



United States Department of the Interior
FISH AND WILDLIFE SERVICE

UTAH FIELD OFFICE
LINCOLN PLAZA
145 EAST 1300 SOUTH, SUITE 404
SALT LAKE CITY, UTAH 84115

In Reply Refer To

(CO/KS/NE/UT)

January 14, 1997

Mr. Myron Fliegel, Project Manager
Uranium Recovery Branch
Division of Waste Management
Office of Nuclear Material Safety and Safeguards
Nuclear Regulatory Commission
Washington, D.C. 20555-0001

RE: Atlas Uranium Mill Tailings Reclamation Formal Section 7 Consultation Pursuant to the
Endangered Species Act of 1973, as amended

Dear Mr. Fliegel:

The U.S. Fish and Wildlife Service (Service) has been informally consulting with the Nuclear Regulatory Commission (NRC) concerning the Atlas Mill Tailings Reclamation since we first received the biological assessment dated November 1, 1995. We have met with NRC and Atlas Corporation staff on several occasions to discuss concerns regarding the impact analyses and the potential effects to endangered species. There are several issues which have been raised during our discussions with NRC and Atlas on which we have not previously commented. These are issues which have not been satisfactorily addressed through our conversations or are issues that have been recently brought to our attention by other agencies involved with the Atlas reclamation. These issues are outlined below.

It has come to our attention that it is NRC's intent to issue the Final Environmental Impact Statement (FEIS) and Record of Decision (ROD) prior to the conclusion of section 7 consultation and the issuance of the Service's biological opinion. The Service's biological opinion may require additional measures that are not currently in the project plan to reduce impacts to endangered and threatened species. A FEIS and ROD should include a complete description of any conservation measures required. Additionally, National Environmental Policy Act (NEPA) implementing regulations, 40 CFR 1505.2(c), require that a ROD "State whether all practicable means to avoid or minimize environmental harm from the alternative selected have been adopted, and if not, why they were not. A monitoring and enforcement program shall be adopted and summarized where applicable for any mitigation." Therefore, to comply with NEPA regulations, NRC should not issue its ROD until it has received and accepted the Service's biological opinion so that all conservation requirements can be incorporated into the ROD.

During discussions at the various meetings held to address possible impacts to endangered species, NRC has stated that any environmental impacts associated with the contaminated

groundwater underneath the tailings pile, as well as impacts associated with the relocation of Moab Wash, will not be included in the formal section 7 consultation for the reclamation of the tailings pile. We have been told by NRC that these are considered separate actions. The Service has verbally expressed our concerns that all impacts associated with reclamation of the site should be included in the consultation. The Endangered Species Act implementing regulations, 50 CFR 402.14(d), require that "The Federal agency requesting formal consultation shall provide the Service with the best scientific and commercial data available or which can be obtained during the consultation for an adequate review of the effects that an action may have upon listed species or critical habitat". The action of reclaiming the tailings pile includes all associated actions, such as the groundwater corrective action plan and the relocation of Moab Wash. Therefore, any impacts from these actions, whether beneficial or adverse, need to be included in NRC's biological assessment so that they can be taken into consideration in preparation of our biological opinion. This includes any depletions of water from the Colorado River whether for dust control or other purposes. The Service's Recovery Implementation Program for the endangered Colorado River fishes considers any water depletion from the Colorado River to result in jeopardy to the endangered fish.

Similarly, for the Service to have a complete picture of project impacts and measures to reduce impacts, any actions or measures required by the Corps of Engineers in their permit required for relocation of Moab Wash, or required by the State of Utah in the Groundwater Corrective Action Plan, NRC should include these activities/measures in the biological assessment. If these are not known at the time of preparation of the biological assessment, as much information as is known about probable permit requirements should be included in the biological assessment.

