

Kennecott Utah Copper Corporation  
P.O. Box 6001  
Magna, Utah 84044-6001  
(801) 569-7128



Kelly L. Payne, P.G.  
Principal Advisor, Closure & Remediation

July 31, 2008

Ms. Dianne R. Nielson, Ph.D.  
Trustee for Natural Resources for the State of Utah  
Office of the Governor  
324 South State Street, Suite 500  
Salt Lake City UT 84111

**Subject: Annual Report on Zone A Plant Operations and Acid Plume Extraction  
under NRD Consent Decree**

Dear Dr. Nielson:

Pursuant to Paragraph IX.C of the Agreement among the Trustee for Natural Resources for the State of Utah, Jordan Valley Water Conservancy District, and Kennecott Utah Copper Corporation, dated August 31, 2004 (Three-Party Agreement), Kennecott Utah Copper Corporation (KUCC) submits its second Annual Report on the Operations of the Zone A Plant. KUCC also operates the plant pursuant to the Project Agreement Between Kennecott Utah Copper Corporation and Jordan Valley Water Conservancy District (Project Agreement).

KUCC also makes its annual reporting of water extracted from the core of the Zone A acid plume as required by Paragraph V.B of the August 1995 Consent Decree settling the State's Natural Resource Damage Claim against KUCC (NRD Consent Decree).

The operating period for this report is June 1, 2007 to May 31, 2008.

### **Treatment Plant Operation**

Table 1 reports monthly and annual operational metrics for the Zone A Plant during the reporting period. These data are discussed below.

#### *Volume of Delivered Water*

In the reporting period, KUCC delivered 3,299 acre-feet to Jordan Valley Water Conservancy District (JVWCD; as measured by JVWCD at the Zone A Meter Station and reported to KUCC.) Paragraph I.C.1 of the Three-Party Agreement requires the delivery of 3,500 acre-feet per on a five-year rolling average. Direct compliance with this commitment cannot be measured until the end of the fifth year of operation (year 2011); nevertheless, the average annual delivery for the first two years of operation is 3,571 (Table 2). The volume of water delivered to JVWCD is within the lower and upper annual bounds (3,150 to 3,850 acre-feet) specified in Paragraph G.2 of the Three-Party Agreement and Paragraph 4.5b of the Project Agreement.

**Table 1 Zone A Plant Operation Metrics**

	Units	Jun-07	Jul-07	Aug-07	Sep-07	Oct-07	Nov-07	Dec-07	Jan-08	Feb-08	Mar-08	Apr-08	May-08	Year
<b>Drinking Water Production</b>														
Delivered (JVWCD Meter)	acre-feet	321.2	312.8	312.6	296.7	296.6	184.1	141.2	278.5	278.6	289.7	288.3	299.0	3,299
Total Plant (KUCC Meter)	acre-feet	319.2	309.0	306.3	297.4	295.2	186.3	141.2	280.3	272.4	287.1	285.2	295.1	3,275
<b>Feed Water</b>														
Rack 3 Feed	acre-feet	190.5	191.2	191.2	181.5	191.8	39.8	0.0	176.2	178.4	187.2	185.5	191.4	1,905
Rack 4 Feed	acre-feet	190.3	191.0	191.2	181.5	177.7	182.9	190.4	191.3	176.2	186.7	185.5	191.4	2,236
Blend Water Feed	acre-feet	40.6	29.8	29.6	28.0	28.0	23.1	14.6	26.3	26.5	28.1	28.0	30.0	333
Total Feed Water	acre-feet	421.4	412.0	412.0	391.0	397.5	245.8	205.0	393.8	381.1	402.0	399.0	412.8	4,473
<b>Permeate Production</b>														
Rack 3 Permeate	acre-feet	141.9	141.9	142.6	135.2	141.4	29.4	0.0	123.8	125.0	131.3	130.2	134.4	1,377
Rack 4 Permeate	acre-feet	141.0	141.0	141.9	134.3	131.3	136.8	129.5	132.3	122.7	129.9	129.2	133.4	1,603
Total Permeate	acre-feet	282.9	282.9	284.5	269.5	272.7	166.2	129.5	256.1	247.7	261.2	259.4	267.8	2,980
<b>Recovery</b>														
Permeate	%	74.3%	74.0%	74.4%	74.2%	73.8%	74.6%	68.0%	69.7%	69.9%	69.9%	69.9%	70.0%	72.0%
Plant (KUCC Meter/Feed)	%	75.7%	75.0%	74.3%	76.1%	74.3%	75.8%	68.9%	71.2%	71.5%	71.4%	71.5%	71.5%	73.2%
Overall (JVWCD Meter/Feed)	%	76.2%	75.9%	75.9%	75.9%	74.6%	74.9%	68.9%	70.7%	73.1%	72.1%	72.3%	72.4%	73.8%
<b>Availability</b>														
Rack 3 Downtime	Hours	13.8	2.5	2.4	16	0	565.8	744	60.6	4	17	0.3	1.5	1,428
Rack 4 Downtime	Hours	14.6	2.9	2.3	15.9	54.8	10.5	5.5	2.1	12.5	18.8	0.6	1.7	142
Rack 3 Availability	%	98%	100%	100%	98%	100%	21%	0%	92%	99%	98%	100%	100%	84%
Rack 4 Availability	%	98%	100%	100%	98%	93%	99%	99%	100%	98%	97%	100%	100%	98%
Combined Availability	%	98%	100%	100%	98%	96%	60%	50%	96%	99%	98%	100%	100%	91%
<b>Specific Conductance</b>														
Feed Water	µS/cm	2633	2662	2676	2696	2721	2159	2869	2756	2712	2692	2681	2639	2659
Permeate	µS/cm	27	28	29	30	31	28	34	32	31	30	29	31	30
Product Water	µS/cm	372	367	369	370	368	372	370	373	376	373	373	375	371

Table 1 also presents total plant production (KUCC meter), feed volumes, permeate production, and recovery statistics. The difference between the total plant production and the volume of water delivered reflects in-plant water use and inherent variability in metering flow. No water was discharged to the Cemetery Pond during the reporting period. There are no specified performance criteria for these metrics and values are reported for information only.

