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UTAH INTERNATIONAL INC.

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DIVISION OF
OIL, GAS & MINING

23 May 1980

Dennis R. Dalley, Associate Director
Division of Environmental Health
Utah Department of Health
150 W. N. Temple
Salt Lake City, Utah 84103

Dear Mr. Dalley:

As we agreed during our meeting on 15 May 1980, we are submitting analytic results on the drinking water supplies at Iron Springs and Comstock, the tailings pond water at Iron Springs and an analysis of the tailings. The proposed iron ore beneficiation plant at Comstock will use the same process (magnetic separation, no chemical additives) and much of the same equipment as the Iron Springs beneficiation plant. Therefore, the Iron Springs analytical data provide the best information available on the expected composition of the Comstock tailings and tailings pond water.

It is our understanding that the Bureaus of Water Pollution Control, Solid Waste Management, Radiation and Occupational Health, and Waterworks will each need to review and approve these data, so we are enclosing four copies. With regard to the construction permit from the Bureau of Water Pollution Control, we expect to have a preliminary tailings dam design available within two weeks. This will be submitted as soon as available. T. Suchoski, Reclamation Hydrologist with the Division of Oil, Gas and Mining, has agreed to informally coordinate the submittal with your Division, the State Engineers, and Oil, Gas and Mining to expedite the review and approval processes required.

If you or your staff have any questions or need additional information, please contact me in San Francisco or Y. F. Jones at our Cedar City operation.

Sincerely,

S. C. Davis

S. C. Davis
Environmental Manager

Attachments

cc: Y. F. Jones - Cedar City
T. J. Suchoski - Division of Oil, Gas and Mining

SCD:cs

Table 1

ANALYSIS OF COMSTOCK WELL WATER

CEDAR CITY MINE

Parameters (mg/l)	EPA Interim Primary Drinking Water Standards (mg/l)	EPA Secondary Drinking Water Standards (mg/l)	Test Date 6/79
Ag	0.05		0.007
As	0.05		<0.005
Ba	1.0		0.26
Cd	0.01		0.?
Cl		250	199
Cr (VI)	0.05		<0.01
Cu		1.0	0.01
F	1.4-2.4		0.48
Fe		0.3	0.06
Hg	0.002		0.0003
Mn		0.05	0.003
NO_3 or N	10		3.2
Pb	0.05		0.03
Se	0.01		0.005
SO_4=		250	89
TDS		500	836 *
Zn		5.0	0.03
pH		6.5-8.5	7.5
RA-226 (pCi/l)	5		0.06 ± 0.03

*exceeds EPA Secondary Drinking Water Standards

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Table 2

ANALYSIS OF IRON SPRINGS TAILINGS POND WATER

CEDAR CITY MINE

Parameters (mg/l)	Test Dates 5/79	6/79
Ag	0.10	0.007
As	0.003	<0.005
Ba	0.08	0.45
Cd	0.006	0.01
Cl	11.9	134
Cr (VI)	0.02	<0.01
Cu	0.02	0.011
F	1.2	1.25
Fe	0.10	0.09
Hg	0.00005	<0.0002
Mn	0.02	0.25 *
NO_3 or N	0.6	0.88
Pb	0.08	0.07 *
Se	0.001	<0.0005
SO_4=	350	530 * high
TDS	860	914
Zn	0.005	0.02
pH	7.7	8.0
RA-226 (pCi/l)		0. ±0.04

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TABLE 3

ANALYSIS OF IRON SPRINGS MILL TAILINGS

CEDAR CITY MINE

Using EPA's Extraction Procedure for Identifying Hazardous Wastes

Parameters	EPA Extract Pollutant Limits(1)	Test Date(8/79) Tailings
Ag	5.0	0.005
As	5.0	0.006
Ba	100	0.311
Cd	1.0	0.010
Cr (VI)	5.0	0.016
Hg	0.2	0.00046
Pb	5.0	0.057
Se	1.0	0.003

(1) Criteria for determining whether a waste that has been analyzed using the EPA extraction procedure is hazardous or not (Federal Register, 19 May 1980).

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TABLE 4

ANALYSIS OF IRON SPRINGS OFFICE TAP WATER

CEDAR CITY MINE

Parameters (mg/l)	EPA Interim Primary Drinking Water Standards (mg/l)	EPA Secondary Drinking Water Standards	Test Date 3/79
Ag	0.05		0.002
As	0.05		0.009
Ba	1.0		<0.01
Cd	0.01		0.002
Cl		250	269 *
Cr (VI)	0.05		0.004
Cu		1.0	<0.01
F	1.4-2.4		0.75
Fe		0.3	0.053
Hg	0.002		<0.001
Mn		0.05	0.009
NO_3 or N	10		8.0
Pb	0.05		0.03
Se	0.01		0.002
SO_4=		250	531 *
TDS		500	1472 *
Zn		5.0	0.184

*exceeds EPA Secondary Drinking Water Standards

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TABLE 5

ANALYSIS OF IRON SPRINGS MILL TAP WATER

CEDAR CITY MINE

Parameters (mg/l)	EPA Interim Primary Drinking Water Standards (mg/l)	EPA Secondary Drinking Water Standards	Test Date 3/79
Ag	0.05		<0.001
As	0.05		0.002
Ba	1.0		<0.01
Cd	0.01		<0.001
Cl		250.0	40
Cr (VI)	0.05		<0.01
Cu		1.0	<0.01
F	1.4-2.4		0.36
Fe		0.3	0.06
Hg	0.002		<0.001
Mn		0.05	0.007
NO_3 or N	10		0.33
Pb	0.05		<0.01
Se	0.01		<0.001
SO_4=		250	207
TDS		500	582 *
Zn		5.0	0.031

*exceeds EPA Secondary Drinking Water Standards

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TABLE 6

ANALYSIS OF IRON SPRINGS (WEST OF PLANT) WELL

CEDAR CITY MINE

Parameters (mg/l)	EPA Interim Primary Drinking Water Standards (mg/l)	EPA Secondary Drinking Water Standards	Test Date 3/79
Ag	0.05		0.002
As	0.05		0.02
Ba	1.0		<0.1
Cd	0.01		0.002
Cl		250.0	206
Cr (VI)	0.05		0.003
Cu		1.0	<0.01
F	1.4-2.4		0.67
Fe		0.3	0.003
Hg	0.002		<0.001
Mn		0.05	0.006
NO_3 or N	10		1.8
Pb	0.05		0.01
Se	0.01		0.003
SO_4=		250	621 *
TDS		500	1454 *
Zn		5.0	0.002
Na			177

*exceeds EPA Secondary Drinking Water Standards

5/23/80