TETRA TECH

June 11, 2009

Document Control Desk
U.S. Nuclear Regulatory Agency
11555 Rockville Pike
Rockville, MD 20852-2746

**RE: Docket No. 40-8102, License No. SUA-1139, Highland Reclamation Project**

Dear Drs. McLaughlin and Krzyszowska-Waitkus:

As requested during the June 9, 2009 meeting in Casper, WY, I am re-sending a copy of the October 21, 2008 letter that described the plan to further characterize the groundwater conditions at the Highland Reclamation Project and contained the full sampling results for the Box Creek samples collected in August 2008. The original letter was sent from ExxonMobil to the NRC and WDEQ. This letter was re-sent to NRC via FedEx overnight, with receipt on December 19, 2008. I have modified our correspondence procedures, as requested earlier this year, so that the NRC Document Control Desk receives all correspondence with NRC, with copies to Mr. McConnell and Dr. McLaughlin. If there are additional procedures for submitting correspondence or reports that are required for the WDEQ or the NRC, please let us know.

Please feel free to contact me at anytime if you have any additional questions or concerns.

Sincerely,

Tetra Tech

Rebecca Bilodeau
Project Manager

enclosures (1)

Cc: Mr. Keith McConnell, U.S. Nuclear Regulatory Agency
Dr. Thomas McLaughlin, U.S. Nuclear Regulatory Agency
Dr. Anna Krzyszowska-Waitkus, Wyoming Department of Environmental Quality
Mr. Mahesh Vidyasagar, Exxon Mobil Environmental Services (w/o enclosure)
Dr. Bruce Wielinga, AMEC (w/o enclosure)

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FSME

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Environmental Services Co.
3545 Northchase Drive
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ExxonMobil

October 21, 2008

Keith McConnell, Deputy Director
Decommissioning and Uranium Recovery Licensing Directorate
Division of Waste Management and Environmental Protection
Office of Federal and State Materials and Environmental Management Program
US Nuclear Regulatory Commission
Washington, D.C. 20555-0001

**RE: Highland Reclamation Project, Docket No 40-102; License No. SUA-1139**

Dear Mr. McConnell:

This letter is in response to your August 2008 letter regarding the request to provide a characterization plan to better understand groundwater conditions east and southeast of the site. Specifically, you requested that the characterization plan be developed to further determine 1) conditions in the alluvium in the tributary to the North Fork of Box Creek which is exists to the southwest of the reclaimed tailings impoundment, 2) groundwater conditions in the area north of the above mentioned tributary and 3) water quality in the surface water in the North Fork of Box Creek. The proposed plan to address each of these issues is discussed below.

Existing wells MFG 1-3 and BBL 1-4 (Figure 1) provide data for constituents in the groundwater in the area to the southeast of the reclaimed tailings embankment. Additional data is needed to the south-east of BBL-4 to better determine the extent and concentration of contaminants in this area. Three additional wells are proposed at locations shown on Figure 1. These wells would be completed in the alluvial material and would be approximately 40 feet deep.

Additional wells would also be installed in the area to the north of the above described tributary. These wells would be used to determine the extent and concentration of contaminants, if they exist, to the east of the reclaimed tailings area. The existing well 125, which is completed in the tailings dam sandstone unit, shows some elevated levels of sulfate and uranium that are likely site derived constituents. The new wells would be completed across the tailings dam sandstone and the overlying alluvial materials that are anticipated to exist in these areas. A total of three wells are proposed at locations shown on Figure 1.

Surface water sampling at six locations along the North Fork of Box Creek occurred on August 19, 2008. The locations of these sample sites were determined in consultation with the adjacent land owners (Jeff and Rob Boner) who were present during the sampling. These sample locations are shown on Figure 2. The results of the sampling are shown on Table 1. There is considerable variability in the results, but there is no indication of the stream being impacted by site derived constituents. All the surface water sample results meet the State of Wyoming's stock water criteria. Because the surface water sample locations were in discontinuous pools of water along the creek, the variability in the water quality parameters is likely due to different levels of evapo-concentration of naturally occurring constituents in the surface water. We propose to add regular

surface water sampling to the monitoring program twice a year; once in the spring, and again in the fall.

We anticipate that the wells will be installed November, 2008, weather permitting, or in the 2nd Quarter 2009, if field conditions are unsuitable in November. Once the new wells have been drilled and sampled, the geologic information and the water quality data will be used to update and revise the groundwater protection program.

Please feel free to contact me if you have any additional questions or concerns.

