



February 28, 2012

Attn: Document Control Desk
U.S. Nuclear Regulatory Commission
Mr. Keith J. McConnell, Deputy Director
Decommissioning & Uranium Recovery Licensing Directorate
Division of Waste Management & Environmental Protection
Office of Federal and State Materials &
Environmental Management Programs
Mailstop T8-F5
Washington, DC 20555-0001

**Subject: License SUA-1314, Docket No. 40-8502
Willow Creek Project
Semi-Annual Effluent and Environmental Monitoring Report**

Dear Mr. McConnell:

In accordance with 10 CFR 40.65 and per license conditions 12.1 and 12.6 of Source Materials License SUA-1341, please find enclosed the Semi-Annual Effluent and Environmental Monitoring Report for the period of July 1 through December 31, 2011.

Please contact me should you have any questions regarding this report. (307) 464-1427

Sincerely,

Larry Arbogast
Safety Supervisor/RSO

cc: Bill Kearney
Tim McCullough

Encl: Willow Creek Semi-Annual Effluent and Environmental Monitoring Report – July1, -
December 31, 2011

**Uranium One USA, Inc.
Irigaray and Christensen Ranch Projects**

2011 SEMI-ANNUAL EFFLUENT AND MONITORING REPORT (NRC)

INTRODUCTION

In accordance with conditions 12.1 and 12.6 of the Nuclear Regulatory Commission (NRC) Performance Based License No. SUA-1341, Uranium One USA, Inc. hereby submits the 2011 Semi-Annual Effluent and Monitoring Report. This document summarizes the required operational and environmental monitoring conducted at the Irigaray (IR) and Christensen Ranch (CR) projects from July 1, 2011 through December 31, 2011. During the report period the primary activities undertaken at the projects included the operation of Wellfield 7 (the only wellfield in operation) and the Yellowcake dryer ran from November 1, 2011 through the December 31, 2011.

1.0 RESULTS FROM EMPLOYEE URINALYSES

- 1.2** During the report period no bioassay exceeded the action level of 15 µg/l for uranium. A total of 318 bioassay samples were submitted for analyses during the report period.

2.0 OPERATIONAL MONITORING

2.1 Groundwater Volumes Injected and Recovered

A total of 415,426.51K gallons was injected and 417,739.24 K gallons was recovered during the report period in Mine Unit 7.

2.2 Injection Manifold Pressures

Injection manifold pressures at the CR project are limited to 140 psi during wellfield operations and 168 psi during maintenance tasks, as per License condition 11.1. Condition 11.1 requires that the injection manifold pressures be recorded daily. Uranium One uses continuous chart recorders on the injection manifolds, which record pressure 24 hours per day. The results are tabulated in graphical format and retained as permanent record at the CR offices. There were no pressure exceedances of the 140 psi limit in 2011.

3.0 ENVIRONMENTAL MONITORING

3.1 Regional Ranch Wells

Quarterly groundwater samples were collected from five ranch wells near the CR project and one ranch well near the IR project. The samples were analyzed for Uranium, Thorium-230, Radium-226, Lead-210 and Polonium-210. The resulting data are given in Table 1 of Appendix 1. All radionuclides were at very low or non-detectable (ND) concentrations, which is typical. No significant trends in the data were noted in the 2011 quarterly results.

3.2 Surface Water Monitoring

Willow Creek is the only source of surface water present within and adjacent to the license boundaries of both the IR and CR projects. Willow Creek is an intermittent stream which was sampled on a quarterly basis. Three sample locations are designated at both project sites; upstream, downstream and within the license boundary. The Powder River is also sampled annually at the Brubaker Ranch, which is approximately 4.5 miles downstream from its confluence with Willow Creek. Analytical data for both chemical and radionuclide parameters are provided in Table 2 of Appendix 1. All radionuclides were low or ND, and no exceedences of the 10 CFR 20, Appendix B effluent limits occurred.

3.3 Spill and Leak Reports

There were three spills that were reported during the period of July 1 – December 31, 2011. On August 3-4, 2011, approximately 7,000 to 10,000 gallons of 20% sodium chloride solution was spilled while filling the brine generator tank at the IR central plant. A written report was sent to the NRC on August 31, 2011. The corrective actions taken included: modifications to the bag filter piping system to allow any overflow to be contained inside of the IR Building; a tank level transmitter was installed to alert operations of any high tank levels; and the Plant Operators are performing and documenting daily checks on the outside of the IR building to look for any evidence of releases from any processes. Clean-up efforts included the removal of approximately 1yd³ of affected soil.

On September 23, 2011, approximately 4,000 gallons (of which 2,000 gallons were recovered in the basement of the Module building) of injection fluid were released as the result of an injection booster pump failure. A written report was sent to the NRC on September 27, 2011. A corrective action taken, included the installation of a cover on the inside of the roof hatch to contain fluid within the building in the event of a similar failure in the future.

