



ATLAS CORPORATION



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RICHARD E. BLUBAUGH
Vice President Environmental
and Governmental Affairs

March 02, 1998

VIA FACSIMILE: (301) 415-5397 and
VIA UNITED STATES POSTAL SERVICE

Mr. Joseph J. Holonich, Chief
UNITED STATES NUCLEAR REGULATORY COMMISSION
High-Level Waste and Uranium Projects Branch
Division of Waste Management (MS: T7 J9)
Office of Nuclear Material Safety and Safeguards
Washington, D.C. 20555-0001

Re: Atlas Corporation – Source Material License SUA-917 / Docket No. 40-3453
Annual Dose to Nearest Resident

Dear Mr. Holonich:

Enclosed please find Atlas Corporation's 1997 *Annual Dose to the Nearest Resident – Sum of External and Internal Doses* pertaining to the Atlas Minerals Uranium Mill Tailings site located in Moab, Utah. This data was also provided (February 26, 1998) as part of the Environmental Effluent and Monitoring Program for the Second Half of 1997.

Even though the Rn^{222} concentrations are higher than the limit at our environmental monitoring stations, the dose to the nearest resident is well within the 100 mrem per year limit. The Rn^{222} concentration is coming down at our S1 Station – the Station we use to calculate the dose to the nearest resident.

Station S1

Year	Average Concentration
1994	30.5 E^{-10} μ Ci/ml
1995	30.0 E^{-10} μ Ci/ml
1996	28.75 E^{-10} μ Ci/ml
1997	26.1 E^{-10} μ Ci/ml

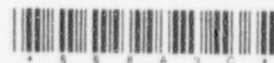
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The concentration will be above background until the radon barrier is in place.

Should you have any questions regarding this matter please contact either Mr. Dale L. Edwards at (435) 259-5131, or myself at (303) 629-2440.

Sincerely,

Richard E. Blubaugh



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PDR ADOCK 04003453
C PDR

Atlas Minerals
Regulatory Affairs Department

Annual Dose to Nearest Resident -- Sum of External and Internal Doses
1997

Internal

	Q1	Q2	Q3	Q4	Avg.	Diff.	Fraction of DAC
U-Nat	.001	.001	.001	.001	.001	0	$\frac{0 \text{ E}^{-12} \mu\text{Ci/ml} = 0}{9 \text{ E}^{-14} \mu\text{Ci/ml (DAC)}}$
(E ⁻¹²) $\mu\text{Ci/ml}$.001	.001	.001	.001	.001		
Ra ²²⁶	0	0	.0002	.0005	.0002	0	$\frac{0}{9 \text{ E}^{-13} \mu\text{Ci/ml (DAC)}}$
(E ⁻¹²) $\mu\text{Ci/ml}$.0004	0	.0002	.0002	.0002		
Th ²³⁰	.027	.021	.030	.042	.030	.021	$\frac{.021 \text{ E}^{-14} \mu\text{Ci/ml} = .011}{2 \text{ E}^{-14} \mu\text{Ci/ml (DAC)}}$
(E ⁻¹⁴) $\mu\text{Ci/ml}$	0	0	0	.034	.009		

	J	F	M	A	M	J	J	A	S	O	N	D	Avg.	Diff.	Fraction of DAC
Rn ²²²	23	20	23	40	22	20	23	15	11	33	49	35	26	13	$\frac{13 \text{ E}^{-10} \mu\text{Ci/ml} \times 0.094}{1 \text{ E}^{-10} \mu\text{Ci/ml (DAC)}} = 1.22$
(E ⁻¹⁰) $\mu\text{Ci/ml}$	25	7	43	4	9	11	9	6	5	7	12	18	13		
Sum of Fractions $1.23 \times 50 \text{ mrem/y} = 61.5$ $\frac{61.5}{2} = 31 \text{ mrem/y}$															

External

	Q1	Q2	Q3	Q4	mrem Total	Mrem Diff.	Fraction of DAC
TLD	14	12	14	16	56	13	$\frac{56}{21 \text{ mrem/y}} = 2.67$
Mrem/Q	9	8	9	9	35		
TOTAL = 52 mrem							

1 Air Sampler by the Nearest Residence
6 Air Sampler at the Background Station

* 0.094 = Equilibrium Factor for Nearest Residence - Assuming a Wind Speed of 3.5 m/s (from Table 2-4 EPA 520/1-86-009, 09/86)
+ With Daughters Present at 100% Equilibrium

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