

The Boeing Company  
Santa Susana Field Laboratory  
5800 Woolsey Canyon Road  
Canoga Park, CA 91304-1148

Via FedEx

September 11, 2009  
In reply, please refer to SHEA-109081

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CALIFORNIA DEPARTMENT OF PUBLIC HEALTH  
QUALITY SUPPORT UNIT  
REGULATORY DIVISION  
LOS ANGELES REGION

Mr. Gary Butner  
Chief, Radiologic Health Branch  
California Department of Public Health  
1500 Capitol Ave.  
MS 7610  
Sacramento, CA 95814-5006

Subject: Disposal of ISRA Outfall 009 Soil to a Class 1 Hazardous Waste Landfill

Dear Mr. Butner:

The Boeing Company, on behalf of NASA, is currently preparing to excavate soil at Outfall 009 as part of the Interim Source Removal Action (ISRA) program. This program is overseen by the Regional Water Quality Control Board (RWQCB). This soil is being removed in order to mitigate NPDES storm water runoff exceedances of dioxins and heavy metals.

In order to characterize the soil for off-site disposal, chemical and radiological sampling has been performed. Radiological sampling and analysis was consistent with prior CDPH-approved protocols for the Northern Drainage cleanup. Of the thirty six samples taken, eight samples slightly exceeded the maximum of our local cesium-137 background. During subsequent re-sampling of those eight locations, only five were confirmed to exceed the maximum background.

All other radionuclides analyzed are either non-detect or consistent with background concentrations. These include strontium-90, tritium, americium-241, cesium-134, cobalt-60, europium-152, europium-154, manganese-54, potassium-40, sodium-22, thorium-228, thorium-232, uranium-235 and uranium-238.

The Boeing Company and NASA intend to dispose of this soil to a Class 1 hazardous waste landfill. To facilitate this disposal, Boeing has prepared the enclosed waste certification package that includes,

- radiological results for gamma emitting radionuclides, strontium-90 and tritium

- statistical comparisons of cesium-137 and strontium-90 to background
- conservative dose estimates

The waste certification also provides the regulatory basis for the disposition of this soil to either a Class 1 or 2 landfill, by demonstrating compliance with landfill permits and with California Health & Safety Code Section 114715.



The Boeing Company and NASA respectfully requests that the CDPH review the data, and confirm in writing, that the soil meets the permit requirements of Class 1 and 2 landfills in the State of California, and that the disposal of the soil would not pose a threat to public health. Subsequently, Boeing would provide the final waste certification plus the CDPH confirmation letter to the disposal site prior to shipping the soil.

Boeing and NASA are voluntarily making this request at the suggestion of James Thomas of your office, Jim Pappas of the DTSC and Cassandra Owens of the RWQCB. This is a one time request for this specific material and will not set a precedent. Indeed, Boeing is cognizant of CDPH's position that shipment of material to Class 1 or 2 landfills does not normally require CDPH approval.

Neither Boeing nor NASA will initiate excavation of this material until CDPH, DTSC and the RWQCB approve this path forward.

If you have any questions on the enclosed material, please contact Phil Rutherford at 818-466-8840.

Sincerely,

A handwritten signature in black ink, appearing to read "Phil Rutherford".  
Phil Rutherford  
Manager, Health, Safety & Radiation Services  
Environment, Health & Safety

Enclosure: "Outfall 009 Interim Source Removal Action (ISRA) - Soil Sampling for Radionuclides - Results and Statistical Analysis - Waste Certification." Rev. 4, September 11, 2009

cc with enclosure

✓ Cassandra Owens	RWQCB
Jim Pappas	DTSC
James Thomas	CDPH
Allen Elliott	NASA
Steven Slaten	NASA

**Outfall 009 Interim Source Removal Action (ISRA).  
Soil Sampling for Radionuclides.  
Results and Statistical Analysis.  
Waste Certification.**

This data package provides the laboratory results and statistical analysis of pre-excavation samples taken from the Outfall 009 Interim Source Removal Action (ISRA) area (See Appendix 1). This analysis and data interpretation complies with procedures approved by the California Department of Public Health (CDPH) Radiologic Health Branch (RHB)<sup>1</sup>.

Thirty six (36) samples taken for waste disposal characterization were analyzed for strontium-90, tritium and gamma emitting radionuclides by gamma spectroscopy, using an off-site laboratory. Subsequently, eight (8) additional collocated samples were taken from prior sample locations and analyzed for only gamma emitting radionuclides.

Minimum detectable activity (MDA) for cesium-137 and strontium-90 averaged ~0.04 pCi/g and ~0.038 pCi/g respectively. Minimum detectable activity for tritium averaged ~0.78 pCi/g. The gamma spectroscopy library also included the following contaminants-of-concern: Na-22, K-40, Mn-54, Co-60, Cs-134, Cs-137, Eu-152, Eu-154, Th-228, Th-232, U-235, U-238 and Am-241. Laboratory data packages are available on request.

Statistical evaluation of sample analytical results to determine whether or not the sampled waste contains Cs-137 or Sr-90 activity elevated above local background was conducted using the Wilcoxon Rank Sum Test using protocols described in NUREG-1505<sup>2</sup> and DTSC guidance<sup>3</sup> (See Appendix 2). Appendix 3 shows the complete analytical results for all radionuclides. Complete laboratory data packages are available on request.

Local background data for cesium-137 and strontium-90 was taken from Table 20 of the 1995 McLaren/Hart report<sup>4</sup>. Background for tritium in soil is not well established, and is not reported in the 1995 McLaren/Hart report, therefore tritium background in soil is conservatively assumed to be zero. Tritium data is therefore compared to the MDA of the analysis and the EPA preliminary remediation goal (PRG)<sup>5</sup> for residential  $10^{-6}$  risk.

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<sup>1</sup> Boeing, "Northern Drainage Waste Sampling for Radionuclides." Revision 9, November 5, 2007. (Attachment 3 to Northern Drainage Work Plan) and "ISRA Waste Sampling for Radionuclides", Attachment A to the ISRA Soil Management Plan.

<sup>2</sup> NUREG-1505, Nuclear Regulatory Commission, "A Non-parametric Statistical Methodology for the Design and Analysis of Final Status Decommissioning Surveys." January 1998. [http://www.philrutherford.com/Radiation\\_Cleanup\\_Standards/NUREG-1505.pdf](http://www.philrutherford.com/Radiation_Cleanup_Standards/NUREG-1505.pdf)

<sup>3</sup> DTSC, "Selecting Inorganic Constituents as Chemicals of Concern at Risk Assessments at Hazardous Waste Sites and Permitted Facilities." February 1997.

<sup>4</sup> McLaren/Hart, "Additional Soil and Water Sampling at the Brandeis-Bardin Institute and Santa Monica Mountains Conservancy." Jan 19, 1995. <http://www.etec.energy.gov/Health-and-Safety/Documents/BrandeisBardin/AddSoilandWaterSamp.pdf>

<sup>5</sup> EPA preliminary remediation goals for radionuclides - <http://epa-prqs.ornl.gov/radionuclides/>.

## Conclusions

**Cesium-137** - Based on the results of the statistical analysis of Appendix 2, the soil to be excavated from the Outfall 009 ISRA area exceeds the local background for Cs-137. Eight (8) of the original thirty six (36) original samples exceed the maximum local background of 0.21 pCi/g. Only five (5) of the eight (8) subsequent collocated samples exceeded background. Thus, three (3) of the prior elevated cesium-137 concentrations were not confirmed by the subsequent collocated sampling.

The mean Cs-137 concentration of all forty four (44) samples is 0.192 pCi/g or approximately twice the mean background concentration of 0.087 pCi/g. Therefore the potential incremental dose from Cs-137 above background is 0.074 mrem/y<sup>6</sup>. The highest Cs-137 concentration is 0.659 pCi/g which is approximately three times the highest background concentration of 0.21 pCi/g. The highest non-background subtracted Cs-137 concentration is therefore equivalent to an effective dose of 0.46 mrem/y<sup>6</sup>.

**Strontrium-90** - Based on the results of the statistical analysis of Appendix 2, soil to be excavated from the Outfall 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 0.07 pCi/g which is less than the maximum background concentration. The highest non-background subtracted Sr-90 result is less than an effective dose of 0.022 mrem/y<sup>6</sup>.

**Tritium** - All tritium results are non-detect, the average tritium result is 0.015 pCi/g and the highest non-detect tritium result is 1.1 pCi/g. The highest non-detect, non-background subtracted tritium result is less than an effective dose of 0.016 mrem/y<sup>6</sup>.

This waste is certified to be "radiologically" acceptable for shipment to, and disposal at, any Class 1 or 2 disposal facility.

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

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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 5 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.

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 Outfall 009 ISRA area is 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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<http://www.leginfo.ca.gov/cgi-bin/displaycode?section=hsc&group=114001-115000&file=114705-114780>

<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

### Figures

**Outfall 009 ELV-1C  
Waste Characterization  
Sample Location**

**Base Map Legend**

Administrative Area Boundary

RFI Site Boundary

Excavation Area

Surface Water Drainage

Surface Water Divide

Outfall Water Divide

NIPERIS Outfall

Elevation Contour

● Waste Characterization Sample Location

● Initial CS-137 result met or exceeded the background level and resampling result confirmed the exceedance.

