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September 27, 2007

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 first 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, by way of this letter, 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).

#### **Content and Reporting Period**

The Three-Party Agreement did not specify either the content of the Annual Report or a reporting period. KUCC proposes that this first Annual Report generally establish the reporting topics that will be presented in subsequent years. KUCC also proposes that the reporting period be set as June 1 to May 31. This period is proposed because June 1 represents the anniversary of the startup of the Zone A Plant. KUCC will provide this report by August 1 of subsequent years.

Regarding reporting of the extraction from the acid core of the Zone A plume, previously this report was made for the period September 1 to August 31. KUCC requests that this reporting period be adjusted to June 1 to May 31 to correlate with the Annual Report for the treatment operations so that a single annual reporting can be made to the Trustee relative to activities under the NRD Consent Decree.

#### **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.

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Utah Copper**

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### *Volume of Delivered Water*

In the reporting period, KUCC delivered 3,843 acre-feet to Jordan Valley Water Conservancy District (JVWCD; as measured by JVWCD at the Zone A Meter Station and reported to KUCC.) This volume of water is consistent with the commitment to deliver 3,500 acre-feet per year as stated in Paragraph I.C.1 of the Three-Party Agreement. Because this commitment is designated as a 5-year rolling average, direct compliance with this commitment cannot be measured until the end of the fifth year of operation (year 2011). The volume of water delivered to JVWCD is also 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 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, water diverted to the Cemetery Pond, and inherent variability in metering flow. There are no specified performance criteria for these metrics and values are reported for information only.

### *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 2 presents results of laboratory measurement of these parameters as well as specific conductance during the reporting period. (KUCC has initiated monthly sampling for these parameters so that there will be greater data richness in subsequent reporting periods).

**Table 2 Zone A Plant Product Water Quality**

Sample Date	KEL Sample ID	TDS (mg/l)	Sulfate (mg/l)	Specific Conductance (µS/cm)
9/13/2006	AO15934	243	111	470
2/20/2007	AP03039	202	95	400

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. (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 1 presents the average monthly specific conductance for the reporting period. Based on results in Tables 1 and 2, KUCC complied with the specified water quality criteria during the reporting period.

### *Period of Operation*

The Zone A Plant operated at 97% 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). Shutdowns lasting more than 24 hours occurred in October 2006 and December 2006. In October 2006, well B2G1193 experienced a motor failure, causing a water supply interruption for approximately eight days.

Table 1 Zone A Plant Performance Metrics, 2006-2007

	Units	Jun-06	Jul-06	Aug-06	Sep-06	Oct-06	Nov-06	Dec-06	Jan-07	Feb-07	Mar-07	Apr-07	May-07	Year
<b>Drinking Water Production</b>														
Delivered (JWCD Meter)	acre-feet	318.3	334.6	327.9	325.7	255.2	320.1	306.6	309.7	297.8	345.0	357.2	344.8	3,843
Total Plant (KUCC Meter)	acre-feet	327.7	336.5	326.8	326.5	260.1	317.4	304.8	329.0	298.5	351.2	340.8	351.4	3,871
<b>Feed Water</b>														
Rack 3 Feed	acre-feet	202.0	207.1	208.7	200.8	153.3	197.6	190.2	203.9	183.0	205.1	198.9	205.5	2,356
Rack 4 Feed	acre-feet	202.0	207.2	193.3	199.8	168.6	197.3	188.1	204.9	183.1	205.1	198.9	205.5	2,354
Blend Water Feed	acre-feet	44.9	46.3	45.9	46.4	36.4	44.0	43.0	46.4	42.2	49.1	47.9	49.5	542
Total Feed Water	acre-feet	448.9	460.6	447.9	447.0	358.3	438.9	421.3	455.2	408.3	459.3	445.7	460.5	5,252
<b>Permeate Production</b>														
Rack 3 Permeate	acre-feet	142.0	145.8	146.4	141.2	108.7	139.3	134.0	144.2	132.3	154.5	149.2	153.5	1,691
Rack 4 Permeate	acre-feet	141.0	144.5	134.6	138.9	118.4	137.0	131.3	143.5	127.6	151.9	148.0	152.0	1,669
Total Permeate	acre-feet	283.0	290.3	281.0	280.1	227.1	276.3	265.3	287.7	259.9	306.4	297.2	305.5	3,360
<b>Recovery</b>														
Permeate	%	70.0%	70.1%	69.9%	69.8%	70.5%	70.0%	70.1%	70.4%	71.0%	74.7%	74.7%	74.3%	71.3%
Plant (KUCC Meter/Feed)	%	73.0%	73.1%	73.0%	73.0%	72.6%	72.3%	72.3%	72.3%	73.1%	76.5%	76.5%	76.3%	73.7%
Overall (JWCD Meter/Feed)	%	70.9%	72.6%	73.2%	72.9%	71.2%	72.9%	72.8%	68.0%	72.9%	75.1%	80.1%	74.9%	73.2%
<b>Availability</b>														
Rack 3 Downtime	Hours	0.5	6.3	0.5	5.1	197.9	16.3	66.4	17.6	12.1	0.3	0.0	0.0	323
Rack 4 Downtime	Hours	0.5	6.3	0.5	8.4	143.6	11.2	73.8	14.4	11.8	0.4	0.0	0.0	271
Rack 3 Availability	%	100%	99%	100%	99%	73%	98%	91%	98%	98%	100%	100%	100%	96%
Rack 4 Availability	%	100%	99%	100%	99%	81%	98%	90%	98%	98%	100%	100%	100%	97%
Combined Availability	%	100%	99%	100%	99%	77%	98%	91%	98%	98%	100%	100%	100%	97%
<b>Specific Conductance</b>														
Feed Water	µS/cm	2602	2614	2637	2625	2569	2689	2677	2653	2640	2629	2622	2620	2632
Permeate	µS/cm	21	23	24	23	26	26	25	25	25	25	25	25	24
Product Water	µS/cm	372	370	378	378	381	375	378	373	373	373	373	374	375

