From:	Ryan Schierman (USA - Christensen Ranch)
To:	Linton, Ron
Cc:	Jon Winter (USA - Casper); Scott Schierman (USA - Casper)
Subject:	RE: Missing page? - 8/28/14 Semi-Annual Effluent and Environmental Monitoring Report
Date:	Thursday, October 23, 2014 9:26:29 AM
Attachments:	1st Half Semi Annual Report.pdf missing page Table 2.pdf

Ron

Sorry about that I have included the following copy of the semi-annual report and the missing page. Let me know if you have additional questions or concerns.

Ryan

From: Linton, Ron [mailto:Ron.Linton@nrc.gov]
Sent: Thursday, October 23, 2014 6:25 AM
To: Ryan Schierman (USA - Christensen Ranch)
Cc: Scott Schierman (USA - Casper); Jon Winter (USA - Casper)
Subject: Missing page? - 8/28/14 Semi-Annual Effluent and Environmental Monitoring Report

Ryan:

While NRC staff was reviewing the Jan.-June 2014 semi-annual effluent report for Willow Creek dated August 28, 2014, it appears the NRC's record copy (ML14251A305 in package ML14251A209) is missing Table 2, Page 3 of 4. We think the missing page may be the Mine Unit 5 weekly maximum injection pressures per module building. Can you check on this and send the missing page, or send a updated Semi-Annual Effluent and Environmental Monitoring Report with the missing page included.
Thanks
Ron

Ron C. Linton
Project Manager/Hydrogeologist
U.S. NRC
Office of Nuclear Materials Safety and Safeguards
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Uranium One Inc.

uraniumone
investing in our energy

August 28, 2014

Attn: Document Control Desk
U.S. Nuclear Regulatory Commission
Mr. Drew Persinko, Deputy Director
Decommissioning & Uranium Recovery Licensing Directorate
Division of Waste Management & Environmental Protection
Office of Federal and State Materials &
Environmental Management Programs
11545 Rockville Pike
Rockville, MD 20852-2738

Subject: License SUA-1314
Docket No. 040-08502
Willow Creek Project
ALARA Report
Semi-Annual Effluent and
Environmental Monitoring Report

Dear Mr. Persinko:

In accordance with 10 CFR 40.65 and per license conditions 12.1 and 12.3 of Source Materials License SUA-1341, please find enclosed the Semi-Annual Effluent and Environmental Monitoring Report for the period of January 1 through June 31, 2014. Additionally the annual ALARA report is included as a separate document

Please contact me should you have any questions regarding this report. (307) 696-811.

Sincerely,

Ryan Schierman
RSO

cc: T.McCullough
J. Winter
S. Schierman

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Willow Creek ISR Project
License Number SUA-1341
Docket No.040-08502

Semi-Annual Report

January 01, 2014 through July 31, 2014

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Table of Appendices

Appendix A Tables

1.0 INTRODUCTION

In accordance with Sections 12.1 and 12.3 of the Nuclear Regulatory Commission (NRC) Source License No. SUA-1341, Uranium One USA, Inc. hereby submits the 2014 Semi-Annual Effluent and Monitoring Report. This document summarizes the required operational and environmental monitoring activities conducted at the Irigaray (IR) and Christensen Ranch (CR) projects from January 1, 2014 through June 31, 2014.

2.0 OPERATIONAL MONITORING

2.1 Activities Summary

During the report period, production operations occurred at Mine Unit 7, Mine Unit 8, Mine Unit 5-2, Mine Unit 10A, and Mine Unit 10B.

2.2 Excursion Well Status

No wells were on excursion status during the reporting period.

2.3 Groundwater Volumes Injected and Recovered

During this reporting period an overall wellfield bleed was maintained at 1.3%. A total of 1,527,943,203 gallons were injected and 1,548,233,250 gallons were recovered during this period. This data is summarized by wellfield in Table 1 and is located in Appendix A of this report.

2.4 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. Injection manifold pressures are continuously logged by pressure chart recorders located in every wellfield module building. The data from these logs are summarized in Table 2 of Appendix A.

The 140 psi limit was exceeded on 13 separate occasions, as discussed by the following discussion;

On February 1, 2014 module 5-2 had a quick spike in pressure to 150 psi due to a problem in a pump station. Module 10-6 pressure exceeded the limit with a 145 psi on February 15, 2014 due to a power bump that occurred at the mine. On March 29, 2014 modules 10-4 and 7-5 had spikes to the amount of 142 and 160 psi respectively. The cause of the pressurization was problems with the booster pump. Module Building 7-5 had a quick spike in pressure to 148 psi on March 31, 2014 due to a problem in a pump station. Module 7-1 had a quick spike in pressure to 143 psi on May 3, 2014 due to another module building shutting down for a maintenance repair. Module Building 7-2 had a quick spike in pressure to 145 psi on May 3, 2014 due to another Module Building shutting down for a maintenance repair. Module Building 7-3 had a quick spike in

pressure to 146 psi on May 3, 2014 due to another module building shutting down for a maintenance repair. Module 10-5 had a quick spike in pressure to 142 psi on May 1, 2014 due to a power bump. Module 7-3 had a quick spike to 143 psi on May 7, 2014 due to a due to another module building shutting down for a maintenance repair. Module 7-5 had a quick spike in pressure to 149 psi on June 15, 2014 due to a power bump. Module 7-5 had a quick spike in pressure to 145 psi on June 22, 2014 due to a problem in a pump station.

2.5 Summary of Mechanical Integrity Testing (MIT)

During the report period, Mechanical Integrity Tests (MIT's) were completed on a total of 72 wells. The MIT's were completed using the "Two Packer Pressurized Test Method" approved in Permit No. 478. The table of the MIT records is contained in Attachment A. Of the total of 72 MIT's that were performed, there were 2 failures. The two wells that failed MIT testing occurred in Mine Unit 8 during the 2nd quarter of 2014 (8Z189-1 and 8AA187-2). Repairs will be made and the wells will be retested during the 3rd quarter of 2014.

The MIT's were completed in the following area:

Location	Number MIT's	Number Failures
Mine Unit 7	44	0
Mine Unit 8	8	2
Mine Unit 10A	3	0
Mine Unit 10B	17	0

Additionally three MIT tests were performed on the Deep Disposal Wells 1 and 18-3. MITs are required on a minimum every five years as per state requirements and NRC license condition 10.2. During the MIT tests Deep Disposal Well 18-3 failed. Letters to the WYDEQ and NRC were given and subsequent reports will be given to both the state and NRC. Deep Disposal Well 1 initially passed its MIT test, however it failed to maintain annulus pressures and required maintenance to mitigate the problem. Maintenance was performed, and another MIT test was required before operations of the well resumed. The well passed its MIT test and was put back into production. Letters were sent and reports will be sent to regulatory agencies describing the events more in depth.

There were no wells that were abandoned during the period of January 1, 2014 through June 30, 2014. The abandonment records are maintained on site.

3.0 Restoration

3.1 Christensen Ranch:

All groundwater restoration activities, including stabilization monitoring, ended at Christensen Ranch on May 30, 2005. The results of all wellfield restoration were compiled into a report and submitted to the WDEQ and NRC on April 8, 2008.

3.2 Irigaray:

Irigaray groundwater restoration activities and stabilization monitoring were conducted from 1990 to 2002. The "Wellfield Restoration Report Irigaray Mine" was submitted to the WDEQ in July of 2004. The WDEQ-LQD approved restoration of Irigaray Mine Units 1-9 via correspondence dated November 1, 2005. After an independent review, Irigaray restoration approval was received from the NRC in correspondence dated_September 20, 2006. For a complete history of the Irigary wellfield restoration, please see the previously referenced report. No production areas are in restoration for the reporting period.

