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*Date:* June 17, 2004
*Refer To:* ER2004-0329

Ms. Darlene Goering, Project Leader
Permits Management Program
NMED – Hazardous Waste Bureau
2905 Rodeo Park Drive East
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Santa Fe, NM 87505-6303

**SUBJECT: RESPONSE TO THE NOTICE OF DISAPPROVAL (NOD) FOR THE WORK PLAN FOR THE TA-16-340 COMPLEX – SOLID WASTE MANAGEMENT UNITS (SWMUs) 13-003(a)-99, 16-003(n)-99, 16-003(o), 16-026(j2), AND 16-029(f) AT TECHNICAL AREA (TA) 16 LOS ALAMOS NATIONAL LABORTORY, NM0890010515 HWB-LANL-04-004**

Dear Ms. Goering:

Enclosed please find the certification and two copies of the response of the Los Alamos National Laboratory Risk Reduction and Environmental Stewardship–Remediation Services (RRES–RS) to your notice of disapproval of the work plan for the TA-16-340 Complex – SWMUs 13-003(a)-99, 16-003(n)-99, 16-003(o), 16-026(j2), and 16-029(f) at TA 16. The RRES–RS project office received the NOD on May 25, 2004.

If you have any questions, please contact Don Hickmott at (505) 667-8753 or Woody Woodworth at (505) 665-5820.

Sincerely,

David McInroy, Deputy Project Director
Remediation Services
Los Alamos National Laboratory

Sincerely,

David Gregory, Federal Project Director
Department of Energy
Los Alamos Site Operations

DM/DG/DH/th

Enclosure: Response to the Notice Of Disapproval (NOD) for the work plan for the TA-16-340 Complex – Solid Waste Management Units (SWMUs) 13-003(a)-99, 16-003(n)-99, 16-003(o), 16-026(j2), and 16-029(f) at technical area 16 Los Alamos National Laboratory, Nm0890010515 Hwb-Lanl-04-004 (ER2004-0328)

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RRES-RS File, MS M992
IM-5, MS A150
RPF, MS M707

## CERTIFICATION

### CERTIFICATION BY THE RISK REDUCTION AND ENVIRONMENTAL STEWARDSHIP–REMEDIATION SERVICES (RRES–RS) PROJECT TECHNICAL REPRESENTATIVES

Document Title: **RESPONSE TO THE NOTICE OF DISAPPROVAL (NOD) FOR THE WORK PLAN FOR THE TA-16-340 COMPLEX – SOLID WASTE MANAGEMENT UNITS (SWMUs) 13-003(a)-99, 16-003(n)-99, 16-003(o), 16-026(j2), AND 16-029(f) AT TECHNICAL AREA (TA) 16 LOS ALAMOS NATIONAL LABORTORY, NM0890010515 HWB-LANL-04-004**

I certify under penalty of law that these documents and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violation.

Name: _____ Date: 6/17/04

David McInroy, Deputy Project Director
Remediation Services
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or

_____ Date: _____

Beverly A. Ramsey, Division Leader
Risk Reduction and Environmental Stewardship Division
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_____ Date: 6/17/04

David Gregory, Federal Project Director
Environmental Restoration Program
Department Of Energy/Los Alamos Site Office

or

_____ Date: _____

Herman LeDoux,
Assistant Area Manager of
Environmental Projects
Department Of Energy/Los Alamos Site Office

**Response to Notice of Disapproval**
**"Investigation Work Plan for the TA-16-340 Complex,**
**Solid Waste Management Units (SWMUs) 13-003(a)-99, 16-003(n)-99, 16-003(o), 16-026(j2), and 16-029(f) at Technical Area (TA)-16" (LA-UR-04-1466; ER-2004-0095)**

This submittal is the response by Los Alamos National Laboratory (LANL, or the Laboratory) to the Notice of Disapproval regarding the "Investigation Work Plan for the TA-16-340 Complex, Solid Waste Management Units (SWMUs) 13-003(a)-99, 16-003(n)-99, 16-003(o), 16-026(j2), and 16-029(f) at TA-16" issued by the New Mexico Environment Department (NMED) Hazardous Waste Bureau on May 12, 2004. The investigation work plan was submitted by LANL to NMED in March 2004.

