



Smith Ranch - Highland
Uranium Project
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February 13, 2007

ATTN: Document Control Desk

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Fuel Cycle Facilities Branch,
Division of Fuel Cycle Safety and Safeguards
Office of Nuclear Material Safety and Safeguards
U.S. Nuclear Regulatory Commission
11545 Rockville Pike, Two White Flint North
Rockville, MD 20852-2738

RE: Smith Ranch-Highland Uranium Project
NRC License SUA-1548, Docket No. 40-8964
Semi-Annual Effluent and Environmental Monitoring Report, July 1 – December 31, 2006

Dear Mr. Janosko:

In accordance with 10 CFR 40.65 and License Condition No. 12.2 of License SUA-1548, please find enclosed the Semi-Annual Effluent and Environmental Monitoring Report for the Smith Ranch-Highland Uranium Project. This report covers the period July 1 – December 31, 2006. A copy of this report is also being forwarded to Mr. Paul Michalak, USNRC Headquarters, and Mr. Leonard Wert, Director DRSS, Region IV.

If you have any questions regarding the report, please contact me at (307) 358-6541, ext. 46.

Sincerely,

A handwritten signature in black ink that reads 'John McCarthy'.

John McCarthy
Manager-Health, Safety
& Environmental Affairs

JM/bj

Enclosure

cc: Mr. Paul Michalak, USNRC Headquarters
Mr. Leonard Wert, Director DRSS, Region IV, USNRC
S.P. Collings w/o attn C. Foldenauer w/o attn
Arlene Crook, RSO w/attachment
File SR 4.6.4.1

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POWER RESOURCES, INC.
**SMITH RANCH - HIGHLAND URANIUM
PROJECT**

**SEMI-ANNUAL EFFLUENT AND
ENVIRONMENTAL MONITORING
REPORT**

FOR THE PERIOD

**JULY 1 THROUGH
DECEMBER 31, 2006**

**USNRC SOURCE MATERIAL LICENSE
NO. SUA-1548**

DOCKET NO. 40-8964

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1.0 RESULTS FROM EMPLOYEE URINALYSES IF AN EXPOSURE EXCEEDS ACTION LEVELS DESCRIBED IN THE OPERATIONS PLAN OF THE APPROVED LICENSE APPLICATION

During the period July 1 through December 31, 2006, there were no bio-assays which exceeded the action level of 15 µg/L Uranium.

2.0 INJECTION RATES, RECOVERY RATES, AND INJECTION TRUNK-LINE PRESSURES FOR EACH SATELLITE FACILITY

The required information for each Satellite facility for the 3rd and 4th Quarters of 2006 is presented in Tables 1A, 1B, 1C, and 1D included in Attachment A.

2.1 Satellite No. 1

Satellite No. 1 did not operate during the report period since restoration activities in the A and B Wellfield are complete. Therefore, no injection or recovery rates are available for the report period.

2.2 Satellite No. 2, Satellite No. 3, Satellite SR-1, Central Processing Plant

The injection rates, recovery rates, and injection pressure data for Satellite No. 2, Satellite No. 3, Satellite SR-1, and the Central Processing Plant (CPP) are contained in Table 1B, 1C, and 1D. The injection rates represent the total recovery rates minus the purge (clean-out circuit) flow. The purge from Satellite No. 2 and No. 3 is treated for uranium and radium removal and pumped to the Satellite No. 2 Purge Storage Reservoir prior to disposal by irrigation at the Satellite No. 2 Land Application Facility. Purge from Satellite SR-1 and the CPP is disposed by deep injection through permitted waste disposal wells.

3.0 RESULTS OF EFFLUENT AND ENVIRONMENTAL MONITORING INCLUDING WATER QUALITY ANALYSES AND MONITORING REQUIRED BY THE WDEQ PERMIT FOR THE OPERATING IRRIGATION SYSTEMS

3.1 Stack Emission Surveys

When the Central Processing Facility (CPF) at the Highland Uranium Project is operational, PRI monitors the Yellowcake Dryer and Packaging scrubber exhaust stacks to determine the emission rate of particulates, uranium, radium, and thorium. During the report period, the Highland CPF remained on standby status as all yellowcake processing activities (elution, precipitation, drying, and packaging) were conducted at the Smith Ranch Central Processing Plant. The dryers at the Smith Ranch Central Processing Plant are zero emission vacuum dryers that do not require emission stack

testing. Therefore, no stack tests were conducted during the report period. It is anticipated that the CPF at Highland will remain on standby status during several upcoming report periods.

3.2 Air Particulate, Radon, and Gamma Radiation Monitoring

PRI maintains five Air Monitoring Stations at various locations on and around the licensed area. Two of these stations are used to monitor downwind conditions of the Highland CPF, and monitoring is not required unless the CPF is in operation. The Air Monitoring Stations are used to monitor air particulates, radon, and gamma radiation. The stations are located as follows:

- AS-1 (Dave's Water Well): This station monitors background conditions, upwind of both the Smith Ranch and HUP wellfields and yellowcake processing facilities.
- AS-2 (Smith Ranch Restricted Area-Fenceline): This station monitors conditions downwind of the Smith Ranch CPP Restricted Area Boundary.
- AS-3 (Vollman Ranch): This station monitors the nearest downwind resident to the Smith Ranch CPP Restricted Area.
- AS-4 (HUP Restricted Area): This station monitors conditions downwind of the HUP CPF Restricted Area Boundary (when the HUP CPF is operating).
- AS-5 (Fowler Ranch): This station monitors the nearest downwind resident to the HUP CPF Restricted Area (when the HUP CPF is operating).

Monitoring at AS-4 and AS-5 was not conducted during the reporting period since the Highland CPF remains on standby status. It is anticipated that the Highland CPF will remain in standby status for several upcoming reporting periods and monitoring of downwind air stations will only resume if the Highland CPF becomes operational.

Table 2 shows the air particulate and radon data collected at these sites during the report period. Review of data collected during the report period shows that the concentrations of all parameters are significantly less than the 10 CFR 20, Appendix B.

Gamma radiation data for the report period are provided in Table 3. 10 CFR 20 Appendix B contains no Effluent Concentration Limit for gamma radiation for comparison. However, gamma results for the report period show a slightly higher concentration for the 4th quarter, but are still within normal range and are below background.

3.3 Water Sampling Data

3.3.1 *Groundwater and Surface Water Monitoring Stations*

During the report period, monitoring was completed at six water wells and five stock ponds throughout the permit area. Water samples are collected from the water wells and stock ponds on a quarterly basis for analysis of uranium and radium-226. Table 4 provides the analytical data for samples collected during the report period. A review of data collected during the report period shows that four stock ponds (Stations SW- 2, 3, 4, and 9) remained dry during the report period and six water wells (GW-1, 5, 6, 8, 10, and 12) did not run during the report period. A review of data collected from the six water wells and five stock ponds show that the concentrations of uranium and radium-226 are well below the 10 CFR 20, Appendix B, Effluent Concentration Limits of $3.0\text{E-}07$ $\mu\text{Ci/mL}$ and $6.0\text{E-}08$ $\mu\text{Ci/mL}$, respectively.

3.4 Wastewater Land Application Facilities Monitoring

3.4.1 *Soil and Vegetation Sampling*

In accordance with the approved license application and the WDEQ permits for the Satellite No. 1 and Satellite No. 2 Wastewater Land Application Facilities, soil and vegetation sampling of the irrigation areas is conducted in late summer of each year. The soil and vegetation data are collected to monitor and evaluate any adverse effects to the irrigation areas. The 2006 soil and vegetation sampling at the irrigation areas was conducted in August 2006, and results are shown in Tables 5, 6 and 7.

3.4.2 *Irrigation Fluid*

In accordance with the approved license application and the WDEQ Wastewater Land Application permits, PRI monitors the treated irrigation fluid that is disposed of at both irrigation facilities. Grab samples are collected at the irrigator pivot during each month of operation and analyzed for various parameters. As noted in Table 8, Irrigator 1 did not operate during the report period.

Irrigation fluid data collected at Satellite No. 2 is provided in Table 9. A review of the data indicates that the concentration of uranium in the monthly grab samples was below the 10 CFR 20, Appendix B, Effluent Concentration Limit of $3.0\text{E-}7$ $\mu\text{Ci/ml}$, and were less than the estimate provided in the original license application for the facility ($1.4\text{E-}6$ $\mu\text{Ci/ml}$) The samples contained radium-226 concentrations below the 10 CFR 20, Appendix B, Effluent Concentration Limit of $6.0\text{E-}08$ $\mu\text{Ci/ml}$ and below the estimate provided in the original license application for the facility ($3.0\text{E-}9$ $\mu\text{Ci/ml}$)

3.4.3 Radium Treatment Systems

PRI collects grab samples each month to ensure that the Radium-226 treatment systems are adequately treating wastewater from Satellites No. 2 and No. 3 prior to discharge into the Purge Storage Reservoir. No samples were collected from the Satellite No. 1 radium treatment system since Satellite No. 1 did not operate during the report period. The monthly radium-226 grab samples for Satellite No. 2 and No. 3 are collected at the discharge points of the radium treatment system at each facility. The results of this monitoring are included in Table 10A, and 10B. Review of the monitoring data shows that all radium-226 concentrations were below the 10 CFR 20, Appendix B, Effluent Concentration Limit of $6.0E-8$ $\mu\text{Ci/ml}$ (60 pCi/L) at both Satellite No. 2 and Satellite No. 3 during the report period

3.4.4 Soil Water

In accordance with the approved license application and the WDEQ Wastewater Land Application Facility permits, PRI collects soil water samples at the irrigation areas in June of each year and analyzes them for various parameters, including uranium and radium-226. Sampling was conducted on June 27, 2006, but due to drought conditions and the relatively limited amount of irrigation, there was insufficient soil water available to produce a sample at any of the sample locations for the Satellite No. 1 and Satellite No. 2 irrigation areas.

3.4.5 Satellite No. 1 Purge Storage Reservoir Monitor Well

A shallow monitor well, located southwest of the Satellite No. 1 Purge Storage Reservoir is monitored at least weekly for potential seepage from the reservoir. There was no evidence of seepage during the report period. PSR-1 was dry for the entire period and it is not anticipated that water will be diverted to PSR-1 in the near future. Therefore, it is unlikely there will be any seepage from PSR-1 in the following report periods.

