

Letter No. 03-1



RECEIVED

OCT 06 2003

Utah Dept. of Environmental Quality  
Bur. of Human Resource Mgmt.

655 West Center Street  
Midvale, Utah 84047  
Phone (801) 567-7200  
Fax (801) 567-0518

Response to Letter No. 03-1

1-1: See the Response to Common Comment No. 6.

1-2: See the Response to Common Comment No. 6.

September 29, 2003

Utah Department of Environmental Quality  
NRD Trustee  
P O Box 144810  
Salt Lake City, Utah 84114-4810

RE: SOUTHWEST JORDAN VALLEY GROUND WATER CLEANUP

Dear Trustee:

Midvale City has reviewed the project summary for the above referenced project and is submitting the following comment for review and follow up.

The Sharon Steel Superfund Site is located in Midvale City. Remediation of the Sharon Steel site included the installation of a non-permeable geo-membrane over the tailings to prevent infiltration of storm water into the tailings pile. An interceptor trench was also installed upgradient of the tailings pile to prevent additional groundwater from entering the plume of contaminated groundwater in the shallow aquifer beneath the tailings pile.

1-1

Midvale's concern relates to the impact of the proposed pump and treat solution west of the Jordan River on the groundwater plume beneath the Sharon Steel site. It is our understanding that Bowen Collins conducted a shallow groundwater model analysis in an attempt to evaluate potential impacts of pumping on the shallow aquifer in general and the Sharon Steel plume in particular. In reviewing the Technical Memorandum presenting the results of that modeling it does not appear that the model was modified to account for the remedial steps taken at Sharon Steel in relation to the groundwater plume i.e. lack of recharge. The Technical Memorandum does not provide enough data to evaluate the sufficiency of the modeling, for example, what were the results of the sensitivity analysis and how did the model calibrate with the actual field data, such as measurements of flow across a section of the river and the identification of the gaining and losing reaches of the river?

1-2

Midvale believes that prior to a final determination that the pumping will not have a negative impact on the Sharon Steel plume due to its location on the east side of the Jordan River, the MODFLOW model should be revised to include a cutoff wall (the interceptor trench on the upgradient side of Sharon Steel), and the reduced infiltration resulting from the geo-membrane

**Letter no. 03-1 (cont.)**

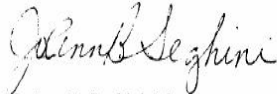
1-2 | cap. Additionally, the presentation of the results of the revised modeling should include, at a minimum, a discussion of how the conductivity of the stream bed was set, how the canals were calibrated to the groundwater, and how the groundwater/surface water interaction was calibrated.

1-3 | Midvale is supportive of the efforts to clean up the deep aquifer and, on a more limited basis, the efforts to clean up the shallow aquifer. Midvale is concerned that expansion of the shallow aquifer pumping project will occur with future detrimental effects at both the Sharon Steel and Midvale Slag Superfund sites. The remedial plan implemented at Sharon Steel and planned for Midvale Slag depend upon the predictable behavior of the shallow aquifer in those areas. Pumping activities undertaken in the area may change the behavior of the aquifer beneath the two superfund sites jeopardizing the remediation approved and implemented through EPA.

1-2 | Midvale City requests that the MODFLOW model be repeated with additional parameters and that the contaminated shallow aquifer beneath the two Superfund Sites be taken into consideration in the placement of future wells.

If you have any questions, please contact Lee King at 567-7206 or Christine Richman at 567-7214.

Sincerely,



JoAnn B. Seghini, Mayor

**Response to Letter No. 03-1 (cont.)**

1-3: The potential future expansions of shallow aquifer wells by JWCD are beyond the scope of the Joint Proposal currently before the Trustee. The Sharon Steel and Midvale Slag Superfund sites Records of Decision recognize the JWCD water rights and potential for future shallow groundwater pumping. Those Records of Decision require five-year reviews to monitor for changed conditions and to consider changes in remediation approaches to the slag sites.

## Letter No. 03-2

HOUSE OF REPRESENTATIVES  
STATE OF UTAH

REPRESENTATIVE STEPHEN D. CLARK  
63RD DISTRICT  
UTAH COUNTY  
948 EAST FIR AVE  
PROVO, UTAH 84604  
HOME (801) 374-6927 / OFFICE (801) 375-1260  
FAX (801) 375-1271  
E-Mail: [sclark@utah.gov](mailto:sclark@utah.gov)  
[stephenclarkcmc@hotmail.com](mailto:stephenclarkcmc@hotmail.com)



STANDING COMMITTEES: REVENUE AND TAXATION,  
VICE CHAIR; BUSINESS AND LABOR  
APPROPRIATIONS SUBCOMMITTEE: CAPITAL FACILITIES  
AND ADMINISTRATIVE SERVICES

October 20, 2003

Department of Environmental Quality  
Dianne R. Nielson, Director  
168 North 1950 West  
Salt Lake City, Ut. 84114-4810

Dear Dianne:

It has come to my attention that DEQ has issued a permit to dump selenium and salt into the Jordan River. While I am sure DEQ has weighed the impact of such dumping, I would like to be better informed. Has the department conducted impact studies on such actions? Has the department held hearings? How could these chemicals impact the wetlands of the Great Salt Lake, Farmington Bay and other prime wetlands fed by the Jordan River?

2-1

There is a question that this action could pose an immediate threat to wildlife down stream. I have had several representatives from wildlife groups' contact me voicing concern over the permitting process, the lack of EIS and the apparent lack of public input. If you feel these groups have standing in this matter, I would advise you to delay any action until they are heard.

2-2

I am copying DNR for their input in this matter. It is very important that the state's natural resources are protected while industry's needs are addressed.

Sincerely,

  
Stephen D. Clark

SDC/slr  
CC: Bob Morgan, Director, DNR



## Response to Letter No. 03-2

2-1: See the Response to Common Comment No. 9.

2-2: See the Response to Common Comment No. 1.

**Letter No. 03-3**



**CITY OF NORTH SALT LAKE**

20 South Hwy 89 • PO Box 540208  
North Salt Lake, Utah 84054-0208  
(801) 936-3877

KAY W. BRIGGS  
Mayor  
COLLIN H. WOOD  
City Manager

November 17, 2003

Dianne Nielsen,  
Utah Department of Environmental Quality  
NRD Trustee  
168 N. 1950 West  
Salt Lake City, Utah 84114-4810

Dear Dianne,

I have been notified by several concerned citizen groups and read the article in the Deseret News about the Kennecott settlement and the proposal to dump more salt and selenium into the Jordan River. While I'm not sure exactly how these additional minerals will affect wildlife and contaminate the river and shoreline, many people think this will ultimately kill life around the lake.

Since North Salt Lake has about six miles of the Jordan River in our city limits, I would appreciate having you or someone on staff give us, the North Salt Lake City Council and perhaps the Davis County Council of Governments, an explanation as to what impact we can expect from the additional contaminants. What will this do to the proposed Nature Conservancy Center in North Salt Lake (UDOT & Legacy), Farmington Wildlife Refuge and the Layton Nature Conservancy Center?

**3-1**

Also, if there has been a large Trust Fund established to help mitigate damages, what do we need to do to apply for use of those funds? Are they available for cleaning out the river and shoreline, trail construction, an educational center, etc.?

**3-2**

Please let me know as soon as possible so I can respond intelligently to the citizens of our town and Davis County.

Thanks,

Mr. Kay W. Briggs  
Mayor of North Salt Lake



**Response to Letter No. 03-3**

**3-1:** See the Response to Common Comment No. 9.

**3-2:** The NRD Trust Fund was established so that a contaminated source of water could be developed and provided to the public in the Affected Area at a certain quality and quantity for a forty year time period. The cash portion of the settlement (originally \$9 million cash) was established to restore, replace or acquire the equivalent lost resource for the benefit of the public in the Affected Area. The Letter of Credit (originally \$28 million) was established to fund the provision of 7000 acre-feet per year of municipal quality water (as defined in the 1995 Natural Resource Damage Consent Decree, NRD CD) for a period of forty years, for the benefit of the public in the Affected Area. In 1995, 8235 acre-feet of water was determined to be the volume of water contaminated with sulfate above the State primary drinking water standard. The NRD Trust Fund is precluded from being used in the endeavor suggested.

## Letter No. 03-04

October 13, 2003

Harrison Reclamation Company/ Harrison Duck Club  
c/o Robert W. Fehr, Jr.  
5929 West Black Mica Ave.  
Kearns, Utah 84118-7602

Ms. Dianne R. Nielson  
Executive Director  
Department of Environmental Quality  
State of Utah  
168 North 1950 West  
Salt Lake City, Utah 84116

Re: Jordan Valley Water Conservancy District/ Kennecott Utah Copper Corporation  
Salt Lake County Groundwater Contamination Cleanup

Dear Ms. Nielson,

- 4-1 On behalf of myself and the membership of the Harrison Duck Club, we vehemently oppose the issuance of a permit to discharge Selenium and Salt into the Jordan River ecosystem without first completing an Environmental Impact Study.
- 4-1 While we applaud the effort to clean up long-standing contaminated ground water, we strongly oppose the discharge of a known toxic compound into the Jordan River drainage which leads to the Great Salt Lake Wetlands ecosystem. No environmental evaluation of any kind has been performed to predict the long-term effects of such a project. Second, no alternative routes have been thoroughly explored. One of which may have much less of an environmental impact. There are several alternative routes that will bypass the Jordan River and the Great Salt Lake Wetlands altogether. Kennecott Utah Copper Corp. should be held FULLY responsible for this cleanup, at whatever the cost!!! They are the ones who created the contamination in the first place! They should not be allowed to take the cheap, chicken way out!
- 4-2
- 4-3
- 4-4 With no outlet, the Jordan River, the Great Salt Lake Wetlands, and the Great Salt Lake itself will eventually become an environmental disaster area and will require massive cleanup efforts in and of themselves. This dumping will affect numerous species of plant life, as well as many different species of animals. It is a proven fact, that high concentrations of Selenium have heavily impacted the population of Scaup throughout the United States and Canada.
- 4-5 The Great Salt Lake Wetland ecosystem is one of the most important wetland areas in the world, with respect to the waterfowl migration that takes place every year in this the Pacific Flyway. Without these wetlands, millions of ducks, geese, and swans would be affected annually, possibly drastically decreasing their populations across the North American continent. They are the chief breeding grounds of the Cinnamon Teal, along with many other plants and animals.
- 4-1 What kind of future are we providing for not only the wildlife, but our children by increasing the Selenium concentration 11% and the salt concentration 28% not to mention the other potential poisons that have not been mentioned? This is a very fragile ecosystem already. We certainly do not need to push it any harder than it currently is, or for that matter, more than Mother Nature would naturally.
- 4-4 Aside from the Wetlands, please remember that there are several farmers and individual gardeners who irrigate their crops with water taken from this section of the Jordan River. Plants absorb the toxic Selenium, and anything or anyone who eats the plants or their fruits, will be poisoned because of this. There are also several drinking water wells that are inside of this area that will be permanently tainted. It is ludicrous to think that by moving these toxins from one area to another, you will eliminate the problem. If the permit is



## Response to Letter No. 03-04

4-1: See the Response to Common Comment No. 8 and No. 9. See also, the Response to Common Comment No. 1 for a response to the request for an environmental impact study to be performed.

4-2: See the Response to Common Comment No. 6 and No. 7.

4-3: See the Response to Common Comment No. 12.

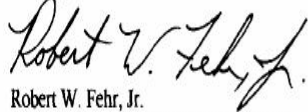
4-4: See the Response to Common Comment No. 9.

4-5: The Trustee, DEQ, Kennecott, and the Jordan Valley Water Conservancy District recognize the importance of the Great Salt Lake and associated wetlands.

**Letter No. 03-04 (cont.)**

- 4-4 | allowed to be carried out, it will surely create an EPA super fund cleanup project in years to come. The Great Salt Lake will not flush out these contaminants, it will just continue to accumulate higher and higher concentrations of poisons.
- 4-1 | Once again, we ask that the DEQ reconsider its position and oppose the discharge of Selenium and salts into the Jordan River ecosystem. We request that the DEQ perform baseline and environmental impact studies on this issue, prior to allowing the permit to be active.
- 4-6 | We have enclosed letters from Utah residents including state lawmakers, as well as a petition that has been signed by some 150+ citizens of Utah that are adamantly opposed to the permit and the activities that it allows.

Sincerely,



Robert W. Fehr, Jr.  
Board of Directors, Harrison Duck Club

Enclosure

cc. Senator Orrin Hatch  
Senator Robert Bennett  
Mayor Rocky Anderson

**Response to Letter 03-04 (cont.)**

4-6: For petitions, see the Response to Common Comment No. 8 and No. 9.

Signatures to Letter No. 03-04

OCT. 2003

We, the undersigned citizens of Utah, hereby protest the issuance of a permit by the DEQ to Kennecott Copper, which will allow the company and their agents to dump 146 pounds per year of selenium and 22,000 tons of salts into the Jordan River. We hereby request that the DEQ perform an EIS, and further investigate alternative options, which will be less harmful to the Great Salt Lake Wetlands.

Signature	Address/Phone #
1 Robert V. [Signature]	5929 BLACK MICA AVE KEARNS, UT. 84118 955-8938
2 Robert W. [Signature]	2011 TERRA LINDA DR. S.L.C. UTAH 84124
3 [Signature]	89 E. [Signature] Farmington UT 84205
4 David L. Radcliff	4661 CHAPEL ST HOLLADAY UT. 84117-57A
5 [Signature]	5265 W. Cypress Hill Ct West Jordan UT
6 [Signature]	2579 Cimarron D [Signature] 84663
7 [Signature]	2514 W. 12820 SO. EVANSTON, UTAH
8 [Signature]	168 SO 1160 W (835) Grantsville UT 84029 824-0538
9 [Signature]	973 W. Pinnocchio Dr. S.L.C. UTAH 84116 801-530-0805
10 [Signature]	8486 So. 2880 W. #502 West Jordan UT 84088 (801) 400-0
11 Larry Sileo	345 Fairlane Dr Tooele, UTAH 84074
12 Steve Wylie	9385 COYOTE COVE West Jordan UT 84088
13 [Signature]	6065 So. 700 W. MURRAY UT 84123 (661)-220
14 [Signature]	10466 CORKRAN AVE 487-8635 SLC, UT 84106
15 Dave McKinnon	756 W 200 S 435-882-3588 Tooele UT 84074
16 [Signature]	2105 W 7380 SO 255-1645 West Jordan
17 [Signature]	P.O. Box 54048 N.S.L. UT
18 Beau Coplin	533 W 5987 S. Murray UT 897-2328 44054

Signatures to Letter No. 03-04 (cont.)

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Signature	Address/Phone #
1 [Signature]	10534 Highline Cir. S.J. UT MAGNA UT 254-0692
2 Judy Perry	3472 SOUTH HACKBERRY PL. UT 84044
3 Lynn [Signature]	5430 Kenwood Dr 84107
4 Jason [Signature]	5430 Kenwood Dr 84107
5 TODD BELL	6547 SO. MURRAY UT 84123
6 ZACH BELL	6547 SO. MURRAY UT 84123
7 TROY CLOAGRO	3668 SO 9565 W WAK UT 84200
8 [Signature]	2011 TERRA LINDA DR. S.L.C. UT 84124
9 Paul Jay	860 WEST 400 NORTH SLC UT 84143
10 Eric Tedesco	3612 So 5200 W. WVC UT 84143
11 Richard [Signature]	17 Benchmark Vly Tooele UT 84074
12 Rick [Signature]	215 South Thudst. Tooele Ut. 84074
13 [Signature]	49 Handwood Way 84092
14 [Signature]	1131 E Hampton Crest CV SLC UT 84143
15 [Signature]	3165 S. Jean St Magna Ut. 84044
16 John [Signature]	1487 So 1670 W Bluffdale UT 2542685
17 [Signature]	894 Stone Ct. Farmington, UT 455-0151
18 Scott Savage	1682 W. VILLAGE ROADS PC. UT 845-8433
19 [Signature]	11522 So 4380 W. So. Jordan UT 84085

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<u>Signature</u>	<u>Address/Phone #</u>
1	3487 N. 570 West 435-833904
2	533 W 5487 South
3	4345 S Long Valley Dr (801) 969-7064
4	100 Box 201, Nephi UT 801-710-7074
5	80972 8125 S SANDY 505-9928
6	9889 So Eden Ridge Dr. So. Jordan 509-7772
7	9548 S Circuit de Sandy 572-6641
8	9094 SO PARADISE VALLEY W JORDAN 280 589
9	602 Blue Ridge Dr Tooele UT 89074 435-8828
10	2610 N 520 W Tooele UT 89074 435-882-446
11	2046 W 12510 So Riverton UT 2530
12	7841 Foot Hill Dr Lake Point UT 250 47
13	6796 So 2350 W Wood Lake UT 84084
14	5172 West Elk Horn Peak Dr. Riverton, Utah (801) 84065
15	8324 Wendenbury Dr Magna UT 252-0658
16	4885 W. Haveson way W.V.I. UT. 8400
17	214 E. Rigdon Ave SLC, UT 84115 244-1507
18	7174 E. 1000N. HONTSVILLE UT 84317 745-0402

Signatures to Letter No. 03-04 (cont.)

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<u>Signature</u>	<u>Address/Phone #</u>
1	1619 E. Wilson Ave SLC 84105 4670
2	3724 So. 8240 WEST MAGNA BS
3	8740 W Balled CT Magna UT 84016 801-250-7124
4	8197 W. Lewis - Magna UT 84004
5	13881 SOUTH MARKHAM WATTE Circle 30215 HARR. AR. UT 250-326 84065
6	4755 So. Rock Face Dr. Taylorsville, Utah 84118 962-9392
7	2797 S. 1500 E Salt Lake City, Utah 505 550-7644
8	2014 YUMA VIEW DR SLC 84109 484-1153
9	1341 E MARIPOSA AVE SLC UT 84104
10	3795 So 5600 W W.V.I. UT 968 200
11	364 Meadows Dr. Tooele UT 435-880-1391 84074
12	3005 S. BLAIR ST SLC UT 84115 44
13	3446 W 7925 S. W JORDAN UT. 24084 714 41
14	2222 King SLC UT 84109
15	1400 N. 1690 S. G - 204 Murray UT 84123 801-576-1
16	1705 EDGECLIFF CANYON UT 84072 84077
17	379 N 900 E Kaysville UT (801) 547-0
18	788 E VINE TADDELE UT, 84074

What About Harrison Duak Club's Drinking Water? Please Sign??



Signatures to Letter No. 03-04 (cont.)

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<u>Signature</u>	<u>Address/Phone #</u>
1 John D. Handman	6273 W. 2900 S. WVC. 963-8925
2 David Spelman	2820 N. SOUTHPIKE RD. S. JORDAN 254-3857
3 Stephen B. Dym	14379 Rose Canyon Rd. Herriman UT 2042
4 Mredenstrom	3679 ENGLEWOOD DR SLC UT 84118
5 Bruce M. Bell	3842W 4875 S. Roy UT 84067
6 Ed Young	3195 So. 3600 W. WVC 84115
7 Mike Friedel	12486 Fort St. Draper UT 84020
8 GREG HOE	1356 E Emerson SLC UT 84105
9 Floyd Barber	11946 So. Canyon Blvd. Sandy UT 84094 571-422
10 Sam Busch	1251 W. 2100 S. (Hinterhill) UT 84119
11 Julie Lantz	11406 S. GRACYPARK, Sandy UT 84092
12 Daniel X. Tom	485 N. Street, SLC, UT 84103
13 Roy Utton	5888 Cilma Dr WVC UT 8412
14 Michelle M. Riedel	1744 S. Parkridge Dr. SLC UT 84121 944 134
15 David Jensen	11630 Kagan Rd. Chandler 571-491
16 W. Chris Myer	7667 City View MIDVALE UT 201 56
17 Jeff Van Klaren	5795 S. Greenwood Dr Murray UT 266
18 Phillip D. Manning	6889 So. 9300 MIDVALE 2624
Clarence Phil. (Chaffin)	2015 S. 19000 Provo UT 801-375-041

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<u>Signature</u>	<u>Address/Phone #</u>
1 Ben Aragon	986-0058 2571 So. Chesterfield <sup>WVC</sup>
2 Clara Aragon	986-0058 2571 So. Chesterfield st WVC
3 Kirt Smith	2569 S. Chesterfield St. WVC UT 518-5410
4 Crystal Johnson	642-4836 2569 S. Chesterfield St. WVC UT 84117
5 Sylvia Huchabauer	1A7-4836 2560 S. Chesterfield St WVC VT 84119
6 Peter A. Reymor	(972-0793) 2593 Chesterfield St. 84119
7 Tatyana Reymor	(972-0793) 2593 Chesterfield St. SLC
8 Grant Andrews	973 1073 2650 Chesterfield st.
9 Victor Lopez	(577-8311) 2656 Chesterfield st.
10 Brent-Anast	(973-8699) 2630 S. Chesterfield St.
11 Dave Callegos	(706-2573) 2624 Chesterfield St 84119
12 Gerardo Perez	(597-5110) Chesterfield st. 2624 S. 84119
13 Esteban MacFarlane	(908-9352) Chesterfield 2600 WVC UT 84119
14 Paul Smith	90869131225 W Crystal Ave 84119
15 Juan Trevizo	801 548 9175 2540 So 1160 W
16 Lucy William	5779567-2542 So 1160 W
17 CARLOS TREVIZO	604-5357-799 So Chesterfield WVC
18 Mary Gordon	2565 S. Chesterfield WVC UT 84115
Randy Gordon	908-7660 2565 Chesterfield St. WVC, (703-7660) 84115

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<u>Signature</u>	<u>Address/Phone #</u>
1 Eleanor M. ...	521-8964 6796 No 2350 St. ... UT
2 Steve K. ...	296-2354 158 W 2200 South ... UT
3 Bill ...	884-0317 373 E. ... DR. ... UT
4 Robert ...	3529 W. Cambridge Dr. WVC 966-0759
5 Barry ...	1108 East 12930 South, Draper 571-0854
6 ...	579 W. 1450 So. Provo 375-7121
7 ...	353 North Center Ave. Fork 756-2764
8 ...	902 - South ... Valley ... UT 435-654-5637
9 Rick ...	428 E 1600 So. Orem UT. 840-58
10 ...	458 S. 400 E. ... UT. 84651
11 ...	844 W 2350 N Lehi UT 84043
12 ...	767 West 320 North Lindsa UT. 84042
13 ...	455 East 700 North America, Fork UT 84003
14 ...	171 N. Grant Ave A.F. UT 87003
15 ...	413 E. 330 N. Orem, UT. 226-5622
16 ...	1046 S. 230 W ... UT 465-9157
17 ...	580 ... wood Ave Provo UT 356-9696
18 ...	375 W. ... Ave. ... Fork 492-0832

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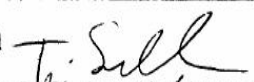

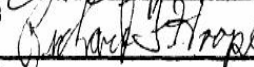
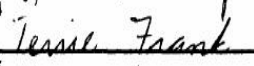
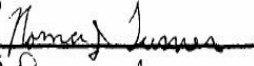
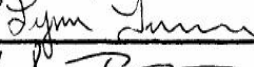

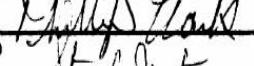
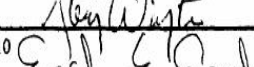


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<u>Signature</u>	<u>Address/Phone #</u>
1 ...	426 S 1000 E, # 504 SLC UT 84102 860-6532
2 ...	770 Northview SLC 84103
3 ...	3055 So Valley St Salt Lake City UT 84109 524-0608
4 ...	2846 Cambridge ... #1, ... UT 84093 (361) 944-8325
5 ...	2659 South 1500 East SLC UT 84106 801-4875433
6 ...	50 N Coleman, Torrey, UT 84074
7 ...	12144 S 3150 W ... UT 801-257-1125
8 ...	2925 S 825 W # E303 ... UT 84010 801-294-001
9 ...	2727 S 625 W # E303 ... UT 84010 801-294-0019
10 ...	5795 S ... Rd SLC UT 84121 801-271142
11 ...	373 W 25 S 801 825 7986 Clearfield, UT 84015
12 ...	1497 W. Van Buren Ave SLC, Utah 84104 - (364-5440) 3446
13 ...	350 South Main #146 SLC, UT 84101
14 ...	

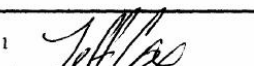

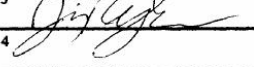
Signatures to Letter No. 03-04 (cont.)

We, the undersigned citizens of Utah, hereby protest the issuance of a permit by the DEQ to Kennecott Copper, which will allow the company and their agents to dump 146 pounds per year of selenium and 22,000 tons of salts into the Jordan River. We hereby request that the DEQ perform an EIS, and further investigate alternative options, which will be less harmful to the Great Salt Lake Wetlands.

<u>Signature</u>	<u>Address/Phone #</u>
1 	Sand ut 84472 2034 E. Canyon Ave. Coal
2 	11614 So. Washington Provo, Sandy UT
3 	2316 W. 1500 N. Provo, UT 84601
4 	2519 So. Chatham Street West Valley
5 	3084 W. 3875 S West Valley
6 	1667 So 200 E CARMINGTON UT 84025
7 	606 Well St SLC, UT 84103
8 	1390 S. 300 E SAC. UT 84115
9 	(801) 443-0151 8750 KINGSHILL DR. SLC, UT 84121
10 	410 J Street SLC 84103
11 	851-455-1608 474 E. Burlington SLC UT 84115
12	

Signatures to Letter No. 03-04 (cont.)

We, the undersigned citizens of Utah, hereby protest the issuance of a permit by the DEQ to Kennecott Copper, which will allow the company and their agents to dump 146 pounds per year of selenium and 22,000 tons of salts into the Jordan River. We hereby request that the DEQ perform an EIS, and further investigate alternative options, which will be less harmful to the Great Salt Lake Wetlands.

<u>Signature</u>	<u>Address/Phone #</u>
1 	736 W. ROANOKE 203-1955
2 	10443 S. Tamarli. CT S. Jordan 253-5853
3 	3475. 900 WEST - 232-8896
4	
5	

Signatures to Letter No. 03-04 (cont.)

We, the undersigned citizens of Utah, hereby protest the issuance of a permit by the DEQ to Kennecott Copper, which will allow the company and their agents to dump 146 pounds per year of selenium and 22,000 tons of salts into the Jordan River. We hereby request that the DEQ perform an EIS, and further investigate alternative options, which will be less harmful to the Great Salt Lake Wetlands.

	<u>Signature</u>	<u>Address/Phone #</u>
1	<i>Roy Whitehouse</i>	906 W. Vine Tooele, UT. 435-882-314
2	<i>Scott Bueck</i>	668 Country Club, STANBURY Park, UT. 432-7011
3		

Signatures to Letter No. 03-04 (cont.)

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	<u>Signature</u>	<u>Address/Phone #</u>
		1387 S. 1400 E.
1	<i>Jenna K Miller</i>	801 581 3582
2	<i>Jan Kottler</i>	1819 E. 1300 S. 801-599-4207
3	<i>Dennis Holby</i>	70550 Redwood Rd #30
4	<i>John Binley</i>	" " " #40
5	<i>J. Grant Lund</i>	15481 S. Canyon Williams
6		
7		

## PETITION

The Undersigned residents of the state of Utah object to the proposed plan by the Jordan Valley Water Conservancy District to release an estimated 146 pounds of Selenium and 22,000 tons of salts into the Jordan River. We petition the Utah State Department of Environmental Quality to deny permission to execute this plan which will increase pollutants by 11% and 28% respectively.

