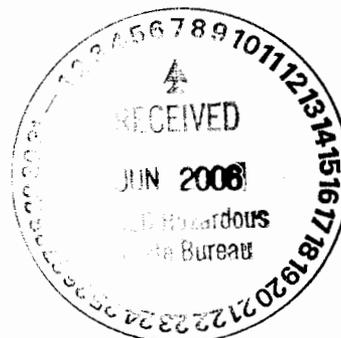




**ENTERED**  
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June 5, 2006

Mr. David Cobrain  
State of New Mexico Environment Department  
Hazardous Waste Bureau  
2905 Rodeo Park Drive East  
Building One  
Santa Fe, New Mexico 87505-6303



Reference: Work Assignment No. 06110.290; State of New Mexico Environment Department, Santa Fe, New Mexico; Human Health and Ecological Risk Assessment Support; Review of the Draft Sampling and Analysis Plan McGregor Range and Doña Ana Range SWMU Sites, Fort Bliss, New Mexico, Task 3 Deliverable.

Dear Mr. Cobrain:

Attached please find a deliverable for the above-referenced work assignment. The deliverable addresses the review of the risk assessment for the "Draft Sampling and Analysis Plan McGregor Range and Doña Ana Range SWMU Sites, Fort Bliss, New Mexico". As requested in the transmittal letter sent with the document, the review focused on the statistical analysis of the soil background data.

The sample locations and number of samples to establish background reference values for the various solid waste management units (SWMUs) within the McGregor Range and the Doña Ana Range appear adequate. While the report does not provide rationale for the determination of the actual number of samples to be collected, the quantity (30 samples for the Copia-Nations complex soil type) should allow for a robust statistical analysis for determining the 95-percent upper confidence limit of the mean (95% UCL). In addition, it appears that sufficient information has been provided to show that the proposed sample locations are not in areas that could be influenced by site activities.

A concern with the proposed plan is that the plan is limited to surface soil only. Based upon review of previous investigations at the SWMUs included in this analysis, collection of surface soil may be adequate. However, the report indicates that the background data obtained from this plan may also be used at some time in the future, for the assessment and closure of other sites. Thus, it seems that collection of subsurface soil samples and establishment of a subsurface soil background data set may be warranted and would ultimately save the time and money of a second mobilization. A general comment has been drafted concerning this issue.

The proposed method for determining the 95% UCL for the background data is the Environmental Protection Agency (EPA) model ProUCL. This is consistent with the EPA Office



of Solid Waste and Emergency Response (OSWER) guidance 9285.6-10, "Calculating Upper Confidence Limits for Exposure Point Concentrations at Hazardous Waste Sites" (December 2002) and OSWER 9285.7-41 "Guidance for Comparing Background and Chemical Concentrations in Soil for CERCLA Sites" (September 2002).

This deliverable was emailed to you on June 5, 2006 at David.Cobrain@state.nm.us to Ms. Cheryl Frischkorn at Cheryl.Frischkorn@state.nm.us. A formalized hard (paper) copy of this letter deliverable will be sent via mail. If you have any questions, please call me at (303) 763-7188 or Ms. Paige Walton at (801) 451-2978.

Sincerely,



June K. Dreith  
Program Manager

Enclosure

cc: Cheryl Frischkorn, NMED  
Ms. Paige Walton, TechLaw  
Dallas/TechLaw Files

**TASK 3 DELIVERABLE**

**REVIEW OF THE DRAFT SAMPLING AND ANALYSIS PLAN  
MCGREGOR RANGE AND DONA ANA RANGE SWMU SITES,  
FORT BLISS, NEW MEXICO**

**Human Health and Ecological Risk Assessment Support**

**Submitted by:**

**TechLaw, Inc.  
3920 W. 98<sup>th</sup> Place  
Westminster, CO 80031**

**Submitted to:**

**Mr. David Cobrain  
State of New Mexico Environment Department  
Hazardous Waste Bureau  
2905 Rodeo Park Drive East  
Building One  
Santa Fe, New Mexico 87505**

**In response to:**

**Work Assignment No. 06110.290**

**June 5, 2006**

**REVIEW OF THE DRAFT SAMPLING AND ANALYSIS PLAN  
MCGREGOR RANGE AND DONA ANA RANGE SWMU SITES,  
FORT BLISS, NEW MEXICO**