NRC has told the Service on several occasions that there is no evidence that the tailings pile leachate is harming the endangered fish in the Colorado River. We have addressed this question several times yet need to reiterate that the analytical methods used to characterize the leachate are associated with detection limits too high for some parameters. Some of the analytes which Atlas reported as below detection include selenium, aluminum, arsenic, barium, beryllium, boron, cadmium, chromium, iron, lead, silver, and zinc. For each one of these analytes the detection limit used by Atlas is above that recommended and used by the Department of Interior. Potential problems with using detection limits that are too high include: false negatives, implying that something is not there when it really is; decreased ability to fingerprint wastes from the pile as they enter the river or other places; and the inability to compare the concentrations with State water quality standards or other benchmark criteria, many of which are lower than some of the detection limits used.

An additional concern the Service has expressed is that of determining the constituent of the tailings pile itself, not the leachate. In a December 16, 1996 letter to the Service, Atlas transmitted the results of a one-time constituent mass sample analysis of water pumped from the tailings pile. Based on this one-time sample the concentrations reported are extrapolated to determine the concentrations of analytes pumped from the pile in 1996. Apart from the danger of making any determinations based on one sample, this analysis also reported several parameters as below detection limits, including selenium, silver, lead, and chromium, and extrapolates to report that each of these constituents are below detection limits within the pile.

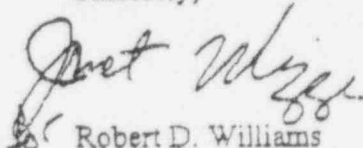
However, each of these parameters was measured using higher detection limits than are recommended by the Department of Interior.

When the State of Utah, Division of Water Quality, did their own ammonia sampling in the Colorado River in September, 1996 above, at, and below the Atlas site, they reported ammonia levels that averaged 2.57 mg/l with a maximum of 10.8 mg/l seen on the Atlas site of the river. Both the average and maximum exceed the State surface water quality standard of 0.44 mg/l. Ammonia levels reported as ammonia nitrogen in the DEIS for Atlas do not exceed 0.4 mg/l. Similarly, there is wide variability in the amount of total uranium reported in sediments by Atlas (2.3 pCi/g) and that reported by the Service (105.4 pCi/g) at the tailings site. These large differences in analyte concentrations lead to questions concerning the validity and accuracy of the determination of effects to endangered species. It also brings up the aspect of possible sediment loading to depositional areas of the Colorado River. These questions need to be addressed in Atlas's amended biological assessment and in the FEIS.

In previous correspondence from the Service concerning the list of threatened and endangered species, we mentioned the possibility that the southwestern willow flycatcher, an endangered species, may be present at the Atlas site. Additional surveys have confirmed the presence of these birds at the Matheson Preserve across the river from the Atlas tailings pile, as well as upstream and downstream of the tailings pile. It is unknown at this time whether the birds are nesting at the Preserve or simply passing through. Either way, impacts to this species are possible from the leachates out of the tailings pile. The flycatcher is an insectivorous species and is likely consuming aquatic insects from the riparian corridor, bioaccumulating any contaminants. Additionally, any impacts to the Preserve or nearby habitat would impact the flycatcher.

Any questions concerning these comments should be addressed to Robert Williams at (801) 524-5001.

Sincerely,



Robert D. Williams
Assistant Field Supervisor

cc: Regional Solicitor, Denver, CO (Attn: Gina Guy)
National Park Service, Denver, CO (Attn: Roy Irwin)
National Park Service, Moab, UT (Attn: Bruce Rogers)
Utah Department of Environmental Quality, SLC, UT (Attn: Loren Morton)

Handwritten notes:
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4-11-97

ATTACHMENT B

SUMMARY TABLES FROM STATE OF UTAH WATER QUALITY SAMPLING

Table 1

**Summary of 4/11/96 DWQ Colorado River
Up and Downstream Results: Inorganics, Nutrients,
and Heavy Metals**

Table 2

**Summary of 4/11/96 DWQ Colorado River
Up and Downstream Results: Radiological Parameters**

Table 1.