On December 14, 2011, approximately 1,500 gallons (of which 500 gallons were recovered from within the Manhole) of RO Brine Fluid were released from a broken 6" spool piece inside of Manhole #2. A written report was sent to the NRC on December 16, 2011. The corrective actions taken were: All of the associated metal piping inside of the Manhole was replaced and leak detection equipment has been installed. Fiber optic communication lines to the new leak detection equipment should be operational at the beginning of the 2nd Quarter 2012.

3.4 Soil and Vegetation Sampling

Annual soil and vegetation sampling was done on June 15, 2011. The analytical data from the soil and vegetation samples collected can be viewed in Table 9 of Appendix 1.

4.0 AIR MONITORING

4.1 Radon Gas

Radon gas is monitored continuously at six environmental air sampling locations at or near the Irigaray Project and at five locations at or near the Christensen Ranch Project. Passive

outdoor radon detectors are exchanged and analyzed quarterly by Landauer, Inc., a NVLAP accredited company. The sample analyses data is presented in Table 3. No trends or abnormal results were noted and all concentrations were well below the 10 CFR Parts 20, Appendix B effluent limit for radon of 1 E-8 uCi/ml .

4.2 Dryer Stack Emissions

Uranium One resumed operation of the Yellowcake Dryer at the Irigaray Central Processing Plant on November 1, 2011. A Dryer Stack Emission Test was done on November 21, 2011, by Optimal Air Testing Services of Casper Wyoming. The test showed a particulate emission release rate of 0.041 lb/hr, which demonstrates compliance with the allowable particulate emission rate of 0.30 lb/hr per the WDEQ Air Quality Permit OP 254. This was the first test that was run since 2005, all data is consistent with historical stack test results. A summary of the total emissions released is presented in Table 8 of Appendix 1.

4.3 Airborne Radionuclide's

During dryer operations, continuous airborne radionuclide sampling is required at the six specified environmental air sampling locations at the IR project. Results of this monitoring data are included in Table 4 of Appendix 1. No trends or abnormal results were noted comparing the data to the last time the dryer was in operation (2005).

4.4 Gamma Radiation Monitoring

Gamma radiation is monitored continuously at six environmental air sampling locations surrounding the Irigaray Project and at five locations surrounding the Christensen Ranch Project. TLDs are exchanged and analyzed quarterly by Landauer Dosimetry Services, a NVLP accredited company. The dosimeter analysis data are given in Table 5. No significant trends in the data were noted in the 2011 quarterly results.

5.0 OTHER INFORMATION REQUIRED BY SECTION 12.6 - NRC LICENSE

5.1 ALARA Audit

The 2011 As Low As Reasonably Achievable (ALARA) audit was held on February 8, 2012 by and independent third party contractor. The final report was not done at the time of this report and will be submitted under a separate cover to be inserted into this report.

5.2 Land Use Survey

The primary use of surrounding lands at both IR and CR projects continues to be rural sheep and cattle ranching. The livestock graze these lands, but are fenced-out of areas such as the evaporation ponds, plant sites and wellfields.

The secondary use of surrounding lands continues to be petroleum production from wells dispersed throughout the region. The closest oil well at the CR project is located approximately one third of a mile west of the CR plant. The closest oil well near the IR project is located approximately one half mile east of the MU 9 wellfield. To best of Uranium One's knowledge, no new oil wells have been drilled in close proximity to either project during 2011.

Over the past several years (2001 - 2011) some additional interest has developed in the immediate areas of the IR and CR projects in the development of coal bed methane (CBM) gas. Several CBM wells were drilled within a half-mile of CR MU 5 & 6 during 2002. At present these wells are in production. Several CBM wells were drilled in close proximity to both projects during 2011.

The nearest residence to the IR project is 4 miles to the north (the Brubaker ranch) and the nearest residence to the CR project is the John Christensen ranch located 3 miles southeast of the CR plant. Man camps (single wide trailers) were established at both the CR and IR projects to provide off-shift housing to workers at the Satellite and Central Processing plants.

5.3 2011 Site Inspections

5.3.1 During the report period no Occupational Safety and Health Administration (OSHA) inspections were held.

5.3.2 During the report period the NRC held two inspections. On October 5, 2011 a special inspection was held for the sand seal failure of the Yellowcake Dryer. At the conclusion of the inspection the inspector found that all procedures and policies were followed and that the Dryer sand seal failure did not meet the criteria of an NRC reportable event. No violations were received. On December 1, 2011 a routine inspection was held to review the Yellowcake Dryer Operations. No violations were received. Additionally, the inspector reviewed the corrective actions for two violations issued during the March 29, 2011 inspection. The two violations from the March 29, 2011 inspection were closed by the NRC inspector during the December 1, 2011 inspection.

