



September 6, 2018

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**NRC License SUA-1548, Docket No. 40-8964,
Table 2 Addendum for Smith Ranch Highland (SRH) and North Butte (NB)
Semi-Annual Effluent and Environmental Monitoring Report,
January 1 through June 30, 2018**

Document Control Desk:

Power Resources, Inc.; d/b/a Cameco Resources (Cameco) submitted hard copies of the Semi-Annual Effluent and Environmental Monitoring Report for the report period of January 1 through June 30, 2018 on August 29, 2018 in accordance with 10 CFR 40.65 and per License Condition No. 12.2 of Source Materials License SUA-1548. The air particulate results for the second quarter of the reporting period were unavailable at the time the second half semi-annual report was submitted.

Cameco has received the second quarter air monitoring results from the certified laboratory and are submitting them as an addendum to the Semi-Annual Effluent and Environmental Monitoring Report for the report period of January 1 through June 30, 2018. Please add to your report or replace in your report Table 2, Air Sampling Data, Environmental Sampling Sites for SRH and NB. Review of data collected during quarter two (2) shows that the concentrations of all parameters are less than the 10 CFR 20, Appendix B, Effluent Concentration Limits and are comparable to previous report results.

If you have questions regarding the addendum to Table 2, please contact me at (307) 358-6541 ext. 438 or by email at Lawrence_Reimann@cameco.com.

Sincerely,

Larry Reimann
Manager, Compliance and Licensing

IE48
IE25
NM5520

Attachments: Addendum: Table 2, Air Sampling Data, Environmental Sampling Sites for Smith Ranch-Highland and North Butte

LR/th

cc: Deputy Director, NRC w/ att CERTIFIED MAIL #7015 0640 0001 4722 7363
Mr. Doug Mandeville, NRC w/att CERTIFIED MAIL #7015 0640 0001 4722 6465
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File SR 4.6.4.1 w/att

TABLE 2
AIR SAMPLING DATA
ENVIRONMENTAL MONITORING SITES - SRH
1st and 2nd Quarters 2018

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 %	
AS-1 DAVE'S WATER WELL Air Station Background Site	1st Quarter	U-Nat	ND	NA	1.00E-16	9.00E-14	NA	
		Th-230	ND	NA	1.00E-16	3.00E-14	NA	
		Ra-226	ND	NA	1.00E-16	9.00E-13	NA	
		Pb-210	1.40E-14	6.40E-16	2.00E-15	6.00E-13	2.3	
	2nd Quarter	U-Nat	4.10E-18	NA	1.00E-16	9.00E-14	0.0	
