

SECOND QUARTER 1982

DOSE CALCULATIONS
FOR
NEAREST RESIDENT

04003453201E

B210260080 B20818
PDR ADOCK 04003453
C PDR

OFFICIAL DOCKET COPY

20689

04003453201E

ATLAS MINERALS

2nd Quarter 1982

Dose Calculations

For

Nearest Resident

Nearest Residence: Tex's Tour Center

Location 0.5 mi (.8 Km) East of mill facilities

1. External Radiation Exposure

#1 TLD for period 4-1-82 to 6-30-82 15 MR

#6 TLD for period 4-1-82 to 6-30-82 $\frac{-12}{3}$ MR

* Measured by Radiation Detection Company

2. Internal Radiation Exposure

a. Inhalation of Airborne Particulates

(2nd quarter 1982)

Average Net Dose Commitment mrem ***

Concentration

<u>Location</u>	<u>Pci/m3</u>	<u>Whole Body</u>	<u>Bone</u>	<u>Lung</u>
Tex's Tour Center	U-Nat ** .008	.037	.635	1.352
0.5 Mi (.8 Km) E	Th ²³⁰ .00027	.045	1.61	.869
	Ra ²²⁶ .00208	.064	.64	13.75
	Total	.146	2.89	15.97

** Dose Commitments for U-Nat calculated by dividing net U-Nat concentration by 2 and applying dose conversion factors of U-238 and U-234 to one-half the concentration then summing these for the total U-Nat dose commitments as shown below:

Example: Net U-Nat = $.008 \div 2 = .004$

(U-238) $.004 \times 4.32 = .017$ and (U-234) $.004 \times 4.92 = .020$

(U-Nat) $.017 + .020 = .037$ Mr for the whole body.

*** Dose Conversion Factors Used: (Reference Table A-1 H.R.C. December 1980)

<u>Radionuclide</u>	<u>Whole Body</u>	<u>Bone</u>	<u>Lung</u>
U-238	4.32	79.2	158
U-234	4.92	79.5	180
Th ²³⁰	166.0	5950	3220
Ra ²²⁶	30.9	309	6610

20689

- 09003453201E
- b. Ingestion of contaminated food and milk: To the best of our knowledge the residents of Tex's Tour Center do not ingest any contaminated food or milk.
 - c. Ingestion of meat or milk from livestock grazing on contaminated vegetation: See Item B
 - d. Ingestion of contaminated water: It is our understanding that the residents of Tex's Tour Center obtain their potable water from the City of Moab, consequently, there should be no ingestion of contaminated water.
 - e. Ingestion of meat or milk from livestock watered on contaminated water: The residents do not have livestock from which they obtain meat or milk.

Comments:

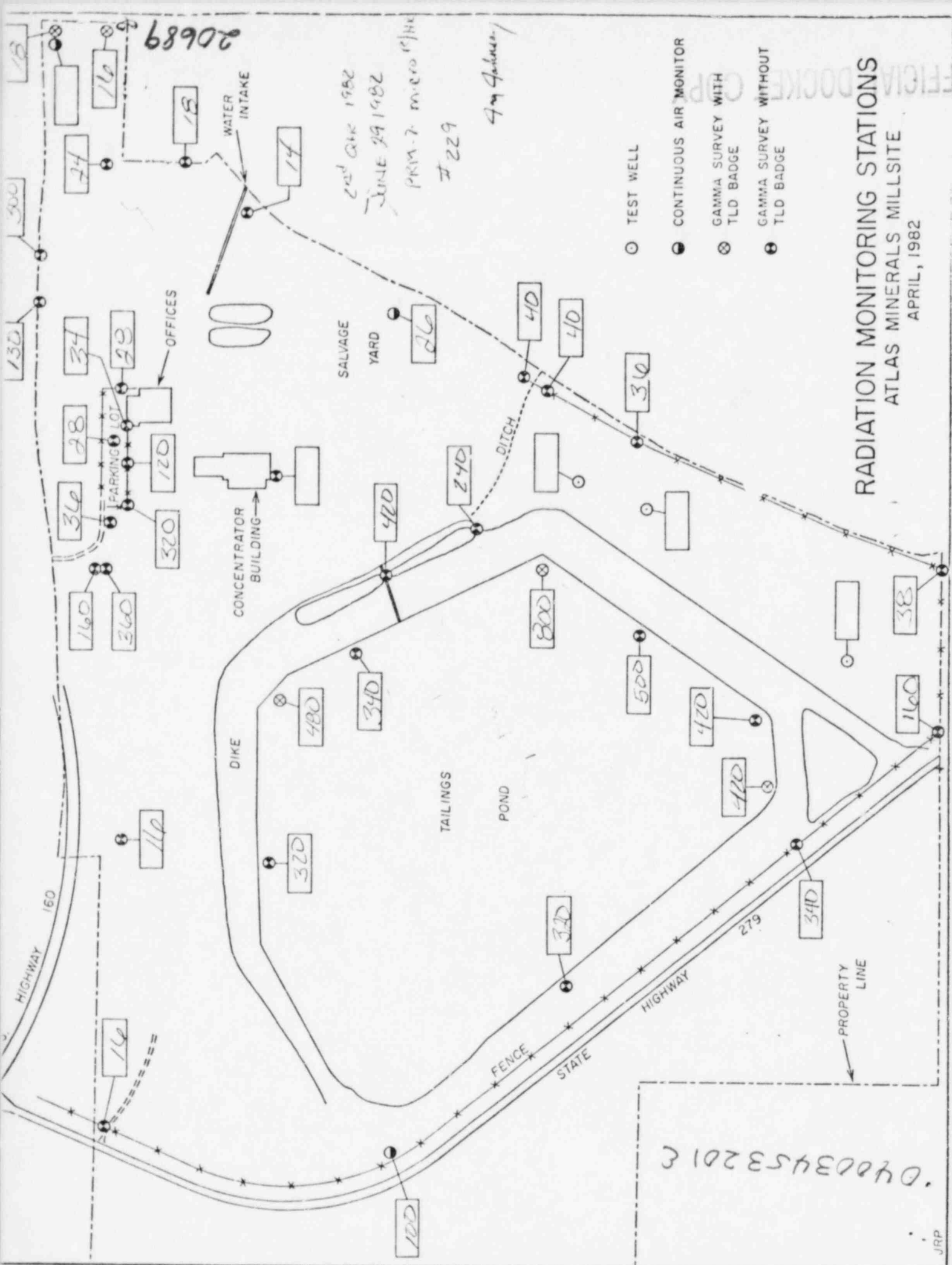
The dose commitments shown are calculated for one year. The average results are shown below:

	<u>Exposure to Nearest Resident Mrems</u>				
	<u>3rd Quarter 1981</u>	<u>4th Quarter 1981</u>	<u>1st Quarter 1982</u>	<u>2nd Quarter 1982</u>	<u>Avg.</u>
Whole Body	.445	.73	-.139	.146	.30
Bone	11.3	24.7	-5.58	2.89	8.33
Lung	29.89	-10.9	-2.36	15.97	8.15

SECOND QUARTER

GAMMA SURVEY OF THE TAILINGS
POND AND PERIMETER

04003453201E



20689

2nd QTR 1982
 JUNE 29 1982
 PRM-7 micro 15/HR
 # 229

49 Johnson

- TEST WELL
- CONTINUOUS AIR MONITOR
- ⊗ GAMMA SURVEY WITH TLD BADGE
- ⊕ GAMMA SURVEY WITHOUT TLD BADGE

RADIATION MONITORING STATIONS
 ATLAS MINERALS MILLSITE
 APRIL, 1982

040034532013

SECOND QUARTER 1982
CONTINUOUS AIR SAMPLES

040034532018

OFFICIAL DOCKET COPY

20689

ATLAS MINERALS

MOAB MILL

04003453201E

REGULATORY AFFAIRS DEPARTMENT
CONTINUOUS AIR SAMPLES

Month: April 1982

Sample Number #1

Date of Collection April 1982

Location of Sampler Northeast of Mill

Name of Sampler Collector J. Johnson

Radionuclide	MPC	Concentration uci/ml	Error Estimate	LLD uci/ml	%MPC	Name & Date of Assayer
U-Nat	5×10^{-12} uci/ml	$.010 \times 10^{-12}$	+ .00008	1×10^{-16} uci/ml	.2	VH
Rn ²²²	30×10^{-10} uci/ml	12.4×10^{-10}	+ .25	2×10^{-10} uci/ml	41.3	JJ
Pb ²¹⁰	4×10^{-12} uci/ml	1.3×10^{-14}		1×10^{-15} uci/ml	.3	
	Quarter: _____	_____	_____	_____	_____	_____
Th-230	8×10^{-14} uci/ml	_____	_____	1×10^{-16} uci/ml	_____	_____
Ra-226	3×10^{-12} uci/ml	_____	_____	1×10^{-16} uci/ml	_____	_____

ATLAS MINERALS

MOAB MILL

04003453 2018

REGULATORY AFFAIRS DEPARTMENT
CONTINUOUS AIR SAMPLES

Month: April 1982

Sample Number #2

Date of Collection April 1982

Location of Sampler Mill Salvage Yard

Name of Sampler Collector J. Johnson

Radionuclide	MPC	Concentration uci/ml	Error Estimate	LLD uci/ml	%MPC	Name & Date of Assayer
U-238	5×10^{-12} uci/ml	$.11 \times 10^{-12}$	+0.002	1×10^{-16} uci/ml	2.2	VH
Rn-222	30×10^{-10} uci/ml	6.4×10^{-10}	+0.13	2×10^{-10} uci/ml	21.3	JJ
Pb-210	4×10^{-12} uci/ml	3.16×10^{-14}		1×10^{-15} uci/ml	.8	

Quarter: _____

Th-230	8×10^{-14} uci/ml	_____	_____	1×10^{-16} uci/ml	_____	_____
Ra-226	3×10^{-12} uci/ml	_____	_____	1×10^{-16} uci/ml	_____	_____

ATLAS MINERALS

MOAB MILL

04203453 2018

REGULATORY AFFAIRS DEPARTMENT

CONTINUOUS AIR SAMPLES

Month: April 1982

Sample Number # 3

Date of Collection April 1982

Location of Sampler NorthWest tails pond

Name of Sampler Collector J. Johnson

Radionuclide	MPC	Concentration uci/ml	Error Estimate	LLD uci/ml	%MPC	Name & Date of Assayer
U-235	5×10^{-12} uci/ml	$.034 \times 10^{-12}$	<u>+.0009</u>	1×10^{-16} uci/ml	.68	VH
Rn ²²²	30×10^{-10} uci/ml	10.5×10^{-10}	<u>+ .18</u>	2×10^{-10} uci/ml	35	JJ
Pb ²¹⁰	4×10^{-12} uci/ml	3.72×10^{-14}		1×10^{-15} uci/ml	.9	
	Quarter: _____	_____	_____	_____	_____	_____
Th-230	8×10^{-14} uci/ml	_____	_____	1×10^{-16} uci/ml	_____	_____
Ra-226	3×10^{-12} uci/ml	_____	_____	1×10^{-16} uci/ml	_____	_____

ATLAS MINERALS

MOAB MILL

REGULATORY AFFAIRS DEPARTMENT

CONTINUOUS AIR SAMPLES

04003453 2018

Month: April 1982

Sample Number # 4

Date of Collection April 1982

Location of Sampler Arches Headquarters

Name of Sampler Collector J. Johnson

Radionuclide	MPC	Concentration uci/ml	Error Estimate	LLD uci/ml	%MPC	Name & Date of Assayer
U-Nat	5×10^{-12} uci/ml	$.008 \times 10^{-12}$	<u>+ 0</u>	1×10^{-16} uci/ml	.16	VH
Rn ²²²	30×10^{-10} uci/ml	5.0×10^{-10}	<u>+ .16</u>	2×10^{-10} uci/ml	16.6	JJ
Pb ²¹⁰	4×10^{-12} uci/ml	$.86 \times 10^{-14}$		1×10^{-15} uci/ml	.2	
	Quarter: _____	_____	_____	_____	_____	_____
Th-230	8×10^{-14} uci/ml	_____	_____	1×10^{-16} uci/ml	_____	_____
Ra-226	3×10^{-12} uci/ml	_____	_____	1×10^{-16} uci/ml	_____	_____

ATLAS MINERALS

MOAB MILL

04003453 201E

REGULATORY AFFAIRS DEPARTMENT
CONTINUOUS AIR SAMPLESMonth: April 1982Sample Number #5Date of Collection April 1982Location of Sampler Moab Sewage PlantName of Sampler Collector J. Johnson

Radionuclide	MPC	Concentration uci/ml	Error Estimate	LLD uci/ml	%MPC	Name & Date of Assayer
U-Nat	5×10^{-12} uci/ml	$.004 \times 10^{-12}$	+ .00009	1×10^{-16} uci/ml	.08	VH
Rn ²²²	30×10^{-10} uci/ml	2.2×10^{-10}	+ .18	2×10^{-10} uci/ml	7.3	JJ
Pb ²¹⁰	4×10^{-12} uci/ml	$.62 \times 10^{-14}$		1×10^{-15} uci/ml	.2	
	Quarter: _____	_____	_____	_____	_____	_____
Th-230	8×10^{-14} uci/ml	_____	_____	1×10^{-16} uci/ml	_____	_____
Ra-226	3×10^{-12} uci/ml	_____	_____	1×10^{-16} uci/ml	_____	_____

OFFICIAL DOCKET COPY

20689

ATLAS MINERALS

MOAB MILL

REGULATORY AFFAIRS DEPARTMENT
CONTINUOUS AIR SAMPLES

04003453 201E

Month: April 1982

Sample Number #6 _____

Date of Collection April 1982

Location of Sampler Approx 1 mi S Mill

Name of Sampler Collector J. Johnson

Radionuclide	MPC	Concentration uci/ml	Error Estimate	LLD uci/ml	%MPC	Name & Date of Assayer
U-Nat	5×10^{-12} uci/ml	$.004 \times 10^{-12}$	+ .00004	1×10^{-16} uci/ml	.008	VH
Rn ²²²	30×10^{-10} uci/ml	2.4×10^{-10}	+ .22	2×10^{-10} uci/ml	8	JJ
Pb ²¹⁰	4×10^{-12} uci/ml	$.93 \times 10^{-14}$		1×10^{-15} uci/ml	.2	
	Quarter: _____	_____	_____	_____	_____	_____
Th-230	8×10^{-14} uci/ml	_____	_____	1×10^{-16} uci/ml	_____	_____
Ra-226	3×10^{-12} uci/ml	_____	_____	1×10^{-16} uci/ml	_____	_____

