7445
37972
RECEIVED
SEP 17'84
WASTE MGT. BR.

SITE INSPECTION REPORT

RICHARDSON'S FLAT TAILINGS

SUBMITTED TO:

Eric Johnson, EPA Region VIII

Submitted by:

Don Verbica
Utah Division of Environmental Health
Bureau of Solid and Hazardous Waste

August 30, 1984

TABLE OF CONTENTS

I. LETTER

II. APPENDICIES

APPENDIX 1 - PHOTOS, SITE DRAWINGS & SITE LOCATION MAP

APPENDIX 2 - SITE INSPECTION FORM

APPENDIX 3 - SAMPLE ANALYSIS SHEETS

APPENDIX 4 - HRS WORKSHEET

Scott M. Matheson
Governor

James O. Mason, M.D., Dr.P.H.
Executive Director
801-533-6111

DIVISIONS

Community Health Services
Environmental Health
Family Health Services
Health Care Financing

OFFICES

Administrative Services
Community Health Nursing
Management Planning
Medical Examiner
State Health Laboratory

STATE OF UTAH
DEPARTMENT OF HEALTH
DIVISION OF ENVIRONMENTAL HEALTH
150 West North Temple, P.O. Box 2500, Salt Lake City, Utah 84110-2500

Kenneth Lee Alkema, Director
Room 474 801-533-6121

September 4, 1984

Mr. Eric Johnson
U.S. Environmental Protection Agency
Region VIII
1860 Lincoln Street
Denver, Colorado 80295

Subject: Site inspection report, Richardson's Flat tailings, Summit County, Utah

Dear Mr. Johnson:

Submitted herewith is a site inspection report for the Richardson's Flat tailings.

Based upon information available at the time this inspection was prepared, it is recommended that this site be given National Priority List Consideration. It is further recommended that the FIT take HiVol samples to score the route for air.

Richardson Flat tailings are located in the NW 1/4 of section 1, T2S, R4E, of the Park City East, Quadrangle, between Park City and Keetley Junction. The exact amount of tailings on-site is unknown. But it is estimated that there are approximately 7 million tons of tailings most likely deposited in the late 60's and early 70's.

The mill tailings at Richardson's Flat came from the Ontario Keetley mine and other mines owned by United Park City Mines. The tailings are next to Silver Creek and numerous small tributaries flow through the tailings.

Mr. Ray Wortley is currently leasing part of the tailings from United Park City Mines and is using the tailings as backfill for sewer lines and roadbase.

During the June inspection samples were taken from groundwater, surface water and tailings. Groundwater concentrations of arsenic at .325 ppm, cadmium at .120 ppm, lead at 31.8 ppm and mercury at 0.26 ppm were found in a spring below Richardson's Flat. It was observed during the inspection that tailings were being blown off-site. It is recommended that EPA's FIT collect Hivol samples downgradient of Richardson's Flat.

An Equal Opportunity Employer

The score given Richardson's Flat without the route for air is 36.19, but the state feels with the route for air added it would increase the score.

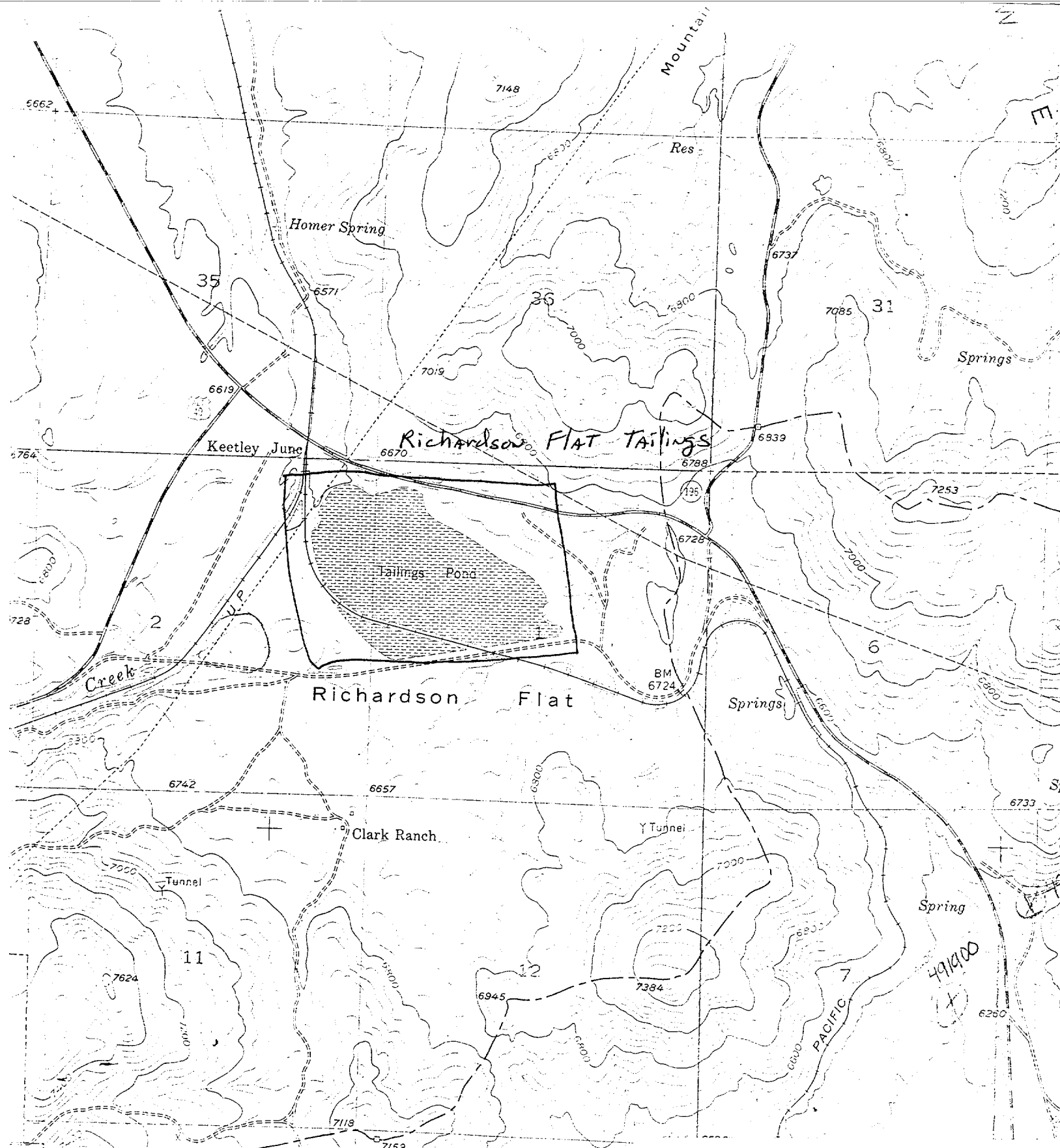
If you have any questions, please contact Don Verbica.

Sincerely,

Dale Parker

Dale D. Parker, Ph.D.
Executive Secretary
Utah Solid and Hazardous Wastes
Committee

DGV/ab
5678



STATE OF UTAH
DEPARTMENT OF HEALTH

Bureau of Solid and Hazardous Waste
Division of Environmental Health

150 W. N. Temple, Salt Lake City, Utah 89103
801-533-4145

APPENDIX 1

PHOTOGRAPHS

Photo #1: Ponded water on Richardson's flat tailings

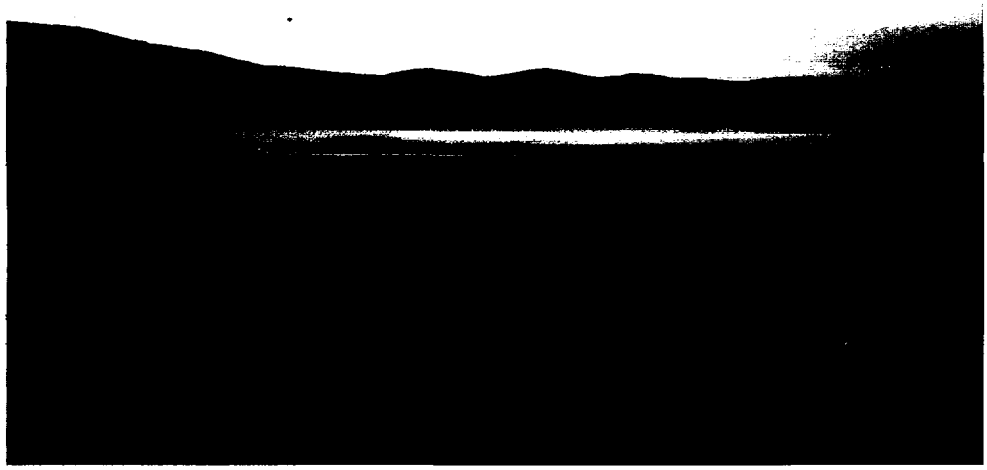


Photo #2: Tailings being blown off-site during a wind storm.

Photo #3: Discolored water in canal made of tailings near Richardson's Flat

Photo #4: Tailings above Richardson's Flat near Silver Creek.

Richardson's Flat ↑ N

Site Drawing

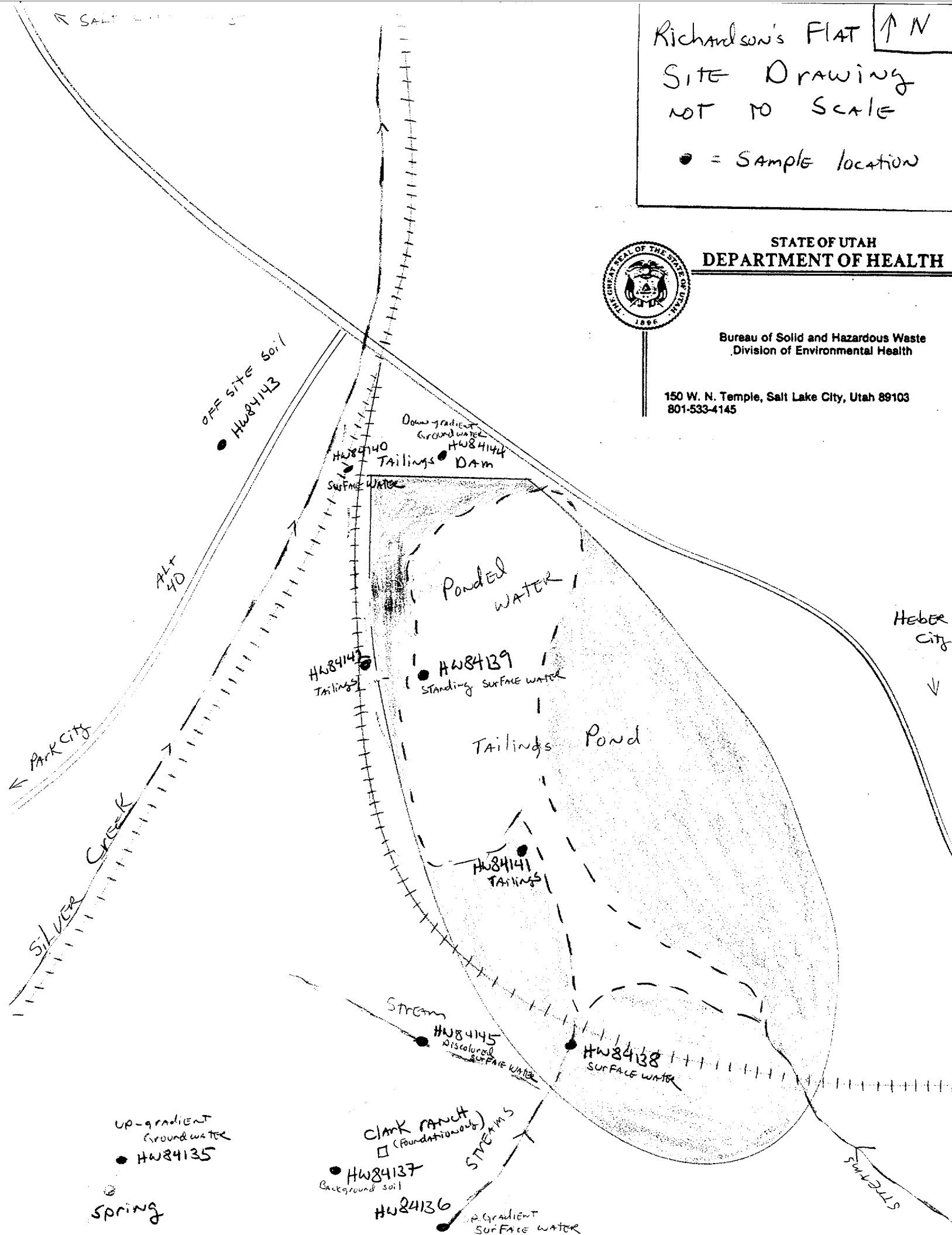
Not to Scale

● = Sample location

STATE OF UTAH
DEPARTMENT OF HEALTH

Bureau of Solid and Hazardous Waste
Division of Environmental Health

150 W. N. Temple, Salt Lake City, Utah 89103
801-533-4145



APPENDIX 2

SITE INSPECTION FORM

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 1 - SITE LOCATION AND INSPECTION INFORMATION

I. IDENTIFICATION
01 STATE 02 SITE NO.

II. SITE NAME AND LOCATION

01 SITE NAME (Legal, common or descriptive name of site)
Richardson's Flat Tailings

02 STREET, ROUTE NO. OR SPECIFIC LOCATION IDENTIFIER
NW 1/4 Sec 1 T25 R4E

03 CITY
Park City East Quadrangle

04 STATE
Utah

05 ZIP CODE

06 COUNTY
Summit

07 COUNTY CODE
043

08 CONG DIST.
3

09 COORDINATES
LATITUDE 40 40 42.
LONGITUDE 111 27 05.

10 TYPE OF OWNERSHIP (Check one)
X A. PRIVATE B. FEDERAL: ____ C. STATE
D. COUNTY E. MUNICIPAL F. OTHER: ____
G. UNKNOWN

III. INSPECTION INFORMATION

01 DATE OF INSPECTION
06/04/84

02 SITE STATUS
A. ACTIVE
X B. INACTIVE

03 YEARS OF OPERATION
BEGINNING YEAR ____ ENDING YEAR ____ UNKNOWN ____

01 AGENCY PERFORMING INSPECTION (Check all that apply)
A. EPA B. EPA CONTRACTOR ____ (Name of Firm) C. MUNICIPAL D. MUNICIPAL CONTRACTOR ____ (Name of Firm)
X E. STATE F. STATE CONTRACTOR ____ (Name of Firm) G. OTHER: ____ (Specify)

05 CHIEF INSPECTOR	06 TITLE	07 ORGANIZATION	08 TELEPHONE NO.
Don Verbica	Geologist	UBSHW	(801)533-4145
09 OTHER INSPECTORS	**10 TITLE**	**11 ORGANIZATION**	**12 TELEPHONE NO.**
Joel Hebdon	Eng. Geologist	UBSHW	(801)533-4145

13 SITE REPRESENTATIVES INTERVIEWED	14 TITLE	15 ADDRESS	16 TELEPHONE NO.

17 ACCESS GAINED BY (Check one)	18 TIME OF INSPECTION	19 WEATHER CONDITIONS
PERMISSION WARRANT	10:00 a.m.	overcast and warm

IV INFORMATION AVAILABLE FROM

01 CONTACT	02 OF (Agency/Organization)	03 TELEPHONE NUMBER
Don Verbica	BSHW/USHD	(801)533-4145
04 PERSON RESPONSIBLE FOR SITE INSPECTION FORM	**05 AGENCY**	**06 ORGANIZATION**
Dale Parker	BSHW	USHD
07 TELEPHONE NO.	**08 DATE**	
(801)533-4145	09/04/84	

EPA FORM 2070-13(7-81)

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 2 - WASTE INFORMATION

I. IDENTIFICATION
01 STATE 02 SITE NO.

II. WASTE STATES, QUANTITIES, AND CHARACTERISTICS

01 PHYSICAL STATES (Check all that apply)

A. SOLID
B. POWDER, FINES
C. SLUDGE
D. OTHER _____ (Specify)
E. SLURRY
F. LIQUID
G. GAS

02 WASTE QUANTITY AT SITE
(Measures of waste quantities must be independent)

* TONS 7 million
CUBIC YARDS
NO. OF DRUMS

03 WASTE CHARACTERISTICS (Check all that apply)

X A. TOXIC
B. CORROSIVE
C. RADIOACTIVE
X D. PERSISTENT
X E. SOLUBLE
F. INFECTIOUS
G. FLAMMABLE
H. IGNITABLE
I. HIGHLY VOLATILE
J. EXPLOSIVE
K. REACTIVE
L. INCOMPATIBLE
M. NOT APPLICABLE