This response is organized similarly to NMED's notice of disapproval. LANL's original statements from the work plan ("Permittee's Statement") and NMED's comments are included below verbatim, and LANL's responses follow each NMED comment. LANL's responses indicate where revisions to the work plan will be made. These revisions will be prepared at the conclusion of the review process.

1. Section 2.5 Potential Receptors, pg. 8:

**Permittees Statement:** "Receptors potentially exposed to contamination at the TA-16-340 Complex include the following: on-site environmental workers, trail users, and construction (or D&D) workers. These are the receptors that were identified and approved by NMED for use in the TA-16-260 outfall corrective measures study (CMS) (NMED 1998, 62327.1; LANL 2003, 77965, p. 6-3). In this report, however, the industrial outdoor worker scenario is used for establishing interim soil cleanup levels. Use of this scenario is protective of all of the above workers because an industrial outdoor worker would spend the most time at the site."

**NMED Comment:** According to the Department's *Technical Background Document for Development of Soil Screening Levels*, screening levels developed for the industrial worker may not be protective of a construction. Even though the exposure duration for the industrial worker is greater than that of the construction worker, the construction worker has a greater soil ingestion rate due to the type of activities associated with D&D. The Permittees must use both the industrial worker and the construction worker soil screening levels developed by Department in its' SSL guidance (Revision 2.0 now available on the Department's website). For each analyte, the Permittees must use the most conservative of the two soil screening levels as their interim cleanup levels.

**LANL Response:** The application of the construction worker scenario as a cleanup criterion to the slopes and canyon bottom of Fishladder Canyon is inappropriate because construction will not occur in these areas. In addition, construction that could occur on the mesa top, where there is likely less contamination than on the slopes and in the canyon, will include mitigation of contaminant exposure via site-specific health and safety plans and occupational exposure limit requirements (e.g., Occupational Safety and Health Administration (OSHA) and National Institute for Occupational Safety and Health (NIOSH)). Through the project review process that

is required prior to any construction/decontamination and decommissioning (D&D) activities at LANL, the construction/D&D organization will be informed of any contamination found or remaining at the site and the potential for impacts on human health. This is routine procedure for any activity that may disturb a site containing a SWMU or Area of Concern (AOC). This notification will ensure that appropriate safety and health requirements will be implemented by the construction/D&D organization and the Laboratory to protect workers.

Table 1 in this response presents a comparison of the residential, industrial worker, and construction worker soil screening levels (SSLs) (NMED guidance, Revision 2), the EPA Region 6 outdoor worker industrial SSLs proposed in the work plan, and the Laboratory background values (BVs) for each medium for selected contaminants relevant to this work plan. The construction worker SSL (148 mg/kg) for manganese is below the Laboratory BV for soil (671 mg/kg) and tuff (482 mg/kg) (LANL 1998, 59730). The NMED cadmium SSLs for industrial and construction workers are incorrect as presented in Table A-1 of NMED's technical background document and in Table 1. The values, when calculated using NMED's equations, parameter values, and toxicity values, should be 898 mg/kg for industrial workers and 277 mg/kg for construction workers, not 8600 mg/kg and 0.00474 mg/kg, respectively. For several carcinogenic chemicals (RDX, arsenic, benzo(a)pyrene), the interim cleanup levels proposed by LANL in the work plan are more protective (i.e., lower than NMED SSLs) due to a lower target risk level (i.e., $10^{-6}$ vs. $10^{-5}$). Use of the interim cleanup levels proposed by LANL in the work plan rather than the NMED-proposed lower of the two SSLs (construction worker and industrial) yields a slightly larger number of cleanup localities (26 sampled points compared to 24 based on the existing data).