4.0 ENVIRONMENTAL MONITORING

4.1 Regional Ranch Wells

Five stock watering and domestic water wells are located within two kilometers of Christensen Ranch mining area, and one is located near Irigaray. Routine quarterly groundwater samples were collected from these six regional ranch wells. The samples were analyzed for Uranium, Thorium-230, Radium-226, Lead-210 and Polonium-210. All analytical results for radionuclides were at or near minimum detection concentrations (MDCs) which are consistent with historical data. Review of the analytical data indicates there were no upward trends observed. Sampling was consistent with the requirements of License Condition 11.3 and Section 5.8 of the License Renewal Application. This data is summarized in Table 3 of Appendix A.

4.2 Surface Water Monitoring

During the reporting period Surface Water samples were collected across the Willow Creek Project. Willow Creek is the only source of surface water present within and adjacent to the permit boundaries of both the IR and CR projects. Willow Creek is an ephemeral stream which was sampled on a quarterly basis. Three sample locations are designated at both project sites; upstream, downstream and within the permit 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. During the sampling period all samples were below the 10 CFR Appendix B Table 2 Effluent Concentrations. A slight increase in concentration was seen in Christensen GS-03, however it was below the concentration limits in 10 CFR Appendix B Table 2 effluent concentrations. Surface water sampling is summarized in Table 4 of Appendix A. The Powder River was sampled during the reporting period; however Uranium One is awaiting results from an outside laboratory. Results for the 2014 annual Powder River

sample will be included in the July 1, through December 31, 2014 semi-annual effluent report.

4.3 Summary of Spills

There were three reportable spills during the reporting period. Emails, written notifications, and summary reports were submitted to the NRC and WDEQ regarding these events and will not be duplicated in this report.

4.4 Soil Sampling

Annual soil sampling at the Willow Creek environmental locations occurred during the reporting period. The samples were taken from 5 locations at the Irigaray Project and 4 locations from the Christensen Project. Sampling locations coincide with air particulate stations and radon stations. The soil was analyzed for uranium, radium-226, lead-210, and thorium. A summary of the results is located in Table 5 of Appendix A. No abnormal or upward trends in data were noted.

4.5 Vegetation Sampling

Annual vegetation sampling at the Willow Creek environmental locations occurred during the reporting period. The samples were taken from 5 location at the Irigaray project and 4 locations at the Christensen Project. Uranium One is awaiting the results from an outside laboratory and will report the values in the July through December semi-annual effluent report.

5.0 AIR MONITORING

5.1 Dryer Stack Emissions

The semi-annual Dryer Stack Emission testing was performed on May 22, 2014 by Western Environmental Services and Testing Services. The test showed a release rate of 0.034 lb/hr, which is in compliance with the WDEQ Air Quality Permit OP254 of 0.30 lb/hr. A summary of the total emissions is summarized in Table 6 of Appendix A.

As a result of NRC comments quantities were reported for Th-230, Pb-210, Ra-226, and U-nat. These values are based on the operating times of the dryer and the stack testing performed by an outside entity. Additionally Uranium One is awaiting approval of methodologies for quantifying radon before implementation as per license condition 11.3. Since this is the first semi-annual to report quantities historical data was not included except for graphs depicting how the concentrations compared to past data.

5.2 Environmental Airborne Radionuclides

During dryer operations, continuous airborne radionuclide sampling is required at the five specified environmental air sampling locations at the IR project. The yellowcake

dryer was in operation during the first and second quarters of 2014. The stations used to monitor airborne radionuclides and are located as follows:

- IR-1 Downwind of Restricted Area
- IR-3 Upwind of Restricted Area
- IR-5 is located at Brubaker Ranch
- IR-6 is the background location
- IR-13 is the employee house trailer and is considered the maximally exposed individual.

Air Particulate samples are collected weekly and then composited quarterly for analysis by an outside laboratory. The data for first and second quarter are summarized in Table 7 of Appendix A.

5.3 Environmental Radon Monitoring

Radon gas is monitored continuously at the six environmental air locations surrounding the Irigaray Project, and five locations surrounding the Christensen Ranch Project. Passive outdoor radon detectors are exchanged quarterly and sent to Landauer for analysis. The data is shown in Table 8 of Appendix E. Data is given as raw data without subtracting the background location.

5.4 Environmental Gamma Radiation Monitoring

Passive gamma radiation is monitored continuously at six environmental air locations surrounding the Irigaray Project and at five locations surrounding the Christensen Ranch Project. Dosimeters are exchanged and analyzed quarterly by the Landauer Dosimetry Services, a NVLP accredited company. Review of the data indicates that the control used for second quarter is higher than what is typically expected. The controls are kept in low gamma radiation areas. Investigation is ongoing into the potential cause of the increased dose measured by the control badge. A summary of the data is presented in Table 9 of Appendix A.

5.5 Effluent Released from Willow Creek Activities

As part of the 10 CFR 40.65 effluent monitoring requirements the licensee must specify the quantity of each of the principle radionuclides released to unrestricted areas in liquid and in gaseous effluents during the previous six months. Additionally we are required under License Condition 11.3 to quantify the principal radionuclides from all point and diffuse sources. Under this license condition methods for estimating quantity of radionuclides emitted from a facility need to be verified by NRC before implementation. Once verification is achieved by the NRC these estimations will be made and reported under this section of the report.

6.0 SUMMARY OF EMPLOYEE URINALYSIS RESULTS

No bio-assays exceeded the action level of 15 µg/L uranium during the report period. Samples are collected on all employees at initial hiring. Monthly samples are collected from plant operators. Analysis is performed by an outside laboratory.

7.0 PUBLIC DOSE

10 CFR 20.1301 requires that each NRC licensee conduct their operations in a manner that the total effective dose equivalent (TEDE) to members of the public does not exceed 100 mrem in a year, and that the dose from external sources in any unrestricted area does not exceed 2 mrem in any hour.

Additionally, 10CFR 20.1302 requires licensees to show compliance to these dose limits by demonstrating one of the following:

1. Show by actual measurement or calculation that the TEDE to the public does not exceed 100 mrem; or
2. Show that the annual average concentration of radioactive effluent released at the restricted boundary do not exceed the values in Table 2 of Appendix B in 10 CFR 20. Also that the external dose to an individual continuously present in an unrestricted area would not exceed 2 mrem in an hour.

Public Dose is calculated on an annual basis and will be included in the semi-annual effluent Report due in February.

8.0 SAFETY AND ENVIRONMENTAL EVAULATIONS

Per License Condition 9.4E Uranium One shall furnish, in an annual report to the NRC, a description of such changes, tests, or experiments, including a summary of the evaluations made by the safety and environmental evaluation panel (SERP). Uranium One completed a total of two SERPs during the reporting period. A summary of the SERPs findings for each evaluation can be found in Table 10 of Appendix A. Additionally the licensee shall annually submit changed pages, which shall include both a change indicator and a page change identification.

9.0 Other

9.1 Inspections

9.1.1 O.S.H.A Inspections

During the reporting period no O.S.H.A inspections were held

9.1.2 NRC Inspections

During the reporting period the NRC held one site inspection held on the week of May 11, 2014. Uranium One is still awaiting the inspection report from this inspection.

9.2 ALARA REVIEW

As required by License condition 12.3 the licensee shall submit the results of the annual review of the radiation protection program content and implementation performed in accordance with 10CFR20.1101(c). ALARA audit will be submitted with the January to December semi-annual effluent.