		Th-230	1.60E-16	3.10E-17	1.00E-16	3.00E-14	0.5	
		Ra-226	1.60E-16	6.30E-17	1.00E-16	9.00E-13	0.0	
		Pb-210	1.00E-14	7.50E-16	2.00E-15	6.00E-13	1.7	
		Rn-222	4.60E-10	9.00E-11	3.00E-10	1.00E-08	4.6	
	All Period							
	AS-2 FENCE LINE Air Station Restricted Area Boundary (Background not deducted)	1st Quarter	U-Nat	1.20E-16	NA	1.00E-16	9.00E-14	0.1
			Th-230	ND	NA	1.00E-16	3.00E-14	NA
			Ra-226	ND	NA	1.00E-16	9.00E-13	NA
Pb-210			1.20E-14	5.80E-16	2.00E-15	6.00E-13	2.0	
2nd Quarter		U-Nat	2.40E-17	NA	1.00E-16	9.00E-14	0.0	
		Th-230	2.00E-16	6.80E-17	1.00E-16	3.00E-14	0.7	
		Ra-226	4.50E-17	1.70E-17	1.00E-16	9.00E-13	0.0	
		Pb-210	9.80E-15	7.70E-16	2.00E-15	6.00E-13	1.6	
		Rn-222	5.70E-10	1.10E-10	3.00E-10	1.00E-08	5.7	
All Period								
AS-3 VOLLMAN RANCH Air Station Downwind Nearest Residence (Background not deducted)		1st Quarter	U-Nat	ND	NA	1.00E-16	9.00E-14	NA
			Th-230	ND	NA	1.00E-16	3.00E-14	NA
			Ra-226	ND	NA	1.00E-16	9.00E-13	NA
	Pb-210		1.50E-14	6.20E-16	2.00E-15	6.00E-13	2.5	
	2nd Quarter	U-Nat	5.60E-18	NA	1.00E-16	9.00E-14	0.0	
		Th-230	7.60E-17	3.4E-17	1.00E-16	3.00E-14	0.3	
		Ra-226	1.50E-16	3.4E-17	1.00E-16	9.00E-13	0.0	
		Pb-210	1.10E-14	7.7E-16	2.00E-15	6.00E-13	1.8	
		Rn-222	4.60E-10	9.00E-11	3.00E-10	1.00E-08	4.6	
	All Period							
	AS-4 HUP RESTRICTED AREA Air Station HUP Overlook (Background not deducted)	1st Quarter	U-Nat			1.00E-16	9.00E-14	0.0
			Th-230			1.00E-16	3.00E-14	0.0
			Ra-226			1.00E-16	9.00E-13	0.0
Pb-210					2.00E-15	6.00E-13	0.0	
MONITORING DISCONTINUED, WILL RESUME MONITORING WHEN THE HIGHLAND CPF BECOMES OPERATIONAL								
2nd Quarter		U-Nat				1.00E-16	9.00E-14	0.0
		Th-230				1.00E-16	3.00E-14	0.0
		Ra-226				1.00E-16	9.00E-13	0.0
		Pb-210				2.00E-15	6.00E-13	0.0
		Rn-222				3.00E-10	1.00E-08	0.0
All Period								
AS-5 FOWLER RANCH Air Station Downwind (HUP) Nearest Residence (Background not deducted)		1st Quarter	U-Nat			1.00E-16	9.00E-14	0.0
			Th-230			1.00E-16	3.00E-14	0.0
	Ra-226				1.00E-16	9.00E-13	0.0	
	Pb-210				2.00E-15	6.00E-13	0.0	
	MONITORING DISCONTINUED, WILL RESUME MONITORING WHEN THE HIGHLAND CPF BECOMES OPERATIONAL							
	2nd Quarter	U-Nat				1.00E-16	9.00E-14	0.0
		Th-230				1.00E-16	3.00E-14	0.0
		Ra-226				1.00E-16	9.00E-13	0.0
		Pb-210				2.00E-15	6.00E-13	0.0
		Rn-222				3.00E-10	1.00E-08	0.0
	All Period							
	AS-6 REYNOLDS SATELLITE		NOT CONSTRUCTED					