The NMED construction worker SSLs are lower than residential SSLs for certain non-carcinogenic chemicals, primarily metals (e.g., aluminum, barium, cadmium, chromium, manganese, and nickel) (Table 1). The lower-than-residential construction worker SSLs are due primarily to the use of chronic toxicity values for a subchronic (1 year or less) exposure and the use of a particulate emission factor (PEF) that does not represent site conditions.

Environmental Protection Agency (EPA) supplemental guidance for developing SSLs for Superfund sites states that calculations of noncarcinogenic SSLs for a construction worker based on subchronic exposures should incorporate toxicity values for subchronic, not chronic, effects. NMED uses chronic toxicity values in their construction worker SSL calculations, with the exception of nickel, for which an Agency for Toxic Substances and Disease Registry (ATSDR) minimal risk level (MRL) is used to represent a "subchronic" exposure (ATSDR calls it "intermediate exposure" from 14 to 364 days). However, ATSDR states that MRLs are intended to serve as screening levels to identify contaminants and potential health effects, but are not intended to define cleanup or action levels for ATSDR or other agencies. Although EPA recommends applying an uncertainty factor if going from a less-than-chronic value to a chronic value for chronic exposure, there is no recommendation to change the uncertainty factor if going from a chronic to a subchronic value for subchronic exposure. For example, manganese and chromium have uncertainty factors applied to their chronic toxicity values in EPA's Integrated Risk Information System (IRIS) due to extrapolation from less-than-chronic exposures (factors of 10 for manganese, 3 for cobalt, and 3 for chromium). The effect of using subchronic versus chronic toxicity values in the SSL calculation is illustrated by barium, which has both subchronic

and chronic reference concentrations for inhalation in Health Effects Assessment Summary Tables (HEAST). The subchronic value for barium is an order of magnitude higher than the chronic inhalation value used in NMED's SSL calculation (chronic reference concentration from Table A-1 of 0.000143 mg/kg-day versus a subchronic reference concentration of 0.00143 mg/kg-day using the subchronic HEAST value). If the construction worker SSL is recalculated using the subchronic toxicity value (0.00143 mg/kg-day), the construction worker SSL becomes 9028 mg/kg compared to the reported NMED SSL of 1443 mg/kg. This indicates that the NMED construction worker SSLs overestimate the potential risk for this receptor.

The PEF used for NMED's construction worker SSLs is not indicative of realistic site conditions during construction because, as stated in EPA guidance, it focuses exclusively on fugitive dust emissions from truck traffic on contaminated unpaved roads. The exposure to fugitive dust is overestimated because the unpaved area outside of the SWMU/AOC boundary is not contaminated and therefore trucks would not be driving through contaminated areas. The routine disclosure of any on-site contamination to construction/D&D organizations allows for the health and safety personnel to develop appropriate plans and implement proper precautions to preclude exposures to harmful level of contaminants. For example, the construction worker PEF does not take into account the likelihood of dust-suppression activities which are routinely implemented and which substantially reduce the amount of fugitive dust and therefore exposure of construction workers. Implementation of the appropriate OSHA and/or NIOSH requirements, as well as Laboratory requirements, also protects workers from exposure to harmful materials/conditions. Furthermore, construction-related exposures depend upon many parameters, including: the size of the site, the size of the contaminated area, the dimensions of the building being constructed and its location relative to the source area, the type of building being constructed (slab versus basement), and the duration of the project.

In summary, the NMED SSLs for construction workers may be applicable for screening a site but are not appropriate as cleanup levels because they may result in the removal of more material than necessary during remediation. LANL proposes the use of the current NMED industrial SSLs as interim cleanup levels to provide a protective and representative target for cleanup. In addition, LANL will evaluate the verification sampling data using the construction worker SSLs for comparison purposes and provide contaminant and risk information to construction/D&D organizations that need to evaluate the potential for worker exposure at this site. The work plan will be revised to reflect this approach.