9.3 Land Use Survey

The primary use of surrounding lands at both IR and CR project continues to be rural sheep and cattle ranching. Livestock actively graze these lands, but fencing prevents access to 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 wells at the IR site are located approximately one half mile east of proposed MU 9 wellfield.

Over the past several years (2001-2014) 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 are located within a half mile of Uranium facilities.

The nearest residence to the IR site is 4 miles to the north (the Brubaker Ranch) and the nearest residence to CR is the John Christensen Ranch located 3 miles southeast of the CR plant site. Both are ranch housing with a population of six or less.

Land use surveys are conducted on an annual basis to verify the use of surrounding lands is consistent with previous assessments. These assessments are used in determining survey locations and which individuals may be potentially affected by Uranium One's activities. A copy of the land use survey will be included in the semi-annual effluent report sent at the end of the year.

9.4 Daily Inspections

Daily inspections occur for both Irigaray and Christensen plants. Records of these inspections are filed and maintained onsite for inspection. During the reporting period these inspections were being performed and minor items of concern were noted.

APPENDIX A

Tables 1-10

Table 2 - Christensen Ranch Weekly Maximum Injection Pressures per Module Building

Mine Unit 7

	Weekly Maximum injection Pressure (Maximum Permissible 140 psi)					
Week Ending	Module 7-1	Module 7-2	Module 7-3	Module 7-4	Module 7-5	Module 7-6
1/4/2014	125	121	125	60	130	95
1/11/2014	126	130	134	101	130	102
1/18/2014	126	131	135	69	126	100
1/25/2014	130	131	130	101	125	110
2/1/2014	126	130	100	95	121	105
2/8/2014	121	131	96	50	122	105
2/15/2014	120	130	109	63	124	106
2/22/2014	124	130	105	55	125	101
3/1/2014	126	135	90	95	125	105
3/8/2014	124	137	127	100	135	105
3/15/2014	121	125	125	90	131	91
3/22/2014	120	125	125	74	130	90
3/29/2014	125	130	127	63	**142**	95
4/6/2014	127	125	131	72	**148**	102
4/13/2014	130	129	129	89	135	96
4/20/2014	140	135	136	94	135	104
4/27/2014	130	125	131	80	134	101
5/4/2014	**143**	**145**	**146**	101	134	125
5/11/2014	138	140	**143**	100	133	95
5/18/2014	110	125	125	90	132	96
5/25/2014	110	124	125	90	126	100
6/1/2014	124	124	140	107	132	125
6/8/2014	125	131	138	103	131	124
6/15/2014	115	133	135	105	130	96
6/22/2015	129	135	0	113	**149**	106
6/29/2014	138	130	0	125	**145**	108

Table 2 - Christensen Ranch Weekly Maximum Injection Pressures per Module Building

Mine Unit 8

	Weekly Maximum injection Pressure (Maximum Permissible 140 psi)					
Week Ending	Module 8-1	Module 8-2	Module 8-3	Module 8-4/5	Module 8-6	Module 8-7
1/4/2014	105	120	80	79	93	101
1/11/2014	107	121	85	79	86	101
1/18/2014	107	124	83	80	80	115
1/25/2014	100	100	78	103	84	101
2/1/2014	96	99	75	105	125	108
2/8/2014	95	98	89	95	100	100
2/15/2014	86	95	90	90	89	102
2/22/2014	88	85	91	83	80	95
3/1/2014	100	83	101	85	80	105
3/8/2014	105	87	105	76	90	120
3/15/2014	95	85	85	80	75	116
3/22/2014	95	89	70	70	65	119
3/29/2014	85	85	75	75	70	116
4/6/2014	82	90	80	69	79	115
4/13/2014	78	87	81	70	78	110
4/20/2014	82	93	81	65	78	103
4/27/2014	78	90	85	78	69	105
5/4/2014	80	95	85	82	60	110
5/11/2014	91	92	90	76	79	118
5/18/2014	91	100	76	90	80	111
5/25/2014	79	99	79	101	79	109
6/1/2014	75	79	74	71	74	96
6/8/2014	68	85	89	61	73	87
6/15/2014	77	87	80	75	80	105
6/22/2015	82	90	85	85	88	105
6/29/2014	75	91	75	79	75	105

Table 2 - Christensen Ranch Weekly Maximum Injection Pressures per Module Building

Mine Unit 8 (Cont.) and Mine Unit 5-2

	Weekly Maximum injection Pressure (Maximum Permissible 140 psi)					
Week Ending	Module 8-8	Module 8-9		Module 5-2		
1/4/2014	95	98		120		
1/11/2014	100	100		120		
1/18/2014	120	104		131		
1/25/2014	104	106		130		
2/1/2014	114	105		**150**		
2/8/2014	110	110		140		
2/15/2014	95	115		131		
2/22/2014	100	115		115		
3/1/2014	110	120		115		
3/8/2014	100	115		119		
3/15/2014	102	101		115		
3/22/2014	100	105		117		
3/29/2014	101	111		116		
4/6/2014	100	109		131		
4/13/2014	100	97		130		
4/20/2014	103	109		129		
4/27/2014	99	100		130		
5/4/2014	100	121		129		
5/11/2014	107	100		134		
5/18/2014	110	105		126		
5/25/2014	110	105		130		
6/1/2014	95	80		137		
6/8/2014	101	80		131		
6/15/2014	101	91		130		
6/22/2015	115	120		130		
6/29/2014	107	109		130		

Injection Manifold Pressures

Table 2 - Christensen Ranch Weekly Maximum Injection Pressures per Module Building

Mine Unit 10

	Weekly Maximum injection Pressure (Maximum Permissible 140 psi)					
Week Ending	Module 10-1	Module 10-2	Module 10-3	Module 10-4	Module 10-5	Module 10-6
1/4/2014	116	120	116	127	126	123
1/11/2014	126	140	117	132	132	130
1/18/2014	125	130	120	130	133	140
1/25/2014	125	130	115	130	130	131
2/1/2014	120	125	120	135	135	130
2/8/2014	115	124	114	130	130	126
2/15/2014	110	120	116	135	130	**145**
2/22/2014	115	127	125	136	131	124
3/1/2014	126	125	125	135	131	130
3/8/2014	125	127	129	140	140	134
3/15/2014	120	130	126	139	135	140
3/22/2014	114	127	130	135	138	129
3/29/2014	133	129	135	**160**	130	136
4/6/2014	120	129	130	140	134	129
4/13/2014	135	130	130	140	135	127
4/20/2014	119	134	133	140	140	133
4/27/2014	125	126	135	137	135	125
5/4/2014	130	130	130	137	**142**	131
5/11/2014	124	130	135	135	139	130
5/18/2014	114	127	138	134	135	129
5/25/2014	115	127	135	165	130	130
6/1/2014	101	124	125	160	107	125
6/8/2014	120	116	116	130	125	107
6/15/2014	102	125	130	126	130	125
6/22/2015	106	125	125	129	142	131
6/29/2014	115	131	125	132	132	126

Table 3
Page 1 of 2
Uranium One USA, Inc. - Willow Creek Project
2014 Semi-Annual Effluent and Monitoring Report
Regional Ranch Wells