ND = Non-detect at the reporting limit
NA = Not Applicable

TABLE 2
AIR SAMPLING DATA
ENVIRONMENTAL MONITORING SITES - NB
1st and 2nd Quarters 2018

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 %
NB8							
Pfister Ranch	1st Quarter	U-Nat	2.00E-16	NA	1.00E-16	9.00E-14	0.2
Air Station		Th-230	1.00E-16	8E-17	1.00E-16	3.00E-14	0.3
Nearest Residence		Ra-226	1.10E-16	4E-17	1.00E-16	9.00E-13	0.0
(Background not deducted)		Pb-210	2.00E-14	1.30E-15	2.00E-15	6.00E-13	3.3
2nd Quarter							
	2nd Quarter	U-Nat	1.70E-16	NA	1.00E-16	9.00E-14	0.2
		Th-230	1.80E-16	1E-16	1.00E-16	3.00E-14	0.6
		Ra-226	1.30E-16	6.9E-17	1.00E-16	9.00E-13	0.0
		Pb-210	1.20E-14	1.10E-15	2.00E-15	6.00E-13	2.0
	All Period	Rn-222	3.80E-10	9.00E-11	3.00E-10	1.00E-08	3.8
NB9							
West Airstation	1st Quarter	U-Nat	4.50E-17	NA	1.00E-16	9.00E-14	0.1
Air Station		Th-230	6.90E-17	6.5E-17	1.00E-16	3.00E-14	0.2
Upwind		Ra-226	8.00E-17	3.3E-17	1.00E-16	9.00E-13	0.0
(Background not deducted)		Pb-210	1.10E-14	9.80E-16	2.00E-15	6.00E-13	1.8
2nd Quarter							
	2nd Quarter	U-Nat	1.20E-16	NA	1.00E-16	9.00E-14	0.1
		Th-230	5.10E-16	1.5E-16	1.00E-16	3.00E-14	1.7
		Ra-226	1.10E-16	3E-17	1.00E-16	9.00E-13	0.0
		Pb-210	1.30E-14	9.90E-16	2.00E-15	6.00E-13	2.2
	All Period	Rn-222	2.40E-10	9.00E-11	3.00E-10	1.00E-08	2.4
NB11							
North Butte	1st Quarter	U-Nat	1.60E-17	NA	1.00E-16	9.00E-14	0.0
Air Station		Th-230	0.00E+00	6.5E-17	1.00E-16	3.00E-14	0.0
North Side of Licenced Area		Ra-226	6.70E-17	3.2E-17	1.00E-16	9.00E-13	0.0
(Background not deducted)		Pb-210	1.00E-14	8.80E-16	2.00E-15	6.00E-13	1.7
2nd Quarter							
	2nd Quarter	U-Nat	1.50E-16	NA	1.00E-16	9.00E-14	0.2
		Th-230	9.30E-17	5.9E-17	1.00E-16	3.00E-14	0.3
		Ra-226	4.40E-17	3E-17	1.00E-16	9.00E-13	0.0
		Pb-210	1.00E-14	9.20E-16	2.00E-15	6.00E-13	1.7
	All Period	Rn-222	2.70E-10	9.00E-11	3.00E-10	1.00E-08	2.7
NB12							
North East Airstation	1st Quarter	U-Nat	1.80E-17	NA	1.00E-16	9.00E-14	0.0
Air Station		Th-230	7.50E-17	9.8E-17	1.00E-16	3.00E-14	0.3
Downwind		Ra-226	6.00E-17	3.3E-17	1.00E-16	9.00E-13	0.0
(Background not deducted)		Pb-210	1.60E-14	9.50E-16	2.00E-15	6.00E-13	2.7
2nd Quarter							
	2nd Quarter	U-Nat	7.20E-17	NA	1.00E-16	9.00E-14	0.1
		Th-230	1.00E-16	6E-17	1.00E-16	3.00E-14	0.3
		Ra-226	0.00E+00	3E-17	1.00E-16	9.00E-13	0.0
		Pb-210	1.10E-14	9.60E-16	2.00E-15	6.00E-13	1.8
	All Period	Rn-222	3.20E-10	9.00E-11	3.00E-10	1.00E-08	3.2
NB13							
Anedarko Road	1st Quarter	U-Nat	0.00E+00	NA	1.00E-16	9.00E-14	0.0
Air Station		Th-230	8.70E-17	7E-17	1.00E-16	3.00E-14	0.3
Downwind		Ra-226	6.70E-17	3.5E-17	1.00E-16	9.00E-13	0.0
(Background not deducted)		Pb-210	1.40E-14	1.00E-15	2.00E-15	6.00E-13	2.3
2nd Quarter							
	2nd Quarter	U-Nat	5.40E-16	NA	1.00E-16	9.00E-14	0.6
		Th-230	1.40E-16	6.7E-17	1.00E-16	3.00E-14	0.5
		Ra-226	1.70E-16	6.7E-17	1.00E-16	9.00E-13	0.0
		Pb-210	1.10E-14	1.00E-15	2.00E-15	6.00E-13	1.8
	All Period	Rn-222	2.70E-10	9.00E-11	3.00E-10	1.00E-08	2.7
Satellite Pad							
Operations Mancamp	1st Quarter	U-Nat	1.70E-17	NA	1.00E-16	9.00E-14	0.0
Air Station		Th-230	7.10E-17	4E-17	1.00E-16	3.00E-14	0.2
Mancamp		Ra-226	1.30E-16	4E-17	1.00E-16	9.00E-13	0.0
(Background not deducted)		Pb-210	1.40E-14	1.10E-15	2.00E-15	6.00E-13	2.3
2nd Quarter							
	2nd Quarter	U-Nat	1.10E-16	NA	1.00E-16	9.00E-14	0.1
		Th-230	1.30E-16	8.1E-17	1.00E-16	3.00E-14	0.4
		Ra-226	7.00E-17	4.1E-17	1.00E-16	9.00E-13	0.0
		Pb-210	1.60E-14	1.70E-15	2.00E-15	6.00E-13	2.7
	All Period	Rn-222	3.00E-10	9.00E-11	3.00E-10	1.00E-08	3.0
Christensen Rd							
Environmental Station	All Period	Rn-222	3.80E-10	9.00E-11	3.00E-10	1.00E-08	3.8
Fence Line							
Frac Tanks							
Enironmental Station	All Period	Rn-222	3.50E-10	9.00E-11	3.00E-10	1.00E-08	3.5
FenceLine							
ND = Non-detect at the reporting limit NA = Not Applicable							