OFFICIAL DOCKET COPY

20689

ATLAS MINERALS

MOAB MILL

04003453 201E

REGULATORY AFFAIRS DEPARTMENT
CONTINUOUS AIR SAMPLES

Month: May 1982

Sample Number #6

Date of Collection May 1982

Location of Sampler Approx. 1 Mi S mill

Name of Sampler Collector J. Johnson

Radionuclide	MPC	Concentration uci/ml	Error Estimate	LLD uci/ml	%MPC	Name & Date of Assayer
U-Nat	5×10^{-12} uci/ml	$.001 \times 10^{-12}$	+ 0	1×10^{-16} uci/ml	.02	VH
Rn ²²²	30×10^{-10} uci/ml	0	+ .25	2×10^{-10} uci/ml	0	JJ
Pb ²¹⁰	4×10^{-12} uci/ml	Lost sample		1×10^{-15} uci/ml		
	Quarter:					
Th-230	8×10^{-14} uci/ml			1×10^{-16} uci/ml		
Ra-226	3×10^{-12} uci/ml			1×10^{-16} uci/ml		

ATLAS MINERALS

MOAB MILL

REGULATORY AFFAIRS DEPARTMENT

CONTINUOUS AIR SAMPLES

04003453 201E

Month: May 1982

Sample Number #5

Date of Collection May 1982

Location of Sampler Moab Sewer Plant

Name of Sampler Collector J. Johnson

<u>Radionuclide</u>	<u>MPC</u>	<u>Concentration uci/ml</u>	<u>Error Estimate</u>	<u>LLD uci/ml</u>	<u>%MPC</u>	<u>Name & Date of Assayer</u>
U-Nat	5×10^{-12} uci/ml	$.002 \times 10^{-12}$	+ 0	1×10^{-16} uci/ml	.04	VH
Rn ²²²	30×10^{-10} uci/ml	1.1×10^{-10}	+ .22	2×10^{-10} uci/ml	4	JJ
Pb ²¹⁰	4×10^{-12} uci/ml	Lost Sample		1×10^{-15} uci/ml		
	Quarter: _____	_____	_____	_____	_____	_____
Th-230	8×10^{-14} uci/ml	_____	_____	1×10^{-16} uci/ml	_____	_____
Ra-226	3×10^{-12} uci/ml	_____	_____	1×10^{-16} uci/ml	_____	_____

ATLAS MINERALS

MOAB MILL

040234532018

REGULATORY AFFAIRS DEPARTMENT
CONTINUOUS AIR SAMPLES

Month: May 1982

Sample Number #4

Date of Collection April 1982

Location of Sampler Arches Headquarters

Name of Sampler Collector J. Johnson

Radionuclide	MPC	Concentration uci/ml	Error Estimate	LLD uci/ml	%MPC	Name & Date of Assayer
U-Nat	5×10^{-12} uci/ml	$.005 \times 10^{-12}$	<u>+.0009</u>	1×10^{-16} uci/ml	.1	VH
Rn ²²²	30×10^{-10} uci/ml	$.7 \times 10^{-10}$	<u>+.22</u>	2×10^{-10} uci/ml	2	JJ
Pb ²¹⁰	4×10^{-12} uci/ml	Lost Sample		1×10^{-15} uci/ml		
	Quarter: _____	_____	_____	_____	_____	_____
Th-230	8×10^{-14} uci/ml	_____	_____	1×10^{-16} uci/ml	_____	_____
Ra-226	3×10^{-12} uci/ml	_____	_____	1×10^{-16} uci/ml	_____	_____

OFFICIAL DOCUMENT COPY

20689

ATLAS MINERALS

J

MOAB MILL

04003453201E

REGULATORY AFFAIRS DEPARTMENT
CONTINUOUS AIR SAMPLES

Month: May 1982

Sample Number #3

Date of Collection May 1982

Location of Sampler NorthWest tails pond

Name of Sampler Collector J. Johnson

<u>Radionuclide</u>	<u>MPC</u>	<u>Concentration uci/ml</u>	<u>Error Estimate</u>	<u>LLD uci/ml</u>	<u>%MPC</u>	<u>Name & Date of Assayer</u>
U-Nat	5×10^{-12} uci/ml	$.02 \times 10^{-12}$	+ 0	1×10^{-16} uci/ml	.4	VH
Rn ²²²	30×10^{-10} uci/ml	2.5×10^{-10}	+ .18	2×10^{-10} uci/ml	8	JJ
Pb ²¹⁰	4×10^{-12} uci/ml	Lost sample		1×10^{-15} uci/ml		
	Quarter: _____	_____	_____	_____	_____	_____
Th-230	8×10^{-14} uci/ml	_____	_____	1×10^{-16} uci/ml	_____	_____
Ra-226	3×10^{-12} uci/ml	_____	_____	1×10^{-16} uci/ml	_____	_____

OFFICIAL BUREAU COPY

20689

ATLAS MINERALS

MOAB MILL

REGULATORY AFFAIRS DEPARTMENT
CONTINUOUS AIR SAMPLES

04003453201E

Month: May 1982

Sample Number #2
Date of Collection May 1982
Location of Sampler Mill Salvage Yard
Name of Sampler Collector Johnson

Radionuclide	MPC	Concentration uci/ml	Error Estimate	LLD uci/ml	%MPC	Name & Date of Assayer
U-Nat	5×10^{-12} uci/ml	$.05 \times 10^{-12}$	<u>+.008</u>	1×10^{-16} uci/ml	1	VH
Rn ²²²	30×10^{-10} uci/ml	4.0×10^{-10}	<u>+.29</u>	2×10^{-10} uci/ml	13	JJ
Pb ²¹⁰	4×10^{-12} uci/ml	Lost sample		1×10^{-15} uci/ml		
	Quarter:					
Th-230	8×10^{-14} uci/ml			1×10^{-16} uci/ml		
Ra-226	3×10^{-12} uci/ml			1×10^{-16} uci/ml		

ATLAS MINERALS

MOAB MILL

REGULATORY AFFAIRS DEPARTMENT

CONTINUOUS AIR SAMPLES

J

04 003453 201 E

Month: May 1982

Sample Number #1

Date of Collection May 1982

Location of Sampler North East of Mill

Name of Sampler Collector J Johnson

<u>Radionuclide</u>	<u>MPC</u>	<u>Concentration uci/ml</u>	<u>Error Estimate</u>	<u>LLD uci/ml</u>	<u>%MPC</u>	<u>Name & Date of Assayer</u>
U-Nat	5×10^{-12} uci/ml	$.007 \times 10^{-12}$	$\pm .0008$	1×10^{-16} uci/ml	.14	VH
RN ²²²	30×10^{-10} uci/ml	3.3×10^{-10}	$\pm .25$	2×10^{-10} uci/ml	11	JJ
Pb ²¹⁰	4×10^{-12} uci/ml	Lost Sample		1×10^{-15} uci/ml		
	Quarter: _____	_____	_____	_____	_____	_____
Th-230	8×10^{-14} uci/ml	_____	_____	1×10^{-16} uci/ml	_____	_____
Ra-226	3×10^{-12} uci/ml	_____	_____	1×10^{-16} uci/ml	_____	_____

ATLAS MINERALS

MOAB MILL

REGULATORY AFFAIRS DEPARTMENT

CONTINUOUS AIR SAMPLES

Month: June 1982

04003453201E

Sample Number #6

Date of Collection June 1982

Location of Sampler Approx. 2 Miles S Mill

Name of Sampler Collector J. Johnson

Radionuclide	MPC	Concentration uci/ml	Error Estimate	LLD uci/ml	%MPC	Name & Date of Assayer
U-Nat	5×10^{-12} uci/ml	$.0003 \times 10^{-11}$	+ 0	1×10^{-16} uci/ml	.006	VH 7/12
Rn ²²²	30×10^{-10} uci/ml	$.4 \times 10^{-10}$	+ .18	2×10^{-10} uci/ml	1.3	JJ
Pb ²¹⁰	4×10^{-12} uci/ml			1×10^{-15} uci/ml		
	Quarter: _____					
Th-230	8×10^{-14} uci/ml	$.00023 \times 10^{-12}$		1×10^{-16} uci/ml	.29	JJ 7/14
Ra-226	3×10^{-12} uci/ml	$.082 \times 10^{-14}$		1×10^{-16} uci/ml	.027	JJ 7/13

ATLAS MINERALS

MOAB MILL

REGULATORY AFFAIRS DEPARTMENT
CONTINUOUS AIR SAMPLES

Month: June 1982

040034532012

Sample Number #5
 Date of Collection June 1982
 Location of Sampler Moab Sewage Plant
 Name of Sampler Collector J. Johnson

Radionuclide	MPC	Concentration uci/ml	Error Estimate	LLD uci/ml	%MPC	Name & Date of Assayer
U-Nat	5×10^{-12} uci/ml	$.0003 \times 10^{-11}$	± 0	1×10^{-16} uci/ml	.006	VH 7/14
Rn ²²²	30×10^{-10} uci/ml	$.2 \times 10^{-10}$	$\pm .21$	2×10^{-10} uci/ml	.6	JJ
Pb ²¹⁰	4×10^{-12} uci/ml			1×10^{-15} uci/ml		
Quarter: _____						
Th-230	8×10^{-14} uci/ml	$.00016 \times 10^{-12}$		1×10^{-16} uci/ml	.2	JJ 7/14
Ra-226	3×10^{-12} uci/ml	$.044 \times 10^{-14}$		1×10^{-16} uci/ml	.015	JJ 7/13

ATLAS MINERALS

MOAB MILL

REGULATORY AFFAIRS DEPARTMENT
CONTINUOUS AIR SAMPLES

0400345-3201E

Month: June 1982

Sample Number #4
 Date of Collection June 1982
 Location of Sampler Arches Headquarters
 Name of Sampler Collector J. Johnson

<u>Radionuclide</u>	<u>MPC</u>	<u>Concentration uci/ml</u>	<u>Error Estimate</u>	<u>LLD uci/ml</u>	<u>%MPC</u>	<u>Name & Date of Assayer</u>
U-235	5×10^{-12} uci/ml	$.0002 \times 10^{-11}$	<u>+ 0</u>	1×10^{-16} uci/ml	.004	VH 7/1
Rn ²²²	30×10^{-10} uci/ml	1.1×10^{-10}	<u>+ .18</u>	2×10^{-10} uci/ml	6	JJ
Pb ²¹⁰	4×10^{-12} uci/ml			1×10^{-15} uci/ml		
Quarter: _____						
Th-230	8×10^{-14} uci/ml	$.0003 \times 10^{-12}$		1×10^{-16} uci/ml	.38	JJ 7/14
Ra-226	3×10^{-12} uci/ml	$.095 \times 10^{-14}$		1×10^{-16} uci/ml	.032	JJ 7/13

ATLAS MINERALS

MOAB MILL

REGULATORY AFFAIRS DEPARTMENT
CONTINUOUS AIR SAMPLES

04003453201E

Month: June 1982

Sample Number #3
 Date of Collection June 1982
 Location of Sampler North West tails pond
 Name of Sampler Collector J Johnson

<u>Radionuclide</u>	<u>MPC</u>	<u>Concentration uci/ml</u>	<u>Error Estimate</u>	<u>LLD uci/ml</u>	<u>%MPC</u>	<u>Name & Date of Assayer</u>
U-Nat	5×10^{-12} uci/ml	$.0012 \times 10^{-11}$	+ 0	1×10^{-16} uci/ml	.024	VH 7/1
RN ²²²	30×10^{-10} uci/ml	2.7×10^{-10}	+ .27	2×10^{-10} uci/ml	9	JJ
Pb ²¹⁰	4×10^{-12} uci/ml			1×10^{-15} uci/ml		
Quarter: _____						
Th-230	8×10^{-14} uci/ml	$.0013 \times 10^{-12}$		1×10^{-16} uci/ml	1.6	JJ 7/1
Ra-226	3×10^{-12} uci/ml	3.48×10^{-14}		1×10^{-16} uci/ml	1.16	JJ 7/1

ATLAS MINERALS

MOAB MILL

REGULATORY AFFAIRS DEPARTMENT

CONTINUOUS AIR SAMPLES

04003453201E

Month: June 1982

Sample Number #2

Date of Collection June 1982

Location of Sampler Mill Salvage Yard

Name of Sampler Collector J. Johnson

<u>Radionuclide</u>	<u>MPC</u>	<u>Concentration uci/ml</u>	<u>Error Estimate</u>	<u>LLD uci/ml</u>	<u>%MPC</u>	<u>Name & Date of Assayer</u>
U-Nat	5×10^{-12} uci/ml	$.007 \times 10^{-11}$	<u>+.0007</u>	1×10^{-16} uci/ml	.14	VH 7/12
RN ²²²	30×10^{-10} uci/ml	4.4×10^{-10}	<u>+.18</u>	2×10^{-10} uci/ml	14.7	JJ
Pb ²¹⁰	4×10^{-12} uci/ml			1×10^{-15} uci/ml		
	Quarter: _____	_____	_____	_____	_____	_____
Th-230	8×10^{-14} uci/ml	$.0010 \times 10^{-12}$		1×10^{-16} uci/ml	1.25	JJ 7/14
Ra-226	3×10^{-12} uci/ml	1.35×10^{-14}		1×10^{-16} uci/ml	.45	JJ 7/13

20689

ILAS MINERALS

MOAB MILL

REGULATORY AFFAIRS DEPARTMENT
CONTINUOUS AIR SAMPLES

04003453201 E

Month: June 1982

Sample Number #1

Date of Collection June 1982

Location of Sampler North East of Mill

Name of Sampler Collector J. Johnson

Radionuclide	MPC	Concentration uci/ml	Error Estimate	LLD uci/ml	%MPC	Name & Date of Assayer
U-235	5×10^{-12} uci/ml	$.0015 \times 10^{-11}$	<u>+.00008</u>	1×10^{-16} uci/ml	.03	VH 7/12
Rn ²²²	30×10^{-10} uci/ml	3.6×10^{-10}	<u>+.25</u>	2×10^{-10} uci/ml	12	JJ
Pb ²¹⁰	4×10^{-12} uci/ml			1×10^{-15} uci/ml		
	Quarter:					
Th-230	8×10^{-14} uci/ml	$.0005 \times 10^{-12}$		1×10^{-16} uci/ml	.63	JJ 7/14
Ra-226	3×10^{-12} uci/ml	$.29 \times 10^{-14}$		1×10^{-16} uci/ml	.09	JJ 7/13