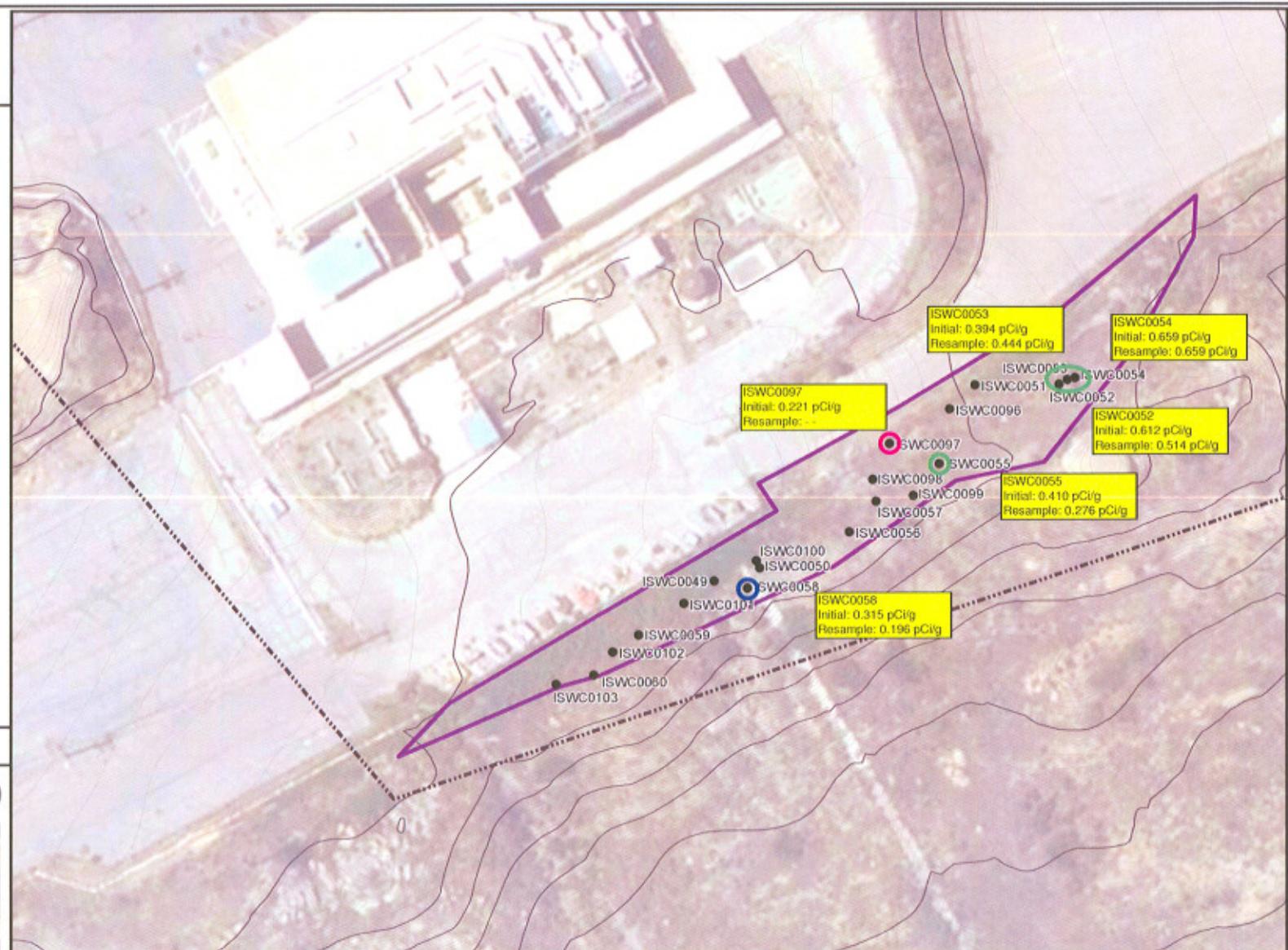
○ Initial CS-137 result met or exceeded the background level and resampling result did not confirm the exceedance.

○ Initial CS-137 result met or exceeded the background level, no resampling performed.

CS-137 Background < 0.21 pCi/g

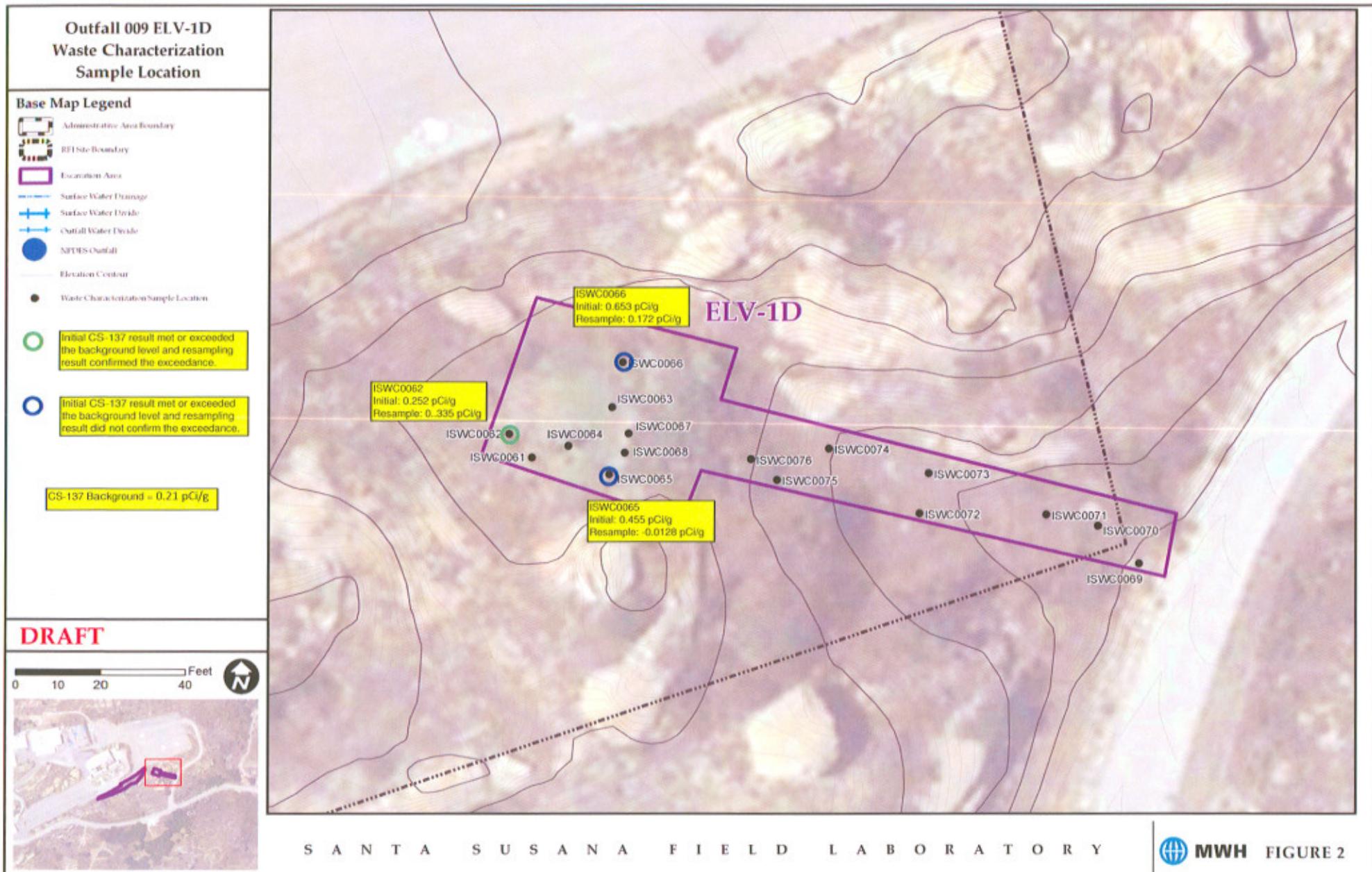
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0 20 40 80



S A N T A   S U S A N A   F I E L D   L A B O R A T O R Y

MWH FIGURE 1



## Appendix 2

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

**Wilcoxon Rank Sum Test -- (Cesium-137)****General Information:**

The WRS tests whether or not measurements of samples from a survey area (S) tend to be consistently larger than those from a background reference area by more than the DCGL.

The null hypothesis,  $H_0$ , is: Survey sample concentrations exceed those in the background

The alternative hypothesis,  $H_a$ , is: Survey sample concentrations do not exceed those in the background

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

- 1) Enter analysis results in pCi/gram
- 2) Enter number of samples for background and survey data sets, m and n.

- 3) The WRS test is calculated using the method prescribed in  
NUREG-1505, Nuclear Regulatory Commission, "A Non-parametric Statistical Methodology for the Design and Analysis of Final Status Decommissioning Surveys." January 1998.

DCGL (pCi/g)	0.00
Type I Error Rate, Alpha:	0.05
Type II Error Rate, Beta:	0.05
Number of Background Samples, m:	51
Number of Survey Samples, n:	44
Z-value for Alpha	1.645
Critical Value	2668
Sum of Reference Ranks	2217

If the sum of the reference ranks is larger than the critical value, there is enough evidence to reject the null hypothesis and accept the alternative hypothesis. Otherwise the null hypothesis is accepted.

**Test Result:**

**Survey sample concentrations exceed those in the background by more than the DCGL**

	Bkgd Ref (R)	Survey (S)
Mean	0.087	0.192
Max	0.213	0.659
Min	0.015	-0.021
$\sigma$	0.062	0.202
$m-1.96\sigma$	-0.035	-0.203
$m+1.96\sigma$	0.210	0.588

No.	Soil ID	Cs-137	Adjusted Cs-137	Area	Ranks	Reference Ranks
1		0.092	0.092	R	44	44
2		0.020	0.020	R	17	17
3		0.020	0.020	R	17	17
4		0.100	0.100	R	49	49
5		0.020	0.020	R	17	17
6		0.158	0.158	R	69.5	69.5
7		0.175	0.175	R	73	73
8		0.209	0.209	R	80	80
9		0.180	0.180	R	74	74
10		0.030	0.030	R	29	29
11		0.213	0.213	R	81	81
12		0.025	0.025	R	24	24
13		0.020	0.020	R	17	17
14		0.020	0.020	R	17	17
15		0.074	0.074	R	39	39
16		0.147	0.147	R	64	64
17		0.100	0.100	R	49	49
18		0.067	0.067	R	37.5	37.5
19		0.099	0.099	R	47	47
20		0.101	0.101	R	51.5	51.5
21		0.148	0.148	R	65.5	65.5