	Signature	Name (Please Print)	Address
1	<i>[Handwritten Signature]</i>	Sean Wilson	5545 W. Woodward Ln #410, UT 84117
2	<i>[Handwritten Signature]</i>	Stephanie Williams	5545 W. Woodward Ln
3	<i>[Handwritten Signature]</i>	Alex Wilson	7720 S - Brighton Way S.C. UT 84121
4	<i>[Handwritten Signature]</i>	DIAN WILSON	2080 S WILLOWOOD DR Salt Lake
5	Wayne Milne	Wayne Milne	3509 Mill Hollow Cir - SLC, UT
6	<i>[Handwritten Signature]</i>	KIRK BRUCE	5765 W S MILLTON CTR KEARNS
7	<i>[Handwritten Signature]</i>	JEFF McFARLAND	5684 S. LARDAINE CIR #B
8	<i>[Handwritten Signature]</i>	Holly Sutton	3700 Wrangler Way P.C. UT 84098
9	ANN WILSON	<i>[Handwritten Signature]</i>	2080 WILLOWOOD DR. 84121
10	<i>[Handwritten Signature]</i>	Tim Sutton	3700 Wrangler Way PC UT 84121
11	Tammy Wilson	Tammy Wilson	1720 S Brighton Way SLC UT 84121
12	<i>[Handwritten Signature]</i>	Charles Ben Sutton	3700 Wrangler Way Way
13	<i>[Handwritten Signature]</i>	Katie Skinner	2213 E. 2100 S.

Signatures to Letter No. 03-04 (cont.)

PETITION

The Undersigned residents of the state of Utah object to the proposed plan by the Jordan Valley Water Conservancy District to release an estimated 146 pounds of Selenium and 22,000 tons of salts into the Jordan River. We petition the Utah State Department of Environmental Quality to deny permission to execute this plan which will increase pollutants by 11% and 28% respectively.

	Signature	Name (Please Print)	Address
1	<i>Will Drury</i>	Will Drury	4968 Kessler Peak Dr. Riv.
2	<i>Joyce Drury</i>	Joyce Drury	4968 Kessler Peak Drive Riv.
3	<i>Rutha Crandall</i>	Rutha Crandall	2047 W. 13800 S. Riv. UT
4	<i>Andrey Drury</i>	Andrey Drury	2017 W. 13800 So Riv. UT 84005
5	<i>William Sherman</i>	William Sherman	2017 W. 13800 So Riv. UT
6	<i>Renee Sherman</i>	Renee Sherman	2017 W. 13800 So Riv. UT
7	<i>Storia Drury</i>	Storia Drury	2252 W. 13400 S Riverton
8	<i>Erin Drury</i>	Erin Drury	2252 W. 13400 S Riverton
9	<i>Kim Leht</i>	Kim Leht	2252 W 13400 S Riverton UT
10	<i>Chris Barrow</i>	Chris Barrow	1956 W. 11970 S Riverton UT
11	<i>Denise Barrow</i>	Denise Barrow	1956 W. 11970 So Riverton
12	<i>Dustin Lovendahl</i>	Dustin Lovendahl	12324 S. 1700 W. Riverton UT 84005
13	<i>Lori Lovendahl</i>	Lori Lovendahl	12324 S. 1700 W Riverton UT 84005
14	<i>Debra Holyoak</i>	Debra Holyoak	14056 S Chardonnay Ln. Bufile
15	<i>James Drury</i>	James Drury	375 station Rd. Cedar Fort.
16	<i>McKell Drury</i>	McKell Drury	375 station Rd. Cedar Fort. 84001
17	<i>Liam Henison</i>	Liam Henison	1847 So. 2870 W. Borden UT
18	<i>Liam Henison</i>	Liam Henison	1847 So. 2870 W. Borden 84008
19	<i>Justin Burton</i>	Justin Burton	7698 W. 2870 S. Riverton UT
20	<i>Dale Hansen</i>	Dale Hansen	2388 W. 2120 N. Clinton 84000
21	<i>Anna Hansen</i>	Anna Hansen	2388 W. 2120 N. Clinton 84000
22	<i>Anthony Hansen</i>	Anthony Hansen	2388 W. 2120 N. Clinton 84000
23	<i>Jess Baker</i>	Jess Baker	7375 2700 N. S.L.C. UT 84041
24	<i>Justin McCallum</i>	Justin McCallum	8190 W. Benbury Dr. Magna UT 84044
25	<i>Cady Millard</i>	Cady Millard	2879 S. 7740 W. Riverton UT 84044
26	<i>MIKE OBERLIN</i>	MIKE OBERLIN	3417 W. FLORENCE CIBERCA RIVERTON
27	<i>Lloyd Christensen</i>	Lloyd Christensen	3779 So. 4325 W. Valley UT 84001
28	<i>Kevin H. Hancock</i>	Kevin H. Hancock	308 North 175 West West Park UT 84008
29	<i>Jim Anderson</i>	Jim Anderson	1465 W. 3610 S. Riverton
30	<i>Michelle Bruce</i>	Michelle Bruce	Riverton

Signatures to Letter No. 03-04 (cont.)

PETITION

The Undersigned residents of the state of Utah object to the proposed plan by the Jordan Valley Water Conservancy District to release an estimated 146 pounds of Selenium and 22,000 tons of salts into the Jordan River. We petition the Utah State Department of Environmental Quality to deny permission to execute this plan which will increase pollutants by 11% and 28% respectively.

	Signature	Name (Please Print)	Address
1	<i>Grant H White</i>	GRANT H WHITE	3651 OAK RIVER
2			
3			

Signatures to Letter No. 03-04 (cont.)

PETITION

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	Signature	Name (Please Print)	Address
1	<i>Mick Koester</i>	MICK KOESTER	1240 VALENTINE SLE 84116
2	<i>Z. P. Riddle</i>	TREVOR RIDDLE	707 MADRID AVE 10-P
3	<i>John R. Price</i>	John R. Price	6359 So. Uyak Ct W. UT.
4	<i>Cheryl Carver</i>	CHERYL CARVER	410 S 1000 W LAYTON UT 84041
5	<i>Carol Carter</i>	Carol Carter	919 W. Parkes Ln. W. Bate 840.
6	<i>Mark Meier</i>	MARK MEIER	916 W. 1850 SO. WAX
7	<i>Scott Madsen</i>	Scott Madsen	270 W 400 W Smithfield UT 84435
8	<i>Mark B. Robinson</i>	Mark B. Robinson	3764 S 3745 W W. Valley 84120
9	<i>Crystal Thrig</i>	Crystal Thrig	345 E. 300 No Center W. U.
10	<i>David C. Thomas</i>	David C. Thomas	3623 So. Highfield Ct. W. V. 84120
11	<i>Traavis Nielsen</i>	Traavis Nielsen	3836 S 3660 W WUC 84426
12	<i>Ross Bayles</i>	Ross Bayles	159 Sun Arbor #2735 S. C. 84116
13	<i>Tina Massey</i>	Tina Massey	5193 Cablecrack Rd
14	<i>Carl N. By</i>	Carl N. By	6873 Balaban Field Dr. #40
15	<i>Duane Morris</i>	Duane Morris	2798 W 10400 S So Jordan, UT 840
16	<i>Shayne Barrion</i>	Shayne Barrion	67 E. 3000 So. Beautiful W. 840
17	<i>JJ Sabzar</i>	JJ Sabzar	5168 Natalie Ct. West Valley, UT
18	<i>Wesley Bayles</i>	Wesley Bayles	2500 W Fern Circle W. V. C.
19	<i>Matthew</i>	Matthew	2001 S 3000 W. W. V. C.
20	<i>Michael</i>	Michael	5346 W. V. C. DRIVE W. V. C.
21	<i>Dylan Wilson</i>	Dylan Wilson	20 W. Lester Ave B/B Murray
22	<i>Bob L. Palmer</i>	Bob L. Palmer	873 Phoenician Blvd. Cir. Canyon
23	<i>Jerry Gannon</i>	Jerry Gannon	11924 So. Emma mine Dr. Pi. V. C.
24	<i>Jessie Palmer</i>	Jessie Palmer	2763 N. 1400 N. CHINOOK UT
25	<i>Jeffrey K. Lewis</i>	Jeffrey K. Lewis	1401 W. 2350 S. Woods Cross UT.
26	<i>Ellie Bailey</i>	Ellie Bailey	971 N Chapel DR. H. H. Bountiful
27	<i>Richard G. Neumann</i>	RICHARD G. NEUMANN	4921 W. CHOCTAW AVE W. V. C.
28	<i>Daniel Haslam</i>	Daniel Haslam	684 W. 2200 W. W. Bountiful
29	<i>Kasie Jones</i>	Kasie Jones	1021 S. 2725 W. CHINOOK UT
30	<i>Tan Noble</i>	Tan Noble	535 S. Millbrook Way Bountiful UT 84010

Signatures to Letter No. 03-04 (cont.)

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	Signature	Name (Please Print)	Address
1	<i>John W. Baker</i>	John W. Baker	3242 STAFFORD A. Bore
2	<i>Will S. Baker</i>	Will S. Baker	3540 W Star Fire Rd. / So Jordan
3	<i>Virginia Brock</i>	Virginia Brock	1158 Morton Hills Cir, SLC, UT 84116
4	<i>Bradley Baker</i>	Bradley Baker	3022 W. Starfire Rd.
5	<i>Say Condon</i>	Say Condon	1235 W. Franklin Dr. Map. Ut.
6	<i>Danna Brock</i>	Danna Brock	1158 Morton Hills, SLC, UT 84116
7	<i>Mike/Mary Ann</i>	MIKE/MARY ANN	636 E. 11900 S. SWAPER 84420
8			

Signatures to Letter No. 03-04 (cont.)

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Signature	Name (Please Print)	Address
[Signature]	John W. Plank	3392 Starfire Rd & South
[Signature]	Jill S Baker	3540 W Starfire Rd. / So. Jordan
[Signature]	Virginia Brock	1158 Marbon Hills Cir, SLC, UT 84116
[Signature]	Robert Ray	112945 Hidden Lake Ln
[Signature]	[Name]	3272 Kasilik Cir
[Signature]	Sergio L. Arroyo	5440 S Rio Camino W. U.
[Signature]	MIKE WAGNER	87150 CASHAN #20 TONALE
[Signature]	Cornie Smith	3709 Bristol Way W.
[Signature]	Jeanette Smith	3709 Bristol Way W.
[Signature]	Felic Brown	Helm UT
[Signature]	Octavio Acosta	wvc, UT 84108
[Signature]	LISA JULIO	MIDVALE, UT
[Signature]	Rick Julio	" "
[Signature]	Erin Hullum	" "
[Signature]	Mack Hullum	" "
[Signature]	Jon Fraughton	6789 S. Barula Cir W.J. Utah
[Signature]	Brandon R. Chason	630 W Woodway Dr. Murray
[Signature]	Jon T. Garrett	440E 6236 S Murray

Signatures to Letter No. 03-04 (cont.)

PETITION

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Signature	Name (Please Print)	Address
[Signature]	Bryon Hugie	611 E 900 N Kayville, UT 84037
[Signature]	Steve Hammond	1124 W 1000 S. WJ, UT 84037
[Signature]	Melissa Nuttall	462 S 450 W Layton, UT 84041
[Signature]	Randall Rawlings	336 W. 1465 N. Carbonville, UT 84014
[Signature]	Joseph F. Conley Jr.	5512 Merlyn Dr., SLC, UT 84117
[Signature]	Debra H. Condie	3687 Gilkey Rd, SLC UT 84116
[Signature]	Tom Bagley, Jr.	7389 Lost Canyon Cir, SLC UT 84128
[Signature]	Thomas Bagley	1388 Lost Canyon Cir SLC UT
[Signature]	John Benjamin Bagley	7388 Lost Canyon Cir.
[Signature]	Brooke Bagley	7388 Lost Canyon Circle SLC UT 8
[Signature]	Sarah Bagley	7388 Lost Canyon Cir. SLC UT 84
[Signature]	M. Todd Sanson	143 E. 1st Ave SLC UT 84103
[Signature]	Michael W. Sanson	8443 S. Starhill Ln SLC UT 84124
[Signature]	Chad Iverson	8823 Ground Oak Dr.
[Signature]	Mike Hammer	1200 E 352 S.
[Signature]	ANDREW N JENSEN	1937 E 7th S, SLC UT 84123-79
[Signature]	JOANNE BENNETT	11968 NOELLE RD, SANDY, UT 84091
[Signature]	WALTER DE SPAIN	2017 HIGHLAND DR SALT LAKE UT 8
[Signature]	Alby Latimer	140 Kaufman Cir draper UT 8402
[Signature]	Paula DeSpain	2217 High Mt. Dr. SLC UT 84123
[Signature]	SHARON F MYERS	5480 CANYON DR MURRAY UT
[Signature]	Nicholas DeSpain	2217 High Mt. Dr. SLC UT 84123
[Signature]	Ryan Swanson	2713 S. Highland St SLC UT 84123
[Signature]	JOHN PARRY	8855 S. Popsie Ln Sandy UT 84091
[Signature]	JANNEY PIZZA	1960 W. 1000 E SLC UT 84115
[Signature]	SCHAFER KENSEN	273 FORDWAY AVE SLC UT 84123
[Signature]	JOHN SCHULLEN	S. SCHULLEN
[Signature]	[Name]	1055 S. 1500 E SLC UT 84110
[Signature]	William [Name]	7142 S. 1500 E SLC UT 84112
[Signature]	[Name]	1507 [Address]



Signatures to Letter No. 03-04 (cont.)

PETITION

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	Signature	Name (Please Print)	Address
1		Robin Claydon	1646 N 500 So Farmington
2		STEVEN CARLSON	4214 1250 E LAYTON
3		KEVIN HENZLE	316 W 2300 S - Bountiful, UT
4		Janice Asile	2578 Dimple Hill, Sandy
5		JERRY PALMER	208 N 1400 E FRT HTS
6		THOMAS LINDERHILL	11455 So. COUNTRY X-VAL RD
7		WENDY PERKS	8249 So 5310 W - West Jordan
8		ROBERT NEWSON	2384 KETON SANDY UT
9		STEPHEN BERNICK	427 So 1250 E Layton UT
10		Kent Waldron	212 East State Farmington, Utah
11		GERARD KOONITZ	7482 Brighton W. SLC. UT
12		MICHAEL ROMNEY	451 W BURKE LN FARMINGTON
13		JAMES T. ANDERSEN	4738 MILE HIGH DR. SLC
14		JEFF C. READING	5184 <sup>th</sup> KINGSWOOD DR. SLC.
15		DAN CLAGGS	1382 E. GOLDEN Cn. F.H. LIT
16		EUGENIA C. RAY	2326 E. 175 N. LAYTON, UT.
17		Diana Nicolai de S	1177 Topaz SLC. 874816
18		Christina Ray	337 E 102 So Centerville UT 84304
19			
20			

Signatures to Letter No. 03-04 (cont.)

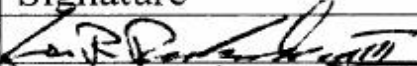



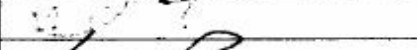

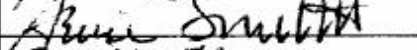
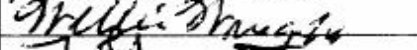

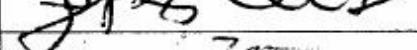
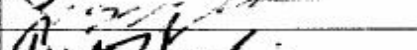

PETITION

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	Signature	Name (Please Print)	Address
1		Craig Koester	1157 N 9th St.
2		WADE KOESTER	2027 No 800 W. W.BTC.
3		MARK FENTON	2773 SO GLENMARE SLC
4		GARY GILBERT	4158 S Ogden Dr WNK
5		AL SCHINDLER	4500 + 4500 W VALLEY
6		Martin Richon	7562 CASH VAND
7		Lynn Simpson	3976 BLUE STONE CIR
8		Audrey Guelching	241 Rosewood Ave
9		JIM SOTO	2658 Angelita Ct
10		Art Symonette	2242 W. 3800 SO DROS
11		William Lloyd	2283 E. 7160 S.
12		Jim Finlayson	16608 So. 2700 So.
13		Keith Huston	3393 W 5775 SO
14		Rich Valdez	1298 So. UT 24 ST.
15		TEO SALAZAR	2797 W Sweet Basil No
16		ALAN BEESLEY	6130 So. County Hills Dr
17		Luzen Allred	2129 <sup>th</sup> Arbor Hill Ct
18		Jerry Gilman	8603 W. Blackwood Way
19		PAUL ERICKSON	5277 S. 2000 W.
20		Sarah Jentsch	46 W. Longtan Ave
21		Ryan Brigham	4692 W. Park Dr.
22		Tom Anderson	11893 S. Hampton View Dr
23		Amy Mickelson	132 E Harvard Ave
24		Nancy Allen	427 E Elise Sandy
25		LORRIE NILES	373 Di Maggio Tooele
26		LARRY L. WALTERS	
27		Ric Burkot	23 Lakeview Standy
28		BRETT SHELLEY	548 W. 5900 SO.
29		Timothy R. O'HARA	1501 S. 500 E SLC UT
30		LINDA JENNINGS	323 W 11th Ave SLC UT
		Mike Allen	919 N Valley Dr SLC

## PETITION

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	Signature	Name (Please Print)	Address
1		Lon R. Richardson II	12804 1/2 Ave SLC UT
2		Dustin Kirk	2125 Rainy Project
3		BRANDON FAIRBANKS	10350 S. 385 E Simons, UT
4		Christian Kevishgan	8126 S. Miramela Court, UT
5		Robert Smith	909 E. Crossed Wy Dept, UT
6		TODD Brinkman	1508 E Stone Ave OR muok, UT
7		Arnie Smith	2805 Fillmore Ogden, UT
8		Travis L. Wright	12827 POULTELL DRAPER, UT
9		Travis L. Wright	2424 Walker Lane, SLC UT
10		James J. Taylor	
11		James J. Taylor	1271 E Kensington Ave SLC UT
12		Austin Headrick	12195 S. 2413 Ave
13			

Signatures to Letter No. 03-04 (cont.)

PETITION

The Undersigned residents of the state of Utah object to the proposed plan by the Jordan Valley Water Conservancy District to release an estimated 146 pounds of Selenium and 22,000 tons of salts into the Jordan River. We petition the Utah State Department of Environmental Quality to deny permission to execute this plan which will increase pollutants by 11% and 28% respectively.

	Signature	Name (Please Print)	Address
1		Kevin R. Haseman	2829 Green Oaks Dr. SL 84109
2			
3			

Signatures to Letter No. 03-04 (cont.)

PETITION

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	Signature	Name (Please Print)	Address
1		David McCamus	2826 Emerald Drive
2		R. Casen	6072 So. 1490E SCC
3		JEFF D. AMARAL	6478 E. LEWIS BLVD SL
4		Ryan Handley	932 W. 1850 N. W. 647114 840
5		James Drury	13500S-2067 Arrowhead Ct
6		Dallas Black	2001 W. 1520 S. Riverton UT 84
7		Andy Drury	1576 W 2760 W - UT 64
8		Miss Deme	374 S 700 (West) No SL 077
9		Ron M Land	2269 W. 10575 W. SL 84109
10		William Drury	1765 N. 1350 S. 13500 S 8410
11		Quinn Drury	" " " " " "
12		Jake Ward	781 So. Old Mission Road Sandy, UT 84
13		DEWEY WARD	" "
14		LIBERTY AFFLECK	476 E 1100 S #101 ST. GEO.
15		Joseph L. Taylor	1454 HAYWARD BLVD SL
16		SCOTT CAMPBELL	1723 BENTLEY DR. SANDY 84109
17		Joseph R. Hamstony	3271 N. Pine Valley SL
18		Matt Clark	1420 Cherry Lane SL
19		BRUCE WADDELL	744 W 11560 S DRAPER 84002
20		DR KEITH LUND	4940 Silver Springs Park SL
21		Mack Demm	5570 Snowtrap Pl. W. Jordan 8405
22		LUKE KESNER	5214 FURNACE WY. SL 8412
23		David Clumton	684 E 2550 N. N. Ogden 8406
24		JEREMY SWITZER	4861 S 3975 W RAY UT 8406
25		JULIA P. MIKE	4372 74th St W. W. 84104
26			
27			
28			

**Signatures to Letter No. 03-04 (cont.)**

Recd. 11/10/03  
3 p.m.  
JFA

**PETITION**

The Undersigned residents of the state of Utah object to the proposed plan by the Jordan Valley Water Conservancy District to release an estimated 146 pounds of Selenium and 22,000 tons of salts into the Jordan River. We petition the Utah State Department of Environmental Quality to deny permission to execute this plan which will increase pollutants by 11% and 28% respectively.

	Signature	Name (Please Print)	Address	
1	<i>Nelson Ellinwood</i>	Nelson Ellinwood	6638 S. MORRO ST.	SLC
2	<i>John Ray</i>	JOHN RAY	168 E. Rolly Hills Dr. Centerville	
3	<i>John A. Hens</i>	John A. HENS	5735 So Oakdale Dr	SLC
4	<i>Michael Blake</i>	MICHAEL BLAKE	3418 N. 850 E. MARY	
5	<i>Lane Jensen</i>	Lane Jensen	3290 N. 200 West	SLC
6	<i>D. Michael Nelson</i>	D. MICHAEL NELSON	1921 HARVARD AVE.	SLC
7	<i>Norah J. Bennett</i>	Norah J. Bennett	1686 CONNECTAUNT DR.	SLC
8	<i>David Nemelke</i>	David Nemelke	2462 Starbuckway	SPRINGVILLE UT
9	<i>David Ternion</i>	David Ternion	4197 Panorama Dr	SLC DC
10	<i>Peter Calderone</i>	Peter Calderone	300 McHenry Dr. Park City	800
11	<i>Kelly Busenbark</i>	Kelly BusenBARK	9301 S. Wisteria Awny	WYOMING
12	<i>Phillip Torres</i>	Phillip Torres	5625 W. 5550 S. West Jordan	UT
13	<i>Raymond Ryan</i>	Raymond Ryan	6287 E. Redwood Rd.	SPRINGVILLE
14	<i>Nick Andelich</i>	Nick Andelich	2445 E. Dimp Bell Ln	SLC
15	<i>Victor Pickett</i>	Victor Pickett	1487 S. Polo Club Ct. S. Jordan	UT
16	<i>Anna Pickett</i>	Anna Pickett	11457 So Polo Club Ct	UT
17	<i>MR BRAUN</i>	MR BRAUN	3110 S. Latah Ave	SLC UT 841
18	<i>J.P. Tabor</i>	J.P. Tabor	4197 PANORAMA DR	SLC UT 841
19	<i>M. Hale</i>	M. HALE	1177 S. 300 N.	SLC
20	<i>Matt Zimmer</i>	MATT ZIMMER	7427 PARKCREST CT	SLC UT
21	<i>Michael Dunn</i>	MICHAEL DUNN	2552 N. PAPER CAME	SLC UT
22	<i>Robert DeHano</i>	ROBERT DEHANO	8471 DEHANO	SLC UT 841
23	<i>David West Hay</i>	David West Hay	1925 SAMERVILLE DR	SPRINGVILLE
24	<i>Bob Combs</i>	Bob Combs	5525 South Park Rd	SPRINGVILLE
25	<i>Fred Tatter</i>	Fred Tatter	5714 Pine Way	SLC UT 841
26	<i>Bill Martin</i>	BILL MARTIN	3 Double Jack Ct	P.O. UT 841
27	<i>Isaac Shink</i>	Isaac Shink	677 North 290 West	SPRINGVILLE
28				
29				
30				

Letter No. 03-05

October 26, 2003

Lower Jordan Water Users Association  
c/o E. Fred Lewis  
3011 Orchard Dr.  
Bountiful, Utah 84010

Ms. Dianne R. Nielson  
Executive Director  
Department of Environmental Quality  
State of Utah  
168 North 1950 West  
Salt Lake City, Utah 84116



Re: Jordan Valley Water Conservancy District/Kennecott Utah  
Copper Corp. Salt Lake County Groundwater Contamination  
Cleanup

Dear Ms. Nielson

5-1

In reference to the proposed plan to clean up contaminated ground water from aquifers in the south part of Salt Lake County, the Lower Jordan Water Users Association a varied group of individuals and companies and State agencies owning and utilizing water rights of the Lower Jordan River System vehemently protest the proposed method of disposal of contaminates from 'Zone B' via discharge into the Jordan River.

The Jordan River/Surplus Canal is the source of owned water rights which are utilized to establish and maintain thousands of acres of private and public wetlands, irrigate crops for livestock and human consumption and used to produce electrical power at Pacific Corp's Gadsby plant.

5-2

While the proposal may meet current water quality standards, there have been no studies done to evaluate the long term effect the accumulation of many years of contaminates will have on the farm lands the production and consumption of their livestock and crops, numerous ponds of the wetlands, and the Great Salt Lake.

Response to Letter No. 03-05

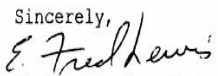
5-1: See the Response to Common Comment No. 6 thru No. 9.

5-2: See the Response to Common Comment No. 9.

Letter No. 03-05 (cont.)

5-1

It is inconceivable to think that a water district and State Environmental agency would consider it acceptable to clean up one contaminated water and intentionally create another contaminated water, associated lands and the products they produce.

Sincerely,  
  
E. Fred Lewis, Chairman  
Lower Jordan River Water Users Assoc.

Enclosure  
cc Jody Williams Attorney w/encl

Response to Letter No. 03-05 (cont.)

Letter No. 03-06



NORTHPOINT FUR & RECLAMATION CO.

SALT LAKE CITY, UTAH

October 26, 2003

North Point Fur and Reclamation Co.  
c/o E. Fred Lewis  
3011 Orchard Dr.  
Bountiful, Utah 84010



Ms. Dianne R. Nielson  
Executive Director  
Department of Environmental Quality  
State of Utah  
168 North 1950 West  
Salt Lake City, Utah 84116

Re: Jordan Valley Water Conservancy District/Kennecott Utah  
Copper Corp. Salt Lake County Groundwater Contamination  
Cleanup

Dear Ms. Nielson

6-1

The North Point Fur and Reclamation Co. and it's members own and manage 1850 acres of wetlands adjacent to Farmington Bay and the Great Salt Lake. In reference to the proposed plan to clean up contaminated ground water from aquifers in the south part of Salt Lake County, we specifically protest the proposed method of disposal of contaminates from 'Zone B' via discharge into the Jordan River. The Jordan River/Surplus Canal are the source of owned water rights which maintain ours and other private and public wetlands.

6-2

While the proposal may meet current water quality standards, there have been no studies done to evaluate the long term effect the accumulation of many years of contaminates will have on the numerous ponds, wetlands and the Great Salt Lake. When water enters the ponds, sediments, slits, and contaminates will settle out accumulating on the bottom and can not be flushed out.

Response to letter No. 03-06

6-1: See the Response to Common Comment No. 6 thru No. 9.

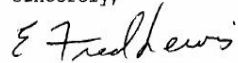
6-2: See the Response to Common Comment No. 9.

**Letter No. 03-06 (cont.)**

6-1

It is inconceivable to think that a water district and State Environmental agency would consider it acceptable to clean up one contaminated water and intentionally create another contaminated water and associated lands and jeopardize waterfowl and wildlife.

Sincerely,



E. Fred Lewis, President  
North Point Fur and Reclamation

Enclosure  
cc Jeff Richards Attorney

**Response to Letter No. 03-06 (cont.)**

For petitions, see the Response to Common Comment No. 8.



Signatures to Letter No. 03-06

WE THE UNDERSIGNED OWNERS OF THE NORTH POINT FUR AND RECLAMATION CO. AND, OR CONCERNED RESIDENTS OF THE STATE OF UTAH VEHEMENTLY PROTEST THE METHOD OF DISPOSING OF WASTE, SELENIUM AND SALTS, OBTAINED FROM THE CLEANUP OF CONTAMINATED GROUND WATER OF 'ZONE B' AS BEING PROPOSED BY THE JORDAN VALLEY WATER CONSERVANCY DISTRICT. THE METHOD OF DISPOSAL BEING TO DISCHARGE THE CONTAMINATES INTO THE JORDAN RIVER, WHICH PROVIDE WATERS TO OUR AND OTHER PRIVATE WETLANDS, PUBLIC WETLANDS OF THE STATE OF UTAH, AND IRRIGATED FARMS IN THE NORTH PART OF SALT LAKE COUNTY.