**Table 2 Annual Water Deliveries**

Year Ending	Acre Feet	Rolling Average
May 31, 2007	3,843	
May 31, 2008	3,299	3,571

*Quality of Delivered Water*

Paragraph 4.5 of the Project Agreement requires that KUCC provide Treated Water, defined in Paragraph 1.39 as water with concentrations of sulfate less than 250 mg/l and total dissolved solids (TDS) less than 250 mg/l. Table 3 presents results of laboratory measurement of TDS as well as specific conductance during the reporting period. Results from these grab samples demonstrate that KUCC complied with the water quality criteria during the reporting period. (It is chemically impossible for the sulfate concentration to exceed the TDS concentration; thus, compliance with the TDS criterion assures compliance with the sulfate criterion.)

**Table 3 Zone A Plant Product Water Quality**

Sample Date	TDS (mg/l)	Specific Conductance (µS/cm)
9/25/2007	224	384
10/23/2007	216	389
10/24/2007	220	393
10/25/2007	228	403
10/25/2007	250	392
10/26/2007	216	382
11/26/2007	170	335
12/13/2008	216	366
1/17/2008	226	407
2/20/2008	234	403
3/27/2008	238	398
4/17/2008	232	387
5/22/2008	226	403

KUCC also assesses compliance with the TDS criterion through real-time measurement of the specific conductance of the product water. Specific conductance is a surrogate for TDS and operations at the Zone A Plant target a specific conductance level that assures that TDS concentrations are at 250 mg/l or less. Table 1 presents the average monthly specific conductance for the reporting period and indicates compliance with the TDS criterion.

### *Period of Operation*

The Zone A Plant operated at 91% availability during the reporting period. This availability conforms to the requirement under Paragraph 4.10a of the Project Agreement, which specifies that planned shutdowns not exceed 35 days per year (90% availability). Several shutdowns lasting more than 24 hours occurred, as described below:

- October 2007, due to maintenance work at production well BFG1200 the plant operated at half capacity for just over two days
- November 2007, plant operated for at half capacity for about 24 days due to a failed motor in production well B2G1193
- December 2007-January 2008, plant operated at half capacity at KUCC's discretion during all of December and two days of January

KUCC did not invoke *force majeure* at any time during the reporting period.

### *Division of Drinking Water Permit Compliance*

KUCC maintained full compliance with its permit issued by the Division of Drinking Water for the Zone A Plant.

### *Modifications*

No significant equipment or operating modifications were made at the plant during the reporting period.

### *Jordan Valley Water Conservancy District Relations*

KUCC received no negative reports from JWCD regarding operation of the plant or water quality. KUCC participated in quarterly Oversight Committee meetings with JWCD as prescribed in Paragraph 3 of the Project Agreement, during which plant operation results were presented and evaluated. The Zone A Plant management and operators have also developed direct relationships with their counterparts at JWCD, allowing efficient communication of matters affecting day-to-day plant operations to JWCD.

### *Community and Media Relations*

KUCC received no negative reports, either directly or through JWCD, regarding quality or taste from JWCD customers receiving water from the plant. KUCC did not receive any notice of potential third party impacts to water quality or quantity in Zone A or quality in Zone B and no matters were referred to the informal independent review process.

KUCC continued to provide tours of the plant during the reporting to outside groups as requested. KUCC received no media inquires about the plant during the reporting period.

### *Outlook for Next Reporting Year*

KUCC anticipates no constraint on continued delivery of high-quality water in the next reporting year. No significant modifications or operational changes are planned.

### Acid Plume Core Extraction

Paragraph V.B of the NRD Consent Decree requires that KUCC extract a minimum of 400 acre-ft per year on a five-year rolling average from the acid plume. Table 4 reports the annual, cumulative, and 5-year rolling average acid plume extraction. In the reporting period, KUCC commissioned a third acidic water extraction well, BSG2784. Overall, the annual acidic water extraction was lower during this reporting period than prior years due to well repairs. Nevertheless, KUCC is in full compliance with extraction requirements of the NRD Consent Decree.

**Table 4 Acid Plume Extraction (acre-feet)**

<b>Year Ending</b>	<b>Well ECG1146</b>	<b>Well BSG1201</b>	<b>Well BSG2784</b>	<b>Total Extracted</b>	<b>Cumulative Extracted</b>	<b>5-Year Rolling Average Extracted</b>
5/31/2004	796	1,021		1,816	4,885	
5/31/2005	1,468	1,372		2,840	7,726	
5/31/2006	1,522	1,293		2,815	10,540	
5/31/2007	1,474	984		2,458	12,998	
5/31/2008	1,034	1,024	39	2,096	15,094	2,405

If you should have any questions regarding the content of this report, do not hesitate to contact me at 569-7128.

Sincerely,



Kelly L. Payne, P.E.  
Principal Advisor, Closure & Remediation

cc: Paula Doughty, KUCC  
Lynn Cardey-Yates, KUCC  
Richard Bay, JWCD  
Rick Sprott, UDEQ  
Doug Bacon, DERR  
Rebecca Thomas, US EPA