No.	Soil ID	Cs-137	Adjusted Cs-137	Area	Ranks	Reference Ranks
22		0.153	0.153	R	68	68
23		0.025	0.025	R	24	24
24		0.188	0.188	R	75	75
25		0.198	0.198	R	79	79
26		0.030	0.030	R	29	29
27		0.079	0.079	R	40	40
28		0.158	0.158	R	69.5	69.5
29		0.109	0.109	R	53	53
30		0.059	0.059	R	35	35
31		0.067	0.067	R	37.5	37.5
32		0.113	0.113	R	54	54
33		0.015	0.015	R	11	11
34		0.031	0.031	R	31	31
35		0.042	0.042	R	34	34
36		0.097	0.097	R	45.5	45.5
37		0.015	0.015	R	11	11
38		0.020	0.020	R	17	17
39		0.085	0.085	R	42	42
40		0.080	0.080	R	41	41
41		0.015	0.015	R	11	11
42		0.020	0.020	R	17	17
43		0.035	0.035	R	32.5	32.5
44		0.035	0.035	R	32.5	32.5
45		0.025	0.025	R	24	24
46		0.150	0.150	R	67	67
47		0.140	0.140	R	62	62
48		0.190	0.190	R	76	76
49		0.097	0.097	R	45.5	45.5
50		0.030	0.030	R	29	29
51		0.140	0.140	R	62	62
52	ISWC0049RadS001	0.140	0.140	S	62	0
53	ISWC0050RadS001	0.021	0.021	S	21	0
54	ISWC0051RadS001	-0.021	-0.021	S	1	0
55	ISWC0052RadS001	0.612	0.612	S	92	0
56	ISWC0053RadS001	0.394	0.394	S	87	0
57	ISWC0054RadS001	0.659	0.659	S	94.5	0
58	ISWC0055RadS001	0.410	0.410	S	88	0
59	ISWC0056RadS001	0.010	0.010	S	8	0
60	ISWC0057RadS001	0.020	0.020	S	13	0
61	ISWC0058RadS001	0.315	0.315	S	85	0
62	ISWC0059RadS001	0.061	0.061	S	36	0
63	ISWC0060RadS001	0.090	0.090	S	43	0
64	ISWC0061RadS001	0.172	0.172	S	71.5	0
65	ISWC0062RadS001	0.252	0.252	S	83	0
66	ISWC0063RadS001	-0.004	-0.004	S	4	0
67	ISWC0064RadS001	0.101	0.101	S	51.5	0
68	ISWC0065RadS001	0.455	0.455	S	90	0
69	ISWC0066RadS001	0.653	0.653	S	93	0
70	ISWC0067RadS001	0.124	0.124	S	55	0
71	ISWC0068RadS001	0.026	0.026	S	26	0
72	ISWC0069RadS001	0.028	0.028	S	27	0
73	ISWC0070RadS001	0.009	0.009	S	7	0
74	ISWC0071RadS001	0.127	0.127	S	56.5	0
75	ISWC0072RadS001	0.009	0.009	S	6	0
76	ISWC0073RadS001	0.148	0.148	S	65.5	0
77	ISWC0074RadS001	-0.006	-0.006	S	3	0
78	ISWC0075RadS001	0.127	0.127	S	56.5	0
79	ISWC0076RadS001	0.137	0.137	S	60	0
80	ISWC0096RadS001	0.135	0.135	S	59	0
81	ISWC0097RadS001	0.221	0.221	S	82	0
82	ISWC0098RadS001	0.024	0.024	S	22	0
83	ISWC0099RadS001	-0.003	-0.003	S	5	0
84	ISWC0100RadS001	0.011	0.011	S	9	0

No.	Soil ID	Cs-137	Adjusted Cs-137	Area	Ranks	Reference Ranks
85	ISWC0101RadS001	0.100	0.100	S	49	0
86	ISWC0102RadS001	0.196	0.196	S	77.5	0
87	ISWC0103RadS001	0.128	0.128	S	58	0
88	ISWC0052ARadS001	0.514	0.514	S	91	0
89	ISWC0053ARadS001	0.444	0.444	S	89	0
90	ISWC0054ARadS001	0.659	0.659	S	94.5	0
91	ISWC0055ARadS001	0.276	0.276	S	84	0
92	ISWC0058ARadS001	0.196	0.196	S	77.5	0
93	ISWC0062ARadS001	0.335	0.335	S	86	0
94	ISWC0065ARadS001	-0.013	-0.013	S	2	0
95	ISWC0066ARadS001	0.172	0.172	S	71.5	0
		Sum	4560	2217		

**Wilcoxon Rank Sum Test -- (Strontium-90)****General Information:**

The WRS tests whether or not measurements of samples from a survey area (S) tend to be consistently larger than those from a background reference area by more than the DCGL..

The null hypothesis,  $H_0$ , is: Survey sample concentrations exceed those in the background

The alternative hypothesis,  $H_a$ , is: Survey sample concentrations do not exceed those in the background

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

- 1) Enter analysis results in pCi/gram
- 2) Enter number of samples for background and survey data sets, m and n.

- 3) The WRS test is calculated using the method prescribed in  
NUREG-1505, Nuclear Regulatory Commission, "A Non-parametric Statistical Methodology for the Design and Analysis of Final Status Decommissioning Surveys." January 1998.

DCGL (pCi/g)	0.00
Type I Error Rate, Alpha:	0.05
Type II Error Rate, Beta:	0.05
Number of Background Samples, m:	51
Number of Survey Samples, n:	36
Z-value for Alpha	1.645
Critical Value	2435
Sum of Reference Ranks	2907

If the sum of the reference ranks is larger than the critical value, there is enough evidence to reject the null hypothesis and accept the alternative hypothesis. Otherwise the null hypothesis is accepted.

**Test Result:**

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

	Bkgd Ref (R)	Survey (S)
Mean	0.051	0.019
Max	0.130	0.070
Min	0.005	-0.021
$\sigma$	0.030	0.017
$m - 1.96\sigma$	-0.008	-0.014
$m + 1.96\sigma$	0.109	0.052

No.	Soil ID	Sr-90	Adjusted Sr-90	Area	Ranks	Reference Ranks
1		0.030	0.030	R	41	41
2		0.010	0.010	R	11.5	11.5
3		0.045	0.045	R	61.5	61.5
4		0.045	0.045	R	61.5	61.5
5		0.050	0.050	R	71	71
6		0.040	0.040	R	52	52
7		0.035	0.035	R	43.5	43.5
8		0.050	0.050	R	71	71
9		0.050	0.050	R	71	71
10		0.130	0.130	R	86.5	86.5
11		0.120	0.120	R	85	85
12		0.040	0.040	R	52	52
13		0.045	0.045	R	61.5	61.5
14		0.130	0.130	R	86.5	86.5
15		0.050	0.050	R	71	71
16		0.088	0.088	R	80	80
17		0.080	0.080	R	77	77
18		0.100	0.100	R	84	84
19		0.069	0.069	R	75	75
20		0.097	0.097	R	82	82
21		0.084	0.084	R	79	79

No.	Soil ID	Sr-90	Adjusted Sr-90	Area	Ranks	Reference Ranks
22		0.098	0.098	R	83	83
23		0.045	0.045	R	61.5	61.5
24		0.045	0.045	R	61.5	61.5
25		0.020	0.020	R	25	25
26		0.045	0.045	R	61.5	61.5
27		0.089	0.089	R	81	81
28		0.050	0.050	R	71	71
29		0.045	0.045	R	61.5	61.5
30		0.050	0.050	R	71	71
31		0.045	0.045	R	61.5	61.5
32		0.040	0.040	R	52	52
33		0.045	0.045	R	61.5	61.5
34		0.045	0.045	R	61.5	61.5
35		0.045	0.045	R	61.5	61.5
36		0.025	0.025	R	34.5	34.5
37		0.082	0.082	R	78	78
38		0.045	0.045	R	61.5	61.5
39		0.040	0.040	R	52	52
40		0.035	0.035	R	43.5	43.5
41		0.025	0.025	R	34.5	34.5
42		0.005	0.005	R	8	8
43		0.020	0.020	R	25	25
44		0.010	0.010	R	11.5	11.5
45		0.020	0.020	R	25	25
46		0.020	0.020	R	25	25
47		0.050	0.050	R	71	71
48		0.030	0.030	R	41	41
49		0.030	0.030	R	41	41
50		0.020	0.020	R	25	25
51		0.040	0.040	R	52	52
52	ISWC0049RadS001	0.010	0.010	S	10	0
53	ISWC0050RadS001	0.028	0.028	S	39	0
54	ISWC0051RadS001	-0.004	-0.004	S	3	0
55	ISWC0052RadS001	0.024	0.024	S	32	0
56	ISWC0053RadS001	0.035	0.035	S	45	0
57	ISWC0054RadS001	0.041	0.041	S	55	0
58	ISWC0055RadS001	0.035	0.035	S	46	0
59	ISWC0056RadS001	0.037	0.037	S	48	0
60	ISWC0057RadS001	0.027	0.027	S	36.5	0
61	ISWC0058RadS001	0.014	0.014	S	15	0
62	ISWC0059RadS001	0.027	0.027	S	38	0
63	ISWC0060RadS001	0.017	0.017	S	21	0
64	ISWC0061RadS001	0.016	0.016	S	19	0
65	ISWC0062RadS001	0.023	0.023	S	30	0
66	ISWC0063RadS001	0.014	0.014	S	16	0
67	ISWC0064RadS001	0.003	0.003	S	6	0
68	ISWC0065RadS001	0.036	0.036	S	47	0
69	ISWC0066RadS001	0.023	0.023	S	31	0
70	ISWC0067RadS001	0.024	0.024	S	33	0
71	ISWC0068RadS001	0.017	0.017	S	20	0
72	ISWC0069RadS001	0.014	0.014	S	14	0
73	ISWC0070RadS001	0.004	0.004	S	7	0
74	ISWC0071RadS001	0.021	0.021	S	28	0
75	ISWC0072RadS001	0.015	0.015	S	18	0
76	ISWC0073RadS001	0.015	0.015	S	17	0
77	ISWC0074RadS001	-0.021	-0.021	S	1	0
78	ISWC0075RadS001	0.070	0.070	S	76	0
79	ISWC0076RadS001	0.002	0.002	S	5	0
80	ISWC0096RadS001	0.019	0.019	S	22	0
81	ISWC0097RadS001	0.012	0.012	S	13	0
82	ISWC0098RadS001	-0.015	-0.015	S	2	0
83	ISWC0099RadS001	0.027	0.027	S	36.5	0
84	ISWC0100RadS001	0.000	0.000	S	4	0