Sample Location	Christensen Ranch House #3					
Radionuclide	1st quarter (µCi/ml)	Uncertainty (±µCi/ml)	% of EFF Conc*	2nd quarter (µCi/ml)	Uncertainty (±µCi/ml)	% of EFF Conc*
Uranium (Dissolved)	1.1E-08	NA	3.7	6.6E-09	NA	2.2
Uranium (Suspended)	ND	NA	NA	ND	NA	NA
Thorium-230 (Dissolved)	ND	NA	NA	ND	NA	NA
Thorium-230 (Suspended)	2.5E-09	4.0E-10	0.8	ND	NA	NA
Radium-226 (Dissolved)	3.0E-10	1.0E-10	0.1	6.0E-10	2.0E-10	0.2
Radium-226 (Suspended)	ND	NA	NA	ND	NA	NA
Lead-210 (Dissolved)	ND	NA	NA	1.2E-09	1.5E-09	0.4
Lead-210 (Suspended)	ND	NA	NA	3.0E-09	5.0E-10	1.0
Polonium-210 (Dissolved)	ND	NA	NA	ND	NA	NA
Polonium-210 (Suspended)	ND	NA	NA	1.4E-09	6.0E-10	0.5

Sample Location	Christensen Ranch First Artesian #1					
Radionuclide	1st quarter (µCi/ml)	Uncertainty (±µCi/ml)	% of EFF Conc*	2nd quarter (µCi/ml)	Uncertainty (±µCi/ml)	% of EFF Conc*
Uranium (Dissolved)	ND	NA	NA	ND	NA	NA
Uranium (Suspended)	ND	NA	NA	ND	NA	NA
Thorium-230 (Dissolved)	ND	NA	NA	ND	NA	NA
Thorium-230 (Suspended)	ND	NA	NA	ND	NA	NA
Radium-226 (Dissolved)	ND	NA	NA	2.0E-10	1.0E-10	0.1
Radium-226 (Suspended)	ND	NA	NA	ND	NA	NA
Lead-210 (Dissolved)	ND	NA	NA	1.1E-09	5.0E-10	0.4
Lead-210 (Suspended)	ND	NA	NA	ND	NA	NA
Polonium-210 (Dissolved)	ND	NA	NA	ND	NA	NA
Polonium-210 (Suspended)	ND	NA	NA	ND	NA	NA

Sample Location	Christensen Ranch Ellendale #4					
Radionuclide	1st quarter (µCi/ml)	Uncertainty (±µCi/ml)	% of EFF Conc*	2nd quarter (µCi/ml)	Uncertainty (±µCi/ml)	% of EFF Conc*
Uranium (Dissolved)	9.0E-10	NA	0.3	5.0E-10	NA	0.2
Uranium (Suspended)	3.0E-10	NA	0.1	ND	NA	NA
Thorium-230 (Dissolved)	ND	NA	NA	ND	NA	NA
Thorium-230 (Suspended)	ND	NA	NA	ND	NA	NA
Radium-226 (Dissolved)	ND	NA	NA	5.0E-10	1.0E-10	0.2
Radium-226 (Suspended)	ND	NA	NA	ND	NA	NA
Lead-210 (Dissolved)	ND	NA	NA	1.1E-09	5.0E-10	0.4
Lead-210 (Suspended)	3.4E-09	5.0E-10	1.1	ND	NA	NA
Polonium-210 (Dissolved)	ND	NA	NA	ND	NA	NA
Polonium-210 (Suspended)	ND	NA	NA	ND	NA	NA

Sample Location	Christensen Ranch Corral #32					
Radionuclide	1st quarter (µCi/ml)	Uncertainty (±µCi/ml)	% of EFF Conc*	2nd quarter (µCi/ml)	Uncertainty (±µCi/ml)	% of EFF Conc*
Uranium (Dissolved)	ND	NA	NA	ND	NA	NA
Uranium (Suspended)	ND	NA	NA	ND	NA	NA
Thorium-230 (Dissolved)	ND	NA	NA	ND	NA	NA
Thorium-230 (Suspended)	ND	NA	NA	ND	NA	NA
Radium-226 (Dissolved)	2.0E-10	1.0E-10	0.1	4.0E-10	1.0E-10	0.1
Radium-226 (Suspended)	ND	NA	NA	ND	NA	NA
Lead-210 (Dissolved)	ND	NA	NA	ND	NA	NA
Lead-210 (Suspended)	ND	NA	NA	ND	NA	NA
Polonium-210 (Dissolved)	ND	NA	NA	ND	NA	NA
Polonium-210 (Suspended)	ND	NA	NA	ND	NA	NA

Table 3
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Uranium One USA, Inc. - Willow Creek Project
2014 Semi-Annual Effluent and Monitoring Report
Regional Ranch Wells

Sample Location	Christensen Ranch Middle Artesian					
Radionuclide	1st quarter (µCi/ml)	Uncertainty (±µCi/ml)	% of EFF Conc*	2nd quarter (µCi/ml)	Uncertainty (±µCi/ml)	% of EFF Conc*
Uranium (Dissolved)	1.2E-08	NA	4.0	1.1E-08	NA	3.7
Uranium (Suspended)	ND	NA	NA	ND	NA	NA
Thorium-230 (Dissolved)	ND	NA	NA	ND	NA	NA
Thorium-230 (Suspended)	ND	NA	NA	ND	NA	NA
Radium-226 (Dissolved)	3.0E-10	1.0E-10	0.1	7.0E-10	2.0E-10	0.2
Radium-226 (Suspended)	ND	NA	NA	ND	NA	NA
Lead-210 (Dissolved)	1.4E-09	4.0E-10	0.5	1.9E-09	5.0E-10	0.6
Lead-210 (Suspended)	1.5E-09	4.0E-10	0.5	2.1E-09	5.0E-10	0.7
Polonium-210 (Dissolved)	ND	NA	NA	ND	NA	NA
Polonium-210 (Suspended)	ND	NA	NA	ND	NA	NA

Sample Location	Christensen Ranch Dell Gulch # 13					
Radionuclide	1st quarter (µCi/ml)	Uncertainty (±µCi/ml)	% of EFF Conc*	2nd quarter (µCi/ml)	Uncertainty (±µCi/ml)	% of EFF Conc*
Uranium (Dissolved)	4.0E-10	NA	0.1	3.0E-10	NA	0.1
Uranium (Suspended)	ND	NA	NA	ND	NA	NA
Thorium-230 (Dissolved)	ND	NA	NA	ND	NA	NA
Thorium-230 (Suspended)	ND	NA	NA	ND	NA	NA
Radium-226 (Dissolved)	4.0E-10	1.0E-10	0.1	6.0E-10	1.0E-10	0.2
Radium-226 (Suspended)	ND	NA	NA	4.0E-10	1.0E-10	0.1
Lead-210 (Dissolved)	ND	NA	NA	ND	NA	NA
Lead-210 (Suspended)	ND	NA	NA	ND	NA	NA
Polonium-210 (Dissolved)	ND	NA	NA	ND	NA	NA
Polonium-210 (Suspended)	ND	NA	NA	ND	NA	NA

Sample Location	Irigaray Willow #2					
Radionuclide	1st quarter (µCi/ml)	Uncertainty (±µCi/ml)	% of EFF Conc*	2nd quarter (µCi/ml)	Uncertainty (±µCi/ml)	% of EFF Conc*
Uranium (Dissolved)	ND	NA	NA	ND	NA	NA
Uranium (Suspended)	ND	NA	NA	ND	NA	NA
Thorium-230 (Dissolved)	ND	NA	NA	ND	NA	NA
Thorium-230 (Suspended)	ND	NA	NA	ND	NA	NA
Radium-226 (Dissolved)	ND	NA	NA	2.0E-10	1.0E-10	0.1
Radium-226 (Suspended)	ND	NA	NA	ND	NA	NA
Lead-210 (Dissolved)	ND	NA	NA	ND	NA	NA
Lead-210 (Suspended)	ND	NA	NA	ND	NA	NA
Polonium-210 (Dissolved)	ND	NA	NA	ND	NA	NA
Polonium-210 (Suspended)	ND	NA	NA	ND	NA	NA