**GENERAL COMMENTS**

1. This sampling and analysis plan focuses solely on surface soil and the establishment of a background data set for six Solid Waste Management Units (SWMUs): SWMUs 18, 19, 20, 27, 27B, and 29. However, the report alludes that the background data may be useful during the investigation of other units. Therefore, it is not clear why the proposed sampling is limited to only surface soil (top six inches) and does not include establishing a background data set for subsurface soil. If investigations at other sites address soil below of depth of six inches, and soil/geology changes with depth, a subsurface background data set may be required. While no response to this comment is required, the facility may wish to consider the collection of samples with depth for establishing a more complete evaluation of background concentrations.
  
2. Section 3.2.4, Quality Assurance [QA] Sample Collection Frequency, indicates that field duplicates will be collected and that the results of these duplicates will be used to assess the precision of the laboratory results. Section 4.2, Field QC [Quality Control] Sampling Procedures, further indicates that in addition to the field duplicates, extra soil volume will be collected to perform matrix spike and matrix spike duplicates. Section 4.9, Data Management and Retention, addresses the analytical reports that will be received from the laboratory. It is not clear from these sections whether the laboratory will conduct data validation or whether the facility will perform the data validation, and if data validation will be conducted, what level of validation (i.e., Level III) will be performed. A discussion of data qualifiers should also be provided. In addition, the report does not provide a discussion of the data quality objectives (DQOs), including the measurement quality objectives. For example, the report should discuss how the duplicate error ratio and the percent matrix spike recovery will be calculated. In addition, the report should indicate the acceptable range of matrix spike recovery and how results may be qualified based upon the recovery percent. Further, the report does not provide the detection limits for the data, which are necessary to ensure sufficient sensitivity. Please revise the report to include a thorough discussion of the DQOs and data validation process.
  
3. Overall, the statistical approach, using the Environmental Protection Agency's (EPA) software ProUCL is acceptable. However, the discussion of the calculation of background concentrations (Section 3.3) does not discuss how non-detects will be addressed and if there are non-detects how censoring may affect the determination of the upper confidence limit (UCL). Typically simple substitution methods are applied, using, for example, the detection limit or one-half the detection limit. Please clarify how censoring will be addressed in determining the background reference values. In addition, it is not anticipated that outliers would be encountered, if in fact a true background location not impacted by site activities has been selected. However, there are always natural variations and anomalies in soil and in the event that an outlier is present, please clarify how the outlier will be addressed.

4. The metals that are proposed for the background assessment appear to be based upon the results of previous investigations of the six SWMUs. However, it is noted that the background values obtained as a result of the implementation of the plan may also be applied to other sites, such as the Meyer Range Oxidation Pond. It is not clear whether any preliminary investigations have been done to verify whether there could be other inorganics present in the Meyer Range Oxidation Pond that are not being addressed in this plan. In developing a background data set, it appears that a complete background characterization should be conducted, to avoid additional sampling in the future. Therefore, it is recommended that unless site history is available to show that an inorganic could not be present in the Fort Bliss SWMUs, a full suite of inorganics (including antimony, beryllium, calcium, cobalt, copper, iron, magnesium, manganese, nickel, potassium, sodium, thallium, vanadium, and zinc) be addressed in this plan. This would allow for a comprehensive background data set applicable to all units within similar geology and soil type.
5. The report is inconsistent in its use of terms and values. For example, SWMU 27 is referred to as both the closed sanitary landfill 12 and the rubble pit landfill 12. In addition, references to acreage and samples vary from specific values, to “approximate” values, to rounded numbers. Please revise the plan for consistency in terminology.
6. The project schedule as presented in Section 2.5 of the report is not current. However, it is noted that the date on the report is December 2005, inferring that the schedule was most likely developed sometime in November 2005, and delays are almost always inevitable. As part of the response to comments, please provide an updated schedule for the key project milestones.
7. The report does not provide the rationale for determining the number of samples to be collected for the establishment of background. While 30 samples should be sufficient to conduct a robust statistical determination of the 95%UCL, some justification for this number of samples should be provided. Please discuss how the number of samples was selected.