NAME	ADDRESS	DATE
E. Fred Lewis	3011 ORCHARD DR. BOUNTIFUL UT.	10-9-03
P.S. Kishador	975 Hawthorne Ln W Bountiful, UT	10-9-03
RANDY WHEELER	4754 W Villa View DR #B WVCALL 84126	10-9-03
TERRY HENNING	2774 LOUCE AVE SLC UT	84109 10/6/03
SEVEN AMERSON	2030 S MAN #419 BOUNTIFUL UT	84010 10/9/03
STINE NIKSON	540 S 400 E BOUNTIFUL UT	84010 10-1-03
TOM CLACE	8887 S 3200 W WEST JORDAN	84088 10-10-03
MARTIN R. TAYLOR	925 RIVERBEND DR MURRAY UT	84123 10-10-03
MERRILL SCHUYTTE	CANTONVILLE UT 84014	10-10-03
JAMUL CLARK	W JORDAN UT	84084 10-10-03
COOP CLARKE	7245 WEST JORDAN UT	84084 10-10-03
MICHAEL J. JULE	184 WILSON BL FARMINGTON UT	84025 10/11/03
DAVE J. JULE	403 E 9 6300 S WVC 84104	10/11/03
DAVID J. JULE	1057 N 1100 W FARMINGTON UT	84025 10/11/03
DAVID CHRISTIANSON	1519 N. 400. W. BOUNTIFUL UT.	84010 10/10
JERRY HONE	680 E 2500 N BOUNTIFUL UT	84010 12/02
ALAN HIX	2771 N 2125 E LAYTON UT	84040 10-12-03
DAVID B. HAMILTON	2525 E 2200 N. LAYTON, UT	84040 10/17/02
MILLER	1062 S RAINBOW LN SANDY UT	84070 10/12/03
WALTER J. JENSEN	398 S ANGELES KAYSVILLE UT	84037 10-14-03
WALTER J. JENSEN	3560 COCHISE DR W.V.C UT	84120 10/16/03
WALTER J. JENSEN	(CHECKS BUT) 2602 TUXEDO CR SANDY UT	84097 10/16/03
WALTER J. JENSEN	9873 RYAN DR. W.V.C UT	84120 10/17/03
CHAD NECHAESEN	9892 S 7670 W S JORDAN UT	84095 10/12/03
CLAUDIA CHANDLER	426 TAYLOR AVE CANTONVILLE UT	84014 10/17/03
DAVID DANIELS	10645 NE 204th PL BOUNTIFUL, UT	84011 10/21/03
MARCUS G. THORNTON	46650 500 E, SLC, UT	84103 10/19/03
WILLIAM K. LIDDER	949 W IRVINGTON MURRAY UT	84123 10/19/03
CHAS ABLESON	1965 W 1980 N. ST. GEORGE UT	84790 10/21/03
WALTER J. JENSEN	1239 W 400 N W. BOUNTIFUL, UT.	10/22/03
WALTER J. JENSEN	1116 WEBSTER DR SANDY	84094 10/23/03

Signatures to Letter No. 03-06 (cont.)

WE THE UNDERSIGNED OWNERS OF THE NORTH POINT FUR AND RECLAMATION CO. AND, OR CONCERNED RESIDENTS OF THE STATE OF UTAH VEHEMENTLY PROTEST THE METHOD OF DISPOSING OF WASTE, SELENIUM AND SALTS, OBTAINED FROM THE CLEANUP OF CONTAMINATED GROUND WATER OF 'ZONE B' AS BEING PROPOSED BY THE JORDAN VALLEY WATER CONSERVANCY DISTRICT. THE METHOD OF DISPOSAL BEING TO DISCHARGE THE CONTAMINATES INTO THE JORDAN RIVER, WHICH PROVIDE WATERS TO OUR AND OTHER PRIVATE WETLANDS, PUBLIC WETLANDS OF THE STATE OF UTAH, AND IRRIGATED FARMS IN THE NORTH PART OF SALT LAKE COUNTY.

NAME	ADDRESS	DATE
DAVE WHEELER	7570 SO 2540 W.	10/17/03
BRIAN MANN	957 W 1505 S KAYS	10/23/03
COLE JOHNSON	1498 W KODIAK CREEK CR	10/23/03
JANE MANN	1563 E CREST CR SANDY	10/23/03
WALTER J. JENSEN	3815 QUATTERSTREET DR SANDY	10/25/03
BILL SMITH	3311 BELL HOLLOW DR	10/25/03
BILL SMITH		10/25/03



Signatures to Letter No. 03-06 (con.)

WE THE UNDERSIGNED OWNERS OF THE NORTH POINT FUR AND RECLAMATION CO. AND, OR CONCERNED RESIDENTS OF THE STATE OF UTAH VEHEMENTLY PROTEST THE METHOD OF DISPOSING OF WASTE, SELENIUM AND SALTS, OBTAINED FROM THE CLEANUP OF CONTAMINATED GROUND WATER OF 'ZONE B' AS BEING PROPOSED BY THE JORDAN VALLEY WATER CONSERVANCY DISTRICT. THE METHOD OF DISPOSAL BEING TO DISCHARGE THE CONTAMINATES INTO THE JORDAN RIVER, WHICH PROVIDE WATERS TO OUR AND OTHER PRIVATE WETLANDS, PUBLIC WETLANDS OF THE STATE OF UTAH, AND IRRIGATED FARMS IN THE NORTH PART OF SALT LAKE COUNTY.

NAME	ADDRESS	DATE
Steve Kirkner	3550 West 900 So	10/13/03
Bob Williams	1127 W 500 So	10-13-03
Deborah Deane	3550 West 900 So	10/13/03
James Haycock	490 So 2000th Bountiful	10/13/03
John Camp	3550 W 900 So	10/14/03 10/14/03
Brittany Redford	2727 W 3100 S	10/14/03 10/14/03
Richard Camp	2080 Palomira Drive W.V.C. ut	10-14-03
William Camp	2080 Palomira Drive W.V.C. ut	10-14-03
Bob Johnson	2411 E 812 S So 56c ur	10-14-03
David Bennett	1416 S State St UT	10-22-03
Robert D. Felt	45 N 1000 W Tropic UT	10-22-03
Walter Johnson	3550 West 900 So Bldg 56c ut	10-22-03
Erna Jensen	5286 N 2200 W SLIC UT 84116	10-22-03
Tom O. Allip	3550 W 900 So	10-22-03
Ray Smith	2892 S 2910 W	10-24-03
Carly Anderson	2475 W 1145 S	10-24-03
James H. Camden	1454 W 5910 So	10-24-03
James Anderson	1908 W 900 N. GE	10-24-03

Signatures to Letter No. 03-06 (cont.)

**WE THE UNDERSIGNED OWNERS OF THE NORTH POINT FUR AND RECLAMATION CO. AND, OR CONCERNED RESIDENTS OF THE STATE OF UTAH VEHEMENTLY PROTEST THE METHOD OF DISPOSING OF WASTE, SELENIUM AND SALTS, OBTAINED FROM THE CLEANUP OF CONTAMINATED GROUND WATER OF 'ZONE B' AS BEING PROPOSED BY THE JORDAN VALLEY WATER CONSERVANCY DISTRICT. THE METHOD OF DISPOSAL BEING TO DISCHARGE THE CONTAMINATES INTO THE JORDAN RIVER, WHICH PROVIDE WATERS TO OUR AND OTHER PRIVATE WETLANDS, PUBLIC WETLANDS OF THE STATE OF UTAH, AND IRRIGATED FARMS IN THE NORTH PART OF SALT LAKE COUNTY.**

NAME	ADDRESS	DATE
<i>[Signature]</i>	5657 S Sanford	10-18-03
<i>[Signature]</i>	1030 E 400 N Bountiful UT	11 Oct 2003
<i>[Signature]</i>	5045 4221st Court	
<i>[Signature]</i>	5651 So Sanford Dr	10-13-03
<i>[Signature]</i>	1266 Nugga Ave, SLC, UT	
<i>[Signature]</i>	6915 So 325 E Midvale UT	10-19-03
<i>[Signature]</i>	2855 Glenmore SLC UT 84106	10/17/03
<i>[Signature]</i>	700 So Fulton ST SLC UT 84104	20 Oct 03
<i>[Signature]</i>	1621 Canyon Dr Draper UT	10-21-03
<i>[Signature]</i>	621 Tulon Street SLC UT 84104	10-21-03
<i>[Signature]</i>	5657 S Sanford	10-21-03
<i>[Signature]</i>	1448 W 1400 N W. Bount.	25 Oct 03
<i>[Signature]</i>	936 W 2600 So. Woods Cross	10-23-03
<i>[Signature]</i>	3056 E. Mornogate Dr.	10-24-03
<i>[Signature]</i>	3286 W 2200 W SLC	10-24-03
<i>[Signature]</i>	2798 OKWOOD BTL	10-25-03
<i>[Signature]</i>	3270 So 2200 SLC UT 84116	10-25-03
<i>[Signature]</i>	1019 So 350 West Bountiful	10-24-03
<i>[Signature]</i>	3815 N. 8800 West SLC	10-25-03
<i>[Signature]</i>	5815 N. 2200 West S.L.C.	10-25-03

**Letter No. 03-07**

Richard N. Gilbert, Vice President  
Irvine Ranch & Petroleum Co., Inc  
d.b.a. Ambassador Duck Club  
4071 Minuet Court  
West Valley City, UT 84119

November 14, 2003

Dianne Nielson, Executive Director  
Utah Department of Environmental Quality  
P.O. Box 144810  
Salt Lake City, Utah 84114 - 4810

**Subject: Petitions Opposing Jordan Valley Water Conservancy District & Kennecott Utah Copper Corp. proposal to discharge selenium and salts into the Jordan River System.**

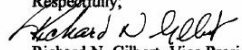
Dianne Nielson;

Included with this cover letter are petitions containing 53 signatures requesting:

7-1

“We the undersigned citizens of Utah, hereby protest the issuance of a permit by DEQ to Kennecott Copper, which will allow the company and their agents to dump 146 pounds per year of selenium and 22,000 tons of salt into the Jordan River. We hereby request the DEQ perform an EIS, and further investigate alternative options, which will be less harmful to the Great Salt Lake Wetlands.”

7-2

Respectfully,  
  
Richard N. Gilbert, Vice President  
Irvine Ranch & Petroleum Co. Inc.

Copy, cover letter only;

Brent H. Goodfellow, Minority Leader, Utah House of Representatives

Ed P. Mayne, Utah State Senator, Fifth District



**Response to Letter No. 03-07**

7-1: The response to the petitions follows.

7-2: See the Response to Common Comment No. 8 and No. 9. See also the Response to Common Comment No. 1 for a response to the request that DEQ perform an environmental impact study.

Signatures to Letter No. 03-07

We, the undersigned citizens of Utah, hereby protest the issuance of a permit by the DEQ to Kennecott Copper, which will allow the company and their agents to dump 146 pounds per year of selenium and 22,000 tons of salts into the Jordan River. We hereby request that the DEQ perform an EIS, and further investigate alternative options, which will be less harmful to the Great Salt Lake Wetlands.

<u>Signature</u>	<u>Address/Phone #</u>
1 <u>Richard N. Gilbert</u>	4071 Mimmet Court W.V.C. UT 84119
2 <u>Richard D West</u>	2234 Arosa Circle Sandy UT 84093
3 <u>BARRETT G. LENDERSON</u>	1253 MOUSE HSTA Ct. S.L.C., 9484108
4 <u>Kerwin C. Davis</u>	3150 So 64th W.V.C 84128
5 <u>Bill Sartor</u>	2020 W. 2670 No. S.L.C. 84116
6 <u>VINCE BADGER</u>	670 W. AUBURN Dr. MURRAY 84123
7 <u>L. J. Selt</u>	1567 E. MILLBROOK RD. SLC 84106
8 <u>Dave Zitt</u>	7911 Danish Downes Ct 84121
9 <u>Jeff Jones</u>	1903 East 2100 South 84106
10 <u>Dean Dolan</u>	15191 SOUTH ROSE CAMERON RD HERRIMAN UT 841065
11 <u>Wendy</u>	1319 Kimberly St Rich Spgs UT 84201
12 <u>Patrick Dolan</u>	1618 Kennedy Av. Rich Spgs UY 84201
13 <u>[Signature]</u>	1411 W. 11th St SLC UT 84116
14 <u>[Signature]</u>	3759 American Drive WVC 84119
15 <u>[Signature]</u>	9555 Ksel Dr Sandy UT 84092
16 <u>Patrick M. Kelly</u>	717 So. McLellan SLC UT 84102
17 <u>[Signature]</u>	5985 S. Impressions Dr. Kearns UT
18 <u>[Signature]</u>	127 Country Club Standy UT

Signatures to Letter No. 03-07 (cont.)

We, the undersigned citizens of Utah, hereby protest the issuance of a permit by the DEQ to Kennecott Copper, which will allow the company and their agents to dump 146 pounds per year of selenium and 22,000 tons of salts into the Jordan River. We hereby request that the DEQ perform an EIS, and further investigate alternative options, which will be less harmful to the Great Salt Lake Wetlands.

<u>Signature</u>	<u>Address/Phone #</u>
1 <u>Andrew B. Oswald</u>	3348 Oakwood St SLC, UT 8460630
2 <u>Pump Anderson</u>	9756 South Kaul Place SANDY UT 84093
3 <u>[Signature]</u>	9001 Huckleberry Ct. SANDY UT 84093 943.691
4 <u>[Signature]</u>	673 W. 6600 S. 265-908 MURRAY 84123
5 <u>[Signature]</u>	1954 East 2900 South SLC UT 84024 801-278-8049
6 <u>[Signature]</u>	1236 E 2050 S. 801-293-4541 KOUNTIFUL UT 84010
7 <u>[Signature]</u>	4372 HAWARREN CIR. WVC, UT 84119 801-966-4413
8 <u>[Signature]</u>	9708 S 2940 W South Jordan UT 84095 253-3442
9 <u>Lamar Richards</u>	3846 Brookbank Dr. SLC UT 84124 278-2382
10 <u>[Signature]</u>	674 E. First Street AVE MIDVALE UT 568-1605
11 <u>[Signature]</u>	210 NO 400 E. 801-242-9101 Centerville, UT 84011
12 <u>[Signature]</u>	7565 So Autumn Dr W-Jordan UT 84084
13 <u>[Signature]</u>	9720 South Mountain Road WEST JORDAN UT 84088
14 <u>[Signature]</u>	13047 So Blackberry Cir. Draper UT 84046
15 <u>[Signature]</u>	1234 Eastridge Cir SANDY UT 84092
16 <u>[Signature]</u>	5843 So. Holladay Blvd Holladay UT 84121
17 <u>[Signature]</u>	2234 Arson Cir SANDY UT 84093
18 <u>[Signature]</u>	8115 S. 1185 E SANDY, UT 84084

Signatures to Letter No. 03-07 (cont.)

We, the undersigned citizens of Utah, hereby protest the issuance of a permit by the DEQ to Kennecott Copper, which will allow the company and their agents to dump 146 pounds per year of selenium and 22,000 tons of salts into the Jordan River. We hereby request that the DEQ perform an EIS, and further investigate alternative options, which will be less harmful to the Great Salt Lake Wetlands.

Signature

Address/Phone #

- 1 [Signature] 4071 Minnet Court W.V.C. UT 84119 968-7482
- 2 [Signature] 4329 So. Mark Road St. W.V.C., UT 84119 967-
- 3 [Signature] 9765 S. Chesapeake Dr. South Jordan, UT 84035 353-44
- 4 Rachel Square 2926 Amherst Ave. West Valley City, UT 84119 969-3489
- 5 [Signature] 5726 Fairwood Dr. Taylorsville UT 84110 988-471
- 6 [Signature] 4588 S 1300 W. Taylorsville UT 84123 270-00
- 7 [Signature] 1727 E. Maer Cir. SLC, UT 84121-3630 550-2770
- 8 [Signature] 9495 Cordell St. WUC, UT 84118 450-4836
- 9 [Signature] 3040 So 1935 EA. SLC, UT 84106 467
- 10 [Signature] 3514 W. San Marcos Cir WVC 84119 972-2226
- 11 [Signature] 7485 S Redwood Rd. West Jordan UT 84084 251-
- 12 [Signature] 4145 W. Mann Way In U. City A. 84120 414
- 13 [Signature] 3710 So. Jodie Lane. West Valley 84128-1038
- 14 [Signature] 2546 So Lake Crest Dr. WVC 84119 801-502-
- 15 [Signature] 719 Sumner River Rd apt 1222 T-Lille 801-502-801-638
- 16 [Signature] 4071 Minnet Court W Valley City 84119 968-7483
- 17 [Signature] 1346 W 2280 So W. Valley City 84119 978-0761
- 18

**Letter No. 03-08**

November 19, 2003

Lake Front, Gun, Fur and Reclamation  
c/o R. John Clayton  
169 E. 1150 So.  
Farmington, Utah 84025

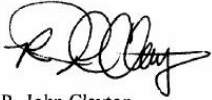
Ms. Dianne R. Nielson  
Executive Director  
Department of Environmental Quality  
State of Utah  
168 North 1950 West  
Salt Lake City, Utah 84116

Re: Jordan Valley Water Conservancy District/Kennecott Utah Copper Corp.  
Salt Lake County Groundwater Contamination Cleanup

Dear Ms. Nielson:

**8-1**

Attached are signatures of individuals that have read the attached petition and request the DEQ deny approval for discharge into the Jordan River



R. John Clayton  
Secretary/Treasurer  
Lake Front Gun, Fur and Reclamation Club  
Vice President  
West Side Associated Duck Clubs

cc: Honorable Brent Goodfellow  
Utah State House of Representatives  
3620 So. 6000 W  
West Valley City, Utah 84128

**Response to Letter No. 03-08**

**8-1:** The responses to the petition follows.



## Letter No. 03-08 (a)

November 10, 2003

Dianne R. Nielson, NRD Trustee  
Utah Department of Environmental Quality  
P.O. Box 144810  
Salt Lake City, UT 84114-4810

**RE: Southwest Jordan Valley Ground Water Cleanup Project**

Dear Director Nielson:

We the undersigned would like to submit the following comments concerning the proposed Southwest Jordan Valley Ground Water Cleanup Project.

- 8-2** | We believe the contaminated aquifers must be cleaned up and the spread of the contamination stopped. We also believe that the proposed project fails to address several issues relating to the health and safety of the community and the environment.
- 8-3** | The waste concentrates removed from the plume, which will be mostly comprised of toxic metals, should not be dumped back into the environment. This includes the Magna Tailings Impoundment, the Jordan River or directly into the Great Salt Lake. The contaminants should be extracted and recycled. Any contaminants that can not be reclaimed should be deposited in a secure landfill developed for containing this kind of toxic waste.
- 8-4** | We also believe that the rights of private well owners have not been properly addressed. In the October 22, public information meeting it was stated that neither Kennecott nor Jordan Valley Water Conservancy District (JVWCD) was responsible for the loss of a well due to a regional draw down of the water table. This project will cause regional draw down and private well owners should be considered. As private well owners are losing their water, JVWCD will be supplying water to Kennecott's "Daybreak" development and allowing Kennecott to profit from real estate, this should not be allowed.
- 8-5** |
- 8-6** | Rio Tinto should be required to completely fund this project and Kennecott should not receive rebates from the trust fund. There are many examples of where a profitable company has closed or bankrupted a subsidiary and failed to meet their obligations.
- 8-7** | Even though this project has been discussed for several years, public awareness and input has not been sufficient. We ask you to put a moratorium on this project while the public's awareness is increased and the concerns we have mentioned are addressed. Please do the right thing and protect our families, communities, wildlife and the environment.

Sincerely,

## Response to Letter No. 03-08 (a)

- 8-2:** See the Response to Common Comment No. 3.
- 8-3:** See the Response to Common Comment No. 6 thru No. 9.
- 8-4:** See the Response to Common Comment No. 10.
- 8-5:** See the Response to Common Comment No. 11.
- 8-6:** See the Response to Common Comment No. 12.
- 8-7:** See the Response to Common Comment No. 1.

Signatures to Letter No. 03-08 (a)

Name	Street	City	State	Zip
John Mattox	7341 East Hill	Lake Point	Utah	84024
Jed Matthews	4317 S 466 SW	West Valley	UT	84120
Dennis Baym	5827 So. 129 W.	Murray, UT		84107
Jane Anwalt	1056 E 150 N	Springville		84663
RAY S. HOWA	2931 So. 2955 West	W.V.C. UTAH		84119
Bert Wembly	3698 So. 1145 West	W.V.C. UT		84126
Craig Koo	4706 W Mildred St	Kearns	UT	84118
J ZARKOS	3067 BRIGHTON CIO	SLC	UT	84121
Chris Trujillo	559 W Tokum Way	Herriman	Utah	84065
KENNETH Peary	2933 W. BOWWICK	W.V.C. UT.		84119
John Kellars	1600 Zenith Ave	SLC	UT	84106
Richard Brewster	P.O. Box 591	Magna	UT	84044
Richard Lee	4380 Lander way	Kearns	UT	84118
R. W. Black	2871 W Hazelnut Dr.	Taylorville	UT	84118

Signatures to Letter No. 03-08 (a) (cont.)

Name	Street	City	State	Zip
Steve Rodriguez	29415 895 SW	Magna	UT	84044
Kelly E Johnson	8645 PEBBLECREEK	WEST JORDAN	UT	84088
Pauline Yendrich	91W. 7065 So.	Midvale	Ut.	84047
DAVID Morris	3898 So. 1845 WES-	WES-Valley	UT	84119
Bryce Eastman	7623 Maxtime DR	Magna	ut.	84044
Vera Simonsen	1430 So Country Classic	Bldg Dale	UT	84065
Richard Gonzalez	7905 So. Birmingham Dr.		UT.	84119
Bandy Peterson	17 N Hidden River	TD. Tooele	UT	84074
Tony Travis	964 E. Platinum Way	Sandy	UT	84094
Jim Schwab	372 Belaire Creek	Grantsville	UT	84029
John Meyerhoffer	6910 W 3800 S	SLC	UT	84125
CRAIG A Cook	4518 W. Eagle Park Lane	W.V.C. UT		84120
J RANNEY	3833 So. 6250 W	W.V.C		84128
JAMES WEBB	1067 KIMBALL DR.	GRANTSVILLE	UT.	84129
Tom Byrnes	533 Tuckgrass Rd.	UT.		84084
JEFFREY MOORE	4518 EAGLE PARK LAKE	W.V.C.	UT	84120
GARY CARPER	9-N-L-Corinth Road		UT	84065
ETHE SWENSON	2095 W KNIGHTS WAY	W.V. UT		84084
TOM GOULD	1139 W Ridge Top Cove	S.J. UT		84095
James F Lanning	2167 - Olivia Ln	S-L-C	Ut	84124
GODY L. Smith	648 E. JAMES POINTE DR	ASP Murray	ut	84107
Bruce E. Sims	8472 S 4800 W	West Jordan	ut	84088
MIKE WIMBUSTON	445 Noble Rd.	Tooele, UT		84074
Russell Anderson	37025 Starwood St.	WV UT		84120
PAT SALAZAR	3659 <sup>S</sup> Bishop <sup>ST</sup>	West Valley City	Utah	84119
KARY DEAN	3746 So 8000 W	Magna, Utah		84044
JERRY PERRY	329 So. Floral	WEST VALLEY	UT.	84119
R. L. Johnson	P.O. Box 681062	JACKSON, UT.		84068
William A. J. J. J.	4590 So. Siam Court	Taylorville	ut.	84123
Tom E. J. J.	4805 So 2860 W	W.V.C. UT.		84119
Don C. J. J.	3034 N 2200 W	SLC	UT	84116

Signatures to Letter No. 03-08 (a) (cont.)

Name	Street	City	State	Zip
Gary Dawson	3006 Berina Dr	Taylorsville	Ut	84118
Jean Smith	839 S. CONSILINE AVE	MAGNA	UT	84044
Douglas Tall	278 E 200 So	Centerville	UT	84014
Craig Ellsworth	1761 W 10740 So	S Jordan	UT	84095
MIKE RASMUSSEN	1222 WATHLEN DR	W JORDAN		84084
KENT STEPHENSON	10563 S. 2336 W	"South Jordan"	Ut	84095
Marie O. Canton	9832 S. Campaign Dr	"South Jordan"	Ut	84095
BOB SANDLER	10001 THIN	DRIVE SOUTH JORDAN		84095
RUSSELL NASH	4797 S. 4400 W	KENNIS, UT		84118
Louis Campbell	4391 W 5215	Kennis, UT		84118
Lee Nash	2465 S. 8990 W	Magna	Ut	84044
MERTIN BROWN	3292 S. 8070 W	Magna	Ut	84044
WIRTH SANDERSON	124 S. 500 W.	LEHI, UT		84043
Alan Dufflo	3523 S. 5450 W.	WVC, UT		84120
Paul W. Lynd	4450 ANNAPOLIS	WEST VALLEY CITY, UTAH		84116
NELS E JENSEN	2770 S 8850 W	MAGNA	UTAH	84044
Tenney Angilan	309 S 1000 W	S.L.C. Utah		84104
Manuel Ortega	4161 So 3600 W	WEST Valley		84119
Ed Eckland	7260 S. ZONA LN	Magna	Ut	84044
Scott Hayden	220 WEST Layton	UTAH		84041
Joseph Lammiman	6468 CUMMINGS WAY	W.J.		84084
Theresa	635 E HATFIELD	UT		84074
Steve B. Steadman	2447 W 8250 S.	Ut		84058
Paul E. Allen	208 COUNTRY CLUB	UT		84054
Lee Triplett	3090 S. 9000 W	Magna, Ut		84044
Randi Triplett	3090 S. 9000 W	Magna	Ut	84044
Carlos Gallegos	3607 W 5780 So	Taylorsville, Ut		84118
Patrice Bauman	9952 S. Tee Box Dr	S.J.		84095
Adrienne Triplett	9952 S. Tee Box Dr	S.J.		84095
Bob Bauman	9952 S. Tee Box Dr	S.J.		
Andy Triplett	3607 W 5780 So	Taylorsville, UT		84118

Signatures to Letter No. 03-08 (a) (cont.)

Name	Street	City	State	Zip
Lucy Triplett	3607 W 5780 S	Taylorsville	Ut	84118
Shane Triplett	3090 S. 9000 W	Magna	Utah	84044
Kristy Tall	278 E 200 So	Centerville	Ut	84014
Michelle Canton	9832 S Campaign Dr	S. Jordan	Ut	84095
Tracy Gould	1139 W Ridgetop Cir	S Jordan	Ut	84095
JAMES TALLEY	1704 E. Plata Way	Gandy	UT	84095
Robert R. Hurst	1333 West Columbia DR	WJ	Ut	84084
Cheryl J. Hurst	1333 W Columbia DR	WJ	Ut	84084
Robert T. Hurst	1333 W. Columbia DR	WJ	Ut	84084
Robert C. Hurst	1333 W Columbia DR	WJ	Ut	84084
Camille Hurst	1333 W Columbia DR	WJ	Ut	84084
Dennis Sandoval	3224 S. 8880 W	UTAH		84044
Lyann Hendricks	2442 S. Redwood rd	W. Jordan		84084
Todd Bradley	3926 S. Haytime Circle	Magna		84044
Gene Mullins	5237 W Spratling Dr	West Jordan		84088

**Signatures to Letter No. 03-08 (a) (cont.)**

FROM : HYATS, LLC

FAX NO. : 8012220977

Nov. 19 2003 05:53PM P2

The Undersigned residents of the state of Utah object to the proposed plan by the Jordan Valley Water Conservancy District to release an estimated 146 pounds of Selenium and 22,000 tons of salts into the Jordan River. We petition the Utah State Department of Environmental Quality to deny permission to execute this plan which will increase pollutants by 11% and 28% respectively.

