

Homestake Mining Company
 Grants Reclamation Project
 Private Well Uranium Concentration Statistics
Homestake Mining Company
Grants Reclamation Project
Private Well Uranium Concentration Statistics
Base-Case Uranium Models Output, 1,000 yr run

Permit/Alternative	¹ Maximum	¹ Minimum	¹ Average		Maximum	Minimum	Average
B_00132							
Alternative 1	0.0638	0.0638	0.0638	Alternative 1	2.301	0.005	0.051
Alternative 2	0.0638	0.0638	0.0638	Alternative 2	5.283	0.005	0.178
Alternative 3	0.0638	0.0638	0.0638	Alternative 3	8.258	0.005	0.487
B_00147							
Alternative 1	0.0682	0.0196	0.0393				
Alternative 2	0.0764	0.0196	0.0407				
Alternative 3	0.0981	0.0196	0.0433				
B_00163							
Alternative 1	0.183791	0.02	0.038564044				
Alternative 2	2.49399	0.02	0.169574295				
Alternative 3	3.03476	0.02	0.20232005				
B_00164							
Alternative 1	0.149276	0.0200218	0.046274866				
Alternative 2	4.05367	0.0200219	0.196020293				
Alternative 3	5.0948	0.0200222	0.243249465				
B_00165							
Alternative 1	0.60969	0.0200137	0.065085266				
Alternative 2	5.28321	0.0200137	0.292714649				
Alternative 3	7.71316	0.0200138	0.39668738				
B_00178							
Alternative 1	0.0535	0.0357	0.0451				
Alternative 2	0.6789	0.0390	0.1445				
Alternative 3	6.3325	0.0388	1.3288				
B_00180							
Alternative 1	0.217423	0.0200047	0.046011055				
Alternative 2	4.88124	0.0200047	0.386582579				
Alternative 3	7.65393	0.0200048	0.824483102				
B_00203							
Alternative 1	0.283177	0.0178968	0.042400404				
Alternative 2	0.619591	0.0178968	0.142467084				
Alternative 3	8.25828	0.0178967	1.596958489				
B_00220							
Alternative 1	0.0748388	0.0199823	0.037518543				
Alternative 2	0.303467	0.0199823	0.061181987				
Alternative 3	1.64532	0.0199823	0.229342886				
B_00221							
Alternative 1	0.595008	0.0200082	0.051495272				
Alternative 2	5.0931	0.0200082	0.329644943				
Alternative 3	8.05211	0.0200084	0.529072677				
B_00251							
Alternative 1	0.66184	0.020012	0.060429849				
Alternative 2	5.02218	0.020012	0.291859165				
Alternative 3	7.17772	0.0200124	0.40409144				
B_00279							
Alternative 1	0.20937	0.02	0.045670445				
Alternative 2	2.2713	0.02	0.236702173				
Alternative 3	6.24946	0.02	0.675474498				
B_00352							
Alternative 1	0.0470185	0.034902	0.03907818				
Alternative 2	0.655351	0.034902	0.134487034				
Alternative 3	6.29057	0.0348816	1.274680414				
B_00415							
Alternative 1	0.279091	0.005	0.054673				
Alternative 2	2.53608	0.005	0.283473				
Alternative 3	4.17769	0.005	0.528098				
Permit/Alternative	¹Maximum	¹Minimum	¹Average				
B_00435							
Alternative 1	0.115828	0.0197227	0.061020876				
Alternative 2	0.0968118	0.0197232	0.04953308				
Alternative 3	0.0575975	0.0197367	0.030319229				
B_00458							
Alternative 1	0.376064	0.0199932	0.099188053				
Alternative 2	0.631205	0.0199932	0.199796324				
Alternative 3	1.37343	0.0199932	0.276644322				
B_00583							
Alternative 1	0.305349	0.0199957	0.069848149				
Alternative 2	2.3009	0.0199957	0.292791538				
Alternative 3	3.41457	0.0199958	0.412214402				
B_00676							
Alternative 1	0.0764778	0.0199742	0.038157271				
Alternative 2	0.141265	0.0199742	0.04432956				
Alternative 3	1.36498	0.0199741	0.170226352				
B_00698							
Alternative 1	0.0385593	0.021271	0.029390216				
Alternative 2	0.0359867	0.0212686	0.028024877				
Alternative 3	0.0354652	0.0212641	0.027853348				

	Max	Min	Average
Alternative 1	2.301	0.005	0.051
Alternative 2	5.283	0.005	0.178
Alternative 3	8.258	0.005	0.487

¹Predicted uranium concentrations from bounding-case model

Homestake Mining Company
 Grants Reclamation Project
 Private Well Uranium Concentration Statistics
Homestake Mining Company
 Grants Reclamation Project
 Private Well Uranium Concentration Statistics
 Base-Case Uranium Models Output, 1,000 yr run