**Table 1**
**Background Values (BVs) and Soil Screening Levels (SSLs) for Selected Contaminants at the TA-16-340 Complex**

| Analyte | Medium | LANL BV (mg/kg) | EPA Industrial Outdoor Worker (mg/kg) | NMED Residential (mg/kg) | NMED Industrial Worker (mg/kg) | NMED Construction Worker (mg/kg) |
|---|---|---|---|---|---|---|
| Aluminum | Soil | 29,200 | 100,000 | 77,800 | 100,000 | 14,400 |
| | Tuff | 7,340 | | | | |
| | Sediment | 15,400 | | | | |
| Arsenic | Soil | 8.17 | 1.8[a] | 3.9 | 17.7 | 85.2 |
| | Tuff | 2.79 | | | | |
| | Sediment | 3.98 | | | | |
| Barium | Soil | 295 | 79,000 | 5,450 | 78,300 | 1,440 |
| | Tuff | 46 | | | | |
| | Sediment | 127 | | | | |
| Benzo(a)pyrene | NA | NA | 0.23 | 0.621 | 2.34 | 21.4 |
| Beryllium | Soil | 1.83 | 2,200 | 156 | 2,250 | 56.2 |
| | Tuff | 1.21 | | | | |
| | Sediment | 1.31 | | | | |
| Cadmium | Soil | 0.4 | 560 | 74.1 | 8,600 | 0.00474 |
| | Tuff | 1.63 | | | | |
| | Sediment | 0.4 | | | | |
| Chromium | Soil | 19.3 | 500[b] | 234[c] | 3,400[c] | 180[c] |
| | Tuff | 7.14 | | | | |
| | Sediment | 10.5 | | | | |
| Cobalt | Soil | 8.64 | 2,100 | 1,520 | 20,500 | 61 |
| | Tuff | 3.14 | | | | |
| | Sediment | 4.73 | | | | |
| HMX | NA | NA | 34,000 | 3,000 | 34,200 | 11,700 |
| Manganese | Soil | 671 | 35,000 | 1,550 | 21,800 | 148 |
| | Tuff | 482 | | | | |
| | Sediment | 543 | | | | |
| Nickel | Soil | 15.4 | 23,000 | 1,560 | 22,500 | 561 |
| | Tuff | 6.58 | | | | |
| | Sediment | 9.38 | | | | |
| RDX | NA | NA | 17 | 44.2 | 174 | 699 |
| Thallium | Soil | 0.73 | 79[d] | 5.16 | 74.9 | 20.4 |
| | Tuff | 1.1 | | | | |
| | Sediment | 0.73 | | | | |
| Trinitrotoluene[2,4,6-] | NA | NA | 64 | 30 | 342 | 117 |

a. Cancer endpoint.
b. Total chromium.
c. Chromium VI.
d. Thallium oxide.

2. Section 4.2 General Investigation Strategies for Remediation and Characterization, pg. 22, paragraph 6:

**Permittees Statement:** "Sample sets from each location will consist of a sample from the surface to 6 in. below the surface (either a pre-existing surface or a surface exposed by excavation) and a sample from 2 ft into tuff. This will ensure that vertical extent has been determined 2 ft below each excavated area".

**NMED Comment:** This sampling strategy does not include areas that will not be excavated under this plan. For instance, if contamination is encountered below the interim cleanup levels but above background levels, the Permittees must describe how extent will be determined. In areas where existing data show contamination above background levels but below interim cleanup levels, the Permittees must also explain how extent will be determined (see also comment #4).

**LANL Response:** LANL will collect additional samples at depth (generally 2 ft into tuff, or 2 ft deeper into tuff for locales that are already in tuff) from locations that have analyte concentrations significantly (i.e., greater than two times) above BV, as determined from previous sampling. These locations are identified in the response to comment # 4 and were not previously identified in the work plan for investigation and/or soil removal. Similarly, if locations are identified that have analyte concentrations at levels significantly above BV in the next round of sampling, additional samples will be collected at depths sufficient to determine extent (e.g., see page 23, paragraph 5, of the work plan). The work plan will be modified to indicate this more explicitly. Additional samples taken to define lateral nature and extent (section 4.2.2, Analytical Samples, page 25) were originally proposed as surface samples. These samples will now include surface samples and samples at 2 ft into tuff. The work plan will be revised accordingly.

