA HV Waste Characterization	MWH	07/01/2009	Happy Valley	ISWC0023	ISWC0023S001	Soil	Uranium-238	0.779	0.701	0.78	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	233955	Pre-remedial
ISRA HV Waste Characterization	MWH	07/01/2009	Happy Valley	ISWC0024	ISWC0024S001	Soil	Uranium-238	0.81	1.67	1.65	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	233955	Pre-remedial
ISRA HV Waste Characterization	MWH	07/01/2009	Happy Valley	ISWC0028	ISWC0028S001	Soil	Uranium-238	1.67	1.05	1.12		pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	233955	Pre-remedial
ISRA HV Waste Characterization	MWH	07/01/2009	Happy Valley	ISWC0041	ISWC0041S001	Soil	Uranium-238	0.829	0.885	1.35	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	233955	Pre-remedial
ISRA HV Waste Characterization	MWH	07/01/2009	Happy Valley	ISWC0042	ISWC0042S001	Soil	Uranium-238	0.68	0.927	1.72	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	233955	Pre-remedial
ISRA HV Waste Characterization	MWH	07/01/2009	Happy Valley	ISWC0043	ISWC0043S001	Soil	Uranium-238	1.68	0.899	0.894		pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	233955	Pre-remedial
ISRA HV Waste Characterization	MWH	07/01/2009	Happy Valley	ISWC0044	ISWC0044S001	Soil	Uranium-238	1.85	0.92	1.1		pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	233955	Pre-remedial
ISRA HV Waste Characterization	MWH	07/01/2009	Happy Valley	ISWC0045	ISWC0045S001	Soil	Uranium-238	2.47	1.24	1.41		pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	233955	Pre-remedial
ISRA HV Waste Characterization	MWH	07/01/2009	Happy Valley	ISWC0046	ISWC0046S001	Soil	Uranium-238	1.21	0.83	1.1		pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	233955	Pre-remedial
ISRA HV Waste Characterization	MWH	07/01/2009	Happy Valley	ISWC0047	ISWC0047S001	Soil	Uranium-238	0.823	0.929	1.06	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	233955	Pre-remedial
ISRA HV Waste Characterization	MWH	07/01/2009	Happy Valley	ISWC0048	ISWC0048S001	Soil	Uranium-238	0.811	1	1.11	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	233955	Pre-remedial
ISRA HV Waste Characterization	MWH	7/29/2009	Happy Valley	ISWC0077	ISWC0077RadS001	Soil	Uranium-238	1.01	1.08	1.44	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	234325	Pre-remedial
ISRA HV Waste Characterization	MWH	7/29/2009	Happy Valley	ISWC0078	ISWC0078RadS001	Soil	Uranium-238	0.266	1.04	1.36	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	234325	Pre-remedial
ISRA HV Waste Characterization	MWH	7/29/2009	Happy Valley	ISWC0079	ISWC0079RadS001	Soil	Uranium-238	1.53	0.953	1.07		pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	234325	Pre-remedial
ISRA HV Waste Characterization	MWH	7/29/2009	Happy Valley	ISWC0080	ISWC0080RadS001	Soil	Uranium-238	1.51	0.569	0.628		pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	234325	Pre-remedial
ISRA HV Waste Characterization	MWH	7/29/2009	Happy Valley	ISWC0081	ISWC0081RadS001	Soil	Uranium-238	1.6	1.53	1.57		pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	234325	Pre-remedial
ISRA HV Waste Characterization	MWH	7/29/2009	Happy Valley	ISWC0084	ISWC0084RadS001	Soil	Uranium-238	1.71	0.719	0.722		pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	234325	Pre-remedial
ISRA HV Waste Characterization	MWH	7/29/2009	Happy Valley	ISWC0085	ISWC0085RadS001	Soil	Uranium-238	1.68	0.616	0.635		pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	234325	Pre-remedial
ISRA HV Waste Characterization	MWH	7/29/2009	Happy Valley	ISWC0086	ISWC0086RadS001	Soil	Uranium-238	1.08	0.849	1.23	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	234325	Pre-remedial
ISRA HV Waste Characterization	MWH	7/29/2009	Happy Valley	ISWC0087	ISWC0087RadS001	Soil	Uranium-238	1.01	0.98	1.59	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	234325	Pre-remedial
ISRA HV Waste Characterization	MWH	7/29/2009	Happy Valley	ISWC0088	ISWC0088RadS001	Soil	Uranium-238	1.25	1.22	1.55	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	234325	Pre-remedial
ISRA HV Waste Characterization	MWH	7/29/2009	Happy Valley	ISWC0089	ISWC0089RadS001	Soil	Uranium-238	0.486	1.22	1.33	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	234325	Pre-remedial
ISRA HV Waste Characterization	MWH	7/29/2009	Happy Valley	ISWC0090	ISWC0090RadS001	Soil	Uranium-238	1.66	0.631	0.607		pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	234325	Pre-remedial
ISRA HV Waste Characterization	MWH	7/29/2009	Happy Valley	ISWC0091	ISWC0091RadS001	Soil	Uranium-238	1.1	0.648	0.689		pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	234325	Pre-remedial
ISRA HV Waste Characterization	MWH	7/29/2009	Happy Valley	ISWC0092	ISWC0092RadS001	Soil	Uranium-238	0.626	1.31	1.8	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	234325	Pre-remedial
ISRA HV Waste Characterization	MWH	7/29/2009	Happy Valley	ISWC0093	ISWC0093RadS001	Soil	Uranium-238	1.82	0.954	1.3		pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	234325	Pre-remedial
ISRA HV Waste Characterization	MWH	7/30/2009	Happy Valley	ISWC0082	ISWC0082RadS001	Soil	Uranium-238	0.392	1.47	1.89	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	234376	Pre-remedial
ISRA HV Waste Characterization	MWH	7/30/2009	Happy Valley	ISWC0083	ISWC0083RadS001	Soil	Uranium-238	2.46	1.23	0.989		pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	234376	Pre-remedial
ISRA HV Waste Characterization	MWH	8/17/2009	Happy Valley	ISWC0094	ISWC0094RadS001	Soil	Uranium-238	1.43	0.658	0.713		pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	235405	Pre-remedial
ISRA HV Waste Characterization	MWH	8/17/2009	Happy Valley	ISWC0095	ISWC0095RadS001	Soil	Uranium-238	1.75	0.743	0.594		pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	235405	Pre-remedial
ISRA HV Waste Characterization	MWH	9/14/2009	Happy Valley	ISWC0112	ISWC0112S001	Soil	Uranium-238	1.42	1.28	1.69	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	237286	Pre-remedial
ISRA HV Waste Characterization	MWH	10/22/2009	Happy Valley	ISWC0113	ISWC0113S001	Soil	Uranium-238	0	1.1	1.09	NDA	pCi/g	2 sigma	DOE HASL 300, 4.5.2.3/Ga-01-R	GEL	239640	Waste