LLD's

Uranium 2.0E-10 µCi/ml
Thorium-2 2.0E-10 µCi/ml
Radium-2 2.0E-10 µCi/ml
Lead-210 1.0E-9 µCi/ml
Polonium- 1.0E-9 µCi/ml

ND = NON DETECTABLE
NA= NOT APPLICABLE

*10 CFR 20 Appendix B Table 2 values

Uranium 3.0E-7 µCi/ml
Thorium-230 6.0E-8 µCi/ml
Radium-226 1.0E-7 µCi/ml
Lead-210 1.0E-8 µCi/ml
Polonium-210 4.0E-8 µCi/ml

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Uranium One USA, Inc. - Willow Creek Project
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Surface Water

Sample Location	Irigaray-9					
Radionuclide	1st quarter (µCi/ml)	Uncertainty (±µCi/ml)	% of EFF Conc*	2nd quarter (µCi/ml)	Uncertainty (±µCi/ml)	% of EFF Conc*
Uranium (Dissolved)	1.5E-08	NA	5.0	5.6E-09	NA	1.9
Uranium (Suspended)	3.0E-10	NA	0.1	ND	NA	NA
Thorium-230 (Dissolved)	ND	NA	NA	ND	NA	NA
Thorium-230 (Suspended)	8.0E-10	2.0E-10	0.3	ND	NA	NA
Radium-226 (Dissolved)	2.0E-10	2.0E-10	0.1	2.0E-10	1.0E-10	0.1
Radium-226 (Suspended)	ND	NA	NA	2.0E-10	1.0E-10	0.1
Lead-210 (Dissolved)	ND	NA	NA	1.0E-09	5.0E-10	0.3
Lead-210 (Suspended)	1.3E-09	6.0E-10	0.4	ND	NA	NA
Polonium-210 (Dissolved)	ND	NA	NA	ND	NA	NA
Polonium-210 (Suspended)	ND	NA	NA	ND	ND	NA

Sample Location	Irigaray-14					
Radionuclide	1st quarter (µCi/ml)	Uncertainty (±µCi/ml)	% of EFF Conc*	2nd quarter (µCi/ml)	Uncertainty (±µCi/ml)	% of EFF Conc*
Uranium (Dissolved)	4.0E-09	NA	1.3	2.8E-09	NA	0.9
Uranium (Suspended)	ND	NA	NA	3.0E-10	NA	0.1
Thorium-230 (Dissolved)	ND	NA	NA	ND	NA	NA
Thorium-230 (Suspended)	4.0E-10	1.0E-10	0.1	ND	NA	NA
Radium-226 (Dissolved)	6.0E-10	3.0E-10	0.2	6.0E-10	2.0E-10	0.2
Radium-226 (Suspended)	ND	NA	NA	4.0E-10	1.0E-10	0.1
Lead-210 (Dissolved)	1.3E-09	7.0E-10	0.4	1.5E-09	6.0E-10	0.5
Lead-210 (Suspended)	ND	NA	NA	1.7E-09	4.0E-10	0.6
Polonium-210 (Dissolved)	ND	NA	NA	ND	NA	NA
Polonium-210 (Suspended)	ND	NA	NA	ND	NA	NA

Sample Location	Irigaray-17					
Radionuclide	1st quarter (µCi/ml)	Uncertainty (±µCi/ml)	% of EFF Conc*	2nd quarter (µCi/ml)	Uncertainty (±µCi/ml)	% of EFF Conc*
Uranium (Dissolved)	8.3E-09	NA	2.8	2.8E-08	NA	9.5
Uranium (Suspended)	ND	NA	NA	ND	NA	NA
Thorium-230 (Dissolved)	4.0E-10	3.0E-10	0.1	ND	NA	NA
Thorium-230 (Suspended)	ND	NA	NA	ND	NA	NA
Radium-226 (Dissolved)	ND	NA	NA	5.0E-10	1.0E-10	0.2
Radium-226 (Suspended)	ND	NA	NA	2.0E-10	1.0E-10	0.1
Lead-210 (Dissolved)	ND	NA	NA	1.7E-09	6.0E-10	0.6
Lead-210 (Suspended)	ND	NA	NA	ND	NA	NA
Polonium-210 (Dissolved)	ND	NA	NA	ND	NA	NA
Polonium-210 (Suspended)	ND	NA	NA	ND	NA	NA

Sample Location	Christensen Ranch GS-01					
Radionuclide	1st quarter (µCi/ml)	Uncertainty (±µCi/ml)	% of EFF Conc*	2nd quarter (µCi/ml)	Uncertainty (±µCi/ml)	% of EFF Conc*
Uranium (Dissolved)	3.4E-08	NA	11.2	2.0E-09	NA	0.7
Uranium (Suspended)	7.0E-10	NA	0.2	4.0E-10	NA	0.1
Thorium-230 (Dissolved)	3.0E-10	3.0E-10	0.1	ND	NA	NA
Thorium-230 (Suspended)	4.0E-10	1.0E-10	0.1	3.0E-10	1.0E-10	0.1
Radium-226 (Dissolved)	3.0E-10	2.0E-10	0.1	3.0E-10	1.0E-10	0.1
Radium-226 (Suspended)	ND	NA	NA	6.0E-10	1.0E-10	0.2
Lead-210 (Dissolved)	ND	NA	NA	ND	NA	NA
Lead-210 (Suspended)	ND	NA	NA	1.7E-09	4.0E-10	0.6
Polonium-210 (Dissolved)	ND	NA	NA	ND	NA	NA
Polonium-210 (Suspended)	ND	NA	NA	ND	NA	NA

Sample Location	Christensen Ranch GS-03					
Radionuclide	1st quarter (µCi/ml)	Uncertainty (±µCi/ml)	% of EFF Conc*	2nd quarter (µCi/ml)	Uncertainty (±µCi/ml)	% of EFF Conc*
Uranium (Dissolved)	1.1E-08	NA	3.7	1.9E-07	NA	63.0
Uranium (Suspended)	ND	NA	NA	2.0E-10	NA	0.1
Thorium-230 (Dissolved)	2.0E-10	2.0E-10	0.1	ND	NA	NA
Thorium-230 (Suspended)	4.0E-10	1.0E-10	0.1	ND	NA	NA
Radium-226 (Dissolved)	ND	NA	NA	5.0E-10	1.0E-10	0.2
Radium-226 (Suspended)	ND	NA	NA	ND	NA	NA
Lead-210 (Dissolved)	1.6E-09	7.0E-10	0.5	1.9E-09	6.0E-10	0.6
Lead-210 (Suspended)	ND	NA	NA	1.1E-09	4.0E-10	0.4
Polonium-210 (Dissolved)	ND	NA	NA	ND	NA	NA
Polonium-210 (Suspended)	ND	NA	NA	ND	NA	NA