Signature	Name (Please Print)	Address
<i>Paul P. Clayton</i>	Paul P. Clayton	2497 S. Woodhollow Way Bountiful, UT 84010
<i>Richard P. Clayton</i>	Richard P. Clayton	769 Sanvic Dr. Orem, UT 84097

**Signatures to Letter No. 03-08 (a) (cont.)**

Name	Street	City	State	Zip
KELLY J HANSEN	10126 S 1900 W.	RAYSON	UT	84651
Nathan Hansen	10126 S. 1900 W.	RAYSON	UT	84651
Terry Hansen	PO BOX 1302	Amiford	UT	84003
Peggy Lou Shnell	18070.610 E Am. Fork	Am. Fork	UT	84003
JACK B. GRAVES	305 E 700 S	Springville	UT	84663
Ryan Mammott	PO BOX 594	Magna	UT	84044
John P Carlson	3451 So 852 SW	Magna	UT	84044-2712
Scott Hall	7506 west 2 <sup>nd</sup> ave	South Magna	UT	84044
Brent Caley	3330 So 7510 W	Magna	UT	84044
Daniel P. Manna	2879 So Whitworth Cir	Magna, Utah		84044
Wayne Hollander	4522 W 3245th	WVC	UT	84120
Leif P Carlson	3451 So 5525 N	Magna		
Jim Norman	P.O. Box 35	MAGNA		84044
Kelly E. Kromm	P.O. B 330	Lehi	UT	84043
John Wickham	7535 So 2166 East	SLC		84121
Shirley Block	1581 W 4980 S.	TAY	UT	84123
Richard Brown	6247 Murray Bluffs	MURRAY	UT	84122

Signatures to Letter No. 03-08 (a) (cont.)

Name	Street	City	State	Zip
Larry Buckalew	PO Box 702612	West Valley	Ut	84170
Jerome D. Korman	6525 Sunbury Lane	North Lake City	Ut	84104
Brendan Fuller	8543 S. Saddle Cir.	West Jordan	Ut	84088
Jay Oates	8025 S. Terra Dr.	West Jordan	Ut	84088
Manuel J. Martinez	5496 West 4100 South	West Valley	Ut	84120
Scott Smith	4297 W. 9500 So.	WVC	Ut	84120
Sean K.	PO Box 302	Gambell	Ut	84029
Todd Hanson	10617 S Featherwood Dr.	So Jordan		84095
Brant Hansen	1178 S. 1200 E.	Clearfield	Ut	84015
Josh Butler	PO Box 892	Butte	Ut	84010
D. [unclear]	PO Box 87	Midvale	Ut	84044
[unclear]	8340 Wasatch Blvd	SLC	Ut	84121
Stephen D. Craig	5434 West October Way	West Valley City		84142
Richard G. [unclear]	7622 S. Marylebone Rd	WVC		84084
Brandon [unclear]	2113 S. 8900 So.	Maryland	Ut	84044
Frank [unclear]	240 W. 10050 Morgan			84050
Tom F. Leyba	7860 S. Oak	Midvale	Ut	84047

Signatures to Letter No. 03-08 (a) (cont.)

Name	Street	City	State	Zip
Jan [unclear]	40 Alberta Dr	Tosco	Ut	84074
[unclear]	2512 W Pine Mountain Pl	SLC	Ut	84118
Ricky Dillinger	5998 W Sunnyside Dr.	Kearns	Ut	84118
Chris [unclear]	3880 S. 1625 W	WVC	Ut	84128
DRIAN FEHLMANN	939 W. POTOMAC DR.	Murray	Ut.	84123
Preston Peterson	14147 S. MT. CYPRESS DR.	Riverton	Ut.	84065
James Clark	4588 W. Sun Dr.	S.L.C.	Ut.	84118
Michael Maroney	3504 S. 2300 E	SLC	Ut	84109
Michael Christenson	4118 W 4615 S	WVC	Ut	84120
Cindy [unclear]	12918 Greenwood Rd		Ut	84020
Mavis [unclear]	1096 E. Ring Rd	SLC	Ut	84117
[unclear]	4682 W. 4290 So	West Valley	Ut	84120
M. Peterson	267 W North Cir	Murray	Ut	84107
Jeff Campbell	8222 S. 1520 W.	W.J.	Ut,	84088
Jeff L. [unclear]	12968 Green Clover Dr	Draper	Ut.	84020
Terri [unclear]	4325 [unclear] Dr.	WVC	Ut	84088
Tim [unclear]	12357 Sun Lampion	Draper	Ut	84065
MARK K. [unclear]	6148 W Deer Spring Ln	WV		84418
[unclear]	5312 Ben Davis Blvd	Murray	Ut	84123
[unclear]	215 Guenocore	North Salt Lake	Ut	84054
Gordon Hopkins	855 E 900 N	Tosco	Ut	84074
Shawn Thomas	1888 N. 775 W.	W Bountiful	Ut	84087
[unclear]	7309 Candis Dr.	Magna	Ut	84044
B.B. [unclear]	2573 Midwest Dr.	Jaylorsville	Ut	84118
Craig [unclear]	3561 S. 5225 W	WVC	Ut	84120

Signatures to Letter No. 03-08 (a) (cont.)

Name	Street	City	State	Zip
Michael L. O'Pray	3562 ORCHARD HILL WAY	W.V.C.	UT	84128
DAVE RYSER	4371 W. 5255 SO	KEARNS	UT	84118
JACK VANDEMOORE	4327 W 5630 W	W.V.C.	UT	84128
Beau Badger	516 Country Club	Stansbury Park	UT	84074
Shawn Thacker	3257 So Arrowridge Dr	Wagon	UT	84044
SCOTT MOLLINS	5237 W. SPARTAN DR	WEST JORDAN	UT	84089
<del>Life Insurance</del>	<del>436 S 3150 W</del>	<del>W.V.C., UT</del>	<del>84117</del>	
Fred Wells	4514 Dixie Ann Dr.	W.V.C., UT	UT	84119
Kyle W. Lamons	6134 S. Tremontal	Kearns	UT	84118
BEN WATHERSON	7665 WEST 2820 SO	MURRAY	UT	84044
M. Archdale	3064 W 1300 S	Provo	UT	84061
R. Houtan	4619 W 8540 S	W.I.T.	UT	84088
W. H. H. H.	32815 8280 W	Magna	UT	84054
D. H. H.	915 Standard Ct	Magna	UT	84044
J. Bailey	1053 S 25 W	Kaysville	UT	84057
Steve H. H.	32835 Ramsey Cir	W.V.C.	UT	84120
R. Curtis	239 Cowley St	Grangerville	UT	84029
S. Jones	4501 W. NIMON	WVC	UT	84120
R. H. H.	671 W 2900 S	W.V.C.	UT	84128
M. H. H.	4759 W. TRAVIS Cir	WEST JORDAN	UT	84088
Ed. M. H.	5044 W. BRANCO Cir	W.V.C., UT	UT	84120
Steve H. H.	9888 Airport Cir	Bonanza	UT	84010
Kevin H. H.	2580 S. Elyah St.	SLC	UT	84106
William H. H.	518 E 5745 Street	SLC	UT	84106
Judy H. H.	1909 E 380 St	SLC	UT	84106
W. H. H.	5359 W. Unatfield Dr.	SLC	UT	84119
Mark H. H.	1274 W. 600 No.	S.L.C.	UT	84116
Cornie H. H.	2877 So 450 E	Provo	UT	84010
Keane E. H.	4788 W. BARKER GUT	WEST JORDAN	UT	84084
Mike H. H.	4835 S 4620 W	Kearns	UT	84118
Tom H. H.	2061 So. Redwood Rd	SLC	UT	84119

Signatures to Letter No. 03-08 (a) (cont.)

Name	Street	City	State	Zip
George E. H.	2761 S Redwood Rd	SLC	UT	84119
John H. H.	2261 S. Redwood Rd	BVC	UT	84119
Judy H. H.	9078 So Main	BONNITA	UT	84010
Corey H. H.	11944 MOTHER LODGE CT	HEERMAN	UT	84015
Marty H. H.	220 Bradford Cir	WVC	UT	84119
W. H. H.	126 W 1050 So	Provo	UT	84010
Justin H. H.	3369 W Bradford Dr.	WVC	UT	84119
Chris H. H.	2761 S Redwood Rd	SLC	UT	84119
Robert H. H.	4075 Dublin Circle		UT	84119
James H. H.	2261 S Redwood Rd	WVC	UT	84119
Ed H. H.	1105 W Fremont Ave.		UT	84104
Guadalupe H. H.	1463 Edison St		UT	84115
HAMDIABEGANIAN	3562 Westlake Dr.	WVC	UT	84119
Chris H. H.	1105 W Fremont Ave.		UT	84104
Harold H. H.	2796 W 7500 S	WEST JORDAN	UT	84054
Steve H. H.	1547 W 7000 S	WEST JORDAN	UT	84089

Signatures to Letter No. 03-08 (a) (cont.)

Name	Street	City	State	Zip
Roger Plandro	4934 So. Tenmilecreek	Kearns	Ut.	84108
TIM PARSEAN	2647 HOLLICK	WVC	VT	84119
BRANDY BUCHER	2117 W 15715 SO.	SO JORDAN	UT.	84095
DAN OSON	7749 W.	BRIDGEWATER	MAGNA UT	84044
J. COOK	129 S. 7 <sup>th</sup> E.	SALT LAKE	UT	84102
WANG CONRAD	577 W 1600 N	W-SALT LAKE	UT	84087
MIKE RUND	896 W 400 N	W-SALT LAKE	UTAH	84087
MIKE BURMAN	8757 W. Black current of magna		Utah	84044
Elmer Gonzalez	267 So. 400 West	Tooele	UTAH	84074
COLEY GERARD	447 W Blossom Rd		Utah	84074

Letter No. 03-08 (b)

Hi John

8-3

I am dead set against anything being dumped into the river for any reason we have had areas on our club that have been almost wiped out before the Environmental group started to get on these companys for dumping there waste into the river so I am bitterly opposed to any dumping at all.

John Littlefair

Response to Letter 03-08 (b)



Letter No. 03-9

Dave A.

September 9, 2003

Diane Nielson  
Department of Environmental Quality  
Drinking Water Division  
P. O. Box 144810  
Salt Lake City, Utah 84114-4810



Dear Ms. Nielson:

Upon hearing of the pending State of Utah/Kennecott project concerning water cleanup in the Southwest portion of the Salt Lake Valley, I have some concerns I feel need to be addressed.

9-1

As a citizen who is **totally** dependent upon my well for water, I would like assurances my well will not be dried up by this project and if so what measures will I be guaranteed for water. My address is 12905 So. 4420 W. Riverton, Utah 84065. I expect a written guarantee from the State of Utah in as much as I have no other alternative for culinary water for my residence at this time.

I applaud your efforts to keep our drinking water useable and safe but at the same time must protect myself and my family in this matter.

I would appreciate a phone call to further discuss this matter in detail. You may contact me at 801-232-6905 or my wife Debbie at 801-254-1506.

Thank you in advance for your help in this matter.

Sincerely,

Larry Brown  
12905 South 4420 West  
Riverton, Utah 84065

Response to Letter No. 03-9

9-1: See the Response to Common Comment No. 10.

## Letter No. 03-10

Utah Department of Environmental Quality  
NRDC Trustee  
P.O. Box 144810  
Salt Lake City, Utah 84114-4801

10 September 2003

Re: Kennecott Ground Water Hearings & Comment Period

Dear Sirs:

It has become apparent that one of the most egregious cases of ground water pollution in the west due to mining activities remains unresolved. The ground water on the west side of the Salt Lake valley has been polluted by a variety of mining related point sources on the near side of the Oquirrh Mountains, sources dominated by the operations of Kennecott Utah Copper Corporation (KUCC). One of the most blatant cases involved the failure to properly handle overflow from an acid leaching operation in the 1960's. In a nutshell the overflow sulphuric acid leaching fluid, with it's cargo of heavy metals, was diverted into an unlined pond and went through the bottom of the pond into the ground water aquifer below. KUCC operators knew this was happening and did nothing to change the situation.

I was one of the informed commentators in the case of the attempted consent decree between KUCC and the Utah Department of Environmental Quality (DEQ) in 1991. At the public hearing terminating that process I asked KUCC representatives if the acid ground water was going to be allowed to continue to move in the aquifer to the east without remediation. The astounding answer, in the presence of DEQ representatives, was yes. It became apparent that DEQ was less than aggressive when it came to protecting the ground water quality directly under our noses.

10-1  
10-2  
Now this case, and others involving long known ground water pollution in the area, is rearing it's head and DEQ asks the public to formulate informed comments on a scientifically complex situation with approximately one week's notice. This is hardly enough time for citizen's to analyze the situation and prepare informed commentary, especially in light of the fact that we have full time jobs and family responsibilities. It is almost as if it is the citizen's duty to do, in our precious spare time, what Utah DEQ should be doing, that is to say – the citizens must be the watchdog of Utah's environmental health, presumably what Utah DEQ is paid with our tax dollars to do.

10-3  
Amongst the glaring problems with the present proposal is the idea of pumping the acid ground water from the polluted aquifer, send it 15 – 18 miles via pipeline, and dump it **untreated** on the Magna tailings pond. Of course the acid and high concentrations of heavy metals will once again go down into the subsurface, enter the aquifers below the tailings pond going unavoidably into the Great Salt Lake. Why in heaven's name is DEQ not **requiring** that the acid water be treated to remove the metals and neutralize the acid? Kennecott knows how to do this, they are simply trying to avoid the expense of doing so.

10-4  
Another portion of the present proposal involves a partnership between KUCC and the Jordan Valley Water Conservancy District to clean up the sulphate plume currently on its way in the subsurface to the Jordan River. This sounds good until we understand that the solid waste from this operation is to be dumped into the Jordan River. What are you guys smoking? Is the Water District spending public money on this operation? Excuse me but the sulphate problem belongs to KUCC and should be cleaned up solely at their expense.

None of this is rocket science and it appears that DEQ is avoiding what should be it's primary mission, protecting Utah's environment and our ground water quality is a very important aspect. Please Utah DEQ, do your job.

Sincerely,

Lewis Downey  
634 N. West Capitol Blvd.  
Salt Lake City, Utah 84103  
801-364-0122

cc: Western Resourc Advocates  
Salt Lake Tribune  
Deseret News  
Ogden Standard Examiner  
United Steel Workers of America  
Kennecott Utah Copper Corporation  
Friends of the Great Salt Lake

## Response to Letter No. 03-10

10-1: See the Response to Common Comment No. 1

10-2: See the Response to Common Comment No. 13.

10-3: See the Response to Common Comment No. 4 and No. 5. Also, see the Response to Common Comment No. 7

10-4: See the Response to Common Comment No. 6 and No. 8.

Letter No. 03-11

09/10/2003 14:18 412-562-2584

HEALTH SAFETY & ENVR

PAGE 01



**United  
Steelworkers of  
America**

Five Gateway Center  
Pittsburgh, PA 15222

AFL-CIO-CLC

412-562-2400 • 412-562-2484 (Fax)

September 10, 2003

via fax: 801-536-0061

Dianne R. Nielson, NRD Trustee  
Utah Department of Environmental Quality  
P.O. Box 144810  
Salt Lake City, UT 84114-4810

**RE: Southwest Jordan Valley Groundwater Cleanup Project**

Dear Director Nielson:

11-1

Regarding the Southwest Jordan Valley Groundwater Cleanup Project and the public comments that are due, the United Steelworkers of America (USWA) respectfully requests an extension of forty-five (45) days to allow affected parties the necessary time to review the technical documents and gain a better understanding so that we are better prepared to provide your agency with substantive comments.

11-1

The USWA represents workers who work and live in the Salt Lake area and will be affected by this project. As part of the National Resource Damage Settlement with Kennecott Utah Copper Corporation, this project has resulted in the generation of numerous documents and given the complexity of the proposed ground water cleanup, volume of technical information and the potential impact on public and environment health, the USWA feels that our request is justified.

Should you have any questions or need further information, please do not hesitate to contact me at 412-562-2581.

Respectfully submitted,

Michael J. Wright, Director  
UNITED STEELWORKERS OF AMERICA  
Health, Safety and Environment Department

MJW:st

Response to Letter No. 03-11

11-1: See the Response to Common Comment No. 1.

**Letter No. 03-12**



Utah Chapter  
2120 South 1300 East, Suite 204, Salt Lake City, UT 84106-3785  
TEL: [801] 467-9297 FAX: [801] 467-9296 www.sierraclub.org

23 September 2003



Dianne R. Nielson, NRD Trustee  
Utah Department of Environmental Quality  
P.O. Box 144810  
Salt Lake City UT 84114-4810

Subject: Kennecott Groundwater Remediation Plan

Dear Ms. Nielson:


The Utah Chapter of the Sierra Club appreciates the opportunity to be involved with you in the process of evolving a solution to the massive pollution of groundwater by Kennecott Utah Copper. As you know, the Sierra Club filed an amicus brief in the original litigation that gave birth to this process and plan. We commend the time the Department of Environmental Quality has taken to develop the proposal promulgated on 2 September 2003.

Given the years this plan has been gestating, it is startling to us that the meetings followed so closely the date the plan was released. Furthermore, it's alarming that the public has been given only 30 days to comment on a plan of which the importance and the complexity are both epochal.

**We request you extend the comment period by 30 days.** Our reason for making this request is founded not solely in procedural questions. Several substantive aspects of the plan are unstudied or unsound. I don't believe either the public or members of the Utah Chapter have had sufficient time to absorb, understand and react to this proposal. I know the Utah Chapter will have some difficulty preparing its comments on the plan in time for the 1 October deadline.

I also consider it important to put on record some of the difficulties or misunderstandings that have occurred during the Utah Chapter's involvement with the consultative process. Ivan Weber, who served as chair of the Utah Chapter before me, attended some of the technical review committee (TRC) meetings several years ago. He did so representing Kennecott Utah Copper (KUC) while he was an employee of KUC. He did not represent the Utah Chapter. Another of our volunteers, Scott Endicott, received notices of the TRC's meetings and TRC publications. He was unable to attend these meetings because they were held during the day and, on some occasions, took most of the day.

Very truly yours,

  
Jean Binyon, Chair  
Utah Chapter, Sierra Club

**Response to Letter No. 03-12**

**12-1:** See the Response to Common Comment No. 1.

12-1

## Letter No. 03-13



### State of Utah DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS AND MINING

1594 West North Temple, Suite 1210  
PO Box 145801  
Salt Lake City, Utah 84114-5801  
(801) 538-5340 telephone  
(801) 359-3940 fax  
(801) 538-7223 TTY  
www.nr.utah.gov

Michael O. Leavitt  
Governor  
Robert L. Morgan  
Executive Director  
Lowell P. Braxton  
Division Director

October 2, 2003



Dr. Diane R. Nielson  
NRD Trustee  
Utah Department of Environmental Quality  
P.O. Box 144810  
Salt Lake City, UT 84114-4810

Subject: Southwest Jordan Valley Ground Water Cleanup Project Proposal to Reduce the Irrevocable Letter Of Credit Under the Consent Decree, Kennecott Utah Copper, Bingham Pit Mine, M/035/002, Salt Lake County, Utah

Dear Dr. Nielson:

Thank you for the opportunity to comment on the proposal to release funds from the Natural Resource Damage Claim (NRDC) Trust Fund.

13-1

The Division recommends that sufficient funds be retained to finance the long-term operation, maintenance and subsequent reclamation of facilities required to treat groundwater contaminated when Kennecott Utah Copper (KUCC) ceases production at the mine. Much of the disturbance and subsequent contamination is a result of mining activities conducted after passage of the Mined Land Reclamation Act of 1975. KUCC has stated that this is not, and never will be, a "walk-away" mine; meaning that portions of the mining disturbance will need to be maintained in perpetuity to prevent environmental degradation.

Prior to approving the proposal and contracts for extracting, treating and providing municipal quality water from the contamination plumes, please consider the following:

13-2

- Is there financial assurance for the long term maintenance, operation, and reclamation of those facilities and associated pipeline, wells and infrastructure when KUCC leaves? Sufficient funds must remain to cover these costs. The Zone A Reverse Osmosis (RO) plant is within the OGM mine permit area (M/035/002) and the UT Mined Land Reclamation Act does not contemplate perpetual water monitoring. In 1978 our Board of Oil Gas and Mining approved a "Mined Land Reclamation Contract" with Kennecott Copper Corporation (predecessor to KUCC) accepting a personal guarantee of the Operator to reclaim the land. The State of Utah and its citizens are very vulnerable because of this legacy of a "gentleman's agreement" to reclaim without the actual bonding to back it up.

**Utah!**  
Where ideas connect

## Response to Letter No. 03-13

13-1: See the Response to Common Comment No. 12.

13-2: See the Response to Common Comment No. 12.

In terms of the acid plume in Zone A, the Environmental Protection Agency Region VIII is currently negotiating with Kennecott regarding the Remedial Design Consent Decree for the remediation of the Zone A plume, including the acid core portion which is extracted but not treated for use as drinking water. This document will include provisions that Kennecott establish financial assurance that the planned remedial efforts will continue.

13-3: See the Response to Common Comment No. 7.

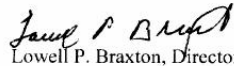
The disposal option for the Zone A CERCLA and NRD actions has been discussed in the TRC meetings for roughly the past three years. The Consent Decree does not preclude Kennecott or the District from having to attain the pertinent permits and approvals for the various aspects of the proposal to the Trustee for the water treatment project. The DEQ would request that the DOGM work with Kennecott to ascertain the need to revise the reclamation permit for the two facilities (tailings pipeline and North Expansion Impoundment).

## Letter No. 03-13 (cont.)

Dr. Diane Nielsen  
Page 2 of 2  
M/035/002  
October 2, 2003

- 13-3
- The proposal states that waste from the Zone A RO plant and the extracted acid core water will be disposed of through the slurry pipelines into the tailings pond. The pipeline is within the Copperton Concentrator permit area (M/035/011) and the North Tailing Impoundment is within the Northern Impoundment permit area (M/035/015). The mining and reclamation permits and reclamation bonds for the use of these facilities for waste disposal from the RO plant have not been amended for this use. These activities are not authorized and may not proceed until the appropriate mine permits have been amended, and if needed, the reclamation bond adjusted.
- 13-4
- Pumping of the Bingham Pit and maintenance of the up-gradient water will need to continue in perpetuity, in order to keep water levels below the pyrite halo and prevent acid mine drainage, an acid pit-lake and/or further aquifer contamination. Existing dumps and continued disposal of sulfide-bearing waste rock in the Bingham Canyon area may cause water quality to worsen. Can the state and its citizens afford to pay for this perpetual maintenance? We strongly suggest that DEQ retain sufficient funds to cover this maintenance cost.
- 13-5
- The Kennecott NRDC trust fund release proposal should address specific information regarding long-term operational, maintenance and closure arrangements to insure the following: (1) that the pumping and treatment facilities will not fall into disrepair; and (2) once treatment of the contaminated ground water is complete, the infrastructure (support facilities, distribution systems, wells, etc.) that is no longer needed, will be removed and the affected areas restored.
- 13-6
- In summary, this Division strongly suggests the retention by Utah DEQ, of a substantial portion of the cash settlement and irrevocable letter of credit and dedicating these funds to ensuring future compliance under the Clean Water Act. If you should have any concerns or questions on any of the above comments, please do not hesitate to contact me at 538-5370, or Mary Ann Wright at 538-5306.

Sincerely,



Lowell P. Braxton, Director  
Utah Division of Oil, Gas and Mining

LPB:MAW:jb  
cc: Don Ostler, DWQ  
Allan Mashburn, BOGM  
O:\M035-SaltLake\M0350002-BinghamPit\NRDC\comment2.DOC

## Response to Letter No. 03-13 (cont.)

**13-4:** The concerns about water management are not part of the Joint Proposal and were not included as requirements under the settlement of the Consent Decree. As noted before, the operation and maintenance of the Bingham Pit is not addressed in the Consent Decree, and the Consent Decree does not provide funding through the Trust Fund for anything but the restoration, recovery, or acquisition of a replacement for the sulfate contaminate groundwater in the Affected Area. The DERR and the DWQ have been working in cooperation with the DOGM to address a revision of the Bingham Canyon Mine Reclamation plan. Throughout this process all three divisions have recognized a need to maintain water management structures and control of storm water and leach water from within the mining permit area. The DWQ, through the use of the ground water protection permits for mining facilities associated with Bingham Canyon, has been working with Kennecott to maintain best management practices for water management in this area. The water management items stated in the comment are best handled under the regulatory authority of the DOGM and the DWQ during their review of the Bingham Canyon Mine Reclamation Permit.

**13-5:** See the Response to Common Comment No. 12. Furthermore, the Joint Proposal (Section 10) discusses the operation, maintenance and replacement responsibilities of Kennecott regarding the Zone A facilities and the Jordan Valley Water Conservancy District (District) regarding the Zone B and Lost Use facilities.

The removal of facilities, upon completion of treatment will be accomplished in accordance with existing federal, state, and local laws, as provided in the Consent Decree. If the DOGM believes that Kennecott needs to assure to them that the facilities for the proposed project (within their mine reclamation areas) will be reclaimed at the end of the project, the Trustee is willing to mediate discussions between DOGM and Kennecott to address this concern.

**13-6:** The Consent Decree is specific in terms of the use of the established Trust Fund. The monies in the Trust Fund have been set aside to produce drinking quality water for the benefit of the public in the affected area, in conjunction with a project to treat water from the contaminated plumes in the Southwest Jordan Valley and contain and reduce contamination. Also, funding (\$815,000) for oversight by DEQ is funded under the 3-Party Agreement.

**Letter No.03-14**



September 29, 2003

3804 Highland Drive, Suite 9  
Salt Lake City, Utah 84106  
Phone: (801) 272-1712

**RECEIVED**

**OCT 06 2003**

Utah Dept. of Environmental Quality  
Bur. of Human Resource Mgmt.

To: Utah Department of Environmental Quality  
NRDC Trustee  
Salt Lake City, Utah

From: League of Women Voters of Salt Lake

Re: Kennecott sulfate plume

The League of Women Voters has been interested in ground water management for many years. We have studied ground water as a geologic phenomenon and a public issue on our organization's national and local levels. The League of Women Voters of Salt Lake has long been aware of the Kennecott acid plume and thought we understood that agreements had been reached that Kennecott was responsible for an environmentally sound strategy for clean-up or containment. The LWV of Salt Lake is therefore appalled to learn that the proposed treatment and disposal plan would impose a further burden on the Jordan River which is already overloaded with contaminants which pass through our neighborhoods and eventually deposited in the overburdened Great Salt Lake. The addition of more chemical refuse to the Magna Tailing Impoundment may or may not be a significant increase in the impoundments existing threat to citizens of the Salt Lake Valley and the Great Salt Lake ecosystem, but the public has not been privy to any discussion of costs and benefits of this part of the procedure.

14-1

14-2

The League poses the following questions:

14-3

Why has this particular technology been selected?

When was it selected?

Who was responsible for the selection process and the final recommendation?

14-2

Why was so little prior notice given and so little time allocated to public discussion and comment?

14-4

If left alone this plume threatens Salt Lake Valley groundwater, the Jordan River and the Great Salt Lake. We believe that these waters belong to all of us and should be protected even if the cost is great. The League of Women Voters of Salt Lake requests that those responsible take several steps back and start this decision making process in a manner that includes the best science available and that is transparent to and inclusive of the public.

Sincerely,

*Patricia Nielson*

Patricia Nielson, President  
League of Women Voters of Salt Lake  
lwvut@xmission.com

**Response to Letter No. 03-14**

14-1: See the Response to Common Comment No.9

14-2: See the Response to Common Comment No. 1.

14-3: See the Response to Common Comment No. 2, No. 4, and No. 5.

14-4: See the Response to Common Comment No. 1. Also, see the Response to Common Comment No. 13.