3.4.6 Satellite No. 2 Purge Storage Reservoir Shallow Wells

In accordance with the approved license application, water levels are measured on a quarterly basis and ground water samples are required on a semi-annual basis from the two shallow monitoring wells located adjacent to the Satellite No. 2 Purge Storage Reservoir (PSR-2). PRI conducts quarterly sampling of these two wells. Shallow Wells No. 1 and No. 2 are located adjacent to the south and east sides of the reservoir, respectively. During the report period, monitoring was conducted on August 30 and December 5, 2006. As shown in Table 12, neither well contained sufficient water to sample on both occasions and as a result, there is no data available for the report period.

Comparison of water level data collected during the report period with previous data continues to show a trend of higher water levels during the spring-summer months and lower water

levels during the fall-winter months.

4.0 ANNUAL DOSE TO THE PUBLIC (2006)

10 CFR 20.1301 requires that each NRC licensee conduct their operations in such a manner that the total effective dose equivalent (TEDE) to members of the public does not exceed 0.1 rem (100 mrem) in a year, and that the dose from external sources in any unrestricted area does not exceed 0.002 rem (2 mrem) in any one hour.

Additionally, 10 CFR 20.1302 requires that each NRC licensee annually show compliance with the above described 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 concentrations of radioactive effluents released at the restricted area boundary do not exceed the values in Table 2 of Appendix B to 10 CFR 20 and that the external dose to an individual continuously present in an unrestricted area would not exceed 2 mrem in an hour and 50 mrem in a year.

Table 13 compares the 2006 annual average concentrations of radioactive effluents from the Smith Ranch-Highland Uranium Project to the 10 CFR 20, Table 2 limits of Appendix B. The table also shows the calculated TEDE at unrestricted area sampling locations (Vollman-Nearest Downwind Residence) and a Restricted Area location (Fenceline) assuming a person was continuously in the area for the entire year. As shown in Table 13, all measured concentrations of radioactive effluents are less than the Table 2 limits of Appendix B, confirming compliance with 10 CFR 20.1302(b)(2)(i) and (ii). Additionally, the calculated TEDE for the two locations confirms compliance with 10 CFR 20.1302(b)(1).

5.0 SAFETY AND ENVIRONMENTAL EVALUATIONS

All safety and environmental evaluations made by the Safety and Environmental Review Panel (SERP) and resulting changed pages to the Operations Plan and Reclamation Plan of the approved license must be submitted on an annual basis. During the period January 1 through December 31, 2006, PRI completed the following Safety and Environmental Evaluations:

Safety and Environmental Evaluation No. 2006-1 – Dated July 7, 2006, for operation of shredder to shred wellfield 11(e) byproduct waste prior to final off-site disposal

Safety and Environmental Evaluation No. 2006-2 – Dated May 16, 2006, for Start-up of Mine Unit-J

Safety and Environmental Evaluation No. 2006-3 – Dated May 16, 2006, for EHS Department Staff changes of the Radiation Safety Officer

Safety and Environmental Evaluation No. 2006-4 – Dated July 17, 2006, for elevated Radon in the Central Processing Plant

Summaries of the completed SERP evaluations are provided in Attachment B

6.0 RUTH ISL PROJECT

The Ruth Project is licensed for commercial ISL uranium activities, however none has been initiated. The existing buildings and evaporation ponds, along with a few remaining wells, are left from research and development testing conducted by Uranerz, USA, one of the previous licensees. The facilities at the project are non-operational and on stand-by status. Therefore, radiation and effluent monitoring was not conducted and is not required by the NRC or the Wyoming Department of Environmental Quality. The quantity of radionuclides released to unrestricted areas in liquid and in gaseous effluents is considered negligible and is not applicable at this time.

Activities conducted during the report period consisted of quarterly inspections of the existing facilities. Inspection of the perimeter fence, pond embankments, and pond liners yielded no deficiencies during the report period.

7.0 NORTH BUTTE ISL PROJECT

The North Butte Project is also licensed for commercial ISL uranium operations; however, construction of facilities has not commenced and is currently on hold. Since there are no radioactive materials present on site, no radionuclides were released to unrestricted areas in liquid or in gaseous effluents.

License Condition 9.5 requires PRI to submit, for the NRC and WDEQ-LQD approval, an itemized cost estimate for implementation of the NRC-approved decommissioning/restoration plan prior to commencement of construction of a commercial facility at the North Butte/Ruth sites. Currently, PRI is in the process of updating the Operations and Reclamation Plan for the North Butte ISL Project in pursuit of approval to commence construction activities at the North Butte site.

ATTACHMENT A
DATA TABLES 1-13

**TABLE 1A
SATELLITE NO. 1 INJECTION RATES, RECOVERY RATES, INJECTION PRESSURES**

MONTH	Injection Pressure (PSI)			Grounwater Sweep GPM	Radium Ponds GPM	RO Feed GPM	Injection GPM	RO Concentrate GPM	Purge Flow GPM
	RO #1	RO #2	RO #3						
Jul-06	0	0	0	0	0	0	0	0	0
Aug-06	0	0	0	0	0	0	0	0	0
Sep-06	0	0	0	0	0	0	0	0	0
Oct-06	0	0	0	0	0	0	0	0	0
Nov-06	0	0	0	0	0	0	0	0	0
Dec-06	0	0	0	0	0	0	0	0	0

**TABLE 1B
AVERAGE INJECTION RATES (GPM)**

MONTH	Satellite No. 2	Satellite No. 3	Satellite SR-1	Central Processing Plant
Jul-06	2,381	3,505	4,015	3,922
Aug-06	2,438	3,317	3,960	3,996
Sep-06	2,343	3,482	3,997	4,002
Oct-06	2,263	3,199	4,155	3,973
Nov-06	2,188	3,005	4,145	3,901
Dec-06	2,136	3,084	4,093	3,944

**TABLE 1C
AVERAGE RECOVERY RATES (GPM)**

MONTH	Satellite No. 2	Satellite No. 3	Satellite SR-1	Central Processing Plant
Jul-06	2,405	3,552	4,015	3,962
Aug-06	2,461	3,365	3,960	4,034
Sep-06	2,366	3,547	3,997	4,039
Oct-06	2,289	3,260	4,155	4,009
Nov-06	2,212	3,061	4,145	3,941
Dec-06	2,161	3,143	4,093	3,984

**TABLE 1D
INJECTION TRUNK LINE PRESSURES (PSI)**

MONTH	Satellite No. 2	Satellite No. 3	Satellite SR-1	Central Processing Plant
Jul-06	98	101	60	148
Aug-06	89	105	64	145
Sep-06	94	95	61	140
Oct-06	96	95	66	142
Nov-06	97	86	68	144
Dec-06	85	89	74	150

TABLE 2
AIR SAMPLING DATA - 2006
ENVIRONMENTAL MONITORING SITES
3rd & 4th QUARTERS 2006

SAMPLE LOCATION	SAMPLE PERIOD	RADIONUCLIDE ($\mu\text{Ci/ml}$)	CONCENTRATION ($\mu\text{Ci/ml}$)	ERROR EST. +/- ($\mu\text{Ci/ml}$)	L.L.D. ($\mu\text{Ci/ml}$)	EFF. CONC. LIMIT ($\mu\text{Ci/ml}$)	% EFF. CONC. LIMIT %
FENCE LINE Air Station Restricted Area Boundary	3rd Quarter	U-Nat	6.27E-16	N/A	1.00E-16	9.00E-14	0.7
		Th-230	1.05E-16	6.97E-17	1.00E-16	3.00E-14	0.4
		Ra-226	1.74E-16	1.22E-16	1.00E-16	9.00E-13	0.0
		Pb-210	2.56E-14	1.25E-15	2.00E-15	6.00E-13	4.3
		Rn-222			3.00E-10	1.00E-08	
	4th Quarter	U-Nat	4.59E-16	N/A	1.00E-16	9.00E-14	0.5
		Th-230	<1.00E-16	N/A	1.00E-16	3.00E-14	< 1.0
		Ra-226	<1.00E-16	N/A	1.00E-16	9.00E-13	< 1.0
		Pb-210	1.64E-14	9.67E-16	2.00E-15	6.00E-13	2.7
		Rn-222	1.50E-09		3.00E-10	1.00E-08	1.5E+01
VOLLMAN RANCH Air Station Downwind Nearest Residence	3rd Quarter	U-Nat	1.79E-16	N/A	1.00E-16	9.00E-14	0.2
		Th-230	<1.00E-16	N/A	1.00E-16	3.00E-14	< 1.0
		Ra-226	<1.00E-16	N/A	1.00E-16	9.00E-13	< 1.0
		Pb-210	2.50E-14	1.19E-15	2.00E-15	6.00E-13	4.2
		Rn-222			3.00E-10	1.00E-08	
	4th Quarter	U-Nat	6.00E-16	N/A	1.00E-16	9.00E-14	0.7
		Th-230	<1.00E-16	N/A	1.00E-16	3.00E-14	< 1.0
		Ra-226	<1.00E-16	N/A	1.00E-16	9.00E-13	< 1.0
		Pb-210	1.72E-14	9.69E-16	2.00E-15	6.00E-13	2.9
		Rn-222	1.20E-09		3.00E-10	1.00E-08	1.2E+01
DAVE'S WATER WELL Air Station Background Site	3rd Quarter	U-Nat	1.31E-16	N/A	1.00E-16	9.00E-14	0.1
		Th-230	<1.00E-16	N/A	1.00E-16	3.00E-14	< 1.0
		Ra-226	1.31E-16	1.15E-16	1.00E-16	9.00E-13	0.0
		Pb-210	2.27E-14	1.15E-15	2.00E-15	6.00E-13	3.8
		Rn-222			3.00E-10	1.00E-08	
	4th Quarter	U-Nat	1.94E-16	N/A	1.00E-16	9.00E-14	0.2
		Th-230	<1.00E-16	N/A	1.00E-16	3.00E-14	< 1.0
		Ra-226	<1.00E-16	N/A	1.00E-16	9.00E-13	< 1.0
		Pb-210	1.42E-14	8.66E-16	2.00E-15	6.00E-13	2.4
		Rn-222	1.20E-09		3.00E-10	1.00E-08	1.2E+01