20689

SECOND QUARTER 1982

SURFACE WATER RESULTS
FOR
THE COLORADO RIVER

04003453201E

OFFICIAL DOCKET COPY

20689

04003453 201E

ATLAS MINERALS

MOAB MILL

REGULATORY AFFAIRS DEPARTMENT

RIVER WATER REPORTS

Month April 1982

Name of Sample River above mill
 Date and Time Sample Was Collected 4-8-82
 Location of Sample Above Moab Mill
 Sampling Method Used (Bailed - ~~Filter~~) bailed
 The Amount of Water to be Removed Prior to Sampling
 Name of Sampler Jay Johnson

Radionuclide	M.P.C.	Date of Analysis	Concentration uci/ml	Error Estimate	L.L.D.	Name of Assayer
Gross Beta-Gamma		5/24	.0037 x10 ⁻⁶	+ .001		JJ
U-Nat	3x10 ⁻⁵ uci/ml	5/6	.00018x10 ⁻⁵	+ .00006	8x10 ⁻¹⁰ uci/ml	VH
Ra-226	3x10 ⁻⁸ uci/ml	5/5	.046x10 ⁻⁸	+ .0024	4.9x10 ⁻¹⁰ uci/ml	VH
Th-230	2x10 ⁻⁶ uci/ml	5/17	.0006x10 ⁻⁶	+ .00001	4.9x10 ⁻¹⁰ uci/ml	VH
Pb-210	1x10 ⁻⁷ uci/ml				3.7x10 ⁻⁹ uci/ml	
Po-210	7x10 ⁻⁷ uci/ml				2.0x10 ⁻⁹ uci/ml	

Common Ion and Trace Metals

	Date of Analysis	Concentration	Error Estimate	L.L.D.	Name of Assayer
K+				.001 PPM	
Na+				.001 PPM	
Cl-				.40 PPM	
SO ₄				.21 PPM	
NO ₃				.01 PPM	
Fe				.001 PPM	
Mn				.01 PPM	
As				.10 PPM	
Se				.50 PPM	
Cu				.01 PPM	
TDS				1.0 PPM	
PH				.10 Units	
Conductivity				10 umhos	

OFFICIAL DOCKET COPY

20689

0400345-3201 E

ATLAS MINERALS

MOAB MILL

REGULATORY AFFAIRS DEPARTMENT

RIVER WATER REPORTS

Month April 1982

Name of Sample 1/4 below
 Date and Time Sample Was Collected 4-8-82
 Location of Sample 1/4 mile below mill
 Sampling Method Used (~~Bailed - Pumped~~) bailed
 The Amount of Water to be Removed Prior to Sampling _____
 Name of Sampler Jay Johnson

Radionuclide	M.P.C.	Date of Analysis	Concentration uci/ml	Error Estimate	L.L.D.	Name of Assayer
Gross Beta-Gamma		<u>5/24</u>	<u>.008 x10⁻⁶</u>	<u>+ 0</u>		<u>JJ</u>
U-Nat	<u>3x10⁻⁵ uci/ml</u>	<u>5/6</u>	<u>.00016x10⁻⁵</u>	<u>+ .000074</u>	<u>8x10⁻¹⁰ uci/ml</u>	<u>VH</u>
Ra-226	<u>3x10⁻⁸ uci/ml</u>	<u>5/5</u>	<u>.06x10⁻⁸</u>	<u>+ .01</u>	<u>4.9x10⁻¹⁰ uci/ml</u>	<u>VH</u>
Th-230	<u>2x10⁻⁶ uci/ml</u>	<u>5/17</u>	<u>.0006x10⁻⁶</u>	<u>+ .0001</u>	<u>4.9x10⁻¹⁰ uci/ml</u>	<u>VH</u>
Pb-210	<u>1x10⁻⁷ uci/ml</u>				<u>3.7x10⁻⁹ uci/ml</u>	
Po-210	<u>7x10⁻⁷ uci/ml</u>				<u>2.0x10⁻⁹ uci/ml</u>	

Common Ion and Trace Metals

	Date of Analysis	Concentration	Error Estimate	L.L.D.	Name of Assayer
K+	_____	_____	_____	<u>.001 PPM</u>	_____
Na+	_____	_____	_____	<u>.001 PPM</u>	_____
Cl-	_____	_____	_____	<u>.40 PPM</u>	_____
SO ₄	_____	_____	_____	<u>.21 PPM</u>	_____
NO ₃	_____	_____	_____	<u>.01 PPM</u>	_____
Fe	_____	_____	_____	<u>.001 PPM</u>	_____
Mn	_____	_____	_____	<u>.01 PPM</u>	_____
As	_____	_____	_____	<u>.10 PPM</u>	_____
Se	_____	_____	_____	<u>.50 PPM</u>	_____
Cu	_____	_____	_____	<u>.01 PPM</u>	_____
TDS	_____	_____	_____	<u>1.0 PPM</u>	_____
PH	_____	_____	_____	<u>.10 Units</u>	_____
Conductivity	_____	_____	_____	<u>10 umhos</u>	_____

OFFICIAL DOCKET COPY

20689

04003453201 E

ATLAS MINERALS

MOAB MILL

REGULATORY AFFAIRS DEPARTMENT

RIVER WATER REPORTS

Month April 1982

Name of Sample 1/2 below
 Date and Time Sample Was Collected 4-8-82
 Location of Sample 1/2 below mill
 Sampling Method Used (Bailed - Rumped) bailed
 The Amount of Water to be Removed Prior to Sampling _____
 Name of Sampler Jay Johnson

Radionuclide	M.P.	Date of Analysis	Concentration uci/ml	Error Estimate	L.L.D.	Name of Assayer
Gross Beta-Gamma		5/24	0	+ 0		
U-Nat	3x10 ⁻⁵ uci/ml	5/6	.0001x10 ⁻⁵	+ .00006	8x10 ⁻¹⁰ uci/ml	VH
Ra-226	3x10 ⁻⁸ uci/ml	5/5	.058x10 ⁻⁵	+ .02	4.9x10 ⁻¹⁰ uci/ml	VH
Th-230	2x10 ⁻⁶ uci/ml	5/17	.00025x10 ⁻⁶	+ 0	4.9x10 ⁻¹⁰ uci/ml	VH
Pb-210	1x10 ⁻⁷ uci/ml				3.7x10 ⁻⁹ uci/ml	
Po-210	7x10 ⁻⁷ uci/ml				2.0x10 ⁻⁹ uci/ml	

Common Ion and Trace Metals

	Date of Analysis	Concentration	Error Estimate	L.L.D.	Name of Assayer
K+				.001 PPM	
Na+				.001 PPM	
Cl-				.40 PPM	
SO ₄				.21 PPM	
NO ₃				.01 PPM	
Fe				.001 PPM	
Mn				.01 PPM	
As				.10 PPM	
Se				.50 PPM	
Cu				.01 PPM	
TDS				1.0 PPM	
PH				.10 Units	
Conductivity				10 umhos	

04003453-201E

ATLAS MINERALS

MOAB MILL

REGULATORY AFFAIRS DEPARTMENT

RIVER WATER REPORTS

Month April 1982

Name of Sample 1 Below
 Date and Time Sample Was Collected 4-8-82
 Location of Sample 1 mile below mill
 Sampling Method Used (~~Bailed - Pumped~~) bailed
 The Amount of Water to be Removed Prior to Sampling ----
 Name of Sampler Jay Johnson

Radionuclide	M.P.C.	Date of Analysis	Concentration uci/ml	Error Estimate	L.L.D.	Name of Assayer
Gross Beta-Gamma		5/24	0	+ 0		JJ
U-Nat	3x10 ⁻⁵ uci/ml	5/6	.00018x10 ⁻⁵	+ .00006	8x10 ⁻¹⁰ uci/ml	VH
Ra-226	3x10 ⁻⁸ uci/ml	5/5	.073x10 ⁻⁸	+ .03	4.9x10 ⁻¹⁰ uci/ml	VH
Th-230	2x10 ⁻⁶ uci/ml	5/17	.0002x10 ⁻⁶	+ .00002	4.9x10 ⁻¹⁰ uci/ml	VH
Pb-210	1x10 ⁻⁷ uci/ml				3.7x10 ⁻⁹ uci/ml	
Po-210	7x10 ⁻⁷ uci/ml				2.0x10 ⁻⁹ uci/ml	

Common Ion and Trace Metals

	Date of Analysis	Concentration	Error Estimate	L.L.D.	Name of Assayer
K+				.001 PPM	
Na+				.001 PPM	
Cl-				.40 PPM	
SO ₄				.21 PPM	
NO ₃				.01 PPM	
Fe				.001 PPM	
Mn				.01 PPM	
As				.10 PPM	
Se				.50 PPM	
Cu				.01 PPM	
TDS				1.0 PPM	
PH				.10 Units	
Conductivity				10 umhos	

OFFICIAL DOCKET COPY

20689

04003453201E

ATLAS MINERALS

MOAB MILL

REGULATORY AFFAIRS DEPARTMENT

RIVER WATER REPORTS

Month April 1982

Name of Sample 5 below
 Date and Time Sample Was Collected 4-8-82
 Location of Sample 5 miles below mill
 Sampling Method Used (~~Bailed - Pumped~~) bailed
 The Amount of Water to be Removed Prior to Sampling _____
 Name of Sampler Jay Johnson

Radionuclide	M.P.C.	Date of Analysis	Concentration uci/ml	Error Estimate	L.L.D.	Name of Assayer
Gross Beta-Gamma		5/24	.009 x10 ⁻⁶	+ .001		JJ
U-Nat	3x10 ⁻⁵ uci/ml	5/6	.0002x10 ⁻⁵	+ .00009	8x10 ⁻¹⁰ uci/ml	VH
Ra-226	3x10 ⁻⁸ uci/ml	5/5	.078x10 ⁻⁸	+ .009	4.9x10 ⁻¹⁰ uci/ml	VH
Th-230	2x10 ⁻⁶ uci/ml	5/17	.000074x10 ⁻⁶	+ .0003	4.9x10 ⁻¹⁰ uci/ml	VH
Pb-210	1x10 ⁻⁷ uci/ml				3.7x10 ⁻⁹ uci/ml	
Po-210	7x10 ⁻⁷ uci/ml				2.0x10 ⁻⁹ uci/ml	

Common Ion and Trace Metals

	Date of Analysis	Concentration	Error Estimate	L.L.D.	Name of Assayer
K+				.001 PPM	
Na+				.001 PPM	
Cl-				.40 PPM	
SO ₄				.21 PPM	
NO ₃				.01 PPM	
Fe				.001 PPM	
Mn				.01 PPM	
As				.10 PPM	
Se				.50 PPM	
Cu				.01 PPM	
TDS				1.0 PPM	
PH				.10 Units	
Conductivity				10 umhos	

04003453201E

ATLAS MINERALS

MOAB MILL

REGULATORY AFFAIRS DEPARTMENT

RIVER WATER REPORTS

Month April 1982

Name of Sample 10 below
Date and Time Sample Was Collected 4-8-82
Location of Sample 10 miles below mill
Sampling Method Used (Bailed - Pumped) bailed
The Amount of Water to be Removed Prior to Sampling
Name of Sampler Jay Johnson

Table with 7 columns: Radionuclide, M.P.C., Date of Analysis, Concentration uci/ml, Error Estimate, L.L.D., Name of Assayer. Rows include Gross Beta-Gamma, U-Nat, Ra-226, Th-230, Pb-210, Po-210.

Common Ion and Trace Metals

Table with 6 columns: Ion/Trace Metal, Date of Analysis, Concentration, Error Estimate, L.L.D., Name of Assayer. Rows include K+, Na+, Cl-, SO4, NO3, Fe, Mn, As, Se, Cu, TDS, PH, Conductivity.

ORIGINAL DOCKET COPY

20689

04003453201E

ATLAS MINERALS

MOAB MILL

REGULATORY AFFAIRS DEPARTMENT

RIVER WATER REPORTS

Month May 1982

Name of Sample Above Mill
 Date and Time Sample Was Collected _____
 Location of Sample River above mill
 Sampling Method Used (Bailed - Pumped) bailed
 The Amount of Water to be Removed Prior to Sampling -- _____
 Name of Sampler Jay Johnson

Radionuclide	M.P.C.	Date of Analysis	Concentration uci/ml	Error Estimate	L.L.D.	Name of Assayer
Gross Beta-Gamma		6/4	0	+ 0		JJ
U-Nat	3x10 ⁻⁵ uci/ml	5/26	.0003x10 ⁻⁶	.00009	8x10 ⁻¹⁰ uci/ml	VH
Ra-226	3x10 ⁻⁸ uci/ml	6/2	.059x10 ⁻⁸	.009	4.9x10 ⁻¹⁰ uci/ml	VH
Th-230	2x10 ⁻⁶ uci/ml	6/18	.0005x10 ⁻⁶	.0001	4.9x10 ⁻¹⁰ uci/ml	VH
Pb-210	1x10 ⁻⁷ uci/ml				3.7x10 ⁻⁹ uci/ml	
Po-210	7x10 ⁻⁷ uci/ml				2.0x10 ⁻⁹ uci/ml	

Common Ion and Trace Metals

	Date of Analysis	Concentration	Error Estimate	L.L.D.	Name of Assayer
K+				.001 PPM	
Na+				.001 PPM	
Cl-				.40 PPM	
SO ₄				.21 PPM	
NO ₃				.01 PPM	
Fe				.001 PPM	
Mn				.01 PPM	
As				.10 PPM	
Se				.50 PPM	
Cu				.01 PPM	
TDS				1.0 PPM	
PH				.10 Units	
Conductivity				10 umhos	

20689

01003453 2018

ATLAS MINERALS

MOAB MILL

REGULATORY AFFAIRS DEPARTMENT

RIVER WATER REPORTS

Month May 1982

Name of Sample: 1/4 below
 Date and Time Sample Was Collected: _____
 Location of Sample: 1/4 below mill
 Sampling Method Used (Bailed - Pumped): bailed
 The Amount of Water to be Removed Prior to Sampling: _____
 Name of Sampler: _____