III. WASTE TYPE

CATEGORY	SUBSTANCE NAME	01 GROSS AMOUNT	02 UNIT OF MEASURE	03 COMMENTS
SLU	SLUDGE			
OLW	OILY WASTE			
SOL	SOLVENTS			
PSD	PESTICIDES			
OCC	OTHER ORGANIC CHEMICALS			
IOC	INORGANIC CHEMICALS	unknown		As
ACD	ACIDS			
BAS	BASES			
MES	HEAVY METALS	unknown		Pb, Cd

IV. HAZARDOUS SUBSTANCES (See Appendix formost frequently cited CAS Numbers)

01 CATEGORY	02 SUBSTANCE NAME	03 CAS NUMBER	04 STORAGE/ DISPOSAL METHOD	05 CONCENTRATION	06 MEASURE OF CONCENTRATION
MES	Lead	999	SI	31.8 ppm	~~ground~~ surface water (total metals)
MES	cadmium	999	SI	.120 ppm	~~ground~~ surface water (total metals)
IOC	arsenic	999	SI	.40 ppm	~~ground~~ surface water (total metals)
MES	lead	999	Tailings sample	3960 ppm	(total metals)
IOC	arsenic	999	tailings sample	252 ppm	(total metals)
MES	cadmium	999	tailings sample	447 ppm	(total metals)
MES	mercury	999	tailings sample	1.24 ppm	(total metals)

V. FEEDSTOCKS (See Appendix for CAS Numbers)

CATEGORY	01 FEEDSTOCK NAME	02 CAS NUMBER	CATEGORY	01 FEEDSTOCK NAME	02 CAS NUMBER
FDS			FDS		
FDS			FDS		
FDS			FDS		

VI. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

sample analysis, state files

EPA FORM 2070-13(7-81)

* Tonage based on 160 acres 20 feet thick

EPA POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 3 - SITE INFORMATION AND ASSESSMENT

I. IDENTIFICATION
01 STATE 02 SITE NO.

II. HAZARDOUS CONDITIONS AND INCIDENTS

01 A. GROUNDWATER CONTAMINATION 02 OBSERVED (DATE:_____) X POTENTIAL ALLEGED
03 POPULATION POTENTIALLY AFFECTED: 10,000[1]*
04 NARRATIVE DESCRIPTION
Potential exists for the contamination of groundwater. The tailings lie next to Silver Creek and sit on top of old stream sediments (sands and clays). The water table is relatively high due to Silver Creek. The tailings are porous and could be leached, the resulting leachate could migrate into the groundwater.

01 B. SURFACE WATER CONTAMINATION X 02 OBSERVED (DATE:_____) X POTENTIAL ALLEGED
03 POPULATION POTENTIALLY AFFECTED: 10,000[1]*
04 NARRATIVE DESCRIPTION
Potential exists for the contamination of surface water. Many samll tributaries of Silver Creek flow through the tailings and from a pond. Silver Creek lies due west of the site and could be effected by any leachate forming on the tailings.

01 C. CONTAMINATION OF AIR 02 OBSERVED (DATE:_____) X POTENTIAL ALLEGED
03 POPULATION POTENTIALLY AFFECTED: 10,000[2]* 04 NARRATIVE DESCRIPTION
Potential exists for contamination of air. The tailing consists of small particles that are easily air borne. Pictures taken of site show tailings blowing off-site. The tailngs contain lead and cadmium which could be harmful if ingested.

01 D. FIRE/EXPLOSIVE CONDITIONS 02 OBSERVED (DATE:_____) POTENTIAL ALLEGED
03 POPULATION POTENTIALLY AFFECTED:_____
04 NARRATIVE DESCRIPTION
Not applicable

01 E. DIRECT CONTACT 02 OBSERVED (DATE:_____) X POTENTIAL ALLEGED
03 POPULATION POTENTIALLY AFFECTED: 950[3] 04 NARRATIVE DESCRIPTION
Potential exists for direct contact. There is no fence or guard to prevent people from entering the tailings pond.

01 F. CONTAMINATION OF SOIL 02 OBSERVED (DATE:_____) X POTENTIAL ALLEGED
03 AREA POTENTIALLY AFFECTED: 100 04 NARRATIVE DESCRIPTION
Potential exists for contamination of soil. The tailings are porous and so is the surround soil. The soil has been in continous contact with the tailings for a number of years. Any leachate formed by the tailings could have contaminated the soil.

01 G. DRINKING WATER CONTAMINATION 02 OBSERVED (DATE:_____) POTENTIAL ALLEGED
03 POPULATION POTENTIALLY AFFECTED: 10,000[1]
04 NARRATIVE DESCRIPTION
Potential exists for contamination of drinking water by the migration of leachate.

01 H. WORKER EXPOSURE/INJURY 02 OBSERVED (DATE:_____) POTENTIAL ALLEGED
03 WORKERS POTENTIALLY AFFECTED: 0 04 NARRATIVE DESCRIPTION
Mr. Ray Wortley has a lease on the mine tailings and is removing them for use in construction. A few workers load the tailings into dump trucks on-site. These workers could be affected if the tailings are harmful.

01 I. POPULATION EXPOSURE/INJURY 02 OBSERVED (DATE:_____) POTENTIAL ALLEGED
03 POPULATION POTENTIALLY AFFECTED: 950[3] 04 NARRATIVE DESCRIPTION
The nearest large population is Park City which is approx. 2 miles from site. There is no means on-site to prevent direct access by the local population.

EPA FORM 2070-13(7-81) 1 = 3 mile radius; 2 = 4 mile radius; 3 = 1 mile radius
*Population of Park City in winter.

EPA POTENTIAL HAZARDOUS WASTE SITE
PRELIMINARY ASSESSMENT
PART 3 - SITE INFORMATION AND ASSESSMENT

I. IDENTIFICATION
01 STATE 02 SITE NO.

II. HAZARDOUS CONDITIONS AND INCIDENTS (Continued)

01 J. DAMAGE TO FLORA 02 OBSERVED (Date:_____) X POTENTIAL ALLEGED
04 NARRATIVE DESCRIPTION
Potential exists for damage to Flora. Grass and shrubs will not grow on the mine tailings.

01 K. DAMAGE TO FAUNA 02 OBSERVED (DATE:_____) X POTENTIAL ALLEGED
04 NARRATIVE DESCRIPTION
Potential exists for damage to fauna. Beaver and muskrats live near the site on Silver Creek. Silver Creek is a 3A (water quality) stream, it is a tributary of the Weber River which is a trout stream.

01 L. CONTAMINATION OF FOOD CHAIN 02 OBSERVED (DATE:_____) POTENTIAL
04 NARRATIVE DESCRIPTION ALLEGED
Potential exists for contamination of food chain (grass and roots) of beaver and muskrats that live and eat on Silver Creek. Crops that are irrigated by Silver Creek could also be contaminated.

01 M. UNSTABLE CONTAINMENT OF WASTES 02 OBSERVED (Date:_____) POTENTIAL
(Soils/runoff/standing liquids/leaking drums) ALLEGED
03 POPULATION POTENTIALLY AFFECTED: 950[3]
04 NARRATIVE DESCRIPTION
Potential exists for unstable containment of waste. Tailings have been observed blowing off-site.

01 N. DAMAGE TO OFFSITE PROPERTY 02 OBSERVED (DATE:_____) POTENTIAL
04 NARRATIVE DESCRIPTION ALLEGED
It is alleged that off-site property is being contaminated. Tailings were found on the north side of the highway and they most liekly came from Richardson's Flat.

01 O. CONTAMINATION OF SEWERS, STORM DRAINS, WWTPs 02 OBSERVED (DATE:_____)
04 NARRATIVE DESCRIPTION POTENTIAL ALLEGED
Unknown at the time this assessment was made.

01 P. ILLEGAL/UNAUTHORIZED DUMPING 02 OBSERVED (DATE:_____) POTENTIAL
04 NARRATIVE DESCRIPTION ALLEGED
Unknown at the time this assessment was made.

05 DESCRIPTION OF ANY OTHER KNOWN, POTENTIAL OR ALLEGED HAZARDS

III. TOTAL POPULATION POTENTIALLY AFFECTED:

IV COMMENTS
State files

V. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION
PART 4 - PERMIT AND DESCRIPTIVE INFORMATION

I. IDENTIFICATION
01 STATE 02 SITE NO.

II. PERMIT INFORMATION

01 TYPE OF PERMIT ISSUED	02 PERMIT NO.	03 DATE ISSUED	04 EXPIRATION DATE	05 COMMENTS
A. NPDES				
B. UIC				
C. AIR				
D. RCRA				
E. RCRA INTERIM STATUS				
F. SPCC PLAN				
G. STATE (Specify)				
H. LOCAL (Specify)				
I. OTHER (Specify)				
J. NONE	No records of any permits in state files			

III. SITE DESCRIPTIONS

01 STORAGE/DISPOSAL (Check all that apply)	02 AMOUNT	03 UNIT OF MEASURE	04 TREATMENT (Check all that apply)
A. SURFACE IMPOUNDMENT			A. INCINERATION
B. PILES			B. UNDERGROUND INJECTION
C. DRUMS, ABOVE GROUND			C. CHEMICAL/PHYSICAL
D. TANK, ABOVE GROUND			D. BIOLOGICAL
E. TANK, BELOW GROUND			E. WASTE OIL PROCESSING
F. LANDFILL			F. SOLVENT RECOVERY
G. LANDFARM			G. OTHER RECYCLING/RECOVERY
H. OPEN DUMP			H. OTHER (Specify)
I. OTHER Mill tailings pond (Specify)	FM	tons	

05 OTHER
A. BUILDINGS ON SITE none

06 AREA OF SITE 100 (Acres)

07 COMMENTS

IV. CONTAINMENT

01 CONTAINMENT OF WASTES (Check one)
A ADEQUATE, SECURE B MODERATE X C INADEQUATE, POOR D INSECURE, UNSOUND, DANGEROUS

02 DESCRIPTION OF DRUMS, DIKING, LINERS, BARRIERS, ETC.
It was observed during the June inspection that tailings were being blown off-site.

V. ACCESSIBILITY

01 WASTE EASILY ACCESSIBLE: X YES NO

02 COMMENTS The site is easily accessible. There is no fence to keep people off.

VI. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

site inspection 06/04/84

EPA FORM 2070-13(7-81)

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 5 - WATER, DEMOGRAPHIC, AND ENVIRONMENTAL DATA

I. IDENTIFICATION
01 STATE 02 SITE NO.

II. DRINKING WATER SUPPLY

01 TYPE OF DRINKING SUPPLY (Check as applicable)

	SURFACE	WELL
COMMUNITY	A.	B. X
NON-COMMUNITY	C.	D.

02 STATUS

ENDANGERED	AFFECTED	MONITORED
A.	B.	C.
D.	E.	F.

03 DISTANCE TO SITE
A. 3 (mi)
B. _____ (mi)

III. GROUNDWATER

01 GROUNDWATER USE IN VICINITY (Check one)

A. ONLY SOURCE FOR DRINKING
C. COMMERCIAL, INDUSTRIAL, IRRIGATION
D. NOT USED, UNUSEABLE

X B. DRINKING
(Other sources available)
COMMERCIAL, INDUSTRIAL, IRRIGATION
(No other water sources available)

02 POPULATION SERVED BY GROUNDWATER 10,000

03 DISTANCE TO NEAREST DRINKING WATER WELL _____ (mi)

04 DEPTH TO GROUNDWATER 0 - 10 (ft)

05 DIRECTION OF GROUNDWATER FLOW WNW

06 DEPTH TO AQUIFER OF CONCERN 10 * (ft)

07 POTENTIAL YIELD OF AQUIFER 270 ft3/d/lt (gpd)

08 SOLE SOURCE AQUIFER
X YES NO

09 DESCRIPTION OF WELLS (Including useage, depth, and location relative to population and buildings) There are 3 monitoring wells directly below the tailings dam.
*According to Baker (1970), the Woodside is fractured in the Park City area. Consequently, hydraulic connection between the Woodside fr and the alluvium is assumed.

10 RECHARGE AREA
X YES
NO
COMMENTS minor recharge in unconsolidated Valley fill

11 DISCHARGE AREA
YES
NO
COMMENTS

IV. SURFACE WATER

01 SURFACE WATER USE (Check one)

A. RESERVOIR, RECREATION DRINKING WATER SOURCE
X B. IRRIGATION, ECONOMICALLY IMPORTANT RESOURCES
C. COMMERICAL, INDUSTRIAL
D. NOT CURRENTLY USED

02 AFFECTED/POTENTIALLY AFFECTED BODIES OF WATER

NAME:	AFFECTED	DISTANCE TO SITE
Silver Creek		1,000 ft (mi)
		(mi)
		(mi)

EPA POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 5 - WATER, DEMOGRAPHIC, AND ENVIRONMENTAL DATA

I. IDENTIFICATION
01 STATE 02 SITE NO.

V. DEMOGRAPHIC AND PROPERTY INFORMATION

01 TOTAL POPULATION WITHIN

ONE (1) MI. OF SITE	TWO (2) MI. OF SITE	THREE (3) MI. OF SITE
A. _____	B. _____	C. _____
No. of persons	No. of persons	No. of persons

02 DISTANCE TO NEAREST POPULATION _____(mi)

03 NUMBER OF BUILDINGS WITHIN TWO (2) MILES OF SITE _____

04 DISTANCE TO NEAREST OFF-SITE BUILDING _____(mi)

05 POPULATION WITHIN VICINITY OF SITE (Provide narrative description of nature of population within vicintiy of site, e.g., rural, village densely populated urban area)
Population near site is rural farming area. Park City (population 10,000 in the winter) is approx. 3 miles to the west.

VI. ENVIRONMENTAL INFORMATION

01 PERMEABILITY OF UNSATURATED ZONE (Check one)
A. 10^{-6} - 10^{-8} cm/sec B. 10^{-4} - 10^{-6} cm/sec C. 10^{-4} - 10^{-3} cm/sec
X D. GREATER THAN 10^{-3} cm/sec

02 PERMEABILITY OF BEDROCK (Check one)
A. IMPERMEABLE (Less than 10^{-6} cm/sec) B. RELATIVELY IMPERMEABLE (10^{-4} - 10^{-6} cm/sec) X C. RELATIVELY PERMEABLE (10^{-2} - 10^{-4} cm/sec)
D. VERY PERMEABLE (Greater than 10^{-2} cm/sec)

03 DEPTH TO BEDROCK	04 DEPTH OF CONTAMINATED SOIL ZONE	05 SOIL pH	06 NET PRECIPITATION
100 (ft)	unknown (ft)	_____	-12 (in)

07 ONE YEAR 24 HOUR RAINFALL	08 SLOPE SITE SLOPE	DIRECTION OF SITE SLOPE	TERRAIN AVERAGE SLOPE
1 - 1.4 (in)	1 - 3 %	northwest	1 - 5 %

09 FLOOD POTENTIAL
SITE IS IN 5 YEAR FLOODPLAIN

10 SITE IS ON BARRIER ISLAND, COASTAL HIGH HAZARD AREA, RIVERINE FLOODWAY

11 DISTANCE TO WETLANDS (5 acre minimum)
ESTUARINE: A. _____(mi)
OTHER: B. _____(mi)

12 DISTANCE TO CRITICAL HABITAT (of endangered species) _____(mi)
ENDANGERED SPECIES: _____

13 LAND USE IN VICINITY

DISTANCE TO: COMMERCIAL/INDUSTRIAL	RESIDENTIAL AREAS: NATIONAL/STATE PARKS, FORESTS, OR WILDLIFE RESERVES	AGRICULTURAL LANDS PRIME AG LAND	AG LAND
A. 2 (mi)	B. 2 (mi)	C. 1000 ft (mi)	D. _____ (mi)

14 DESCRIPTION OF SITE IN RELATION TO SURROUNDING TOPGRAPHY
Richardson flat is a small valley approximately 2 miles west of Park City. Most of Richardson Flat lies in Silver Creek flood plain.