TABLE 3

**DIRECT RADIATION (GAMMA) MEASUREMENT DATA - 2006
ENVIRONMENTAL MONITORING SITES
3rd & 4th QUARTERS**

SAMPLE LOCATION	SAMPLE PERIOD	EXPOSURE RATE (mR/qtr)	ERROR ESTIMATE (mR/qtr)
FENCE LINE			
Air Station	3rd Quarter	45	
Restricted Area Boundary	4th Quarter	53	
VOLLMAN'S RANCH			
Air Station	3rd Quarter	33	
Downwind Nearest Residence	4th Quarter	39	
DAVE'S WATER WELL			
Air Station	3rd Quarter	38	
Background Site	4th Quarter	40	

TABLE 4
WATER SAMPLING DATA - 2006
ENVIRONMENTAL MONITORING SITES
3rd & 4th QUARTERS

SAMPLE LOCATION	SAMPLE DATE	RADIONUCLIDE	CONCENTRATION (mg/L)	CONCENTRATION (pCi/L)	ERROR EST. +/- (pCi/L)	CONCENTRATION (µCi/ml)	EFF. CONC. LIMIT (µCi/ml)	% EFF. CONC. LIMIT
SW-1 Stock Pond Section 3 T35N, R74W	3rd Quarter	U-Nat Ra-226	DRY				3.0E-07 6.0E-08	
	4th Quarter	U-Nat Ra-226	5.54E-02	ND	ND	3.8E-08	3.0E-07 6.0E-08	12.5
SW-2 Stock Pond Section 2 T35N, R74W	3rd Quarter	U-Nat Ra-226	DRY				3.0E-07 6.0E-08	
	4th Quarter	U-Nat Ra-226	DRY				3.0E-07 6.0E-08	
SW-3 Stock Pond Section 35 T36N, R74W	3rd Quarter	U-Nat Ra-226	DRY				3.0E-07 6.0E-08	
	4th Quarter	U-Nat Ra-226	DRY				3.0E-07 6.0E-08	
SW-4 Stock Pond Section 36 T36N, R74W	3rd Quarter	U-Nat Ra-226	DRY				3.0E-07 6.0E-08	
	4th Quarter	U-Nat Ra-226	DRY				3.0E-07 6.0E-08	
SW-5 Stock Pond Section 21 T36N, R73W	3rd Quarter	U-Nat Ra-226	ND	ND	ND		3.0E-07 6.0E-08	
	4th Quarter	U-Nat Ra-226	DRY				3.0E-07 6.0E-08	
SW-6 Stock Pond Section 22 T36N, R73W	3rd Quarter	U-Nat Ra-226	6E-03	0.5	3.00E-01	4.1E-09 5.0E-10	3.0E-07 6.0E-08	1.4 0.8
	4th Quarter	U-Nat Ra-226	6.00E-04	ND	ND	4.1E-10	3.0E-07 6.0E-08	0.1

TABLE 4 (Continued)

SAMPLE LOCATION	SAMPLE DATE	RADIONUCLIDE	CONCENTRATION (mg/L)	CONCENTRATION (pCi/L)	ERROR EST. +/- (pCi/L)	CONCENTRATION (µCi/ml)	EFF. CONC. LIMIT (µCi/ml)	% EFF. CONC. LIMIT
SW-7 Stock Pond Section 22 T36N, R73W	3rd Quarter	U-Nat Ra-226	ND	5.1	7.00E-01	5.1E-09	3.0E-07 6.0E-08	8.5
	4th Quarter	U-Nat Ra-226	9.00E-04	ND	ND	6.1E-10	3.0E-07 6.0E-08	0.2
SW-8 Stock Pond Section 18 T36N, R72W	3rd Quarter	U-Nat Ra-226	ND	ND			3.0E-07 6.0E-08	
	4th Quarter	U-Nat Ra-226	1.04E-02	ND	ND	7.0E-09	3.0E-07 6.0E-08	2.3
SW-9 Stock Pond Section 18 T36N, R72W	3rd Quarter	U-Nat Ra-226	DRY				3.0E-07 6.0E-08	
	4th Quarter	U-Nat Ra-226	DRY				3.0E-07 6.0E-08	
SW-10 Stock Pond Section 19 T36N, R72W	3rd Quarter	U-Nat Ra-226	0.0102	1.0	4.00E-01	6.9E-09	3.0E-07 6.0E-08	2.3
	4th Quarter	U-Nat Ra-226	DRY				3.0E-07 6.0E-08	
GW-1 Windmill Section 1 T35N, R74W	3rd Quarter	U-Nat Ra-226	NOT RUNNING				3.0E-07 6.0E-08	
	4th Quarter	U-Nat Ra-226	NOT RUNNING				3.0E-07 6.0E-08	
GW-2 Water Well Section 35 T36N, R74W	3rd Quarter	U-Nat Ra-226	0.0317	1.0	3.00E-01	2.1E-08 1.0E-09	3.0E-07 6.0E-08	7.2 1.7
	4th Quarter	U-Nat Ra-226	0.0365	0.7	3.00E-01	2.5E-08 7.0E-10	3.0E-07 6.0E-08	8.2 1.2

TABLE 4 (Continued)

SAMPLE LOCATION	SAMPLE DATE	RADIONUCLIDE	CONCENTRATION (mg/L)	CONCENTRATION (pCi/L)	ERROR EST. +/- (pCi/L)	CONCENTRATION (µCi/ml)	EFF. CONC. LIMIT (µCi/ml)	% EFF. CONC. LIMIT
GW-3 Windmill Section 27 T36N, R74W	3rd Quarter	U-Nat Ra-226	NOT RUNNING			#VALUE! 0.0E+00	3.0E-07 6.0E-08	
	4th Quarter	U-Nat Ra-226	0.132	1.8	5.00E-01	8.9E-08 1.8E-09	3.0E-07 6.0E-08	29.8 3.0
GW-4 Windmill Section 23 T36N, R74W	3rd Quarter	U-Nat Ra-226	0.0715	ND		4.8E-08	3.0E-07 6.0E-08	16.1
	4th Quarter	U-Nat Ra-226	0.0788	.1.1	4.00E-01	5.3E-08 1.1E-09	3.0E-07 6.0E-08	17.8 1.8
GW-5 Windmill Section 30 T36N, R73W	3rd Quarter	U-Nat Ra-226	NOT RUNNING				3.0E-07 6.0E-08	
	4th Quarter	U-Nat Ra-226	NOT RUNNING				3.0E-07 6.0E-08	
GW-6 Windmill Section 28 T36N, R73W	3rd Quarter	U-Nat Ra-226	NOT RUNNING				3.0E-07 6.0E-08	
	4th Quarter	U-Nat Ra-226	NOT RUNNING				3.0E-07 6.0E-08	
GW-7 Water Well Section 27 T36N, R73W	3rd Quarter	U-Nat Ra-226	0.03	0.4	2.00E-01	2.0E-08 4.0E-10	3.0E-07 6.0E-08	6.8 0.7
	4th Quarter	U-Nat Ra-226	0.0319	ND		2.2E-08	3.0E-07 6.0E-08	7.2
GW-8 Windmill Section 23 T36N, R73W	3rd Quarter	U-Nat Ra-226	NOT RUNNING				3.0E-07 6.0E-08	
	4th Quarter	U-Nat Ra-226	NOT RUNNING				3.0E-07 6.0E-08	

TABLE 4 (Continued)

SAMPLE LOCATION	SAMPLE DATE	RADIONUCLIDE	CONCENTRATION (mg/L)	CONCENTRATION (pCi/L)	ERROR EST. +/- (pCi/L)	CONCENTRATION (µCi/ml)	EFF. CONC. LIMIT (µCi/ml)	% EFF. CONC. LIMIT
GW-9 Windmill Section 14 T36N, R73W	3rd Quarter	U-Nat Ra-226	0.0006	ND		4.1E-10	3.0E-07 6.0E-08	
	4th Quarter	U-Nat Ra-226	NOT RUNNING				3.0E-07 6.0E-08	
GW-10 Water Well Section 14 T36N, R73W	3rd Quarter	U-Nat Ra-226	NOT RUNNING				3.0E-07 6.0E-08	
	4th Quarter	U-Nat Ra-226	NOT RUNNING				3.0E-07 6.0E-08	
GW-11 Water Well Section 11 T36N, R73W	3rd Quarter	U-Nat Ra-226	0.002	1.4	4.00E-01	1.4E-09 1.4E-09	3.0E-07 6.0E-08	0.5 2.3
	4th Quarter	U-Nat Ra-226	NOT RUNNING				3.0E-07 6.0E-08	
GW-12 Water Well Section 7 T36N, R72W	3rd Quarter	U-Nat Ra-226	NOT RUNNING				3.0E-07 6.0E-08	
	4th Quarter	U-Nat Ra-226	NOT RUNNING				3.0E-07 6.0E-08	