Radionuclide	M.P.C.	Date of Analysis	Concentration uci/ml	Error Estimate	L.L.D.	Name of Assayer
Gross Beta-Gamma		<u>6/4</u>	<u>0</u>	<u>+ 0</u>		<u>JJ</u>
U-Nat	<u>3x10⁻⁵ uci/ml</u>	<u>5/26</u>	<u>.0004x10⁻⁶</u>	<u>+ .00006</u>	<u>8x10⁻¹⁰ uci/ml</u>	<u>VH</u>
Ra-226	<u>3x10⁻⁸ uci/ml</u>	<u>6/2</u>	<u>.034x10⁻⁸</u>	<u>+ .004</u>	<u>4.9x10⁻¹⁰ uci/ml</u>	<u>VH</u>
Th-230	<u>2x10⁻⁶ uci/ml</u>	<u>6/18</u>	<u>.0005x10⁻⁶</u>	<u>+ .0004</u>	<u>4.9x10⁻¹⁰ uci/ml</u>	<u>VH</u>
Pb-210	<u>1x10⁻⁷ uci/ml</u>				<u>3.7x10⁻⁹ uci/ml</u>	
Po-210	<u>7x10⁻⁷ uci/ml</u>				<u>2.0x10⁻⁹ uci/ml</u>	

Common Ion and Trace Metals

	Date of Analysis	Concentration	Error Estimate	L.L.D.	Name of Assayer
K+	_____	_____	_____	<u>.001 PPM</u>	_____
Na+	_____	_____	_____	<u>.001 PPM</u>	_____
Cl-	_____	_____	_____	<u>.40 PPM</u>	_____
SO ₄	_____	_____	_____	<u>.21 PPM</u>	_____
NO ₃	_____	_____	_____	<u>.01 PPM</u>	_____
Fe	_____	_____	_____	<u>.001 PPM</u>	_____
Mn	_____	_____	_____	<u>.01 PPM</u>	_____
As	_____	_____	_____	<u>.10 PPM</u>	_____
Se	_____	_____	_____	<u>.50 PPM</u>	_____
Cu	_____	_____	_____	<u>.01 PPM</u>	_____
TDS	_____	_____	_____	<u>1.0 PPM</u>	_____
PH	_____	_____	_____	<u>.10 Units</u>	_____
Conductivity	_____	_____	_____	<u>10 umhos</u>	_____

ATLAS MINERALS

MOAB MILL

040034532018

REGULATORY AFFAIRS DEPARTMENT

RIVER WATER REPORTS

Month May 1982

Name of Sample, 1/2 below
 Date and Time Sample Was Collected _____
 Location of Sample 1/2 mi below
 Sampling Method Used (Bailed - Pumped) bailed
 The Amount of Water to be Removed Prior to Sampling _____
 Name of Sampler Jay Johnson

Radionuclide	M.P.C.	Date of Analysis	Concentration uci/ml	Error Estimate	L.L.D.	Name of Assayer
Gross Beta-Gamma		<u>6/4</u>	<u>0</u>	<u>+0</u>		<u>JJ</u>
U-Nat	<u>3x10⁻⁵ uci/ml</u>	<u>5/26</u>	<u>.0002x10⁻⁶</u>	<u>+ .00006</u>	<u>8x10⁻¹⁰ uci/ml</u>	<u>VH</u>
Ra-226	<u>3x10⁻⁸ uci/ml</u>	<u>6/2</u>	<u>.063x10⁻⁸</u>	<u>+ .02</u>	<u>4.9x10⁻¹⁰ uci/ml</u>	<u>VH</u>
Th-230	<u>2x10⁻⁶ uci/ml</u>	<u>6/18</u>	<u>.0005x10⁻⁶</u>	<u>+ 0</u>	<u>4.9x10⁻¹⁰ uci/ml</u>	<u>VH</u>
Pb-210	<u>1x10⁻⁷ uci/ml</u>				<u>3.7x10⁻⁹ uci/ml</u>	
Po-210	<u>7x10⁻⁷ uci/ml</u>				<u>2.0x10⁻⁹ uci/ml</u>	

Common Ion and Trace Metals

	Date of Analysis	Concentration	Error Estimate	L.L.D.	Name of Assayer
K+	_____	_____	_____	<u>.001 PPM</u>	_____
Na+	_____	_____	_____	<u>.001 PPM</u>	_____
Cl-	_____	_____	_____	<u>.40 PPM</u>	_____
SO ₄	_____	_____	_____	<u>.21 PPM</u>	_____
NO ₃	_____	_____	_____	<u>.01 PPM</u>	_____
Fe	_____	_____	_____	<u>.001 PPM</u>	_____
Mn	_____	_____	_____	<u>.01 PPM</u>	_____
As	_____	_____	_____	<u>.10 PPM</u>	_____
Se	_____	_____	_____	<u>.50 PPM</u>	_____
Cu	_____	_____	_____	<u>.01 PPM</u>	_____
TDS	_____	_____	_____	<u>1.0 PPM</u>	_____
PH	_____	_____	_____	<u>.10 Units</u>	_____
Conductivity	_____	_____	_____	<u>10 umhos</u>	_____

04003453201 E

ATLAS MINERALS

MOAB MILL

REGULATORY AFFAIRS DEPARTMENT

RIVER WATER REPORTS

Month May 1982

Name of Sampler 1 below
 Date and Time Sample Was Collected _____
 Location of Sample 1 mi below mill
 Sampling Method Used (Bailed - Pumped) bailed
 The Amount of Water to be Removed Prior to Sampling _____
 Name of Sampler Jay Johnson

Radionuclide	M.P.C.	Date of Analysis	Concentration uci/ml	Error Estimate	L.L.D.	Name of Assayer
Gross Beta-Gamma		6/4	0	+0		JJ
U-238	3×10^{-5} uci/ml	5/26	$.0003 \times 10^{-6}$	+0	8×10^{-10} uci/ml	VH
Ra-226	3×10^{-8} uci/ml	6/2	$.055 \times 10^{-8}$	+.04	4.9×10^{-10} uci/ml	VH
Th-230	2×10^{-6} uci/ml	6/18	$.0006 \times 10^{-6}$	+ 0	4.9×10^{-10} uci/ml	VH
Pb-210	1×10^{-7} uci/ml				3.7×10^{-9} uci/ml	
Po-210	7×10^{-7} uci/ml				2.0×10^{-9} uci/ml	

Common Ion and Trace Metals

	Date of Analysis	Concentration	Error Estimate	L.L.D.	Name of Assayer
K+	_____	_____	_____	.001 PPM	_____
Na+	_____	_____	_____	.001 PPM	_____
Cl-	_____	_____	_____	.40 PPM	_____
SO ₄	_____	_____	_____	.21 PPM	_____
NO ₃	_____	_____	_____	.01 PPM	_____
Fe	_____	_____	_____	.001 PPM	_____
Mn	_____	_____	_____	.01 PPM	_____
As	_____	_____	_____	.10 PPM	_____
Se	_____	_____	_____	.50 PPM	_____
Cu	_____	_____	_____	.01 PPM	_____
TDS	_____	_____	_____	1.0 PPM	_____
PH	_____	_____	_____	.10 Units	_____
Conductivity	_____	_____	_____	10 umhos	_____

ATLAS MINERALS

MOAB MILL

04003453 201 E

REGULATORY AFFAIRS DEPARTMENT

RIVER WATER REPORTS

Month May 1982

Name of Sampler 5 below
 Date and Time Sample Was Collected _____
 Location of Sample 5 miles below mill
 Sampling Method Used (Bailed - Pumped) bailed
 The Amount of Water to be Removed Prior to Sampling _____
 Name of Sampler Jay Johnson

Radionuclide	M.P.C.	Date of Analysis	Concentration uci/ml	Error Estimate	L.L.D.	Name of Assayer
Gross Beta-Gamma		<u>6/4</u>	<u>0</u>	<u>+0</u>		<u>JJ</u>
U-Nat	3×10^{-5} uci/ml	<u>5/26</u>	$.0005 \times 10^{-6}$	<u>+0001</u>	8×10^{-10} uci/ml	<u>VH</u>
Ra-226	3×10^{-8} uci/ml	<u>6/2</u>	$.04 \times 10^{-8}$	<u>+ .007</u>	4.9×10^{-10} uci/ml	<u>VH</u>
Th-230	2×10^{-6} uci/ml	<u>6/18</u>	$.0001 \times 10^{-6}$	<u>+ .00004</u>	4.9×10^{-10} uci/ml	<u>VH</u>
Pb-210	1×10^{-7} uci/ml				3.7×10^{-9} uci/ml	
Po-210	7×10^{-7} uci/ml				2.0×10^{-9} uci/ml	

Common Ion and Trace Metals

	Date of Analysis	Concentration	Error Estimate	L.L.D.	Name of Assayer
K+	_____	_____	_____	<u>.001 PPM</u>	_____
Na+	_____	_____	_____	<u>.001 PPM</u>	_____
Cl-	_____	_____	_____	<u>.40 PPM</u>	_____
SO ₄	_____	_____	_____	<u>.21 PPM</u>	_____
NO ₃	_____	_____	_____	<u>.01 PPM</u>	_____
Fe	_____	_____	_____	<u>.001 PPM</u>	_____
Mn	_____	_____	_____	<u>.01 PPM</u>	_____
As	_____	_____	_____	<u>.10 PPM</u>	_____
Se	_____	_____	_____	<u>.50 PPM</u>	_____
Cu	_____	_____	_____	<u>.01 PPM</u>	_____
TDS	_____	_____	_____	<u>1.0 PPM</u>	_____
PH	_____	_____	_____	<u>.10 Units</u>	_____
Conductivity	_____	_____	_____	<u>10 umhos</u>	_____

OFFICIAL DOCKET COPY

20689

ATLAS MINERALS

MOAB MILL

04003453201E

REGULATORY AFFAIRS DEPARTMENT

RIVER WATER REPORTS

Month May 1982

Name of Sample 10 below
 Date and Time Sample Was Collected _____
 Location of Sample 10 miles below mill
 Sampling Method Used (~~Bailed - Pumped~~) bailed
 The Amount of Water to be Removed Prior to Sampling _____
 Name of Sampler Jay Johnson

Radionuclide	M.P.C.	Date of Analysis	Concentration uci/ml	Error Estimate	L.L.D.	Name of Assayer
Gross Beta-Gamma		6/4	0	+ 0		JJ
U-Nat	3x10 ⁻⁵ uci/ml	5/26	.0003x10 ⁻⁶	+ .00006	8x10 ⁻¹⁰ uci/ml	VH
Ra-226	3x10 ⁻⁸ uci/ml	6/2	.050x10 ⁻⁸	+ .009	4.9x10 ⁻¹⁰ uci/ml	VH
Th-230	2x10 ⁻⁶ uci/ml	6/18	.0005x10 ⁻⁶	+ 0	4.9x10 ⁻¹⁰ uci/ml	VH
Pb-210	1x10 ⁻⁷ uci/ml				3.7x10 ⁻⁹ uci/ml	
Po-210	7x10 ⁻⁷ uci/ml				2.0x10 ⁻⁹ uci/ml	

Common Ion and Trace Metals

	Date of Analysis	Concentration	Error Estimate	L.L.D.	Name of Assayer
K+				.001 PPM	
Na+				.001 PPM	
Cl-				.40 PPM	
SO ₄				.21 PPM	
NO ₃				.01 PPM	
Fe				.001 PPM	
Mn				.01 PPM	
As				.10 PPM	
Se				.50 PPM	
Cu				.01 PPM	
TDS				1.0 PPM	
PH				.10 Units	
Conductivity				10 umhos	

04003453201E

ATLAS MINERALS

MOAB MILL

REGULATORY AFFAIRS DEPARTMENT

RIVER WATER REPORTS

Month June 1982 2nd Quarter

Name of Sample 10 below
 Date and Time Sample Was Collected 6/10/82
 Location of Sample 10 miles below mill
 Sampling Method Used (Bailed - ~~Embedded~~) bailed
 The Amount of Water to be Removed Prior to Sampling _____
 Name of Sampler Dale Edwards

Radionuclide	M.P.C.	Date of Analysis	Concentration uci/ml	Error Estimate	L.L.D.	Name of Assayer
Gross Beta-Gamma		6/17	<u>0.6</u> $\times 10^{-6}$	<u>+ .004</u>		JJ
U-Rat	3×10^{-5} uci/ml	7/20	<u>.0004</u> $\times 10^{-5}$	<u>.00009</u>	8×10^{-10} uci/ml	VH
Ra-226	3×10^{-8} uci/ml	7/23	<u>.056</u> $\times 10^{-8}$	<u>+ .04</u>	4.9×10^{-10} uci/ml	VH
Th-230	2×10^{-6} uci/ml	7/1	<u>.00068</u> $\times 10^{-6}$	<u>+ .0001</u>	4.9×10^{-10} uci/ml	VH
Pb-210	1×10^{-7} uci/ml	7/6	<u>.002</u> $\times 10^{-7}$	<u>+ 2</u>	3.7×10^{-9} uci/ml	
Po-210	7×10^{-7} uci/ml	8/3	<u>.0006</u> $\times 10^{-6}$	<u>+ 0</u>	2.0×10^{-9} uci/ml	JJ

Common Ion and Trace Metals

	Date of Analysis	Concentration	Error Estimate	L.L.D.	Name of Assayer
K+	6/14	1.3 PPM	<u>+ .4</u>	.001 PPM	J. Johnson
Na+	6/14	37 PPM	<u>+ 0</u>	.001 PPM	J. Johnson
Cl-	6/15	158 PPM	<u>+ 17</u>	.40 PPM	J. Johnson
SO ₄	6/15	94 PPM	<u>+ 2.5</u>	.21 PPM	J. Johnson
NO ₃	6/11	.15 PPM	<u>+ 0</u>	.01 PPM	J. Johnson
Fe	6/14	<.001 PPM	<u>+ 0</u>	.001 PPM	J. Johnson
Mn	6/14	<.01 PPM	<u>+ 0</u>	.01 PPM	J. Johnson
As	6/14	<.1 PPM	<u>+ 0</u>	.10 PPM	J. Johnson
Se	6/14	<.5 PPM	<u>+ 0</u>	.50 PPM	J. Johnson
Cu	6/14	.02 PPM	<u>+ 0</u>	.01 PPM	J. Johnson
TDS	6/10	347 PPM	<u>+ 18</u>	1.0 PPM	J. Johnson
PH	6/10	8.0		.10 Units	J. Johnson
Conductivity	6/10	480 umhos		10 umhos	J. Johnson

ATLAS MINERALS

MOAB MILL

04003453201E

REGULATORY AFFAIRS DEPARTMENT

RIVER WATER REPORTS

Month June 1982 2nd Quarter

Name of Sample 5 Below
 Date and Time Sample Was Collected 6/10/82
 Location of Sample 5 miles below mill
 Sampling Method Used (Bailed - Pumped) Bailed
 The Amount of Water to be Removed Prior to Sampling _____
 Name of Sampler Dale Edwards