VII. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 6 - SAMPLE AND FIELD INFORMATION

I. IDENTIFICATION
01 STATE 02 SITE NO.

II. SAMPLES TAKEN

SAMPLE TYPE	01 NUMBER OF SAMPLES TAKEN	02 SAMPLES SENT TO	03 ESTIMATED DATE RESULTS AVAILABLE
GROUNDWATER	3	Ut State Dept. of Health Lab	8/84
SURFACE WATER	4	Ut State Dept. of Health Lab	8/84
WASTE	2	Ut State Dept. of Health Lab	10/84
AIR			
RUNOFF			
SPILL			
SOIL	2	Ut State Dept. of Health Lab	10/84
VEGETATION			
OTHER			

III. FIELD MEASUREMENTS TAKEN

01 TYPE	02COMMENTS
None	

IV. PHOTOGRAPHS AND MAPS

01 TYPE X GROUND AERIAL 02 IN CUSTODY OF Bureau of Solid and Hazardous Waste
(Name of organization or individual)

03 MAPS
X YES
NO

04 LOCATION OF MAPS
Utah Dept. of Oil, Gas & Mining

V. OTHER FIELD DATA COLLECTED (Provide narrative description)
None

VI. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)
Lab analyses

EPA FORM 2070-13(7-81)

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 7 - OWNER INFORMATION

I. IDENTIFICATION
01 STATE 02 SITE NO.

II. CURRENT OWNER(S)			PARENT COMPANY (If applicable)		
01 NAME United Park City Mines	02 D+B NUMBER		08 NAME	02 D+B NUMBER	
03 STREET ADDRESS (P.O. Box, RFD#, etc.) 309 Kearns Bldg	04 SIC CODE		10 STREET ADDRESS (P.O. Box, RFD#, etc.)	11 SIC CODE	
05 CITY Salt Lake City	06 STATE Utah	07 ZIP CODE 84101	12 CITY	13 STATE	14 ZIP CODE
01 NAME	02 D+B NUMBER		08 NAME	02 D+B NUMBER	
03 STREET ADDRESS (P.O. Box, RFD#, etc.)	04 SIC CODE		10 STREET ADDRESS (P.O. Box, RFD#, etc.)	11 SIC CODE	
05 CITY	06 STATE	07 ZIP CODE	12 CITY	13 STATE	14 ZIP CODE
01 NAME	02 D+B NUMBER		08 NAME	02 D+B NUMBER	
03 STREET ADDRESS (P.O. Box, RFD#, etc.)	04 SIC CODE		10 STREET ADDRESS (P.O. Box, RFD#, etc.)	11 SIC CODE	
05 CITY	06 STATE	07 ZIP CODE	12 CITY	13 STATE	14 ZIP CODE
01 NAME	02 D+B NUMBER		08 NAME	02 D+B NUMBER	
03 STREET ADDRESS (P.O. Box, RFD#, etc.)	04 SIC CODE		10 STREET ADDRESS (P.O. Box, RFD#, etc.)	11 SIC CODE	
05 CITY	06 STATE	07 ZIP CODE	12 CITY	13 STATE	14 ZIP CODE

III. PREVIOUS OWNER(S) (List most recent first)			IV. REALTY OWNER(S) (If applicable, list most recent first)		
01 NAME	02 D+B NUMBER		01 NAME	02 D+B NUMBER	
03 STREET ADDRESS (P.O. Box, RFD#, etc.)	04 SIC CODE		03 STREET ADDRESS (P.O. Box, RFD#, etc.)	04 SIC CODE	
05 CITY	06 STATE	07 ZIP CODE	05 CITY	06 STATE	07 ZIP CODE
01 NAME	02 D+B NUMBER		01 NAME	02 D+B NUMBER	
03 STREET ADDRESS (P.O. Box, RFD#, etc.)	04 SIC CODE		03 STREET ADDRESS (P.O. Box, RFD#, etc.)	04 SIC CODE	
05 CITY	06 STATE	07 ZIP CODE	05 CITY	06 STATE	07 ZIP CODE

V. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 8 - OPERATOR INFORMATION

I. IDENTIFICATION
01 STATE 02 SITE NO.

II. CURRENT OPERATOR (Provide if different from owner)		OPERATOR'S PARENT COMPANY (If applicable)	
01 NAME Ray Wortley*	02 D+B NUMBER	10 NAME	11 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD#, etc.) unknown	04 SIC CODE	12 STREET ADDRESS (P.O. Box, RFD#, etc.)	13 SIC CODE
05 CITY 06 STATE 07 ZIP CODE		14 CITY 15 STATE 16 ZIP CODE	
08 YEARS OF OPERATION 09 NAME OF OWNER			

III. PREVIOUS OPERATOR(S) (List most recent first; provide only if different from owner)		PREVIOUS OPERATOR'S PARENT COMPANIES (If applicable)	
01 NAME Noranda Mining Co.	02 D+B NUMBER	10 NAME	11 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD#, etc.) unknown	04 SIC CODE	12 STREET ADDRESS (P.O. Box, RFD#, etc.)	13 SIC CODE
05 CITY 06 STATE 07 ZIP CODE		14 CITY 15 STATE 16 ZIP CODE	
08 YEARS OF OPERATION 09 NAME OF OWNER DURING THIS PERIOD			
01 NAME	02 D+B NUMBER	10 NAME	11 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD#, etc.)	04 SIC CODE	12 STREET ADDRESS (P.O. Box, RFD#, etc.)	13 SIC CODE
05 CITY 06 STATE 07 ZIP CODE		14 CITY 15 STATE 16 ZIP CODE	
08 YEARS OF OPERATION 09 NAME OF OWNER DURING THIS PERIOD			
01 NAME	02 D+B NUMBER	10 NAME	11 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD#, etc.)	04 SIC CODE	12 STREET ADDRESS (P.O. Box, RFD#, etc.)	13 SIC CODE
05 CITY 06 STATE 07 ZIP CODE		14 CITY 15 STATE 16 ZIP CODE	
08 YEARS OF OPERATION 09 NAME OF OWNER DURING THIS PERIOD			

IV. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

*Mr. Wortley leases part of the tailings for use as roadbase and fill for sewer lines.

EPA FORM 2070-13(7-81)

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 9 - GENERATOR/TRANSPORTER INFORMATION

I. IDENTIFICATION
01 STATE 02 SITE NO.

II. ON-SITE GENERATOR

01 NAME | 02 D+B NUMBER

03 STREET ADDRESS (P.O. Box, RFD#, etc.) | 04 SIC CODE

05 CITY | 06 STATE | 07 ZIP CODE

III. OFF-SITE GENERATOR(S)

01 NAME | 02 D+B NUMBER | 10 NAME | 11 D+B NUMBER

03 STREET ADDRESS (P.O. Box, RFD#, etc.) | 04 SIC CODE | 12 STREET ADDRESS (P.O. Box, RFD#, etc.) | 13 SIC CODE

05 CITY | 06 STATE | 07 ZIP CODE | 14 CITY | 15 STATE | 16 ZIP CODE

01 NAME | 02 D+B NUMBER | 01 NAME | 02 D+B NUMBER

03 STREET ADDRESS (P.O. Box, RFD#, etc.) | 04 SIC CODE | 03 STREET ADDRESS (P.O. Box, RFD#, etc.) | 04 SIC CODE

05 CITY | 06 STATE | 07 ZIP CODE | 05 CITY | 06 STATE | 07 ZIP CODE

IV. TRANSPORTER(S)

01 NAME | 02 D+B NUMBER | 01 NAME | 02 D+B NUMBER

03 STREET ADDRESS (P.O. Box, RFD#, etc.) | 04 SIC CODE | 03 STREET ADDRESS (P.O. Box, RFD#, etc.) | 04 SIC CODE

05 CITY | 06 STATE | 07 ZIP CODE | 05 CITY | 06 STATE | 07 ZIP CODE

01 NAME | 02 D+B NUMBER | 01 NAME | 02 D+B NUMBER

03 STREET ADDRESS (P.O. Box, RFD#, etc.) | 04 SIC CODE | 03 STREET ADDRESS (P.O. Box, RFD#, etc.) | 04 SIC CODE

05 CITY | 06 STATE | 07 ZIP CODE | 05 CITY | 06 STATE | 07 ZIP CODE

V. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 10 - GENERATOR/TRANSPORTER INFORMATION

I. IDENTIFICATION
01 STATE 02 SITE NO.

II. PAST RESPONSE ACTIVITIES

01 A. WATER SUPPLY CLOSED 02 DATE 03 AGENCY
04 DESCRIPTION

01 B. TEMPORARY WATER SUPPLY PROVIDED 02 DATE 03 AGENCY
04 DESCRIPTION

01 C. PERMANENT WATER SUPPLY PROVIDED 02 DATE 03 AGENCY
04 DESCRIPTION

01 D. SPILLED MATERIAL REMOVED 02 DATE 03 AGENCY
04 DESCRIPTION

01 E. CONTAMINATED SOIL REMOVED 02 DATE 03 AGENCY
04 DESCRIPTION

01 F. WASTE REPACKAGED 02 DATE 03 AGENCY
04 DESCRIPTION

01 G. WASTE DISPOSED ELSEWHERE 02 DATE 03 AGENCY
04 DESCRIPTION

01 H. ON SITE BURIAL 02 DATE 03 AGENCY
04 DESCRIPTION

01 I. IN SITU CHEMCIAL TREATMENT 02 DATE 03 AGENCY
04 DESCRIPTION

01 J. IN SITU BIOLOGICAL TREATMENT 02 DATE 03 AGENCY
04 DESCRIPTION

01 K. IN SITU PHYSICAL TREATMENT 02 DATE 03 AGENCY
04 DESCRIPTION

01 L. ENCAPSULATION 02 DATE 03 AGENCY
04 DESCRIPTION

01 M. EMERGENCY WASTE TREATMENT 02 DATE 03 AGENCY
04 DESCRIPTION

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 10 - PAST RESPONSE ACTIVITIES

I. IDENTIFICATION
01 STATE 02 SITE NO.

II. PAST RESPONSE ACTIVITIES (Continued)

01 N. CUTOFF WALLS 02 DATE 03 AGENCY
04 DESCRIPTION

01 O. EMERGENCY DIKING/SURFACE WATER DIVERSION 02 DATE 03 AGENCY
04 DESCRIPTION

01 P. CUTOFF TRENCHES/SUMP 02 DATE 03 AGENCY
04 DESCRIPTION

01 Q. SUBSURFACE CUTOFF WALL 02 DATE 03 AGENCY
04 DESCRIPTION

01 R. BARRIER WALLS CONSTRUCTED 02 DATE 03 AGENCY
04 DESCRIPTION

01 S. CAPPING/COVERING 02 DATE 03 AGENCY
04 DESCRIPTION

01 T. BULK TANKAGE REPAIRED 02 DATE 03 AGENCY
04 DESCRIPTION

01 U. GROUT CURTAIN CONSTRUCTED 02 DATE 03 AGENCY
04 DESCRIPTION

01 V. BOTTOM SEALED 02 DATE 03 AGENCY
04 DESCRIPTION

01 W. GAS CONTROL 02 DATE 03 AGENCY
04 DESCRIPTION

01 X. FIRE CONTROL 02 DATE 03 AGENCY
04 DESCRIPTION

01 Y. LEACHATE TREAMENT 02 DATE 03 AGENCY
04 DESCRIPTION

01 Z. AREA EVACUATED 02 DATE 03 AGENCY
04 DESCRIPTION

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 10 - PAST RESPONSE ACTIVITIES

I. IDENTIFICATION
01 STATE 02 SITE NO.

II. PAST RESPONSE ACTIVITIES (Continued)

01 1. ACCESS TO SITE RESTRICTED 02 DATE 03 AGENCY
04 DESCRIPTION

01 2. POPULATION RELOCATED 02 DATE 03 AGENCY
04 DESCRIPTION

01 3. OTHER REMEDIAL ACTIVITIES 02 DATE 03 AGENCY
04 DESCRIPTION

III. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

EPA FORM 2070-13(7-81)

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 11 - ENFORCEMENT INFORMATION

I. IDENTIFICATION
01 STATE 02 SITE NO.

II. ENFORCEMENT INFORMATION

01 PAST REGULATORY/ENFORCEMENT ACTION YES X NO

02 DESCRIPTION OF FEDERAL, STATE, LOCAL REGULATORY/ENFORCEMENT ACTION

III. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

APPENDIX 3

SAMPLE ANALYSIS SHEETS

Rev. 3/82 Hydro 13P

Field No.

☒ TC ☒ TM ☐ Nut ☐ Pest.
☐ PC ☒ PM ☐ BOD ☒ Spec. ☐ Rad. ☐ Bact.

Date Recd.: UP S. H2O

Received By:

UTAH STATE DEPARTMENT OF HEALTH
ENVIRONMENTAL HEALTH
WATER ANALYSES

Job: 48841928

Sample No. 701

Storet No. 702

Water Syst. No. 703 Source No. 704

Date Collected 840704 714 (yr. mo. dy.) Time Collected 0944 610 (24-hour clock)

Water Rights No. 707

Exact Description of sampling Point: Kilmarnock W Flat Up small wtr above Kimes Range in to center of Valley 646

Supply Owned by 712

Sample Type 710

Sample Collected by: J Madson D Verdin 713

SEND REPORT TO: Phone 533 4145
Jim Shamon 715
150 West North Temple 648
SLC Utah 84110 717
zip code

Sample Source 719: 01 Spring, 02 Well, 03 Stream, 04 Lake, 06 Dist. syst., 07 Effluent, 08 Storm sewer, 14 Other, 15 Tunnel, 18 Artesian well, 19 Swimming pool

County 611: 01 Beaver, 02 Box Elder, 03 Cache, 04 Carbon, 05 Daggett, 06 Davis, 07 Duchesne, 08 Emery, 09 Garfield, 10 Grand, 11 Iron, 12 Juab, 13 Kane, 14 Millard, 15 Morgan, 16 Piute, 17 Rich, 18 Salt Lake, 19 San Juan, 20 Sanpete, 21 Sevier, 22 Summit, 23 Tooele, 24 Uintah, 25 Utah, 26 Wasatch, 27 Washington, 28 Wayne, 29 Weber

Current use 708

Proposed use 709

1. Culinary
2. Agriculture
3. Industrial
4. Other

Cost Code 365 770

RECEIVED JUL 25 1984 Utah State Div. of Environmental Health

1 FIELD TESTS

Temperature	792	CO_2, mg/l	572
D.O., mg/l	793	Depth, m	609
Sp. Cond. µmhos	653	Cl Resid., mg/l	753
pH	651	Flow, MGD	652
Sp. Gravity	608	Flow, GPM	604
Transparency, m	649	Flow, cfs	659

2 WASTEWATER ANALYSIS

Temperature (°C) 650 | pH 782 | BACT. LAB. No.

	mg/l		mg/l		
B.O.D.$_5$	794	T.O.C.	671	M.P.N. Total Coliforms/100ml	658
Tot. Sus. Solids	787	C.O.D.	777	M.P.N. Fecal Coliforms/100ml	657
NO_2+NO_3,N	602	Cyanide	775	Fecal Strep C/100ml.	656
T.K.N.	778	Phenolics	783	M.F. Total Coliforms/100ml.	654
Oil & Grease	780	Sulfide	672	M.F. Fecal Coliforms/100ml.	655
				Plate Count-Org./ml.	599

3 Filtered ☐ Unfiltered

me/l	CATIONS	mg/l	ug/l (ppb)	
	Ammonia as N			722
	Arsenic			723
	Barium			724
	Boron			725
	Cadmium			727
1.88	Calcium	38		728
	Chromium			729
	Chromium, Hex. as Cr		<5	730
	Copper			732
	Iron, dissolved			733
	Lead			734
.60	Magnesium	7		737
	Manganese			738
	Nickel			740
.05	Potassium	2		742
	Selenium			743
	Silver			744
.69	Sodium	16		745
	Zinc			749
3.22	TOTAL CATIONS			

Sp. Cond. µmhos/cm.	295	762
TDS @ 180°C	262	786

4 CHEMICAL ANALYSIS

pH, units 7.4

me/l	ANIONS	mg/l	
	Bicarbonate	178	758
	Carbon Dioxide	11	759
	Carbonate	0	760
.20	Chloride	7	763
2.92	CO_3 Solids	88	
	Fluoride	0.14	765
	Hydroxide	0000	767
	Nitrate as N	0.14	605
	Nitrite as N	<0.01	606
	Phosphorus, Ortho as P	12	607
	Silica, dissolved as SiO_2	29	750
0.17	Sulfate	8	772
3.29	TOTAL ANIONS		
	GRAND TOTAL		

Tot. Phosphorus		785
Total Alk. as $CaCO_3$	146	752
T. Hdns. as $CaCO_3$	154	754
Surfactant as MBAS		773
Turbidity, as NTU	53	757
Sp. Gravity		608

5 TOTAL METALS ANALYSIS

CATIONS	mg/l	~~ug/l (ppb)~~	
Aluminum	0.2		800
Arsenic	<0.010		660
Barium	1.14		661
Beryllium	<0.01		801
Cadmium	<0.01		662
Chromium	<0.02		663
Cobalt	<0.1		804
Copper	<0.01		664
Gold			700
Iron	20		755
Lead	<0.10		665
Manganese	<0.01		666
Mercury	<0.0001		739
Molybdenum	<0.1		802
Nickel	<0.1		667
Selenium	<0.005		668
Silver	<0.01		669
Uranium,			601
Vanadium	<0.3		803
Zinc	0.10		670

6 RADIOLOGICS

	pc/l-g		pc/l-g	
Alpha, gross		621	^{89}Sr	633
Beta, gross		623	^{131}I	635
Tritium, ^3H		625	^{134}Cs	637
^{226}Radium		627	^{137}Cs	639
^{228}Radium		629		
^{90}Sr		631		

INTERPRETATION OF ANALYSES:
Remarks:

Based on State Standards, this sample was:

	Satisfactory	Conditional	Unsatisfactory
B.O.D.$_5$			
Tot. Sus. Solids			
M.P.N. Total Coliform.			
M.P.N. Fecal Coliform.			