TABLE 5
 SATELLITE No. 1
 LAND APPLICATION FACILITY (IRRIGATOR 1)
 ANNUAL SOIL DATA

SAMPLE ID	SAMPLE DATE	Sat %	CONDUCTIVITY	pH	CALCIUM	MAGNESIUM	SODIUM	SAR	POTASSIUM	ARSENIC	BARIUM	SELENIUM	BORON	URANIUM - NATURAL	RADIUM 226	TOTAL ERROR
			SAT. PASTE	SAT. PASTE	SOLUBLE	SOLUBLE	SOLUBLE		SOLUBLE	ABDTPA	ABDTPA	ABDTPA	ABDTPA	TOTAL	ESTIMATE±	
			mmhos/cm	std. Units	meq/L	meq/L	meq/L		mg/kg-dry	mg/kg-dry	mg/kg-dry	mg/kg-dry	mg/kg-dry	pCi/g-dry	pCi/g-dry	pCi/g-dry
Irrigator #1 S.E. Location 1 0-6"	8/16/06	38.7	2.36	6.5	6.4	3.1	6.9	3.16	15.7	0.100	1.1	0.931	0.61	11.60	3.7	1.1
Irrigator #1 S.E. Location 1 6-12"	8/16/06	60.4	4.35	6.6	12.0	5.8	13.0	4.34	13.0	0.062	0.4	0.851	0.66	1.56	4.3	1.2
Irrigator #1 S.E. Location 2 0-6"	8/16/06	60.0	0.58	7.4	1.5	0.8	3.0	2.79	2.9	0.092	2.4	1.000	0.45	5.03	4.0	1.1
Irrigator #1 S.E. Location 2 6-12"	8/16/06	62.8	1.74	7.8	5.9	3.5	5.6	2.62	2.4	0.105	1.5	0.941	0.40	1.11	3.6	1.1
Irrigator #1 S.E. Location 3 0-6"	8/16/06	41.2	1.79	6.4	5.6	2.9	5.4	2.64	9.6	0.059	1.1	0.599	0.63	15.30	3.6	1.3
Irrigator #1 S.E. Location 3 6-12"	8/16/06	66.3	2.86	6.5	9.8	5.3	7.8	2.84	14.1	0.022	0.8	1.280	0.89	2.61	3.5	1.1
Irrigator #1 S.W. Location 4 0-6"	8/16/06	68.5	3.20	7.0	13.0	6.7	7.3	2.34	21.8	0.102	1.3	1.170	0.84	15.90	3.3	1.2
Irrigator #1 S.W. Location 4 6-12"	8/16/06	64.0	3.32	6.9	13.0	7.2	8.7	2.73	9.0	0.076	0.9	0.874	0.62	6.66	3.2	1.2
Irrigator #1 S.W. Location 5 0-6"	8/16/06	53.7	7.57	6.1	36.0	19.0	14.0	2.64	81.1	0.107	0.9	1.890	1.20	12.40	3.0	1.2
Irrigator #1 S.W. Location 5 6-12"	8/16/06	68.1	6.28	6.7	26.0	14.0	14.0	3.22	31.3	0.057	1.0	1.530	1.10	3.67	3.0	1.1
Irrigator #1 S.W. Location 6 0-6"	8/16/06	56.8	0.45	7.8	1.4	0.7	2.5	2.53	2.2	0.031	2.0	0.118	0.58	2.26	4.2	1.3
Irrigator #1 S.W. Location 6 6-12"	8/16/06	68.1	1.41	7.7	4.5	2.3	6.2	3.36	2.8	0.026	1.9	0.427	0.62	1.80	3.6	1.1
Irrigator #1 S.W. Location 7 0-6"	8/16/06	60.5	5.02	6.4	20.0	11.0	11.0	2.74	33.6	0.046	1.1	0.502	0.75	17.30	3.4	1.2
Irrigator #1 S.W. Location 7 6-12"	8/16/06	75.1	4.30	6.6	16.0	9.9	11.0	3.20	18.5	0.035	0.8	0.387	0.56	2.12	3.3	1.2
Irrigator #1 N.W. Location 8 0-6"	8/16/06	55.4	0.65	6.6	2.3	1.2	3.0	2.31	5.7	0.033	2.0	0.121	0.44	1.84	2.9	1.2
Irrigator #1 N.W. Location 8 6-12"	8/16/06	68.7	0.90	7.6	3.0	1.6	3.6	2.39	3.2	0.016	1.8	0.154	0.39	0.83	3.7	1.4
Irrigator #1 N.W. Location 9 0-6"	8/16/06	74.8	1.18	6.6	3.9	2.2	4.5	2.60	12.3	0.083	1.4	0.608	0.61	7.86	3.3	1.1
Irrigator #1 N.W. Location 9 6-12"	8/16/06	71.1	3.07	6.8	13.0	7.7	9.0	2.80	12.7	0.051	0.8	0.547	0.48	2.54	3.8	1.4
Irrigator #1 N.W. Location 10 0-6"	8/16/06	44.7	1.73	6.6	5.7	2.7	6.9	3.34	8.7	0.037	1.4	0.592	0.42	7.65	3.4	1.2
Irrigator #1 N.W. Location 10 6-12"	8/16/06	41.5	3.70	6.7	15.0	6.6	11.0	3.23	15.9	0.017	1.4	0.781	0.24	0.67	2.2	1.1
Irrigator #1 N.E. Location 11 0-6"	8/16/06	59.1	0.62	6.7	1.9	1.0	2.5	2.06	7.3	0.011	1.8	0.426	0.58	7.19	4.0	1.4
Irrigator #1 N.E. Location 11 6-12"	8/16/06	63.1	1.10	6.9	3.3	2.2	4.2	2.52	6.0	0.030	0.9	0.380	0.65	1.71	3.4	1.3
Irrigator #1 N.E. Location 12 0-6"	8/16/06	67.5	1.73	6.7	7.7	3.9	5.6	2.35	11.7	0.027	1.0	0.766	0.52	8.61	3.3	1.3
Irrigator #1 N.E. Location 12 6-12"	8/16/06	68.0	3.23	7.1	15.0	8.0	9.9	2.90	7.8	0.040	1.0	0.773	0.39	3.29	4.1	1.2
Irrigator #1 N.E. Location 13 0-6"	8/16/06	51.8	0.44	6.4	1.2	0.6	2.3	2.45	4.6	0.054	2.3	0.358	0.63	12.40	3.4	1.2
Irrigator #1 N.E. Location 13 6-12"	8/16/06	72.2	1.50	6.5	4.5	2.9	5.5	2.89	8.4	0.041	0.7	0.623	0.72	1.30	3.3	1.2
Irrigator #1 N.E. Location 14 0-6"	8/16/06	57.9	0.47	6.5	1.3	0.7	2.3	2.23	4.0	0.037	1.7	0.396	0.50	11.30	3.2	1.4
Irrigator #1 N.E. Location 14 6-12"	8/16/06	60.2	1.05	7.3	3.3	2.1	4.2	2.58	3.2	0.042	1.8	0.395	0.41	1.00	2.9	1.3
Irrigator #1 Background 0-6"	8/16/06	51.2	0.31	7.0	1.3	0.9	0.8	0.76	2.0	0.051	2.7	0.061	0.41	0.94	4.0	1.2
Irrigator #1 Background 6-12"	8/16/06	58.5	0.33	7.6	1.1	0.9	1.5	1.49	1.5	0.029	2.8	0.051	0.57	0.73	3.4	1.4
Average			2.38	6.84	9.01	4.84	6.82	2.78	13.20	0.05	1.33	0.69	0.60	5.98	3.45	1.22

TABLE 6
 SATELLITE No. 2
 LAND APPLICATION FACILITY (IRRIGATOR 2)
 ANNUAL SOIL DATA

SAMPLE ID	SAMPLE DATE	Sat %	CONDUCTIVITY	pH	CALCIUM	MAGNESIUM	SODIUM	SAR	POTASSIUM	ARSENIC	BARIUM	SELENIUM	BORON	URANIUM - NATURAL	RADIUM 226	TOTAL ERROR
			SAT. PASTE	SAT. PASTE	SOLUBLE	SOLUBLE	SOLUBLE	SOLUBLE	SOLUBLE	SOLUBLE	ABDTPA	ABDTPA	ABDTPA	ABDTPA	TOTAL	
			mmhos/cm	std. Units	meq/L	meq/L	meq/L		mg/kg-dry	mg/kg-dry	mg/kg-dry	mg/kg-dry	mg/kg-dry	pCi/g-dry	pCi/g-dry	pCi/g-dry
Irrigator #1 Location 1 0-6"	8/29/06	68.1	3.12	7.1	17.0	8.8	4.9	1.36	11.0	0.063	1.8	0.548	0.70	6.18	2.7	0.9
Irrigator #1 Location 1 6-12"	8/29/06	67.5	1.99	7.5	11.0	4.3	4.1	1.50	5.0	0.048	1.8	0.243	0.47	1.44	2.1	0.8
Irrigator #1 Location 2 0-6"	8/29/06	64.8	5.08	6.6	30.0	18.0	7.8	1.58	15.3	0.051	0.8	0.672	0.95	7.80	2.7	0.8
Irrigator #1 Location 2 6-12"	8/29/06	71.1	4.57	7.3	25.0	15.0	8.2	1.83	6.8	0.008	1.1	0.733	0.53	1.45	2.4	0.8
Irrigator #1 Location 3 0-6"	8/29/06	59.3	2.76	6.7	15.0	8.2	4.6	1.38	8.2	0.050	1.7	0.467	0.84	6.30	2.3	0.9
Irrigator #1 Location 3 6-12"	8/29/06	70.8	2.83	6.6	16.0	8.3	5.2	1.50	5.2	0.033	1.0	0.271	0.59	1.29	1.7	0.8
Irrigator #1 Location 4 0-6"	8/29/06	60.8	5.64	7.0	34.0	19.0	8.7	1.70	10.7	0.023	0.8	0.816	0.76	7.14	2.2	0.9
Irrigator #1 Location 4 6-12"	8/29/06	50.1	5.24	7.4	31.0	15.0	15.0	3.13	4.4	0.006	0.7	0.375	0.37	1.33	1.2	0.8
Irrigator #1 Location 5 0-6"	8/29/06	71.3	7.27	6.6	37.0	25.0	15.0	2.67	21.9	0.038	0.6	1.480	1.20	9.75	2.6	0.9
Irrigator #1 Location 5 6-12"	8/29/06	72.0	6.18	7.3	35.0	18.0	12.0	2.41	7.6	0.010	1.0	1.570	0.70	1.02	2.5	0.9
Irrigator #1 Location 6 0-6"	8/29/06	52.2	7.35	7.7	37.0	25.0	15.0	2.69	131.0	0.035	1.5	1.070	1.40	15.50	2.9	0.9
Irrigator #1 Location 6 6-12"	8/29/06	61.0	7.41	6.8	30.0	17.0	9.9	2.06	6.9	0.014	0.8	0.570	0.74	1.78	2.6	0.9
Irrigator #1 Location 7 0-6"	8/29/06	73.4	5.28	6.6	29.0	18.0	8.7	1.80	26.0	0.029	0.6	0.963	1.40	9.43	2.7	1.0
Irrigator #1 Location 7 6-12"	8/29/06	70.9	5.06	6.4	28.0	16.0	10.0	2.22	10.9	0.049	0.6	1.050	1.10	1.22	2.2	0.9
Irrigator #1 Location 8 0-6"	8/29/06	58.4	8.35	6.8	41.0	29.0	16.0	2.70	27.1	0.043	0.6	1.230	1.40	13.50	2.6	0.9
Irrigator #1 Location 8 6-12"	8/29/06	71.8	5.11	6.6	26.0	19.0	12.0	2.63	8.0	0.019	0.4	0.484	0.66	3.30	2.1	1.0
Irrigator #1 Location 9 0-6"	8/29/06	68.3	3.54	7.2	20.0	11.0	7.7	1.96	6.0	0.057	1.0	0.570	0.72	1.70	2.0	0.9
Irrigator #1 Location 9 6-12"	8/29/06	65.5	5.93	6.9	36.0	20.0	8.9	1.70	16.4	0.049	1.4	0.919	1.00	6.75	2.1	0.9
Irrigator #1 Location 10 0-6"	8/29/06	57.4	5.53	7.0	34.0	18.0	8.9	1.74	14.1	0.054	1.5	0.879	0.78	6.69	1.6	0.8
Irrigator #1 Location 10 6-12"	8/29/06	69.7	5.65	7.2	33.0	16.0	10.0	2.09	8.3	0.014	0.8	0.973	0.49	1.44	1.1	0.9
Irrigator #1 Location 11 0-6"	8/29/06	61.0	0.50	7.4	3.7	1.5	0.5	0.29	2.5	0.046	1.6	0.054	0.71	2.53	2.2	0.9
Irrigator #1 Location 11 6-12"	8/29/06	65.3	0.39	7.7	1.5	0.8	1.8	1.73	1.6	0.036	1.5	0.034	0.90	1.29	1.8	0.9
Irrigator #1 Location 12 0-6"	8/29/06	43.2	0.70	6.4	3.9	2.2	0.8	0.43	5.4	0.053	2.1	0.080	0.66	5.91	>1	NA
Irrigator #1 Location 12 6-12"	8/29/06	61.3	0.37	6.8	1.2	0.9	1.8	1.76	2.3	0.020	2.3	0.061	0.70	1.02	1.6	0.9
Irrigator #1 Location 13 0-6"	8/29/06	42.4	0.45	6.2	2.5	1.5	0.5	0.34	3.8	0.039	2.8	0.089	0.52	3.86	>1	NA
Irrigator #1 Location 13 6-12"	8/29/06	45.7	0.30	6.3	0.9	0.7	1.2	1.43	1.2	0.034	2.5	0.087	0.42	1.27	1.4	0.9
Irrigator #1 Location 14 0-6"	8/29/06	63.4	2.89	6.9	17.0	8.9	4.4	1.21	10.6	0.045	1.6	0.588	0.73	7.48	1.6	0.9
Irrigator #1 Location 14 6-12"	8/29/06	66.0	2.87	6.9	17.0	7.3	5.2	1.51	5.3	0.010	1.2	0.341	0.37	1.41	1.6	0.9
Irrigator #1 Location 15 0-6"	8/29/06	65.7	2.57	7.6	15.0	5.6	4.8	1.48	8.9	0.056	2.1	0.325	0.65	3.77	1.8	0.9
Irrigator #1 Location 15 6-12"	8/29/06	60.5	3.27	7.7	21.0	7.8	5.8	1.54	5.6	0.018	0.9	0.441	0.62	2.41	1.6	0.9
Irrigator #1 Location 16 0-6"	8/29/06	78.7	3.46	6.9	20.0	8.7	5.5	1.45	16.3	0.068	1.6	0.606	0.95	4.54	1.9	1.0
Irrigator #1 Location 16 6-12"	8/29/06	70.8	3.73	7.2	25.0	9.0	5.8	1.41	11.2	0.072	1.2	0.469	0.81	1.85	1.7	1.0
Irrigator #1 Background 0-6"	8/29/06	40.8	0.42	7.2	3.5	1.0	0.2	0.16	2.0	0.047	2.1	0.058	0.22	1.59	1.8	0.9
Irrigator #1 Background 6-12"	8/29/06	41.7	0.28	7.6	2.3	0.5	0.2	0.12	1.1	0.034	1.2	0.017	>.2	1.25	1.2	0.9
Average	Average		3.92	6.98	21.68	11.98	7.21	1.73	13.30	0.04	1.31	0.60	0.78	4.45	2.05	