Sample Location	Christensen Ranch CG-05					
Radionuclide	1st quarter (µCi/ml)	Uncertainty (±µCi/ml)	% of EFF Conc*	2nd quarter (µCi/ml)	Uncertainty (±µCi/ml)	% of EFF Conc*
Uranium (Dissolved)	1.1E-08	NA	3.6	1.5E-08	NA	5.1
Uranium (Suspended)	2.0E-10	NA	0.1	2.0E-10	NA	0.1
Thorium-230 (Dissolved)	ND	NA	NA	ND	NA	NA
Thorium-230 (Suspended)	ND	NA	NA	ND	NA	NA
Radium-226 (Dissolved)	ND	NA	NA	6.0E-10	2.0E-10	0.2
Radium-226 (Suspended)	ND	NA	NA	3.0E-10	1.0E-10	0.1
Lead-210 (Dissolved)	ND	NA	NA	2.4E-09	6.0E-10	0.8
Lead-210 (Suspended)	ND	NA	NA	1.3E-09	4.0E-10	0.4
Polonium-210 (Dissolved)	ND	NA	NA	ND	NA	NA
Polonium-210 (Suspended)	ND	NA	NA	ND	NA	NA

LLD's

Uranium	2.0E-10 µCi/ml	Lead-210	1.0E-9 µCi/ml
Thorium-230	2.0E-10 µCi/ml	Polonium-210	1.0E-9 µCi/ml
Radium-226	2.0E-10 µCi/ml		

***10 CFR 20 Appendix B Table 2 values**

Uranium	3.0E-7 µCi/ml	Lead-210	1.0E-8 µCi/ml
Thorium-230	6.0E-8 µCi/ml	Polonium-210	4.0E-8 µCi/ml
Radium-226	1.0E-7 µCi/ml		

ND = NON DETECTABLE
NA= NOT APPLICABLE

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Uranium One USA, Inc. - Willow Creek Project
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Soil Sampling

Location	Uranium * µCi / gram	Th-230 µCi / gram	Uncertainty ± µCi / gram	Ra-226 µCi / gram	Uncertainty ± µCi / gram	Pb-210 µCi / gram	Uncertainty ± µCi / gram
IRIGARAY PROJECT							
IR-1 (Downwind of Restricted Area)	7.2E-09	1.3E-09	3.0E-10	2.4E-09	4.0E-10	1.5E-09	2.0E-10
IR-3 (Upwind of Restricted Area)	1.7E-08	9.0E-10	2.0E-10	1.3E-09	3.0E-10	1.3E-09	1.0E-10
IR-4 (North Road - Background)	1.6E-09	1.0E-09	2.0E-10	1.4E-09	4.0E-10	ND	NA
IR-5 (Irigaray Ranch - nearest resident)	7.0E-10	8.0E-10	2.0E-10	1.0E-09	3.0E-10	ND	NA
IR-6 (Ridge Road S.E.)	1.2E-09	8.0E-10	2.0E-10	1.1E-09	3.0E-10	1.2E-09	1.0E-09
CHRISTENSEN PROJECT							
AS-1 (Table Mountain - Background))	8.0E-10	8.0E-10	2.0E-10	9.0E-10	4.0E-10	1.5E-09	2.0E-10
AS-5A (CR Plant Upwind S.E.)	1.5E-09	1.4E-09	3.0E-10	1.3E-09	3.0E-10	1.3E-09	1.0E-10
AS-5B (CR Plant Downwind N.W.)	1.2E-09	1.2E-09	3.0E-10	1.0E-09	4.0E-10	4.9E-09	2.0E-10
AS-6 (Christensen Ranch-Nearest Resident)	1.0E-09	1.1E-09	3.0E-10	8.0E-10	4.0E-10	1.5E-09	2.0E-10

Analyses performed by Inter-Mountian Labs (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 LLD's are listed below and are based on the weight of the samples;

LLD's
Uranium = 2.0E-07
Th-230 = 2.0E-07
Ra-226 = 2.0E-07
Pb-210 = 1.0E-06

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Uranium One USA, Inc. - Willow Creek Project
2014 Semi-Annual Effluent and Monitoring Report
Environmental Radon Monitoring

Location	1st Quarter µCi/ml (2014)	Uncertainty ± µCi/ml	2nd Quarter µCi/ml 2014	Uncertainty ± µCi/ml	Location Average 2014	10CFR APP B Table 2
IRIGARAY PROJECT						
IR-1 (Downwind of Restricted Area)	6.00E-10	4.00E-11	5.00E-10	3.00E-11	5.50E-10	1.00E-10
IR-3 (Upwind of Restricted Area)	5.00E-10	4.00E-11	3.00E-10	3.00E-11	4.00E-10	1.00E-10
IR-4 (North Road)	6.00E-10	5.00E-11	3.00E-10	2.00E-11	4.50E-10	1.00E-10
IR-5 (Irigaray Ranch)	8.00E-11	1.00E-11	7.00E-11	1.00E-11	7.50E-11	1.00E-10
IR-6 (Rigdge Road - S.E. - Background)	5.00E-10	4.00E-11	4.00E-10	3.00E-11	4.50E-10	1.00E-10
IR-13 (IR Employee House Trailer)	5.00E-10	4.00E-11	2.00E-10	2.00E-11	3.50E-10	1.00E-10
(IR-13 / nearest residence)						
CHRISTENSEN PROJECT						
AS-1 (Table Mountain - Background)	3.00E-10	2.00E-11	4.00E-10	3.00E-11	3.50E-10	1.00E-10
AS-5A (CR Plant Upwind S.E.)	4.00E-10	3.00E-11	2.00E-10	2.00E-11	3.00E-10	1.00E-10
AS-5B (CR Plant Downwind N.W)	2.00E-10	2.00E-11	5.00E-10	4.00E-11	3.50E-10	1.00E-10
AS-6 (Christensen Ranch)	3.00E-10	3.00E-11	*	*	3.00E-10	1.00E-10
AS-7 (CR Employee House Trailer)	2.00E-10	1.00E-11	1.00E-10	1.00E-11	1.50E-10	1.00E-10
(AS-7 / nearest residence)						

LLD = 0.06 pCi/l

* Radon cup was found on the ground, value was not reported*

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Uranium One USA, Inc. - Willow Creek Project
2014 Semi-Annual Effluent and Monitoring Report
Dryer Stack Emissions Testing Results

SUMMARY OF STACK EMISSIONS SURVEY RESULTS
Irigaray Dryer and Packaging Circuit

Time	Total Particulates lbs/hour (% limit)	U3O8 Emissions lbs	Unat. Concentration Ci	Unat. Uncertainty Ci	Th-230 Concentration Ci	Th-230 Uncertainty Ci	Ra-226 Concentration Ci	Ra-226 Uncertainty Ci	Pb-210 Concentration Ci	Pb-210 Uncertainty Ci
Jan-Jun 2014	0.034 (11%)	13.9	4.20E-03	NA	3.72E-06	2.13E-06	1.78E-05	3.62E-06	4.64E-04	4.62E-05
	Permit Limit 0.30									

COMMENTS: Survey occurred May 22, 2014. The dryer was in operations for 1762 hours from the time period of January 1st through June 31 2014. The total hours of operations were used to calulate the quantity of material released.