CR4-96.XLS - 4-1110

10/29/96

DWQ Colorado River: Samples Collected 4/11/96 - Inorganic/Organics																			
Sample Point No.		1	2	3	4	5													
Sample Location		R @ Bridge	R @ Seep	R 25 mi BL Seep	R 5 mi BL Seep	R -1 mi BL Seep													
Approx. Dstream Rbank Dist. (ft)		0	3900	5400	7700	9600													
Samples from		4/11/96	4/11/96	4/11/96	4/11/96	4/11/96	Sample Results > WQNC?					Downstream > R @ Bridge?							
North Riverbank		Lab No.	9602314	9602316	9602317	9602318	9602319	R @ Bridge	R @ Seep	R 25 mi BL	R 5 mi BL	R -1 mi BL	R @ Seep	R 25 mi BL	R 5 mi BL	R -1 mi BL			
Parameter	Units	WQNC	< Conc.	< Conc.	< Conc.	< Conc.	< Conc.												
Ammonia N	mg/l	0.44	0.132	3.57	< 0.05	0.14	0.127	no	YES	no	no	no	YES	no	YES	no			
B.O.D. 5	mg/l	5	n/a	n/a	n/a	n/a	n/a	no	no	no	no	no	YES	YES	no	no			
Bicarbonate	mg/l	n/a	134	137	135	134	134	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a			
C.O.D. *	mg/l	?	n/a	n/a	n/a	n/a	n/a	no	no	no	no	no	no	no	no	no			
Carbon Dioxide	mg/l	n/a	2	2	2	2	2	no	no	no	no	no	no	no	no	no			
Carbonate	mg/l	n/a	0	0	0	0	0	no	no	no	no	no	no	no	no	no			
Chloride	mg/l	n/a	49.5	50	48	48.5	47	no	no	no	no	no	YES	no	no	no			
CO3 Solids	mg/l	n/a	66	67	67	66	66	no	no	n/a	no	n/a	YES	YES	no	YES			
D-Aluminum	ug/l	87	87	103	3200.0	50	35	no	YES	n/a	no	no	YES	YES	no	no			
D-Antimony	ug/l	145	< 3	< 3	< 3	< 3	< 3	no	no	no	no	no	no	no	no	no			
D-Arsenic	ug/l	0.002	< 5	< 5	< 5	< 5	< 5	?	?	?	?	?	no	no	no	no			
D-Barium	ug/l	1	62.5	72.9	9.5	350	137	YES	YES	YES	YES	YES	YES	no	YES	YES			
D-Beryllium	ug/l	0.0037	< 1	< 1	< 1	< 1	< 1	?	?	?	?	?	no	no	no	no			
D-Cadmium	ug/l	1.1	< 1	< 1	< 1	< 1	< 1	no	no	no	no	no	no	no	no	no			
D-Calcium	mg/l	n/a	56.9	56.4	< 1	56.7	84	no	no	no	no	no	no	no	no	no			
D-Chromium	ug/l	50	< 5	< 5	< 5	< 5	< 5	no	no	no	no	no	no	no	no	no			
D-Copper	ug/l	12	< 12	< 12	< 12	< 12	< 12	no	no	no	no	no	no	no	no	no			
D-Iron	ug/l	100	101	163	< 20	37.3	71.2	no	no	no	no	no	YES	no	no	no			
D-Lead	ug/l	3.2	9	< 3	10	< 3	< 3	YES	no	YES	no	no	no	YES	no	no			
D-Magnesium	mg/l	n/a	17.2	16.7	< 1	19.2	46.7	no	no	no	no	no	no	no	YES	YES			
D-Manganese	ug/l	50	7.7	14.5	< 5	9.4	49.9	no	no	no	no	no	YES	no	YES	YES			
D-Mercury	ug/l	0.012	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	?	?	?	?	?	no	no	no	no			
D-Molybdenum	ug/l	10	8	10	3	7	3	no	no	no	no	no	YES	no	no	no			
D-Nickel	ug/l	160	< 10	< 10	< 10	< 10	< 10	no	no	no	no	no	no	no	no	no			
D-NO2+NO3 (N)	mg/l	10	n/a	n/a	n/a	n/a	n/a	no	no	no	no	no	no	no	no	YES	YES		
D-Potassium	mg/l	n/a	3.3	3.2	1.1	4	11.8	no	no	no	no	no	no	no	no	no			
D-Selenium	ug/l	5	2	1	2	2	1	no	no	no	no	no	no	no	no	no			
D-Silver	ug/l	0.12	< 2	< 2	< 2	< 2	< 2	?	?	?	?	?	no	no	no	no			
D-Sodium	mg/l	n/a	50.9	58.4	< 1	124	673	no	no	no	no	no	YES	no	YES	YES			
D-Thallium	ug/l	13	< 1	< 1	< 1	< 1	< 1	no	no	no	no	no	no	no	no	no			
D-Total P	mg/l	0.05	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a			
D-Vanadium	ug/l	?	< 40	< 40	< 40	< 40	< 40	no	no	no	no	no	no	no	no	no			
D-Zinc	ug/l	110	< 30	42.9	< 30	30	46.4	no	no	no	no	no	YES	no	no	YES			
Fluoride	mg/l	1.4	0.312	0.37	0.356	0.344	0.341	no	no	no	no	no	no	no	no	no			
Hydroxide	mg/l	n/a	0	0	0	0	0	no	no	no	no	no	no	no	no	no			
L-pH		6.5-9.0	7.96	7.96	7.97	8.01	8.04	no	no	no	no	no	no	YES	YES	YES			
L-Sp. Cond.	umhos	n/a	638	685	649	638	638	no	no	no	no	no	no	YES	YES	no			
NO2+NO3 (N)	mg/l	10	0.3	0.14	0.37	0.33	0.33	no	no	no	no	no	no	YES	YES	YES			