3. Section 4.2 General Investigation Strategies for Remediation and Characterization, pg. 22, paragraph 8:

**Permittees Statement:** "Approximately half of the samples spot-tested for HE will be quantitatively screened using the D-Tech HE screening kit (see section 5.1.2) and the results compared to interim action levels. The D-Tech HE screening will include screening for RDX but not TNT...."

**NMED Comment:** The Permittees are using a field screening method (HE spot test) with a high detection limit (100 ppm) to determine which samples are further analyzed and which areas are possibly remediated. With such a high detection limit and interim action levels as low as 8.5 ppm (RDX), the Permittees risk overlooking areas contaminated with HE that would warrant further investigation and even remediation. The Permittees must solely use the D-Tech HE screening for screening purposes. In addition, the Permittees must explain if and how the D-Tech kits measure other HE compounds such as HMX and expected degradation products.

**LANL Response:** LANL proposed a tiered approach to HE screening with initial use of a high-detection limit (100 ppm), broad sensitivity method (the HE spot test), followed by a low-

detection limit (~ 1 ppm), more analyte-specific method (D-Tech kits). This approach is similar to the cleanup strategy that was used at the 90s Line and at V-Site with a high level of success. The HE spot test is used first. Generally, due to the processes that have led to the deposition of HE in environmental media at TA-16 outfalls and drainlines, there are multiple HE (primarily HMX and RDX with subsidiary TNT) at a contaminated location. The HE spot test provides a useful 'first cut' to identify areas requiring cleanup. The HE spot test is sensitive to all principal HE that have been used at TA-16 (including RDX, HMX, TNT, TATB, and others). For HE with low toxicity and resultant high SSLs (e.g., HMX has an NMED industrial SSL of 34200 mg/kg and TNT has an NMED industrial SSL of 342 mg/kg), the HE spot test can detect the chemicals if they are present at levels that may pose a potential risk. In addition, the HE spot test is required by the operating group to be used on environmental samples prior to shipment from TA-16 (for safety and Department of Transportation purposes).

D-Tech kits are used to focus on RDX, which is the principal risk driver at all of the sites that have been investigated at TA-16 to date, and which is the principal HE at the TA-16-340 Complex based on the Phase I RCRA Facilities Investigation (RFI) data. RDX D-Tech kits do detect HMX, although they do not do so quantitatively. The D-Tech kits do not measure expected HE-degradation products quantitatively; however, these constituents have not been risk drivers at TA-16 sites.

LANL proposes the continued use the HE spot test as proposed in the work plan, but will expand the use of D-Tech kits to all HE spot test negative samples (recalling that all HE spot test positive locales will be cleaned up). The work plan will be revised to reflect this modified sampling strategy.

4. Section 4.2 General Investigation Strategies for Remediation and Characterization, pg. 23, paragraph 5:

**Permittees Statement:** "To fully characterize the vertical and lateral extent of contamination may require reoccupying sample locations to sample farther into tuff and the collection of additional surface samples within or outside of SWMU boundaries. Additional sampling, if necessary, will be conducted after initial evaluation of nature and extent data for these sites."

**NMED Comment:** According to the figures and data tables in the historical investigation report, there are several sampling locations with contaminants above background concentrations that are not part of further investigation or the soil removal. The Permittees must resample those locations to determine vertical extent of contamination (this comment does not include further sampling at SWMU 13-003(a)-99 because it is covered under another comment). Those locations include the following:

- SWMU 16-003(n)-99: Location IDs 16-01530 and 16-01531
- SWMU 16-003(o): Location IDs 16-02024 and 16-01540
- SWMU 16-026(j2): Location IDs 16-01554 and 16-01555

**LANL Response:** In the submitted work plan, LANL had focused attention on those locations with the highest levels of contamination, most of which were cleanup locations. Table 2 shows which of the six locations noted in the comment have analyte concentrations greater than twice

the BVs. These locations will receive further sampling for nature and extent of contamination (LANL will sample each of them at a depth of 2 ft into tuff), to ensure that vertical extent of contamination is bounded. LANL will modify the work plan to reflect this change in strategy. Note also that some of the locations are identified as sediment but have concentrations within the soil background range. Distinguishing sediment from soil is difficult at this location.