No.	Soil ID	Sr-90	Adjusted Sr-90	Area	Ranks	Reference Ranks
85	ISWC0101RadS001	0.038	0.038	S	49	0
86	ISWC0102RadS001	0.022	0.022	S	29	0
87	ISWC0103RadS001	0.007	0.007	S	9	0
					Sum	3828
						2907

### Soil Data from Outfall 009 ISRA

No.	Sample ID	Stockpile ID	Sampling Date	Laboratory Batch	Cesium-137 (pCi/g)				Strontium-90 (pCi/g)				Tritium (pCi/g)			
					Activity	+/- 2σ Error	MDA	Non-detect?	Activity	+/- 2σ Error	MDA	Non-detect?	Activity	+/- 2σ Error	MDA	Non-detect?
1	ISWC0049RadS001	N/A	7/28/2009	234235	0.14	0.0427	0.0452	NDA	0.00961	0.0232	0.0428	NDA	-0.0861	0.362	0.672	NDA
2	ISWC0050RadS001	N/A	7/28/2009	234235	0.0207	0.0297	0.05	NDA	0.0275	0.0274	0.0443	NDA	-0.126	0.383	0.715	NDA
3	ISWC0051RadS001	N/A	7/28/2009	234235	-0.0211	0.0283	0.0469	NDA	-0.00422	0.0175	0.0378	NDA	-0.154	0.354	0.669	NDA
4	ISWC0052RadS001	N/A	7/28/2009	234235	0.612	0.0752	0.0358		0.0237	0.0216	0.0341	NDA	0.0539	0.397	0.712	NDA
5	ISWC0053RadS001	N/A	7/28/2009	234235	0.394	0.0711	0.0534		0.0351	0.0228	0.0365	NDA	0.126	0.374	0.663	NDA
6	ISWC0054RadS001	N/A	7/28/2009	234235	0.659	0.0639	0.0449		0.0413	0.03	0.0474	NDA	0.357	0.404	0.679	NDA
7	ISWC0055RadS001	N/A	7/28/2009	234235	0.41	0.0534	0.0409		0.0354	0.0223	0.0357	NDA	0.124	0.367	0.65	NDA
8	ISWC0056RadS001	N/A	7/28/2009	234235	0.0101	0.0206	0.0362	NDA	0.0369	0.0308	0.0499	NDA	-0.269	0.367	0.712	NDA
9	ISWC0057RadS001	N/A	7/28/2009	234235	0.0195	0.023	0.0288	NDA	0.0268	0.0194	0.0319	NDA	-0.208	0.353	0.677	NDA
10	ISWC0058RadS001	N/A	7/28/2009	234235	0.315	0.0499	0.0393		0.0142	0.0259	0.0447	NDA	0.0371	0.408	0.735	NDA
11	ISWC0059RadS001	N/A	7/28/2009	234235	0.0609	0.0252	0.0358		0.027	0.019	0.0311	NDA	0.0186	0.401	0.726	NDA
12	ISWC0060RadS001	N/A	7/28/2009	234235	0.09	0.0436	0.0497		0.017	0.0262	0.0456	NDA	-0.0543	0.39	0.717	NDA
13	ISWC0061RadS001	N/A	7/28/2009	234235	0.172	0.037	0.034		0.0162	0.0203	0.0344	NDA	-0.127	0.384	0.718	NDA
14	ISWC0062RadS001	N/A	7/28/2009	234235	0.252	0.0436	0.038		0.0228	0.0258	0.0431	NDA	1.11	0.884	1.46	NDA
15	ISWC0063RadS001	N/A	7/28/2009	234235	-0.00425	0.018	0.0317	NDA	0.0144	0.015	0.0248	NDA	-0.128	0.387	0.723	NDA
16	ISWC0064RadS001	N/A	7/28/2009	234235	0.101	0.0349	0.0416		0.00269	0.015	0.029	NDA	0.129	0.379	0.669	NDA
17	ISWC0065RadS001	N/A	7/28/2009	234235	0.455	0.0861	0.0551		0.0363	0.0189	0.0277		0.0204	0.82	1.48	NDA
18	ISWC0066RadS001	N/A	7/28/2009	234235	0.653	0.0692	0.0375		0.0229	0.0146	0.0219		-0.156	0.364	0.687	NDA
19	ISWC0067RadS001	N/A	7/28/2009	234235	0.124	0.0355	0.0347		0.0243	0.0291	0.0491	NDA	-0.121	0.359	0.673	NDA
20	ISWC0068RadS001	N/A	7/28/2009	234235	0.026	0.0272	0.0484	NDA	0.0166	0.0194	0.0326	NDA	-0.0892	0.381	0.707	NDA
21	ISWC0069RadS001	N/A	7/28/2009	234235	0.0282	0.0129	0.0194		0.0141	0.0208	0.0353	NDA	-0.139	0.361	0.679	NDA
22	ISWC0070RadS001	N/A	7/28/2009	234235	0.00942	0.0211	0.0368	NDA	0.00411	0.0228	0.0429	NDA	0.0173	0.374	0.677	NDA
23	ISWC0071RadS001	N/A	7/28/2009	234235	0.127	0.0278	0.0222		0.0212	0.0212	0.0354	NDA	0.0379	0.386	0.699	NDA
24	ISWC0072RadS001	N/A	7/28/2009	234235	0.00873	0.0283	0.0487	NDA	0.0149	0.0221	0.0384	NDA	-0.162	0.377	0.711	NDA
25	ISWC0073RadS001	N/A	7/28/2009	234235	0.148	0.0477	0.0336		0.0148	0.0189	0.032	NDA	0.143	0.373	0.657	NDA
26	ISWC0074RadS001	N/A	7/28/2009	234235	-0.00603	0.0291	0.0491	NDA	-0.0211	0.0148	0.0384	NDA	0.0557	0.41	0.735	NDA
27	ISWC0075RadS001	N/A	7/28/2009	234235	0.127	0.0432	0.0513		0.07	0.0329	0.0469		-0.0175	0.374	0.683	NDA
28	ISWC0076RadS001	N/A	7/28/2009	234235	0.137	0.0323	0.0323		0.00219	0.0192	0.0382	NDA	0.0366	0.403	0.725	NDA
29	ISWC0096RadS001	N/A	8/24/2009	235959	0.135	0.0405	0.0415		0.0192	0.0213	0.0356	NDA	0.468	0.534	0.898	NDA
30	ISWC0097RadS001	N/A	8/24/2009	235959	0.221	0.0373	0.0339		0.012	0.0182	0.0318	NDA	0.366	0.53	0.897	NDA
31	ISWC0098RadS001	N/A	8/24/2009	235959	0.0242	0.0273	0.0347	NDA	-0.0147	0.0197	0.047	NDA	0.242	0.53	0.905	NDA
32	ISWC0099RadS001	N/A	8/24/2009	235959	-0.00336	0.0214	0.0365	NDA	0.0268	0.0297	0.0494	NDA	0.178	0.525	0.902	NDA
33	ISWC0100RadS001	N/A	8/24/2009	235959	0.0108	0.0267	0.0463	NDA	-0.000186	0.0228	0.0454	NDA	0.761	0.547	0.9	NDA
34	ISWC0101RadS001	N/A	8/24/2009	235959	0.1	0.0403	0.041		0.0377	0.0273	0.0434	NDA	0.315	0.526	0.893	NDA
35	ISWC0102RadS001	N/A	8/24/2009	235959	0.198	0.0415	0.0418		0.0216	0.0223	0.0366	NDA	0.634	0.542	0.9	NDA
36	ISWC0103RadS001	N/A	8/24/2009	235959	0.128	0.0381	0.0448		0.00657	0.0234	0.0431	NDA	0.572	0.541	0.902	NDA
37	ISWC0052ARadS001	N/A	8/28/2009	236227	0.514	0.059	0.0369		N/A	N/A	N/A	NDA	N/A	N/A	N/A	N/A
38	ISWC0053ARadS001	N/A	8/28/2009	236227	0.444	0.0565	0.0403		N/A	N/A	N/A	NDA	N/A	N/A	N/A	N/A
39	ISWC0054ARadS001	N/A	8/28/2009	236227	0.659	0.0707	0.0388		N/A	N/A	N/A	NDA	N/A	N/A	N/A	N/A
40	ISWC0055ARadS001	N/A	8/28/2009	236227	0.276	0.044	0.0403		N/A	N/A	N/A	NDA	N/A	N/A	N/A	N/A
41	ISWC0058ARadS001	N/A	8/28/2009	236227	0.196	0.0475	0.0353		N/A	N/A	N/A	NDA	N/A	N/A	N/A	N/A
42	ISWC0062ARadS001	N/A	8/28/2009	236227	0.335	0.0468	0.039		N/A	N/A	N/A	NDA	N/A	N/A	N/A	N/A
43	ISWC0065ARadS001	N/A	8/28/2009	236227	-0.0128	0.0269	0.0414	NDA	N/A	N/A	N/A	NDA	N/A	N/A	N/A	N/A
44	ISWC0066ARadS001	N/A	8/28/2009	236227	0.172	0.0319	0.0301		N/A	N/A	N/A	NDA	N/A	N/A	N/A	N/A

Average	Cesium-137 (pCi/g)				Strontium-90 (pCi/g)				Tritium (pCi/g)			
	Activity	MDA	Non-detect?	Activity	MDA	Non-detect?	Activity	MDA	Non-detect?	Activity	MDA	Non-detect?
Maximum	0.192	0.040		0.019	0.038		0.110	0.784				
Minimum	0.659	0.055		0.070	0.050		1.110	1.480				
Count	-0.021	0.019	44	-0.021	0.022		-0.269	0.650				
Number of Non-Detects			13			36						
% Non-Detects			30%			33						
						92%						100%