TABLE 8

SATELLITE NO. 1 LAND APPLICATION FACILITY (IRRIGATOR NO. 1)
MONTHLY IRRIGATION FLUID DATA

IRRIGATION CYCLE		<u>Jul-06</u>	<u>Aug-06</u>	<u>Sep-06</u>	<u>Oct-06</u>	<u>Nov-06</u>	<u>Dec-06</u>
VOLUME (AF)							
MAJOR IONS (mg/L)	REP. LIMIT						
Ca	1.0						
Mg	1.0	Irrigator Did	Irrigator Did	Irrigator Did	Irrigator Did	Irrigator Did	Irrigator Did
Na	1.0	Not Operate	Not Operate	Not Operate	Not Operate	Not Operate	Not Operate
K	1.0						
HCO ₃	1.0						
SO ₄	1.0						
Cl	1.0						
NON-METALS							
TDS @ 180° C (mg/L)	10.0						
pH (standard units)	0.010						
SAR	0.01						
TRACE METALS (mg/L)							
As	0.001						
Ba	0.10						
B	0.10						
Se	0.001						
RADIOMETRIC							
U-nat (uCi/mL)	2.03E-10						
Ra-226 (uCi/mL)	2.00E-10						
Ra Err. Est. +/-							

TABLE 9

SATELLITE NO. 2 LAND APPLICATION FACILITY (IRRIGATOR NO. 2)
MONTHLY IRRIGATION FLUID DATA

IRRIGATION CYCLE		<u>Jul-06</u>	<u>Aug-06</u>	<u>Sep-06</u>	<u>Oct-06</u>	<u>Nov-06</u>	<u>Dec-06</u>
VOLUME (AF)							
MAJOR IONS (mg/L)							
	REP. LIMIT						
Ca	1.0	356	386	399			
Mg	1.0	129	136	136	Irrigator Did	Irrigator Did	Irrigator Did
Na	1.0	110	120	118	Not Operate	Not Operate	Not Operate
K	1.0	29.0	32.0	32.1			
HCO ₃	1.0	107	113	119			
SO ₄	1.0	804	871	880			
Cl	1.0	509	618	540			
NON-METALS							
TDS @ 180° C (mg/L)	10.0	2510	2690	2830			
pH (standard units)	0.010	8.01	8.15	8.18			
SAR	0.01	1.26	1.34	1.30			
TRACE METALS (mg/L)							
As	0.001	0.005	0.002	0.004			
Ba	0.1	ND	ND	ND			
B	0.10	0.10	0.20	0.10			
Se	0.001	0.567	0.816	0.561			
RADIOMETRIC							
U-nat (uCi/mL)	2.03E-10	8.87E-10	1.00E+00	9.24E-01			
Ra-226 (uCi/mL)	2.00E-10	1.30E-09	1.40E-09	1.60E-09			
Ra Err. Est. +/-		4.00E-10	4.00E-10	4.00E-01			

TABLE 10A

**MONTHLY RADIUM GRAB SAMPLES
AT THE DISCHARGE FROM THE RADIUM TREATMENT SYSTEM
SATELLITE NO. 2**

SAMPLE DATE		14-Jul-06	15-Aug-06	15-Sep-06	17-Oct-06	13-Nov-06	15-Dec-06
RADIOMETRIC	Rep. Limit						
Ra-226 (uCi/mL)	2.00E-10	7.70E-09	1.90E-09	3.00E-09	1.90E-09	4.20E-09	2.30E-09
Ra Err. Est. +/-		9.00E-10	4.00E-10	8.00E-10	7.00E-10	7.00E-10	5.00E-10

TABLE 10B

**MONTHLY RADIUM GRAB SAMPLES
AT THE DISCHARGE FROM THE RADIUM TREATMENT SYSTEM
SATELLITE NO. 3**

SAMPLE DATE		14-Jul-06	21-Aug-06	15-Sep-06	17-Oct-06	13-Nov-06	15-Dec-06
RADIOMETRIC	Rep. Limit						
Ra-226 (uCi/mL)	2.00E-10	1.00E-09	5.50E-09	5.11E-10	1.31E-08	9.40E-09	3.99E-08
Ra Err. Est. +/-		3.00E-10	7.00E-10	9.00E-10	1.00E-09	9.00E-10	1.60E-09

TABLE 11A

**SATELLITE NO. 1 LAND APPLICATION FACILITY (IRRIGATOR NO. 1)
ANNUAL SOIL WATER DATA**

SAMPLE SITE	2'	4'	6'
	NW¼	NW¼	NW¼
	NE¼	NE¼	NE¼
	SW¼	SW¼	SW¼
	SE¼	SE¼	SE¼
	Lysimeter	Lysimeter	Lysimeter
	Composite	Composite	Composite
SAMPLE DATE			
MAJOR IONS (mg/L)	REP. LIMIT		
HCO ₃	1.0		
SO ₄	1.0		
Cl	1.0		
	INSUFFICIENT WATER FOR SAMPLING		
NON-METALS			
Cond (umho/cm)	1.0		
pH (standard units)	0.010		
TRACE METALS (mg/L)			
B	0.10		
Se	0.001		
RADIOMETRIC			
U-nat: (mg/L)	0.0003		
Ra-226: (pCi/L)	0.2		
Ra Err. Est. +/-			
U-nat: (uCi/mL)	2.03E-10		
Ra-226: (uCi/mL)	2.00E-10		
Ra Err. Est. +/-			

TABLE 11B

**SATELLITE NO. 2 LAND APPLICATION FACILITY (IRRIGATOR NO. 2)
ANNUAL SOIL WATER DATA**

SAMPLE SITE	2'	4'	6'
	NW¼	NW¼	NW¼
	NE¼	NE¼	NE¼
	SW¼	SW¼	SW¼
	SE¼	SE¼	SE¼
	Lysimeter	Lysimeter	Lysimeter
	Composite	Composite	Composite
SAMPLE DATE			
MAJOR IONS (mg/L)	REP. LIMIT		
HCO ₃	1.0		
SO ₄	1.0		
Cl	1.0		
	INSUFFICIENT WATER FOR SAMPLING		
NON-METALS			
Cond (umho/cm)	1.0		
pH (standard units)	0.010		
TRACE METALS (mg/L)			
B	0.10		
Se	0.001		
RADIOMETRIC			
U-nat: (mg/L)	0.0003		
Ra-226: (pCi/L)	0.2		
Ra Err. Est. +/-			
U-nat: (uCi/mL)	2.03E-10		
Ra-226: (uCi/mL)	2.00E-10		
Ra Err. Est. +/-			