## **SPECIFIC COMMENTS**

1. Section 1.1, Purpose, Page 1-1. The first paragraph appears to exclude SWMU 27 from the list of sites to be addressed in this plan. Please revise the list of SWMUs to include SWMU 27, the closed sanitary landfill 12 (rubble pit landfill 12).
2. Section 3.2.1, Selection of Background Sample Locations, Page 3-3. The first full paragraph indicates that “...exact locations for collection of the background samples will be selected based upon the existing biological cover.” It is assumed that this refers to selection of a sample location that is not covered by dense vegetation, but rather identifying sample locations with relatively little to no vegetation. However, please clarify what is meant by “existing biological cover.”
3. Sections 3.2.2, Sampling Method and Field Screening Requirements, Page 3-4 and 4.1, Sampling Methods, Page 4-1. In both of these sections, the report indicates that soil samples

may be homogenized in a disposable aluminum pan or stainless-steel mixing bowl. As one of the objectives of this sampling effort is to establish a background concentration representative of natural soil for aluminum, the use of any aluminum sampling equipment is not good practice and could influence sample results. Please remove the reference to the use of the disposable aluminum pan and indicate that samples will only be placed in a stainless-steel bowl for mixing.

4. Section 3.2.3, Analytical Requirements, Page 3-4. The report indicates that select metals will be included as analytes. It is not clear whether other physical/chemical parameters, such as pH or fraction of organic carbon (foc), will also be collected. Based upon the review of the Supplemental Resource Conservation and Recovery Act Facility Investigation (RFI) for the McGregor Range Camp Oxidation Pond (Solid Waste Management Unit, SWMU, 19), aluminum was included as a constituent of concern in the ecological risk assessment. However, the bioavailability of aluminum for plant uptake and ecotoxicity is associated with pH, and aluminum is biologically inactive in neutral to alkaline (pH 5.5-8.0) conditions. Therefore, it is recommended that pH and other physical/chemical parameters also be included as analytical parameters.
5. Section 3.2.4, Quality Assurance Sample Collection Frequency, Page 3-5. The last sentence indicates that samples “will be collected as split samples of the soil samples, according to the procedures described above.” While Section 3.2.2, Sampling Method and Field Screening Requirements, does provide a brief overview of how the samples will be collected, this procedure does not describe the process for collecting a split sample. Please provide the procedures that will be used for obtaining duplicate samples.
6. Section 3.3, Calculation of Background Concentrations, Page 3-6. The last paragraph indicates that the calculated background concentrations will be compared to the on-site concentrations. However, the report does not clarify how this comparison will be conducted. For example, will the 95% UCL for the site data be compared to established background reference value (95% UCL for background) or will the site maximum be compared to background. In addition, the text states that if the site concentration exceeds the calculated site background reference value, then the chemical will be treated as site-related. It is not apparent whether a site attribution analysis will be conducted comparing data sets, for example using the Wilcoxon Rank Sum Test, to aid in determining whether the site concentrations fall within the background distribution. Please clarify how site data will be compared to the background reference value.
7. Section 4.6, Sample Documentation, Page 4-5. An example sample designation is provided: MG27-SB-zz. While the example does not provide a unique sample number or sampling station, it is assumed that a unique identifier will be used (it is noted that the text states that the sample designation will include the sample station number). Please clarify that each sample designation will in fact be unique sample identification.

## **MINOR COMMENTS**

1. The symbols in the legend of Figure 1-2, Doña Ana Range SWMU Locations, do not match

the symbols shown on the map. Please modify the map/legend for consistency.

2. The symbols in the legend of Figure 1-3, McGregor Range SWMU Locations, do not match the symbols shown on the map. Please modify the map/legend for consistency.
3. The symbols in the legend of Figure 3-1, Doña Ana Range Proposed Background Sample Locations and Soil Types, do not match the symbols shown on the map. Please modify the map/legend for consistency.
4. Figure 3-3, McGregor Ranger Myer Range Oxidation Pond and Soil Types, indicates in the legend that background locations should be indicated on the map. However, the figure does not show any background locations (black dot). Please revise the figure accordingly.