**Table 2**
**Sample Locations with Inorganic Chemical Concentrations Greater Than Twice BV**

| Location | Analytes >2x BV | Suggested Action |
|---|---|---|
| 16-01530 | Ba | Take additional sample 2 ft into tuff |
| 16-01531 | None | No additional sample, adjacent to 16-01530 |
| 16-02024 | As, Cr, Cu, Pb, Hg, U, V | Slated for soil removal (error on figure) |
| 16-01540 | Cu, U, Zn | Take additional sample 2 ft into tuff |
| 16-01554 | None | No additional sample, adjacent to 16-01555 |
| 16-01555 | Pb | Take additional sample 2 ft into tuff |

5. Section 4.2.1 Soil Removal, pg. 23, paragraph 3:

**Permittees Statement:** "Because field screening methods are not available for the quantitative detection of arsenic and PAHs at the interim clean up levels, excavation to remove these COPCs will be guided by data from samples analyzed at off-site laboratories."

**NMED Comment:** The Permittees must explain how waiting for results from the off-site analytical laboratories will affect the excavation schedule.

**LANL Response:** LANL's baseline schedule, and the NMED Order due date for the TA-16-340 (Fishladder) investigation report of 1/31/06 (which takes into account LANL's baseline schedule), both include two rounds of sampling and excavation planned, including receipt of data from the off-site laboratories. This is a routine process for both characterization of nature and extent of contamination and for removal and confirmation sampling. Therefore, waiting for results from the off-site analytical laboratories does not affect the excavation schedule.

6. Section 4.2.2 Further Site Characterization (SWMU 13-003(a)-99 Characterization Activities), pg 26:

**Permittees Statement:** "Following D&D removal of utilities, 10 screening samples will be collected from locations spaced at approximately equal intervals along the length of the SWMU."

**NMED Comment:** Using process knowledge and other available information, the Permittees must ensure that the samples are located below the depths of the former tank and septic lines (e.g., fill or undisturbed soil or tuff).

**LANL Response:** LANL will use process knowledge and other available information to ensure that the samples are located below the depths of the former tank and septic lines. The work plan will be revised to reflect this strategy.

**Permittees Statement:** The existing borehole (13-00001) will be drilled 2 ft deeper and sampled to define vertical nature and extent of contamination."

**NMED Comment:** The Permittees must provide the current depth of the borehole. The Permittees must drill a second borehole to a similar depth at this SWMU to define the extent of contamination at depth. The Permittees must advance both borings at least 5 feet below the base of the former tank location if no contamination is encountered, or 2 feet below the deepest contamination encountered.

**LANL Response**: The current borehole depth is 6.5 ft. LANL will drill a second borehole to a similar depth to define the extent of contamination at depth. LANL will advance both borings at least 5 feet below the (estimated) former tank location if no contamination is encountered, or to 2 ft below the deepest contamination encountered. The work plan will be revised to reflect this strategy.

7. Section 4.2.2 Further Site Characterization (Alluvial Wells Installation and Monitoring), pg 26:

**NMED Comment:** In addition to the two proposed wells, the Permittees must install alluvial wells downstream of Fishladder Seep to the Fishladder Canyon/Cañon de Valle confluence to characterize the extent of alluvial groundwater contamination within Fishladder Canyon. The Permittees may extend the HRR survey to the confluence to help determine the location of the additional wells. One alluvial well must be located just above the confluence to determine contaminant contribution to Cañon de Valle.

**LANL Response:** LANL will install an additional alluvial well (beyond the two originally proposed) as near to the Fishladder Canyon/Canon de Valle confluence as can be accessed with a drill rig. The terrain in this area is rugged and access is difficult. It is estimated that this location will be approximately 2500 ft east of Fishladder Seep. This well, plus the two already proposed, should provide adequate information about the alluvial system in Fishladder Canyon because they encompass most of the accessible area of the canyon. Note also that much of the eastern end of this canyon contains little alluvium, so LANL will ensure that the additional well will be installed in a thick portion of the alluvium. The work plan will be revised to reflect this change in characterization strategy.