TABLE 12

SATELLITE NO. 2 PURGE STORAGE RESERVOIR
 SHALLOW MONITORING WELLS
 QUARTERLY WATER LEVEL DATA
 SEMI-ANNUAL WATER QUALITY DATA

SAMPLE SITE	Shallow Well No. 1 (South)		Shallow Well No. 2 (East)	
	30-Aug-06	5-Dec-06	30-Aug-06	5-Dec-06
SAMPLE DATE	30-Aug-06	5-Dec-06	30-Aug-06	5-Dec-06
WATER LEVEL (DTW)	17.51	17.4	12.49	11.6
MAJOR IONS (mg/L)	Rep. Limit			
HCO ₃	1.0			
SO ₄	1.0	NOT	NOT	NOT
Cl	1.0	ENOUGH	ENOUGH	ENOUGH
		WATER	WATER	WATER
		TO	TO	TO
NON-METALS		SAMPLE	SAMPLE	SAMPLE
Cond (µmho/cm)	1.0			
pH (standard units)	0.01			
TRACE METALS (mg/L)				
Ba	0.001			
Se	0.0025			
RADIOMETRIC				
U-nat (uCi/mL)	6.77E-10			
Ra-226 (uCi/mL)	2.00E-10			
Ra-226 Err. Est. +/- (uCi/mL)				

TABLE 13

2006 DOSE TO PUBLIC CALCULATIONS

Monitoring Location/Parameter	Average Concentration/Annual Gamma Dose	Average Concentration/Annual Gamma Dose Above Background	10 CFR 20 App. B, Table 2	
			Values	mrem/yr ¹
Water Well (Background)				
Uranium (μCi/ml)	1.48E-16		9.00E-14	
Thorium-230 (μCi/ml)	< 1.00E-16		2.00E-14	
Radium-226 (μCi/ml)	1.40E-16		9.00E-13	
Lead-210 (μCi/ml)	1.74E-14		6.00E-13	
Radon-222 (μCi/ml)	6.67E-10		1.00E-08	
Gamma (mrem/yr)	153		--	
(Restricted Area Boundary)²				
Uranium (μCi/ml)	4.95E-16	3.47E-16	9.00E-14	0.19
Thorium-230 (μCi/ml)	1.05E-16	5.00E-18	2.00E-14	0.01
Radium-226 (μCi/ml)	1.19E-16	0	9.00E-13	0.00
Lead-210 (μCi/ml)	1.64E-14	0	6.00E-13	0.00
Radon-222 (μCi/ml)	9.67E-10	3.00E-10	1.00E-08	1.50E+00
Gamma (mrem/yr)	180.00	27	--	27.00
TEDE (mrem/yr)				2.87E+01
Nearest Downwind Residence)				
Uranium (μCi/ml)	2.86E-16	1.38E-16	9.00E-14	0.08
Thorium-230 (μCi/ml)	< 1.00E-16	0	2.00E-14	0.00
Radium-226 (μCi/ml)	1.23E-16	0	9.00E-13	0.00
Lead-210 (μCi/ml)	1.94E-14	1.92E-15	6.00E-13	0.16
Radon-222 (μCi/ml)	7.7E-10	1.00E-10	1.00E-08	5.00E-01
Gamma (mrem/yr)	141	0	--	0
TEDE (mrem/yr)				7.36E-01

TEDE

<

1

Total Effective Dose Equivalent (mrem/yr)

One or more of the Lower Limits of Detection (LLD) used to determine average concentration.

Dose from radionuclides (mrem/yr) = $\frac{\text{Avg concentration above background in } \mu\text{Ci/ml} * 50 \text{ mrem}}{10 \text{ CFR } 20 \text{ AppB, Table 2 value in } \mu\text{Ci/ml}}$

ATTACHMENT B

SAFETY AND ENVIRONMENTAL EVALUATIONS COMPLETED IN 2006

Inter-Company Memorandum

Date: July 7, 2006
To: C. Foldenauer,
From: John McCarthy Manager- Health, Safety, and Environmental Affairs
Re: Safety and Environmental Review Panel (SERP) No. 2006-1: Operation of a shredder to shred wellfield 11(e) 2 byproduct waste prior to final off-site disposal.
cc: File SR 4.6.4.2

A. INTRODUCTION

The purpose for putting the shredder into service was as follows:

The 11-2e waste has been accumulating on the property for almost 20 years. The waste is mainly in the form of pipe, which has a large void space. The waste disposal facilities do not want large void spaces in their tailings dams. The shredder will be used to remove a large amount of the accumulated waste and will be used to reduce the size of the waste shipped to disposal facilities. The waste is radioactive and the SERP will address the worker safety while operating the machine

The SERP reviewed this change in relation to the qualifications described in the current License Application. The results of the SERP review are presented in the following sections.

B. SAFETY AND ENVIRONMENTAL REVIEW PANEL (SERP)

NRC License condition 9.4d of SUA-1548 requires that any changes, test or experiments made under the Performance Based License Condition be evaluated by a SERP consisting of at least three individuals. One member must have management expertise and have the financial and management responsibility for approving changes. The second member must have operational and/or construction expertise and have responsibility for implementing any operational changes. The third member must be the Radiation Safety Officer (RSO), or equivalent, with the responsibility of assuring that the proposed activities will conform to radiation safety and environmental requirements. Individuals selected to perform this SERP review include:

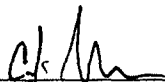
C. Foldenauer- Mine Manager
John McCarthy Manager- Health, Safety, and Environmental Affairs
Steve Hatten- Wellfield Manager
Mike Bryson- Superintendent Wellfield Operations
Larry Reiman- Sr. Project Engineer
Catherine Bull- Project Engineer


C. EVALUATION OF PROPOSED CHANGE/TEST


LICENSE REQUIREMENT	YES	NO	N/A
Does the proposed change, test, and/or experiment conflict with the ALARA principle?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Does the proposed change, test, and/or experiment conflict with PRI's ability to meet all applicable regulations including NRC, WDEQ, and EPA?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Is there degradation in the essential safety or environmental commitments in the license application, or provided in the approved reclamation plan?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Does the proposed change, test, and/or experiment conflict with any requirement specifically stated in the source material license?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Is the proposed change, test, and/or experiment not consistent with the conclusions of actions analyzed in the facilities Environmental Assessment (EA) or supplemental EAs?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Result in any increase in the frequency of occurrence of an accident previously evaluated in the license application (as updated).	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Result in any increase in the likelihood of occurrence of a malfunction of a structure, system, or component (SSC) important to safety previously evaluated in the license application (as updated).	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Result in any increase in the consequences of an accident previously evaluated in the license application (as updated).	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Result in any increase in the consequences of a malfunction of an SSC previously evaluated in the license application (as updated).	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Create a possibility for an accident of a different type than previously evaluated in the application (as updated).	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Create a possibility for a malfunction of an SSC with a different result than previously evaluated in the license application (as updated).	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Result in the departure from the method of evaluation described in the license application (as updated) used in establishing the final safety evaluation report or the environmental assessment (EA) or technical evaluation reports (TERs) or other analysis and evaluations. SSC means any SSC which has been referenced in a NRC staff SER, TER, EA, or environmental impact statement (EIS) and all supplements and amendments.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>


D. CONCLUSIONS


The SERP concluded that the use of the shredder to reduce the volume of 11(e)2 byproduct waste disposed of off-site is consistent with NRC License SUA-1548 and Regulatory Guide 8.31 and should not compromise the effectiveness of the ALARA and environmental compliance programs. The shredder will be mounted on skids and loaded on and off a trailer through the use of two Fork Lifts. The shredded material will be loaded into a BFI trailer that is pre-lined. A liner will be placed under the shredded/conveyer/BFI unit extending for approximately 10 feet in all directions. The individuals running the shredder will wear protective clothing, hard hat, respirator, coveralls, gloves and steel toed shoes. The work will be initially preformed under a RWP until an appropriate Standard Operating Procedure can be developed. Radiation surveys will be conducted and evaluated during the first few tests to determine the radiological controls necessary to include in the SOP.

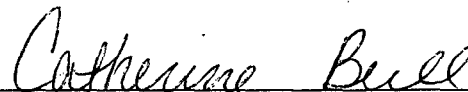
Signature:  Date: 7.7.06
C. Foldenauer, Mine Manager

Signature:  Date: 7/10/06
John McCarthy Manager- Health, Safety and Environmental Affairs

Signature:  Date: 7-7-06
Steve Hatten- Wellfield Manager

Signature:  Date: 7/10/06
Mike Bryson- Superintendent Wellfield Operations

Signature:  Date: 7/10/06
Larry Reiman- Sr. Project Engineer

Signature:  Date: 7.7.06
Catherine Bull- Project Engineer

Inter-Company Memorandum

Date: May 16, 2006
To: C. Foldenauer
From: J. Winter
Re: Safety and Environmental Review Panel (SERP) No. 2006-2: Start-up of J-Wellfield
cc: File SR 4.6.4.2

A. INTRODUCTION

In accordance with the NRC requirements, the Hydrologic Test Document, baseline water quality data, and monitoring well Upper Control Limits (UCLs) must be reviewed by a Safety and Environmental Review Panel (SERP) prior to Wellfield startup to ensure that the results of the hydrologic testing and the planned mining activities are consistent with technical requirements and do not conflict with any requirement stated in the NRC License. In addition to review of the above information, the SERP conducts an Operations/Technical Review, Environmental/Radiation Safety/Industrial Safety review, and a Compliance review for a new Wellfield prior to start-up.

A SERP was convened on May 16, 2006 to perform the reviews described above for the start-up of the J-Wellfield. The J-Wellfield is currently under development and injection and production operations are nearly ready for start-up at Headerhouse J-3. Preoperational hydrologic testing and baseline water quality data have been completed and submitted to the WDEQ-LQD. The results of the SERP review are presented in the following sections.