**Letter No. 03-15**

October 9, 2003

Brown Duck Club  
c/o Jim Grambihler  
1727 East 1700 South  
Salt Lake City, Utah 84108

Ms. Dianne R. Nielson  
Executive Director  
Department of Environmental Quality  
State of Utah  
168 North 1950 West  
Salt Lake City, Utah 84116

Re: Jordan Valley Water Conservancy District/Kennecott Utah Copper Corp.  
Salt Lake County Groundwater Contamination Cleanup

Dear Ms. Nielson:



15-1 It has come to our attention that your agency is considering a proposal to clean groundwater contaminates from the southern portion of Salt Lake County by "dumping" Selenium and salts into the Jordan River flow emptying into the ecosystem of the Great Salt Lake southern wetlands. We vehemently oppose this shortsighted proposition.

15-2 The state of Utah in conjunction with Kennecott Copper should be applauded for efforts to clean the long-standing groundwater contaminates but discharging a known poisonous compound into the Jordan River is simply unacceptable. First and foremost, no baseline study has been performed on the Jordan River drainage and Great Salt Lake Wetlands ecosystem. Second, not even an environmental evaluation study has been performed to analyze the anticipated effects of the discharging or to explore other alternatives such as disposal wells or piping the contaminated effluents into existing disposal/evaporation ponds.

15-5 Granted, the current emission standards for Selenium would not be breached by the proposal but let us be clear, no one has even attempted to examine the long-term effects of 146 pounds of Selenium and 22,000 tons of salts upon this fragile ecosystem, amounts that will be discharged annually.

What legacy are we sacrificing now? I can cite hundreds of examples of the failure of a governing body to look into the future. Here are but a few. One needs only to look west to the environmental disaster created in California by simply allowing farmers to discharge effluents into the Salton Sea. No one anticipated that Wasatch Chemical Company toxins

**Response to Letter No. 03-15**

15-1: See the Response to Common Comment No. 6 and No. 8.

15-2: See the Response to Common Comment No. 3.

15-3: See the Response to Common Comment No. 9.

15-4: See the Response to Common Comment No. 4 and No. 5. Also, refer to Response to Common Comment No. 7.

15-5: See the Response to Common Comment No. 9.



**Letter No. 03-15 (cont.)**

would in time be the cause of health problems. Look too at the short-sightedness which led to the long-term effects of the tailings in Midvale, Utah, a problem that was only solved after millions of dollars were spent through the federal RECRE program (Superfund).

15-5

Now, this proposal looks to reverse years of positive environmental advances by increasing pollution levels within the Jordan River by 11% for Selenium and 28% additional salts. What legacy is served by discharging a known poisonous, semi-metallic compound that accumulates in various flora into an already fragile ecosystem?

15-3

Once again we ask the DEQ to reconsider its position and oppose the introduction of Selenium and salts into the Jordan River. At the very least, before such a shortsighted move as this is taken, the DEQ should seriously consider publishing both baseline and environmental evaluation studies before any action is taken

On behalf of the Brown Duck Club, our membership, and affiliates,  
I remain sincerely,

James W. Grambihler

**Response to Letter No. 03-15 (cont.)**

Letter No. 03-16

*bug NED Trustee*

October 9, 2003

Lake Front, Gun, Fur and Reclamation  
c/o R. John Clayton  
169 E. 1150 So.  
Farmington, Utah 84025



Ms. Dianne R. Nielson  
Executive Director  
Department of Environmental Quality  
State of Utah  
168 North 1950 West  
Salt Lake City, Utah 84116

Re: Jordan Valley Water Conservancy District/Kennecott Utah Copper Corp.  
Salt Lake County Groundwater Contamination Cleanup

Dear Ms. Nielson:

It has come to our attention that the Department of Environmental Quality is considering an application by the Jordan Valley Water Conservancy District and/or Kennecott Utah Copper Corp. to discharge into the Jordan River wastewater containing Selenium and Salts from a water reclamation project. We understand that the discharge will increase the levels of these substances in the Jordan River and that levels will be below the established allowables. We understand that there will be monitoring systems established to insure that the maximum levels are not exceeded.

16-1

We understand that if the levels in the Jordan River are within the established limits you are obligated to approve the permit. Our concern is that the applicants have overlooked in the preparation of the request for this permit the affects, the increased levels of Selenium and Salts will have of the South Shore of the Great Salt Lake and the wetlands where the Jordan River waters enter the Great Salt Lake ecosystem.

We feel there are several items that need to be considered before the approval of this permit.

16-2

First, no baseline studies have been performed on the Jordan River drainage and Great Salt Lake Wetlands ecosystem, and should be done before approval of the application.

Second, an environmental study has to be performed to analyze the effects the increased levels will have on the Great Salt Lake ecosystem.

Response to Letter No. 03-16

16-1: See the Response to Common Comment No. 9.

16-2: See the Response to Common Comment No. 4 and No. 5. Also, see the Response to Common Comment No. 7 and No. 9.

**Letter No. 03-16 (cont.)**

16-2 | Third, is there an alternate way of disposal of the wastewater that will not affect the environment or our quality of Life?

16-3 | We appreciate the efforts of the Industries and the State of Utah in cleaning the polluted ground waters in the Salt Lake area, but we feel it is short-sided to transfer the  
16-4 | contaminates to another public resource that will, in the future, require the intervention of the State and possibly the Federal governments to correct.

16-2 | We request that the Department of Environment Quality deny this application, and instruct the applicant to investigate other ways to disposal of the effluent that will not impact the environment and/or perform the necessary baseline studies and environmental impact studies before reconsidering the application.

On behalf of the Lake Front Gun Fur and Reclamation Club, our Stockholders.



R. John Clayton  
Secretary/Treasurer  
Lake Front Gun, Fur and Reclamation Club  
Vice President  
West Side Associated Duck Clubs

**Response to Letter No. 03-16 (cont.)**

16-3: See the Response to Common Comment No. 3.

16-4: See the Response to Common Comment No. 6. Also, see the Response to Common Comment No. 8.

**Letter No. 03-17**

RECEIVED

OCT 15 2003

DEQ  
Environmental Response & Remediation  
By \_\_\_\_\_

Richard N. Gilbert, Vice President  
Irvine Ranch & Petroleum Co., Inc  
d.b.a. Ambassador Duck Club  
4071 Minuet Court  
West Valley City, UT 84119

October 12, 2003

Dianne Nielson, Executive Director  
Utah Department of Environmental Quality  
168 North 1950 West  
Salt Lake City, Utah 84114

**Subject: Opposing Jordan Valley Water Conservancy District & Kennecott Utah Copper Corp. proposal to discharge selenium and salts into the Jordan River System.**

Dianne Nielson;

I am writing representing Irvine Ranch & Petroleum Co., Inc. d.b.a. Ambassador Duck Club and our 100 shareholders. We oppose the Jordan Valley Conservancy District & Kennecott Utah Copper Corp. proposed discharge of selenium and salts into the Jordan River System. The Ambassador Duck Club owns over 2800 acres of wetlands and uplands located at the end of the Surplus Canal. We own water in the Jordan River system and irrigate over 1400 acres of wetlands. We believe that the discharge of these materials will damage our property and the fragile balance of the Great Salt Lake wetlands and ecosystem of which we are a part.

We are not aware of any studies that have established an existing base line for selenium and salts or the evaluation of the proposed additional materials. We are not aware of any studies that have evaluated the damage this waste products will do to everyone located downstream of the proposed discharge location. The proposal appears to be moving the materials that have developed an EPA Superfund site to a new location were a new selenium environmental disaster will again develop which will be impossible to correct.

We request that the project not be approved until alternative proposals have been made and reviewed. We suggest the following:

1. Pump all acidic water, both Zone A & Zone B, into Kennecott's tailings impoundment north of Magna. Do not dump any selenium or additional salts into the Jordan River, Great Salt Lake's ecosystem. This may be expensive but not nearly as costly as cleaning up a second EPA Superfund site.
2. Develop a base line study establishing the levels of selenium & salts in the Jordan River system, Great Salt Lake Wetlands ecosystem and the Great Salt Lake ecosystem. Then; develop a model forecasting the impact of the proposed waste on the water quality, vegetation, fish, birds, brine shrimp, etc. over the proposed life of the project i.e. 22,000 ton of salt & 146 lbs. of selenium multiplied by 100 years.
3. If the waste material dumping is approved by an EIS and will not damage the environment, review the use of existing canals and ditches to carry the waste materials to the Great Salt Lake to avoid contaminating the Jordan River and wetlands. Consider purchasing canals or constructing sections of canals or pipeline as required.



Respectfully;

*Richard N. Gilbert*  
Richard N. Gilbert, Vice President  
Irvine Ranch & Petroleum Co. Inc.

**Response to Letter No. 03-17**

17-1: See the Response to Common Comment No. 4 thru No. 9.

17-2: See the Response to Common Comment No. 9.

17-3: Again, See the Response to Common Comment No. 4 thru No. 8.

**Letter No. 03-18**



WESTSIDE DUCK CLUBS  
ASSOCIATION

October 14, 2003

Dianne Nielson, Executive Director  
Utah Department of Environmental Quality  
168 North 1950 West  
Salt Lake City, Utah 84114



Dear Ms. Nielson,

As the President of the West Side Duck Club Association comprised of seven clubs (500 members owning over 7500 acres), I wish to express our concern and opposition to the Jordan Valley Conservancy District and Kennecott Utah Copper Corporation proposal to discharge selenium, salts and other contaminants into the Jordan River. It does not make sense to simply move the pollution from point A to point B. It is still pollution causing damage to the environment and our property which happens to be point B. While average daily discharges may be within acceptable limits in the River according to Richard Bay, the river is just the pipeline to the Great Salt Lake marshes (a terminal basin) where all the pollutants will end up potentially causing a similar disaster to that which occurred at the Kesterson National Wildlife Refuge located in California.

18-1

The Great Salt Lake ecosystem is unique in the world and not only provides food and rest to millions of migrating waterfowl and shore birds each year but also acts a filtering system to water entering the lake, creates oxygen, and provides a home to countless species of wildlife. It would be a crime to threaten or destroy this vital ecosystem because of a failure to fully investigate the long term impact and potential alternatives of the Jordan Valley Conservancy District / Kennecott Utah Copper Corporation proposal.


18-2

We would strongly suggest that before approval is given, a study to determine the long term cumulative impact over the life of the project of dumping 22,000 tons of salts and 146 pounds of selenium a year into the Great Salt Lake ( a terminal basin ) be conducted and that other options of disposal be considered that would avoid polluting the Jordan River and Great Salt Lake Marshes. It would also be important to factor in how the addition of these pollutants to the river will impact other users of Jordan River water and drainage system such as Salt Lake City and Utah Power and light.

18-3

18-4

Sincerely,

  
Richard D. West  
President, West Side Duck club Association

cc. Senator Orrin Hatch  
Governor Michael Leavitt  
Mayor Rocky Anderson

**Response to Letter No. 03-18**

18-1: See the Response to Common Comment No. 6, No. 8, and No. 9.

18-2: See the Response to Common Comment No. 9.

18-3: See the Response to Common Comment No. 4 thru No. 7.

18-4: See the Response to Common Comment No. 9.

Letter No. 03-19

**Rudy Reclamation and Sportsman's Club**  
P.O. Box 11625  
Salt Lake City, UT 84147-0625



**RECEIVED**

OCT 22 2003

DEQ  
Environmental Response & Remediation  
By: \_\_\_\_\_

Dear Ms. Nielsen,

As president of the Rudy Reclamation & Sportman's club (60 member/shares) I am writing to protest the West Jordan Valley Water District proposal to discharge the effluent from their proposed reverse osmosis water treatment plant into the Jordan River.

19-1

The overall proposal to clean up the aquifer is unquestionably worthwhile. Also that portion taken on by Kennecott Copper Corporation seems reasonable & well conceived since they plan to sequester the contaminants in their tailing ponds. However the proposal by the West Jordan Valley Water District to dump heavy metals & salts into the Jordan river which then drains into the marshes around the great salt lake & ultimately into the lake itself seems a recipe for ecological disaster. They have chosen this option because "it is cheaper". Also they have clouded the issue by citing concentrations in the river that seem within prescribed limits; however, ultimately all of the salt & heavy metals will end up in the marshes & the lake & over a 40 year plus time period these accumulations will almost certainly cause irreparable harm.

19-2

The disastrous result of this type of effluent discharge into a terminal lake system like the great salt lake environs has been well documented in the case of the Kestersen Natural Wildlife Refuge in California ( see appendices 1 & 2).

19-2

In short it is extraordinarily short sighted to clean the toxins out of one area & dump them into another.

Most Sincerely Yours,

*John W. Atkins, President*

Response to Letter No. 03-19

19-1: See the Response to Common Comment No. 3.

19-2: See the Response to Common Comment No. 6, No. 8 and No. 9.



**Letter No. 03-20**

BLACKHAWK DUCK & GOOSE CLUB L.L.C.  
93 CANYON ROAD  
HERRIMAN, UTAH 84065  
801-446-7140



Dianne Nielson, Executive Director  
Utah Department Of Environmental Quality  
168 North 1950 West  
Salt Lake City, Utah 84114

Subject: Jordan Valley Water Conservancy District and Kennecott Utah  
Copper Corp. proposal to discharge salts and selenium into the Jordan River.

Dear Dianne;

My name is Darrel Woolley. I am President of Blackhawk Duck & Goose Club. We are an L.L.C owned by a group of local business people. We manage our property for both waterfowl and possible future development. The property is located adjacent to the Salt Lake International Airport and the Surplus Canal.

20-1 | We are very concerned about the proposal by JVWCD and Kennecott to flush the pollutants from their project down the Jordan River.

20-2 | There has not, to our knowledge, been any study done to indicate what the long range ecological damage will be to thousands of acres of private property, as well as the State owned Farmington Bay Waterfowl Management Area, not to mention the Great Salt Lake itself, as 22,000 tons of salt and 146 lbs of selenium per year settle in the world famous Great Salt Lake marsh land ecosystem.

I realize that there is a lot of water there that will be used for the public good. I realize that most people do not care if sportsmen harvest ducks. On the other hand, sportsmen spend a significant amount of dollars on conservation and the environment which is what this issue is about...a potential ecological disaster.

20-2 | There is a better way than the "easy way". Dumping these pollutants into the Jordan River with no understanding of the future impact it will have on the marshland ecosystem is the easy way. It is not the right way and we are strongly opposed to it.

Thank you for your consideration.

  
Darrel J Woolley  
President, Blackhawk Duck & Goose Club L.L.C.

**Response to Letter No. 03-20**

20-1: See the Response to Common Comment No. 6 and No. 8.

20-2: See the Response to Common Comment No. 9.





## Letter No. 03-22

Page 1 of 1

### Cross E Ranch

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**From:** "Cross E Ranch" <CrossERanch@sisna.com>  
**To:** <donna@desnews.com>  
**Sent:** Friday, October 17, 2003 11:19 AM  
**Subject:** Contaminated ground water protest

This is a communication from two agricultural producers (David O. Hinckley and LaMar Drechsel) who actually work and live below the discharge point of the dump site for the contaminants from Kennecott.

We would like to thank you for your informative article in Thursdays paper. The first time we became aware of this plan was in an article by Brent Israelsen of The Salt Lake Tribune.

We add our strong voice of protest to this plan. We attended a public meeting on September 25th at DEQ headquarters where we asked for an alternative solution. Our main point of contention being the lack of inclusion at the time Kennecott and the Jordan Valley Water Conservancy District reached agreement on their mutually beneficial plan. The impact will be felt not only by waterfowl in the wetlands and 5000 acres of farmland on the Surfluss Canal but also by 500 acres of land under intensive agricultural use on the Lower Jordan. Countless yard and private home users who are all below the point of discharge will also be affected.

There is not enough of a guarantee maintaining the water quality that we now enjoy in the Jordan River.

Please feel free to contact us at the following numbers:

David O Hinckley	LaMar Drechsel
Cross E Ranch	(801)328-2161
(801)595-6339	

*cc Dianna Nielsen  
Dept. Environmental Quality*

## Response to Letter No. 03-22

**22-1:** See the Response to Common Comment No. 1. Also, see the Response to Common Comment No. 8 and No. 9.

22-1

10/17/2003

**Letter No. 03-23**

Dianne Nielson  
Utah Department of Environmental Quality  
P.O. Box 144810  
Salt Lake City, Utah  
84114-4810

October 17, 2003

**RECEIVED**

OCT 30 2003

DEQ  
Environmental Response & Remediation  
By \_\_\_\_\_



Dianne Nielson,

I write to you today to express my concerns regarding the cleanup and contaminated groundwater by Kennecott Copper Corp. (RTZ).

I was present at the initial presentation of the plan in West Jordan in September, where their (Kennecott's) presentation was made. There were many concerns by local citizens which Kennecott had no answers for. Diane Heminway, and Rodney Dansie's testimony were particularly telling. Also I have been employed by Kennecott for the past 27 years myself and have witnessed numerous environmental abuses which were covered up and never reported.

Of particular concern to me, Kennecott is responsible for the contaminated groundwater, some of which was willfully contaminated by the dumping of sulfuric acid and other materials directly onto the soil. As was brought up in testimony RTZ the parent company needs to be tied to this to insure that if Kennecott were to go bankrupt the cleanup will proceed. To reward Kennecott for willfully causing this catastrophe is ridiculous. Not a penny should be returned to Kennecott ever.

**Great Salt Lake:**

If I understand the proposed plan correctly concentrates from both Zones A and B could be directly disposed of to the Great Salt Lake after mine closure or if the proper permits can not be obtained. These concentrates will be composed of toxic metals such as arsenic, cadmium, lead and selenium which are known carcinogens and are toxic to humans and wildlife. What could be the effect to this ecosystem?

**Jordan River:**

I worry about the dumping of trace materials into the Jordan River and to the effect on the wildlife. I wonder if this is being allowed because it saves money, lowering the cost of disposal.

**Response to Letter No. 03-23**

\* The responses to the comments in this letter are provided in the responses to E-mail No. 03-7 which is the same as this letter from the same commenter.

**Letter No. 03-23 (cont.)**

**Liquid Mining:**

This is an option I recently heard about and should be considered as it would help to clean up the soil and water as well as recycle these materials for future use.

**Residential Wells:**

It was expected the aquifer could be pumped down 40 feet or possibly more. This much change to the water table will likely cause many wells to go dry or become contaminated. There **must** be a plan to compensate these property owners. Who will determine if Kennecott is responsible? This must be high on the priority list. These people must be compensated should problems arise!

In closing I would like to state that I appreciate the extension period given but feel it is inadequate. Please further extend this for another 30-60 days.

Respectfully, 

Mike Lund  
896 W. 400 N.  
West Bountiful, Utah 84087

**Response to Letter No. 03-23 (cont.)**

**Letter No. 03-24**

October 20, 2003

Department of Environmental Quality  
168 North 1950 West  
Salt Lake City, Utah 84116

To Whom It May Concern:

It has recently been brought to my attention that a permit authorizing the dumping of Selenium and Salt into the Jordan River has been issued without conducting an Environmental Impact Study. I feel that the permit should be revoked until an Environmental Impact Study is performed and the affected parties notified of what impacts the dumping will have on the Jordan River and surrounding ecosystem.

Sincerely,  
  
Stratos Flinders

24-1

**Response to letter No. 03-24**

**24-1:** See the Response to Common Comment No. 1. See also the Response to Common Comment No. 6 and No. 8.

**Letter No. 03-25**

**ROBERT C. CUMMINGS**

Attorney at Law  
225 South Second East, Suite 150  
Salt Lake City, UT 84111  
Telephone (801) 322-1141



October 21, 2003

Ms. Dianne R. Nielson  
Executive Director  
Department of Environmental Quality  
State of Utah  
168 North 1950 West  
SLC, UT 84116

Re: Proposed Jordan Valley Water Conservancy District/Kennecott  
Utah Copper Corp. Salt Lake County Groundwater Contamination  
Cleanup

Dear Ms. Nielsen:

My wife, JoAnn, and I own the Johnson/Hill Duck Club, which consists of 136 acres of wetlands and uplands with water rights in the Lower Jordan River system.

25-1

We are sending this letter to protest the proposal which we understand is currently before you for approval whereby 146 pounds of selenium and 22,000 tons of salts will be discharged into the Lower Jordan River system annually.

25-2

We applaud efforts to clean-up aquifers apparently contaminated during the a century of mining operations by Kennecott and its predecessors. This laudable effort however should not be accomplished by transferring this contamination to the Lower Jordan River System.

25-3

25-4

We are informed that there has been no study of the cumulative effect of discharging such quantities of pollutants over time. We are informed that selenium is a toxic metal that accumulates in the environment. Simply mathematics tells us that discharges of the proposed magnitude will amount to 3650 pounds of selenium and 550,000 tons of salts in 25 years; 7300 pounds of selenium and 1,100,000 tons of salts in 50 years; and 14,600 pounds of selenium and 2,200,000 tons of salts in 100 years.

Unless and until such studies are conducted and discharges of the such magnitude determined to be safe to the environment, we oppose this project, and urge your office to disallow implementation of this proposal.

Sincerely,

*R. C. Cummings*  
Robert C. Cummings

**Response to Letter No. 03-25**

25-1: See the Response to Common Comment No. 9

25-2: See the Response to Common Comment No. 3

25-3: See the Response to Common Comment No. 8.

25-4: See the Response to Common Comment No. 9.

Letter No. 03-26

Harrison Duck Club



C/O David F. Hinds  
379 North 900 East  
Kaysville, UT 84037

Ms. Dianne R. Nielson  
Executive Director, Department of Environmental Quality, State of Utah  
168 North 1950 West  
Salt Lake City, UT 84116

**RE: Jordan Valley Water Conservancy District/Kennecott Utah Copper Corp. Salt Lake County Groundwater Contamination Cleanup**

Dear Ms. Dianne R. Nielson,

It has come to our attention that your agency is considering a proposal to clean groundwater contaminates from the southern portion of Salt Lake County by "dumping" Selenium and salts into the Jordan River flow emptying into the ecosystem of the Great Salt Lake southern wetlands. We vehemently oppose this shortsighted proposition.

**26-1** | The State of Utah in conjunction with Kennecott Copper should be applauded for efforts to clean the long-standing groundwater contaminates, but discharging a known poisonous compound into the Jordan River is simply unacceptable. First and foremost, no baseline study has been performed on the Jordan River drainage and Great Salt Lake Wetlands ecosystem. Second, an environmental evaluation study has not been performed to analyze the anticipated effects of the discharging or to explore other alternatives such as disposal wells or piping the contaminated effluents into existing disposal/evaporation ponds.

**26-3** | Granted, the current emission standards for Selenium would not be breached by the proposal but let us be clear, no one has even attempted to examine the long-term effects of 146 pounds of Selenium and 22,000 tons of salts that will be discharged annually upon this fragile ecosystem.

What legacy are we sacrificing now? I can cite hundreds of examples of the failure of a governing body to look into the future. Here are but a few. One needs only to look west to the environmental disaster created in California by simply allowing farmers to discharge effluents into the Salton Sea. No one anticipated that Wasatch Chemical Company toxins would in time be the cause of health problems. Look too at the short-sightedness which led to the long-term effects of the tailings in Midvale, Utah a problem that was only solved after millions of dollars were spent through the federal RECRA program (Superfund).

**26-3** | This proposal looks to reverse years of positive environmental advances by increasing pollution levels within the Jordan River by 11% for Selenium and 28% additional salts. What legacy is served by discharging a known poisonous, semi-metallic compound that accumulates in various flora into an already fragile ecosystem?

**26-2** | Once again, on behalf of the Harrison Duck Club, which takes in 1320 acres and has 100 members, our owners, members and affiliates, I ask the DEQ to reconsider its position and oppose the introduction of Selenium and salts into the Jordan River.

Very Sincerely,

David F. Hinds



Response to Letter No. 03-26

**26-1:** See the Response to Common Comment No. 3.

**26-2:** See the Response to Common Comment No. 4 thru No. 9.

**26-3:** See the Response to Common Comment No. 9.

Letter No. 03-27



**United  
Steelworkers of  
America**

AFL-CIO-CLC

Five Gateway Center  
Pittsburgh, PA 15222

412-562-2400 • 412-562-2484 (Fax)

Response to Letter No. 03-27

October 28, 2003

Dianne R. Nielson, NRD Trustee  
Utah Department of Environmental Quality  
P.O. Box 144810  
Salt Lake City, UT 84114-4810



**RE: Southwest Jordan Valley Groundwater Cleanup Project**

Dear Director Nielson:

United Steelworkers of America (USWA) appreciates the opportunity to provide the enclosed comments on the Southwest Jordan Valley Groundwater Cleanup Project. As you may know, USWA represents members who work and live in the Salt Lake area who may be affected by this project.

These comments are submitted in addition to those presented at the public hearing of September 10, 2003. We hope that you will find our comments useful and will take them into consideration before final approval of this project. We would appreciate your written response to our individual questions and concerns.

Should you have any questions or need further information, please do not hesitate to contact me at (585) 589-4695.

Respectfully submitted,

A handwritten signature in cursive script that reads "Diane F. Heminway".

Diane F. Heminway  
Environmental Projects Coordinator  
UNITED STEELWORKERS OF AMERICA

cc: Eva Hoffman, Project Manager, EPA  
Doug Bacon, Project Manager, DEQ  
Leo Gerard, President, USWA  
Michael Wright, Director, HSE, USWA

**Letter No. 03-27 (cont.)**

Bruce Waddell, US Fish and Wildlife Service  
Joro Walker, Western Resource Advocates  
Lynn DeFreitas, Friends of the Great Salt Lake  
Jason Groenwold, HEAL  
Joel Peterson, The Nature Conservancy  
Mark Clemens, Sierra Club  
Jeff Salt, Great Salt Lake Audubon  
Tom Belchak  
Lewis Downy, Lake Country News  
Judy Fahys, Salt Lake Tribune  
Paul Skinner, Rio Tinto  
Leigh Clifford, Rio Tinto

**Response to Letter No. 03-27 (cont.)**



## Letter No. 03-27 (cont.)

### **Comments of the United Steelworkers of America Regarding the Southwest Jordan Valley Ground Water Cleanup Project**

United Steelworkers of America (USWA) is an international labor union representing over 675,000 members throughout the United States, Puerto Rico and Canada. We appreciate the opportunity to comment on the Southwest Jordan Valley Ground Water Cleanup Project.

USWA has long been committed to the health and safety of our members, their families, and the communities in which our facilities operate. As a Union, we recognize that economic and environmental sustainability go hand in hand and are achievable only through the protection of the very resources necessary for industrial, community and personal survival. Many of our members live in the Salt Lake vicinity and work at area companies, including Magnesium Corporation of America and the Kennecott Utah Copper Corporation's (KUCC's) mine, concentrator, refinery and smelter. We respectfully offer the following comments for your consideration.

#### **Public Involvement / Comment Period**

USWA submitted a letter to the Trustee requesting a 45 day extension to the Public Comment period to allow the public to be more meaningfully involved a project that has the potential to impact them both directly and indirectly. We appreciate that the Trustee granted a 30 day extension, however, there is some confusion about the legal requirements of the public notification and involvement process. This remedial project is a mandate of the Natural Resource Damage Settlement (NRDS), with previous NRDS activities administered under the Comprehensive Environmental Response, Compensation and Liability Act's (CERCLA's) public participation requirements. According to available documents, revisions in the ground water treatment proposal were made as late as August 7, 2003. (Source: Kennecott Utah Copper Corp. Jordan Valley Water Conservancy District's Proposal to the Utah State Natural Resource Damage Trustee and USEPA CERCLA Remedial Project Manager for a Groundwater Extraction and Treatment Remedial Project in the Southwestern Jordan Valley. Final Draft 8/7/03---Submitted 12/16/99, last revision 8/7/03.) In light of the recent amendments, magnitude of the project, the environmental health consequences in question, the large volume of documents to review, and the seeming lack of adequate public notice, USWA believes that more widespread publicity of this project is warranted and that every effort should be made to engage more members of the public.