5.3.3 During the report period the Wyoming Department of Environmental Quality – Land Quality Division conducted an annual inspection of the CR and IR projects on October 26, 2011. No violations were issued.

5.4 SERP Summary

Uranium One's Safety and Environmental Review Panel (SERP) [NRC License Condition 9.4 (C)] conducted reviews on five modifications in 2011 to the License Application as per the Performance Based License Condition (9.4) provision of approved License SUA-1341. A summary of the SERPs is located in Table 7 of Appendix 1.

5.5 Daily Walk –Through Inspections

Daily walk – through inspection are conducted at the IR and CR projects. Only minor items were noted during the daily inspections and were corrected immediately. A summary of the daily inspections by week are located in Table 6 of Appendix 1.

APPENDIX 1

Data Tables 1-9

Table 1

Page 1 of 1

Uranium One USA, Inc. - Irigaray and Christensen Ranch Projects

2011 Semi-Annual Effluent Report

Sample Type: Regional Groundwater (Ranch Wells) -Quarterly Samples

Sample Location: Christensen Ranch House #3				
	1st quarter	2nd quarter	3rd quarter July 20, 2011	4th quarter October 13, 2011
Radionuclide	(uCi/ml)	(uCi/ml)	(uCi/ml)	(uCi/ml)
Uranium			6.3E-10	8.1E-09
Thorium-230			ND	ND
Radium-226			7.0E-10	1.4E-09
Lead-210			ND	2.1E-09
Polonium-210			1.0E-09	ND

Sample Location: Christensen Middle Artesian				
	1st quarter	2nd quarter	3rd quarter July 20, 2011	4th quarter October 13, 2011
Radionuclide	(uCi/ml)	(uCi/ml)	(uCi/ml)	(uCi/ml)
Uranium			ND	4.1E-10
Thorium-230			ND	ND
Radium-226			ND	ND
Lead-210			ND	2.6E-09
Polonium-210			ND	ND

Sample Location: Christensen Ellendale #4				
	1st quarter	2nd quarter	3rd quarter July 20, 2011	4th quarter October 13, 2011
Radionuclide	(uCi/ml)	(uCi/ml)	(uCi/ml)	(uCi/ml)
Uranium			8.1E-10	1.2E-09
Thorium-230			ND	ND
Radium-226			6.0E-10	4.0E-10
Lead-210			ND	1.2E-09
Polonium-210			ND	ND

Sample Location: Christensen Del Gulch Lower #13				
	1st quarter	2nd quarter	3rd quarter July 20, 2011	4th quarter October 12, 2011
Radionuclide	(uCi/ml)	(uCi/ml)	(uCi/ml)	(uCi/ml)
Uranium			1.5E-09	4.70E-10
Thorium-230			ND	ND
Radium-226			4.0E-10	ND
Lead-210			ND	ND
Polonium-210			ND	ND

Sample Location: Christensen Willow Corral #32				
	1st quarter	2nd quarter	3rd quarter July 20, 2011	4th quarter October 13, 2011
Radionuclide	(uCi/ml)	(uCi/ml)	(uCi/ml)	(uCi/ml)
Uranium			ND	4.7E-10
Thorium-230			ND	ND
Radium-226			2.0E-10	2.0E-10
Lead-210			ND	1.6E-09
Polonium-210			ND	ND

Sample Location: Christensen First Artesian Well #1				
	1st quarter	2nd quarter	3rd quarter July 20, 2011	4th quarter October 13, 2011
Radionuclide	(uCi/ml)	(uCi/ml)	(uCi/ml)	(uCi/ml)
Uranium			2.6E-09	9.8E-09
Thorium-230			ND	ND
Radium-226			4.0E-10	ND
Lead-210			ND	4.6E-09
Polonium-210			ND	ND

Sample Location: Irigaray Willow # 2				
	1st quarter	2nd quarter	3rd quarter July 20, 2011	4th quarter October 13, 2011
Radionuclide	(uCi/ml)	(uCi/ml)	(uCi/ml)	(uCi/ml)
Uranium			ND	2.0E-10
Thorium-230			ND	ND
Radium-226			ND	ND
Lead-210			ND	ND
Polonium-210			ND	ND

LLD	N/D = NON DETECTABLE			
(uCi/ml)				
2.0 ^{E-10}	Uranium			
2.0 ^{E-10}	Thorium-230			
2.0 ^{E-10}	Radium-226			
1.0 ^{E-9}	Lead-210			
1.0 ^{E-9}	Polonium-210			

Uranium One Inc. Irigaray and Christensen Ranch Projects
 2011 Semi- Annual Effluent Report
 Sample Type: Surface Water, 3rd Quarterly Samples, July 20, 2011
 Sample Location: Irigaray Project