### Soil Data from Outfall 009 ISRA

No.	Sample ID	Stockpile ID	Sampling Date	Laboratory Batch	Cesium-137 (pCi/g)				Strontium-90 (pCi/g)				Tritium (pCi/g)			
					Activity	+/- 2 $\sigma$ Error	MDA	Non-detect?	Activity	+/- 2 $\sigma$ Error	MDA	Non-detect?	Activity	+/- 2 $\sigma$ Error	MDA	Non-detect?
Exceeds maximum background of 0.21 pCi/g																
					N/A			Not Analyzed								

Appendix 3  
Analytical Radionuclide Results

## ISRA Soil Sample Results for Outfall 009

8/28/2009 re-sample data pending

## ISRA Soil Sample Results for Outfall 009

8/28/2009 re-sample data pending

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 Outfall 009, ELV-1C Waste Characterization	MWH	8/24/2009	ELV-1C	ISWC0100	ISWC0100RadS001	Soil	Cesium-134	0	0.0521	0.0611	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	235959	Pre-remedial
ISRA Outfall 009, ELV-1C Waste Characterization	MWH	8/24/2009	ELV-1C	ISWC0101	ISWC0101RadS001	Soil	Cesium-134	0	0.0366	0.0591	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	235959	Pre-remedial
ISRA Outfall 009, ELV-1C Waste Characterization	MWH	8/24/2009	ELV-1C	ISWC0102	ISWC0102RadS001	Soil	Cesium-134	0	0.041	0.0566	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	235959	Pre-remedial
ISRA Outfall 009, ELV-1C Waste Characterization	MWH	8/24/2009	ELV-1C	ISWC0103	ISWC0103RadS001	Soil	Cesium-134	0	0.0345	0.0557	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	235959	Pre-remedial
ISRA Outfall 009, ELV-1C Waste Characterization	MWH	7/28/2009	ELV-1C	ISWC0049	ISWC0049RadS001	Soil	Cesium-137	0.14	0.0427	0.0452	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	234235	Pre-remedial
ISRA Outfall 009 Waste Characterization	MWH	7/28/2009	ELV-1C	ISWC0050	ISWC0050RadS001	Soil	Cesium-137	0.0207	0.0297	0.05	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	234235	Pre-remedial
ISRA Outfall 009 Waste Characterization	MWH	7/28/2009	ELV-1C	ISWC0051	ISWC0051RadS001	Soil	Cesium-137	-0.0211	0.0283	0.0469	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	234235	Pre-remedial
ISRA Outfall 009 Waste Characterization	MWH	7/28/2009	ELV-1C	ISWC0052	ISWC0052RadS001	Soil	Cesium-137	0.612	0.0752	0.0358	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	234235	Pre-remedial
ISRA Outfall 009 Waste Characterization	MWH	7/28/2009	ELV-1C	ISWC0053	ISWC0053RadS001	Soil	Cesium-137	0.394	0.0711	0.0534	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	234235	Pre-remedial
ISRA Outfall 009 Waste Characterization	MWH	7/28/2009	ELV-1C	ISWC0054	ISWC0054RadS001	Soil	Cesium-137	0.659	0.0639	0.0449	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	234235	Pre-remedial
ISRA Outfall 009 Waste Characterization	MWH	7/28/2009	ELV-1C	ISWC0055	ISWC0055RadS001	Soil	Cesium-137	0.41	0.0534	0.0409	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	234235	Pre-remedial
ISRA Outfall 009 Waste Characterization	MWH	7/28/2009	ELV-1C	ISWC0056	ISWC0056RadS001	Soil	Cesium-137	0.0101	0.0206	0.0362	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	234235	Pre-remedial
ISRA Outfall 009 Waste Characterization	MWH	7/28/2009	ELV-1C	ISWC0057	ISWC0057RadS001	Soil	Cesium-137	0.0195	0.023	0.0288	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	234235	Pre-remedial
ISRA Outfall 009 Waste Characterization	MWH	7/28/2009	ELV-1C	ISWC0058	ISWC0058RadS001	Soil	Cesium-137	0.315	0.0499	0.0393	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	234235	Pre-remedial
ISRA Outfall 009 Waste Characterization	MWH	7/28/2009	ELV-1C	ISWC0059	ISWC0059RadS001	Soil	Cesium-137	0.0609	0.0252	0.0358	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	234235	Pre-remedial
ISRA Outfall 009 Waste Characterization	MWH	7/28/2009	ELV-1C	ISWC0060	ISWC0060RadS001	Soil	Cesium-137	0.09	0.0436	0.0497	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	234235	Pre-remedial
ISRA Outfall 009 Waste Characterization	MWH	7/28/2009	ELV-1D	ISWC0061	ISWC0061RadS001	Soil	Cesium-137	0.172	0.037	0.034	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	234235	Pre-remedial
ISRA Outfall 009 Waste Characterization	MWH	7/28/2009	ELV-1D	ISWC0062	ISWC0062RadS001	Soil	Cesium-137	0.252	0.0436	0.038	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	234235	Pre-remedial
ISRA Outfall 009 Waste Characterization	MWH	7/28/2009	ELV-1D	ISWC0063	ISWC0063RadS001	Soil	Cesium-137	-0.00425	0.018	0.0317	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	234235	Pre-remedial
ISRA Outfall 009 Waste Characterization	MWH	7/28/2009	ELV-1D	ISWC0064	ISWC0064RadS001	Soil	Cesium-137	0.101	0.0349	0.0416	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	234235	Pre-remedial
ISRA Outfall 009 Waste Characterization	MWH	7/28/2009	ELV-1D	ISWC0065	ISWC0065RadS001	Soil	Cesium-137	0.455	0.0861	0.0551	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	234235	Pre-remedial
ISRA Outfall 009 Waste Characterization	MWH	7/28/2009	ELV-1D	ISWC0066	ISWC0066RadS001	Soil	Cesium-137	0.653	0.0692	0.0375	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	234235	Pre-remedial
ISRA Outfall 009 Waste Characterization	MWH	7/28/2009	ELV-1D	ISWC0067	ISWC0067RadS001	Soil	Cesium-137	0.124	0.0355	0.0347	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	234235	Pre-remedial
ISRA Outfall 009 Waste Characterization	MWH	7/28/2009	ELV-1D	ISWC0068	ISWC0068RadS001	Soil	Cesium-137	0.026	0.0272	0.0484	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	234235	Pre-remedial
ISRA Outfall 009 Waste Characterization	MWH	7/28/2009	ELV-1D	ISWC0069	ISWC0069RadS001	Soil	Cesium-137	0.0282	0.0129	0.0194	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	234235	Pre-remedial
ISRA Outfall 009 Waste Characterization	MWH	7/28/2009	ELV-1D	ISWC0070	ISWC0070RadS001	Soil	Cesium-137	0.00942	0.0211	0.0368	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	234235	Pre-remedial