#### **General Comments**

Globally, only 3% of the fresh water is found on the planet's surface in lakes, rivers, streams, etc., whereas, groundwater makes up 24% of the earth's fresh water. Clearly, groundwater is an invaluable and essential part of the planet's ecosystem, yet it remains both vulnerable and under protected. Therefore, USWA is pleased that remedial efforts are underway in an effort to address this serious ground water contamination problem.

We appreciate the magnitude and complexity of this undertaking, however, we are left with numerous concerns and many unanswered questions. The following comments will be

## Response to Letter No. 03-27 (cont.)

27-1: See the Response to Common Comment No. 1.

27-2: See the Response to Common Comment No. 3.

27-1

27-2

## Letter No. 03-27 (cont.)

organized by subject, with each issue stated, followed by concerns and/or questions. We would greatly appreciate your written response to our individual questions and concerns.

### Issue:

*During the public presentation on September 10, 2003, a DEQ representative explained that the groundwater contamination had been characterized through computer modeling and analyses at approximately 100 monitoring points. We were also told that the study area covered approximately 150 square miles.*

### Concerns/Questions:

- One hundred monitoring points, which we assume are monitoring wells, does not seem sufficient to adequately characterize a site of this size. It is not unusual at CERCLA sites to place one to five monitoring wells per acre. The core samples collected from the installation of monitoring wells assist in defining the geologic composition. The strategically placed wells, at varying depths, aid in determining contaminants and their movement. Will additional monitoring wells be installed to more clearly define the site and assess hydraulic control of the contaminated plumes?
- We acknowledge that computer modeling may aid in determining contaminant fate and migration in an isotropic porous medium, such as sand; however, conditions such as clay lenses and fractured rock can seriously alter ground water flow, causing inaccurate computer generated predictions. What methods were used to address and compensate for these variations in geologic conditions?

### Draw-down Effects and Water Rights

### Issue:

*As previously stated, many of our members live in the Salt Lake area; some whose families are dependent on private wells that may someday be impacted by contaminants and/or from the project itself due to draw-down effects. Pumping large volumes of water from this deep aquifer is likely to lower the water table and in turn, cause the more shallow private wells to "go dry."*

### Concerns/Questions:

- During the September 10<sup>th</sup> DEQ presentation, the public was shown a flow chart indicating that if private well owners lose the use of their wells, it would be determined whether or not Kennecott was responsible and if so, well owners would be compensated. Who would make that determination and how would it be made?
- What recourse will well owners have if it is "determined" that Kennecott's treatment project is not responsible?
- How will well owners be compensated and over what time period?
- If placed on public water, will well owners also be provided water treatment systems to filter out additives they might prefer to avoid, such as chlorine and fluoride?

## Response to Letter No. 03-27 (cont.)

**27-3:** There are over 300 monitoring well locations within and surrounding the Zone A and Zone B ground water plumes. The locations and depths of the monitoring wells has been evaluated over the last 10 years by the Technical Review Committee, the State of Utah and the EPA as documented in the RI/FS and Final Remedial Design. The data collected from the wells and the ground water model calibrations indicate that the location and depths of the wells within the aquifer are of a sufficient distribution to accurately monitor the containment/migration of the ground water.

**27-4:** See the Response to Common Comment No. 10.

All of the water extracted for treatment within Zones A and B will be extracted through valid water rights that Kennecott and JWCD currently hold for Zone A and Zone B respectively.

Both Kennecott and the District worked with the Utah Division of Water Rights to reassign water rights both entities have owned historically and used in the past for the development of either production water or drinking water (respectively). Except for the District's shallow ground water development project, no new well applications were filed to facilitate the proposed extraction activities. Only change applications (for existing water rights) were necessary to provide the amount of water from the two contaminated zones, necessary to meet the requirements of the Consent Decree.

27-3

27-4

## Letter No. 03-27 (cont.)

- 27-5 | • The Daybreak Development (aka Sunrise Development) proposal will require vast quantities of water to meet the need of businesses and residences. Will water treated in this proposal serve this new community?
- 27-4 | • Is Kennecott currently using expired or lapsed water rights?

### Great Salt Lake

#### Issue:

*The Great Salt Lake is a unique and no doubt fragile ecosystem, yet it does not appear that there has ever been an adequate ecological study, or even a risk assessment, of this system to evaluate the impacts of industrial activities, including the impacts of this project.*

#### Concerns/Questions:

- 27-6 | • A proper comprehensive study, including a baseline assessment and risk assessment of the Great Salt Lake should be performed by an independent or otherwise third party, such as US Fish and Wildlife Service with assistance from interested members of the Society of Environmental Toxicology and Chemistry (SETAC). While conventional wildlife risk assessments are based on the current limited knowledge of documented and/or predictable outcomes, such as tumor growth or subsistence capability, it is important that a study of the Great Salt Lake seek to observe a host of additional negative outcomes, such as reduced ability to reproduce, DNA anomalies, multi-generational effects, teratogenic effects, impacts on the food chain, increased contaminant body burdens and other long-term impacts. This should have been conducted well in advance of issuing disposal permits to this unique water resource. Has such a study been considered?
- 27-7 | • Funding sources for such a project should be explored. Monies might be obtained from recipients of air and water discharge permits, as well as from those withdrawing water from the Great Salt Lake. Will permit holders be considered as potential funding sources?

#### Issue:

- 27-8 | *For at least 15 years, the scientific community has acknowledged the presence of diverse subterranean communities that directly interact with surface water bodies, such as rivers. It has been noted that some species, upon which a water body's health depends, can be found living as far as 2 miles from either side of the shore and up to 30 feet below the river's bottom. Researchers believe that communities of creatures living in the hyporheic zone (where materials and water are exchanged with those in the water body channel) play an essential role in the recovery of a waterway after a drought, flood or other stress and that they also play an integral role the food web. (Washington Post, Buffalo News 12/3/89) Despite this fascinating discovery, Utah's most unique water resource, the Great Salt Lake, continues to be regarded as "virtually lifeless." Instead of implementing practices and polices that would ensure*

## Response to Letter No. 03-27 (cont.)

- 27-5: See the Response to Common Comment No. 11.
- 27-6: See the Response to Common Comment No. 9.
- 27-7: Again, See the Response to Common Comment No. 9.
- 27-8: See the Response to Common Comment No. 9.

## Letter No. 03-27 (cont.)

*protection of this distinctive ecosystem, the culture appears to be one of abuse and destruction with plans to use it as a toxic disposal area. The consequences of such practices may never be fully realized.*

### Concerns/Questions:

27-8

- According to the project plan, waste concentrates from both Zone A and Zone B will be directly disposed to the Great Salt Lake via “a concentrate discharge line” if they cannot be disposed in the impoundment for “various reasons such as permitting or after mine closure.” (Source: *Groundwater Extraction and Treatment Remedial Project in the Southwestern Jordan Valley*. Final Draft 8/7/03, 8.3, page 22). The “concentrates,” or waste products, will be largely comprised of toxic metals such as aluminum, arsenic, cadmium and selenium, the harmful effects of which have been well documented in wildlife, particularly in aquatic environments where they can accumulate and, in some cases, biomagnify at astonishing rates. Failure to implement a precautionary approach to protect the food chain, including migratory birds dependent on brine shrimp, brine flies and algae from the Lake, may result in serious, irreversible wildlife damage and costly future remediation. The release of toxic metals and other wastes to a closed water system that is known to be shrinking in size does not make sense.

### Zone A

#### Issue:

27-9

*According to the fact sheet provided to the public, extraction of acidic waters “will withdraw 2,400-4,000 acre feet of water in order to reduce the acid and metals contamination.” This statement leads the public to believe that this project is proposed and that extraction has not yet begun, when in fact, the extraction of acidic water actually commenced in August of 1997. According to a letter dated 8/26/03, (Kennecott to Dianne Nielson), as of Aug 21, 2002, after five years of operation, 2293.9 acre feet of acid water had been extracted and a total of over 136,595 tons of sulfate had been removed.*

#### Questions/Concerns:

- Why was it not made clear in the fact sheet that pumping of the acid plume has been occurring for at least 6 years?

#### Issue:

*The integrity, structure, placement and monitoring of extraction wells is of vital importance to the success of the project.*

#### Questions/Concerns:

27-10

- There is some question about why at least one of the wells (K60) needed to be replaced. Was it damaged by the acidity? If so, what assurance does the public have that destruction of wells will not be a common occurrence and that they will be monitored appropriately and replaced to ensure ongoing remediation? This is especially of concern if the plume is not fully remediated in a short period of time, which seems likely to be the case.

## Response to Letter No. 03-27 (cont.)

**27-9:** The referenced fact sheet was provided as a summary of the proposed project to the State Trustee for Natural Resource Damages.

Under the fact sheet section entitled “Consent Decree,” requirement No. 2 states that Kennecott was required to drill a well or wells into the low pH/heavy metals ground water plume and begin to remove contaminants. Other project documentation (NRD Consent Decree, Supporting Document, and the Joint Proposal) recognize the acid extraction requirement of the Consent Decree. Kennecott began pumping from the low pH/heavy metals plume in 1997 to extract on a five year rolling average, 400 acre-feet per year, to address the need to gain containment of this portion of the plume and to begin removing the contaminants of concern.

The reference to the Kennecott letter to the State Trustee dated August 26, 2003, makes note of the total amount of acre-feet of contaminated water removed from the low pH/heavy metals plume since extraction began in 1997. The intention of this letter was to notify the Trustee that the Kennecott was meeting the Consent Decree settlement requirement prior to the required anniversary date and was on task to meet the next removal increment ahead of schedule.

The water that has been removed from the low pH/heavy metals plume has been pumped to the Kennecott tailings pipeline for delivery to the North Expansion Impoundment in Magna, Utah. Kennecott has been and continues to neutralize the acidity of the extracted water by either using the neutralization potential of the tailings material or by adding lime to the tailings circuit. Water in the impoundment was and is currently recycled from the North Expansion Impoundment into Kennecott’s process circuit during yearly operations or discharged from the impoundment under an approved UPDES permit.

## Letter No. 03-27 (cont.)

- 27-10
- Given that pumping wells are located at the outer edge of the sulfate plume, what prevents the acid core from being drawn toward the outer edges of the plume, thus contaminating an even larger area? If not properly placed and operating at proper rates, hastened migration of the acid core could result in exacerbated and more widespread contamination. Recognizing that this presents an enormous technical challenge due to the unpredictability of ground water movement, especially with a fluctuating water table, what procedural assurances are in place to prevent this from happening? What alternative plans are in place to stem the migration if there is evidence that the acid core is being drawn toward the outer extraction wells?
- 27-11
- Earthquakes are not uncommon in Utah, with approximately 65 earthquakes occurring in August of 2003 alone. (*Source: Utah Geological Survey, Utah Earthquakes UUSS Catalog Summary*). What impact might seismic occurrences have on the plumes and on the wastes in the Magna Tailing Impoundment?

### Issue:

*The magnitude of this remedial project is massive and the technologies and techniques used to characterize and treat the contaminants are largely experimental in nature. They are known to possess inherent problems and uncertainties and rely on a variety of assumptions and "best guesses." Careful and consistent monitoring will be crucial to ensure its success.*

### Questions/Concerns:

- 27-12
- Due to the fact that science is not exact and predictions are not always accurate, this ground water remediation project will require careful monitoring and review to ensure success throughout its life. This is important not only for the immediate success of the effort, but also to provide ongoing evidence for future cleanups at other locations. Although not a complete list, a successful approach would include:
    - adequate data collection, including groundwater samples at regular intervals (All samples should be split with DEQ to ensure reliability.);
    - regularly scheduled evaluations with clearly defined methods of measuring progress;
    - regularly scheduled public meetings, to share the progress of the project and to learn about problems private well owners and other residents might be experiencing in relation to the project;
    - opportunities for public input at various stages of the project;
    - DEQ and EPA should have the ability to intervene and call for alternative approaches if the project is not meeting anticipated goals.

### Issue:

- 27-13
- The current plan is to use the Magna Tailings Impoundment for the disposal of "treatment concentrates" from the Reverse Osmosis plant, as well as extracted liquid from the acid core.*

## Response to Letter No. 03-27 (cont.)

**27-10:** K60 was replaced because of its age, not because it was damaged by acid. The well was originally installed in the 1960s with a steel casing that typically has a 20 to 30 year life. This and other sulfate extraction wells are monitored and will be replaced when and if needed, just like any other well. The Final Remedial Design that was reviewed by the Technical Review Committee and approved by EPA and the State of Utah details the containment, extraction and groundwater-monitoring program. Over 300 monitoring wells are currently in place within and around the plume and are monitored on a monthly to annual basis. Data collected from this monitoring program will be used to evaluate the effectiveness of the containment and extraction program and make adjustments if necessary.

**27-11:** Significant seismic analyses of the tailings impoundment site and method of construction were completed as part of a Final Environmental Impact Statement (FEIS) conducted for the tailings north expansion project completed in 1995. The development of the tailings dam employs the use of cycloned sand tailings using a modified centerline method of construction. The combination of using cycloned sand tailings placed and compacted as an engineered fill in conjunction with an underdrain system provides for a structure that is stable and safe under the design earthquake conditions, the Maximum Credible Earthquake. State statutes define the Maximum Credible Earthquake as "the most severe earthquake that is believed to be possible at the site on the basis of geological and seismological evidence."

**27-12:** The Final Remedial Design presents the details requested in the bullets above. Please remember (as stated in Response to Common Comment No. 5), the remedial plans for the acid core of Zone A are part of Kennecott's CERCLA remedial response. See the following web link (<http://www.deq.utah.gov/issues/nrd/documents.htm>) to review a copy of this referenced document.

In regards to the last three bulleted items, the State Trustee has established a means to disseminate the project information developed in the future to the public with an interest in this particular project. See the Response to Common Comment No. 13.

**Letter No. 03-27 (cont.)**

**Questions/Concerns:**

27-14

- Has there been a study to determine the feasibility of recovering some, or all, of the soluble toxic metals from the plume? The tremendous volume of very acidic water in need of treatment contains high concentrations of aluminum. Given these characteristics (volume/acidity), it seems feasible that the plume could be a rich source of alumina. Conducting a pilot scale project to explore the feasibility of such a venture should precede any remedial options that rely solely on disposal. Liquid mining of aluminum and other metals could prove to be a lucrative endeavor both environmentally and economically as it would provide a desirable “recycled” product, as well as future jobs.
- In addition to reverse osmosis (RO), were other treatment technologies considered? Was a “treatment train” (multiple types of treatment technologies) considered since the wastes in this case may require more than one treatment technology and/ or recovery technology before disposal/ release to the environment? While such an approach may be more costly in the short run, it may be more effective in the long run. One source of information may be the National Research Council, whose various committees have published several reports on this topic, including *Innovations in Groundwater and Soil Cleanup*.
- The impact of the acid on certain toxic metals, such as lead, tends to render them more bioavailable. This is of particular concern as wind blowing across the tailings impoundment may distribute them through the environment and/or food chain causing human and wildlife exposures. Were airborne exposures considered?

27-13

- The tailings impoundment, which we understand is unlined, will eventually reach capacity and be essentially a toxic metals waste site. Even if the waste passes a leaching potential test, it will still be toxic and bioavailable. Given the fact that unlined lagoons were considered a major source of the current ground water contamination problem, it is troubling that the selected “remedy” is to redeposit concentrated wastes into another unlined area. What actions will be taken to ensure that the wastes remain immobile and that they will not reenter the environment over a long period of time?

**Zone B and Jordan River**

**Issue:**

*Sulfate plume treatment concentrates are proposed to be disposed into the Jordan River through an UPDES permit, for which an application was recently submitted by the Jordan Valley Water Conservancy District.*

27-15

**Questions/Concerns:**

- EPA notes that Utah releases more selenium (Se) to the environment than any

**Response to Letter No. 03-27 (cont.)**

27-13: See the Response to Common Comment No. 7.

27-14: See the Response to Common Comment No. 4, No. 5 and No. 7.

27-15: See the Response to Common Comment No. 6 and No. 8.

**Letter No. 03-27 (cont.)**

**Response to Letter No. 03-27 (cont.)**

other state. (Source: EPA Consumer Fact Sheet on Selenium) In addition to that troubling fact is the sober reality that selenium can have devastating adverse impacts aquatic wildlife. While we disagree with permitting the discharge of selenium to any waterway, the DEQ's permitting approach is particularly disturbing. The UPDES permit is based on a "dilution is the solution" approach. Rather than establish a total quantity limit for the discharge of Se to the Jordan River, the DEQ permit is based on concentration. This approach is likely to result in a long-term build up of selenium in the environment. It is our understanding that there will be two discharge points.

- a) At one outfall, the discharge permit will allow a daily maximum of 48.5µg/L Se to be released to the Jordan River. While this is just below the current drinking water standard of 50µg/L, it ignores the cumulative impact of Se.
- b) At the other outfall, Se will be limited by the water quality standard of 5 µg/L.

Even if these limits are met temporarily, Se levels are sure to increase over time. Too, effects on wildlife have been observed at levels much lower than the permit limits. According to a letter from US Fish and Wildlife, wildlife effects have been documented at levels as low as 2 µg/L. (Source: US Dept of the Interior, US Fish and Wildlife letter from Henry Maddux to Don Ostler, DEQ, Div. of Water regarding UPDES Permit UT002551 for JWCD dated 8/15/03). Further, according to a 1985 Department of Interior publication, **"high bioconcentration and accumulation of Se from water by numerous species of algae, fish and invertebrates is well documented at levels of 0.015 to 3.3 ppb.** (Selenium Hazards to Fish, Wildlife, and Invertebrates: A Synoptic Review, US Fish and Wildlife, Oct 1985). While mathematical predictions may justify the discharge of high concentrations of Se, the fact is, once damage has occurred, no amount of math can reverse the damage. We therefore urge the reconsideration of the UPDES permit until a more protective approach has been identified.

27-16: See the Response to Common Comment No. 8.

27-17: See the Response to Common Comment No. 6, No. 8 and No. 9.

27-15

27-16

27-17

- The Jordan River, from Farmington Bay upstream to North Temple, was assessed as impaired because of low dissolved oxygen (Utah, DEQ Jordan River/Utah Lake Watershed Management Unit Water Quality Assessment, Fall 2002). What impact, if any, did this have on DEQ's permit conditions for the Jordan Valley Water Conservancy to discharge RO waste products to the River?
- US Fish and Wildlife Service's letter of 8/15/03 regarding the Jordan Valley Water Conservancy District UPDES permit, noted that the permit would allow the discharge of Total Dissolved Solids (TDS) at a level very close to, if not in excess of the River's total maximum daily load (TMDL), especially in times of low flow, and considering that there are other point and non-point sources of pollution. We agree with US Fish and Wildlife Service that the limit for TDS be lowered to a level that is truly protective of life.

## Letter No. 03-27 (cont.)

### Sustaining the Project/ Financial Concerns

#### Issue:

*Under the NRD Settlement Agreement, KUCC will fund all operational, maintenance and replacement (OM&R) expenses. However, the first five years, the Trustee will annually release 15% of the \$48.1 million (originally \$28 million) currently in the ILC. At the end of the five year period, KUCC will receive the balance of the monies in the fund. (Source: Groundwater Extraction and Treatment Remedial Project in the Southwestern Jordan Valley. Final Draft 8/7/03, page 27, Stage 6,).*

#### Questions/Concerns:

- What incentive is there for Kennecott to continue treating the ground water once the balance of this money has been given to them?
- Given the history of ground water pump and treat projects of a much lesser magnitude, it is unlikely the aquifer will be remediated for many decades, perhaps well beyond the 40 year project period. What alternative financial plans are in place in the event that Kennecott files bankruptcy, sells the company or undergoes restructuring? In recent years, workers, taxpayers and regulatory agencies have all witnessed the successful use of cagey corporate tactics to manipulate the legal system, enabling corporations to shirk their financial responsibilities. Too often, workers, shareholders and communities are abandoned victims of abuse, without compensation or recourse, while corporate executives leave communities with a legacy of environmental and economic devastation. **Why is Kennecott/Rio Tinto not providing a long-term trust fund that would better ensure commitment to the community in which they have operated and made their profits?** Taxpayers should not end up footing the bill for remediating the groundwater. A bond or trust fund should be established by Rio Tinto and secured by a third party to ensure that financial resources are available to fully remediate the ground water, no matter how long it takes. If funds remain after the contamination has been fully addressed, the money could be refunded.
- What incentive is there for the Jordan Valley Water Conservancy District to continue to treat Zone B for 40 years if offered a better deal (cheaper water source) in the meantime? Will they be required to continue pumping and who will pay for the operation and maintenance of the treatment?
- What happens after 40 years if these metals/sulfate groundwater plumes are not fully remediated?

#### General Comments

The term “concentrates” was repeatedly used in reference to the waste products generated from the reverse osmosis process. However, the use of such terms appears to be an attempt to linguistically detoxify the wastes. “Toxic waste” is a much more truthful term and should have been used to inform the public about the gravity of this project.

## Response to Letter No. 03-27 (cont.)

**27-18:** See the Response to Common Comment No. 12.

**27-19:** The term “concentrate” is technically and scientifically correct in that the waste stream from a reverse osmosis facility is nothing more than the influent or feed water concentrated by a factor of four or five as the clean portion of the water or precipitate is passed through a membrane under high pressure. The term “toxic waste” is not applicable as the concentrate has been repeatedly tested and does not exhibit any hazardous characteristics. The studies and data demonstrate that the concentrate from the Zone A treatment plant meets authorized and permitted discharge limits that are protective of human health and the Great Salt Lake environment. For example, the selenium concentration in the concentrate is approximately 25 ppb. The drinking water standard for human consumption for selenium is 50 ppb.

27-18

27-19



**Letter No. 03-27 (cont.)**

27-15

The toxic wastes captured by the reverse osmosis system will be comprised of metals such as aluminum, arsenic, cadmium and selenium and are known to cause harm to humans and wildlife. Such wastes do not belong in the Jordan River, nor do they belong in the Great Salt Lake or in unlined impoundments where they may re-enter the ground water system. We agree that it is crucial to remediate the contaminated groundwater and extracting it for treatment may be the best option. However, after extracting huge volumes of water, separating and concentrating the chemicals of concern, it makes absolutely no sense to then reintroduce these toxic wastes to the environment in unlined areas, sources of drinking water, or in delicate ecosystems upon which unique biota depends.

27-20

**None of the wastes from Zone A or Zone B should be allowed to be disposed of in anything less than a RCRA approved landfill to keep them isolated from the environment and prevent further harm to public health and the environment. It is unacceptable to dump waste into the open environment simply because it is cheaper than paying for the cost of a more secure disposal option. If Kennecott had managed its waste properly by isolating it from the environment rather than dumping it in unlined reservoirs and evaporation ponds, they would have saved much money and avoided environmental damage. This mistake should not be allowed to be repeated.**

27-14

Instead, Kennecott should be required to invest in a metals recovery operation that would turn much of the waste into valuable products that could be reused. The cost of proper disposal of the residual waste in a secure landfill would then be significantly reduced.

**Response to Letter No. 03-27 (cont.)**

**27-20:** See the Response to Common Comment No. 6 and No. 7.

**Letter No. 03-28**



State of Utah

Department of  
Natural Resources

ROBERT L. MORGAN  
*Executive Director*

MICHAEL O. LEAVITT  
*Governor*

OLENE S. WALKER  
*Lieutenant Governor*

November 25, 2003



Dr. Dianne R. Nielson, Executive Director  
Department of Environmental Quality  
P. O. Box 144810  
Salt Lake City, Utah 84114-4810

*Dianne*  
Dear Dr. Nielson:

Enclosed is a letter I received concerning the UPDES Permit for the Jordan Valley Water Conservancy District. I think the comments are appropriate and should be considered before final decisions are made issuing the permit.

We would like to work closely with your department in gathering data to help assist decision makers.

Sincerely,

Robert L. Morgan, P. E.  
Executive Director

RLM/btb  
Enclosure

**Response to Letter No. 03-28**

**Letter No. 03-28 (cont.)**



The State of Utah  
Department of  
Natural Resources  
Division of  
Wildlife Resources

MICHAEL O. LEAVITT  
*Governor*  
OLENE S. WALKER  
*Lieutenant Governor*

RECEIVED  
OCT 24 2003  
NATURAL RESOURCES

October 29, 2003

ROBERT L. MORGAN  
*Executive Director*  
KEVIN K. CONWAY  
*Division Director*

Robert L. Morgan, Executive Director  
Utah Department of Natural Resources  
1594 West North Temple, Suite 3710  
P.O. Box 145610  
Salt Lake City, Utah 84114-5610

Subject: DRAFT UPDES Permit # UT0025551, Jordan Valley Water Conservancy District Comments

Dear Mr. Morgan:

The Utah Division of Wildlife Resources (UDWR) has reviewed the draft UPDES Permit # UT0025551 for the Jordan Valley Water Conservancy District. This permit is part of the Southwest Groundwater Remediation Project that is a combined effort between Kennecott Utah Copper Corporation (KUCC) and the Jordan Valley Water Conservancy District (JVWCD) to meet the requirements of a 1995 Consent Decree requiring the remediation of two major areas of ground water contamination under the Salt Lake Valley. The current proposal is to extract the contaminated groundwater, send the water through a reverse osmosis (RO) membrane treatment facility, utilize the treated water for culinary drinking water and discharge the RO by-product into the Jordan River at two separate outfall points located at approximately 8300 South and 2900 South. The RO by-product will seasonally contain variable concentrations of Total Dissolved Solids (TDS), salts, selenium and various other metals. This by-product material will subsequently flow down the Jordan River and the Surplus Canal, and into private and public managed wetlands, eventually flowing into the Great Salt Lake and into wetland marshes located in the Great Salt Lake ecosystem. The UDWR is concerned about potential negative wildlife impacts associated with the proposed selenium and other metal discharges from this project. These "other metals" were not identified in the draft permit, but could include: arsenic, cadmium, mercury, lead as well as others. We recommend that no discharges of RO material be permitted into the Jordan River or into the Great Salt Lake. We provide the following comments for your consideration.

Water flows in the Jordan River are allocated to various locations around the south end of the Great Salt Lake. Around 2100 South, Jordan River waters are divided between the river and the Surplus Canal. The Jordan River typically maintains about 150 cfs and the Surplus Canal contains any "surplus" waters. When river flows are under 300 cfs, water amounts are equally divided between the Jordan River and the Surplus Canal. Jordan River water subsequently flows to the Burnham Duck Club, New State Duck Club, State Canal and to UDWR's Farmington Bay Wildlife Management Area (FBWMA). Surplus Canal water flows to the North Point Canal, the Goggin Drain, the Ambassador Duck Club, Lake Front Duck Club, North Point Duck Club, Rudy Duck Club, Utah Duck Club, Wasatch Duck Club, Johnson Duck Club, Brown Duck Club, Gillmor Duck Club, Harrison Duck Club, Blackhawk Duck Club, FBWMA, the Audubon

28-1

**Response to Letter No. 03-28 (cont.)**

28-1: See the Response to Common Comment No. 6 thru No. 9.

## Letter No. 03-28 (cont.)

Gillmor Sanctuary, the Salt Lake City Airport Wetland Mitigation Site, KUCC Inland Sea Shorebird Reserve and various other existing wetland mitigation sites.

The Great Salt Lake (GSL) ecosystem is of local, state, national and hemispheric importance for millions of waterbirds which nest, stage and forage within the Lake and the surrounding wetlands. Several hundred thousand shorebirds can be found seasonally using the Lake, and, for some species, over half of their entire North American population can be found on the GSL at a given time. The GSL also supports millions of waterfowl during spring/fall migrations (approximately 40% of waterfowl using the Pacific Flyway are found at some time during the year within the GSL ecosystem). Thousands of waterfowl utilize the GSL and associated wetlands for rearing their young while other species spend the winter on the GSL. Further, many other bird and animal species also utilize the GSL and marshes for some stage(s) of their life cycle; included in this is a nesting pair of bald eagles along with hundreds of wintering bald eagles. This makes the GSL and its surrounding wetlands critical to the survival of numerous wildlife species. In addition, the GSL supports brine fly/brine shrimp populations that are a critical food source for wildlife. Harvesting brine shrimp cysts on the GSL is a multi-million dollar industry that annually brings in several hundred thousand dollars of royalties to the State of Utah.