Analyses Approved By: RSJ Date: 840629

By ENVIRONMENTAL HEALTH

J. Oman 17-July-84

Rec'd S.O. 138
Field No.

☒ BC ☒ TM ☐ Nut
☐ FC ☐ PM ☐ BOD

☐ Pest. ☐ Rad. ☐ Bact. ☒ Spec.

S. H2O Onsite

Date Recd.: Onsite

Received By:

UTAH STATE DEPARTMENT OF HEALTH
ENVIRONMENTAL HEALTH
WATER ANALYSES

Jun 48841930

Sample No. 701

Storet No. 702

Water Syst. No. 703 Source No. 704

Date Collected 714: 84 06 04 (yr. mo. dy.)

Time Collected 610: 1032 (24-hour clock)

Water Rights No. 707

Exact Description of sampling Point 646: Big Hole Spring, first Familial water south of Kill Road marks

Supply Owned by 712

Sample Type 710

Sample Collected by 713: W Wilcox & J Hedden

SEND REPORT TO: Phone 533 4145

715: Jim Salmon
648: 150 West North Temple
717: S.L.C. Utah 84110 (zip code)

719 Sample Source: 01 Spring, 02 Well, 03 Stream, 04 Lake, 06 Dist. Syst., 07 Effluent, 08 Storm sewer, 14 Other, 15 Tunnel, 18 Artesian well, 19 Swimming pool

631 County: 01 Beaver, 02 Box Elder, 03 Cache, 04 Carbon, 05 Daggett, 06 Davis, 07 Duchesne, 08 Emery, 09 Garfield, 10 Grand, 11 Iron, 12 Juab, 13 Kane, 14 Millard, 15 Morgan, 16 Piute, 17 Rich, 18 Salt Lake, 19 San Juan, 20 Sanpete, 21 Sevier, 22 Summit, 23 Tooele, 24 Uintah, 25 Utah, 26 Wasatch, 27 Washington, 28 Wayne, 29 Weber

Current use 708

Proposed use 709: 1. Culinary 2. Agriculture 3. Industrial 4. Other

Cost Code 770: 365

1 FIELD TESTS

Temperature (°C)	792	CO_2, mg/l	572
D.O., mg/l	793	Depth, m	609
Sp. Cond. µ mhos	653	Cl Resid., mg/l	753
pH	651	Flow, MGD	652
Sp. Gravity	608	Flow, GPM	604
Transparency, m	649	Flow, cfs	659

2 WASTEWATER ANALYSIS

Temperature (°C) 650 | pH 782 | BACT. LAB. No.

	mg/l		mg/l		
B.O.D.$_5$	794	T.O.C.	671	M.P.N. Total Coliforms/100ml	658
Tot. Sus. Solids	787	C.O.D.	777	M.P.N. Fecal Coliforms/100ml	657
NO_2+NO_3,N	602	Cyanide	775	Fecal Strep C/100ml.	656
T.K.N.	778	Phenolics	783	M.F. Total Coliforms/100ml.	654
Oil & Grease	780	Sulfide	672	M.F. Fecal Coliforms/100ml.	655
				Plate Count-Org./ml.	599

3 Filtered / Unfiltered

4 CHEMICAL ANALYSIS

pH, units 8.0

me/l	CATIONS	mg/l	ug/l (ppb)	
	Ammonia as N	0		722
	Arsenic			723
	Barium			724
	Boron			725
	Cadmium			727
3.36	Calcium	67		728
	Chromium			729
	Chromium, Hex. as Cr	<.5		730
	Copper			732
	Iron, dissolved			733
	Lead			734
1.28	Magnesium	16		737
	Manganese			738
	Nickel			740
.08	Potassium	3		742
	Selenium			743
	Silver			744
1.17	Sodium	27		745
	Zinc			749
5.89	TOTAL CATIONS			

me/l	ANIONS	mg/l	
	Bicarbonate	244	758
	Carbon Dioxide	4	759
	Carbonate	0	760
.54	Chloride	19	763
4.00	CO_3 Solids	120	
	Fluoride	.32	765
	Hydroxide	0000	767
	Nitrate as N	.05	605
	Nitrite as N	<.01	606
	Phosphorus, Ortho as P	.06	607
	Silica, dissolved as SiO_2	26	750
1.46	Sulfate	70	772
6.00	TOTAL ANIONS		
	GRAND TOTAL		

Tot. Phosphorus		785
Total Alk. as $CaCO_3$	200	752
T. Hdns. as $CaCO_3$	232	754
Surfactant as MBAS		773
Turbidity, as NTU	25	757
Sp. Gravity		608

	Sp. Cond. µmhos/cm.	530	762
	TDS @ 180°C	400	786

5 TOTAL METALS ANALYSIS

CATIONS	mg/l	~~ug/l (ppb)~~ ppm	
Aluminum		.01	800
Arsenic	.025	.0	660
Barium	<.05		661
Beryllium	<.01		801
Cadmium	<.01		662
Chromium	<.02		663
Cobalt	<.1		804
Copper	.03		664
Gold			700
Iron	.23		755
Lead	.10		665
Manganese	.02		666
Mercury	<.0001		739
Molybdenum	<.1		802
Nickel	<.1		667
Selenium	.001.2		668
Silver	<.01		669
Uranium			601
Vanadium	<.3		803
Zinc	.210		670

6 RADIOLOGICS

	pc/l-g		pc/l-g	
Alpha, gross		621	^{89}Sr	633
Beta, gross		623	^{131}I	635
Tritium, ^3H		625	^{134}Cs	637
^{226}Radium		627	^{137}Cs	639
^{228}Radium		629		
^{90}Sr		631		

Analyses Approved By: REL Date: 840629

INTERPRETATION OF ANALYSES:
Remarks:

Based on State Standards, this sample was:

	Satisfactory	Conditional	Unsatisfactory
B.O.D.$_5$			
Tot. Sus. Solids			
M.P.N. Total Coliform.			
M.P.N. Fecal Coliform.			

By ENVIRONMENTAL HEALTH

J. Oman 17-July-84

Rev. 3/82 HW84139

Field No.

☒ TC ☒ TM ☐ Nut
☐ PC ☐ PM ☐ BOD

☐ Pest.
☐ Rad.
☐ Bact.
☒ Spec.

S. H2O on site

Date Recd.:

Received By:

UTAH STATE DEPARTMENT OF HEALTH
ENVIRONMENTAL HEALTH
WATER ANALYSES

JUN 4 8 4 1 9 3 1

Sample No. 701

Storet No. 702

Water Syst. No. Source No. 703 704

Date Collected 714 (yr. mo. dy.)

Time Collected 1040 710 (24-hour clock)

Water Rights No. 707

Exact Description of sampling Point: Richardson Flat Pond #10 ON Outside of R&R near Nora near Hebron Junction 546

Supply Owned by 712

Sample Type 710

Sample Collected by: D. Griffis & Hebron 713

SEND REPORT TO: Phone 533-9145

Jim Salmon
750 West North Temple
SLC UT 84110 717

zip code

Sample Source 719: 14
01 Spring, 02 Well, 03 Stream, 04 Lake, 06 Dist. syst., 07 Effluent, 08 Storm sewer, 14 Other, 15 Tunnel, 18 Artesian well, 19 Swimming pool

County 611: 22
01 Beaver, 02 Box Elder, 03 Cache, 04 Carbon, 05 Daggett, 06 Davis, 07 Duchesne, 08 Emery, 09 Garfield, 10 Grand, 11 Iron, 12 Juab, 13 Kane, 14 Millard, 15 Morgan, 16 Piute, 17 Rich, 18 Salt Lake, 19 San Juan, 20 Sanpete, 21 Sevier, 22 Summit, 23 Tooele, 24 Uintah, 25 Utah, 26 Wasatch, 27 Washington, 28 Wayne, 29 Weber

Current use 708
Proposed use 709
1. Primary
2. Agriculture
3. Industrial
4. Other

Cost Code 365 770

Utah State Dept. of Health JUN 13 1984 Environmental Health

1 FIELD TESTS

Temperature (°C)	792	CO_2, mg/l	572
D.O., mg/l	793	Depth, m	609
Sp. Cond. µmhos	653	Cl Resid., mg/l	753
pH	651	Flow, MGD	652
Sp. Gravity	608	Flow, GPM	604
Transparency, m	649	Flow, cfs	639

2 WASTEWATER ANALYSIS

Temperature (°C) 650 | pH 782 | BACT. LAB. No.

	mg/l		mg/l		
B.O.D.$_5$	794	T.O.C.	671	M.P.N. Total Coliforms/100ml	658
Tot. Sus. Solids	787	C.O.D.	777	M.P.N. Fecal Coliforms/100ml	657
NO_2+NO_3,N	602	Cyanide	775	Fecal Strep C/100ml.	656
T.K.N.	778	Phenolics	783	M.F. Total Coliforms/100ml.	654
Oil & Grease	780	Sulfide	672	M.F. Fecal Coliforms/100ml.	655
				Plate Count-Org./ml.	599

3 Filtered / Unfiltered

me/l	CATIONS	mg/l	ug/l (ppb)	
	Ammonia as N			722
	Arsenic			723
	Barium			724
	Boron			725
	Cadmium			727
7.40	Calcium	148		728
	Chromium			729
	Chromium, Hex. as Cr		<5	730
	Copper			732
	Iron, dissolved			733
	Lead			734
1.49	Magnesium	24		737
	Manganese			738
	Nickel			740
.18	Potassium	7		742
	Selenium			743
	Silver			744
1.60	Sodium	37		745
	Zinc			749
11.2	TOTAL CATIONS			

Sp. Cond. µmhos/cm.	1060	762
TDS @ 180°C	882	786

4 CHEMICAL ANALYSIS

pH, units 7.5

me/l	ANIONS	mg/l	
	Bicarbonate	118	758
	Carbon Dioxide	6	759
	Carbonate	0	760
3.95	Chloride	140	763
1.94	CO_3 Solids	58	
	Fluoride	.35	765
	Hydroxide	0000	767
	Nitrate as N	.14	605
	Nitrite as N	<.01	606
	Phosphorus, Ortho as P	.01	607
	Silica, dissolved as SiO_2	3	750
5.33	Sulfate	256	772
11.2	TOTAL ANIONS		
	GRAND TOTAL		

Tot. Phosphorus		785
Total Alk. as $CaCO_3$	97	752
T. Hdns. as $CaCO_3$	470	754
Surfactant as MBAS		773
Turbidity, as NTU	140	757
Sp. Gravity		608

TOTAL METALS ANALYSIS ppm

5

CATIONS	mg/l	~~ug/l (ppb)~~	
Aluminum			800
Arsenic	.400		660
Barium	.614		661
Beryllium	<.01		801
Cadmium	.032		662
Chromium	<.1		663
Cobalt	.1		804
Copper			664
Gold			700
Iron			755
Lead	.95		665
Manganese			666
Mercury	<.0002		739
Molybdenum	<.2		802
Nickel	<.1		667
Selenium	<.0005		668
Silver	.034		669
Uranium,			601
Vanadium			803
Zinc	.56		670

6 RADIOLOGICS

	pc/l-g		pc/l-g	
Alpha, gross		621		633
Beta, gross		623		635
Tritium, ^3H		625		637
^{226}Radium		627		639
^{228}Radium		629		
^{90}Sr		631		

Analyses Approved By: RSH Date: 840629

INTERPRETATION OF ANALYSES:
Remarks:

Based on State Standards, this sample was:

	Satisfactory	Conditional	Unsatisfactory
B.O.D.$_5$			
Tot. Sus. Solids			
M.P.N. Total Coliform.			
M.P.N. Fecal Coliform.			

By ENVIRONMENTAL HEALTH

07-Aug-84 J. Oman

Rev. 3/82 HW84140

Field No.

☒ TC ☒ TM ☐ Nut ☐ Pest. ☐ Rad. ☐ Bact. ☒ Spec.
☐ PC ☐ PM ☐ BOD

S. H2O Down

Date Recd.: 8/2/84

Received By:

UTAH STATE DEPARTMENT OF HEALTH
ENVIRONMENTAL HEALTH
WATER ANALYSES

Sample No. 484841932 701

Storet No.

Water Syst. No. Source No. 703 704

Date Collected 702: 840809 (yr. mo. dy.) 714

Time Collected: 1040 (24-hour clock) 610

Water Rights No. 707

Exact Description of sampling Point: Main Inlet - Off site water North of R & R Dairy Richmond Utah 646

Supply Owned by 712

Sample Type 710

Sample Collected by: J. Hendon D. Wilkins 713

SEND REPORT TO: Phone 533-4145
Jim Salmon 715
150 West North Temple 648
SLC Utah 84110 717
zip code

Sample Source 719: 14
01 Spring 14 Other
02 Well 15 Tunnel
03 Stream 18 Artesian well
04 Lake 19 Swimming pool
06 Dist. syst.
07 Effluent
08 Storm sewer

County 718: 23
00 Beaver 16 Piute
01 Box Elder 17 Rich
03 Cache 18 Salt Lake
04 Carbon 19 San Juan
05 Daggett 20 Sanpete
06 Davis 21 Sevier
07 Duchesne 22 Summit
08 Emery 23 Tooele
09 Garfield 24 Uintah
10 Grand 25 Utah
11 Iron 26 Wasatch
12 Juab 27 Washington
13 Kane 28 Wayne
14 Millard 29 Weber
15 Morgan

Current use 708
Proposed use 709
1. Culinary
2. Agriculture
3. Industrial
4. Other

Cost Code 365 770

1 FIELD TESTS

Temperature (°C)	792	CO_2, mg/l	572
D.O., mg/l	793	Depth, m	609
Sp. Cond. µ mhos.	653	Cl Resid., mg/l	753
pH	651	Flow, MGD	652
Sp. Gravity	608	Flow, GPM	604
Transparency, m	649	Flow, cfs	659

2 WASTEWATER ANALYSIS

Temperature (°C) 650 | pH 782 | BACT. LAB. No.

	mg/l		mg/l		
B.O.D.$_5$	794	T.O.C.	671	M.P.N. Total Coliforms/100ml	658
Tot. Sus. Solids	787	C.O.D.	777	M.P.N. Fecal Coliforms/100ml	657
NO_2+NO_3,N	602	Cyanide	775	Fecal Strep C/100ml.	656
T.K.N.	778	Phenolics	783	M.F. Total Coliforms/100ml.	654
Oil & Grease	780	Sulfide	672	M.F. Fecal Coliforms/100ml.	655
				Plate Count-Org./ml.	599

3 Filtered / Unfiltered

me/l	CATIONS	mg/l	ug/l (ppb)	
	Ammonia as N			722
	Arsenic			723
	Barium			724
	Boron			725
	Cadmium			727
11.7	Calcium	228		728
	Chromium			729
	Chromium, Hex. as Cr		<5	730
	Copper			732
	Iron, dissolved			733
	Lead			734
4.60	Magnesium	56		737
	Manganese			738
	Nickel			740
.05	Potassium	2		742
	Selenium			743
	Silver			744
1.56	Sodium	36		745
	Zinc			749
17.6	TOTAL CATIONS			

Sp. Cond. µmhos/cm.	1400	762
TDS @ 180°C	1246	786

4 CHEMICAL ANALYSIS

pH, units 7.7

me/l	ANIONS	mg/l	
	Bicarbonate	286	758
	Carbon Dioxide	9	759
	Carbonate	0	760
.90	Chloride	32	763
46.9	CO_3 Solids	141	
	Fluoride	.34	765
	Hydroxide	0.00	767
	Nitrate as N	0.06	605
	Nitrite as N	<0.01	606
	Phosphorus, Ortho as P	.01	607
	Silica, dissolved as SiO_2	33	750
12.16	Sulfate	584	772
17.7	TOTAL ANIONS		
	GRAND TOTAL		

Tot. Phosphorus		785
Total Alk. as $CaCO_3$	235	752
T. Hdns. as $CaCO_3$	800	754
Surfactant as MBAS		773
Turbidity, as NTU	25	757
Sp. Gravity		608

TOTAL METALS ANALYSIS

DM

5 CATIONS	mg/l	~~ug/l (ppb)~~	
Aluminum			800
Arsenic	.0026		660
Barium	<.05		661
Beryllium	<.01		801
Cadmium	.01		662
Chromium	<.1		663
Cobalt	<.1		804
Copper			664
Gold			700
Iron			755
Lead	<.1		665
Manganese			666
Mercury	<.0002		739
Molybdenum	<.2		802
Nickel	<.1		667
Selenium	.005		668
Silver	.010		669
Uranium,			601
Vanadium			803
Zinc	.17		670

6 RADIOLOGICS

	pc/l-g		pc/l-g	
Alpha, gross		621	^{89}Sr	633
Beta, gross		623	^{131}I	635
Tritium, ^3H		625	^{134}Cs	637
^{226}Radium		627	^{137}Cs	639
^{228}Radium		629		
^{90}Sr		631		

INTERPRETATION OF ANALYSES:
Remarks:

Based on State Standards, this sample was:

	Satisfactory	Conditional	Unsatisfactory
B.O.D.$_5$			
Tot. Sus. Solids			
M.P.N. Total Coliform.			
M.P.N. Fecal Coliform.			