B. SAFETY AND ENVIRONMENTAL REVIEW PANEL (SERP)

NRC License condition 9.4d of SUA-1548 requires that any changes, test or experiments made under the Performance Based License Condition be evaluated by a SERP consisting of at least three individuals. One member must have management expertise and have the financial and management responsibility for approving changes. The second member must have operational and/or construction expertise and have responsibility for implementing any operational changes. The third member must be the Radiation Safety Officer (RSO), or equivalent, with the responsibility of assuring that the proposed activities will conform to radiation safety and environmental requirements. Individuals selected to perform this SERP review include:

~~MINI~~
C. Foldenauer - ~~General Manager Operations~~
M. Bryson- Wellfield Operations Superintendent
G. Kruse - Chief Geologist
J. Winter – Interim Manager- Health, Safety, and Environmental Affairs
A. Crook - Radiation Safety Officer

C. EVALUATION OF PROPOSED CHANGE/TEST

Hydrological Test Document Review

The pump test was performed in MU J during June and July 2005. Well JPW-001 was used as a pumping well during the pump test. More than 48 feet of drawdown was achieved in the pumping well during testing, resulting in sufficient stress on the confining layers for the purposes of the test and PRI's ISL permit. In summary, the pump test was performed in accordance with the Hydrologic Test Plan submitted by PRI to WDEQ/LQD. The testing objectives were met.

The test results demonstrate:

- The Q Sand monitor well ring is in communication with the Q Sand Production Zone with some exceptions in the southeastern portion of MU J; these exceptions have been addressed by the installation of two trend wells.
- The Q Sand has been adequately characterized with respect to hydrogeologic conditions within MU J
- With the exception of a single isolated location in the vicinity of JMO-009, adequate confinement exists between the Q Sand Production Zone and the Overlying sands such that mining in those areas can be conducted in accordance with standard PRI practices and applicable regulations consistent with Permit 633.
- PRI submitted a work plan to address the JMO-009 area through a work plan submitted to WDEQ/LQD on February 8, 2005. Additional overlying wells, JMO-13, and JMO-15 were installed and monitored. Data from these wells in addition to JMO-009 and JMO-010 were submitted to the WDEQ/LQD on April 20, 2005 identifying the required operating UCL's for all four wells. The WDEQ/LQD approved the April 20, 2005 UCL's on May 10, 2005

Operations/Technical Review

- Data loggers were installed in JMO-009, 013, 014, & 015. These pressure transducers were installed to monitor water levels in the overlying aquifer in this area and are scheduled to be hooked into the main PLC at Satellite 3. Levels will be periodically monitored to evaluate water level changes in overlying aquifer.

Environmental/Safety Review

It was determined that there is no increased environmental or safety risk from start-up of the J-Wellfield and current wellfield start-up procedures are adequate (see attached Risk Assessment).

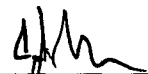
Compliance Review

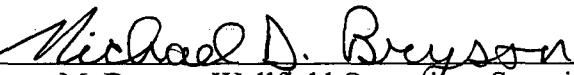
The SERP evaluated the start-up of J-Wellfield against the conditions stated in the License Condition 9.4 as shown in the table below. The SERP concluded that the start-up of J-Wellfield satisfied those conditions.

LICENSE REQUIREMENT	YES	NO	N/A
Does the proposed change, test, and/or experiment conflict with the ALARA principle?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Does the proposed change, test, and/or experiment conflict with PRI's ability to meet all applicable regulations including NRC, WDEQ, and EPA?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Is there degradation in the essential safety or environmental commitments in the license application, or provided in the approved reclamation plan?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Does the proposed change, test, and/or experiment conflict with any requirement specifically stated in the source material license?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Is the proposed change, test, and/or experiment not consistent with the conclusions of actions analyzed in the facilities Environmental Assessment (EA) or supplemental EAs?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Result in any increase in the frequency of occurrence of an accident previously evaluated in the license application (as updated).	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Result in any increase in the likelihood of occurrence of a malfunction of a structure, system, or component (SSC) important to safety previously evaluated in the license application (as updated).	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Result in any increase in the consequences of an accident previously evaluated in the license application (as updated).	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Result in any increase in the consequences of a malfunction of an SSC previously evaluated in the license application (as updated).	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Create a possibility for an accident of a different type than previously evaluated in the application (as updated).	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Create a possibility for a malfunction of an SSC with a different result than previously evaluated in the license application (as updated).	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Result in the departure from the method of evaluation described in the license application (as updated) used in establishing the final safety evaluation report or the environmental assessment (EA) or technical evaluation reports (TERs) or other analysis and evaluations. SSC means any SSC which has been referenced in a NRC staff SER, TER, EA, or environmental impact statement (EIS) and all supplements and amendments.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

D. CONCLUSIONS

The SERP concluded that that the commencement of production at the J-Wellfield would not require a License Amendment and does not conflict with any other regulatory requirement. Also, the commencement of production at the J-Wellfield will not result in the degradation of any essential safety or environmental commitments in the License Application, Environmental Assessments, or current operating procedures. As a result, the SERP approved the start-up of the J-Wellfield.

Signature:  Date: 8.10.06
C.R. Foldenauer, General Manager Operations
MIVE MANAGER

Signature:  Date: 8/9/06
M. Bryson, Wellfield Operations Superintendent

Signature: *G. Kruse* Date: 8/7/06
G. Kruse, Chief Geologist

Signature: *A. Crook* Date: 8-4-06
A. Crook, Radiation Safety Officer

Signature: *J. Winter* Date: 8-4-06
J. Winter, Interim Manager- Health, Safety, and Environmental Affairs

Inter-Company Memorandum

Date: May 16, 2006
To: C. Foldenauer
From: Jon Winter- Interim Manager- Health, Safety, and Environmental Affairs
Re: Safety and Environmental Review Panel (SERP) No. 2006-3: EHS Department Staff Changes of the Radiation Safety Officer
cc: File SR 4.6.4.2

A. INTRODUCTION

On February 6, 2006 Arlene Crook was appointed site Radiation Safety Officer (RSO) replacing Mr. Tim McCullough, current site RSO. This SERP meeting was called to review and document this change in the Smith Ranch-Highland Uranium Project EH&S staff responsibilities.

The SERP reviewed this change in relation to the qualifications described in the current License Application. The results of the SERP review are presented in the following sections.

B. SAFETY AND ENVIRONMENTAL REVIEW PANEL (SERP)

NRC License condition 9.4d of SUA-1548 requires that any changes, test or experiments made under the Performance Based License Condition be evaluated by a SERP consisting of at least three individuals. One member must have management expertise and have the financial and management responsibility for approving changes. The second member must have operational and/or construction expertise and have responsibility for implementing any operational changes. The third member must be the Radiation Safety Officer (RSO), or equivalent, with the responsibility of assuring that the proposed activities will conform to radiation safety and environmental requirements. Individuals selected to perform this SERP review include:

C. Foldenauer- Mine Manager
J. Winter – Interim Manager- Health, Safety, and Environmental Affairs
T. McCullough- Safety Supervisor
A. Crook- Radiation Safety Officer
S. P. Collings- President

C. EVALUATION OF PROPOSED CHANGE/TEST

The SERP met on May 16, 2006 to review the temporary management change in relation to the qualifications described in the License Application for the Radiation Safety Officer. S. P. Collings was not present at the meeting however he did review and agree with this final SERP.

Qualifications for RSO contained in the License Application states that the guidelines set forth in Regulatory Guide 8.31 will be met for the position of RSO. Guidelines set forth in Regulatory Guide 8.31 include:

- A bachelor's degree in physical sciences, industrial hygiene, or engineering from an accredited college or university or an equivalent combination of training and relevant experience.
- At least 1 year of experience relevant to uranium recovery operations in applied health physics, radiation protection, industrial hygiene, or similar work.
- At least 4 weeks of specialized training in health physics specifically applicable to uranium recovery. In addition, the RSO should attend refresher training on uranium recovery facility health physics every 2 years.
- A thorough knowledge of the proper application and use of all health physics equipment used in the recovery facility, the chemical and analytical procedures used for radiological sampling and monitoring, methodologies used to calculate personnel exposure to uranium and its daughters, and a thorough understanding of the uranium recovery process and equipment used in the facility and how the hazards are generated and controlled during the recovery process.

A review of Mrs. Crook's qualifications showed that she has several years of experience as a Radiation Safety Technician (August 23, 2004 to February 6, 2006) and has been involved in radiation safety training for employees and contract/consultant personnel. Mrs. Crook has completed the necessary training to qualify her to assume the duties of RSO for the SR-HUP facility. The SERP concluded Mrs. Crook's qualifications satisfied the qualifications described in the License Application for the RSO and Regulatory Guide 8.31.

The NRC was notified of these staffing changes in correspondence dated May 18, 2006

The SERP evaluated the temporary change in management against the conditions stated in the License Condition 9.4b as shown in the table below. The SERP concluded that these changes satisfied those conditions.

LICENSE REQUIREMENT	YES	NO	N/A
Does the proposed change, test, and/or experiment conflict with the ALARA principle?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Does the proposed change, test, and/or experiment conflict with PRI's ability to meet all applicable regulations including NRC, WDEQ, and EPA?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Is there degradation in the essential safety or environmental commitments in the license application, or provided in the approved reclamation plan?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Does the proposed change, test, and/or experiment conflict with any requirement specifically stated in the source material license?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Is the proposed change, test, and/or experiment not consistent with the conclusions of actions analyzed in the facilities Environmental Assessment (EA) or supplemental EAs?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Result in any increase in the frequency of occurrence of an accident previously evaluated in the license application (as updated).	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Result in any increase in the likelihood of occurrence of a malfunction of a	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

structure, system, or component (SSC) important to safety previously evaluated in the license application (as updated).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Result in any increase in the consequences of an accident previously evaluated in the license application (as updated).	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Result in any increase in the consequences of a malfunction of an SSC previously evaluated in the license application (as updated).	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Create a possibility for an accident of a different type than previously evaluated in the application (as updated).	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Create a possibility for a malfunction of an SSC with a different result than previously evaluated in the license application (as updated).	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Result in the departure from the method of evaluation described in the license application (as updated) used in establishing the final safety evaluation report or the environmental assessment (EA) or technical evaluation reports (TERs) or other analysis and evaluations. SSC means any SSC which has been referenced in a NRC staff SER, TER, EA, or environmental impact statement (EIS) and all supplements and amendments.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

D. CONCLUSIONS

The SERP concluded that the EHS staffing change is consistent with NRC License SUA-1548 and Regulatory Guide 8.31 and should not compromise the effectiveness of the ALARA and radiation safety program.