Note: ND = Non Detectable

	Willow Creek IR-9 Downstream (uCi/ml)	Willow Creek IR-14 Upstream (uCi/ml)	Willow Creek IR-17 Mine Site (uCi/ml)	Powder River IR-5 Ranch Site (uCi/ml)	LLD (uCi/ml)	10 CFR 20 Appendix B Effluent Limit (uCi/ml)
<u>Radionuclide</u>						
Uranium)	No Sample	9.0E-10	No Sample	Annual Sample	2.0 E-10	3.0 E-07
Thorium-230		ND			2.0 E-10	1.0 E-07
Radium-226		5.00E-10			2.0 E-10	6.0 E-08
Lead-210		1.00E-09			1.0 E-9	1.0 E-08
Polonium-210		ND			1.0 E-9	4.0 E-08
<u>Chemical Parameters</u>						
Total Alkalinity mg/L		2270			1.0	N/A
Chloride mg/L		7			1.0	N/A
TDS mg/L		2190			10	N/A
Specific Conductivity umhos/cm		3400			1.0	N/A
Sulfate mg/L		16			6	N/A
pH s.u.		8.8			0.01	N/A
Arsenic mg/L		0.008			0.001	N/A
Selenium mg/L		ND			0.001	N/A
<u>Estimated Flow Rate:</u>	Dry	Low	Dry			
Low = <5 cfs						
Medium = 5 - 50 cfs						
High = > 50 cfs						

Uranium One Inc. Irigaray and Christensen Ranch Projects
 2011 Semi- Annual Effluent Report
 Sample Type: Surface Water, 3rd Quarterly Samples, July 20, 2011
 Sample Location: Christensen Ranch Project

Note: ND = Non Detectable

	Willow Creek GS-01 Downstream (uCi/ml)	Willow Creek CG-05 Upstream (uCi/ml)	Willow Creek GS-03 Mine Site (uCi/ml)	LLD (uCi/ml)	10 CFR 20 Appendix B Effluent Limit (uCi/ml)
<u>Radionuclide</u>					
Uranium	No Sample	No Sample	No Sample	2.0 E-10	3.0 E-07
Thorium-230				2.0 E-10	1.0 E-07
Radium-226				2.0 E-10	6.0 E-08
Lead-210				1.0 E-9	1.0 E-08
Polonium-210				1.0 E-9	4.0 E-08
<u>Chemical Parameters</u>					
Total Alkalinity mg/L				1.0	N/A
Chloride mg/L				1.0	N/A
TDS mg/L				10	N/A
Specific Conductivity umhos/cm				1.0	N/A
Sulfate mg/L				30	N/A
pH s.u.				0.01	N/A
Arsenic mg/L				0.002	N/A
Selenium mg/L				0.005	N/A
<u>Estimated Flow Rate:</u>					
Low = <5 cfs	Dry	Dry	Dry		
Medium = 5 - 50 cfs					
High = > 50 cfs					

Uranium One Inc. Irigaray and Christensen Ranch Projects
 2011 Semi- Annual Effluent Report
 Sample Type: Surface Water, 4th Quarterly Samples, October 13, 2011
 Sample Location: Irigaray Project

Note: ND = Non Detectable

	Willow Creek IR-9 Downstream	Willow Creek IR-14 Upstream	Willow Creek IR-17 Mine Site	Powder River IR-5 Ranch Site	LLD (uCi/ml)	10 CFR 20 Appendix B Effluent Limit (uCi/ml)
<u>Radionuclide</u>	<u>(uCi/ml)</u>	<u>(uCi/ml)</u>	<u>(uCi/ml)</u>	<u>(uCi/ml)</u>		
Uranium)	No Sample	No Sample	No Sample	Annual Sample	2.0 E-10	3.0 E-07
Thorium-230					2.0 E-10	1.0 E-07
Radium-226					2.0 E-10	6.0 E-08
Lead-210					1.0 E-9	1.0 E-08
Polonium-210					1.0 E-9	4.0 E-08
<u>Chemical Parameters</u>						
Total Alkalinity mg/L					1.0	N/A
Chloride mg/L					1.0	N/A
TDS mg/L					10	N/A
Specific Conductivity umhos/cm					1.0	N/A
Sulfate mg/L					6	N/A
pH s.u.					0.01	N/A
Arsenic mg/L					0.001	N/A
Selenium mg/L					0.001	N/A
<u>Estimated Flow Rate:</u>	Frozen	Frozen	Frozen	Frozen		
Low = <5 cfs						
Medium = 5 - 50 cfs						
High = > 50 cfs						

Uranium One Inc. Irigaray and Christensen Ranch Projects
 2011 Semi- Annual Effluent Report
 Sample Type: Surface Water, 4th Quarterly Samples, October 13, 2011
 Sample Location: Christensen Ranch Project