8. Section 5.1.1 Surface and Subsurface Sampling, pg. 29

**Permittees Statement:** "To minimize the loss of VOCs, samples for VOC analysis will be collected immediately upon recovery using disposable En Core samplers (see SOP-06.31, "Sampling of Sub-Atmospheric Air")."

**NMED Comment:** The referenced SOP does not contain procedures for sampling with En Core samplers. The Permittees must provide the appropriate SOP or describe the procedures.

**LANL Response:** The correct reference should be to the latest version of the manufacturer's instructions for the En Core samplers (as referenced in LANL-ER-SOP 6.10). The work plan will be changed to clarify this.

9. Section 5.1.3 Fixed Laboratory Analytical Methods, pg. 30, paragraph 2:

**NMED Comment:** The text lists all of the analytes that will be analyzed for during the investigation. However, earlier the Permittees identified uranium as a COPC at all of the SWMUs except 16-029(f) and 16-026(j2). It is not clear if the Permittees intend to analyze all samples collected from all SWMUs for uranium or only the ones collected from the SWMUs with uranium as a COPC. The Permittees must analyze all samples for uranium

**LANL Response:** All samples will be analyzed for total uranium. The work plan will be modified to clarify this point.

10. Table 1 Industrial Outdoor Worker SSLs and 50% of SSLs, pg. 53:

**NMED Comment:** The Permittees use the SSLs for an industrial outdoor worker from EPA Region VI as interim cleanup levels. The default exposure parameters for EPA's industrial worker scenario are similar to those for the industrial worker used in the Department's SSL guidance (Revision 2.0 now available on the Department's website). In addition to providing soil contaminant concentrations at or below which there is no unacceptable risk to the public, the Department's SSLs guidance provides concentrations that will not result in leaching of contaminants to groundwater in exceedance of a NM Water Quality Control Commission standard. The Permittees must explain why they are using the EPA values instead of the Department's. The Permittees must use the Department's SSLs (see also comment #1).

**LANL Response:** The NMED industrial worker SSLs in the December 18, 2000, version of the technical background document were known to be incorrect. LANL used EPA Region 6 industrial values instead of NMED's SSLs because at the time the workplan was being written, the Revision 2 values were not available. Revision 2 of the technical background document, with revised industrial SSLs, was posted on the NMED website during final editing/production of this document. LANL will use the NMED industrial SSLs as interim cleanup levels. The work plan will be changed to reflect this fact.

11. Section B-2.2 Soil, Sediment and Bedrock Investigation (Evaluation of Inorganic Chemicals), pg. B-5, paragraph 4:

**NMED Comment:** In their efforts to further determine vertical nature and extent at SWMU 16-026(j2), the Permittees must ensure that sampling locations 16-01554 and 16-01555 are included as part of the area being investigated. According to Table B-6, both of these locations have lead

above the background concentration in the first 0.50 ft and deeper samples were not collected as part of the Phase I RFI (see also comment #4).

**LANL Response:** In the submitted work plan, LANL had focused attention on those locations with the highest levels of contamination, most of which were cleanup locations. The approach to further sampling of these additional localities is addressed in LANL's response to Comment #4. LANL will modify the work plan to reflect this change in strategy.

12. Table B-6 Summary of Samples with Inorganic Chemicals above Background Values in Soil, Sediment, and Tuff at the TA-16-340 Complex, pg. B-19:

**NMED Comment:** This table should only include laboratory analytical data. Field screening data must not be used to characterize a site or as part of risk assessments. Sample ID 0316-95-0220 is shown as a screening sample on Figure B-1. The Permittees must clarify if this is a screening sample and, thus, should not be included in the table or if it is a laboratory sample.

**LANL Response:** Figure B-1 is incorrect. The figure will be revised to show that Sample ID 0316-95-0220 is a laboratory sample.