Radionuclide	M.P.C.	Date of Analysis	Concentration uci/ml	Error Estimate	L.L.D.	Name of Assayer
Gross Beta-Gamma		<u>6/16</u>	<u>.003x10⁻⁶</u>	<u>+ 0</u>		<u>JJ</u>
U-238	<u>3x10⁻⁵ uci/ml</u>	<u>7/20</u>	<u>.0004x10⁻⁵</u>	<u>.00008</u>	<u>8x10⁻¹⁰ uci/ml</u>	<u>VH</u>
Ra-226	<u>3x10⁻⁸ uci/ml</u>	<u>7/23</u>	<u>.098x10⁻⁸</u>	<u>+ .01</u>	<u>4.9x10⁻¹⁰ uci/ml</u>	<u>VH</u>
Th-230	<u>2x10⁻⁶ uci/ml</u>	<u>7/1</u>	<u>.00053x10⁻⁶</u>	<u>+ .00002</u>	<u>4.9x10⁻¹⁰ uci/ml</u>	<u>VH</u>
Pb-210	<u>1x10⁻⁷ uci/ml</u>	<u>7/6</u>	<u>.003x10⁻⁷</u>	<u>+ 4</u>	<u>3.7x10⁻⁹ uci/ml</u>	
Po-210	<u>7x10⁻⁷ uci/ml</u>	<u>8/3</u>	<u>.0003x10⁻⁶</u>	<u>+ 0</u>	<u>2.0x10⁻⁹ uci/ml</u>	<u>JJ</u>

Common Ion and Trace Metals

	Date of Analysis	Concentration	Error Estimate	L.L.D.	Name of Assayer
K+	<u>6/14</u>	<u>.8 PPM</u>	<u>+ 0</u>	<u>.001 PPM</u>	<u>J. Johnson</u>
Na+	<u>6/14</u>	<u>21 PPM</u>	<u>+ 0</u>	<u>.001 PPM</u>	<u>J. Johnson</u>
Cl-	<u>6/1</u>	<u>134 PPM</u>	<u>+ 20</u>	<u>.40 PPM</u>	<u>J. Johnson</u>
SO ₄	<u>6/15</u>	<u>97 PPM</u>	<u>+ 1.5</u>	<u>.21 PPM</u>	<u>J. Johnson</u>
NO ₃	<u>6/11</u>	<u>.075 PPM</u>	<u>+ 0</u>	<u>.01 PPM</u>	<u>J. Johnson</u>
Fe	<u>6/14</u>	<u>1.001 PPM</u>	<u>+ 0</u>	<u>.001 PPM</u>	<u>J. Johnson</u>
Mn	<u>6/14</u>	<u>.01 PPM</u>	<u>+ 0</u>	<u>.01 PPM</u>	<u>J. Johnson</u>
As	<u>6/14</u>	<u><.1 PPM</u>	<u>+ 0</u>	<u>.10 PPM</u>	<u>J. Johnson</u>
Se	<u>6/14</u>	<u><.5 PPM</u>	<u>+ 0</u>	<u>.50 PPM</u>	<u>J. Johnson</u>
Cu	<u>6/14</u>	<u>.01 PPM</u>	<u>+ 0</u>	<u>.01 PPM</u>	<u>J. Johnson</u>
TDS	<u>6/10</u>	<u>285 PPM</u>	<u>+ 13</u>	<u>1.0 PPM</u>	<u>J. Johnson</u>
PH	<u>6/10</u>	<u>7.9</u>		<u>.10 Units</u>	<u>J. Johnson</u>
Conductivity	<u>6/10</u>	<u>440 umhos</u>		<u>10 umhos</u>	<u>J. Johnson</u>

ATLAS MINERALS

MOAB MILL

04003453201E

REGULATORY AFFAIRS DEPARTMENT

RIVER WATER REPORTS

Month June 1982 2nd Quarter

Name of Sample 1 below
 Date and Time Sample Was Collected 6/10/82
 Location of Sample 1 mile below mill
 Sampling Method Used (Bailed - Pumps) bailed
 The Amount of Water to be Removed Prior to Sampling _____
 Name of Sampler Dale Edwards

Radionuclide	M.P.C.	Date of Analysis	Concentration uci/ml	Error Estimate	L.L.D.	Name of Assayer
Gross Beta-Gamma		6/16	0x10 ⁻⁶	+ 0		JJ
U-238	3x10 ⁻⁵ uci/ml	7/20	.0002x10 ⁻⁵	+ 0	8x10 ⁻¹⁰ uci/ml	VH
Ra-226	3x10 ⁻⁸ uci/ml	7/23	.055x10 ⁻⁸	+ .04	4.9x10 ⁻¹⁰ uci/ml	VH
Th-230	2x10 ⁻⁶ uci/ml	7/1	.00034x10 ⁻⁶	+ .0003	4.9x10 ⁻¹⁰ uci/ml	VH
Pb-210	1x10 ⁻⁷ uci/ml	7/6	.001x10 ⁻⁷	+ 3	3.7x10 ⁻⁹ uci/ml	
Po-210	7x10 ⁻⁷ uci/ml	8/2	.00014x10 ⁻⁶	+ 0	2.0x10 ⁻⁹ uci/ml	JJ

Common Ion and Trace Metals

	Date of Analysis	Concentration	Error Estimate	L.L.D.	Name of Assayer
K+	6/14	2.2 PPM	+ 0	.001 PPM	J. Johnson
Na+	6/14	21 PPM	+ 0	.001 PPM	J. Johnson
Cl-	6/15	145 PPM	+ 14	.40 PPM	J. Johnson
SO ₄	6/15	90 PPM	+ 6.5	.21 PPM	J. Johnson
NO ₃	6/11	.09 PPM	+ 0	.01 PPM	J. Johnson
Fe	6/14	.001 PPM	+ 0	.001 PPM	J. Johnson
Mn	6/14	.01 PPM	+ 0	.01 PPM	J. Johnson
As	6/14	< 1 PPM	+ 0	.10 PPM	J. Johnson
Se	6/14	< 5 PPM	+ 0	.50 PPM	J. Johnson
Cu	6/14	.02 PPM	+ 0	.01 PPM	J. Johnson
TDS	6/10	294 PPM	+ 4	1.0 PPM	J. Johnson
PH	6/10	8.0		.10 Units	J. Johnson
Conductivity	6/10	440 umhos		10 umhos	J. Johnson

ATLAS MINERALS

MOAB MILL

04003453201E

REGULATORY AFFAIRS DEPARTMENT

RIVER WATER REPORTS

Month June 1982 2nd Quarter

Name of Sampler 1/2 below
 Date and Time Sample Was Collected 6/10/82
 Location of Sample 1/2 mi below mill
 Sampling Method Used (Bailed - Pumped) Bailed
 The Amount of Water to be Removed Prior to Sampling --
 Name of Sampler Dale Edwards

Radionuclide	M.P.C.	Date of Analysis	Concentration uci/ml	Error Estimate	L.L.D.	Name of Assayer
Gross Beta-Gamma		6/16	0×10^{-6}	+ 0		J.
U-238	3×10^{-5} uci/ml	7/20	$.00008 \times 10^{-5}$.0	8×10^{-10} uci/ml	W
Ra-226	3×10^{-8} uci/ml	7/23	$.034 \times 10^{-8}$	+ .05	4.9×10^{-10} uci/ml	W
Th-230	2×10^{-6} uci/ml	7/1	$.00045 \times 10^{-6}$	+ .0001	4.9×10^{-10} uci/ml	W
Pb-210	1×10^{-7} uci/ml	7/6	0	+ 3	3.7×10^{-9} uci/ml	
Po-210	7×10^{-7} uci/ml	7/30	$.0011 \times 10^{-6}$	+ .0004	2.0×10^{-9} uci/ml	J

Common Ion and Trace Metals

	Date of Analysis	Concentration	Error Estimate	L.L.D.	Name of Assayer
K+	6/14	.7 PPM	+ 0	.001 PPM	J. Johnson
Na+	6/14	22 PPM	+ 0	.001 PPM	J. Johnson
Cl-	6/15	134 PPM	+ 10	.40 PPM	J. Johnson
SO ₄	6/15	94 PPM	+ 1.9	.21 PPM	J. Johnson
NO ₃	6/11	.013 PPM	+ 0	.01 PPM	J. Johnson
Fe	6/14	.001 PPM	+ 0	.001 PPM	J. Johnson
Mn	6/14	.01 PPM	+ 0	.01 PPM	J. Johnson
As	6/14	<.1 PPM	+ 0	.10 PPM	J. Johnson
Se	6/14	4.5 PPM	+ 0	.50 PPM	J. Johnson
Cu	6/14	.02 PPM	+ 0	.01 PPM	J. Johnson
TDS	6/10	265 PPM	+ 13	1.0 PPM	J. Johnson
PH	6/10	7.9		.10 Units	J. Johnson
Conductivity	6/10	440 umhos		10 umhos	J. Johnson

OFFICIAL DOCKET COPY

20689

04003453 201 E

ATLAS MINERALS

MOAB MILL

REGULATORY AFFAIRS DEPARTMENT

RIVER WATER REPORTS

Month June 1982 2nd Quarter

Name of Sample 1/4 below
 Date and Time Sample Was Collected 6/10/82
 Location of Sample 1/4 mi below mill
 Sampling Method Used (Bailed - Filtered) Bailed
 The Amount of Water to be Removed Prior to Sampling --
 Name of Sampler Dale Edwards

Radionuclide	M.P.C.	Date of Analysis	Concentration uci/ml	Error Estimate	L.L.D.	Name of Assayer
Gross Beta-Gamma		6/16	0x10 ⁻⁶	+ 0		JJ
U-Nat	3x10 ⁻⁵ uci/ml	7/20	.0004x10 ⁻⁵	.0002	8x10 ⁻¹⁰ uci/ml	VH
Ra-226	3x10 ⁻⁸ uci/ml	7/23	.037x10 ⁻⁸	+ .005	4.9x10 ⁻¹⁰ uci/ml	VH
Th-230	2x10 ⁻⁶ uci/ml	7/1	.00038x10 ⁻⁶	+ .0002	4.9x10 ⁻¹⁰ uci/ml	VH
Pb-210	1x10 ⁻⁷ uci/ml	7/6	.001x10 ⁻⁷	+ 2	3.7x10 ⁻⁹ uci/ml	
Po-210	7x10 ⁻⁷ uci/ml	7/30	.0006x10 ⁻⁶	+ .0004	2.0x10 ⁻⁹ uci/ml	JJ

Common Ion and Trace Metals

	Date of Analysis	Concentration	Error Estimate	L.L.D.	Name of Assayer
K+	6/14	1.8 PPM	+ .4	.001 PPM	J. Johnson
Na+	6/14	28 PPM	+ 4	.001 PPM	J. Johnson
Cl-	6/15	132 PPM	+ 0	.40 PPM	J. Johnson
SO ₄	6/15	97 PPM	+ .32	.21 PPM	J. Johnson
NO ₃	6/11	.01 PPM	+ 0	.01 PPM	J. Johnson
Fe	6/14	.001 PPM	+ 0	.001 PPM	J. Johnson
Mn	6/14	.01 PPM	+ 0	.01 PPM	J. Johnson
As	6/14	.1 PPM	+ 0	.10 PPM	J. Johnson
Se	6/14	.5 PPM	+ 0	.50 PPM	J. Johnson
Cr	6/14	.01 PPM	+ 0	.01 PPM	J. Johnson
TDS	6/10	321 PPM	+ 11	1.0 PPM	J. Johnson
PH	6/10	8.0		.10 Units	J. Johnson
Conductivity	6/10	460 umhos		10 umhos	J. Johnson

33
DLE

ATLAS MINERALS

MOAB MILL

04003453201E

REGULATORY AFFAIRS DEPARTMENT

RIVER WATER REPORTS

Month June 1982 2nd Quarter

Name of Sampler Above Mill
Date and Time Sample Was Collected 6-10-82
Location of Sample Above Mill
Sampling Method Used (Bailed - Pumped) bailed
The Amount of Water to be Removed Prior to Sampling _____
Name of Sampler Dale Edwards

Radionuclide	M.P.C.	Date of Analysis	Concentration uci/ml	Error Estimate	L.L.D.	Name of Assayer
Gross Beta-Gamma		6/16	0x10 ⁻⁶	+ 0		JJ
U-Rat	3x10 ⁻⁵ uci/ml	7/20	.0005x10 ⁻⁵	.00008	8x10 ⁻¹⁰ uci/ml	VH
Ra-226	2x10 ⁻⁸ uci/ml	7/23	.051x10 ⁻⁸	+ .04	4.9x10 ⁻¹⁰ uci/ml	VH
Th-230	2x10 ⁻⁶ uci/ml	7/1	.0005x10 ⁻⁶	+ 0	4.9x10 ⁻¹⁰ uci/ml	VH
Pb-210	1x10 ⁻⁷ uci/ml	7/6	0	+ 3	3.7x10 ⁻⁹ uci/ml	
Po-210	7x10 ⁻⁷ uci/ml	7/29	.00014x10 ⁻⁶	+ 0	2.0x10 ⁻⁹ uci/ml	JJ

Common Ion and Trace Metals

	Date of Analysis	Concentration	Error Estimate	L.L.D.	Name of Assayer
K+	6/14	1.5 PPM	+ .04	.001 PPM	J. Johnson
Na+	6/14	22 PPM	+ .4	.001 PPM	J. Johnson
Cl-	6/15	149 PPM	+ 8	.40 PPM	J. Johnson
SO ₄	6/15	89.75 PPM	+ 8	.21 PPM	J. Johnson
NO ₃	6/11	.085 PPM	+ 0	.01 PPM	J. Johnson
Fe	6/14	.001 PPM	+ 0	.001 PPM	J. Johnson
Mn	6/14	.01 PPM	+ 0	.01 PPM	J. Johnson
As	6/14	<.1 PPM	+ 0	.10 PPM	J. Johnson
Se	6/14	<.5 PPM	+ 0	.50 PPM	J. Johnson
Cu	6/14	<.01 PPM	+ 0	.0 PPM	J. Johnson
TDS	6/10	283 PPM	+ .89	1.0 PPM	J. Johnson
PH	6/10	7.8		.10 Units	J. Johnson
Conductivity	6/10/82	440 umhos		10 umhos	J. Johnson

OFFICIAL DOCKET COPY

20689

040034532012

SECOND QUARTER 1982
GROUND WATER RESULTS 1

OFFICIAL BOOKLET COPY

040034532018

ATLAS MINERALS

MOAB MILL

REGULATORY AFFAIRS DEPARTMENT

MONITOR WELL REPORTS

2nd Quarter 1982

Well # 1
 Date and Time Sample Was Collected 6-15-82
 Location of Sample South West tails pond
 Sampling Method Used (Bailed - Pumped) Pumped
 The Amount of Water to be Removed Prior to Sampling _____
 Name of Sampler _____