ISRA Outfall 009 Waste Characterization	MWH	7/28/2009	ELV-1D	ISWC0071	ISWC0071RadS001	Soil	Cesium-137	0.127	0.0278	0.0222	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	234235	Pre-remedial
ISRA Outfall 009 Waste Characterization	MWH	7/28/2009	ELV-1D	ISWC0072	ISWC0072RadS001	Soil	Cesium-137	0.00873	0.0283	0.0487	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	234235	Pre-remedial
ISRA Outfall 009 Waste Characterization	MWH	7/28/2009	ELV-1D	ISWC0073	ISWC0073RadS001	Soil	Cesium-137	0.148	0.0477	0.0336	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	234235	Pre-remedial
ISRA Outfall 009 Waste Characterization	MWH	7/28/2009	ELV-1D	ISWC0074	ISWC0074RadS001	Soil	Cesium-137	-0.00603	0.0291	0.0491	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	234235	Pre-remedial
ISRA Outfall 009 Waste Characterization	MWH	7/28/2009	ELV-1D	ISWC0075	ISWC0075RadS001	Soil	Cesium-137	0.127	0.0432	0.0513	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	234235	Pre-remedial
ISRA Outfall 009 Waste Characterization	MWH	7/28/2009	ELV-1D	ISWC0076	ISWC0076RadS001	Soil	Cesium-137	0.137	0.0323	0.0323	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	234235	Pre-remedial
ISRA Outfall 009, ELV-1C Waste Characterization	MWH	8/24/2009	ELV-1C	ISWC0096	ISWC0096RadS001	Soil	Cesium-134	0.135	0.0405	0.0415	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	235959	Pre-remedial
ISRA Outfall 009, ELV-1C Waste Characterization	MWH	8/24/2009	ELV-1C	ISWC0097	ISWC0097RadS001	Soil	Cesium-134	0.221	0.0373	0.0339	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	235959	Pre-remedial
ISRA Outfall 009, ELV-1C Waste Characterization	MWH	8/24/2009	ELV-1C	ISWC0098	ISWC0098RadS001	Soil	Cesium-134	0.0242	0.0273	0.0347	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	235959	Pre-remedial
ISRA Outfall 009, ELV-1C Waste Characterization	MWH	8/24/2009	ELV-1C	ISWC0099	ISWC0099RadS001	Soil	Cesium-134	-0.00336	0.0214	0.0365	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	235959	Pre-remedial
ISRA Outfall 009, ELV-1C Waste Characterization	MWH	8/24/2009	ELV-1C	ISWC0100	ISWC0100RadS001	Soil	Cesium-134	0.0108	0.0267	0.0463	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	235959	Pre-remedial
ISRA Outfall 009, ELV-1C Waste Characterization	MWH	8/24/2009	ELV-1C	ISWC0101	ISWC0101RadS001	Soil	Cesium-137	0.1	0.0403	0.041	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	235959	Pre-remedial
ISRA Outfall 009, ELV-1C Waste Characterization	MWH	8/24/2009	ELV-1C	ISWC0102	ISWC0102RadS001	Soil	Cesium-137	0.196	0.0415	0.0418	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	235959	Pre-remedial
ISRA Outfall 009, ELV-1C Waste Characterization	MWH	8/24/2009	ELV-1C	ISWC0103	ISWC0103RadS001	Soil	Cesium-137	0.128	0.0381	0.0448	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	235959	Pre-remedial
ISRA Outfall 009 Waste Characterization	MWH	7/28/2009	ELV-1C	ISWC0049	ISWC0049RadS001	Soil	Cobalt-60	-0.0115	0.0266	0.0426	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	234235	Pre-remedial
ISRA Outfall 009 Waste Characterization	MWH	7/28/2009	ELV-1C	ISWC0050	ISWC0050RadS001	Soil	Cobalt-60	0.011	0.0269	0.0468	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	234235	Pre-remedial
ISRA Outfall 009 Waste Characterization	MWH	7/28/2009	ELV-1C	ISWC0051	ISWC0051RadS001	Soil	Cobalt-60	0.00665	0.0282	0.0491	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	234235	Pre-remedial
ISRA Outfall 009 Waste Characterization	MWH	7/28/2009	ELV-1C	ISWC0052	ISWC0052RadS001	Soil	Cobalt-60	-0.0117	0.0206	0.0331	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	234235	Pre-remedial
ISRA Outfall 009 Waste Characterization	MWH	7/28/2009	ELV-1C	ISWC0053	ISWC0053RadS001	Soil	Cobalt-60	0.00124	0.0281	0.0473	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	234235	Pre-remedial
ISRA Outfall 009 Waste Characterization	MWH	7/28/2009	ELV-1C	ISWC0054	ISWC0054RadS001	Soil	Cobalt-60	0.0297	0.0272	0.0493	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	234235	Pre-remedial
ISRA Outfall 009 Waste Characterization	MWH	7/28/2009	ELV-1C	ISWC0055	ISWC0055RadS001	Soil	Cobalt-60	0.00778	0.0234	0.0404	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	234235	Pre-remedial
ISRA Outfall 009 Waste Characterization	MWH	7/28/2009	ELV-1C	ISWC0056	ISWC0056RadS001	Soil	Cobalt-60	-0.000478	0.0187	0.0314	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	234235	Pre-remedial
ISRA Outfall 009 Waste Characterization	MWH	7/28/2009	ELV-1C	ISWC0057	ISWC0057RadS001	Soil	Cobalt-60	-0.0049	0.0176	0.0291	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	234235	Pre-remedial
ISRA Outfall 009 Waste Characterization	MWH	7/28/2009	ELV-1C	ISWC0058	ISWC0058RadS001	Soil	Cobalt-60	0.0241	0.0212	0.0394	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	234235	Pre-remedial
ISRA Outfall 009 Waste Characterization	MWH	7/28/2009	ELV-1C	ISWC0059	ISWC0059RadS001	Soil	Cobalt-60	0.0168	0.0205	0.0362	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	234235	Pre-remedial
ISRA Outfall 009 Waste Characterization	MWH	7/28/2009	ELV-1C	ISWC0060	ISWC0060RadS001	Soil	Cobalt-60	0.00357	0.0294	0.0508	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	234235	Pre-remedial
ISRA Outfall 009 Waste Characterization	MWH	7/28/2009	ELV-1D	ISWC0061	ISWC0061RadS001	Soil	Cobalt-60	-0.000487	0.0203	0.0348	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	234235	Pre-remedial
ISRA Outfall 009 Waste Characterization	MWH	7/28/2009	ELV-1D	ISWC0062	ISWC0062RadS001	Soil	Cobalt-60	-0.00286	0.0213	0.0363	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	234235	Pre-remedial
ISRA Outfall 009 Waste Characterization	MWH	7/28/2009	ELV-1D	ISWC0063	ISWC0063RadS001	Soil	Cobalt-60	0.0111	0.0183	0.0321	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	234235	Pre-remedial
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## ISRA Soil Sample Results for Outfall 009