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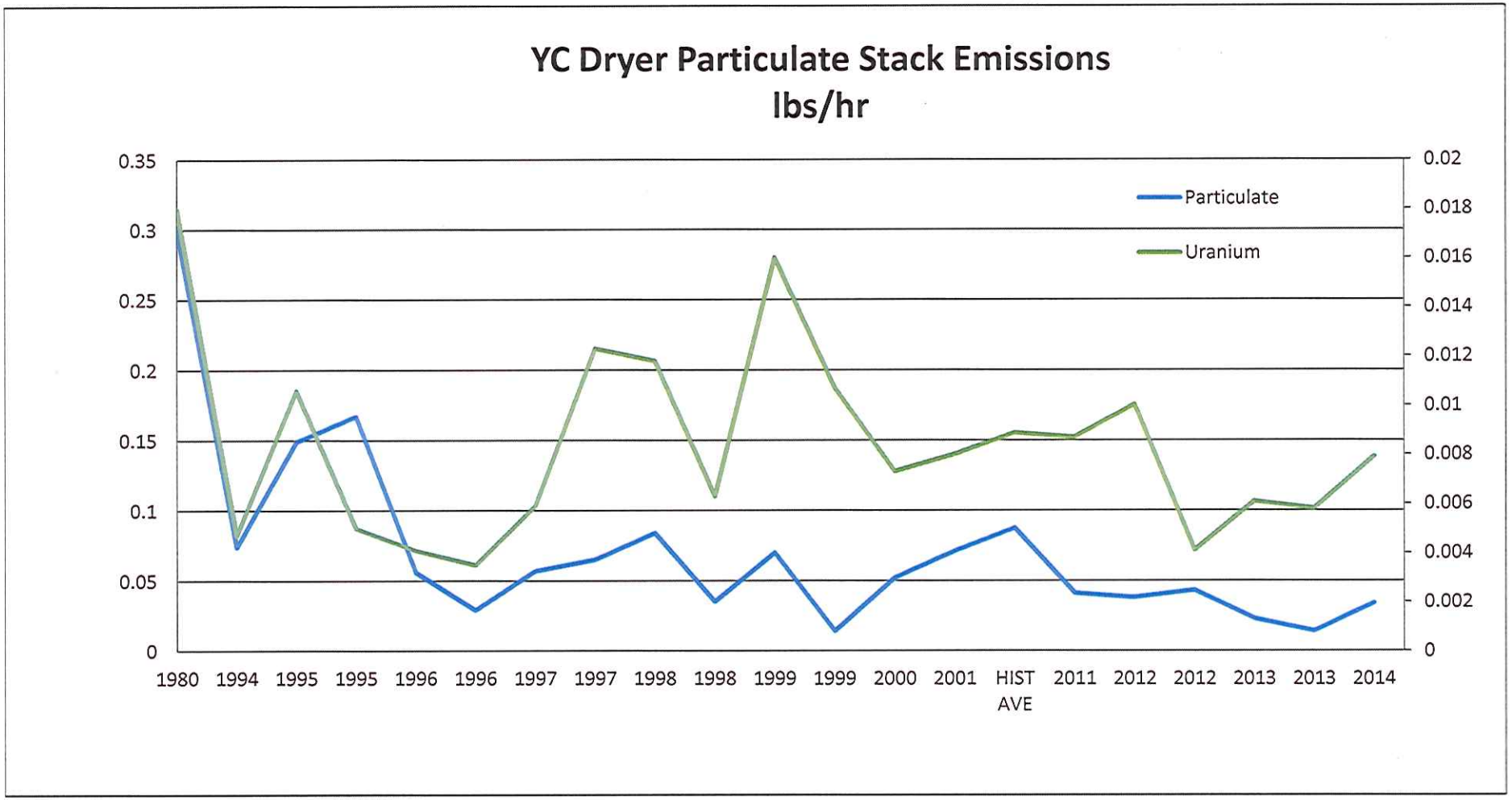
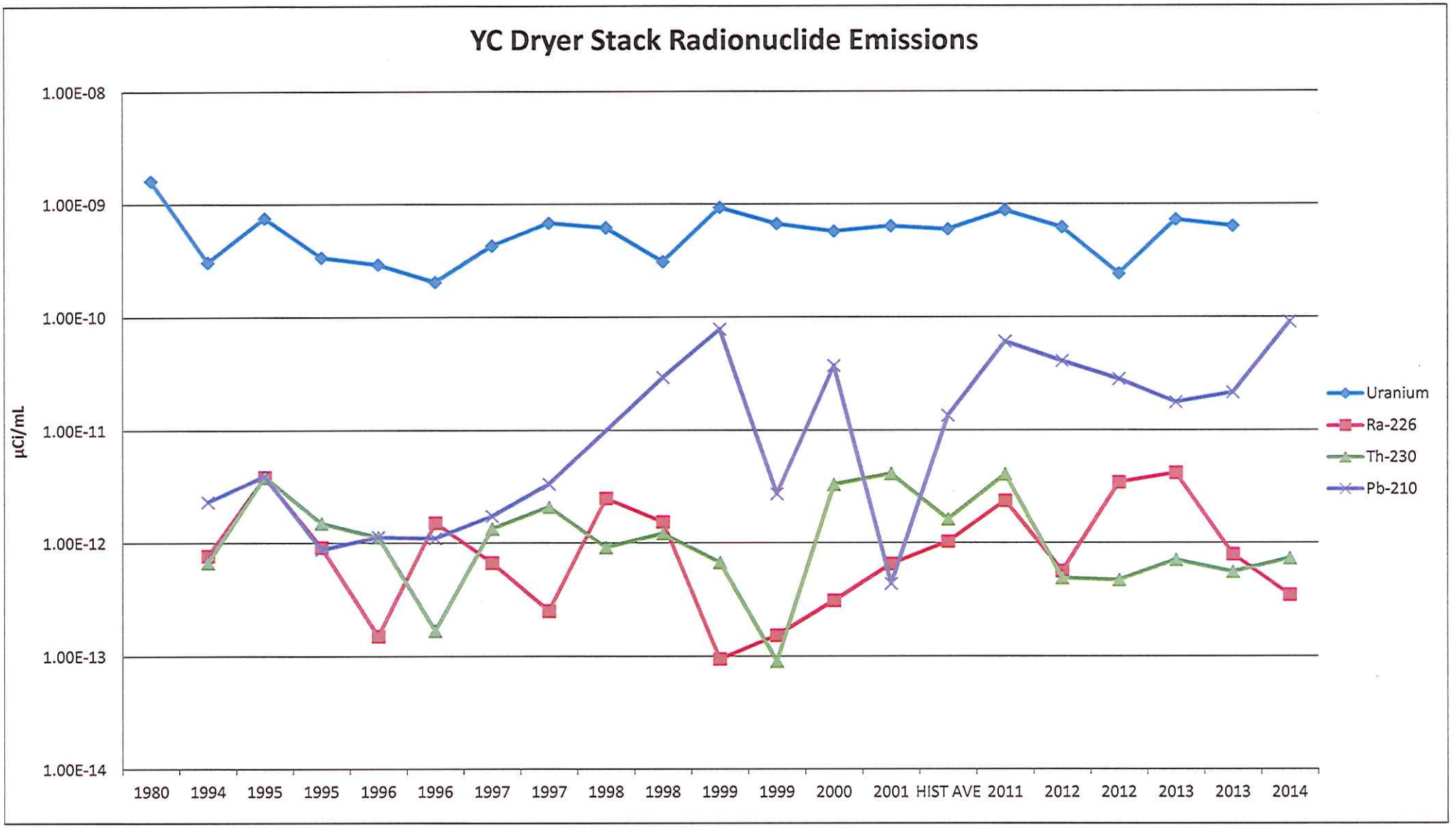
Uranium One USA, Inc. - Willow Creek Project
2014 Semi-Annual Effluent and Monitoring Report
Dryer Stack Emissions Testing Results




YC Dryer Stack Radionuclide Emissions
µCi/mL
1.00E-08
1.00E-09
1.00E-10
1.00E-11
1.00E-12
1.00E-13
1.00E-14
1980
1994
1995
1995
1996
1996
1997
1997
1998
1998
1999
1999
2000
2001 HIST AVE
2011
2012
2012
2013
2013
2014
Uranium
Ra-226
Th-230
Pb-210