Radionuclide	M.P.C.	Date of Analysis	Concentration uci/ml	Error Estimate	L.L.D.	Name of Assayer
Gross Beta-Gamma		6/16	.10x10 ⁻⁶	+.03		JJ
U-Nat	3x10 ⁻⁵ uci/ml	6/24	.003x10 ⁻⁵	+.0007	8x10 ⁻¹⁰ uci/ml	VH
Ra-226	3x10 ⁻⁸ uci/ml	7/22	.40x10 ⁻⁸	+ 0	4.9x10 ⁻¹⁰ uci/ml	JJ
Th-230	2x10 ⁻⁶ uci/ml	7/14	.0016x10 ⁻⁶	+.0008	4.9x10 ⁻¹⁰ uci/ml	JJ
Pb-210	1x10 ⁻⁷ uci/ml				3.7x10 ⁻⁹ uci/ml	
Po-210	7x10 ⁻⁷ uci/ml	7/20	.035x10 ⁻⁷	+.0022	2.0x10 ⁻⁹ uci/ml	JJ

Common Ion and Trace Metals

	Date of Analysis	Concentration	Error Estimate	L.L.D.	Name of Assayer
K+	7/5	140PPM	+ 0	.001 PPM	J. Johnson
Na+	7/5	2,100 PPM	+ 40	.001 PPM	J. Johnson
Cl-	6/20	3,440 PPM	+ 152	.40 PPM	J. Johnson
SO ₄	6/20	10,171 PPM	+ 108	.21 PPM	J. Johnson
NO ₃	6/15	187 PPM	+ 5	.01 PPM	J. Johnson
Fe	7/20	.11 PPM	+ 0	.001 PPM	D. Edwards
Mn	7/20	.42 PPM	+ 0	.01 PPM	D. Edwards
As	7/20	<1 PPM	+ 0	.10 PPM	D. Edwards
Se	7/20	<.5 PPM	+ 0	.50 PPM	D. Edwards
Cu	7/20	.08 PPM	+ .02	.01 PPM	D. Edwards
TDS	6/15	24,906 PPM	+ 615	1.0 PPM	J. Johnson
PH	6/15	7.15		.10 Units	J. Johnson
Conductivity	6/15	25,500 UMHOS		10 umhos	J. Johnson

UNCLASSIFIED COPY

20689

04003453201E

ATLAS MINERALS

MOAB MILL

REGULATORY AFFAIRS DEPARTMENT

MONITOR WELL REPORTS

2nd Quarter 1982

Well # 1-R

Date and Time Sample Was Collected 6-15-82
Location of Sample South West of tails pond
Sampling Method Used (Bailed - Pumped) pumped
The Amount of Water to be Removed Prior to Sampling
Name of Sampler

Radionuclide	M.P.C.	Date of Analysis	Concentration uci/ml	Error Estimate	L.L.D.	Name of Assayer
Gross Beta-Gamma		6/16	1.6×10^{-6}	+ 0		JJ
U-Nat	3×10^{-5} uci/ml	6/24	$.003 \times 10^{-5}$	+ .0001	8×10^{-10} uci/ml	VH
Ra-226	3×10^{-8} uci/ml	7/22	$.18 \times 10^{-8}$	+ .08	4.9×10^{-10} uci/ml	JJ
Th-230	2×10^{-6} uci/ml	7/14	$.0025 \times 10^{-6}$	+ .001	4.9×10^{-10} uci/ml	JJ
Pb-210	1×10^{-7} uci/ml				3.7×10^{-9} uci/ml	
Po-210	7×10^{-7} uci/ml	7/20	$.022 \times 10^{-7}$	+ .0004	2.0×10^{-9} uci/ml	JJ

Common Ion and Trace Metals

	Date of Analysis	Concentration	Error Estimate	L.L.D.	Name of Assayer
K+	7/5	120 PPM	+ 0	.001 PPM	J. Johnson
Na+	7/5	1,900 PPM	+ 0	.001 PPM	J. Johnson
Cl-	6/20	2,624 PPM	+ 0	.40 PPM	J. Johnson
SO ₄	6/20	8,456 PPM	+ 223	.21 PPM	J. Johnson
NO ₃	6/15	98.2 PPM	+ 6	.01 PPM	J. Johnson
Fe	7/20	4.2 PPM	+ 0	.001 PPM	D. Edwards
Mn	7/20	.67 PPM	+ 0	.01 PPM	D. Edwards
As	7/20	< .1 PPM	+ 0	.10 PPM	D. Edwards
Se	7/20	< .5 PPM	+ 0	.50 PPM	D. Edwards
Cu	7/20	.07 PPM	+ .01	.01 PPM	D. Edwards
TDS	6/15	19,966 PPM	+ 1024	1.0 PPM	J. Johnson
PH	6/15	7.18		.10 Units	J. Johnson
Conductivity	6/15	20,500 umhos		10 umhos	J. Johnson

OFFICIAL BOOKET COPY

20689

04003453201 E

ATLAS MINERALS

MOAB MILL

REGULATORY AFFAIRS DEPARTMENT

MONITOR WELL REPORTS

2nd Quarter 1982

Well # 2
 Date and Time Sample Was Collected 6-16-82
 Location of Sample South of Tails Pond
 Sampling Method Used (Bailed - Pumped) Bailed
 The Amount of Water to be Removed Prior to Sampling 6 gal
 Name of Sampler J. Johnson

Radionuclide	M.P.C.	Date of Analysis	Concentration uci/ml	Error Estimate	L.L.D.	Name of Assayer
Gross Beta-Gamma		6/16	2.09 10^{-6}	+ 0		JJ
U-Nat	3×10^{-5} uci/ml	6/24	.013 $\times 10^{-5}$	+ .008	8×10^{-10} uci/ml	VH
Ra-226	3×10^{-8} uci/ml	7/22	.049 $\times 10^{-8}$	+ 0	4.9×10^{-10} uci/ml	JJ
Th-230	2×10^{-6} uci/ml	7/15	.0030 $\times 10^{-6}$	+ .001	4.9×10^{-10} uci/ml	JJ
Pb-210	1×10^{-7} uci/ml				3.7×10^{-9} uci/ml	
Po-210	7×10^{-7} uci/ml	7/21	.021 $\times 10^{-7}$	+ .0013	2.0×10^{-9} uci/ml	JJ

Common Ion and Trace Metals

	Date of Analysis	Concentration	Error Estimate	L.L.D.	Name of Assayer
K+	7/5	130 PPM	+ 0	.001 PPM	J. Johnson
Na+	7/5	1,300 PPM	+ .04	.001 PPM	J. Johnson
Cl-	6/20	1,347 PPM	+ 0	.40 PPM	J. Johnson
SO ₄	6/20	11,389 PPM	+ 381	.21 PPM	J. Johnson
NO ₃	6/16	170 PPM	+ 0	.01 PPM	J. Johnson
Fe	7/20	.10 PPM	+ 0	.001 PPM	D. Edwards
Mn	7/20	1.28 PPM	+ 0	.01 PPM	D. Edwards
As	7/20	<.1 PPM	+ 0	.10 PPM	D. Edwards
Se	7/20	<.5 PPM	+ 0	.50 PPM	D. Edwards
Cu	7/20	.07 PPM	+ 0	.01 PPM	D. Edwards
TDS	6/16	27,218 PPM	+ .002	1.0 PPM	J. Johnson
PH	6/16	7.04		.10 Units	J. Johnson
Conductivity	6/16	30,000 umhos		10 umhos	J. Johnson

040 0345 3201 E

ATLAS MINERALS

MOAB MILL

REGULATORY AFFAIRS DEPARTMENT

MONITOR WELL REPORTS

2nd Quarter 1982

Well # 2-R
 Date and Time Sample Was Collected 6-16-82
 Location of Sample South of Tails Pond
 Sampling Method Used (Bailed - Pumped) Bailed
 The Amount of Water to be Removed Prior to Sampling 6 Gal
 Name of Sampler Jay Johnson

Radionuclide	M.P.C.	Date of Analysis	Concentration uci/ml	Error Estimate	L.L.D.	Name of Assayer
Gross Beta-Gamma		6/16	24×10^{-6}	+ .17		JJ
U-Nat	3×10^{-5} uci/ml	6/24	$.015 \times 10^{-5}$	+ .0005	8×10^{-10} uci/ml	VH
Ra-226	3×10^{-8} uci/ml	7/28	$.15 \times 10^{-8}$	+ 0	4.9×10^{-10} uci/ml	JJ
Th-230	2×10^{-6} uci/ml	7/15	$.0038 \times 10^{-6}$	+ .001	4.9×10^{-10} uci/ml	JJ
Pb-210	1×10^{-7} uci/ml				3.7×10^{-9} uci/ml	
Po-210	7×10^{-7} uci/ml	7/21	$.023 \times 10^{-7}$	+ .0004	2.0×10^{-9} uci/ml	JJ

Common Ion and Trace Metals

	Date of Analysis	Concentration	Error Estimate	L.L.D.	Name of Assayer
K+	7/5	120 PPM	+ 0	.001 PPM	J. Johnson
Na+	7/5	2,600 PPM	+ 0	.001 PPM	J. Johnson
Cl-	6/20	2,199 PPM	+ 0	.40 PPM	J. Johnson
SO ₄	6/20	10,563 PPM	+528	.21 PPM	J. Johnson
NO ₃	6/16	127 PPM	+5	.01 PPM	J. Johnson
Fe	7/20	1.6 PPM	+ 0	.001 PPM	D. Edwards
Mn	7/20	1.1 PPM	+ 0	.01 PPM	D. Edwards
As	7/20	< .1 PPM	+ 0	.10 PPM	D. Edwards
Se	7/20	< .5 PPM	+ 0	.50 PPM	D. Edwards
Cu	7/20	.50 PPM	+ 0	.01 PPM	D. Edwards
TDS	6/16	24,604 PPM	+ 1313	1.0 PPM	J. Johnson
PH	6/16	7.04		.10 Units	J. Johnson
Conductivity	6/16	26,000 umhos		10 umhos	J. Johnson

OFFICIAL DOCKET COPY

20689

0400345 3201 E

ATLAS MINERALS

MOAB MILL

REGULATORY AFFAIRS DEPARTMENT

MONITOR WELL REPORTS

2nd Quarter 1982

Well # 3

Date and Time Sample Was Collected 6-17-82

Location of Sample South East of Tails Pond

Sampling Method Used (Bailed - Pumped) Bailed

The Amount of Water to be Removed Prior to Sampling 16 gal

Name of Sampler J Johnson

Radionuclide	M.P.C.	Date of Analysis	Concentration uci/ml	Error Estimate	L.L.D.	Name of Assayer
Gross Beta-Gamma		6/18	.084 x 10 ⁻⁶	+ .03		JJ
U-Nat	3x10 ⁻⁵ uci/ml	6/24	.005x10 ⁻⁵	+0	8x10 ⁻¹⁰ uci/ml	VH
Ra-226	3x10 ⁻⁸ uci/ml	7/27	.09x10 ⁻⁸	+ .02	4.9x10 ⁻¹⁰ uci/ml	JJ
Th-230	2x10 ⁻⁶ uci/ml	7/16	.0009x10 ⁻⁶	+ .0008	4.9x10 ⁻¹⁰ uci/ml	JJ
Pb-210	1x10 ⁻⁷ uci/ml				3.7x10 ⁻⁹ uci/ml	
Po-210	7x10 ⁻⁷ uci/ml	7/22	.005x10 ⁻⁷	+0	2.0x10 ⁻⁹ uci/ml	JJ

Common Ion and Trace Metals

	Date of Analysis	Concentration	Error Estimate	L.L.D.	Name of Assayer
K+	7/5	200 PPM	+ 0	.001 PPM	J. Johnson
Na+	7/5	1800 PPM	+0	.001 PPM	J. Johnson
Cl-	6/20	3,534	+ 99	.40 PPM	J. Johnson
SO ₄	6/20	8,331	+381	.21 PPM	J. Johnson
NO ₃	6/18	15.3 PPM	+ .8	.01 PPM	J. Johnson
Fe	7/20	.11 PPM	+ 0	.001 PPM	D. Edwards
Mn	7/20	.45 PPM	+ 0	.01 PPM	D. Edwards
As	7/20	<.1 PPM	+ 0	.10 PPM	D. Edwards
Se	7/10	<.5 PPM	+ 0	.50 PPM	D. Edwards
Cu	7/20	.03 PPM	+ .02	.01 PPM	D. Edwards
TDS	6/18	17,482 PPM	+ 2041	1.0 PPM	J. Johnson
PH	6/17	7.26		.10 Units	J. Johnson
Conductivity	6/17	19,000 umhos		10 umhos	J. Johnson

OFFICIAL DOCKET COPY

20689

04003453201 E

ATLAS MINERALS

MOAB MILL

REGULATORY AFFAIRS DEPARTMENT

MONITOR WELL REPORTS

2nd Quarter 1982

Well # ATR S-1
 Date and Time Sample Was Collected 6-15-82
 Location of Sample South East of tails pond
 Sampling Method Used (batted - Pumped) pumped
 The Amount of Water to be Removed Prior to Sampling _____
 Name of Sampler _____

Radionuclide	M.P.C.	Date of Analysis	Concentration uci/ml	Error Estimate	L.L.D.	Name of Assayer
Gross Beta-Gamma		6/16	0×10^{-6}	+ 0		JJ
U-Nat	3×10^{-5} uci/ml	6/24	.000003 $\times 10^{-5}$	+ .0000009	8×10^{-10} uci/ml	VH
Ra-226	3×10^{-8} uci/ml	7/27	0×10^{-6}	+ 0	4.9×10^{-10} uci/ml	JJ
Th-230	2×10^{-6} uci/ml	7/16	.0013 $\times 10^{-6}$	+ .0002	4.9×10^{-10} uci/ml	JJ
Pb-210	1×10^{-7} uci/ml				3.7×10^{-9} uci/ml	
Po-210	7×10^{-7} uci/ml	7/22	0	+ 0	2.0×10^{-9} uci/ml	JJ