Sincerely,

Mahesh Vidyasagar
Project Manager

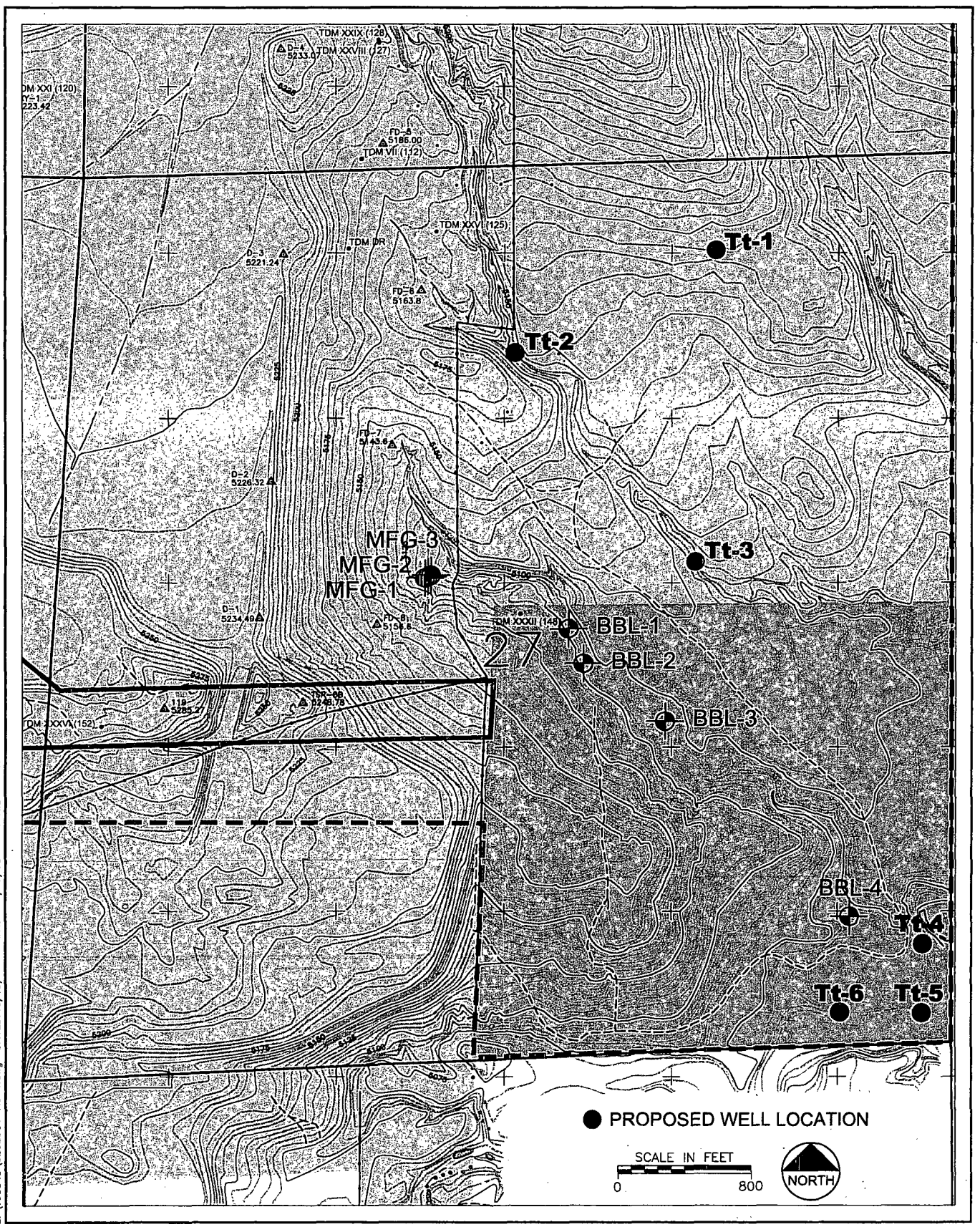
Attachments

Cc: Anna Krzyszowska-Waitkus, WDEQ
Bruce Wielinga, Ph.D. - AMEC
Rebecca Bilodeau, CEA – Tetra Tech

Table 1. Results for Box Creek Samples Taken Aug 19, 2008

| | Ca | Mg | K | Na | Se | Alkalinity to pH 8.3 | Alkalinity to pH 4.5 | TDS | Cl | SO4 | Bicarbonate Alkalinity | Carbonate Alkalinity | U | Gross Alpha | Ra 226 | Ra 228 | Th 230 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | mg/l | mg/l | mg/l | mg/l | mg/l | mg/l as CaCO3 | mg/l as CaCO3 | mg/l | mg/l | mg/l | mg/l as CaCO3 | mg/l as CaCO3 | mg/l | pCi/l | pCi/l | pCi/l | pCi/l |
| *WDEQ Lvstk. Std.* | | | | | *0.05* | | | *5000.0* | *2000.0* | *3000.0* | | | | *15* | *5** | *5** | |
| BoxCreek1 | 43.5 | 37.0 | 11.2 | 199 | <0.00030 | 25.7 | 62.7 | 976 | 8.1 | 681 | 11.4 | 51.4 | 0.0097 | 0.8 | <0.44 | <1.3 | <0.2 |
| BoxCreek2 | 39.9 | 31.0 | 16.7 | 179 | 0.00052 | <0.46 | 468 | 772 | 23.1 | 141 | 468 | <0.46 | 0.0324 | 1.1 | 0.5 | <1.3 | <0.2 |
| BoxCreek3 | 29.7 | 40.3 | 13.4 | 420 | 0.00032 | 31.1 | 452 | 1,470 | 37.1 | 678 | 390 | 62.1 | 0.0500 | 1.8 | <0.23 | <1.3 | <0.2 |
| BoxCreek4 | 157 | 101 | 9.68 | 367 | <0.00030 | <0.46 | 176 | 2,170 | 98.8 | 1,380 | 176 | <0.46 | 0.0040 | 1.2 | <0.20 | <1.3 | <0.2 |
| BoxCreek5 | 31.3 | 19.2 | 6.67 | 146 | <0.00030 | <0.46 | 260 | 604 | 8.0 | 263 | 260 | <0.46 | 0.0044 | 1 | <0.22 | <1.3 | <0.2 |
| BoxCreek6 | 51.8 | 30.0 | 8.74 | 163 | <0.00030 | 3.2 | 249 | 792 | 31.6 | 376 | 242 | 6.4 | 0.0053 | 1.4 | <0.21 | <1.3 | <0.2 |