Analyses Approved By: REJ Date: 840629

By ENVIRONMENTAL HEALTH

07-Aug-84 J. Oman

Rev. 3/82 Field No. 135

☒ IC ☒ TM ☐ Nut ☐ Pest. ☐ Rad. ☐ Bact. ☒ Spec.
☐ PC ☐ FM ☐ BOD

Date Recd.: Upgrad
Received By: G. H2O

UTAH STATE DEPARTMENT OF HEALTH
ENVIRONMENTAL HEALTH
WATER ANALYSES

JIM 4384841927
Sample No. 701

Storet No. 702
Water Syst. No. 703 Source No. 704
Date Collected 714: 5 4 0 6 0 9 (yr. mo. dy.)
Time Collected 610: 0 9 3 8 (24-hour clock)
Water Rights No. 707
Exact Description of sampling Point 646: UP Grantsville H2O At Spring South of Clark Ranch Along road

Supply Owned by 712
Sample Type 710
Sample Collected by 713: J Hellen D Verhoeff

SEND REPORT TO: Phone 530 4143
715: Jim Salmon
648: 150 West North Temple
717: SLC Utah 84110
zip code

Sample Source 719: 14
01 Spring, 02 Well, 03 Stream, 04 Lake, 06 Dist. syst., 07 Effluent, 08 Storm sewer, 14 Other, 15 Tunnel, 16 Artesian well, 19 Swimming pool

County 611: 22
01 Beaver, 02 Box Elder, 03 Cache, 04 Carbon, 05 Daggett, 06 Davis, 07 Duchesne, 08 Emery, 09 Garfield, 10 Grand, 11 Iron, 12 Juab, 13 Kane, 14 Millard, 15 Morgan, 16 Piute, 17 Rich, 18 Salt Lake, 19 San Juan, 20 Sanpete, 21 Sevier, 22 Summit, 23 Tooele, 24 Uintah, 25 Utah, 26 Wasatch, 27 Washington, 28 Wayne, 29 Weber

Current use 708
Proposed use 709: 4
1. Culinary
2. Agriculture
3. Industrial
4. Other

Cost Code 36 S 770

JUL 25 1984
Utah State Div. Of Environmental Health

1 FIELD TESTS

Temperature (°C)	792	CO_2, mg/l	572
D.O., mg/l	793	Depth, m	609
Sp. Cond. µ mhos	653	Cl Resid., mg/l	753
pH	651	Flow, MGD	652
Sp. Gravity	608	Flow, GPM	604
Transparency, m	649	Flow, cfs	659

2 Temperature (°C) 650 pH 782 WASTEWATER ANALYSIS BACT. LAB. No.

	mg/l		mg/l		
B.O.D.$_5$	794	T.O.C.	671	M.P.N. Total Coliforms/100ml	658
Tot. Sus. Solids	787	C.O.D.	777	M.P.N. Fecal Coliforms/100ml	657
NO_2+NO_3,N	602	Cyanide	775	Fecal Strep C/100ml.	656
T.K.N.	778	Phenolics	783	M.F. Total Coliforms/100ml.	654
Oil & Grease	780	Sulfide	672	M.F. Fecal Coliforms/100ml.	655
				Plate Count-Org./ml.	599

3 Filtered Unfiltered

4 CHEMICAL ANALYSIS pH, units 7.5

me/l	CATIONS	mg/l	ug/l (ppb)	
	Ammonia as N			722
	Arsenic			723
	Barium			724
	Boron			725
	Cadmium			727
2.40	Calcium	48.		728
	Chromium			729
	Chromium, Hex. as Cr		< 5.	730
	Copper			732
	Iron, dissolved			733
	Lead			734
.80	Magnesium	10.		737
	Manganese			738
	Nickel			740
.03	Potassium	1.		742
	Selenium			743
	Silver			744
1.13	Sodium	26.		745
	Zinc			749
4.36	TOTAL CATIONS			

me/l	ANIONS	mg/l	
	Bicarbonate	190.	758
	Carbon Dioxide	15.	759
	Carbonate	0.	760
.59	Chloride	21.	763
3.13	CO_3 Solids	93.	
	Fluoride	0.16	765
	Hydroxide	0.00	767
.21	Nitrate as N	2.93	605
	Nitrite as N	< 0.01	606
	Phosphorus, Ortho as P	.04	607
	Silica, dissolved as SiO_2	33.	750
0.35	Sulfate	17.	772
4.27	TOTAL ANIONS		
	GRAND TOTAL		

Tot. Phosphorus		785
Total Alk. as $CaCO_3$	156.	752
T. Hdns. as $CaCO_3$	160.	754
Surfactant as MBAS		773
Turbidity, as NTU	0.3	757
Sp. Gravity		608

Sp. Cond. µmhos/cm.	410	762
TDS @ 180°C	280	786

5 TOTAL METALS ANALYSIS ppm

CATIONS	mg/l	~~ug/l (ppb)~~	
Aluminum	< .1		800
Arsenic		.001	660
Barium	< .05		661
Beryllium	< .01		801
Cadmium	< .01		662
Chromium	< .02		663
Cobalt	< .1		804
Copper	< .01		664
Gold			700
Iron	< .03		755
Lead	< .01		665
Manganese	< .01		666
Mercury	< .0001		739
Molybdenum	< .1		802
Nickel	< .1		667
Selenium	< .005		668
Silver	< .01		669
Uranium			601
Vanadium	< .3		803
Zinc	.005		670

6 RADIOLOGICS

	pc/l-g		pc/l-g	
Alpha, gross		621	^{89}Sr	633
Beta, gross		623	^{131}I	635
Tritium, ^3H		625	^{134}Cs	637
^{226}Radium		627	^{137}Cs	639
^{228}Radium		629		
^{90}Sr		631		

INTERPRETATION OF ANALYSES:
Remarks:

Based on State Standards, this sample was:

	Satisfactory	Conditional	Unsatisfactory
B.O.D.$_5$			
Tot. Sus. Solids			
M.P.N. Total Coliform.			
M.P.N. Fecal Coliform.			

Analyses Approved By: RSB Date: 840626

By ENVIRONMENTAL HEALTH

J. Oman 17-July-84

+ SO.7 PH

Rev. 3/82

Field No. _____

☐ TC ☑ TM ☐ Nut
☐ PC ☐ PM ☐ BOD

☐ Pest.
☐ Rad.
☐ Bact.
☐ Spec.

Date Recd.: _____

Received By: _____

UTAH STATE DEPARTMENT OF HEALTH
ENVIRONMENTAL HEALTH
WATER ANALYSES

Jul 48841935
Sample No. 701

Storet No. 702

Water Syst. No. 703 Source No. 704

Date Collected 714 (Month, Day, Year) 8 Apr 84

Time Collected 610 (24-hour clock) 1120

Water Rights No. 707

Exact Description of sampling Point 646
Richardson Flat N side of Mr. Frecks - off site (air release) Tennys 1/8 mile East of Highway

Supply Owned by 712

Sample Type 710

Sample Collected by 713
J Verbica

SEND REPORT TO: Phone 533 4145 715
Jim Salmon - Bur Solid Haz 648
150 W North Temple 717
SLC Utah
zip code

Sample Source 719: 14
01 Spring, 02 Well, 03 Stream, 04 Lake, 06 Dist. syst., 07 Effluent, 08 Storm sewer, 14 Other, 15 Tunnel, 18 Artesian well, 19 Swimming pool

County 611: 22
01 Beaver, 02 Box Elder, 03 Cache, 04 Carbon, 05 Daggett, 06 Davis, 07 Duchesne, 08 Emery, 09 Garfield, 10 Grand, 11 Iron, 12 Juab, 13 Kane, 14 Millard, 15 Morgan, 16 Piute, 17 Rich, 18 Salt Lake, 19 San Juan, 20 Sanpete, 21 Sevier, 22 Summit, 23 Tooele, 24 Uintah, 25 Utah, 26 Wasatch, 27 Washington, 28 Wayne, 29 Weber

Current use 708: 4
Proposed use 709:
1. Culinary
2. Agriculture
3. Industrial
4. Other

Cost Code 770: 365

1 FIELD TESTS

Temperature (°C)	792	CO_2, mg/l	572
D.O., mg/l	793	Depth, m	609
Sp. Cond. µmhos	653	Cl Resid., mg/l	753
pH	651	Flow, MGD	652
Sp. Gravity	608	Flow, GPM	604
Transparency, m	649	Flow, cfs	659

2 WASTEWATER ANALYSIS

Temperature (°C) 650 pH 782 BACT. LAB. No.

	mg/l		mg/l		
B.O.D.$_5$	794	T.O.C.	671	M.P.N. Total Coliforms/100ml	658
Tot. Sus. Solids	787	C.O.D.	777	M.P.N. Fecal Coliforms/100ml	657
NO_2+NO_3,N	602	Cyanide	775	Fecal Strep C/100ml.	656
T.K.N.	778	Phenolics	783	M.F. Total Coliforms/100ml.	654
Oil & Grease	780	Sulfide	672	M.F. Fecal Coliforms/100ml.	655
				Plate Count-Org./ml.	599

3 Filtered / Unfiltered

me/l	CATIONS	mg/l	ug/l (ppb)	
	Ammonia as N			722
	Arsenic			723
	Barium			724
	Boron			725
	Cadmium			727
	Calcium			728
	Chromium			729
	Chromium, Hex. as Cr			730
	Copper			732
	Iron, dissolved			733
	Lead			734
	Magnesium			737
	Manganese			738
	Nickel			740
	Potassium			742
	Selenium			743
	Silver			744
	Sodium			745
	Zinc			749
	TOTAL CATIONS			

Sp. Cond. µmhos/cm.		762
TDS @ 180°C		786

4 CHEMICAL ANALYSIS

pH, units

me/l	ANIONS	mg/l	
	Bicarbonate		758
	Carbon Dioxide		759
	Carbonate		760
	Chloride		763
	CO_3 Solids		
	Fluoride		765
	Hydroxide		767
	Nitrate as N		605
	Nitrite as N		606
	Phosphorus, Ortho as P		607
	Silica, dissolved as SiO_2		750
	Sulfate		772
	pH 1:1	5.0	
	TOTAL ANIONS		
	GRAND TOTAL		
	Tot. Phosphorus		785
	Total Alk. as $CaCO_3$		752
	T. Hdns. as $CaCO_3$		754
	Surfactant as MBAS		773
	Turbidity, as NTU		757
	Sp. Gravity		608

TOTAL METALS ANALYSIS ppm

5 CATIONS

	mg/l	ug/l (ppb)	
Aluminum			800
Arsenic	<	167	660
Barium	33		661
Beryllium	<	.4	801
Cadmium		447	662
Chromium		127	663
Cobalt		167	804
Copper			664
Gold			700
Iron			755
Lead		3770	665
Manganese			666
Mercury		1.24	739
Molybdenum		1.7	802
Nickel		13.3	667
Selenium	<	1.9	668
Silver		63.5	669
Uranium			601
Vanadium			803
Zinc		16700	670

6 RADIOLOGICS

	pc/l-g		pc/l-g	
Alpha, gross		621	^{89}Sr	633
Beta, gross		623	^{131}I	635
Tritium, ^3H		625	^{134}Cs	637
^{226}Radium		627	^{137}Cs	639
^{228}Radium		629		
^{90}Sr		631		

Analyses Approved By: Date:

INTERPRETATION OF ANALYSES:
Remarks:

RECEIVED
SEP 6 1984
Utah State Div. Of Environmental Health

By _____ ENVIRONMENTAL HEALTH

Based on State Standards, this sample was:

	Satisfactory	Conditional	Unsatisfactory
B.O.D.$_5$			
Tot. Sus. Solids			
M.P.N. Total Coliform.			
M.P.N. Fecal Coliform.			

30-Aug-84 J. Oman

Rev. 2 82
Field No. HW 84142

Pest. / Rad. / Bact. / Spec. / Nut / BOD

Date Rec'd: Saturday
Received By: by S. Hzo

UTAH STATE DEPARTMENT OF HEALTH
ENVIRONMENTAL HEALTH
WATER ANALYSES

JUN 18 1984 1934
Sample No. 701

Sample No. 702
Water Syst. No. Source No. 703 704
Date Collected (yr. mo. dy.) Time Collected (24-hour clock)
Water Rights No. 707

Exact Description of sampling Point: Where side of creek 646
[illegible] E to through Richardson
Flat Stillings

Supply Owned by 712
Sample Type 710
Sample Collected by: D Verbica 713

SEND REPORT TO: Phone 533 4145
Jim Salmon - Bur Sal Haz 716
150 W North Temple 648
SLC Utah 717
zip code

Sample Source 719: 01 Spring, 02 Well, 03 Stream, 04 Lake, 06 List. syst., 07 Effluent, 08 Storm sewer, 14 Other, 15 Tunnel, 18 Artesian well, 19 Swimming pool

County 611: 01 Beaver, 02 Box Elder, 03 Cache, 04 Carbon, 05 Daggett, 06 Davis, 07 Duchesne, 08 Emery, 09 Garfield, 10 Grand, 11 Iron, 12 Juab, 13 Kane, 14 Millard, 15 Morgan, 16 Piute, 17 Rich, 18 Salt Lake, 19 San Juan, 20 Sanpete, 21 Sevier, 22 Summit, 23 Tooele, 24 Uintah, 25 Utah, 26 Wasatch, 27 Washington, 28 Wayne, 29 Weber

Current use 708
Proposed use 709
1. Culinary
2. Agriculture
3. Industrial
4. Other

Cost Code 365 770

1 FIELD TESTS

Temperature (°C)	792	CO_2, mg/l	572
D.O., mg/l	793	Depth, m	609
Sp. Cond. µmhos	653	Cl Resid., mg/l	753
pH	651	Flow, MGD	652
Sp. Gravity	608	Flow, GPM	604
Transparency, m	649	Flow, cfs	659

2 WASTEWATER ANALYSIS

Temperature (°C) 650 | pH 782 | BACT. LAB. No.

	mg/l		mg/l		
B.O.D.$_5$	794	T.O.C.	671	M.P.N. Total Coliforms/100ml	658
Tot. Sus. Solids	787	C.O.D.	777	M.P.N. Fecal Coliforms/100ml	657
NO_2+NO_3,N	602	Cyanide	775	Fecal Strep C/100ml.	656
T.K.N.	778	Phenolics	783	M.F. Total Coliforms/100ml.	654
Oil & Grease	780	Sulfide	672	M.F. Fecal Coliforms/100ml.	655
				Plate Count-Org./ml.	599

3 Filtered | Unfiltered

me/l	CATIONS	mg/l	ug/l (ppb)	
	Ammonia as N			722
	Arsenic			723
	Barium			724
	Boron			725
	Cadmium			727
	Calcium			728
	Cobalt			729
	Chromium, Hex. as Cr			730
	Copper			732
	Iron, dissolved			733
	Lead			734
	Magnesium			737
	Manganese			738
	Nickel			740
	Potassium			742
	Selenium			743
	Silver			744
	Sodium			745
	Zinc			749
	TOTAL CATIONS			

me/l	ANIONS	mg/l	
	Bicarbonate		758
	Carbon Dioxide		759
	Carbonate		760
	Chloride		763
	CO_3 Solids		
	Fluoride		765
	Hydroxide		767
	Nitrate as N		605
	Nitrite as N		606
	Phosphorus, Ortho as P		607
	Silica, dissolved as SiO_2		750
	Sulfate		772
	pH 1:1	4.4	
	TOTAL ANIONS		
	GRAND TOTAL		
	Tot. Phosphorus		785
	Total Alk. as $CaCO_3$		752
	T. Hdns. as $CaCO_3$		754
	Surfactant as MBAS		773
	Turbidity, as NTU		757
	Sp. Gravity		608

Sp. Cond. µmhos/cm. 762
TDS @ 180°C 786

4 CHEMICAL ANALYSIS

pH, units

TOTAL METALS ANALYSIS

5 CATIONS	mg/l	~~ug/l (ppb)~~ ppm	
Aluminum			800
Arsenic		159	660
Barium	39		661
Beryllium		< .04	801
Cadmium		69.2	662
Chromium		7.0	663
Cobalt		42.4	804
Copper			664
Gold			700
Iron			755
Lead		2150	665
Manganese			666
Mercury			739
Molybdenum		5.1	802
Nickel		21.4	667
Selenium		3.5	668
Silver		50.6	669
Uranium			601
Vanadium			803
Zinc		10800	670

6 RADIOLOGICS

	pc/l-g		pc/l-g	
Alpha, gross		621	^{89}Sr	633
Beta, gross		623	^{131}I	635
Tritium, ^3H		625	^{134}Cs	637
^{226}Radium		627	^{137}Cs	639
^{228}Radium		629		
^{90}		631		

Date:

INTERPRETATION OF ANALYSES:
Remarks:

RECEIVED
SEP 6 1984
Utah State Div O

By
ENVIRONMENTAL HEALTH

Based on State Standards, this sample was:

	Satisfactory	Questionable	Unsatisfactory
B.O.D.$_5$			
Tot. Sus. Solids			
M.P.N. Total Coliform.			
M.P.N. Fecal Coliform.			