Common Ion and Trace Metals

	Date of Analysis	Concentration	Error Estimate	L.L.D.	Name of Assayer
K+	7/5	1,045 PPM	+44	.001 PPM	J. Johnson
Na+	7/5	31,400 PPM	+ 898	.001 PPM	J. Johnson
Cl-	6/20	61,984 PPM	+1604	.40 PPM	J. Johnson
SO ₄	6/20	4,656 PPM	+ 19	.21 PPM	J. Johnson
NO ₃	6/15	.25 PPM	+ 0	.01 PPM	J. Johnson
Fe	7/20	.42 PPM	+ 0	.001 PPM	D. Edwards
Mn	7/20	.40 PPM	+ 0	.01 PPM	D. Edwards
As	7/20	<.1 PPM	+ 0	.10 PPM	D. Edwards
Se	7/20	<.5 PPM	+ 0	.50 PPM	D. Edwards
Cu	7/20	.01 PPM	+ 0	.01 PPM	D. Edwards
TDS	6/15	106,409 PPM	+ 1756	1.0 PPM	J. Johnson
PH	6/15	7.10		.10 Units	J. Johnson
Conductivity	6/15	200,000 umhos		10 umhos	J. Johnson

OFFICIAL DOCKET COPY

20689

040034532012

ATLAS MINERALS

MOAB MILL

REGULATORY AFFAIRS DEPARTMENT

MONITOR WELL REPORTS

2nd Quarter 1982

Well # ATB - 2-S
 Date and Time Sample Was Collected 6-15-82
 Location of Sample South of Falls Pond
 Sampling Method Used (Hauled - Pumped) pumped
 The Amount of Water to be Removed Prior to Sampling _____
 Name of Sampler _____

Radionuclide	M.P.C.	Date of Analysis	Concentration uci/ml	Error Estimate	L.L.D.	Name of Assayer
Gross Beta-Gamma		6/16	11 x 10 ⁻⁶	+ .04		JJ
U-Nat	3x10 ⁻⁵ uci/ml	6/24	.0009 x 10 ⁻⁵	+ .0001	8x10 ⁻¹⁰ uci/ml	VH
Ra-226	3x10 ⁻⁸ uci/ml	7/27	.02x10 ⁻⁸	+ 0	4.9x10 ⁻¹⁰ uci/ml	JJ
Th-230	2x10 ⁻⁶ uci/ml	7/16	.0022x10 ⁻⁶	+ .0004	4.9x10 ⁻¹⁰ uci/ml	JJ
Pb-210	1x10 ⁻⁷ uci/ml				3.7x10 ⁻⁹ uci/ml	
Po-210	7x10 ⁻⁷ uci/ml	7/23	.005x10 ⁻⁷	+ .0004	2.0x10 ⁻⁹ uci/ml	JJ

Common Ion and Trace Metals

	Date of Analysis	Concentration	Error Estimate	L.L.D.	Name of Assayer
K+	7/5	120 PPM	+ 0	.001 PPM	J. Johnson
Na+	7/5	695 PPM	+ 44	.001 PPM	J. Johnson
Cl-	6/20	1,347 PPM	+ 0	.40 PPM	J. Johnson
SO ₄	6/20	6,664 PPM	+ 44	.21 PPM	J. Johnson
NO ₃	6/15	17.4 PPM	+ 5	.01 PPM	J. Johnson
Fe	7/20	.72 PPM	+ 0	.001 PPM	D. Edwards
Mn	7/20	1.9 PPM	+ 0	.01 PPM	D. Edwards
As	7/20	<.1 PPM	+ 0	.10 PPM	D. Edwards
Se	7/20	<.5 PPM	+ 0	.50 PPM	D. Edwards
Cu	7/20	.015 PPM	+ 0	.01 PPM	D. Edwards
TDS	6/15	12,359 PPM	+ 235	1.0 PPM	J. Johnson
PH	6/15	7.7		.10 Units	J. Johnson
Conductivity	6/15	18,000 umhos		10 umhos	J. Johnson

D 4003453201E

ATLAS MINERALS

MOAB MILL

REGULATORY AFFAIRS DEPARTMENT

MONITOR WELL REPORTS

2nd Quarter 1982

Well # ATR 2-D
 Date and Time Sample Was Collected 6-15-82
 Location of Sample South of tails pond
 Sampling Method Used (Bailed - Pumped) pumped
 The Amount of Water to be Removed Prior to Sampling _____
 Name of Sampler _____

Radionuclide	M.P.C.	Date of Analysis	Concentration uci/ml	Error Estimate	L.L.D.	Name of Assayer
Gross Beta-Gamma		6/16	0x10 ⁻⁶	+ 0		JJ
U-Nat	3x10 ⁻⁵ uci/ml	6/24	.0013 x10 ⁻⁵	+ .0001	8x10 ⁻¹⁰ uci/ml	VH
Ra-226	3x10 ⁻⁸ uci/ml	7/28	.22x10 ⁻⁸	+ .04	4.9x10 ⁻¹⁰ uci/ml	JJ
Th-230	2x10 ⁻⁶ uci/ml	7/16	.0016x10 ⁻⁶	+ .001	4.9x10 ⁻¹⁰ uci/ml	JJ
Pb-210	1x10 ⁻⁷ uci/ml				3.7x10 ⁻⁹ uci/ml	
Po-210	7x10 ⁻⁷ uci/ml	7/27	0	0	2.0x10 ⁻⁹ uci/ml	JJ

Common Ion and Trace Metals

	Date of Analysis	Concentration	Error Estimate	L.L.D.	Name of Assayer
K+	7/5	340 PPM	+ 0	.001 PPM	J. Johnson
Na+	7/5	7,500 PPM	+ 0	.001 PPM	J. Johnson
Cl-	6/20	17,234 PPM	+ 0	.40 PPM	J. Johnson
SO ₄	6/20	4,582 PPM	+ 13	.21 PPM	J. Johnson
NO ₃	6/15	2.4 PPM	+ 5	.01 PPM	J. Johnson
Fe	7/20	6.7 PPM	+ 0	.001 PPM	D. Edwards
Mn	7/20	1.1 PPM	+ 0	.01 PPM	D. Edwards
As	7/20	< 1 PPM	+ 0	.10 PPM	D. Edwards
Se	7/20	< 5 PPM	+ 0	.50 PPM	D. Edwards
Cu	7/20	.08 PPM	+ 0	.01 PPM	D. Edwards
TDS	6/15	31,952 PPM	+ 377	1.0 PPM	J. Johnson
PH	6/15	8.0		.10 Units	J. Johnson
Conductivity	6/15	36,000 umhos		10 umhos	J. Johnson

OFFICIAL DOCKET COPY

20689

ATLAS MINERALS

MOAB MILL

04003453 2018

REGULATORY AFFAIRS DEPARTMENT

MONITOR WELL REPORTS

2nd Quarter 1982

Well # Background
 Date and Time Sample Was Collected 6-15-82
 Location of Sample North of tails pond
 Sampling Method Used (Drilled - Pumped) pumped
 The Amount of Water to be Removed Prior to Sampling _____
 Name of Sampler _____

Radionuclide	M.P.C.	Date of Analysis	Concentration uci/ml	Error Estimate	L.L.D.	Name of Assayer
Gross Beta-Gamma		6/16	0x10 ⁻⁶	+ 0		JJ
U-Nat	3x10 ⁻⁵ uci/ml	6/24	.00006x10 ⁻⁶	+ .000007	8x10 ⁻¹⁰ uci/ml	VH
Ra-226	3x10 ⁻⁸ uci/ml	7/28	.04x10 ⁻⁸	+ 0	4.9x10 ⁻¹⁰ uci/ml	JJ
Th-230	2x10 ⁻⁶ uci/ml	7/16	.0025x10 ⁻⁶	+ .001	4.9x10 ⁻¹⁰ uci/ml	JJ
Pb-210	1x10 ⁻⁷ uci/ml				3.7x10 ⁻⁹ uci/ml	
Po-210	7x10 ⁻⁷ uci/ml	7/28	0	+ 0	2.0x10 ⁻⁹ uci/ml	JJ

Common Ion and Trace Metals

	Date of Analysis	Concentration	Error Estimate	L.L.D.	Name of Assayer
K+	7/5	31 mg/L	+ 0	.001 PPM	J. Johnson
Na+	7/5	390 mg/L	+ 0	.001 PPM	J. Johnson
Cl-	6/20	496 mg/L	+ 0	.40 PPM	J. Johnson
SO ₄	6/20	223 mg/L	+ 19	.21 PPM	J. Johnson
NO ₃	6/15	<.01 mg/L	+ 0	.01 PPM	J. Johnson
Fe	7/20	.05 mg/L	+ .02	.001 PPM	D. Edwards
Mn	7/20	.21 mg/L	+ .06	.01 PPM	D. Edwards
As	7/20	<.1 mg/L	+ 0	.10 PPM	D. Edwards
Se	7/20	<.5 mg/L	+ 0	.50 PPM	D. Edwards
Cu	7/20	.05 mg/L	+ 0	.01 PPM	D. Edwards
TDS	6/15	1,386 mg/L	+269	1.0 PPM	J. Johnson
PH	6/15	7.76		.10 Units	J. Johnson
Conductivity	6/15	2,400 umhos		10 umhos	J. Johnson

040034532018

ATLAS MINERALS

MOAB MILL

REGULATORY AFFAIRS DEPARTMENT

MONITOR WELL REPORTS

2nd quarter 1984

Well # Arches
 Date and Time Sample Was Collected 6-17-82
 Location of Sample Arches Headquarters
 Sampling Method Used (Barred - Pumped) pumped
 The Amount of Water to be Removed Prior to Sampling Cont. Flow
 Name of Sampler J. Johnson

Radionuclide	M.P.C.	Date of Analysis	Concentration uci/ml	Error Estimate	L.L.D.	Name of Assayer
Gross Beta-Gamma		6/18	0×10^{-6}	+ 0		JJ
U-235	3×10^{-5} uci/ml	6/24	$.00005 \times 10^{-5}$	+ .000015	8×10^{-10} uci/ml	VH
Ra-226	3×10^{-8} uci/ml	7/28	$.018 \times 10^{-8}$	+ .006	4.9×10^{-10} uci/ml	JJ
Th-230	2×10^{-6} uci/ml	7/16	$.0013 \times 10^{-6}$	+ .001	4.9×10^{-10} uci/ml	JJ
Pb-210	1×10^{-7} uci/ml				3.7×10^{-9} uci/ml	
Po-210	7×10^{-7} uci/ml	7/28	0	+ 0	2.0×10^{-9} uci/ml	JJ

Common Ion and Trace Metals

	Date of Analysis	Concentration	Error Estimate	L.L.D.	Name of Assayer
K+	7/5	9 mg/l	+ .004	.001 PPM	J. Johnson
Na+	7/5	40 mg/l	+ 0	.001 PPM	J. Johnson
Cl-	6/20	57 mg/l	+ 0	.40 PPM	J. Johnson
SO ₄	6/20	201 mg/l	+ 0	.21 PPM	J. Johnson
NO ₃	6/18	.65 mg/l	+ 0	.01 PPM	J. Johnson
Fe	7/20	.05 mg/l	+ 0	.001 PPM	D. Edwards
Mn	7/20	.004 mg/l	+ .01	.01 PPM	D. Edwards
As	7/20	.1 mg/l	+ 0	.10 PPM	D. Edwards
Se	7/20	.5 mg/l	+ 0	.50 PPM	D. Edwards
Cu	7/20	.01 mg/l	+ .006	.01 PPM	D. Edwards
TDS	7/18	421 PPM	+ 21	1.0 PPM	J. Johnson
PH	6/17	7.70		.10 Units	J. Johnson
Conductivity	6/17	800 umhos		10 umhos	J. Johnson

OFFICIAL DOCKET COPY

20689

04003453 2018

SOIL SAMPLES FOR 1982

OFFICIAL DOCKET COPY

20689

04003453201E

ATLAS MINERALS
MOAB MILL
REGULATORY AFFAIRS DEPARTMENT
SOIL SAMPLE
Year 1982

Date of Collection March 8, 1982
Location of Sample Collection #1 Air Monitor
Type of Sample Soil
Name of Sampler Jay Johnson

<u>Radionuclide</u>	<u>Date Sample Analyzed</u>	<u>Concentration uci/g</u>	<u>Error Estimate</u>	<u>L.L.D.</u>	<u>Name of Assayer</u>
U-Nat	<u>3/8</u>	<u>5.9×10^{-6}</u>	<u>+ .8</u>	<u>4×10^{-8} uci/g</u>	<u>VH</u>
Ra ²²⁶	<u>8/12</u>	<u>1.16×10^{-6}</u>	<u>+ 0</u>	<u>1.65×10^{-7} uci/ml</u>	<u>JJ</u>
<u>Common Ion</u>		<u>PPM</u>			
As	<u>3/10</u>	<u>28.1</u>	<u>+ .89</u>	<u>2.0 PPM</u>	<u>JJ</u>

20689

040034532018

ATLAS MINERALS
MOAB MILL
REGULATORY AFFAIRS DEPARTMENT
SOIL SAMPLE
Year 1982

Date of Collection 3/8/82
Location of Sample Collection #2 air monitor
Type of Sample Soil
Name of Sampler Jay Johnson

<u>Radionuclide</u>	<u>Date Sample Analyzed</u>	<u>Concentration uci/g</u>	<u>Error Estimate</u>	<u>L.L.D.</u>	<u>Name of Assayer</u>
U-Nat	<u>3/8</u>	<u>3.42×10^{-6}</u>	<u>+ .1</u>	<u>4×10^{-8} uci/g</u>	<u>VH</u>
Ra ²²⁶	<u>8/12</u>	<u>2.08×10^{-6}</u>	<u>+ 0</u>	<u>165×10^{-7} uci/ml</u>	<u>JJ</u>
<u>Common Ion</u>		<u>PPM</u>			
As	<u>3/10</u>	<u>20.2</u>	<u>+ 1.7%</u>	<u>2.0 PPM</u>	<u>JJ</u>

OFFICIAL BOOKLET COPY

20689

040034532018

ATLAS MINERALS
MOAB MILL
REGULATORY AFFAIRS DEPARTMENT
SOIL SAMPLE
Year 1982

Date of Collection 3/8/82
Location of Sample Collection #3 Air Monitor
Type of Sample Soil
Name of Sampler Jay Johnson

<u>Radionuclide</u>	<u>Date Sample Analyzed</u>	<u>Concentration uci/g</u>	<u>Error Estimate</u>	<u>L.L.D.</u>	<u>Name of Assayer</u>
U-Nat	<u>3/8</u>	<u>10×10^{-6}</u>	<u>+ .2</u>	<u>4×10^{-8} uci/g</u>	<u>VH</u>
Ra ²²⁶	<u>8/12</u>	<u>17.13×10^{-6}</u>	<u>+ 0</u>	<u>1.65×10^{-7} uci/ml</u>	<u>JJ</u>
<u>Common Ion</u>		<u>PPM</u>			
As	<u>3/10</u>	<u>22.0</u>	<u>+ 1.79</u>	<u>2.0 PPM</u>	<u>JJ</u>