*Radium 226 and Radium 228 *combined* standard is 5 pCi/L

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October 2008

**Figure 1**
**Proposed Well Locations**

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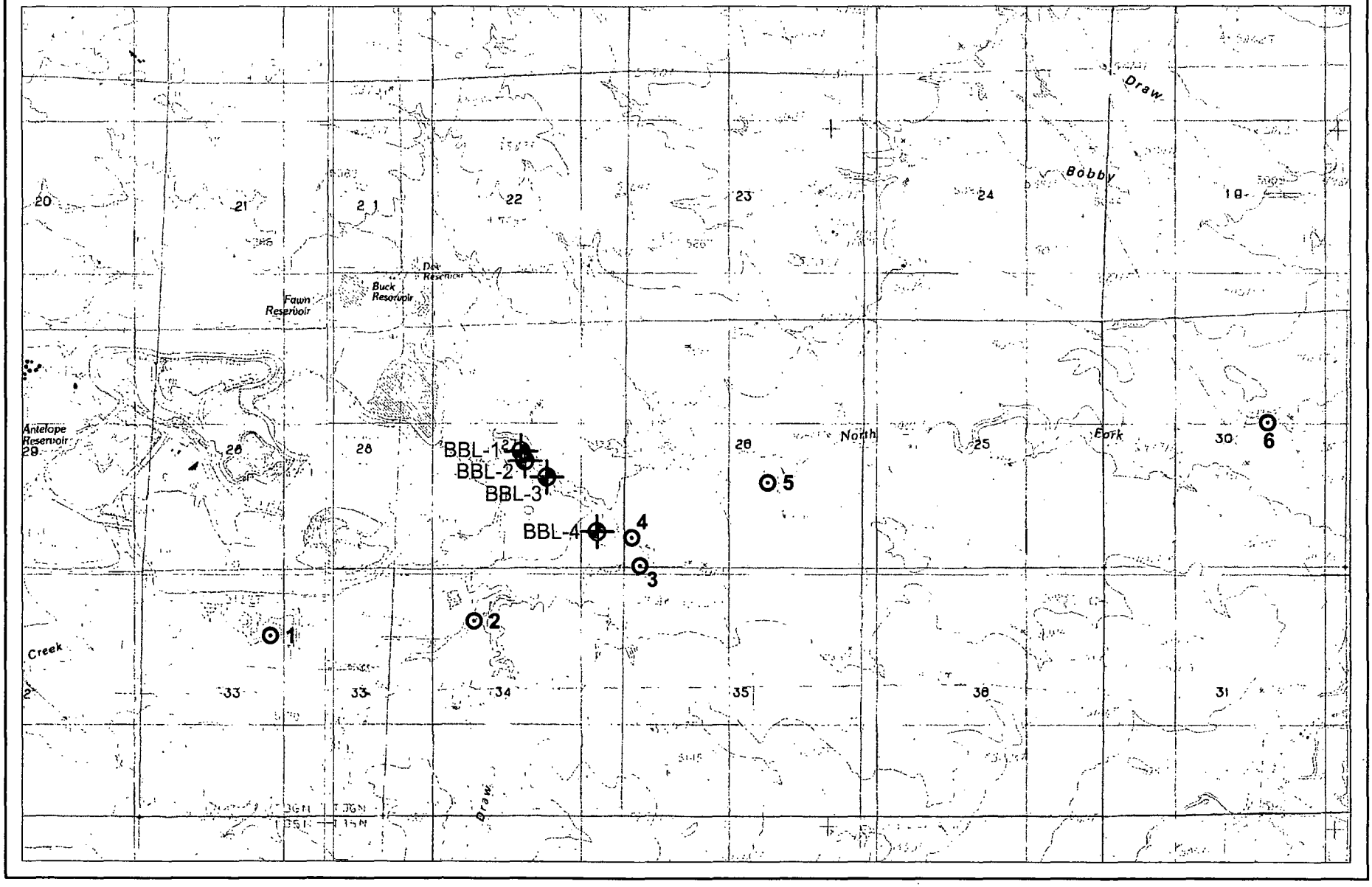


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October 2008

SCALE IN FEET
0 3000

NORTH

**Figure 2**
**2008 Sample Locations**