HWS4141

Organics & Soil Ph

Rev. 3/82

Field No. _____

☐ TC ☒ TM ☐ Nut
☐ PC ☒ PM ☐ BOD

☐ Pest.
☐ Rad.
☐ Bact.
☐ Spec.

Date Recd.: _____

Received By: _____

UTAH STATE DEPARTMENT OF HEALTH
ENVIRONMENTAL HEALTH
WATER ANALYSES

Job 4184 1933

Sample No. 701

Stored No. _____ 702

Water Syst. No. Source No. _____ 704

Date Collected _____ 714 (yr. mo. dy.)

Time Collected 1100 610 (24-hour clock)

Water Rights No. _____ 707

Exact Description of sampling Point
Downwardson Flat Tail 848
is source of windblown
dust - center of tailings

Supply Owned by _____ 712

Sample Type _____ 710

Sample Collected by
H Hebdon 713

SEND REPORT TO: Phone 533 4145
Jim Salmon - Bur Soil Haz 842
150 W. North Temple 648
SLC Utah 717
zip code

Sample Source 14 (719)
01 Spring 14 Other
02 Well 15 Tunnel
03 Stream 18 Artesian well
04 Lake 19 Swimming pool
06 Dist. syst.
07 Effluent
08 Storm sewer

County 27 (611)
01 Beaver 16 Piute
02 Box Elder 17 Rich
03 Cache 18 Salt Lake
04 Carbon 19 San Juan
05 Daggett 20 Sanpete
06 Davis 21 Sevier
07 Duchesne 22 Summit
08 Emery 23 Tooele
09 Garfield 24 Uintah
10 Grand 25 Utah
11 Iron 26 Wasatch
12 Juab 27 Washington
13 Kane 28 Wayne
14 Millard 29 Weber
15 Morgan

Current use 4 708
Proposed use ☐ 709
1. Culinary
2. Agriculture
3. Industrial
4. Other

Cost Code 365 770

1 FIELD TESTS

Temperature (°C)	792	CO_2, mg/l	572
D.O., mg/l	793	Depth, m	609
Sp. Cond. µ mhos	653	Cl Resid., mg/l	753
pH	651	Flow, MGD	652
Sp. Gravity	608	Flow, GPM	604
Transparency, m	649	Flow, cfs	659

2 WASTEWATER ANALYSIS

Temperature (°C) _____ 650 pH _____ 782 BACT. LAB. No. _____

	mg/l		mg/l		
B.O.D.$_5$	794	T.O.C.	671	M.P.N. Total Coliforms/100ml	658
Tot. Sus. Solids	787	C.O.D.	777	M.P.N. Fecal Coliforms/100ml	657
NO_2+NO_3,N	602	Cyanide	775	Fecal Strep C/100ml.	656
T.K.N.	778	Phenolics	783	M.F. Total Coliforms/100ml.	654
Oil & Grease	780	Sulfide	672	M.F. Fecal Coliforms/100ml.	655
				Plate Count-Org./ml.	599

3 Filtered / Unfiltered

me/l	CATIONS	mg/l	ug/l (ppb)	
	Ammonia as N			722
	Arsenic			723
	Barium			724
	Boron			725
	Cadmium			727
	Calcium			728
	Chromium			729
	Chromium, Hex. as Cr			730
	Copper			732
	Iron, dissolved			733
	Lead			734
	Magnesium			737
	Manganese			738
	Nickel			740
	Potassium			742
	Selenium			743
	Silver			744
	Sodium			745
	Zinc			749
	TOTAL CATIONS			

☐ Sp. Cond. µmhos/cm. 762
☐ TDS @ 180°C 786

4 CHEMICAL ANALYSIS

pH, units _____

me/l	ANIONS	mg/l	
	Bicarbonate		758
	Carbon Dioxide		759
	Carbonate		760
	Chloride		763
	CO_3 Solids		
	Fluoride		765
	Hydroxide		767
	Nitrate as N		605
	Nitrite as N		606
	Phosphorus, Ortho as P		607
	Silica, dissolved as SiO_2		750
	Sulfate		772
	pH 1:1	7.2	
	TOTAL ANIONS		
	GRAND TOTAL		
	Tot. Phosphorus		785
	Total Alk. as $CaCO_3$		752
	T. Hdns. as $CaCO_3$		754
	Surfactant as MBAS		773
	Turbidity, as NTU		757
	Sp. Gravity		608

TOTAL METALS ANALYSIS

DM

5	CATIONS	mg/l	~~ug/l (ppb)~~	
	Aluminum			800
	Arsenic		252	660
	Barium	35		661
	Beryllium		<4	801
	Cadmium		72.3	662
	Chromium		5.3	663
	Cobalt		3.5	804
	Copper			664
	Gold			700
	Iron			755
	Lead		3960	665
	Manganese			666
	Mercury		.32	739
	Molybdenum		3.5	802
	Nickel		16.1	667
	Selenium		<1.7	668
	Silver		14.2	669
	Uranium			601
	Vanadium			803
	Zinc		1580	670

6 RADIOLOGICS

	pc/l-g			pc/l-g	
Alpha, gross		621	^{89}Sr		633
Beta, gross		623	^{131}I		635
Tritium, ^3H		625	^{134}Cs		637
^{226}Radium		627	^{137}Cs		639
^{228}Radium		629			
^{90}Sr		631			

Analyst Approved By: _____ Date: _____

INTERPRETATION OF ANALYSES:
Remarks:

RECEIVED
SEP 6 1984
Utah State Div. Of
Environmental Health

By _____
ENVIRONMENTAL HEALTH

Based on State Standards, this sample was:

	Satisfactory	Conditional	Unsatisfactory
B.O.D.$_5$			
Tot. Sus. Solids			
M.P.N. Total Coliform.			
M.P.N. Fecal Coliform.			

30-Aug-84 J. Omar

HW 841.5 / 137 — T Soil Ph

Rev. 3/82

Field No.

☐ TC ☒ TM ☐ Nut
☐ PC ☐ PM ☐ BOD

☐ Pest. ☐ Rad. ☐ Bact. ☐ Spec.

BKS Soil

Date Recd.: Soil

Received By:

UTAH STATE DEPARTMENT OF HEALTH
ENVIRONMENTAL HEALTH
WATER ANALYSES

Jn 4684 1929

Sample No. 701

Storet No. 702

Water Syst. No. 703 Source No. 704

Date Collected 714 (yr. mo. dy.) 8 4 0 4

Time Collected 610 (24-hour clock) 1 0 0 0

Water Rights No. 707

Exact Description of sampling Point 646
Knoll to South West of Giant Ranch - upgradient soil

Supply Owned by 712

Sample Type 710

Sample Collected by 713
D Verbica

SEND REPORT TO: Phone
715 Jim Salmon - Bur Sol Haz
648 150 W North Temple
717 SLC Utah
zip code

719 Sample Source 14
01 Spring, 02 Well, 03 Stream, 04 Lake, 06 Dist. syst., 07 Effluent, 08 Storm sewer, 14 Other, 15 Tunnel, 18 Artesian well, 19 Swimming pool

611 County 27
01 Beaver, 02 Box Elder, 03 Cache, 04 Carbon, 05 Daggett, 06 Davis, 07 Duchesne, 08 Emery, 09 Garfield, 10 Grand, 11 Iron, 12 Juab, 13 Kane, 14 Millard, 15 Morgan, 16 Piute, 17 Rich, 18 Salt Lake, 19 San Juan, 20 Sanpete, 21 Sevier, 22 Summit, 23 Tooele, 24 Uintah, 25 Utah, 26 Wasatch, 27 Washington, 28 Wayne, 29 Weber

Current use 4 708
Proposed use 709
1. Culinary
2. Agriculture
3. Industrial
4. Other

Cost Code 365 770

1 FIELD TESTS

Temperature (°C)	792	CO_2, mg/l	572
D.O., mg/l	793	Depth, m	609
Sp. Cond. µ mhos	653	Cl Resid., mg/l	753
pH	651	Flow, MGD	652
Sp. Gravity	608	Flow, GPM	604
Transparency, m	649	Flow, cfs	659

2 WASTEWATER ANALYSIS

Temperature (°C) 650 | pH 782 | BACT. LAB. No.

	mg/l		mg/l		
B.O.D.$_5$	794	T.O.C.	671	M.P.N. Total Coliforms/100ml	658
Tot. Sus. Solids	787	C.O.D.	777	M.P.N. Fecal Coliforms/100ml	657
NO_2+NO_3,N	602	Cyanide	775	Fecal Strep C/100ml.	656
T.K.N.	778	Phenolics	783	M.F. Total Coliforms/100ml.	654
Oil & Grease	780	Sulfide	672	M.F. Fecal Coliforms/100ml.	655
				Plate Count-Org./ml.	599

3 Filtered / Unfiltered

me/l	CATIONS	mg/l	ug/l (ppb)	
	Ammonia as N			722
	Arsenic			723
	Barium			724
	Boron			725
	Cadmium			727
	Calcium			728
	Chromium			729
	Chromium, Hex. as Cr			730
	Copper			732
	Iron, dissolved			733
	Lead			734
	Magnesium			737
	Manganese			738
	Nickel			740
	Potassium			742
	Selenium			743
	Silver			744
	Sodium			745
	Zinc			749
	TOTAL CATIONS			

Sp. Cond. µmhos/cm. 762
TDS @ 180°C 786

4 CHEMICAL ANALYSIS

pH, units

me/l	ANIONS	mg/l	
	Bicarbonate		758
	Carbon Dioxide		759
	Carbonate		760
	Chloride		763
	CO_3 Solids		
	Fluoride		765
	Hydroxide		767
	Nitrate as N		605
	Nitrite as N		606
	Phosphorus, Ortho as P		607
	Silica, dissolved as SiO_2		750
	Sulfate		772
	pH 1:1	6.6	
	% Solids	80.0	
	TOTAL ANIONS		
	GRAND TOTAL		
	Tot. Phosphorus		785
	Total Alk. as $CaCO_3$		752
	T. Hdns. as $CaCO_3$		754
	Surfactant as MBAS		773
	Turbidity, as NTU		757
	Sp. Gravity		608

TOTAL METALS ANALYSIS ppm

5 CATIONS

CATIONS	mg/l	~~ug/l (ppb)~~	
Aluminum			800
Arsenic	14.		660
Barium	217.		661
Beryllium	1.2		801
Cadmium	.9		662
Chromium	24.		663
Cobalt	8.8		804
Copper			664
Gold			700
Iron			755
Lead	529		665
Manganese			666
Mercury	.19		739
Molybdenum	2.4		802
Nickel	236		667
Selenium	2.0		668
Silver	1.3		669
Uranium			601
Vanadium			803
Zinc	132.		670

dry wt basis

6 RADIOLOGICS

	pC/l-g		pC/l-g	
Alpha, gross		621	^{89}Sr	633
Beta, gross		623	^{131}I	635
Tritium, ^3H		625	^{134}Cs	637
^{226}Radium		627	^{137}Cs	639
^{228}Radium		629		
^{90}Sr		631		

Analyses Approved By: Date:

RECEIVED
SEP 6 1984
Utah State Div. Of Environmental Health

INTERPRETATION OF ANALYSES:
Remarks:

By ENVIRONMENTAL HEALTH

Based on State Standards, this sample was:

	Satisfactory	Conditional	Unsatisfactory
B.O.D.$_5$			
Tot. Sus. Solids			
M.P.N. Total Coliform.			
M.P.N. Fecal Coliform.			

30-Aug-84 J. Oman

HW84144

Original G. Hro

Rev. 3/82

Field No. _____

[X] TC [X] TM [ ] Nut
[ ] PC [ ] PM [ ] BOD

[ ] Pest. [ ] Rad. [ ] Bact. [ ] Spec.

Date Recd.: 6-Hro

Received By: _____

UTAH STATE DEPARTMENT OF HEALTH
ENVIRONMENTAL HEALTH
WATER ANALYSES

Sample No. 484841936 701

Storet No. _____ 702

Water Syst. No. Source No. _____ 704

Date Collected 840804 (yr. mo. dy.) 714

Time Collected 1130 (24-hour clock) 610

Water Rights No. _____ 707

Exact Description of sampling Point
Toe of Richardson Flat tailings dam-ground water seep

Supply Owned by _____ 712

Sample Type _____ 710

Sample Collected by J Hebdon 713

SEND REPORT TO: Phone 533415
Tim Sullman-Bur Soil Haz
150 W North Temple 648
SLC Utah 717
zip code

Sample Source 719: 14
01 Spring, 02 Well, 03 Stream, 04 Lake, 06 Dist. syst., 07 Effluent, 08 Storm sewer, 14 Other, 15 Tunnel, 18 Artesian well, 19 Swimming pool

County 22 Juab
01 Beaver, 02 Box Elder, 03 Cache, 04 Carbon, 05 Daggett, 06 Davis, 07 Duchesne, 08 Emery, 09 Garfield, 10 Grand, 11 Iron, 12 Juab, 13 Kane, 14 Millard, 15 Morgan, 16 Piute, 17 Rich, 18 Salt Lake, 19 San Juan, 20 Sanpete, 21 Sevier, 22 Summit, 23 Tooele, 24 Uintah, 25 Utah, 26 Wasatch, 27 Washington, 28 Wayne, 29 Weber

Current use 4 708
Proposed use _____ 709
1. Culinary
2. Agriculture
3. Industrial
4. Other

Cost Code 365 770

1 FIELD TESTS

Temperature (°C)	792	CO_2, mg/l	572
D.O., mg/l	793	Depth, m	609
Sp. Cond. µmhos	653	Cl Resid., mg/l	753
pH	651	Flow, MGD	652
Sp. Gravity	608	Flow, GPM	604
Transparency, m	649	Flow, cfs	659

2 WASTEWATER ANALYSIS

Temperature (°C) 650 | pH 782 | BACT. LAB. No. _____

	mg/l		mg/l		
B.O.D.$_5$	794	T.O.C.	671	M.P.N. Total Coliforms/100ml	658
Tot. Sus. Solids	787	C.O.D.	777	M.P.N. Fecal Coliforms/100ml	657
NO_2+NO_3,N.	602	Cyanide	775	Fecal Strep C/100ml.	656
T.K.N.	778	Phenolics	783	M.F. Total Coliforms/100ml.	654
Oil & Grease	780	Sulfide	672	M.F. Fecal Coliforms/100ml.	655
				Plate Count-Org./ml.	599

3 Filtered / Unfiltered

me/l	CATIONS	mg/l	ug/l (ppb)	
	Ammonia as N			722
	Arsenic			723
	Barium			724
	Boron			725
	Cadmium			727
30.6	Calcium	612		728
	Chromium			729
	Chromium, Hex. as Cr		<5	730
	Copper			732
	Iron, dissolved			733
	Lead			734
9.40	Magnesium	114		737
	Manganese			738
	Nickel			740
.33	Potassium	13		742
	Selenium			743
	Silver			744
2.08	Sodium	48		745
	Zinc			749
43.	TOTAL CATIONS			

Sp. Cond. µmhos/cm.	2890 762
TDS @ 180°C	3098 786

4 CHEMICAL ANALYSIS

pH, units 7.7

me/l	ANIONS	mg/l	
	Bicarbonate	322	758
	Carbon Dioxide	10	759
	Carbonate	0	760
.90	Chloride	32	763
5.28	CO_3 Solide	158	
	Fluoride	0.48	765
	Hydroxide	0.00	767
	Nitrate as N	0.03	605
	Nitrite as N	<0.01	606
	Phosphorus, Ortho as P	0.01	607
	Silica, dissolved as SiO_2	19.	750
38.80	Sulfate	1863	772
45.	TOTAL ANIONS		
	GRAND TOTAL		

Tot. Phosphorus		785
Total Alk. as $CaCO_3$	264	752
T. Hdns. as $CaCO_3$	2070.	754
Surfactant as MBAS		773
Turbidity, as NTU	1.0	757
Sp. Gravity		608

TOTAL METALS ANALYSIS

DOM

5 CATIONS

	mg/l	~~ug/l (ppb)~~	
Aluminum			800
Arsenic		.0486	660
Barium	.105		661
Beryllium		<.01	801
Cadmium		.031	662
Chromium		<.1	663
Cobalt		<.1	804
Copper			664
Gold			700
Iron			755
Lead		<.1	665
Manganese			666
Mercury		<.0001	739
Molybdenum		<.2	802
Nickel		<.1	667
Selenium		.0015	668
Silver		.012	669
Uranium,			601
Vanadium			803
Zinc		7.7	670

6 RADIOLOGICS

	pc/l-g		pc/l-g	
Alpha, gross		621	^{89}Sr	633
Beta, gross		623	^{131}I	635
Tritium, ^3H		625	^{134}Cs	637
^{226}Radium		627	^{137}Cs	639
^{228}Radium		629		
^{90}Sr		631		

Analyses Approved By: RSH Date: 840629

INTERPRETATION OF ANALYSES:
Remarks:

Based on State Standards, this sample was:

	Satisfactory	Conditional	Unsatisfactory
B.O.D.$_5$			
Tot. Sus. Solids			
M.P.N. Total Coliform.			
M.P.N. Fecal Coliform.			