Signature: *C. Foldenauer* Date: 7.7.06
C. Foldenauer, Mine Manager

Signature: *Jon Winter* Date: 7/7/06
J. Winter, Interim Manager- Health, Safety and Environmental Affairs

Signature: *T. McCallough* Date: 7/7/06
T. McCallough, Safety Supervisor

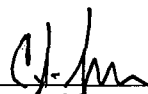
Signature: *Aileen Crook* Date: 7/10/06
A. Crook, Radiation Safety Officer

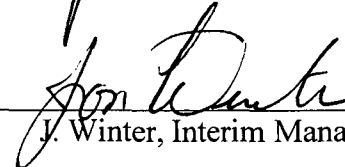
Signature: *S.P. Collings* Date: 8-4-06
S. P. Collings, President PRI, Inc.

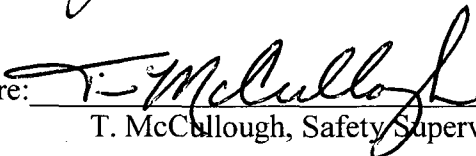
structure, system, or component (SSC) important to safety previously evaluated in the license application (as updated).	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Result in any increase in the consequences of an accident previously evaluated in the license application (as updated).	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Result in any increase in the consequences of a malfunction of an SSC previously evaluated in the license application (as updated).	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Create a possibility for an accident of a different type than previously evaluated in the application (as updated).	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Create a possibility for a malfunction of an SSC with a different result than previously evaluated in the license application (as updated).	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Result in the departure from the method of evaluation described in the license application (as updated) used in establishing the final safety evaluation report or the environmental assessment (EA) or technical evaluation reports (TERs) or other analysis and evaluations. SSC means any SSC which has been referenced in a NRC staff SER, TER, EA, or environmental impact statement (EIS) and all supplements and amendments.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

D. CONCLUSIONS

The SERP concluded that the EHS staffing change is consistent with NRC License SUA-1548 and Regulatory Guide 8.31 and should not compromise the effectiveness of the ALARA and radiation safety program.

Signature:  Date: 7.7.06
C. Foldenauer, Mine Manager

Signature:  Date: 7/7/06
J. Winter, Interim Manager- Health, Safety and Environmental Affairs

Signature:  Date: 7/7/06
T. McCullough, Safety Supervisor

Signature:  Date: 7/10/06
A. Crook, Radiation Safety Officer

Signature: _____ Date: _____
S. P. Collings, President PRI, Inc.

Inter-Company Memorandum

Date: July 17, 2006
To: C. Foldenauer,
From: John McCarthy Manager- Health, Safety, and Environmental Affairs
Re: Safety and Environmental Review Panel (SERP) No. 2006-4: Elevated Radon in the Central Processing Plant (CPP).
cc: File SR 4.6.4.2, P.

A. INTRODUCTION

The purpose of convening this Safety Environmental Review Panel (SERP) was to assess the information presented in the memo written by Arlene Crook (RSO) concerning radon concentrations in the CPP. The RSO's report dated June 29, 2006 is attached for review.

The SERP reviewed and discussed the information on July 10, 2006. The results of the SERP review are presented in the following sections.

B. SAFETY AND ENVIRONMENTAL REVIEW PANEL (SERP)

NRC License condition 9.4d of SUA-1548 requires that any changes, test or experiments made under the Performance Based License Condition be evaluated by a SERP consisting of at least three individuals. One member must have management expertise and have the financial and management responsibility for approving changes. The second member must have operational and/or construction expertise and have responsibility for implementing any operational changes. The third member must be the Radiation Safety Officer (RSO), or equivalent, with the responsibility of assuring that the proposed activities will conform to radiation safety and environmental requirements. Individuals selected to perform this SERP review included:

C. Foldenauer- Mine Manager
J. McCarthy – Manager- Health, Safety, and Environmental Affairs
P. Drummond- Plant/Maintenance Manager
A. Crook- Radiation Safety Officer
E. Heide- Plant Forman
L. Riemann (Senior Engineer)
C. Bull (Staff Engineer)

C. EVALUATION OF PROPOSED CHANGE/TEST

LICENSE REQUIREMENT	YES	NO	N/A
Does the proposed change, test, and/or experiment conflict with the ALARA principle?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Does the proposed change, test, and/or experiment conflict with PRI's ability to meet all applicable regulations including NRC, WDEQ, and EPA?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Is there degradation in the essential safety or environmental commitments in the license application, or provided in the approved reclamation plan?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Does the proposed change, test, and/or experiment conflict with any requirement specifically stated in the source material license?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Is the proposed change, test, and/or experiment not consistent with the conclusions of actions analyzed in the facilities Environmental Assessment (EA) or supplemental EAs?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Result in any increase in the frequency of occurrence of an accident previously evaluated in the license application (as updated).	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Result in any increase in the likelihood of occurrence of a malfunction of a structure, system, or component (SSC) important to safety previously evaluated in the license application (as updated).	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Result in any increase in the consequences of an accident previously evaluated in the license application (as updated).	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Result in any increase in the consequences of a malfunction of an SSC previously evaluated in the license application (as updated).	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Create a possibility for an accident of a different type than previously evaluated in the application (as updated).	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Create a possibility for a malfunction of an SSC with a different result than previously evaluated in the license application (as updated).	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Result in the departure from the method of evaluation described in the license application (as updated) used in establishing the final safety evaluation report or the environmental assessment (EA) or technical evaluation reports (TERs) or other analysis and evaluations. SSC means any SSC which has been referenced in a NRC staff SER, TER, EA, or environmental impact statement (EIS) and all supplements and amendments.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

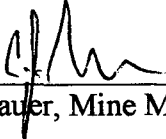
D. CONCLUSIONS

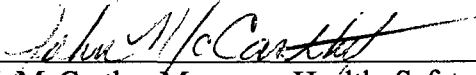
The SERP reviewed possible means to reduce the potential build-up of Radon in the plant. In conclusion, recommended six (6) possible solutions to radon concentrations that should not compromise the effectiveness of the ALARA and environmental compliance programs. The six recommendations are listed below.


1. Tanks numbered T-21 and T-20 would be vented with negative pressure fans installed in-line to the present overhead vents. The panel recommended the vent fans are in place within two weeks.
2. The vent hose used to ventilate open tanks with a portable generator should be of such length to ensure the open end will vent outside the building. Extra hose will be


purchased for adequate length and size. The panel recommended the hose be purchased within two weeks.

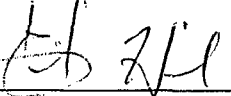
3. SOPs will be reviewed to ensure adequate instructions to ensure proper ventilation of the tank and protection of the workers.
4. Two of the overhead fans presently located at plant ceiling level will be moved to closer to floor level. They will be placed in present louvered windows in the vicinity of tanks T-20 and T-21. The panel recommended the vent fans are in place within two weeks.
5. The satellite's T-20 and T-21 equivalent tanks will be checked for adequate ventilation. If need be, negative pressure vent fans will be installed in-line for ventilation.
6. The University of Wyoming's Engineering Department will perform an energy audit starting in January, 2007 in conjunction with their ongoing Senior Design Project. The group will assess ways of reducing heat loss while maximizing adequate ventilation with radon in mind. Results of the audit should be available by December, 2007.


Signature:  Date: 7.17.06
C. Foldenauer, Mine Manager

Signature:  Date: 7/17/06
J. McCarthy, Manager- Health, Safety and Environmental Affairs

Signature:  Date: 7/17/06
P. Drummond, Plant /Maintenance Manager

Signature:  Date: 7/17/06
A. Crook, Radiation Safety Officer

Signature:  Date: 7/17/06
E. Heide, Plant Forman

Signature:  Date: 7/17/06
L. Riemann, Senior Engineer

Signature:  Date: 7.17.06
C. Bull, Staff Engineer

Power Resources, Inc.

Inter-Company Memorandum

Date: June 29, 2006
To: C. Foldenauer, P. Drummond, J. McCarthy
From: Arlene Crook- RSO
Re: Elevated Radon in CPP
Cc: Erik Heide, Tim McCullough, File SR 4.6.4.2

On June 28, 2006 employees in the CPP were cleaning out T-20 and T-21. Employees were following the current SOP 2053 that instructs workers to vent the applicable tank for one hour. Although venting was done the displaced air was vented inside the CPP instead of outside. During this process the radon prism light turned yellow and red on numerous occasions through out the day and night. I performed sampling in the area of the prism, T-20 and T-2, results were below the NRC regulation action limit of 0.08 working level (25% of the limit .33WL).

On June 29, 2006 I performed additional testing including the RO area. The prism area did not exceed the limit, but the RO area had a reading of 0.17 WL which is 52% of the NRC limit. All of the doors were opened and fans placed in the RO area. Re-sampling was performed approximately four hours latter with results of 1% of the limit. As a result of the elevated radon we are required to resample on a weekly basis until four consecutive samples indicate concentrations are below the 0.08 limit.

The requested corrective action would be to order additional hoses to be placed on the vent fans that will reach outside and can be placed down wind of the area. In addition the SOP 2053 will also be changed so that all tanks are vented outside and downwind of the buildings. I also recommend that all employees who are performing the work wear a respirator.

To comply with ALARA I would recommend that several more built in fans, perhaps where the louvers are now be installed. This may help with the higher radon during transfers that we see in the winter time.

Power Resources, Inc.

Inter-Company Memorandum

Date: July 5, 2006
To: Attendees
From: C. Foldenauer
Re: Elevated Radon in CPP
cc:

A memo dated June 29, 2006 by Arlene Crook concerning elevated Radon levels in the CPP requested a review of our Operating Procedures and/or additional Engineering Controls. This will be reviewed by convening a Safety and Environmental Review Panel (SERP). I am requesting a SERP meeting be held and the below listed individuals attend the meeting.

Time/date of review	1300 Monday July 10, 2006
Reviewing individuals	Pat Drummond (Plant Manager) Erik Heide (Plant Foreman) Larry Riemann (Senior Engineer) Catherine Bull (Staff Engineer) Arlene Crook (RSO) John McCarthy (Manager, EH&S) Chuck Foldenauer (Mine Manager)