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Uranium One USA, Inc. - Willow Creek Project
2014 Semi-Annual Effluent and Monitoring Report
Environmental Airborne Radionuclides

1st Quarter 2014 Data				
	Uranium µCi/ml	Th-230 µCi/ml	Ra-226 µCi/ml	Pb-210 µCi/ml
IR-1 Downwind	2.6E-14	5.2E-17	3.5E-16	1.3E-14
Uncertainty	NA	2.6E-17	5.2E-17	1.4E-15
%of Pt, App. B Effluent Limit	1.3%	0.2%	0.0%	2.2%
IR-3 Upwind	8.5E-14	7.8E-17	2.6E-16	1.5E-14
Uncertainty	NA	2.6E-17	5.2E-17	1.5E-15
%of Pt, App. B Effluent Limit	4.4%	0.3%	0.0%	2.5%
IR-5 Brubaker Ranch	1.0E-15	2.1E-16	3.2E-16	8.9E-15
Uncertainty	NA	7.8E-17	5.2E-17	1.1E-15
%of Pt, App. B Effluent Limit	0.1%	0.7%	0.0%	1.5%
IR-6 Background	2.2E-13	2.9E-16	4.5E-16	1.3E-14
Uncertainty	NA	1.2E-16	7.8E-17	1.7E-15
%of Pt, App. B Effluent Limit	11.3%	1.0%	0.1%	2.2%
IR-13 Employee House Trailer	8.0E-15	ND	3.5E-16	1.5E-14
Uncertainty	NA	NA	5.2E-17	1.5E-15
%of Pt, App. B Effluent Limit	0.4%	NA	0.0%	2.5%

2nd Quarter 2014 Data				
	Uranium µCi/ml	Th-230 µCi/ml	Ra-226 µCi/ml	Pb-210 µCi/ml
IR-1 Downwind	2.4E-14	2.1E-16	2.5E-16	1.1E-14
Uncertainty	NA	7.6E-17	5.1E-17	1.1E-15
%of Pt, App. B Effluent Limit	1.2%	0.7%	0.0%	1.8%
IR-3 Upwind	8.7E-14	2.3E-16	2.2E-16	1.2E-14
Uncertainty	NA	1.0E-16	5.1E-17	1.2E-15
%of Pt, App. B Effluent Limit	4.5%	0.8%	0.0%	2.0%
IR-5 Brubaker Ranch	1.2E-15	2.6E-16	2.9E-16	1.2E-14
Uncertainty	NA	1.1E-16	5.4E-17	1.2E-15
%of Pt, App. B Effluent Limit	0.1%	0.9%	0.0%	2.0%
IR-6 Background	1.6E-16	3.2E-17	3.5E-17	6.8E-16
Uncertainty	NA	1.3E-17	6.3E-18	1.2E-16
%of Pt, App. B Effluent Limit	0.0%	0.1%	0.0%	0.1%
IR-13 Employee House Trailer	7.7E-15	2.8E-16	2.1E-16	9.9E-15
Uncertainty	NA	1.0E-16	5.1E-17	1.1E-15
%of Pt, App. B Effluent Limit	0.4%	0.9%	0.0%	1.7%

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

N/D =Non Detectable

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Uranium One USA, Inc. - Willow Creek Project
2014 Semi-Annual Effluent and Monitoring Report
Environmental Gamma Radiation Monitoring

Location	1st Quarter 2014 Net mrem/quarter	2nd Quarter 2014 mrem/quarter	Location Average 2014 mrem/quarter	Year to Date Total 2014 mrem/quarter
IRIGARAY PROJECT				
Control	34	57.9	NA	NA
IR-1 (Downwind of Restricted Area)	3.1	-0.4	1.4	2.7
IR-3 (Upwind of Restricted Area)	15.8	14.2	15.0	30.0
IR-4 (North Road)	1.0	-2.4	-0.7	-1.4
IR-5 (Irigaray Ranch)	-1.1	-7.4	-4.3	-8.5
IR-6 (Ridge Road S.E. - Background)	-0.4	-1.6	-1.0	-2.0
IR-13 (I.R. Employee House Trailer) (nearest residence)	3.3	-1.2	1.1	2.1
Quarterly Average	3.6	0.2	3.6	1.9
CHRISTENSEN PROJECT				
AS-1 (Table Mountain - Background)	1	-5	-2.0	-2.0
AS-5A(CR Plant Upwind S.E.)	6.5	1.6	4.1	4.1
AS-5B (CR Plant Downwind N.W.)	2.7	-2	0.4	0.4
AS-6 (Christensen Ranch)	3.0	3.5	3.3	3.3
AS-7 (C.R. Employee House Trailer) (nearest residence)	-2.0	-3.4	-2.7	-2.7
Quarterly Average	2.2	-1.1	2.2	0.6

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Uranium One USA, Inc-Willow Creek Project
2014 Semi-Annual Effluent and Monitoring Report
SERP Summary

SERP No.	Date	SERP Topic	Evaluation Summary
SERP 14-02	3/26/2014	Review and Approval of RST Qualifications	The purpose of the SERP evaluation is to determine if an individual meets the qualification as a Radiation Safety Technician. As specified in Regulatory Guide 8.31 Section 2.4, as incorporated in SUA-1341, License Condition 9.12. The licensee can make a determination that an individual meets the qualifications as a RST based on education, training , and work experience. The criteria used to evaluate qualifications of an individual as a RST include review of NRC regulatory Guides, the approved 2013 NRC License Renewal Application (SUA-1341) and specified license conditions as contained in SUA-1341.
SERP 14-03	4/01/14	Review and Approval of Addition of Spray Nozzle's to YC Scrubber System	The SERP action is to determine if the addition of a spray system to wet the YC scrubber screen is an action that can be conducted by the SERP committee, or would require a license amendment. The addition of the spray nozzle system was a recommendation of representative of Lyntek, as part of their evaluation of Irigaray YC dryer operational systems. In May of 2013 , Lyntek was contacted to perform an evaluation of the Irigaray multi hearth furnace system. Based on these recommendations Uranium One is proposing to add a spray system to investigate if it helps improve scrubber efficiencies and extend operational life of screens.

Uranium One USA, Inc. - Willow Creek Project
2014 Semi-Annual Effluent and Monitoring Report
Injection Manifold Pressures

Table 2 - Christensen Ranch Weekly Maximum Injection Pressures per Module Building

Mine Unit 8 (Cont.) and Mine Unit 5-2

	Weekly Maximum injection Pressure (Maximum Permissible 140 psi)					
Week Ending	**Module 8-8**	**Module 8-9**		**Module 5-2**		
1/4/2014	95	98		120		
1/11/2014	100	100		120		
1/18/2014	120	104		131		
1/25/2014	104	106		130		
2/1/2014	114	105		**150**		
2/8/2014	110	110		140		
2/15/2014	95	115		131		
2/22/2014	100	115		115		
3/1/2014	110	120		115		
3/8/2014	100	115		119		
3/15/2014	102	101		115		
3/22/2014	100	105		117		
3/29/2014	101	111		116		
4/6/2014	100	109		131		
4/13/2014	100	97		130		
4/20/2014	103	109		129		
4/27/2014	99	100		130		
5/4/2014	100	121		129		
5/11/2014	107	100		134		
5/18/2014	110	105		126		
5/25/2014	110	105		130		
6/1/2014	95	80		137		
6/8/2014	101	80		131		
6/15/2014	101	91		130		
6/22/2015	115	120		130		
6/29/2014	107	109		130		