



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION I

J.F. KENNEDY FEDERAL BUILDING, BOSTON, MASSACHUSETTS 02203-2211

October 25, 1994

Mr. Dennis aRusso
Rhode Island Solid Waste Management Corporation
Central Landfill
65 Shun Pike
Johnston, RI 02919

RE: EPA Comments, Well Installations-OU2/Task4, Field Sampling Plan, September 1994.

Dear Mr. aRusso:

The Environmental Protection Agency (EPA) has completed its review of the subject Field Sampling Plan (FSP). In general the FSP is acceptable and drilling of the deep and shallow wells can start as soon as possible. As noted in the FSP, the USGS conducted borehole geophysical testing during the OU1 effort. However, due to other priorities and a shortage of funding this fiscal year, EPA will not be able to use the USGS for any borehole geophysical work at the Central Landfill Site. Since the RISWMC is a quasi-state agency, it may be possible for the RISWMC to enter into a cooperative agreement with the USGS for any borehole geophysical testing. If this is not possible, there are also several private companies capable of performing the geophysical testing proposed in the FSP.

Based upon the conditions which have been assumed regarding groundwater flow in bedrock at the Site, (i.e., groundwater flow is modelled as an equivalent porous medium, with diversions from the inferred isotropic flow paths), the proposed bedrock monitoring well locations appear to be acceptable and are in accordance with the agreements made during the September 7, 1994 meeting at the Central Landfill Site. However, it is noted that additional bedrock data to be collected from the newly installed wells, including bedrock fracture density and orientation, should be evaluated with respect to the assumed conceptual groundwater flow model to determine if actual field data obtained at the new wells supports the assumed groundwater flow model.

The following are page specific comments to the FSP. As noted in the FSP, these comments will be addressed prior to commencing any field work.



PAGE SPECIFIC COMMENTS

- 3) Page 4, Section 3.10, second paragraph: PID headspace readings may provide poor correlation to actual VOC concentrations in the associated wastewater, which can be significantly higher or lower than PID headspace instrument readings. The 100 ppm "action levels" for onsite versus offsite disposal is too high. An "action level" of 10 ppm should be used.
- 4) Page 5, Section 3.30, paragraph three: in areas of possible VOC contamination, the most current protocol used in EPA Region I for decontamination of non-disposable sampling equipment (split-spoons) includes a methanol rinse between the potable water and distilled water rinses:
 - a) potable water and detergent (Alconox/Liquinox) wash/scrub
 - b) potable water rinse
 - c) methanol rinse
 - d) distilled water rinse
 - e) air dry
- 5) Page 6, Section 3.40, paragraph three: see Comment #3 above, with respect to screening and disposal of drill cuttings.
- 6) Pages 6-7, Section 3.60: borehole development should include periodic turbidity measurements, and development should continue until turbidity readings have stabilized (20 NTUs or less, if possible).
- 7) Page 7, Section 4.10, paragraph three: the referenced Appendix B (Laboratory GC Screening Procedures) was not included with the Field Sampling Plan (FSP), as stated. The FSP should be revised to include Appendix B for review and evaluation.
- 8) Page 8, Section 4.20: the packer testing and sampling tasks shall include the flexibility to test and sample intervals greater than five feet long, in order to accommodate testing and sampling of fracture zones which may be encountered at lengths greater than five feet. If a fracture zone greater than five feet were encountered, packer testing and sampling at a five-foot interval would provide erroneous data.

The packer test shall be run for a minimum of fifteen minutes, or until the flow rate at the selected pressure has stabilized, whichever is greater.
- 9) Pages 10-11, Section 5.10: centralizers shall be used to ensure that the sand pack, bentonite, and grout are evenly placed around the screen and well riser, respectively. Also, further detail is required with respect to installation procedures to be used for the deep boring,

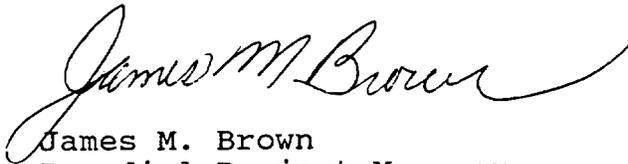
which is to be constructed with two monitoring well installations in one boring (MW94-53 A and B). Further description is needed detailing the installation method for the second (upper) well, to ensure that the backfill and bentonite seal materials (sand pack, bentonite and grout) are evenly placed to enable accurate monitoring of the designated screened intervals.

It is assumed that the upper well will be installed "off-center" within the boring. How will the annular space between the upper well screen, the lower well riser, and the borehole wall be managed to ensure even placement of well backfill materials?

- 10) Page 11, Section 5.30: the locking steel guard pipes to be installed at each well are described as 6-inch inner diameter (ID). However, since page 5, Section 3.40 indicates that the permanent drill casing to be installed at each location will be a minimum of 6-inches ID, it should be noted that the steel guard pipes to be set during wellhead completion must be greater than 6-inches ID.

In addition to the above comments, the RIDEM will be submitting comments under a separate cover letter. I am available for a meeting in Boston next week if you wish to discuss any concerns in person. I am also available for a conference call next week.

Sincerely,



James M. Brown
Remedial Project Manager

cc: Warren Angell, RIDEM
A. Klinger, EPA
Becky Cleaver, HNUS
Ed Summerly, GZA GeoEnvironmental