By _____
ENVIRONMENTAL HEALTH

07-Aug-84 J. Oman

HW84145A

9. H2O Spring (on SI)

Rev. 3/82

Field No.

[X] TC [ ] PC [X] TM [ ] PM [ ] Nut [ ] BOD [ ] Pest. [ ] Rad. [ ] Bact. [X] Spec.

Date Recd.:

Received By:

UTAH STATE DEPARTMENT OF HEALTH
ENVIRONMENTAL HEALTH
WATER ANALYSES

REC'D AUG 8 1984

Sample No. 701 841937

Storet No. 702

Water Syst. No. 703 Source No. 704

Date Collected 714: 840604 (yr. mo. dy.)

Time Collected 610: 1200 (24-hour clock)

Water Rights No. 707

Exact Description of sampling Point 646: SPRING AT SOUTH WEST EXTREME OF RICHARDSON'S FLAT

Supply Owned by 712

Sample Type 710

Sample Collected by 713: J HELGON

SEND REPORT TO: Phone 5324145

715: JIM SALMON

648: BUREAU SOLID & HAZARDOUS WASTE

717: 1950 N TEMPLE SLC UT 84116 (zip code)

Sample Source 719: 14 — 01 Spring, 02 Well, 03 Stream, 04 Lake, 06 Dist. syst., 07 Effluent, 08 Storm sewer, 14 Other, 15 Tunnel, 18 Artesian well, 19 Swimming pool

County 611: 22 — 00 Beaver, 01 Box Elder, 03 Cache, 04 Carbon, 05 Daggett, 06 Davis, 07 Duchesne, 08 Emery, 09 Garfield, 10 Grand, 11 Iron, 12 Juab, 13 Kane, 14 Millard, 15 Morgan, 16 Piute, 17 Rich, 18 Salt Lake, 19 San Juan, 20 Sanpete, 21 Sevier, 22 Summit, 23 Tooele, 24 Uintah, 25 Utah, 26 Wasatch, 27 Washington, 28 Wayne, 29 Weber

Current use 708

Proposed use 709: 4

1. Culinary
2. Agriculture
3. Industrial
4. Other

Cost Code 770: 365

1 FIELD TESTS

Temperature (°C)	792	CO_2, mg/l	572
D.O., mg/l	793	Depth, m	609
Sp. Cond. µmhos	653	Cl Resid., mg/l	753
pH	651	Flow, MGD	652
Sp. Gravity	608	Flow, GPM	604
Transparency, m	649	Flow, cfs	659

2 WASTEWATER ANALYSIS

Temperature (°C) 650 | pH 782 | BACT. LAB. No.

	mg/l		mg/l		
B.O.D.$_5$	794	T.O.C.	671	M.P.N. Total Coliforms/100ml	658
Tot. Sus. Solids	787	C.O.D.	777	M.P.N. Fecal Coliforms/100ml	657
NO_2+NO_3,N	602	Cyanide	775	Fecal Strep C/100ml.	656
T.K.N.	778	Phenolics	783	M.F. Total Coliforms/100ml.	654
Oil & Grease	780	Sulfide	672	M.F. Fecal Coliforms/100ml.	655
				Plate Count-Org./ml.	599

3 Filtered / Unfiltered

4 CHEMICAL ANALYSIS

pH, units 3.3

me/l	CATIONS	mg/l	ug/l (ppb)	
	Ammonia as N			722
	Arsenic			723
	Barium			724
	Boron			725
	Cadmium			727
19.0	Calcium	380		728
	Chromium			729
	Chromium, Hex. as Cr		< 5	730
	Copper			732
	Iron, dissolved			733
	Lead			734
9.99	Magnesium	122		737
	Manganese			738
	Nickel			740
.03	Potassium	1		742
	Selenium			743
	Silver			744
1.34	Sodium	31		745
	Zinc			749
31.0	TOTAL CATIONS			

me/l	ANIONS	mg/l	
	Bicarbonate	< 1	758
	Carbon Dioxide	< 1	759
	Carbonate	< 1	760
.93	Chloride	33	763
<1	CO_3 Solids	< 1	
	Fluoride	1.63	765
	Hydroxide	< 1	767
	Nitrate as N	0.61	605
	Nitrite as N	< 0.01	606
	Phosphorus, Ortho as P	0.02	607
	Silica, dissolved as SiO_2	57	750
30.68	Sulfate	1473	772
31.6	TOTAL ANIONS		
	GRAND TOTAL		
	Tot. Phosphorus		785
	Total Alk. as $CaCO_3$	< 1	752
	T. Hdns. as $CaCO_3$	1450	754
	Surfactant as MBAS		773
	Turbidity, as NTU	1000	757
	Sp. Gravity		608

TOTAL METALS ANALYSIS ppm

5

CATIONS	mg/l	~~ug/l (ppb)~~	
Aluminum			800
Arsenic		.3750	660
Barium	< .05		661
Beryllium	<	.01	801
Cadmium		.120	662
Chromium		.16	663
Cobalt		.2	804
Copper			664
Gold			700
Iron			755
Lead		.318	665
Manganese			666
Mercury		.026	739
Molybdenum	<	.2	802
Nickel		.11	667
Selenium		.0028	668
Silver		.144	669
Uranium			601
Vanadium			803
Zinc		.20	670

Sp. Cond. µmhos/cm.	2380	762
TDS @ 180°C	2284	786

6 RADIOLOGICS

	pc/l-g		pc/l-g	
Alpha, gross		621	^{89}Sr	633
Beta, gross		623	^{131}I	635
Tritium, ^3H		625	^{134}Cs	637
^{226}Radium		627	^{137}Cs	639
^{228}Radium		629		
^{90}Sr		631		

Analyses Approved By: RED Date: 840629

INTERPRETATION OF ANALYSES:
Remarks:

Based on State Standards, this sample was:

	Satisfactory	Conditional	Unsatisfactory
B.O.D.$_5$			
Tot. Sus. Solids			
M.P.N. Total Coliform.			
M.P.N. Fecal Coliform.			

By ENVIRONMENTAL HEALTH

07-Aug-84 D. Oman

2572

Jan 48841938

Rev. 7/80 #U84145 Date Recd.: _____

Field No. _____ Received By: _____

UTAH STATE DEPARTMENT OF HEALTH

ENVIRONMENTAL HEALTH

ORGANIC RESIDUE ANALYSES

Sample No. 701

Storet No. 702

Water Syst. No. 703 Source No. 704

Date Collected 714: 840604 (yr. mo. dy.)

Time Collected 610: 1300 (24-hour clock)

Water Rights No. 707

Exact Description of sampling Point: Spring at Sam West Corner of Johnson Farm 646

Supply Owned by 712

Sample Type 710

Sample Collected by: J Mebdon 713

SEND REPORT TO: Phone 533 4145

Jim Stimpson 715

150 West North Temple 648

SLC Utah 84110 717

zip code

Sample Source 719: 1 Spring, 2 Well, 3 Stream, 4 Lake, 6 Dist. syst., 7 Effluent, 8 Storm sewer, 14 Other, 15 Tunnel, 18 Artesian well, 19 Swimming pool

County 611: 01 Beaver, 02 Box Elder, 03 Cache, 04 Carbon, 05 Daggett, 06 Davis, 07 Duchesne, 08 Emery, 09 Garfield, 10 Grand, 11 Iron, 12 Juab, 13 Kane, 14 Millard, 15 Morgan, 16 Piute, 17 Rich, 18 Salt Lake, 19 San Juan, 20 Sanpete, 21 Sevier, 22 Summit, 23 Tooele, 24 Uintah, 25 Utah, 26 Wasatch, 27 Washington, 28 Wayne, 29 Weber

Current use 708

Proposed use 709

1. Culinary
2. Agriculture
3. Industrial
4. Other 365

INTERPRETATION OF ANALYSES:

Remarks:

Based on State Standards, this sample was: Satisfactory / Conditional / Unsatisfactory

By ENVIRONMENTAL HEALTH

8 CHLORINATED HYDROCARBONS ug/l(ppb)

None Detected (<0.1 ppb)

Dichloropropane	574	
Dichloropropene	575	
Chlordane	516	
Toxaphene	618	
Endosulfan	576	
Lindane	616	
Dicofol	577	
Methoxychlor	617	
Dieldrin	643	
Heptachlor	536	
Heptachlor epoxide	615	
Beta, BHC	520	
Perchlorobenzene, HCB	735	
Aldrin	699	
Endrin	613	
p.p. DDT	515	
p.p. DDE	511	
p.p. DDD	513	
Mirex	580	

9 ORGANOPHOSPHATES ug/l(ppb)

None Detected

Ethyl Parathion	510	
Malathion	578	
Ethyl Azinphos	512	
Methyl Azinphos	534	
Diazinon	514	
Disulfoton	535	
Methyl Parathion	517	
Fonofos	518	
Phosalone	519	
Phosmet	520	
Coumaphos	521	
Fenthion	522	
Phorate	523	
Demeton	524	
Fensulfothion	525	
Dichlorvos	526	
Trichlorfon	527	
Methyl Oxydemeton	528	
Ronnel	529	
Crufomate	530	
Ethion	531	

10 HERBICIDES - GRP1 ug/l(ppb)

X	2,4-D	<.04	619
	Atrazine		582
	Sulfur		532
	Sodium Polysulfide		583
	Bromacil		584
	Simazine		585
	Pronamide		586
	DCPA		587
	EPTC		588
	Dinocap		589
	Dicamba		590
	Diuron		591
	Monuron		592
	Dinoseb		593
	Alachlor		594
	Cycloate		595
	Cyanazine		596
	Nitrofen		597
	Copper Sulfate		533
	Trifluralin		598
	2,4-DB		675
	Terbutryn		676
	Maleic Hydrazide		678
	Dacthal		679

11 HERBICIDES - GRP2 ug/l(ppb)

	2, 4, 5- T		681
	Pyrazon		682
	Prometon		683
	Metaborate		684
	Dalapon		685
X	2,4,5-TP	<.007	620
	Chlorate-Borate		686
	Aminozide		687
	Captan		688
	Glyphosate		689
	Picloram		690
	Methyl Bromide		691
	Methyl Chloride		692
	Amm. Methanarsonate		736
	Terbacil		741
	Paraquat		746
	Acrolein		747
	Xylene		748
	Diquat		751
	Amitrole		756

11 HERBCIDES - GRP2 Cont. ug/l(ppb)

Prometryn	761
Propazine	764

12 CARBAMATES None ug/l(ppb)

Carbofuran	768
Carbaryl	769
Maneb	771
Metalkamate	776
Aldicarb	779
Propoxur	781
Bendiocarb	784
Benomyl	788

13 ORGANOHALOCARBONS ug/l(ppb)

on other sheet

Chloroform	790
Bromoform	791
Bromodichloromethane	795
Dibromochloromethane	796
Bromomethane	797
Carbon Tetrachloride	798
Chloroethane	799
Chloromethane	500
Dichlorobenzene	501
Dichloroethane	502
Methylene Chloride	503
Vinyl Chloride	504

14 OTHER None ug/l(ppb)

PCB 1254	674
PCB 1260	581

Analyses Approved By: Warnick

Date: 6-7-84

APPENDIX 4

HRS SCORE

Facility name: Richardson's Flat Tailings

Location: NW 1/4 Sec 1 T2S R4E

EPA Region: VIII

Person(s) in charge of the facility: United Park City Mines Co
309 Kerns Bldg
SLC Utah 84101

Name of Reviewer: Eric Johnson Date: 12/21/84

General description of the facility:

(For example: landfill, surface impoundment, pile, container; types of hazardous substances; location of the facility; contamination route of major concern; types of information needed for rating; agency action, etc.)

Richardson's Flat contains approx 7 million tons of mill tailing deposited by various local mines. The tailings are located in an active stream valley. The contamination routes scored are surface water and ground water. Air was not scored

Scores: S_M = (S_{gw} = S_{sw} = S_a =)

S_{FE} =

S_{DC} =

FIGURE 1
HRS COVER SHEET

Ground Water Route Work Sheet					
Rating Factor	Assigned Value (Circle One)	Multi-plier	Score	Max. Score	Ref. (Section)
1 Observed Release	0 45	1	0	45	3.1
If observed release is given a score of 45, proceed to line 4. If observed release is given a score of 0, proceed to line 2.					
2 Route Characteristics					3.2
Depth to Aquifer of Concern	0 1 2 3	2	6	6	
Net Precipitation	0 1 2 3	1	0	3	
Permeability of the Unsaturated Zone	0 1 2 3	1	3	3	
Physical State	0 1 2 3	1	2	3	
	Total Route Characteristics Score		11	15	
3 Containment	0 1 2 3	1	3	3	3.3
4 Waste Characteristics					3.4
Toxicity/Persistence	0 3 6 9 12 15 18	1	18	18	
Hazardous Waste Quantity	0 1 2 3 4 5 6 7 8	1	8	8	
	Total Waste Characteristics Score		26	26	
5 Targets					3.5
Ground Water Use	0 1 2 3	3	6	9	
Distance to Nearest Well/Population Served	0 4 6 8 10 12 16 18 20 24 30 32 35 40	1	1.6	40	
	Total Targets Score		22	49	
6 If line 1 is 45, multiply 1 x 4 x 5 If line 1 is 0, multiply 2 x 3 x 4 x 5			12876	57,330	
7 Divide line 6 by 57,330 and multiply by 100		S_{gw} =	32.93		

FIGURE 2
GROUND WATER ROUTE WORK SHEET

Surface Water Route Work Sheet					
Rating Factor	Assigned Value (Circle One)	Multi-plier	Score	Max. Score	Ref. (Section)
1 Observed Release	0 45	1	45	45	4.1
If observed release is given a value of 45, proceed to line 4. If observed release is given a value of 0, proceed to line 2.					
2 Route Characteristics					4.2
Facility Slope and Intervening Terrain	0 1 2 3	1		3	
1-yr. 24-hr. Rainfall	0 1 2 3	1		3	
Distance to Nearest Surface Water	0 1 2 3	2		6	
Physical State	0 1 2 3	1		3	
	Total Route Characteristics Score			15	
3 Containment	0 1 2 3	1		3	4.3
4 Waste Characteristics					4.4
Toxicity/Persistence	0 3 6 9 12 15 18	1	18	18	
Hazardous Waste Quantity	0 1 2 3 4 5 6 7 8	1	8	8	
	Total Waste Characteristics Score		26	26	
5 Targets					4.5
Surface Water Use	0 1 2 3	3	6	9	
Distance to a Sensitive Environment	0 1 2 3	2	0	6	
Population Served/Distance to Water Intake Downstream	0 4 6 8 10 12 16 18 20 24 30 32 35 40	1	18	40	
	Total Targets Score		24	55	
6 If line 1 is 45, multiply 1 x 4 x 5 If line 1 is 0, multiply 2 x 3 x 4 x 5			28080	64,350	
7 Divide line 6 by 64,350 and multiply by 100		S_{sw} = 43.64			