Table 1. Continued

DWQ Colorado River: Samples Collected 4/11/96 - Inorganic/Organics																
Sample Point No.		1	2	3	4	5										
Sample Location:		R @ Bridge	R @ Seep	R 25 ml BL Seep	R 5 ml BL Seep	R -1 ml BL Seep										
Approx. Dstream Rbank Dist. (ft)		0	3900	5400	7700	9600										
Samples from		4/11/96	4/11/96	4/11/96	4/11/96	4/11/96	Sample Results > WQNC?					Downstream > R @ Bridge?				
Sample Date:		4/11/96	4/11/96	4/11/96	4/11/96	4/11/96										
Lab No.:		9602314	9602316	9602317	9602318	9602319										
North Riverbank							R @ Bridge	R @ Seep	R 25 ml BL	R 5 ml BL	R -1 ml BL	R @ Seep	R 25 ml BL	R 5 ml BL	R -1 ml BL	
Parameter	Units	WQNC	Conc.	Conc.	Conc.	Conc.	Conc.	Conc.	Conc.	Conc.	Conc.	Conc.	Conc.	Conc.	Conc.	Conc.
Sulfate	mg/l	n/a	150.3	166.3	155.9	149.1	150.4	no	no	no	no	no	no	no	no	no
T-Aluminum	ug/l	87	5650	9730	9100	3800	7350	YES	YES	YES	YES	YES	YES	YES	YES	YES
T-Antimony	ug/l	146	3	3	3	3	3	no	no	no	no	no	no	no	no	no
T-Arsenic	ug/l	0.002	5	5	5	5	5	?	?	?	?	?	?	?	?	?
T-Barium	mg/l	1	0.141	0.228	0.196	0.0791	0.831	no	no	no	no	no	no	no	no	no
T-Beryllium	ug/l	0.0037	1	1	1	1	1	?	?	?	?	?	?	?	?	?
T-Cadmium	ug/l	1.1	1	1	1	1	1	no	no	no	no	no	no	no	no	no
T-Chromium	ug/l	50	7	9	8	5	6	no	no	no	no	no	no	no	no	no
T-Copper	ug/l	12	12	14.8	12	12	12	no	YES	no	no	no	no	no	no	no
T-Iron	mg/l	1000	6.44	9.51	7.58	1.53	6.83	no	no	no	no	no	no	no	no	no
T-Lead	ug/l	3.2	9	13	10	3	10	YES	YES	YES	no	YES	YES	no	YES	YES
T-Manganese	ug/l	50	247	473	388	39.4	357	YES	YES	YES	no	YES	YES	no	YES	YES
T-Mercury	ug/l	0.012	0.2	0.2	0.2	0.2	0.2	?	?	?	?	?	?	?	?	?
T-Molybdenum	ug/l	10	8	11	7	8	7	no	YES	no	no	no	no	no	no	no
T-Nickel	ug/l	160	10	12	10	10	10	no	no	no	no	no	no	no	no	no
T-Selenium	ug/l	5	2	2	2	2	2	no	no	no	no	no	no	no	no	no
T-Silver	ug/l	0.12	2	2	2	2	2	?	?	?	?	?	?	?	?	?
T-Thallium	ug/l	13	2	2	2	2	2	no	no	no	no	no	no	no	no	no
T-Vanadium	ug/l	?	40	40	40	40	40	no	no	no	no	no	no	no	no	no
T-Zinc	ug/l	110	79.3	75.7	60.7	30	59.2	no	no	no	no	no	no	no	no	no
T-Hardness	mg/l	n/a	212.7	211.8	6.6	220.5	401.7	no	no	no	no	no	no	no	no	no
T-Phos. (as PO4)	mg/l	0.05	0.34	0.6	0.58	0.5	0.45	YES	YES	YES	YES	YES	YES	YES	YES	YES
T-K.N.	mg/l	?	NO	NO	NO	NO	NO	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
T.O.C	mg/l	?	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
T-Sus Solids	mg/l	?	320	844	724	932	612	no	no	no	no	no	no	no	no	no
TDS @ 180C	mg/l	1200	424	438	402	392	394	no	no	no	no	no	no	no	no	no
Tot. Alkalinity	mg/l	n/a	110	112	111	110	110	no	no	no	no	no	no	no	no	no
Turbidity	NTU	?	100	230	210	240	160	no	no	no	no	no	no	no	no	no
Field Parameters																
Temperature	C		13.1	12.9	12.9	13	13	no	no	no	no	no	no	no	no	no
pH	S.U.	6.5-9.0	8.1	8.1	7.9	8	8									
D.O.	mg/l		8	8.4	8.1	8.3	8.3									
Sp. Cond.	umhos/cm		662	715	679	666	662									
r = rejected results due to lab QA problems							Total:	66	66	64	66	65	77	77	77	77
							YES Count:	6	9	6	3	5	28	19	13	21
							% Yes:	9%	14%	9%	5%	8%	36%	25%	17%	27%

