

Letter Report on Kaiser Mead Project Status Update

Date: 6/6/16

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Kaiser Mead	
Facility:	Year: 16 Left Right
Air	CO2
Water	Reports
NPDES	Permit
WET-TOX	Enf
DW/RCRA	Eng
Cleanup	Sub
SW	
RWP2	

The following events highlight the status of the laboratory wetland study and EC study that has been initiated at Alcoa Technical Center and at Baker Corp's laboratory, respectively to evaluate the feasibility of treating cyanide and fluoride from impacted groundwater at the Kaiser's decommissioned smelter location in Mead, WA.

- **Acclimatization Phase following wetland commissioning:** Duration - 5 weeks, Start Date: 3/22/16 – 4/25/16; Objective: to bring the wetland with its flora and fauna to a steady state condition using standard conditions (average for the Spokane area as stated below)
- **Low Strength Water Testing Phase (Well No.: TW-1B):**
 - Variation 1: Standard conditions
 - Flow rate – 12ml/min (~ 7 day HRT)
 - Light intensity – 158 W/m² (Spokane, WA yearly average)
 - Water Temperature – ambient
 - Duration - 4 week, 4/25 – 5/24
 - Avg. pH – 8.5
 - Average total cyanide removal efficiency till date – 72%, with highest removal observed at ~ 93%
 - Average WAD and Free cyanide at the effluent: ~ 0.1 ppm
 - Wetland effluent sample sent to BakerCorp for EC testing to assess fluoride removal
 - Variation 2: High flow, low HRT
 - Flow rate – 22ml/min (~ 4 day HRT)
 - Light intensity – 158 W/m² (Spokane, WA yearly average)
 - Water Temperature – ambient
 - Duration - 1 week, 5/25 – 5/31
 - Results: Awaiting
 - Variation 3: Low flow, high HRT
 - Flow rate – 8.5 ml/min (~ 10 day HRT)
 - Light intensity – 158 W/m² (Spokane, WA yearly average)
 - Water Temperature – ambient
 - Duration – 1.5 weeks, 6/1 – 6/10
 - Status: In Progress
 - Variation 4: Cold weather conditions
 - Flow rate – 12ml/min (~ 7 day HRT)
 - Light intensity – 94 W/m² (Spokane, WA winter average)
 - Water Temperature – 2 - 5°C
 - Duration - 1 week, 6/11 – 6/17

- **High Strength Water Testing Phase (Well No.: KMCP-3B):** Following the completion of the low strength water testing, testing will commence with the high strength water.

Laboratory Wetland at Alcoa Technical Center