Note: ND = Non Detectable

	Willow Creek GS-01 Downstream (uCi/ml)	Willow Creek CG-05 Upstream (uCi/ml)	Willow Creek GS-03 Mine Site (uCi/ml)	LLD (uCi/ml)	10 CFR 20 Appendix B Effluent Limit (uCi/ml)
<u>Radionuclide</u>					
Uranium	No Sample	No Sample	No Sample	2.0 ^{E-10}	3.0 ^{E-07}
Thorium-230				2.0 ^{E-10}	1.0 ^{E-07}
Radium-226				2.0 ^{E-10}	6.0 ^{E-08}
Lead-210				1.0 ^{E-9}	1.0 ^{E-08}
Polonium-210				1.0 ^{E-9}	4.0 ^{E-08}
<u>Chemical Parameters</u>					
Total Alkalinity mg/L				1.0	N/A
Chloride mg/L				1.0	N/A
TDS mg/L				10	N/A
Specific Conductivity umhos/cm				1.0	N/A
Sulfate mg/L				30	N/A
pH s.u.				0.01	N/A
Arsenic mg/L				0.002	N/A
Selenium mg/L				0.005	N/A
<u>Estimated Flow Rate:</u>	Frozen	Frozen	Frozen		
Low = <5 cfs					
Medium = 5 - 50 cfs					
High = > 50 cfs					

Table 3

URANIUM ONE USA Inc. - Irigaray and Christensen Projects

2011 Semi-Annual Effluent and Monitoring Report

Sample Type: Environmental Radon Gas

Location	1st Quarter 2011 uCi/ml	2nd Quarter 2011 uCi/ml	3rd Quarter 2011 uCi/ml	4th Quarter 2011 uCi/ml	Location Average 2011 uCi/ml	% of Pt. 20, App. B Effluent Conc. Limit 1 E-8 uCi/ml
IRIGARAY PROJECT						
IR-1 (Downwind of Restricted Area)	2.00E-10	4.00E-10	6.00E-10	7.00E-10	4.75E-10	4.75%
IR-3 (Upwind of Restricted Area)	3.00E-10	3.00E-10	8.00E-10	1.00E-09	6.00E-10	6.00%
IR-4 (North Road)	1.00E-10	3.00E-10	7.00E-10	6.00E-10	4.25E-10	4.25%
IR-5 (Irigaray Ranch)	7.00E-11	7.00E-11	3.00E-10	4.00E-10	2.10E-10	2.10%
IR-6 (Ridge Road - S.E. - Background)	1.00E-10	2.00E-10	6.00E-10	6.00E-10	3.75E-10	3.75%
IR-13 (IR Employee House Trailer)	7.00E-11	6.00E-10	7.00E-10	8.00E-10	5.43E-10	5.43%
(IR-13 / nearest residence)						
CHRISTENSEN PROJECT						
AS-1 (Table Mountain - Background)	1.00E-10	1.20E-09	*	4.00E-10	5.67E-10	5.67%
AS-5A (CR Plant Upwind S.E.)	1.00E-10	4.00E-10	6.00E-10	8.00E-10	4.75E-10	4.75%
AS-5B (CR Plant Downwind N.W)	4.00E-10	4.00E-10	6.00E-10	7.00E-10	5.25E-10	5.25%
AS-6 (Christensen Ranch)	1.00E-10	8.00E-10	1.00E-09	5.00E-10	6.00E-10	6.00%
AS-7 (CR Employee House Trailer)	7.00E-11	4.00E-10	8.00E-10	9.00E-10	5.43E-10	5.43%
(AS-7 / nearest residence)						

Quarterly Average	1.46E-10	4.61E-10	6.70E-10	6.73E-10
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* Sample voided (the detector had fallen on the ground)

LLD = 0.3 pCi/l

Table 4

URANIUM ONE USA, Inc. - Irigaray and Christensen Projects
 2011 Semi-Annual Effluent and Monitoring Report
 Sample Type: Environmental Air Particulate (4th Quarter)

Environmental Airborn Radionuclides (Weekly Composite) Start date 9/22/2011, End date 01/05/2012

	Uranium uCi/ml	Th-230 uCi/ml	Ra-226 uCi/ml	Pb-210 uCi/ml
IR-1 Downwind	5.30E-15	2.40E-16	3.30E-16	2.00E-14
%of Pt, App. B Effluent Limit	0.27%	0.80%	0.04%	3.33%
IR-3 Upwind	1.00E-14	N/D	2.10E-16	2.10E-14
%of Pt, App. B Effluent Limit	0.51%		0.02%	3.50%
IR-5 Brubaker Ranch	1.70E-15	N/D	2.20E-16	2.30E-14
%of Pt, App. B Effluent Limit	0.09%		0.02%	3.83%
IR-6 Background	1.90E-15	N/D	2.30E-16	1.10E-14
%of Pt, App. B Effluent Limit	0.10%		0.03%	1.83%
IR-13 Employee House Trailer	2.80E-15	1.90E-16	2.30E-16	1.90E-14
%of Pt, App. B Effluent Limit	0.14%	0.63%	0.03%	3.17%