8/28/2009 re-sample data pending

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 Outfall 009, ELV-1C Waste Characterization	MWH	8/24/2009	ELV-1C	ISWC0096	ISWC0096RadS001	Soil	Cobalt-60	0.0101	0.0259	0.0452	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	235959	Pre-remedial
ISRA Outfall 009, ELV-1C Waste Characterization	MWH	8/24/2009	ELV-1C	ISWC0097	ISWC0097RadS001	Soil	Cobalt-60	-1.24E-05	0.0234	0.0401	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	235959	Pre-remedial
ISRA Outfall 009, ELV-1C Waste Characterization	MWH	8/24/2009	ELV-1C	ISWC0098	ISWC0098RadS001	Soil	Cobalt-60	-0.00254	0.0203	0.0341	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	235959	Pre-remedial
ISRA Outfall 009, ELV-1C Waste Characterization	MWH	8/24/2009	ELV-1C	ISWC0099	ISWC0099RadS001	Soil	Cobalt-60	0.0096	0.0211	0.037	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	235959	Pre-remedial
ISRA Outfall 009, ELV-1C Waste Characterization	MWH	8/24/2009	ELV-1C	ISWC0100	ISWC0100RadS001	Soil	Cobalt-60	-0.0146	0.0253	0.04	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	235959	Pre-remedial
ISRA Outfall 009, ELV-1C Waste Characterization	MWH	8/24/2009	ELV-1C	ISWC0101	ISWC0101RadS001	Soil	Cobalt-60	-0.0106	0.0253	0.0397	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	235959	Pre-remedial
ISRA Outfall 009, ELV-1C Waste Characterization	MWH	8/24/2009	ELV-1C	ISWC0102	ISWC0102RadS001	Soil	Cobalt-60	-0.00694	0.0231	0.037	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	235959	Pre-remedial
ISRA Outfall 009, ELV-1C Waste Characterization	MWH	8/24/2009	ELV-1C	ISWC0103	ISWC0103RadS001	Soil	Cobalt-60	-0.0252	0.0286	0.0437	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	235959	Pre-remedial
ISRA Outfall 009 Waste Characterization	MWH	7/28/2009	ELV-1C	ISWC0049	ISWC0049RadS001	Soil	Europium-152	-0.0243	0.0718	0.102	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	234235	Pre-remedial
ISRA Outfall 009 Waste Characterization	MWH	7/28/2009	ELV-1C	ISWC0050	ISWC0050RadS001	Soil	Europium-152	-0.00216	0.0772	0.113	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	234235	Pre-remedial
ISRA Outfall 009 Waste Characterization	MWH	7/28/2009	ELV-1C	ISWC0051	ISWC0051RadS001	Soil	Europium-152	0.00609	0.0678	0.108	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	234235	Pre-remedial
ISRA Outfall 009 Waste Characterization	MWH	7/28/2009	ELV-1C	ISWC0052	ISWC0052RadS001	Soil	Europium-152	-0.0132	0.0547	0.0917	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	234235	Pre-remedial
ISRA Outfall 009 Waste Characterization	MWH	7/28/2009	ELV-1C	ISWC0053	ISWC0053RadS001	Soil	Europium-152	-0.0326	0.0754	0.114	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	234235	Pre-remedial
ISRA Outfall 009 Waste Characterization	MWH	7/28/2009	ELV-1C	ISWC0054	ISWC0054RadS001	Soil	Europium-152	0.0551	0.092	0.129	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	234235	Pre-remedial
ISRA Outfall 009 Waste Characterization	MWH	7/28/2009	ELV-1C	ISWC0055	ISWC0055RadS001	Soil	Europium-152	-0.0495	0.0582	0.0871	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	234235	Pre-remedial
ISRA Outfall 009 Waste Characterization	MWH	7/28/2009	ELV-1C	ISWC0056	ISWC0056RadS001	Soil	Europium-152	0.0159	0.0585	0.0932	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	234235	Pre-remedial
ISRA Outfall 009 Waste Characterization	MWH	7/28/2009	ELV-1C	ISWC0057	ISWC0057RadS001	Soil	Europium-152	0.00499	0.0766	0.0806	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	234235	Pre-remedial
ISRA Outfall 009 Waste Characterization	MWH	7/28/2009	ELV-1C	ISWC0058	ISWC0058RadS001	Soil	Europium-152	-0.0468	0.0571	0.0882	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	234235	Pre-remedial
ISRA Outfall 009 Waste Characterization	MWH	7/28/2009	ELV-1C	ISWC0059	ISWC0059RadS001	Soil	Europium-152	0.028	0.0507	0.0809	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	234235	Pre-remedial
ISRA Outfall 009 Waste Characterization	MWH	7/28/2009	ELV-1C	ISWC0060	ISWC0060RadS001	Soil	Europium-152	-0.0428	0.0932	0.116	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	234235	Pre-remedial
ISRA Outfall 009 Waste Characterization	MWH	7/28/2009	ELV-1D	ISWC0061	ISWC0061RadS001	Soil	Europium-152	0.0199	0.0647	0.0919	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	234235	Pre-remedial
ISRA Outfall 009 Waste Characterization	MWH	7/28/2009	ELV-1D	ISWC0062	ISWC0062RadS001	Soil	Europium-152	0.02	0.0624	0.0986	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	234235	Pre-remedial
ISRA Outfall 009 Waste Characterization	MWH	7/28/2009	ELV-1D	ISWC0063	ISWC0063RadS001	Soil	Europium-152	0.0102	0.0488	0.0847	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	234235	Pre-remedial
ISRA Outfall 009 Waste Characterization	MWH	7/28/2009	ELV-1D	ISWC0064	ISWC0064RadS001	Soil	Europium-152	-0.000907	0.0616	0.102	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	234235	Pre-remedial
ISRA Outfall 009 Waste Characterization	MWH	7/28/2009	ELV-1D	ISWC0065	ISWC0065RadS001	Soil	Europium-152	0.00506	0.0866	0.124	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	234235	Pre-remedial
ISRA Outfall 009 Waste Characterization	MWH	7/28/2009	ELV-1D	ISWC0066	ISWC0066RadS001	Soil	Europium-152	-0.0706	0.0586	0.0945	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	234235	Pre-remedial
ISRA Outfall 009 Waste Characterization	MWH	7/28/2009	ELV-1D	ISWC0067	ISWC0067RadS001	Soil	Europium-152	-0.0362	0.063	0.09	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	234235	Pre-remedial
ISRA Outfall 009 Waste Characterization	MWH	7/28/2009	ELV-1D	ISWC0068	ISWC0068RadS001	Soil	Europium-152	-0.0435	0.0706	0.104	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	234235	Pre-remedial
ISRA Outfall 009 Waste Characterization	MWH	7/28/2009	ELV-1D	ISWC0069	ISWC0069RadS001	Soil	Europium-152	-0.00951	0.0332	0.0497	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	234235	Pre-remedial
ISRA Outfall 009 Waste Characterization	MWH	7/28/2009	ELV-1D	ISWC0070	ISWC0070RadS001	Soil	Europium-152	-0.0277	0.0716	0.0942	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	234235	Pre-remedial
ISRA Outfall 009 Waste Characterization	MWH	7/28/2009	ELV-1D	ISWC0071	ISWC0071RadS001	Soil	Europium-152	-0.0251	0.0338	0.0583	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	234235	Pre-remedial
ISRA Outfall 009 Waste Characterization	MWH	7/28/2009	ELV-1D	ISWC0072	ISWC0072RadS001	Soil	Europium-152	-0.038	0.0906	0.119	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	234235	Pre-remedial
ISRA Outfall 009 Waste Characterization	MWH	7/28/2009	ELV-1D	ISWC0073	ISWC0073RadS001	Soil	Europium-152	-0.0326	0.0674	0.0781	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	234235	Pre-remedial
ISRA Outfall 009 Waste Characterization	MWH	7/28/2009	ELV-1D	ISWC0074	ISWC0074RadS001	Soil	Europium-152	-0.0154	0.0741	0.114	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	234235	Pre-remedial
ISRA Outfall 009 Waste Characterization	MWH	7/28/2009	ELV-1D	ISWC0075	ISWC0075RadS001	Soil	Europium-152	-0.041	0.0758	0.11	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	234235	Pre-remedial
ISRA Outfall 009 Waste Characterization	MWH	7/28/2009	ELV-1D	ISWC0076	ISWC0076RadS001	Soil	Europium-152	-0.0333	0.0591	0.0788	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	234235	Pre-remedial
ISRA Outfall 009, ELV-1C Waste Characterization	MWH	8/24/2009	ELV-1C	ISWC0096	ISWC0096RadS001	Soil	Europium-152	-0.0635	0.059	0.091	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	235959	Pre-remedial
ISRA Outfall 009, ELV-1C Waste Characterization	MWH	8/24/2009	ELV-1C	ISWC0097	ISWC0097RadS001	Soil	Europium-152	-0.0128	0.0656	0.0938	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	235959	Pre-remedial
ISRA Outfall 009, ELV-1C Waste Characterization	MWH	8/24/2009	ELV-1C	ISWC0098	ISWC0098RadS001	Soil	Europium-152	-0.0308	0.0559	0.0841	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	235959	Pre-remedial
ISRA Outfall 009, ELV-1C Waste Characterization	MWH	8/24/2009	ELV-1C	ISWC0099	ISWC0099RadS001	Soil	Europium-152	-0.0136	0.0728	0.0887	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	235959	Pre-remedial
ISRA Outfall 009, ELV-1C Waste Characterization	MWH	8/24/2009	ELV-1C	ISWC0100	ISWC0100RadS001	Soil	Europium-152	-0.00806	0.0803	0.116	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	235959	Pre-remedial
ISRA Outfall 009, ELV-1C Waste Characterization	MWH	8/24/2009	ELV-1C	ISWC0101	ISWC0101RadS001	Soil	Europium-152	-0.0291	0.0698	0.112	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	235959	Pre-remedial
ISRA Outfall 009, ELV-1C Waste Characterization	MWH	8/24/2009	ELV-1C	ISWC0102	ISWC0102RadS001	Soil	Europium-152	-0.0468	0.058	0.0942	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	235959	Pre-remedial
ISRA Outfall 009, ELV-1C Waste Characterization	MWH	8/24/2009	ELV-1C	ISWC0103	ISWC0103RadS001	Soil	Europium-152	-0.039	0.0889	0.104	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	235959	Pre-remedial
ISRA Outfall 009, ELV-1C Waste Characterization	MWH	7/28/2009	ELV-1C	ISWC0049	ISWC0049RadS001	Soil	Europium-152	-0.0455	0.0852	0.137	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	234235	Pre-remedial
ISRA Outfall 009, ELV-1C Waste Characterization	MWH	7/28/2009	ELV-1C	ISWC0050	ISWC0050RadS001	Soil	Europium-154	-0.0236	0.0867	0.143	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	234235	Pre-remedial
ISRA Outfall 009, ELV-1C Waste Characterization	MWH	7/28/2009	ELV-1C	ISWC0051	ISWC0051RadS001	Soil	Europium-154	-0.056	0.0875	0.145	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	234235	Pre-remedial
ISRA Outfall 009, ELV-1C Waste Characterization	MWH	7/28/2009	ELV-1C	ISWC0052	ISWC0052RadS001	Soil	Europium-154	0.0137	0.0675	0.117	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	234235	Pre-remedial
ISRA Outfall 009, ELV-1C Waste Characterization	MWH	7/28/2009	ELV-1C	ISWC0053	ISWC0053RadS001	Soil	Europium-154	-0.00963	0.0943	0.158	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	234235	Pre-remedial
ISRA Outfall 009, ELV-1C Waste Characterization	MWH	7/28/2009	ELV-1C	ISWC0054	ISWC0054RadS001	Soil	Europium-154	0.0112	0.0839	0.135	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	234235	Pre-remedial
ISRA Outfall 009, ELV-1C Waste Characterization	MWH	7/28/2009	ELV-1C	ISWC0055	ISWC0055RadS001	Soil	Europium-154	-0.0546	0.0734	0.121	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	234235	Pre-remedial
ISRA Outfall 009, ELV-1C Waste Characterization	MWH	7/28/2009	ELV-1C	ISWC0056	ISWC0056RadS001	Soil	Europium-154	-0.0185	0.0632	0.105	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	234235	Pre-remedial
ISRA Outfall 009, ELV-1C Waste Characterization	MWH	7/28/2009	ELV-1C	ISWC0057	ISWC0057RadS001	Soil	Europium-154	-0.0092	0.0628	0.0952	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	234235	Pre-remedial
ISRA Outfall 009, ELV-1C Waste Characterization	MWH	7/28/2009	ELV-1C	ISWC0058	ISWC0058RadS001	Soil	Europium-154	-0.101	0.077	0.117	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	234235	Pre-remedial
ISRA Outfall 009, ELV-1C Waste Characterization	MWH	7/28/2009	ELV-1C	ISWC0059	ISWC0059RadS0												