It is also important to note that the GSL is a large, terminal lake. As a result, water only leaves the GSL through evaporation or transpiration. Many of the "managed marshes" are wetland impoundments or closed systems where inflow and precipitation are nearly balanced with high evaporation and transpiration rates. Seasonally, these wetlands may not have any overland flow connection to the GSL. This means that over time, all materials that enter the marshes and the Lake become concentrated within the waters and sediments, and may bio-accumulate in vegetation and biota.

While selenium is a naturally occurring element and is necessary for nutritional reasons, the range between adequate and toxic concentrations is very narrow. Numerous real-world examples have occurred throughout the United States showing the environmental hazard of excessive selenium due to the fact that it is easily bio-accumulated by aquatic organisms. Even slight increases in water concentrations can quickly result in toxic effects such as deformed embryos and reproductive failure in wildlife. For more specific information, we refer you to an excellent peer reviewed scientific article: "*Environmental Implications of Excessive Selenium: A Review*" by A. Dennis Lemly (1997). Included here for your consideration are important quotes from this paper. We have also attached a copy of the entire paper for your review.

- Aquatic systems are very dynamic and selenium can be cycled from sediments into biota and remain at elevated levels for years after waterborne inputs of selenium are stopped. (page 417)
- In total, immobilization processes effectively remove selenium from the soluble pool, especially in slow moving or still-water habitats and wetlands. Ninety percent of the total selenium in an aquatic system may be in the upper few centimeters of sediment and overlying detritus (Lemly and Smith, 1987). (Page 417)
- Selenium in sediments is particularly important to long-term habitat quality because mechanisms present in most aquatic systems effectively mobilize this selenium into food chains and thereby cause long-term dietary exposure of fish and wildlife. (Page 417)
- Two additional pathways provide for direct movement of selenium from sediments into food chains, even when the surface water does not contain elevated concentrations of the element. These pathways are uptake of selenium by rooted plants and uptake by bottom-dwelling invertebrates and detrital-feeding fish and wildlife. These two pathways may be the most important in the long-term cycling of potentially toxic concentrations of selenium. Thus rooted plants and the detrital food pathway can continue to be highly contaminated and expose fish and wildlife through dietary routes even though concentrations of selenium in water are low (Lemly and Smith 1987). (Page 418)
- The major environmental implications of excessive selenium are associated with its propensity to bio-accumulate in aquatic food chains and, thereby, contaminate the diet of fish and wildlife and, in some cases, humans. Aquatic organisms can accumulate this element to concentrations one or more orders of magnitude greater than the concentrations in their water or food. (Page 418)
- Bio-magnification of selenium (the accumulation of progressively greater concentrations by successive trophic levels of a food chain) usually ranges from 2 to 6 times between the primary

## Response to Letter No. 03-28 (cont.)

## Letter No. 03-28 (cont.)

producers (algae and plants) and the lower consumers (invertebrates and forage fish). For example, fish that eat contaminated plankton or benthic invertebrates may accumulate selenium to concentrations that are 4 times those of their food, which in turn, could contain 500 times the selenium concentration in the water. These relationships are important in natural systems because they can cause top-level consumers, such as predatory fish, birds and mammals, to receive toxic selenium levels in the diet even though the concentration in water is low (< 10 ug/l) (micrograms/liter=parts per billion). Moreover, the risk of toxicity through the detrital food pathway will continue despite a loss of selenium from the water column, as long as contaminated sediments are present (Lemly and Smith 1987). (Pp. 418-419)

- Systems that tend to accumulate selenium most efficiently are shallow wetlands and marshes, and reservoirs with low flushing rates. In these systems biological productivity is often high and selenium may be readily trapped through immobilization processes or through direct uptake by organisms. Sediments often build up a high selenium concentration that is remobilized gradually and continually through detrital and planktonic organisms. These habitats are also typically some of the most important feeding and breeding habitats for fish and wildlife, especially waterfowl and shorebirds. The degree of fish and wildlife exposure to selenium varies among habitats according to the intensity of use, type of use (e.g., feeding vs. resting), and the relative contributions of the various processes that regulate selenium cycling and bio-accumulation in food chains (Lemly and Smith 1987). (Pp. 419-420)
- Overt selenium toxicosis (i.e., deformities in bird embryos and hatchlings) was found in five states (including Utah). In some cases, these teratogenic effects occurred even though the waterborne concentrations of selenium were below those recommended by the U.S. EPA for the protection of aquatic life (Lemly et al., 1993). (Page 423)
- Waterborne selenium concentrations of 2 ug/l (micrograms/liter) or greater (parts per billion; total recoverable basis in 0.45 u (micron) filtered samples) should be considered hazardous to the health and long-term survival of fish and wildlife populations due to the high potential for food chain bio-accumulation, dietary toxicity, and reproductive effects (Page 429).

In 1987, the U.S. Environmental Protection Agency (EPA) set the selenium water quality criterion at 5 micrograms/liter (U.S. EPA, 1987). However, current research has indicated that concentrations of 2-3 micrograms/liter have been found to be toxic to wildlife (see last bullet statement above). Kesterson National Wildlife Refuge in California is most notable for significant selenium contamination in the 1980's that caused embryonic mortality and abnormalities in aquatic bird species (Ohlendorf et al. 1986). Severe deformities included missing eyes and feet, and protruding brains were observed. At Kesterson, elevated selenium concentrations were found in every animal group coming into contact with these wetlands - from fish and birds to insects, frogs, snakes and mammals (Saiki and Lowe, 1987; Clark, 1987; Ohlendorf et al., 1988a). Scientists eventually concluded that the selenium contamination at Kesterson could not be remediated, so the 10,000 acres of wetlands were filled in. Utah currently has two areas with significant selenium contamination. These include Stewart Lake and Ouray National Wildlife Refuge, both located in eastern Utah. They are currently being evaluated for potential remediation alternatives.

During the 1990s, the U.S. Fish and Wildlife Service surveyed biota in wetland habitats (including canals and drains) around the Great Salt Lake for potential heavy metal contamination, including selenium. This survey indicated that waterfowl and shorebird eggs sampled from various locations contained elevated concentrations of selenium. Data for wetlands potentially affected by this action indicated some eggs as high as 4.7 ppm SE dry weight. UDWR is concerned that since current background concentrations of selenium in bird eggs are near harmful thresholds, additional inputs of selenium, even in small amounts, could create a toxic situation and cause reproductive failure in waterbirds. In many ways (i.e., soils, climate, geology, hydrology, closed system), the GSL ecosystem is very similar to Kesterson National Wildlife Refuge. Given the propensity of selenium to bio-accumulate and bio-magnify, and the potential for it to spread throughout the GSL ecosystem, and given the critical hemispheric importance of the GSL to resident and migratory waterbirds and other wildlife, we do not believe that wetland and wildlife resources should be subjected to discharges that include contaminants that are known to bio-accumulate and cause harmful effects, when other alternatives exist to treat the contaminated RO waters. A reasonable alternative would be to pump the RO by-product material back to KUCC's tailings ponds and treating the material at

## Response to Letter No. 03-28 (cont.)

28-2: See the Response to Common Comment No. 6 thru No. 9.

## Letter No. 03-28 (cont.)

28-2 these existing facilities. It is very concerning that pollutants, that are required to be removed from a groundwater source, are being considered for discharge into a surface source.

UDWR is also concerned that increases in the TDS concentrations will also negatively affect wildlife and wetland habitats. Some of the GSL wetlands and managed marshes currently have such high salinity levels that marsh productivity has decreased. Further increases in salinities will continue to degrade these important habitats and reduce the value of these wetlands for wildlife.

In addition to the above comments, UDWR would like to see the following questions/comments addressed in the permit process:

\*DEQ/DWQ has conducted recent sampling of additional wetland areas with results not yet determined and/or released for public knowledge. This information, when available, should be released to the public for further evaluation of the UPDES Permit UT0025551. UDWR requests that finalization of the permit and plan do not occur until such information has been shared and appropriate time allocated for evaluation of said information.

\*Why do selenium limits seasonally change and why does it appear that there are higher discharge limits during low flow periods?

\*Since these selenium and TDS limits will discharge into "known" Jordan River water flows, will the Utah Department of Environmental Quality/Division of Water Quality work closely with the Utah Department of Natural Resources/Division of Water Rights to assure that no new water rights are granted or point of diversions issued which could change Jordan River flows and subsequently affect dilution rates?

28-3 \*Why are the discharges at 8300 South and 2900 South dramatically different? Why have two outfall locations instead of just one outfall location?

\*What are the "other metals" referred to in the draft permit? Depending upon what metals and at what concentrations they are being released, UDWR may have additional concerns associated with this permit.

\*Since other remediation efforts in the western United States have either cost millions of dollars and/or have been ineffective in removing selenium from wetlands, what remediation plans have KUCC and JWCD proposed to restore GSL wetlands in the event that selenium concentrations become toxic to wildlife?

\*The Wasteload analysis indicates that although selenium amounts will be released at very high concentrations (48.5 micrograms/liter discharged at 2900 South) and mixing will occur in the Jordan River that will dilute the concentration down to between 4.22-5 micrograms/liter. No information is provided as to how far downstream this mixing is predicted to occur. Is the mixing predicted to be complete when the Jordan River flows into FBWMA? Since the Surplus Canal splits the Jordan River water around 2100 South, will appropriate mixing occur before this point or will a higher concentration of selenium remain in either the Jordan River or the Surplus Canal? This rate, while meeting the U.S. EPA Water Quality Standards, is higher than levels known to be toxic to wildlife populations. Given the critical value of Great Salt Lake wetlands and the fact that wetland habitats and bird eggs currently have high concentrations of selenium, state agencies should make every effort to protect this irreplaceable resource.

28-4 Given the potential for significant negative long-term impacts to wildlife, the critical value of the Great Salt Lake and the probability that these impacts are irreversible, we recommend that this draft permit not be

28-1 issued at this time and that other alternatives for handling the RO by-product be explored. In its current form, this draft permit does not provide enough information to adequately assess potential impacts to wildlife. If this project continues to be pursued, we recommend a more thorough analysis to more fully evaluate potential concerns. We recommend this study analyze the full scope of potential impacts from this project including, but not limited to: impacts associated with bio-accumulation and bio-magnification of selenium and other heavy metals in wetlands, sediments, vegetation, invertebrates, reptiles, amphibians, mammal and bird populations; the amount of background selenium and heavy metal concentrations in sediments, vegetation and wildlife; impacts associated with increases in TDS limits and subsequent habitat degradation in GSL wetlands; negative impacts that could occur to the brine shrimp populations and industry; impacts associated with increased selenium, other heavy metals and increased TDS concentrations in the Jordan River aquatic/riparian ecosystem.

28-5

## Response to Letter No. 03-28 (cont.)

28-3: See the Response to Common Comment No. 8 and No. 9.

28-4: See the Response to Common Comment No. 6 thru No. 9.

28-5: See the Response to Common Comment No. 1. Also, see the Response to Common Comment No. 9.

The list of questions will be shared with the Steering Committee looking into the issues of selenium in the Great Salt Lake.

Lastly, See the Response to Common Comment No. 7.

## Letter No. 03-28 (cont.)

### References:

Clark, D.R. Jr., (1987). Selenium accumulation in mammals exposed to contaminated California irrigation drainwater. *Sci. Total Environ.* 66, 147-168.

Lemly, A.D. (1993a). *Guidelines for evaluating selenium data from aquatic monitoring and assessment studies.* *Environ. Monitor. Assess.* 28, 83-100.

Lemly, A.D. (1996b). *Assessment the toxic threat of selenium to fish and aquatic birds.* *Environ. Monitor. Assess.* 43, 19-35.

Lemly, A.D. (1997). Environmental Implications of Excessive Selenium: A Review. *Biomedical and Environmental Sciences*, 10, 415-435.

Lemly, A.D. and Smith, G.J. (1987). *Aquatic cycling of selenium: Implications for fish and wildlife.* Fish and Wildlife Leaflet 12. U.S. Department of the Interior, Fish and Wildlife Service, Washington, D.C.

Lemly, A.D., Finger, S.E., and Nelson, M.K. (1993). *Sources and impacts of irrigation drainwater contaminants in arid wetlands.* *Environ Toxicol. Chem* 12, 2265-2279.

Ohlendorf, H.M., D.J. Hoffman, M.K. Saiki and T.W. Aldrich. 1986. Embryonic mortality and abnormalities of aquatic birds: Apparent impacts of selenium in irrigation drainwater. *The Science of the Total Environment* 52:49-63.

Ohlendorf, H.M., Hothem, R., and Aldrich, T.W. (1988a). Bioaccumulation of selenium by snakes and frogs in the San Joaquin Valley, California. *Copeia* 1988, 701-710.

Saiki, M.K. and Lowe, T.P. (1987). Selenium in aquatic organisms from subsurface agricultural drainage water, San Joaquin Valley, California. *Arch Environ. Contam. Toxicol.* 16, 657-670.

U.S. EPA (U.S. Environmental Protection Agency) (1987). Ambient water quality criteria for selenium. – 1987. Technical Report EPA-440/S-87-006. Office of Water Regulations and Standards, U.S. EPA, Washington, D.C.

U.S. FWS (U.S. Fish and Wildlife Service) (1999). Draft Interim Report. Contaminant Assessment of Palustrine and Lacustrine Habitats of the Great Salt Lake. Region 6 Contaminants Program, Utah Field Office, Salt Lake City, Utah.

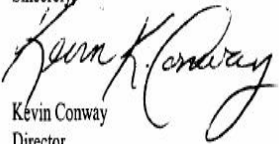
## Response to Letter No. 03-28 (cont.)

**Letter No. 03-28 (cont.)**

28-6

UDWR appreciates the opportunity to comment upon this draft UPDES Permit. Since UDWR is a landowner that may be affected by this project and we are the trustees of an important public resource, we hope that we can work together to protect the functions and values of the Great Salt Lake ecosystem for future generations. I offer my staff and equipment to assist your agency in conducting additional studies pertaining to wildlife species in the Jordan River or Great Salt Lake Wetlands.

Sincerely,



Kevin Conway  
Director

KKC/pk

cc: Carolyn Wright, Governor's Office of Planning and Budget (electronic copy only w/o attachment)

Attachment (1)

**Response to Letter No. 03-28 (cont.)**

28-6: See the Response to Common Comment No. 9.



**Letter No. 03-29**

**NEW STATE, INC.**  
P.O. Box 58483  
Salt Lake City, Utah 84158-8483

**RECEIVED**

OCT 30 2003  
DIVISION OF  
WATER QUALITY

October 29, 2003

Dr. Dianne R. Neilson  
Department of Environmental Quality  
NRD Trustee  
P.O. Box 144840  
Salt Lake City, UT 84114-4840

Kennecott plume cleanup

Dear Dr. Neilson:

We are a duck club in Davis and Salt Lake Counties, Utah. Over more than 100 years we have developed and preserved our 3,800 acres into prime hunting and nature preserve wetlands. The Jordan River actually ends within our land. Our wetlands are part of over 28,000 acres of managed wetlands dependant on Jordan River water. These include a State Wildlife Management Area, private duck clubs, mitigation sites, and a wildlife preserve. The plan to discharge the reverse osmosis concentrated pollution from the Kennecott plume cleanup into the Jordan River is of great concern.

29-1

Our principal concern is that while the discharge may not raise the pollution level above the state standard at the point of release it likely will farther down. Because the nature of our ponds unintentionally makes them evaporation-concentration ponds, if the water is near the state standard when it arrives at our property, the pollutants will be concentrated above the state standard and likely above the level tolerated by wildlife. In addition once saturation is reached metals will precipitate and be picked up biologically thus will not be available to re-dissolve and be carried on. Bioaccumulation can further concentrate them.

29-2

For instance this summer little of the river's full flow was discharged from our property. I.e. the full flow of the river was evaporated from our ponds. Almost all non-evaporative pollutants that came down the river this summer are concentrated in our wetlands!

29-2

This is of course also true of the much larger pool of the Great Salt Lake.

**Response to Letter No. 03-29**

29-1: See the Response to Common Comment No. 6 thru No. 9.

29-2: See the Response to Common Comment No. 9.

**Letter No. 03-29 (cont.)**

Dr. Dianne R. Neilson  
October 29, 2003  
Page 2

29-2

While we are concerned about all metals in the discharge, of particular concern is selenium. We certainly don't want to chance the creation of another Kesterson NWP California situation. The wetlands you are affecting are nationally and hemispherically important.

29-3

The amount of any pollutant allowed should be measured by the maximum concentration anywhere in the water body to which it contributes not just at the point of discharge.

While this clean up is necessary and beneficial, it should not be conducted to the detriment of a waterway we are also trying to improve. Another place for these pollutants should be found.

29-4

Much more on site research must be completed before this sort of discharge should be considered.

Sincerely yours,

NEW STATE, INC.



Owen Kent Covey  
President

cc:  
Mr. Don Ostler  
Utah Division of Water Quality  
PO Box 144870  
Salt Lake City, UT 84114-4870

Ms. Cynthia Cody, Chief  
NEPA Unit  
Ecosystem Protection Program  
US Environmental Protection Agency, Region 8  
999 18th St., Suite 500  
Denver, Co 80202-2466

Lt. Col. Mark W. Connelly  
U.S. Army Corps of Engineers  
1325 J Street  
Sacramento, CA 95814-2922

**Response to Letter No. 03-29 (cont.)**

**29-3:** The existing concentration of any pollutant in a water body varies depending on season, contributions by other sources of close proximity, significant hydrological changes along its' entirety, and various other dynamic factors. The authority and intent provided under the UPDES program is the protection of a water body based on in-stream pollutant concentrations at the particular point of discharge. As a practical matter, this is accomplished based on water quality standards, and point source effluent limitations based on specific sections of the water body.

**29-4:** See the Response to Common Comment No. 9.

**Letter No. 03-30**



Dianne Nielson, Executive Director  
Utah Department of Environmental Quality  
P.O. Box 144810  
Salt Lake City, UT 84114-4810

Richard N. Gilbert, Vice President  
Irvine Ranch & Petroleum Co., Inc  
d.b.a. Ambassador Duck Club  
4071 Minnet Court  
West Valley City, UT 84119

October 29, 2003

Dianne Nielson;

I would like to thank you, your staff, Jordan Valley Conservancy District and Kennebecott Utah Copper Corp for the information presented at the Friends of GSL meeting on October 28, 2003.

I represent Irvine Ranch & Petroleum Co., Inc. d.b.a. Ambassador Duck Club and its 100 shareholders. We oppose the proposed KUCC and JVVCD discharge of selenium and salts into the Jordan River System. The Ambassador Duck Club owns over 2800 acres of wetlands and uplands located at the end of the Surplus Canal. We own water in the Jordan River system and irrigate and manage over 1400 acres of wetlands. We believe that the discharge of these materials will damage these wetlands and the fragile balance of the Great Salt Lake wetlands and GSL ecosystem. Based on the information provided at the Oct. 29<sup>th</sup> meeting I have some additional concerns.

It was stated in the meeting that KUCC has made a commitment to dispose of the waste discharge from the RO process from both Zone A & B to their tailings pond. However, when ask why this was not going to be done we were told it would be too expensive. If the funds KUCC has provided is not sufficient they should provide additional funding. JVVCD could also assist in cost overruns by building the additional costs into their rates for the newly acquired water.

It appeared from the exhibits that the RO waste water from Zone B could be pumped to the discharge pipe of Zone A and from there KUCC can move the dump water to their tailings pond. We were told that the pipeline would be long and require a radical rise in elevation. First, the waste water pipe line proposed from 8600 South to 2100 South appears to be longer than the distance from the RO plant at Zone A to the RO plant at Zone B. Elevation changes are handled with pumps and lift stations. Secondly, we were told the wastewater from Zone B would contain organic materials that were not compatible with KUCC's wastewater processing. The dump water pipeline is a closed system and chemicals can be added to inhibit and eliminate these materials.

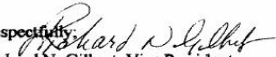
We were also told that the Total Dissolved Solids, including salts and selenium, per unit of water would remain under the present EPA standards. However, the TDS will not stay in solution. During the summer months water enters our wetlands and evaporates. There is no water discharge to the GSL. The lakes and ponds of our wetlands would become "tailing ponds, concentration ponds, terminal basins" and be destroyed. The same problem will develop on the GSL Farmington Bay, a relatively closed system, it will just take longer. In addition farmers and ranchers that irrigate with Jordan River water will also see the compounding effect of the additional materials.

We are not aware of any studies that have established an existing base line for selenium and salts or the evaluation of the proposed additional materials in the water or soil. We are not aware of any studies that have evaluated the damage these waste products will do to ecosystem downstream of the proposed discharge location.

The project, as proposed, is moving the materials that have developed an EPA Superfund site to a new location. The new selenium environmental disaster site will be impossible to correct. We request that the Utah DEQ permit be withdrawn and that all wastewater be moved to KUCC's tailing pond.

Copies:

Brent H. Goodfellow, Utah House of Representatives  
Ed P. Mayne, Utah State Senator

Respectfully,  
  
Richard N. Gilbert, Vice President  
Irvine Ranch & Petroleum Co. Inc.

**Response to Letter No. 03-30**

**30-1:** See the Response to Common Comment No. 6 thru No. 9.

**30-2:** See the Response to Common Comment No. 6, No. 7 and No. 9

**30-3:** See the Response to Common Comment No. 6 thru No. 9.

**30-4:** See the Response to Common Comment No. 8.

30-1

30-2

30-3

30-4

30-1

Letter No. 03-31

Response to Letter No. 03-31

31-1: See the Response to Common Comment No. 1.



State of Utah Natural Resource Damage Trustee  
Public Comment on Kennecott Utah Copper Corporation's  
and the Jordan Valley Water Conservancy District's  
Ground Water Treatment Proposal

LANCE Consulting Group, L.C. 10/29/03  
(Name) (Date)  
1700 W. 9000 S. SUITE 301 801-271-9898  
(Address) (Phone No.)  
WEST JORDAN, UTAH 84088 saltlake Realtor@hotmail.com  
(E-mail Address)

Comment:

PLEASE EXTEND THE PUBLIC

COMMENT PERIOD

THERE IS	
A	A
NEW, MORE	MINIMUM OF 60 DAYS
EQUITABLE,	
COMPREHENSIVE	
PLAN IN	FROM
THE	
WORKS.	10/21/03 (MIDNIGHT)

IN ADDITION, PLEASE PROVIDE AN ADDITIONAL

COURT-TRANSCRIPTION OF AN ADDITIONAL  
PUBLIC HEARING.

\* Written comments must be transmitted or postmarked on or before Oct. 1, 2003 by mail to NRD Trustee, Utah Department of Environmental Quality, 168 North 1950 West, Salt Lake City, Utah, 84116, by e-mail to nrdtrustee@utah.gov, or by fax to (801) 536-0061.

31-1

Letter No. 03-32

OCT-29-03 WED 12:19 PM STEVE MCDOWELL

FAX NO. 8014483053

P. 02

Steven D McDowell  
1146 Jordan River Drive  
S. Jordan, UT 84095  
801 560-4234

October 29, 2003

NRD Trustee  
PO Box 144810  
Salt Lake City, Utah 84114

Dear Sir,

This past July, my wife and I purchased a property located at 11092 S. 1300 W. in South Jordan. This property included the rights to an existing well W. U. C. #2098 and my title company is in the process of recording a Quit claim Deed from Doug Pillow to us for the well rights.

32-1

It has come to my attention that Kennecott is trying to obtain rights to our water with the guise of cleaning it up. I am aware that they need water for a huge development and I feel that this is a thinly veiled effort to steal my water and then to sell it back to others and myself for a huge corporate profit.

32-2  
32-3

I am asking that there is a hearing on this matter later this week. I am asking that it be delayed at least 60 days to give the water owners more time to gather the facts.

Sincerely,

  
Steven D. McDowell

Response to Letter No. 03-32

32-1: See the Response to Common Comment No. 10.

All of the water extracted for treatment within Zones A and B will be extracted through water rights that Kennecott and JWCD currently hold for Zone A and Zone B respectively. Both Kennecott and the District worked with the Utah Division of Water Rights to reassign water rights both entities have owned historically and used in the past for the development of either production water or drinking water (respectively).

32-2: See the Response to Common Comment No. 1.

32-3: See the Response to Common Comment No. 1.

## Letter No. 03-33



October 30, 2003

Dianne R. Nielson, Ph.D.  
NRD Trustee  
Utah Department of Environmental Quality  
P.O. Box 144810  
Salt Lake City, Utah 84114-4810

Re: Southwest Jordan Valley Ground Water Cleanup

Dear Dr. Nielson:

On behalf of the citizens of Riverton City, I am placing our concerns with the referenced project on record via this letter. Riverton City provides culinary water to our approximately 6,600 customers primarily from six (6) wells. We also have a contract to purchase 620 acre-feet/year of water from the Jordan Valley Water Conservancy District (JVWCD).

Riverton City has expended resources and funds to secure water for our present and anticipated future needs. The referenced cleanup could cause us to lose water and/or increase our operation and maintenance costs to provide water to our customers. Water banked for the future could also be jeopardized.

These comments and concerns are based on my review of the information available on the Department of Environmental Quality website.

Please consider the following:

- 1.- The proposal states that the JVWCD has a minimum purchase contract with Riverton City for 395 acre-feet/year. Our present contract with JVWCD is for 620 acre-feet/year.
2. - It is our understanding that withdrawal of the groundwater within the cleanup site will lower the water table in Riverton City approximately ten (10) feet. This impact has not been addressed. Our cost to pump water will increase and wells may fail.



## Response to Letter No. 03-33

**33-1:** The Consent Decree requires that the damages obtained from Kennecott must be used to “restore, replace, or acquire the equivalent of the natural resource for the benefit of the public in the Affected Area as provided under Section 107(f) of CERCLA.” Consent Decree Section V.D.1 and 4. The Joint Proposal explains how the water from the Zone A and B plants is to be distributed to the municipalities that are within the Affected Area. The distribution of water in the Joint Proposal is consistent with the requirements of CERCLA and the Consent Decree.

See the Response to Common Comment No. 10, No. 11, and No. 12.

33-1

**Letter No. 03-33 (cont.)**

**Response to Letter No. 03-33 (cont.)**

Dianne R. Nielson, Ph.D.  
October 30, 2003  
Page 2 of 3

33-1

- 3. - It is less expensive for us to pump water under the present conditions than it is for us to purchase water from the JVWCD. The proposed wholesale rate for water from the JVWCD is very close to our current contract price. We may be forced to purchase more than our current contracted amount to replace groundwater lost to the cleanup effort. The wholesale price of \$302.24 per acre-foot (2002) for treated water from Zone A does not equal our cost to pump well water under present conditions. We should be compensated for the increased costs to pump water and the possible loss of wells due to a lower groundwater table, not pay a higher cost. The impact of the cleanup on the supply of groundwater should be evaluated annually and costs adjusted to equal present conditions.
- 4. - Our condition of purchasing treated water from Zone A is that we will apply to the State Engineer to move "point of diversion #1" of our water right #59-1533. Kennecott should facilitate this and pay all associated costs. Please note, however, that it is our understanding that this water right is presently located at the Garamandi location.
- 5. - The quantity of water available to be purchased by Riverton City from the JVWCD should not be fixed. The quantity should be evaluated and adjusted annually to compensate Riverton City for groundwater lost to the cleanup.
- 6. - The quality of groundwater we pump may be negatively impacted by the cleanup. The proposed plan does not address degradation of the groundwater supply.
- 7. - Water supply and quality provided to Riverton City to compensate for loss of groundwater by the JVWCD should not be limited to the water generated by the cleanup. The projected supply and quality of water from the cleanup may not be available. Provisions should be made to provide water to Riverton City by Kennecott/JVWCD from sources other than the cleanup site.
- 8. - JVWCD should not pay Kennecott capital and O & M costs for treating water to restore recorded water rights lost to the contamination. The cleanup is Kennecott's responsibility.
- 9. - Cost overruns for construction of Zone B and Lost Use facilities should be the responsibility of Kennecott, not JVWCD and its customers.
- 10. - A reserve fund should be available to compensate Riverton City for unforeseen losses of water rights and increased operation and maintenance costs during the cleanup period.