FIGURE 7
SURFACE WATER ROUTE WORK SHEET

Air Route Work Sheet					
Rating Factor	Assigned Value (Circle One)	Multi-plier	Score	Max. Score	Ref. (Section)
1 Observed Release	0 45	1		45	5.1
Date and Location:	Not Scored				
Sampling Protocol:					
If line 1 is 0, the S_a = 0. Enter on line 5. If line 1 is 45, then proceed to line 2.					
2 Waste Characteristics					5.2
Reactivity and Incompatibility	0 1 2 3	1		3	
Toxicity	0 1 2 3	3		9	
Hazardous Waste Quantity	0 1 2 3 4 5 6 7 8	1		8	
	Total Waste Characteristics Score			20	
3 Targets					5.3
Population Within 4-Mile Radius	0 9 12 15 18 21 24 27 30	1		30	
Distance to Sensitive Environment	0 1 2 3	2		6	
Land Use	0 1 2 3	1		3	
	Total Targets Score			39	
4 Multiply 1 x 2 x 3				35,100	
5 Divide line 4 by 35,100 and multiply by 100		S_a = 0			

FIGURE 9
AIR ROUTE WORK SHEET

	S	S^2
Groundwater Route Score (S_{gw})	32.93	1084.38
Surface Water Route Score (S_{sw})	43.64	1904.45
Air Route Score (S_a)	0	0
$S_{gw}^2 + S_{sw}^2 + S_a^2$		2988.83
$\sqrt{S_{gw}^2 + S_{sw}^2 + S_a^2}$		54.67
$\sqrt{S_{gw}^2 + S_{sw}^2 + S_a^2} / 1.73 = S_M =$		31.60

FIGURE 10
WORKSHEET FOR COMPUTING S_M

Fire and Explosion Work Sheet					
Rating Factor	Assigned Value (Circle One)	Multi-plier	Score	Max. Score	Ref. (Section)
1 Containment	1 3	1		3	7.1
2 Waste Characteristics					7.2
Direct Evidence	0 3	1		3	
Ignitability	0 1 2 3	1		3	
Reactivity	0 1 2 3	1		3	
Incompatibility	0 1 2 3	1		3	
Hazardous Waste Quantity	0 1 2 3 4 5 6 7 8	1		8	
Total Waste Characteristics Score				20	
3 Targets					7.3
Distance to Nearest Population	0 1 2 3 4 5	1		5	
Distance to Nearest Building	0 1 2 3	1		3	
Distance to Sensitive Environment	0 1 2 3	1		3	
Land Use	0 1 2 3	1		3	
Population Within 2-Mile Radius	0 1 2 3 4 5	1		5	
Buildings Within 2-Mile Radius	0 1 2 3 4 5	1		5	
Total Targets Score				24	
4 Multiply 1 x 2 x 3				1,440	
5 Divide line 4 by 1,440 and multiply by 100			S_{FE} =		

FIGURE 11
FIRE AND EXPLOSION WORK SHEET

Direct Contact Work Sheet					
Rating Factor	Assigned Value (Circle One)	Multi-plier	Score	Max. Score	Ref. (Section)
1 Observed Incident	0 45	1	0	45	8.1
If line 1 is 45, proceed to line 4 If line 1 is 0, proceed to line 2					
2 Accessibility	0 1 2 3	1	3	3	8.2
3 Containment	0 15	1	15	15	8.3
4 Waste Characteristics Toxicity	0 1 2 3	5	3	15	8.4
5 Targets					8.5
Population Within a 1-Mile Radius	0 1 2 3 4 5	4	4	20	
Distance to a Critical Habitat	0 1 2 3	4	0	12	
	Total Targets Score		4	32	
6 If line 1 is 45, multiply 1 x 4 x 5 If line 1 is 0, multiply 2 x 3 x 4 x 5			540	21,600	
7 Divide line 6 by 21,600 and multiply by 100		S_{DC} =	2.50		

FIGURE 12
DIRECT CONTACT WORK SHEET

August 16, 1982

FIT QUALITY ASSURANCE TEAM

DOCUMENTATION RECORDS
FOR
HAZARD RANKING SYSTEM

INSTRUCTIONS: As briefly as possible summarize the information you used to assign the score for each factor (e.g., "Waste quantity = 4,230 drums plus 800 cubic yards of sludges"). The source of information should be provided for each entry and should be a bibliographic-type reference. Include the location of the document.

FACILITY NAME: Richardson Flat

LOCATION: Keeney June.

DATE SCORED:

PERSON SCORING:

PRIMARY SOURCE(S) OF INFORMATION (e.g., EPA region, state, FIT, etc.):

FACTORS NOT SCORED DUE TO INSUFFICIENT INFORMATION:

COMMENTS OR QUALIFICATIONS:

GROUND WATER ROUTE

1 OBSERVED RELEASE

Contaminants detected (5 maximum):

NONE

Rationale for attributing the contaminants to the facility:

* * *

2 ROUTE CHARACTERISTICS

Depth to Aquifer of Concern

Name/description of aquifers(s) of concern:

Alluvium - material is unconsolidated, poorly sorted, and ranges in size from clay to bouilders. Water-table conditions predominate. Woodside Formation - red siltstone, sandstone, and shale. According to Baker (1970), the Woodside is fractured in the Park City area. Consequently, hydraulic connection between the Woodside Fm and the alluvium is assumed. Ref: HRS score Prospector Square, Marc Gesink EIE

Depth(s) from the ground surface to the highest seasonal level of the saturated zone [water table(s)] of the aquifer of concern:

Approximately 10 feet

Ref: HRS Score Prospector Square Marc Gesink EIE

Depth from the ground surface to the lowest point of waste disposal/storage:

Variable, ranges from 0 to >10 feet

ref HRS Score Prospector Square, Marc Gesink EIE

Ref. Baker, C. H., Jr., 1970, Water resources of the Heber-Kamas-Park City area, north-central Utah: U.S. Geological Survey and Utah Department of Natural Resources Technical Publication No. 27, 79p

Net Precipitation

Mean annual or seasonal precipitation (list months for seasonal):

Approx. 20 inches per year

Source: Normal Annual and May - September Precipitation (1931-1960) for the State of Utah. U.S. Weather Bureau

Mean annual lake or seasonal evaporation (list months for seasonal):

Approx. 32 inches per year

Source: Climatic Atlas of the United States, U.S. Department of Commerce

Net precipitation (subtract the above figures):

-12 inches

Permeability of Unsaturated Zone

Soil type in unsaturated zone:

Sand and gravel Source: Driller's log, Pacific Bride approx 2 miles away in same river valley.

Permeability associated with soil type:

$> 10^{-3}$ cm/sec

Physical State

Physical state of substances at time of disposal (or at present time for generated gases):

Fine material - mostly likely similar to Prospector Square tailing - which consisted of silty sand, silty clay, and clayey sand.

* * *

ref. HRS Score Prospector Square - Marc Gesink E&E

3 CONTAINMENT

Containment

Method(s) of waste or leachate containment evaluated:

Tailings pond, Dam at head of tailings

Site visit 06/04/84 by Bureau of Solid and Hazardous waste

Method with highest score:

Waste piles - uncovered, unstabilized, no liner.

4 WASTE CHARACTERISTICS

Toxicity and Persistence

Tailings sample

Compound(s) evaluated:

	Concentrations		
Lead	3960 ppm	Total metals	Bureau of Solid and Hazardous waste Analysis sheets HW84143, HW84142, HW84141
Cadmium	447 ppm	"	
Arsenic	252 ppm	"	
Mercury	1.24 ppm	"	

Compound with highest score:

	Toxicity	Persistence	
Lead	3	3	=/?

Hazardous Waste Quantity

Total quantity of hazardous substances at the facility, excluding those with a containment score of 0 (Give a reasonable estimate even if quantity is above maximum):

~ 7 million Based on 160 Acres, 20 feet Thick.

Basis of estimating and/or computing waste quantity:

Size of Tailings dam and area covered

* * *

5 TARGETS

Ground Water Use

Use(s) of aquifer(s) of concern within a 3-mile radius of the facility:
Groundwater in the Woodside formation is one source of municipal supply for the town of Park City (Johnson's Associates, 1983; HRS Prospector Square

Distance to Nearest Well

Location of nearest well drawing from aquifer of concern or occupied building not served by a public water supply:
Pacific Bridge Well is approx. 2 miles from site and is located in the NE 1/4 NE 1/4 Section 9, Township 2 South, Range 4 East

Distance to above well or building: Ref: (HRS Score Prospector Square).
approx. 2 miles

Population Served by Ground Water Wells Within a 3-Mile Radius

Identified water-supply well(s) drawing from aquifer(s) of concern within a 3-mile radius and populations served by each:
Pacific Bridge Well draws from the Woodside formation and is one source of supply for Park City. The population that consumes water from the City's supply fluctuates from around 4500 in the summer to greater than 10,000 in the winter Source: HRS Prospector Square Marc Gesink E?E

Computation of land area irrigated by supply well(s) drawing from aquifer(s) of concern within a 3-mile radius, and conversion to population (1.5 people per acre):
Unknown

Total population served by ground water within a 3-mile radius:
Fluctuates from approximately 4500 to over 10,000 depending upon the season

Source: HRS Prospector Square Marc Gesink E?E

SURFACE WATER ROUTE

1 OBSERVED RELEASE

Contaminants detected in surface water at the facility or downhill from it (5 maximum):

	Concentration
Lead	31.8 ppm
Cadmium	.120 ppm
Arsenic	.40 ppm

WATER SAMPLES TAKEN from A groundwater SEEP THE FLOWS into A SMALL STEAM THAT FLOWS into SILVER CREEK.

SOURCE SITE VISIT 06/04/84

Rationale for attributing the contaminants to the facility:

Higher Than background levels OF Lead, cadmium and Arsenic in water Samples Collected above tailing.

* * * SOURCE SITE VISIT 06/04/84

2 ROUTE CHARACTERISTICS

Facility Slope and Intervening Terrain

Average slope of facility in percent:

Name/description of nearest downslope surface water:

Average slope of terrain between facility and above-cited surface water body in percent:

Is the facility located either totally or partially in surface water?

Is the facility completely surrounded by areas of higher elevation?

1-Year 24-Hour Rainfall in Inches

Distance to Nearest Downslope Surface Water

Physical State of Waste

* * *

3 CONTAINMENT

Containment

Method(s) of waste or leachate containment evaluated:

Method with highest score:

4 WASTE CHARACTERISTICS

Toxicity and Persistence

Compound(s) evaluated

	Toxicity	Persistence
Lead	3	3
Cadmium	3	3
Chromium	3	3

Compound with highest score:

Lead

Hazardous Waste Quantity

Total quantity of hazardous substances at the facility, excluding those with a containment score of 0 (Give a reasonable estimate even if quantity is above maximum):

Approx. 7 million tons.

Basis of estimating and/or computing waste quantity:

160 Acres 20 feet Rick

Source Site visit 06/04/84

* * *

5 TARGETS

Surface Water Use

Use(s) of surface water within 3 miles downstream of the hazardous substance:

Irrigation of hay, pasture grass

Source: HRS Prospector Square Mark Gesink EIE

Is there tidal influence?

NO

Distance to a Sensitive Environment

Distance to 5-acre (minimum) coastal wetland, if 2 miles or less:

NONE

Distance to 5-acre (minimum) fresh-water wetland, if 1 mile or less:

NONE

Distance to critical habitat of an endangered species or national wildlife refuge, if 1 mile or less:

NONE Known

Population Served by Surface Water

Location(s) of water-supply intake(s) within 3 miles (free-flowing bodies) or 1 mile (static water bodies) downstream of the hazardous substance and population served by each intake:

two diversions within 1 stream mile down stream

Source: HRS prospector SQUAE, Marc Gesink

Computation of land area irrigated by above-cited intake(s) and conversion to population (1.5 people per acre):

Approx. 500 Acres

↓

750 people

HRS Score Prospector Square - Mac Gesink

Total population served:

750

Name/description of nearest of above water bodies:

Silver Creek

Distance to above-cited intakes, measured in stream miles.

2 diversions located between ½ - 1 mile downstream of tailing pile

HRS Score Prospector Square - Mac Gesink

AIR ROUTE

1 OBSERVED RELEASE

Contaminants detected:

0

Date and location of detection of contaminants

Methods used to detect the contaminants:

Rationale for attributing the contaminants to the site:

* * *

2 WASTE CHARACTERISTICS

<u>Reactivity and Incompatibility</u>

Most reactive compound:

Most incompatible pair of compounds:

Toxicity

Most toxic compound:

Hazardous Waste Quantity

Total quantity of hazardous waste:

Basis of estimating and/or computing waste quantity:

* * *

3 TARGETS

Population Within 4-Mile Radius

Circle radius used, give population, and indicate how determined:

0 to 4 mi 0 to 1 mi 0 to 1/2 mi 0 to 1/4 mi

Distance to a Sensitive Environment

Distance to 5-acre (minimum) coastal wetland, if 2 miles or less:

Distance to 5-acre (minimum) fresh-water wetland, if 1 mile or less:

Distance to critical habitat of an endangered species, if 1 mile or less:

Land Use

Distance to commercial/industrial area, if 1 mile or less:

Park City Land fill ~200' from site

Site Visit 06/04/84
Bureau of Solid & Haz Waste

Distance to national or state park, forest, or wildlife reserve, if 2 miles or less:

none

Distance to residential area, if 2 miles or less:

Prospector Square housing development 2 miles

Distance to agricultural land in production within past 5 years, if 1 mile or less:

~1 mile 500 Acres

HRS Score Prospector Square Mark Gissink

Distance to prime agricultural land in production within past 5 years, if 2 miles or less:

Is a historic or landmark site (National Register or Historic Places and National Natural Landmarks) within the view of the site?

none

FIRE AND EXPLOSION

1 CONTAINMENT

Hazardous substances present:

NONE

Type of containment, if applicable:

* * *

2 WASTE CHARACTERISTICS

Direct Evidence

Type of instrument and measurements:

Ignitability

Compound used:

Reactivity

Most reactive compound:

Incompatibility

Most incompatible pair of compounds:

* * *

Hazardous Waste Quantity

Total quantity of hazardous substances at the facility:

Basis of estimating and/or computing waste quantity:

* * *

3 TARGETS

Distance to Nearest Population

Distance to Nearest Building

Distance to Sensitive Environment

Distance to wetlands:

Distance to critical habitat:

Land Use

Distance to commercial/industrial area, if 1 mile or less:

Distance to national or state park, forest, or wildlife reserve, if 2 miles or less:

Distance to residential area, if 2 miles or less:

Distance to agricultural land in production within past 5 years, if 1 mile or less:

Distance to prime agricultural land in production within past 5 years, if 2 miles or less:

Is a historic or landmark site (National Register or Historic Places and National Natural Landmarks) within the view of the site?

Population Within 2-Mile Radius

Buildings Within 2-Mile Radius

DIRECT CONTACT

1 OBSERVED INCIDENT

Date, location, and pertinent details of incident:

NONE

* * *

2 ACCESSIBILITY

Describe type of barrier(s):

NO barriers

Source Site Visit 06/04/84

* * *

3 CONTAINMENT

Type of containment, if applicable:

UNcontained waste piles

Source Site Visit 06/04/84

* * *

4 WASTE CHARACTERISTICS

Toxicity

Compounds evaluated:

	Toxicity	Persistence
Lead	3	3
Cadmium	3	3
Chromium	3	3

Compound with highest score:

Lead

* * *

5 TARGETS

Population within one-mile radius

UNKnown

Distance to critical habitat (of endangered species)

NONE Known

EPA REGION VIII
SUPERFUND DOCUMENT MANAGEMENT SYSTEM

DOC ID # 7445
PAGE #

IMAGERY COVER SHEET
UNSCANNABLE ITEM

Contact the Superfund Records Center to view this document.

SITE NAME Richardson Flat Tailings

OPERABLE UNIT

REPORT OR DOCUMENT TITLE Site Inspection Report

DATE OF DOCUMENT August 30, 1984

DESCRIPTION OF IMAGERY Color Photos

NUMBER AND TYPE OF IMAGERY ITEM(S) 4 Photos