N/D =Non Detectable

10 CFR Pt. 20, App. B, Effluent Limits (uCi/ml)

Uranium = 1.95E-12 (50%D & 50%W)

Th-230 = 3.0E-14 (Y)

Ra-226 = 9.0E-13 (W)

Pb-210 = 6.0E-13 (D)

Lab LLD's

Uranium = 1.0E-16

Th-230 = 1.0E-16

Ra-226 = 1.0E-16

Pb-210 = 2.0E-15

Table 5

URANIUM ONE USA, Inc. - Irigaray and Christensen Projects

2011 Semi-Annual Effluent and Monitoring Report

Sample Type: Environmental Gamma Radiation

Location	1st Quarter mrem/quarter	2nd Quarter mrem/quarter	3rd Quarter mrem/quarter	4th Quarter mrem/quarter	Location Average mrem/quarter
IRIGARAY PROJECT					
IR-1 (Downwind of Restricted Area)	6.9	9.2	10.5	8.3	8.7
IR-3 (Upwind of Restricted Area)	11.3	18.7	23.4	32.8	21.6
IR-4 (North Road)	5.5	8	12.1	9.6	8.8
IR-5 (Irigaray Ranch)	3.2	3.2	7.1	7.1	5.2
IR-6 (Ridge Road S.E. - Background)	5.3	8.1	9.5	8.5	7.9
IR-13 (I.R. Employee House Trailer) (nearest residence)	6.9	5.4	6.2	9.3	7
CHRISTENSEN PROJECT					
AS-1 (Table Mountain - Background)	5.4	4.9	*NO DATA*	5.8	5.4
AS-5A(CR Plant Upwind S.E.)	7.6	6.9	7.4	7.1	7.3
AS-5B (CR Plant Downwind N.W.)	3.4	5.7	10.2	8.9	7.1
AS-6 (Christensen Ranch)	5.7	10.7	13.9	12.1	10.6
AS-7 (C.R. Employee House Trailer) (nearest residence)	2	3.2	6.4	1.3	3.2
Quarterly Average	5.7	7.6	10.7	10.1	

* Station AS-1 was found to have sustained damage caused by cattle during the 3rd quarter. The screen on the bottom of the cup was missing as well as the environmental gamma pouch.

Table 6

URANIUM ONE USA, Inc. - Irigaray and Christensen Ranch Projects
 2011 Semi-Annual Effluent and Monitoring Report
 Summary of Daily Walk-through Inspection of Radiation Control Practices bein

Irigaray Site			Christensen Site		
Date: Week	YES	NO	Date: Week	YES	NO
12/26/2010	X		12/26/2010	X	
1/2/2011	X		1/2/2011	X	
1/9/2011	X		1/9/2011	X	
1/16/2011	X		1/16/2011	X	
1/23/2011	X		1/23/2011	X	
1/30/2011	X		1/30/2011	X	
2/6/2011	X		2/6/2011	X	
2/13/2011	X		2/13/2011	X	
2/20/2011	X		2/20/2011	X	
2/27/2011	X		2/27/2011	X	
3/6/2011	X		3/6/2011	X	
3/13/2011	X		3/13/2011	X	
3/20/2011	X		3/20/2011	X	
3/27/2011	X		3/27/2011	X	
4/3/2011	X		4/3/2011	X	
4/10/2011	X		4/10/2011	X	
4/17/2011	X		4/17/2011	X	
4/24/2011	X		4/24/2011	X	
5/1/2011	X		5/1/2011	X	
5/8/2011	X		5/8/2011	X	
5/15/2011	X		5/15/2011	X	
5/22/2011	X		5/22/2011	X	
5/29/2011	X		5/29/2011	X	
6/5/2011	X		6/5/2011	X	
6/12/2011	X		6/12/2011	X	
6/19/2011	X		6/19/2011	X	
6/26/2011	X		6/26/2011	X	
7/3/2011	X		7/3/2011	X	
7/10/2011	X		7/10/2011	X	
7/17/2011	X		7/17/2011	X	
7/24/2011	X		7/24/2011	X	
7/31/2011	X		7/31/2011	X	
8/7/2011	X		8/7/2011	X	
8/14/2011	X		8/14/2011	X	
8/21/2011	X		8/21/2011	X	
8/28/2011	X		8/28/2011	X	
9/4/2011	X		9/4/2011	X	
9/11/2011	X		9/11/2011	X	
9/18/2011	X		9/18/2011	X	
9/25/2011	X		9/25/2011	X	
10/2/2011	X		10/2/2011	X	
10/9/2011	X		10/9/2011	X	
10/16/2011	X		10/16/2011	X	

Table 6

URANIUM ONE USA, Inc. - Irigaray and Christensen Ranch Projects
2011 Semi-Annual Effluent and Monitoring Report
Summary of Daily Walk-through Inspection of Radiation Control Practices bein