Table 2.

CR4-96.XLS - 4-11rad

10/30/96

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB
1	Colorado River at Atlas Tailings Pile: DEQ Up and Downstream Samples Collected 4/11/96																							All units = pCi/l				
2	Radiologic Parameters																											
3	Sample Location		Sample	Lab	Gross Alpha		Gross Beta		Ra-226		Ra-228		Ra-226+228		T-Uranium													
4	No.	Description	Date	No.	<	Conc.	+/-	<	Conc.	+/-	<	Conc.	+/-	<	Conc.	+/-	<	Conc.	+/-	<	Conc.	+/-	<	Conc.	+/-	<	Conc.	+/-
5	1	R @ Bridge	4/11/96	9602314		12	1.3	<	10	5.6		3	0.3		2.8	2.2		5.8	2.2							3.2	1.0	
6	2	R @ Seep	4/11/96	9602316		50	2		12.7	6.4		1.4	0.6		4.2	2.5		5.6	2.6							5.5	1.0	
7	3	R .25 mi BL Seep	4/11/96	9602317		20	1		10.7	6.3		1.1	0.6		2.3	2.1		3.4	2.2							4.7	1.4	
8	4	R .5 mi BL Seep	4/11/96	9602318		19	1		11.7	6.3		0.5	0.5	<	1	0.8	<	1.5	0.9							3.2	1.2	
9	5	R -1 mi BL Seep	4/11/96	9602319		19	1		11.5	6.3		1	0.6	<	1	2.5	<	2	2.6							4.6	1.4	
10																												
11																												
12			Utah WQNC:			15																						