ISRA Soil Sample Results for Outfall 009

8/28/2009 re-sample data pending

## ISRA Soil Sample Results for Outfall 009

8/28/2009 re-sample data pending

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 Outfall 009 Waste Characterization	MWH	7/28/2009	ELV-1D	ISWC0069	ISWC0069RadS001	Soil	Potassium-40	23.5	1.83	0.153	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	234235	Pre-remedial	
ISRA Outfall 009 Waste Characterization	MWH	7/28/2009	ELV-1D	ISWC0070	ISWC0070RadS001	Soil	Potassium-40	20.9	1.77	0.297	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	234235	Pre-remedial	
ISRA Outfall 009 Waste Characterization	MWH	7/28/2009	ELV-1D	ISWC0071	ISWC0071RadS001	Soil	Potassium-40	22.4	1.56	0.179	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	234235	Pre-remedial	
ISRA Outfall 009 Waste Characterization	MWH	7/28/2009	ELV-1D	ISWC0072	ISWC0072RadS001	Soil	Potassium-40	20.9	1.88	0.343	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	234235	Pre-remedial	
ISRA Outfall 009 Waste Characterization	MWH	7/28/2009	ELV-1D	ISWC0073	ISWC0073RadS001	Soil	Potassium-40	22.2	2.05	0.32	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	234235	Pre-remedial	
ISRA Outfall 009 Waste Characterization	MWH	7/28/2009	ELV-1D	ISWC0074	ISWC0074RadS001	Soil	Potassium-40	22	1.79	0.437	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	234235	Pre-remedial	
ISRA Outfall 009 Waste Characterization	MWH	7/28/2009	ELV-1D	ISWC0075	ISWC0075RadS001	Soil	Potassium-40	22.1	1.69	0.393	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	234235	Pre-remedial	
ISRA Outfall 009 Waste Characterization	MWH	7/28/2009	ELV-1D	ISWC0076	ISWC0076RadS001	Soil	Potassium-40	24	1.96	0.233	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	234235	Pre-remedial	
ISRA Outfall 009, ELV-1C Waste Characterization	MWH	8/24/2009	ELV-1C	ISWC0096	ISWC0096RadS001	Soil	Potassium-40	23.5	2.05	0.323	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	235959	Pre-remedial	
ISRA Outfall 009, ELV-1C Waste Characterization	MWH	8/24/2009	ELV-1C	ISWC0097	ISWC0097RadS001	Soil	Potassium-40	23.3	2.22	0.304	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	235959	Pre-remedial	
ISRA Outfall 009, ELV-1C Waste Characterization	MWH	8/24/2009	ELV-1C	ISWC0098	ISWC0098RadS001	Soil	Potassium-40	22.2	1.83	0.267	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	235959	Pre-remedial	
ISRA Outfall 009, ELV-1C Waste Characterization	MWH	8/24/2009	ELV-1C	ISWC0099	ISWC0099RadS001	Soil	Potassium-40	23.9	1.97	0.31	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	235959	Pre-remedial	
ISRA Outfall 009, ELV-1C Waste Characterization	MWH	8/24/2009	ELV-1C	ISWC0100	ISWC0100RadS001	Soil	Potassium-40	22.8	2.03	0.317	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	235959	Pre-remedial	
ISRA Outfall 009, ELV-1C Waste Characterization	MWH	8/24/2009	ELV-1C	ISWC0101	ISWC0101RadS001	Soil	Potassium-40	22.8	1.83	0.308	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	235959	Pre-remedial	
ISRA Outfall 009, ELV-1C Waste Characterization	MWH	8/24/2009	ELV-1C	ISWC0102	ISWC0102RadS001	Soil	Potassium-40	23.7	2.23	0.284	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	235959	Pre-remedial	
ISRA Outfall 009, ELV-1C Waste Characterization	MWH	8/24/2009	ELV-1C	ISWC0103	ISWC0103RadS001	Soil	Potassium-40	23.9	1.85	0.312	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	235959	Pre-remedial	
ISRA Outfall 009 Waste Characterization	MWH	7/28/2009	ELV-1C	ISWC0049	ISWC0049RadS001	Soil	Sodium-22	-0.0117	0.0299	0.0486	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	234235	Pre-remedial
ISRA Outfall 009 Waste Characterization	MWH	7/28/2009	ELV-1C	ISWC0050	ISWC0050RadS001	Soil	Sodium-22	-0.00944	0.0307	0.0505	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	234235	Pre-remedial
ISRA Outfall 009 Waste Characterization	MWH	7/28/2009	ELV-1C	ISWC0051	ISWC0051RadS001	Soil	Sodium-22	-0.0201	0.0311	0.0516	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	234235	Pre-remedial
ISRA Outfall 009 Waste Characterization	MWH	7/28/2009	ELV-1C	ISWC0052	ISWC0052RadS001	Soil	Sodium-22	0.00649	0.0239	0.0417	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	234235	Pre-remedial
ISRA Outfall 009 Waste Characterization	MWH	7/28/2009	ELV-1C	ISWC0053	ISWC0053RadS001	Soil	Sodium-22	-0.00392	0.0335	0.056	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	234235	Pre-remedial
ISRA Outfall 009 Waste Characterization	MWH	7/28/2009	ELV-1C	ISWC0054	ISWC0054RadS001	Soil	Sodium-22	0.00479	0.0299	0.0481	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	234235	Pre-remedial
ISRA Outfall 009 Waste Characterization	MWH	7/28/2009	ELV-1C	ISWC0055	ISWC0055RadS001	Soil	Sodium-22	-0.0188	0.0261	0.0432	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	234235	Pre-remedial
ISRA Outfall 009 Waste Characterization	MWH	7/28/2009	ELV-1C	ISWC0056	ISWC0056RadS001	Soil	Sodium-22	-0.00762	0.0224	0.037	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	234235	Pre-remedial
ISRA Outfall 009 Waste Characterization	MWH	7/28/2009	ELV-1C	ISWC0057	ISWC0057RadS001	Soil	Sodium-22	-0.00328	0.0224	0.0339	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	234235	Pre-remedial
ISRA Outfall 009 Waste Characterization	MWH	7/28/2009	ELV-1C	ISWC0058	ISWC0058RadS001	Soil	Sodium-22	-0.0364	0.0272	0.0413	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	234235	Pre-remedial
ISRA Outfall 009 Waste Characterization	MWH	7/28/2009	ELV-1C	ISWC0059	ISWC0059RadS001	Soil	Sodium-22	0.00296	0.0228	0.0388	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	234235	Pre-remedial
ISRA Outfall 009 Waste Characterization	MWH	7/28/2009	ELV-1C	ISWC0060	ISWC0060RadS001	Soil	Sodium-22	-0.0051	0.0327	0.0559	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	234235	Pre-remedial
ISRA Outfall 009 Waste Characterization	MWH	7/28/2009	ELV-1D	ISWC0061	ISWC0061RadS001	Soil	Sodium-22	0.00498	0.0237	0.0414	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	234235	Pre-remedial
ISRA Outfall 009 Waste Characterization	MWH	7/28/2009	ELV-1D	ISWC0062	ISWC0062RadS001	Soil	Sodium-22	0.0101	0.0249	0.0446	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	234235	Pre-remedial
ISRA Outfall 009 Waste Characterization	MWH	7/28/2009	ELV-1D	ISWC0063	ISWC0063RadS001	Soil	Sodium-22	0.0114	0.0213	0.037	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	234235	Pre-remedial
ISRA Outfall 009 Waste Characterization	MWH	7/28/2009	ELV-1D	ISWC0064	ISWC0064RadS001	Soil	Sodium-22	-0.0193	0.025	0.0399	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	234235	Pre-remedial
ISRA Outfall 009 Waste Characterization	MWH	7/28/2009	ELV-1D	ISWC0065	ISWC0065RadS001	Soil	Sodium-22	-0.0264	0.0396	0.0655	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	234235	Pre-remedial
ISRA Outfall 009 Waste Characterization	MWH	7/28/2009	ELV-1D	ISWC0066	ISWC0066RadS001	Soil	Sodium-22	-0.0182	0.0239	0.0386	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	234235	Pre-remedial
ISRA Outfall 009 Waste Characterization	MWH	7/28/2009	ELV-1D	ISWC0067	ISWC0067RadS001	Soil	Sodium-22	-0.0153	0.0247	0.0398	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	234235	Pre-remedial
ISRA Outfall 009 Waste Characterization	MWH	7/28/2009	ELV-1D	ISWC0068	ISWC0068RadS001	Soil	Sodium-22	0.00193	0.0303	0.0508	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	234235	Pre-remedial
ISRA Outfall 009 Waste Characterization	MWH	7/28/2009	ELV-1D	ISWC0069	ISWC0069RadS001	Soil	Sodium-22	-0.00424	0.0128	0.0216	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	234235	Pre-remedial
ISRA Outfall 009 Waste Characterization	MWH	7/28/2009	ELV-1D	ISWC0070	ISWC0070RadS001	Soil	Sodium-22	-0.0246	0.0266	0.0421	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	234235	Pre-remedial
ISRA Outfall 009 Waste Characterization	MWH	7/28/2009	ELV-1D	ISWC0071	ISWC0071RadS001	Soil	Sodium-22	0.00637	0.0153	0.0261	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	234235	Pre-remedial
ISRA Outfall 009 Waste Characterization	MWH	7/28/2009	ELV-1D	ISWC0072	ISWC0072RadS001	Soil	Sodium-22	0.00554	0.0304	0.0494	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	234235	Pre-remedial
ISRA Outfall 009 Waste Characterization	MWH	7/28/2009	ELV-1D	ISWC0073	ISWC0073RadS001	Soil	Sodium-22	-0.0501	0.0276	0.0406	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	234235	Pre-remedial
ISRA Outfall 009 Waste Characterization	MWH	7/28/2009	ELV-1D	ISWC0074	ISWC0074RadS001	Soil	Sodium-22	0.00849	0.0332	0.0572	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	234235	Pre-remedial
ISRA Outfall 009 Waste Characterization	MWH	7/28/2009	ELV-1D	ISWC0075	ISWC0075RadS001	Soil	Sodium-22	-0.00081	0.0336	0.0577	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	234235	Pre-remedial
ISRA Outfall 009 Waste Characterization	MWH	7/28/2009	ELV-1D	ISWC0076	ISWC0076RadS001	Soil	Sodium-22	-0.0073	0.0198	0.0329	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	234235	Pre-remedial
ISRA Outfall 009 Waste Characterization	MWH	7/28/2009	ELV-1D	ISWC0077	ISWC0077RadS001	Soil	Sodium-22	-0.000807	0.0291	0.0494	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	234235	Pre-remedial
ISRA Outfall 009, ELV-1C Waste Characterization	MWH	8/24/2009	ELV-1C	ISWC0096	ISWC0096RadS001	Soil	Sodium-22	-0.00424	0.0128	0.0216	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	234235	Pre-remedial
ISRA Outfall 009, ELV-1C Waste Characterization	MWH	8/24/2009	ELV-1C	ISWC0097	ISWC0097RadS001	Soil	Sodium-22	-0.0246	0.0266	0.0421	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	234235	Pre-remedial
ISRA Outfall 009, ELV-1C Waste Characterization	MWH	8/24/2009	ELV-1C	ISWC0098	ISWC0098RadS001	Soil	Sodium-22	-0.00406	0.0243	0.0415	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	234235	Pre-remedial
ISRA Outfall 009, ELV-1C Waste Characterization	MWH	8/24/2009	ELV-1C	ISWC0099	ISWC0099RadS001	Soil	Sodium-22	-0.00403	0.0271	0.0403	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	234235	Pre-remedial
ISRA Outfall 009, ELV-1C Waste Characterization	MWH	8/24/2009	ELV-1C	ISWC0100	ISWC0100RadS001	Soil	Sodium-22	0.01	0.027	0.0467	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	234235	Pre-remedial
ISRA Outfall 009, ELV-1C Waste Characterization	MWH	8/24/2009	ELV-1C	ISWC0101	ISWC0101RadS001	Soil	Sodium-22	-0.0151	0.027	0.0434	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	234235	Pre-remedial
ISRA Outfall 009, ELV-1C Waste Characterization	MWH	8/24/2009	ELV-1C	ISWC0102	ISWC0102RadS001	Soil	Sodium-22	0.00277	0.0253	0.0436	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	234235	Pre-remedial
ISRA Outfall 009, ELV-1C Waste Characterization	MWH	8/24/2009	ELV-1C	ISWC0103	ISWC0103RadS001	Soil	Sodium-22	0.00126	0.0301	0.0504	NDA	pCi/g	2 sigma	EML HASL 300, 4.5.2.3	GEL	234235	Pre-remedial
ISRA Outfall 009 Waste Characterization	MWH	7/28/2009	ELV-1C	ISWC0049	ISWC0049RadS001	Soil	Strontium-90	0.00961	0.0232	0.0428	NDA	pCi/g	2 sigma	EPA 905.0 Modified	GEL	234235	Pre-remedial
ISRA Outfall 009 Waste Characterization	MWH	7/28/2009	ELV-1C	ISWC0050	ISWC0050RadS001	Soil	Strontium-90	0.0275	0.0274	0.0443	NDA	pCi/g</td					

ISRA Soil Sample Results for Outfall 009

8/28/2009 re-sample data pending