Irigaray Site			Christensen Site		
Date: Week	YES	NO	Date: Week	YES	NO
10/23/2011	X		10/23/2011	X	
10/30/2011	X		10/30/2011	X	
11/6/2011	X		11/6/2011	X	
11/13/2011	X		11/13/2011	X	
11/20/2011	X		11/20/2011	X	
11/27/2011	X		11/27/2011	X	
12/4/2011	X		12/4/2011	X	
12/11/2011	X		12/11/2011	X	
12/18/2011	X		12/18/2011	X	
12/26/2011	X		12/26/2011	X	

Table 7

Irigaray and Christensen Ranch Projects Summary of SERP Actions

Year	Description	Revisions to License Application Texted Text
2011 SERP 10-01	The purpose of this evaluation by the Uranium One Safety and Environmental Review Panel (SERP) was to review the installation of a vent on the inlet feed line to RO-4. The vent system is being proposed to prevent the build-up of air or gases which has caused the pump associated with RO-4 to cavitate. As an ALARA measure the venting of the RO-4 inlet line was feed to the existing de-gas exhaust system for the bi-carbonate exhaust system to minimize any potential radon release from the vent system any from the plant and thus reducing potential personnel exposures.	None
2011 SERP 11-02	The purpose of SERP 11-02 is to evaluate the addition of an additional air sampling location at the Irigaray Central Processing Facility as recommended by the December 2010 air flow study conducted at Irigaray and Christensen Ranch Facilities.	Updated Figures 5.3 & 5.4 5.3 Irigaray Processing Facility Radiological Monitoring Locations 5.4 Irigaray Dry-Pack Level Air Sample Locations
2011 SERP 11-03	The purpose of SERP 11-03 is to evaluate the use of a bicarbonate injection system at the mine unit header houses. The purpose of the bicarbonate injection system is to increase the bicarbonate concentration of the wellfield recovery solutions during wellfield preconditioning and operations to the target concentration of 1800 ppm bicarbonate in the lixiviant in order to maximize uranium recovery.	None
2011 SERP 11-04	The purpose of SERP 11-04 is to review the addition of a fan for ventilation of the resin transfer water storage tank into an existing natural ventilation ducting system associated with the resin transfer water storage tank at the Irigaray Central Processing Plant. In conjunction with the addition of the fan being exhausted into existing ducting, the top for the tank was replaced to minimize the exhausting of radon into the plant during resin transfer activities.	None

Table 7

Irigaray and Christensen Ranch Projects Summary of SERP Actions

2011 SERP 11-05	The purpose of SERP 11-05 is to review proposed changes to the Safety, Health and Environmental (SHE) Department organization for Irigaray and Christensen Ranch (Willow Creek). This included the addition of a new position, Manager Site SHE and revision of some job duty descriptions for site personnel. In addition of a Director of SHE for Uranium One Americas, this is a Corporate Management position responsible for overall SHE activities at Willow Creek and other Uranium One facilities.	Revised Section 5.1 Corporate Organization and Administrative Procedures pages 5-1 through 5-4a of the Approved License Renewal Application. Revision to Figure 5.1 Organizational Chart on page 5-4.
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Table 8

URANIUM ONE USA, Inc. - Irigaray and Christensen Projects
 2011 Semi-Annual Effluent and Monitoring Report
 Sample Type: Dryer Stack Emissions Test

SUMMARY OF STACK EMISSIONS SURVEY RESULTS
 Irigaray Dryer and Packaging Circuit

Survey month and year	Total Particulates lbs/hour (% limit)	U3O8 Emissions lbs / hour	Unat. Concentration uCi / ml	Th-230 Concentration uCi / ml	Ra-226 Concentration uCi / ml	Pb-210 Concentration uCi / ml
December 1994	0.074 (25%)	0.0047	3.06 E-10	6.7 E-13	7.75 E-13	2.33 E-12
March 1995	0.149 (50%)	0.0106	7.53 E-10	3.9 E-12	3.86 E-12	3.93 E-12
September 1995	0.167 (52%)	0.005	3.37 E-10	1.5 E-12	9.17 E-13	8.7 E-13
March 1996	0.056 (19%)	0.0041	2.92 E-10	1.13 E-12	1.51 E-13	1.13 E-12
September 1996	0.029 (10%)	0.0035	2.04 E-10	1.68 E-13	1.52 E-12	1.10 E-12
May 1997	0.057 (19%)	0.007	4.28 E-10	1.34 E-12	6.71 E-13	1.73 E-12
October 1997	0.065 (22%)	0.0123	6.80 E-10	1.88 E-12	1.86 E-12	4.23 E-13
May 1998	0.084 (28%)	0.0118	6.18 E-10	2.50 E-12	9.12 E-13	* NA
October 1998	0.035 (12%)	0.0063	3.08 E-10	1.21 E-12	1.54 E-12	2.94 E-11
June 1999	0.070 (23%)	0.0163	9.33 E-10	6.70 E-13	9.46 E-14	7.82 E-11
December 1999	0.014 (5%)	0.0107	6.67 E-10	9.01 E-14	1.53 E-13	2.73 E-12
May 2000	0.052 (17%)	0.0073	5.73 E-10	3.30 E-12	3.10 E-13	3.76 E-11
November 2001	0.071 (24%)	0.0082	6.36 E-10	< 1.42 E-12	< 6.51 E-13	< 4.35 E-13
January 2005	0.054 (18%)	0.0033	2.46E-10	1.19E-13	6.92E-14	2.91E-12
November 2011	0.041 (14%)	0.0087	8.80E-10	4.07E-12	2.37E-12	6.08E-11
	Permit Limit 0.30					