OFFICIAL DOCKET COPY

20689

040034532018

ATLAS MINERALS
MOAB MILL
REGULATORY AFFAIRS DEPARTMENT
SOIL SAMPLE
Year 1982

Date of Collection 3/8/82
Location of Sample Collection #4 Air Monitor
Type of Sample Soil
Name of Sampler Jay Johnson

<u>Radionuclide</u>	<u>Date Sample Analyzed</u>	<u>Concentration uci/g</u>	<u>Error Estimate</u>	<u>L.L.D.</u>	<u>Name of Assayer</u>
U-Nat	<u>3/8</u>	<u>3.10×10^{-6}</u>	<u>+ .3</u>	<u>4×10^{-8} uci/g</u>	<u>VA</u>
Ra ²²⁶	<u>8/12</u>	<u>1.1×10^{-6}</u>	<u>+ 0</u>	<u>1.65×10^{-7} uci/ml</u>	<u>JJ</u>
<u>Common Ion</u>		<u>PPM</u>			
As	<u>3/10</u>	<u>6.6</u>	<u>+ 3.59</u>	<u>2.0 PPM</u>	<u>JJ</u>

OFFICIAL DOCKET COPY

20689

040034532DE

ATLAS MINERALS
MOAB MILL
REGULATORY AFFAIRS DEPARTMENT
SOIL SAMPLE
Year 1982

Date of Collection 3/8/82
Location of Sample Collection #5 Air Monitor
Type of Sample Soil
Name of Sampler Jay Johnson

<u>Radionuclide</u>	<u>Date Sample Analyzed</u>	<u>Concentration uci/g</u>	<u>Error Estimate</u>	<u>L.L.D.</u>	<u>Name of Assayer</u>
U-Nat	<u>3/8</u>	<u>3.62×10^{-6}</u>	<u>+ .3</u>	<u>4×10^{-8} uci/g</u>	<u>VH</u>
Ra ²²⁶	<u>8/12</u>	<u>$.52 \times 10^{-6}$</u>	<u>+ 0</u>	<u>1.65×10^{-7} uci/ml</u>	<u>JJ</u>
<u>Common Ion</u>	<u>3/10</u>	<u>PPM</u>	<u>+ 1.79</u>		<u>JJ</u>
As	<u></u>	<u>29</u>	<u></u>	<u>2.0 PPM</u>	<u></u>

OFFICIAL DOCKET COPY

20689

0400345320E

ATLAS MINERALS
MOAB MILL
REGULATORY AFFAIRS DEPARTMENT
SOIL SAMPLE
Year 1982

Date of Collection 3/8/82
Location of Sample Collection #6 Air Monitor
Type of Sample Soil
Name of Sampler Jay Johnson

<u>Radionuclide</u>	<u>Date Sample Analyzed</u>	<u>Concentration uci/g</u>	<u>Error Estimate</u>	<u>L.L.D.</u>	<u>Name of Assayer</u>
U-Nat	<u>3/8</u>	<u>3.42×10^{-6}</u>	<u>+ .8</u>	<u>4×10^{-8} uci/g</u>	<u>VH</u>
Ra ²²⁶	<u>8/12</u>	<u>20×10^{-6}</u>	<u>+ 0</u>	<u>1.65×10^{-7} uci/ml</u>	<u>JJ</u>
<u>Common Ion</u>		<u>PPM</u>			
As	<u>3/10</u>	<u>26.7</u>	<u>.89</u>	<u>2.0 PPM</u>	<u>JJ</u>

OFFICIAL DOCKET COPY

20689

04003453201E

SECOND QUARTER 1982

ISOkinetic STACK SAMPLING RESULTS

FOR
 U^{308} SCRUBBER

AND
 U^{308} Dust COLLECTOR

OFFICIAL DOCKET COPY

20689

04003453201E

ATLAS MINERALS

MOAB MILL

REGULATORY AFFAIRS DEPARTMENT

YC STACKS

2nd Quarter 1982

YC Scrubber

Date Sample was Taken 6/30/82

Name of Sample Collector Jeff Atwood

<u>Radionuclide</u>	<u>Date of Sample Assay</u>	<u>Concentration UCI/ML</u>	<u>Error Estimate</u>	<u>L.L.D. UCI/ML</u>	<u>Name of Assayer</u>
U-Nat	<u>7/9</u>	<u>416×10^{-11} uci/ml</u>	<u> </u>	<u>3.0×10^{-13}</u>	<u>JJ</u>
Th-230	<u>7/13</u>	<u>1.09×10^{-12} uci/ml</u>	<u> </u>	<u>3.0×10^{-13}</u>	<u>JJ</u>
RA-226	<u>8/6</u>	<u>11.6×10^{-11} uci/ml</u>	<u> </u>	<u>3.0×10^{-13}</u>	<u>JJ</u>

OFFICIAL DOCKET COPY

20689

0400 3453 2018

ATLAS MINERALS
MOAB MILL
REGULATORY AFFAIRS DEPARTMENT
YC STACKS
2nd Quarter 1982
YC Dust Collector

Date Sample was Taken 6-17-82

Name of Sample Collector Jeff Atwood

<u>Radionuclide</u>	<u>Date of Sample Assay</u>	<u>Concentration UCI/ML</u>	<u>Error Estimate</u>	<u>L.L.D. UCI/ML</u>	<u>Name of Assayer</u>
U-Nat	<u>7/9</u>	<u>3.40×10^{-11} uci/ml</u>	<u>+ 0</u>	<u>3.0×10^{-13}</u>	<u>JJ</u>
Th-230	<u>7/16</u>	<u>$.28 \times 10^{-12}$ uci/ml</u>	<u>+0</u>	<u>3.0×10^{-13}</u>	<u>JJ</u>
RA-226	<u>8/6</u>	<u>$.05 \times 10^{-11}$ uci/ml</u>	<u>+0</u>	<u>3.0×10^{-13}</u>	<u>JJ</u>

OFFICIAL DOCKET COPY

20689

04003453 201E

WIND SPEED AND DIRECTION

OFFICIAL DOCKET COPY

20689

04003453201E

Wind Direction and Speed - 2nd Quarter 1982

Started
4-15-82 09:30
Speed 1 MPH
Direction - out of the W 270°
4-15-82 1500
Speed 0 MPH
Direction - out of the E 390°
4-16-82 08:00
Speed 1 MPH
Direction out of the E 90°
4-16-82 15:00
Speed 5 MPH
Direction - out of the N 350°
4-17-82 08:00
Speed 4 MPH
Direction - out of the NE 400°
4-17-82 15:00
Speed 4 MPH
Direction - out of the W 360°
4-18-82 08:00
Speed 4 MPH
Direction - out of the NE 180°
4-18-82 15:00
Speed 4 MPH
Direction out of the W 330°
4-19-82 08:00
Speed 4 MPH
Direction out of the W 280°
4-19-82 15:00
Speed 4 MPH
Direction - out of the SW 300°
4-20-82 08:00
Speed 4 MPH
Direction - out of the N 90°
4-20-82 15:00
Speed 4 MPH
Direction - out of the NE 140°
4-21-82 08:00
Speed 4 MPH
Direction - out of the W 320°
4-21-82 15:00
Speed 4 MPH
Direction - out of the E 180°
4-22-82 08:00
Speed - 4 MPH
Direction - out of the SW 220°
4-22-82 15:00
Speed - 4 MPH
Direction - out of the NE 410°
4-23-82 08:00
Speed - 4 MPH
Direction - out of the E 130°
4-23-82 15:00

OFFICIAL DOCKET COPY

20689

04003453201E

Speed - 6 MPH
Direction - out of the W 320°
4-24-82 08:00

Speed - 3 MPH
Direction - out of the S 220°
4-24-82 15:00

Speed - 3 MPH
Direction - out of the NE 200°
4-25-82 08:00

Speed - 4 MPH
Direction - out of the S 200°
4-25-82 15:00

Speed - 3.5 MPH
Direction - out of the NE 420°
4-26-82 08:00

Speed 8.5 mph
Direction - out of the N 360°
4-26-82 15:00

Speed 9 MPH
Direction - out of the W 380°
4-27-82 08:00

Speed - 0 MPH
Direction - out of the NE 110°
4-27-82 15:00

Speed 1 MPH
Direction - out of the NE 160°
4-28-82 08:00

Speed - 1 MPH
Direction - out of the NE 90°
4-28-82 15:00

Speed 13.5 MPH
Direction - out of the W 340°
4-29-82 08:00

Speed 1 MPH
Direction - out of the N 80°
4-29-82 15:00

Speed - 11 MPH
Direction - out of the NE 130°
4-30-82 08:00

Speed 6 MPH
Direction - out of the SW 200°
4-30-82 15:00

Speed - 4.5 MPH
Direction - out of the S 180°
5-1-82 08:00

Speed - 0 MPH
Direction - out of the E 90°
5-1-82 15:00

Speed - 2 MPH
Direction - out of the N 0°
5-2-82 08:00

Speed - 1 MPH
Direction - out of the NE 60°
5-2-82 15:00

Speed 12 MPH
Direction - Out of the NW 320°
5-3-82

OFFICIAL DUCKY COPY

20689

040034532012

Speed - 4 MPH
Direction - out of the SW 200°
5-3-82 15:00

Speed - 6 MPH
Direction - out of the NE 60°
5-4-82 08:00

Speed 8 MPH
Direction - out of the S 180°
5-4-82 15:00

Speed - 5 MPH
Direction - out of the SE 150°
5-5-82 08:00

Speed - 8 MPH
Direction - out of the S 180°
5-5-82 15:00

Speed - 8 MPH
Direction - out of the S 180°
5-6-82 08:00

Speed 1 MPH
Direction - out of the NE 70°
5-6-82 15:00

Speed 12 MPH
Direction - out of the N 0°
5-7-82 08:00

Speed 2 MPH
Direction - out of the S 180°
5-7-82 15:00

Speed 10 MPH
Direction - out of the SW 220°
5-8-82 08:00

Speed - 1 MPH
Direction - out of the E 90°
5-8-82 15:00

Speed - 3 MPH
Direction - out of the NW 300°
5-9-82 08:00

Speed - 1 MPH
Direction - out of the S 180°
5-9-82 15:00

Speed - 5 MPH
Direction - out of the N 0°
5-10-82 08:00

Speed - 2 MPH
Direction - out of the NE 60°
5-10-82 15:00

Speed - 4 MPH
Direction - out of the N 0°
5-11-82 08:00

Speed - 4 MPH
Direction - out of the N 0°
5-11-82 15:00

Speed 15 MPH
Direction - out of the W 270°
5-12-82

Speed 2 MPH
Direction - out of the SE 110°
5-12-82 15:00

Speed - 3 MPH
Direction - out of the E 90°
5-13-82 08:00

OFFICIAL DOCKET.COM

20689

04003453 2.07 E

Speed - 4 MPH
Direction - out of the NW 300°
5-13-82 15:00

Speed - 6 MPH
Direction - out of the NW 300°
5-14-82 08:00

Speed - 2 MPH
Direction - out of the NE 60°
5-14-82 15:00

Speed - 1 MPH
Direction - out of the N 0°
5-15-82 08:00

Speed - 4 MPH
Direction - out of the S 180°
5-15-82 15:00

Speed - 3 MPH
Direction - out of the SE 140°
5-16-82 08:00

Speed - 3 MPH
Direction - out of the S 180°
5-16-82

Speed - 5 MPH
Direction - out of the SE 150°
5-17-82 08:00

Speed - 5 MPH
Direction - out of the SE 160°
5-17-82 15:00

Speed - 5 MPH
Direction - out of the SE 150°
5-17-82 08:00

Speed - 1 MPH
Direction - out of the NE 60°
5-18-82 15:00

Speed - 4 MPH
Direction - out of the N 0°
5-19-82 08:00

Speed - 3 MPH
Direction - out of the N 0°
5-19-82 15:00

Speed 3 MPH
Direction - out of the N 0°
5-20-82 08:00

Speed - 1 MPH
Direction - out of the SE 120°
5-20-82 15:00

Speed - 3 MPH
Direction - out of the N 0°
5-21-82 08:00

Speed 1 MPH
Direction - out of the E 90°
5-21-82 15:00

Speed - 6 MPH
Direction - out of the SE 120°
6-2-82 08:00

Speed - 5 MPH
Direction - out of the NW 310°
6-2-82 15:00

Speed 4 MPH
Direction - out of the NW 300°
6-3-82 08:00

OFFICIAL DOCKET COPY

20689

0403532012

page 5 -

Speed - 1 MPH
Direction - out of the NE 70°
6-3-82 15:00

Speed - 4 MPH
Direction - out of the N 360°
6-7-82 08:00

Speed - 2 MPH
Direction - out of the SE 150°
6-7-82 15:00

Speed - 5 MPH
Direction - out of the S 180°
6-8-82 08:00

Speed - 0 MPH
Direction - out of the N 0°
6-8-82 15:00

Speed - 0 MPH
Direction - out of the N 0°
6-9-82 08:00

Speed - 3 MPH
Direction - out of the N 0°
6-9-82 15:00

Speed - 02 MPH
Direction - out of the NW 310°
6-10-82 08:00

Speed 0 MPH
Direction - out of the E 90°
6-10-82 15:00

Speed - 2 MPH
Direction - out of the SE 150°
6-14-82 08:00

Speed - 0 MPH
Direction - out of the E 90°
6-14-82 15:00

Speed 0 MPH
Direction - out of the E 90°
6-16-82 08:00

Speed - 0 MPH
Direction - out of the SE 140°
6-21-82 08:00

Speed 1 MPH
Direction - out of the S 180°
6-22-82 08:00

Speed - 0 MPH
Direction - out of the SE 150°
6-22-82 15:00

Speed - 2 MPH
Direction - out of the SE 150°
6-25-82 08:00

Speed - 0 MPH
Direction - out of the E 90°
6-25-82 15:00

Speed - 3 MPH
Direction - out of the NE 60°
6-28-82 08:00

Speed 1 MPH
Direction - out of the NE 30°
6-28-82 15:00

Speed 7 MPH
Direction - out of the SE 140°
6-29-82 08:00

OFFICIAL DOCKET COPY

20689

040034532012

Speed - 8 MPH
Direction - out of the SE 140°
6-29-82 15:00

Speed - 8 MPH
Direction - out of the SE 140°
6-30-82 08:00

Speed 5 MPH
Direction - out of the SE 140°
6-30-82 15:00

Speed - 12 MPH
Direction - out of the SE 160°