In December 2006, a three-day planned shutdown occurred for plant maintenance. 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*

KUCC made a modification to the anti-scalant injection point (moving it from the pressure side to the suction side of the high-pressure pump) that provides for better mixing of the anti-scalant into the feed-water stream, and reduced anti-scalant dosing. This modification allowed KUCC to increase the recovery of permeate from the membranes from approximately 70% to 75% in March 2007. This change did not require a modification of Kennecott's Division of Drinking Water permit nor result in notable downtime.

No other 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 JVVCD regarding operation of the plant or water quality. KUCC participated in quarterly Oversight Committee meetings with JVVCD 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 JVVCD, allowing efficient communication of matters affecting day-to-day plant operations to JVVCD.

#### *Community and Media Relations*

KUCC received no negative reports, either directly or through JVVCD, regarding quality or taste from JVVCD 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 provided a number of tours of the plant during the reporting to groups including the Utah Water Quality Board, Utah Solid and Hazardous Waste Control Board, American Water Resources Association Utah Chapter, Friends of Great Salt Lake, and BYU Geology Department. KUCC received one media inquiry about the plant during the reporting period from *Salt Lake City Weekly* magazine, which briefly mentioned the plant in the May 17, 2007 edition.

#### *Outlook for Next Reporting Year*

KUCC anticipates no constraint to continued delivery of high-quality water in the next reporting year. KUCC will curtail use of well LTG1147 for blend water in the next year, relying instead on wells B2G1193 and BFG1200 for the full volume of feed and blend water production. Well LTG1147 will remain in service as a backup water supply. This change allows for more efficient operation of the plant. No other 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 3 reports the annual, cumulative, and 5-year rolling average acid plume extraction (The table also presents 5-year totals for the entire period of production from the acid plume recalculated for the adjusted reporting period). KUCC is in full compliance with extraction requirements of the NRD Consent Decree.

**Table 3 Acid Plume Extraction (acre-feet)**

Period		Well ECG1146	Well BSG1201	Total Extracted	Cumulative Extracted	5-Year Rolling Average Extracted
From	To					
6/1/1995	5/31/1996	26		26	26	
6/1/1996	5/31/1997	47		47	74	
6/1/1997	5/31/1998	230		230	304	
6/1/1998	5/31/1999	693		693	997	
6/1/1999	5/31/2000	105		105	1,102	
6/1/2000	5/31/2001	0.5		0.5	1,102	
6/1/2001	5/31/2002	927		927	2,029	
6/1/2002	5/31/2003	1,027	13	1,040	3,069	
6/1/2003	5/31/2004	796	1,021	1,816	4,885	
6/1/2004	5/31/2005	1,468	1,372	2,840	7,726	
6/1/2005	5/31/2006	1,522	1,293	2,815	10,540	
6/1/2006	5/31/2007	1,474	984	2,458	12,998	2,194

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

Sincerely,



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cc: Paula Doughty, KUCC  
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