COMMENTS:

* Pb-210 was not determined in May 98, because the sample was destroyed by the lab before the analysis was completed.

Table 9

URANIUM ONE USA Inc. - Irigaray and Christensen Projects
 2011 Semi-Annual Effluent and Monitoring Report
 Sample Type: Vegetation

Location	Uranium * uCi / Kg	Th-230 uCi / Kg	Ra-226 uCi / Kg	Pb-210 uCi / Kg
IRIGARAY PROJECT				
IR-1 (Downwind of Restricted Area)	3.00E-04	1.80E-05	1.50E-04	2.00E-04
IR-3 (Upwind of Restricted Area)	1.20E-04	1.70E-05	4.10E-05	8.90E-05
IR-4 (North Road - Background)	1.80E-05	1.90E-05	3.30E-05	2.90E-04
IR-5 (Irigaray Ranch - nearest resident)	3.00E-06	1.60E-06	8.60E-06	3.10E-05
IR-6 (Ridge Road S.E.)	2.10E-05	9.10E-06	2.30E-05	1.30E-04
CHRISTENSEN PROJECT				
AS-1 (Table Mountain - Background))	1.50E-05	8.30E-06	1.90E-05	2.10E-04
AS-5A (CR Plant Upwind S.E.)	1.30E-06	1.40E-05	1.90E-05	2.80E-05
AS-5B (CR Plant Downwind N.W.)	6.10E-06	1.50E-05	1.90E-05	4.60E-05
AS-6 (Christensen Ranch-Nearest Resident)	9.80E-06	1.60E-05	1.90E-05	1.20E-04

Analyses performed by Inter-Mountain Laboratories, (IML), Sheridan, Wyoming

* The activity for uranium is a mathematical calculation based on a chemical analysis, therefore, no precision estimate (error) is given.
 The Inter-Mountain Lab reporting limit (RL) is listed below are based on the weight of the samples.

RL's (uCi / Kg):
 Uranium = 2.0 E-7
 Th-230 = 1.5 E-5 to 8.3 E-6
 Ra-226 = 1.5 E-4 to 8.6 E-6
 Pb-210 = 1.0 E-6

Table 9

URANIUM ONE USA Inc.- Irigaray and Christensen Projects
2011 Semi-Annual Effluent and Monitoring Report
Sample Type: Soil

Location	Uranium * uCi / gram	Th-230 uCi / gram	Ra-226 uCi / gram	Pb-210 uCi / gram
IRIGARAY PROJECT				
IR-1 (Downwind of Restricted Area)	1.10E-06	8.00E-07	3.40E-06	1.00E-06
IR-3 (Upwind of Restricted Area)	9.20E-06	8.00E-07	1.40E-06	3.10E-06
IR-4 (North Road - Background)	6.20E-06	6.00E-07	1.30E-06	1.70E-06
IR-5 (Irigaray Ranch - nearest resident)	7.00E-07	6.00E-07	1.20E-06	1.20E-06
IR-6 (Ridge Road S.E.)	1.00E-06	7.00E-07	1.20E-06	1.60E-06
CHRISTENSEN PROJECT				
AS-1 (Table Mountain - Background))	6.00E-07	7.00E-07	9.00E-07	1.90E-06
AS-5A (CR Plant Upwind S.E.)	1.00E-06	6.00E-07	1.30E-06	1.60E-06
AS-5B (CR Plant Downwind N.W.)	1.00E-06	8.00E-07	1.40E-06	1.70E-06
AS-6 (Christensen Ranch-Nearest Resident)	1.10E-06	6.00E-07	1.40E-06	1.50E-06

Analyses performed by Inter-Mountain Labs (IML), Casper, Wyoming

* The activity for uranium is a mathematical calculation based on a chemical analysis, therefore, no precision estimate (error) is given.

IML reporting limits (uCi / g)

Uranium = 2.00E-7

Th-230 = 2.00E-7

Ra-226 = 2.00E-7

Pb-210 = 1.00E-6