Permit/Alternative	¹ Maximum	¹ Minimum	¹ Average		Maximum	Minimum	Average
B_00132				Alternative 1	0.662	0.005	0.050
Alternative 1	0.0638	0.0638	0.0638	Alternative 2	5.283	0.005	0.172
Alternative 2	0.0638	0.0638	0.0638	Alternative 3	8.258	0.005	0.491
Alternative 3	0.0638	0.0638	0.0638				
B_00147							
Alternative 1	0.0682	0.0196	0.0393				
Alternative 2	0.0764	0.0196	0.0407				
Alternative 3	0.0981	0.0196	0.0433				
B_00163							
Alternative 1	0.183791	0.02	0.038564044				
Alternative 2	2.49399	0.02	0.169574295				
Alternative 3	3.03476	0.02	0.20232005				
B_00164							
Alternative 1	0.149276	0.0200218	0.046274866				
Alternative 2	4.05367	0.0200219	0.196020293				
Alternative 3	5.0948	0.0200222	0.243249465				
B_00165							
Alternative 1	0.60969	0.0200137	0.065085266				
Alternative 2	5.28321	0.0200137	0.292714649				
Alternative 3	7.71316	0.0200138	0.39668738				
B_00178							
Alternative 1	0.0535	0.0357	0.0451				
Alternative 2	0.6789	0.0390	0.1445				
Alternative 3	6.3325	0.0388	1.3288				
B_00180							
Alternative 1	0.217423	0.0200047	0.046011055				
Alternative 2	4.88124	0.0200047	0.386582579				
Alternative 3	7.65393	0.0200048	0.824483102				
B_00203							
Alternative 1	0.283177	0.0178968	0.042400404				
Alternative 2	0.619591	0.0178968	0.142467084				
Alternative 3	8.25828	0.0178967	1.596958489				
B_00220							
Alternative 1	0.0748388	0.0199823	0.037518543				
Alternative 2	0.303467	0.0199823	0.061181987				
Alternative 3	1.64532	0.0199823	0.229342886				
B_00221							
Alternative 1	0.595008	0.0200082	0.051495272				
Alternative 2	5.0931	0.0200082	0.329644943				
Alternative 3	8.05211	0.0200084	0.529072677				
B_00251							
Alternative 1	0.66184	0.020012	0.060429849				
Alternative 2	5.02218	0.020012	0.291859165				
Alternative 3	7.17772	0.0200124	0.40409144				
B_00279							
Alternative 1	0.20937	0.02	0.045670445				
Alternative 2	2.2713	0.02	0.236702173				
Alternative 3	6.24946	0.02	0.675474498				
B_00352							
Alternative 1	0.0470185	0.034902	0.03907818				
Alternative 2	0.655351	0.034902	0.134487034				
Alternative 3	6.29057	0.0348816	1.274680414				
B_00415							
Alternative 1	0.279091	0.005	0.054673				
Alternative 2	2.53608	0.005	0.283473				
Alternative 3	4.17769	0.005	0.528098				
Permit/Alternative	¹ Maximum	¹ Minimum	¹ Average				
B_00435							
Alternative 1	0.115828	0.0197227	0.061020876				
Alternative 2	0.0968118	0.0197232	0.04953308				
Alternative 3	0.0575975	0.0197367	0.030319229				
B_00458							
Alternative 1	0.376064	0.0199932	0.099188053				
Alternative 2	0.631205	0.0199932	0.199796324				
Alternative 3	1.37343	0.0199932	0.276644322				
B_00676							
Alternative 1	0.0764778	0.0199742	0.038157271				
Alternative 2	0.141265	0.0199742	0.04432956				
Alternative 3	1.36498	0.0199741	0.170226352				
B_00698							
Alternative 1	0.0385593	0.021271	0.029390216				
Alternative 2	0.0359867	0.0212686	0.028024877				
Alternative 3	0.0354652	0.0212641	0.027853348				

	Max	Min	Average
Alternative 1	0.662	0.005	0.050
Alternative 2	5.283	0.005	0.172
Alternative 3	8.258	0.005	0.491

¹Predicted uranium concentrations from bounding-case model

Permit/Alternative
B_00132
B_00147
B_00163
B_00164
B_00165
B_00178
B_00180
B_00203
B_00220
B_00221
B_00251
B_00279
B_00352
B_00415
B_00458
B_00676
B_00698

Table App 3.5.A-1 Estimated dose and cancer risk from radionuclides at unit POE concentrations.

3.41	Unit COC concentration in well (Bq L-1)	Calculated Dose (mrem y-1)	30-year Risk Estimate	
			Mortality	Morbidity
Radium-226 + Radium-228*				
Drinking water	1.00E+00	1.67E+01	1.00E-04	1.5E-04
Eating vegetables	1.00E+00	3.33E+00	2.67E-05	3.9E-05
Radon inhalation - domestic water	1.00E+00	1.56E-01	6.28E-06	6.9E-06
Total	--	2.02E+01	1.33E-04	1.91E-04
Thorium-230				
Drinking water	1.00E+00	6.9E+00	2.3E-05	3.4E-05
Eating vegetables	1.00E+00	3.4E-02	1.5E-07	2.2E-06
Total	--	5.3E-01	1.8E-06	2.8E-06
Natural Uranium				
Drinking water	1.00E+00	3.39E+00	1.66E-05	2.5E-05
Eating vegetables	1.00E+00	1.7E-02	2.22E-07	3.4E-07
Total	--	3.41E+00	1.69E-05	2.58E-05

pCi/L Bq/L
 33.97 1.258064
 background

*Used radium-226 dose coefficient for both nuclides