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SCANNED

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VIA US MAIL

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

RECEIVED
AUG 02 2010
Environmental Response &
Remediation

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

Dear Dr. Nieison:

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 LLC (KUC) submits its fourth Annual Report on Zone A Plant Operations. KUC also operates the plant pursuant to the Project Agreement Between Kennecott Utah Copper Corporation and Jordan Valley Water Conservancy District (Project Agreement).

Additionally, KUC 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 Kennecott Utah Copper Corporation (NRD Consent Decree).

The operating period for this report is June 1, 2009 to May 31, 2010.

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, KUC delivered 3,414 acre-feet to Jordan Valley Water Conservancy District (JVWCD; as measured by JVWCD at the Zone A Meter Station and reported to KUC.) Paragraph I.C.1 of the Three-Party Agreement requires the delivery of 3,500 acre-feet per year 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 four years of operation is 3,526 (Table 2).

Table 1 also presents total plant production (KUC 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. There are no specified performance criteria for these metrics and values are reported for information only.

Table 1 Zone A Plant Operation Metrics

	Units	Jun-09	Jul-09	Aug-09	Sep-09	Oct-09	Nov-09	Dec-09	Jan-10	Feb-10	Mar-10	Apr-10	May-10	Year
Drinking Water Production														
Delivered (JVWCD Meter)	acre-feet	310.0	310.2	336.7	326.4	314.2	322.5	335.7	335.9	182.5	165.6	162.2	311.9	3,414
Total Plant (KUCC Meter)	acre-feet	306.5	313.3	329.4	321.1	331.3	317.0	331.1	330.5	180.0	164.0	158.4	306.0	3,391
Feed Water														
Rack 3 Feed	acre-feet	189.5	194.3	204.5	198.2	204.8	196.1	205.1	204.0	116.0	212.0	186.9	178.3	2,290
Rack 4 Feed	acre-feet	190.9	196.5	201.3	198.5	204.7	196.0	198.7	204.6	115.9	0.0	18.8	198.9	1,925
Blend Water Feed	acre-feet	32.4	32.3	34.3	32.9	33.7	32.2	33.1	33.5	16.7	14.3	14.2	33.9	343
Total Feed Water	acre-feet	412.8	423.1	440.1	429.6	443.2	424.3	436.9	442.1	248.6	226.3	219.9	411.1	4,558
Permeate Production														
Rack 3 Permeate	acre-feet	139.1	142.1	151.0	147.1	151.8	145.5	151.9	151.0	83.5	149.6	132.0	131.7	1,676
Rack 4 Permeate	acre-feet	139.5	143.2	148.1	146.4	151.1	144.8	146.4	150.9	83.1	0.0	13.3	145.2	1,412
Total Permeate	acre-feet	278.6	285.3	299.1	293.5	302.9	290.3	298.3	301.9	166.6	149.6	145.3	276.9	3,088
Recovery														
Permeate	%	73.2%	73.0%	73.7%	74.0%	74.0%	74.0%	73.9%	73.9%	71.8%	70.6%	70.6%	73.4%	73.3%
Plant (KUCC Meter/Feed)	%	74.2%	74.1%	74.8%	74.7%	74.7%	74.7%	75.8%	74.8%	72.4%	72.5%	72.0%	74.9%	74.4%
Overall (JVWCD Meter/Feed)	%	75.1%	73.3%	76.5%	76.0%	70.9%	76.0%	76.8%	76.0%	73.4%	73.2%	73.8%	75.9%	74.9%
Availability														
Rack 3 Downtime	Hours	20.2	22	1.1	2.3	2.6	10.9	1.2	5.3	257	0.1	65.2	87.5	475
Rack 4 Downtime	Hours	15.8	10.6	12.9	1.2	2.6	11.4	6	3.6	259.3	744	655	15.1	1,738
Rack 3 Availability	%	97%	97%	100%	100%	100%	98%	100%	99%	62%	100%	91%	88%	95%
Rack 4 Availability	%	98%	99%	98%	100%	100%	98%	99%	100%	61%	0%	9%	98%	80%
Combined Availability	%	98%	98%	99%	100%	100%	98%	100%	99%	62%	50%	50%	93%	87%
Specific Conductance														
Feed Water	uS/cm	2564	2629	2579	2610	2615	2618	2625	2628	2822	2951	2941	2567	2678
Permeate	uS/cm	35	35	38	38	37	38	38	37	39	35	32	27	36
Product Water	uS/cm	379	384	383	380	379	379	380	378	379	377	379	378	380

Table 2 Annual Water Deliveries (JWWCD Meter)

Year Ending	Annual Delivery	Rolling Average
May 31, 2007	3,843	
May 31, 2008	3,299	3,571
May 31, 2009	3,548	3,563
May 31, 2010	3,414	3,526

Quality of Delivered Water

Paragraph 4.5 of the Project Agreement requires that KUC 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 laboratory results of TDS in monthly grab samples 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 (uS/cm)
6/18/2009	272	411
7/16/2009	258	405
8/20/2009	210	386
9/17/2009	204	358
10/15/2009	250	390
11/19/2009	174	385
12/21/2009	186	402
1/20/2010	196	391
2/18/2010	204	396
3/18/2010	228	396
4/15/2010	246	397
4/28/2010	218	398
5/20/2010	232	412