**Letter No. 03-33 (cont.)**

Dianne R. Nielson, Ph.D.  
October 30, 2003  
Page 3 of 3

In summary, it appears that the costs to treat contaminated water are being passed on to those who have been impacted by the contamination. It is my understanding that Kennecott is responsible to restore the groundwater to a quality that existed before the contamination.

33-1

Groundwater removed and treated by the cleanup should be made available to those affected by the contamination and subsequent cleanup at their normal costs. Riverton City's present cost to pump groundwater is approximately \$110 per acre-foot. Our costs could significantly increase as a direct result of the cleanup effort.

I appreciate the opportunity to voice River City's concerns with Kennecott's proposed plan to cleanup the contaminated groundwater. Riverton City will work with the State to facilitate the needed cleanup.

If you have any questions or require additional information, please contact me at 208-3128.

Sincerely,

**RIVERTON CITY**



C. W. "Mike" Hutchinson, Jr., P.E.  
Public Works Director

- c: Honorable R. Mont Evans, Mayor
- Mark Cram, City Administrator
- David Church, City Attorney
- Scott Hill, Water Operations Director
- Director, Utah Division of Environmental Response and Remediation
- David Ovard, General Manager, Jordan Valley Water Conservancy District
- Manager, Strategic Resources, Kennecott Utah Copper Corporation

**Response to Letter No. 03-33 (cont.)**



**Letter No. 03-34**

Utah Department of Environmental Quality  
168 N 1950 W Room 101  
Salt Lake City, Utah

SOUTHWEST JORDAN VALLEY WATER CLEANUP PROJECT

October 31, 2003

Dear Sirs:

This letter is written to respond to the public comment regarding wells located in the affected area.

We have a well located at 1113 W 8450 S West Jordan, Utah 84088. The well is used for culinary and livestock watering purposes. We wish to have the upmost protection for the quality and quantity of water produced through this well.

34-1 We also have underground water rights in this area which we use for watering our agricultural crops. Consideration of the quality and quantity of water received through this means is also very vital to the continuation of our farming practices.

Thank you for taking note of our concerns for our water rights.

Betty G. Naylor - Owner/Manager  
Gardner Heritage Farm  
1113 W 8450 S  
West Jordan, Utah 84088

Betty G. Naylor  
1229 W 8450 S  
West Jordan, Utah 84088  
801-255-6021

**Response to Letter No. 03-34**

34-1: See the Response to Common Comment No. 10.

Letter No. 03-35

DR. FRANNE NELSON.

I AM A SHARE HOLD BY THE JORDAN RIVER AT  
800 N. SLC, I AM APOSED TO FURTHER CONTAMINATION  
TO SAND RIVER, AND AS A SHARE HOLDER EXPECT  
THE STATE TO ~~PROT~~ PROTECT MY RIGHTS.

RALPH H STEENBLIK  
1680 ROSE PARK CR (8324 AC)  
SLC



Response to Letter No. 03-35

35-1: See the Response to Common Comment No. 6, No. 8, and No. 9.

35-1

**Letter No. 03-36**

Utah Department of Environmental Quality  
Attn: NRD Trustee  
P.O. Box 144810  
Salt Lake City, UT 84114-4810

RE: Southwest Salt Lake Valley Groundwater Pump and Treat Project

Dear Trustee:

I have some concerns with the above referenced project and proposal. Due to its complexity, my family requests an extension of 60 days to further study and review the documents pertaining to this project. In addition, we request a public hearing to be held in mid or late November in the evening to accommodate our schedules.

My primary concern is that Kennecott is not cleaning up the aquifer. Abdicating the responsibility of water treatment to Jordan Valley Water Conservancy District I believe will cause an increase in water costs to all rate payers and subsidizes the Kennecott remediation efforts by taxpayers.

Also, why are we going from an interest rate on the Letter of Credit as stated in the 1995 Consent Decree from 7% to approximately 1% in the current project proposal.

Another concern is that I do not want the quality and quantity of the water in my well to be impacted by Kennecott's drawing down of the aquifer.

Thank you for your consideration.

Sincerely,



**Response to Letter No. 03-36**

**36-1:** See the Response to Common Comment No. 1.

**36-2:** See the Response to Common Comment No. 12.

**36-3:** See the Response to Common Comment No. 9.

Letter No. 03-37

RECEIVED  
OCT 24 2003  
DEQ  
Environmental Response & Remediation  
By: \_\_\_\_\_

Utah Department of Environmental Quality  
Attn: NRD Trustee  
P.O. Box 144810  
Salt Lake City, UT 84114-4810

RE: Southwest Salt Lake Valley Groundwater Pump and Treat Project

Dear Trustee:

37-1 | I have some concerns with the above referenced project and proposal. Due to its complexity, my family requests an extension of 60 days to further study and review the documents pertaining to this project. In addition, we request a public hearing to be held in mid or late November in the evening to accommodate our schedules.

37-2 | My primary concern is that Kennecott is not cleaning up the aquifer. Abdicating the responsibility of water treatment to Jordan Valley Water Conservancy District I believe will cause an increase in water costs to all rate payers and subsidizes the Kennecott remediation efforts by taxpayers.

Also, why are we going from an interest rate on the Letter of Credit as stated in the 1995 Consent Decree from 7% to approximately 1% in the current project proposal.

37-3 | Another concern is that I do not want the quality and quantity of the water in my well to be impacted by Kennecott's drawing down of the aquifer.

Thank you for your consideration.

Sincerely, *Dean R Baleman* 4475W 11800SO

Response to Letter No. 03-37

37-1: See the Response to Common Comment No. 1

37-2: See the Response to Common Comment No. 12.

37-3: See the Response to Common Comment No. 9.

**Letter No. 03-38**

Utah Department of Environmental Quality  
Attn: NRD Trustee  
P.O. Box 144810  
Salt Lake City, UT 84114-4810

RE: Southwest Salt Lake Valley Groundwater Pump and Treat Project

Dear Trustee:

38-1 | I have some concerns with the above referenced project and proposal. Due to its complexity, my family requests an extension of 60 days to further study and review the documents pertaining to this project. In addition, we request a public hearing to be held in mid or late November in the evening to accommodate our schedules.


38-2 | My primary concern is that Kennecott is not cleaning up the aquifer. Abdicating the responsibility of water treatment to Jordan Valley Water Conservancy District I believe will cause an increase in water costs to all rate payers and subsidizes the Kennecott remediation efforts by taxpayers.

Also, why are we going from an interest rate on the Letter of Credit as stated in the 1995 Consent Decree from 7% to approximately 1% in the current project proposal.

38-3 | Another concern is that I do not want the quality and quantity of the water in my well to be impacted by Kennecott's drawing down of the aquifer.

Thank you for your consideration.

Sincerely,

  
12536 So 3600 W.  
Riv 34065

**Response to Letter No. 03-38**

38-1: See the Response to Common Comment No. 1.

38-2: See the Response to Common Comment No. 12.

38-3: See the Response to Common Comment No. 9.

**Letter No. 03-39**



*Oct. 14, 2003*

Utah Department of Environmental Quality  
Attn: NRD Trustee  
P.O. Box 144810  
Salt Lake City, UT 84114-4810

RE: Southwest Salt Lake Valley Groundwater Pump and Treat Project

Dear Trustee:

I have some concerns with the above referenced project and proposal. Due to its complexity, my family requests an extension of 60 days to further study and review the documents pertaining to this project. In addition, we request a public hearing to be held in mid or late November in the evening to accommodate our schedules.

My primary concern is that Kennecott is not cleaning up the aquifer. Abdicating the responsibility of water treatment to Jordan Valley Water Conservancy District I believe will cause an increase in water costs to all rate payers and subsidizes the Kennecott remediation efforts by taxpayers.

Also, why are we going from an interest rate on the Letter of Credit as stated in the 1995 Consent Decree from 7% to approximately 1% in the current project proposal.

Another concern is that I do not want the quality and quantity of the water in my well to be impacted by Kennecott's drawing down of the aquifer.

Thank you for your consideration.

Sincerely,

*Cindy B. Butterfield*

*Paul / Cindy Butterfield*  
4409 W. 11800 So.  
Princeton, Ut. 84065

**Response to Letter No. 03-39**

**39-1:** See the Response to Common Comment No. 1.

**39-2:** See the Response to Common Comment No. 12

**39-3:** See the Response to Common Comment No. 9.

**Letter No. 03-40**

RECEIVED  
OCT 23 2003  
WATER RIGHTS  
SALT LAKE

Utah Department of Environmental Quality  
Attn: NRD Trustee  
P.O. Box 144810  
Salt Lake City, UT 84114-4810



RE: Southwest Salt Lake Valley Groundwater Pump and Treat Project

Dear Trustee:

40-1 I have some concerns with the above referenced project and proposal. Due to its complexity, my family requests an extension of 60 days to further study and review the documents pertaining to this project. In addition, we request a public hearing to be held in mid or late November in the evening to accommodate our schedules.

40-2 My primary concern is that Kennecott is not cleaning up the aquifer. Abdicating the responsibility of water treatment to Jordan Valley Water Conservancy District I believe will cause an increase in water costs to all rate payers and subsidizes the Kennecott remediation efforts by taxpayers.

40-3 Also, why are we going from an interest rate on the Letter of Credit as stated in the 1995 Consent Decree from 7% to approximately 1% in the current project proposal.

Another concern is that I do not want the quality and quantity of the water in my well to be impacted by Kennecott's drawing down of the aquifer.

Thank you for your consideration.

Sincerely,

*Clay Butterfield*

*1 800 - 212 - 9898 Tom Belcher*

**Response to Letter No. 03-40**

40-1: See the Response to Common Comment No. 1

40-2: See the Response to Common Comment No. 12.

40-3: See the Response to Common Comment No. 9.

**Letter No. 03-41**

Utah Department of Environmental Quality  
Attn: NRD Trustee  
P.O. Box 144810  
Salt Lake City, UT 84114-4810

RE: Southwest Salt Lake Valley Groundwater Pump and Treat Project

Dear Trustee:

41-1 I have some concerns with the above referenced project and proposal. Due to its complexity, my family requests an extension of 60 days to further study and review the documents pertaining to this project. In addition, we request a public hearing to be held in mid or late November in the evening to accommodate our schedules.

41-2 My primary concern is that Kennecott is not cleaning up the aquifer. Abdicating the responsibility of water treatment to Jordan Valley Water Conservancy District I believe will cause an increase in water costs to all rate payers and subsidizes the Kennecott remediation efforts by taxpayers.

Also, why are we going from an interest rate on the Letter of Credit as stated in the 1995 Consent Decree from 7% to approximately 1% in the current project proposal.

41-3 Another concern is that I do not want the quality and quantity of the water in my well to be impacted by Kennecott's drawing down of the aquifer.

Thank you for your consideration.

Sincerely,

*Madeline Butterfield*  
*Craig E. Butterfield*

**Response to Letter No. 03-41**

41-1: See the Response to Common Comment No. 1

41-2: See the Response to Common Comment No. 12.

41-3: See the Response to Common Comment No. 9.



**Letter No. 03-42**

Utah Department of Environmental Quality  
Attn: NRD Trustee  
P.O. Box 144810  
Salt Lake City, UT 84114-4810

RE: Southwest Salt Lake Valley Groundwater Pump and Treat Project

Dear Trustee:

42-1

I have some concerns with the above referenced project and proposal. Due to its complexity, my family requests an extension of 60 days to further study and review the documents pertaining to this project. In addition, we request a public hearing to be held in mid or late November in the evening to accommodate our schedules.

42-2

My primary concern is that Kennecott is not cleaning up the aquifer. Abdicating the responsibility of water treatment to Jordan Valley Water Conservancy District I believe will cause an increase in water costs to all rate payers and subsidizes the Kennecott remediation efforts by taxpayers.

Also, why are we going from an interest rate on the Letter of Credit as stated in the 1995 Consent Decree from 7% to approximately 1% in the current project proposal.

42-3

Another concern is that I do not want the quality and quantity of the water in my well to be impacted by Kennecott's drawing down of the aquifer.

Thank you for your consideration.

Sincerely,

*Steve J. Vandebot 10/6/03*

**Response to Letter No. 03-42**

42-1: See the Response to Common Comment No. 1

42-2: See the Response to Common Comment No. 12.

42-3: See the Response to Common Comment No. 9.

**Letter No. 03-43**

RECEIVED  
OCT 31 2003  
DEQ  
Environmental Response & Remediation

Utah Department of Environmental Quality  
Attn: NRD Trustee  
P.O. Box 144810  
Salt Lake City, UT 84114-4810

RE: Southwest Salt Lake Valley Groundwater Pump and Treat Project

Dear Trustee:

43-1 I have some concerns with the above referenced project and proposal. Due to its complexity, my family requests an extension of 60 days to further study and review the documents pertaining to this project. In addition, we request a public hearing to be held in mid or late November in the evening to accommodate our schedules.

43-2 My primary concern is that Kennecott is not cleaning up the aquifer. Abdicating the responsibility of water treatment to Jordan Valley Water Conservancy District I believe will cause an increase in water costs to all rate payers and subsidizes the Kennecott remediation efforts by taxpayers.

Also, why are we going from an interest rate on the Letter of Credit as stated in the 1995 Consent Decree from 7% to approximately 1% in the current project proposal.

43-3 Another concern is that I do not want the quality and quantity of the water in my well to be impacted by Kennecott's drawing down of the aquifer.

Thank you for your consideration.

Sincerely, *Bill R. Loutter*



**Response to Letter No. 03-43**

43-1: See the Response to Common Comment No. 1

43-2: See the Response to Common Comment No. 12.

43-3: See the Response to Common Comment No. 9.

**Letter No. 03-44**

**RECEIVED**  
OCT 31 2003  
DEQ  
Environmental Response & Remediation  
By: \_\_\_\_\_

Utah Department of Environmental Quality  
Attn: NRD Trustee  
P.O. Box 144810  
Salt Lake City, UT 84114-4810

RE: Southwest Salt Lake Valley Groundwater Pump and Treat Project

Dear Trustee:

44-1 I have some concerns with the above referenced project and proposal. Due to its complexity, my family requests an extension of 60 days to further study and review the documents pertaining to this project. In addition, we request a public hearing to be held in mid or late November in the evening to accommodate our schedules.

44-2 My primary concern is that Kennecott is not cleaning up the aquifer. Abdicating the responsibility of water treatment to Jordan Valley Water Conservancy District I believe will cause an increase in water costs to all rate payers and subsidizes the Kennecott remediation efforts by taxpayers.

Also, why are we going from an interest rate on the Letter of Credit as stated in the 1995 Consent Decree from 7% to approximately 1% in the current project proposal.

44-3 Another concern is that I do not want the quality and quantity of the water in my well to be impacted by Kennecott's drawing down of the aquifer.

Thank you for your consideration.

Sincerely,

*Jayce Coulter*



**Response to Letter No. 03-44**

44-1: See the Response to Common Comment No. 1

44-2: See the Response to Common Comment No. 12.

44-3: See the Response to Common Comment No. 9.



**Letter No. 03-46**

Utah Department of Environmental Quality  
Attn: NRD Trustee  
P.O. Box 144810  
Salt Lake City, UT 84114-4810

RE: Southwest Salt Lake Valley Groundwater Pump and Treat Project

Dear Trustee:

46-1 I have some concerns with the above referenced project and proposal. Due to its complexity, my family requests an extension of 60 days to further study and review the documents pertaining to this project. In addition, we request a public hearing to be held in mid or late November in the evening to accommodate our schedules.

46-2 My primary concern is that Kennecott is not cleaning up the aquifer. Abdicating the responsibility of water treatment to Jordan Valley Water Conservancy District I believe will cause an increase in water costs to all rate payers and subsidizes the Kennecott remediation efforts by taxpayers.

Also, why are we going from an interest rate on the Letter of Credit as stated in the 1995 Consent Decree from 7% to approximately 1% in the current project proposal.

46-3 Another concern is that I do not want the quality and quantity of the water in my well to be impacted by Kennecott's drawing down of the aquifer.

Thank you for your consideration.

Sincerely, *Bernhard W. Outson*  
*BWO*  
12299 South 4000 West  
Riverdale, Utah 84065

**Response to Letter No. 03-46**

46-1: See the Response to Common Comment No. 1

46-2: See the Response to Common Comment No. 12.

46-3: See the Response to Common Comment No. 9.

**Letter No. 03-47**

Utah Department of Environmental Quality  
Attn: NRD Trustee  
P.O. Box 144810  
Salt Lake City, UT 84114-4810

RE: Southwest Salt Lake Valley Groundwater Pump and Treat Project

Dear Trustee:

47-1 I have some concerns with the above referenced project and proposal. Due to its complexity, my family requests an extension of 60 days to further study and review the documents pertaining to this project. In addition, we request a public hearing to be held in mid or late November in the evening to accommodate our schedules.

47-2 My primary concern is that Kennecott is not cleaning up the aquifer. Abdicating the responsibility of water treatment to Jordan Valley Water Conservancy District I believe will cause an increase in water costs to all rate payers and subsidizes the Kennecott remediation efforts by taxpayers.

Also, why are we going from an interest rate on the Letter of Credit as stated in the 1995 Consent Decree from 7% to approximately 1% in the current project proposal.

47-3 Another concern is that I do not want the quality and quantity of the water in my well to be impacted by Kennecott's drawing down of the aquifer.

Thank you for your consideration.

Sincerely,

*Kenneth Taylor*  
3434 W 12600 SO  
Riverton, UT. 84065  
801-254-4815  
Oct 6, 2003

**Response to Letter No. 03-47**

47-1: See the Response to Common Comment No. 1

47-2: See the Response to Common Comment No. 12.

47-3: See the Response to Common Comment No. 9.

**Letter No. 03-48**

Utah Department of Environmental Quality  
Attn: NRD Trustee  
P.O. Box 144810  
Salt Lake City, UT 84114-4810

RE: Southwest Salt Lake Valley Groundwater Pump and Treat Project

Dear Trustee:

48-1 | I have some concerns with the above referenced project and proposal. Due to its complexity, my family requests an extension of 60 days to further study and review the documents pertaining to this project. In addition, we request a public hearing to be held in mid or late November in the evening to accommodate our schedules.

48-2 | My primary concern is that Kennecott is not cleaning up the aquifer. Abdicating the responsibility of water treatment to Jordan Valley Water Conservancy District I believe will cause an increase in water costs to all rate payers and subsidizes the Kennecott remediation efforts by taxpayers.

Also, why are we going from an interest rate on the Letter of Credit as stated in the 1995 Consent Decree from 7% to approximately 1% in the current project proposal.

48-3 | Another concern is that I do not want the quality and quantity of the water in my well to be impacted by Kennecott's drawing down of the aquifer.

Thank you for your consideration.

Sincerely,

*Velma Ferguson*  
*12241 So. 3600 W.*  
*Riverton, UT, 84065*  
*254-3297*

**Response to Letter No. 03-48**

48-1: See the Response to Common Comment No. 1

48-2: See the Response to Common Comment No. 12.

48-3: See the Response to Common Comment No. 9.

**Letter No. 03-49**

Utah Department of Environmental Quality  
Attn: NRD Trustee  
P.O. Box 144810  
Salt Lake City, UT 84114-4810

RE: Southwest Salt Lake Valley Groundwater Pump and Treat Project

Dear Trustee:

49-1 | I have some concerns with the above referenced project and proposal. Due to its complexity, my family requests an extension of 60 days to further study and review the documents pertaining to this project. In addition, we request a public hearing to be held in mid or late November in the evening to accommodate our schedules.

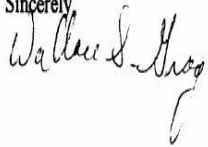
49-2 | My primary concern is that Kennecott is not cleaning up the aquifer. Abdicating the responsibility of water treatment to Jordan Valley Water Conservancy District I believe will cause an increase in water costs to all rate payers and subsidizes the Kennecott remediation efforts by taxpayers.

Also, why are we going from an interest rate on the Letter of Credit as stated in the 1995 Consent Decree from 7% to approximately 1% in the current project proposal.

49-3 | Another concern is that I do not want the quality and quantity of the water in my well to be impacted by Kennecott's drawing down of the aquifer.

Thank you for your consideration.

Sincerely,



**Response to Letter No. 03-49**

49-1: See the Response to Common Comment No. 1

49-2: See the Response to Common Comment No. 12.

49-3: See the Response to Common Comment No. 9.



**Letter No. 03-50**

Utah Department of Environmental Quality  
Attn: NRD Trustee  
P.O. Box 144810  
Salt Lake City, UT 84114-4810

RE: Southwest Salt Lake Valley Groundwater Pump and Treat Project

Dear Trustee:

50-1 | I have some concerns with the above referenced project and proposal. Due to its complexity, my family requests an extension of 60 days to further study and review the documents pertaining to this project. In addition, we request a public hearing to be held in mid or late November in the evening to accommodate our schedules.

50-2 | My primary concern is that Kennecott is not cleaning up the aquifer. Abdicating the responsibility of water treatment to Jordan Valley Water Conservancy District I believe will cause an increase in water costs to all rate payers and subsidizes the Kennecott remediation efforts by taxpayers.

Also, why are we going from an interest rate on the Letter of Credit as stated in the 1995 Consent Decree from 7% to approximately 1% in the current project proposal.

50-3 | Another concern is that I do not want the quality and quantity of the water in my well to be impacted by Kennecott's drawing down of the aquifer.

Thank you for your consideration.

Sincerely,

*James W. Johnson*  
12311 So. 4000 W.  
Riverton  
84065

**Response to Letter No. 03-50**

50-1: See the Response to Common Comment No. 1

50-2: See the Response to Common Comment No. 12.

50-3: See the Response to Common Comment No. 9.

**Letter No. 03-51**

Utah Department of Environmental Quality  
Attn: NRD Trustee  
P.O. Box 144810  
Salt Lake City, UT 84114-4810

RE: Southwest Salt Lake Valley Groundwater Pump and Treat Project

Dear Trustee:

51-1 | I have some concerns with the above referenced project and proposal. Due to its complexity, my family requests an extension of 60 days to further study and review the documents pertaining to this project. In addition, we request a public hearing to be held in mid or late November in the evening to accommodate our schedules.

51-2 | My primary concern is that Kennecott is not cleaning up the aquifer. Abdicating the responsibility of water treatment to Jordan Valley Water Conservancy District I believe will cause an increase in water costs to all rate payers and subsidizes the Kennecott remediation efforts by taxpayers.

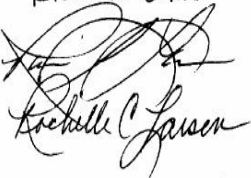
51-3 | Also, why are we going from an interest rate on the Letter of Credit as stated in the 1995 Consent Decree from 7% to approximately 1% in the current project proposal.

Another concern is that I do not want the quality and quantity of the water in my well to be impacted by Kennecott's drawing down of the aquifer.

Thank you for your consideration.

Sincerely,

DONALD L & ROCHELLE C LARSON  
12464 SW 3600 W  
RIVERVIEW UTAH 801-254-4653



**Response to Letter No. 03-51**

51-1: See the Response to Common Comment No. 1

51-2: See the Response to Common Comment No. 12.

51-3: See the Response to Common Comment No. 9.

Letter No. 03-52

Utah Department of Environmental Quality  
Attn: NRD Trustee  
P.O. Box 144810  
Salt Lake City, UT 84114-4810

10-6-2013

RE: Southwest Salt Lake Valley Groundwater Pump and Treat Project

Dear Trustee:

52-1

I have some concerns with the above referenced project and proposal. Due to its complexity, my family requests an extension of 60 days to further study and review the documents pertaining to this project. In addition, we request a public hearing to be held in mid or late November in the evening to accommodate our schedules.

52-2

My primary concern is that Kennecott is not cleaning up the aquifer. Abdicating the responsibility of water treatment to Jordan Valley Water Conservancy District I believe will cause an increase in water costs to all rate payers and subsidizes the Kennecott remediation efforts by taxpayers.

52-3

Another concern is that I do not want the quality and quantity of the water in my well to be impacted by Kennecott's drawing down of the aquifer.

Thank you for your consideration.

Sincerely,

Curtis McCarthy  
12222 S. 3600 West  
Riverton, UT 84065  
801-254-6859

Response to Letter No. 03-52

52-1: See the Response to Common Comment No. 1

52-2: See the Response to Common Comment No. 12.

52-3: See the Response to Common Comment No. 9.

**Letter No. 03-53**

Utah Department of Environmental Quality  
Attn: NRD Trustee  
P.O. Box 144810  
Salt Lake City, UT 84114-4810

RE: Southwest Salt Lake Valley Groundwater Pump and Treat Project

Dear Trustee:

53-1 | I have some concerns with the above referenced project and proposal. Due to its complexity, my family requests an extension of 60 days to further study and review the documents pertaining to this project. In addition, we request a public hearing to be held in mid or late November in the evening to accommodate our schedules.

53-2 | My primary concern is that Kennecott is not cleaning up the aquifer. Abdicating the responsibility of water treatment to Jordan Valley Water Conservancy District I believe will cause an increase in water costs to all rate payers and subsidizes the Kennecott remediation efforts by taxpayers.

Also, why are we going from an interest rate on the Letter of Credit as stated in the 1995 Consent Decree from 7% to approximately 1% in the current project proposal.

53-3 | Another concern is that I do not want the quality and quantity of the water in my well to be impacted by Kennecott's drawing down of the aquifer.

Thank you for your consideration.

Sincerely,

*Alan W. Oakeson*  
*Moana C. Oakeson*

1248750, 3600W, Riverton

**Response to Letter No. 03-53**

53-1: See the Response to Common Comment No. 1

53-2: See the Response to Common Comment No. 12.

53-3: See the Response to Common Comment No. 9.

**Letter No. 03-54**

Utah Department of Environmental Quality  
Attn: NRD Trustee  
P.O. Box 144810  
Salt Lake City, UT 84114-4810

RE: Southwest Salt Lake Valley Groundwater Pump and Treat Project

Dear Trustee:

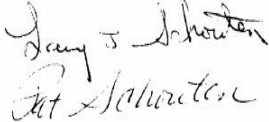

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Another concern is that I do not want the quality and quantity of the water in my well to be impacted by Kennecott's drawing down of the aquifer.

Thank you for your consideration.

Sincerely,   


**Response to Letter No. 03-54**

54-1: See the Response to Common Comment No. 1

54-2: See the Response to Common Comment No. 12.

54-3: See the Response to Common Comment No. 9.

**Letter No. 03-55**

Utah Department of Environmental Quality  
Attn: NRD Trustee  
P.O. Box 144810  
Salt Lake City, UT 84114-4810

RE: Southwest Salt Lake Valley Groundwater Pump and Treat Project

Dear Trustee:

55-1 | I have some concerns with the above referenced project and proposal. Due to its complexity, my family requests an extension of 60 days to further study and review the documents pertaining to this project. In addition, we request a public hearing to be held in mid or late November in the evening to accommodate our schedules.

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Also, why are we going from an interest rate on the Letter of Credit as stated in the 1995 Consent Decree from 7% to approximately 1% in the current project proposal.

55-3 | Another concern is that I do not want the quality and quantity of the water in my well to be impacted by Kennecott's drawing down of the aquifer.

Thank you for your consideration.

Sincerely,

*Suzette Wilcox*  
*V. Kalon Wilcox*

**Response to Letter No. 03-55**

55-1: See the Response to Common Comment No. 1

55-2: See the Response to Common Comment No. 12.

55-3: See the Response to Common Comment No. 9.