Grab sample results are below 250 mg/l TDS for all samples, except two. Table 3 also reports laboratory specific conductance measurements corresponding to each TDS measurement. KUC notes that on the two occasions TDS laboratory measurements exceeded 250 mg/l, there was not a corresponding spike in grab sample specific conductance, which is a function of TDS. Likewise, examination of plant records (available for review upon request) indicates that specific conductance, measured twice daily at the Zone A Plant, did not vary on the days of the grab sample collection compared with other days during those months. KUC concludes that the laboratory TDS measurements for the grab samples in June and July 2009 are not representative of Zone A product Water quality, but are attributable to the inherent variability in measuring TDS in very clean water.

As noted above KUC measures specific conductance at the Zone A Plant twice daily. Table 1 reports average monthly specific conductance based on these readings. These monthly averages vary little over the reporting period, indicating a consistent quality of water delivered to JWWCD.

Period of Operation

The Zone A Plant operated at 87% availability during the reporting period. This availability is lower compared to previous years and is a direct consequence of source well BFG1200 being out of service for 83 days for redevelopment and equipment failure (discussed below), during which time, the Zone A Plant operated at 50% capacity. Nevertheless, production from the Zone A Plant was above the minimum delivery threshold of 3150 acre feet and reached 97.5% of the annual target of 3500 acre feet.

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

Division of Drinking Water Permit Compliance

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

Modifications

As noted above, source well BFG1200 was down for a period of 83 days. During Fall 2009, KUC began to observe deteriorating well efficiency (meaning that the pumping level in the well was falling faster than the surrounding water table level). KUC attributed the decline to mineral scaling and removed the well from service on 8 February 2010 (timed to correspond with the low-demand period for JWCD's system) for treatment and redevelopment. When the well was taken out of service, the motor failed. Following the successful two-week redevelopment of the well, KUC found that the backup motor had electrical inefficiencies and the motor was sent back to the manufacturer. When this motor was returned from the manufacturer and was installed in early March 2010 it immediately failed due to a manufacturer's defect. Due to the long lead time for repair of the specialized motor used in this well, KUC was unable to return the well to service until early 3 May 2010. KUC anticipates that treatment and redevelopment of this well will be a periodic maintenance requirement due to the groundwater chemistry regime (calcium carbonate saturation) in the upper portion of the aquifer in the vicinity of the well.

Jordan Valley Water Conservancy District Relations

KUC received no negative reports from JWCD regarding operation of the plant or water quality. KUC 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 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

KUC received no negative reports, either directly or through JWCD, regarding quality or taste from JWCD customers receiving water from the plant. KUC 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.

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

Outlook for Next Reporting Year

KUC anticipates no constraint on continued delivery of high-quality water in the next reporting year. KUC is considering two improvement projects relating to the plant. First, KUC is experiencing pipeline scaling in piping, valves, and pumps downstream of the Zone A Plant, where RO concentrate mixes with mine waters; in Fall 2010, KUC is planning to install a dedicated RO concentrate pipeline directly to the tailings line, which will bypass the valves and pumps that are being affected by scaling. Second, KUC will be studying potential

locations and benefits of an additional RO plant source well; such a well is not necessary for plume containment, but may be beneficial as a supplemental and/or backup source of water to the plant. Both of these projects will be discussed with the Trustee's representative as they mature.

Acid Plume Core Extraction

Paragraph V.B of the NRD Consent Decree requires that KUC 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. KUC is in full compliance with extraction requirements of the NRD Consent Decree.

While production from the acid plume was greater than the minimum amount required by the NRD Consent Decree, production from the acid plume was notably lower than previous years. During the reporting year, KUC experienced difficulty with submersible motor reliability in the three acid plume production wells. Results of reliability evaluations of mechanical and electrical components of these installations point to a power quality issue. KUC has installed power filtering equipment at all three wells and anticipates significant improvement in motor availability during the next reporting year. As the Trustee is aware, KUC reports separately to the State and EPA on the progress of plume remediation and has included discussion of the effects of lower production in the most recent annual report which was released in April 2010.

Table 4 Acid Plume Extraction (acre-feet)

Year Ending	Well ECG1146	Well BSG1201	Well BSG2784	Total Extracted	Cumulative Extracted	5-Year Rolling Average Extracted
5/31/2006	1,522	1,293	N/A	2,815	10,540	1,888
5/31/2007	1,474	984	N/A	2,458	12,998	2,194
5/31/2008	1,034	1,023	39	2,096	15,094	2,405
5/31/2009	1,138	912	756	2,806	17,901	2,603
5/31/2010	262	516	243	1,022	18,922	2,239

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

Regards,



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- cc: Paula Doughty, KUC (via email)
- Richard Bay, JWCD
- Amanda Smith, UDEQ
- Doug Bacon, DERR (via email)
- Rebecca Thomas, US EPA (via email)