Additional Soil and Water Sampling

McLaren/Hart Project No. 03.0600829.013

The Brandeis-Bardin Institute and Santa Monica Mountains Conservancy

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EXECUTIVE SUMMARY

This document presents the results of the Additional Off-Site Soil and Water Sampling at the Brandeis-Bardin Institute and Santa Monica Mountains Conservancy. This additional sampling was conducted in 1994 as a follow-up to the multi-media sampling program conducted in 1992. This program was conducted to determine if chemicals or radionuclides had migrated or had been deposited on two properties adjacent to the north/northwest property line of Rockwell International Corporation, Rocketdyne Division's Santa Susana Field Laboratory (SSFL). The two properties (referred to as study areas) were the Brandeis-Bardin Institute and the Santa Monica Mountains Conservancy. Results from this 1992 investigation indicated that additional sampling would be required to try to address a number of issues.

The issues that were recommended to be addressed, and their action items, are the following:

1) Re-evaluation of tritium in areas where the original data were analyzed by the gas counting method and later withdrawn by the laboratory because the laboratory could not validate the data. Ten areas were resampled and samples were analyzed for tritium.

2) Confirmation of the State of California Department of Health Services laboratory reported values of 2,470 $\pm$197 and 392 $\pm$153 picocuries per liter (pCi/L) for tritium at Campsite Area 2. The area was resampled.

3) Remediation of mercury from the Sodium Burn Pit Watershed. The site containing mercury-bearing sediment, identified in 1992, was excavated and resampled after excavation to confirm the removal of sediment containing mercury.

4) Determination whether the plutonium-238 reported in the vicinity of the RD-51 and Building 59 Watersheds is statistically different from background. Additional samples were collected in the watersheds and results were statistically compared to background.

5) Determination whether the strontium-90 and cesium-137 reported in the Sodium Reactor Experiment Watershed is statistically different from background. Additional samples were collected in the watershed and results were statistically compared to background.

6) Determination whether the concentrations of tritium, cesium-137, and strontium-90 reported at Radioactive Materials Disposal Facility (RMDF) Watershed are greater than background. Additional samples were collected in the watershed and the results were compared to background.

7) Further characterization of tritium and cesium-137 at the Building 59 Watershed to determine if tritium and cesium-137 concentrations were greater than background. Additional samples were collected in the watershed and the results were compared to background.

8) Characterization of the distribution of tritium, strontium-90, and cesium-137 in the drainages between the RMDF/Building 59 Watersheds and Campsite Area 1. Samples were collected in the drainages and the results were evaluated.

9) Collection of additional background data, at the request of the Work Group, from sites away from the SSFL.

Number and Types of Analyses. To address these issues 40 soil/sediment samples were collected from background areas and 124 soil/sediment samples were collected from the study areas. All the background area samples were analyzed for tritium, strontium-90, isotopic plutonium, and gamma emitting radionuclides. The samples collected in the study areas were primarily analyzed for tritium with additional analyses for strontium-90, isotopic plutonium, and gamma emitting radionuclides conducted to address the issues listed above. In addition seven soil samples collected in the Sodium Burn Pit Watershed were analyzed for mercury.

Two surface water samples were collected from the Campsite Area 1 and Campsite Area 2 - Drainage. The surface water samples were analyzed for tritium and for gross alpha and gross beta radiation.

Quality Assurance/Quality Control. A rigorous quality assurance/quality control (QA/QC) program was implemented during the sampling to assure that the data are valid. Comparison of the QA/QC samples (blind field duplicates, pre-spiked blind duplicates, laboratory duplicates, field splits samples, rinsate samples, and matrix spike samples) to their respective scheduled sample showed an overall agreement of approximately 94 percent. This level of agreement demonstrated that the data are valid.

Data Evaluation. Soil radionuclide data from the study areas were evaluated statistically by comparing to background data. Surface water samples were not evaluated statistically because there were no background data points.

Radionuclide Results and Conclusions. The investigation was conducted during March 4 and March 15 of 1994 and revealed that with the exception the Building 59 and RMDF Watersheds, none of the other sites had radionuclides present at concentrations statistically higher than background values. Tritium was found at concentrations significantly above background values in sediment samples collected from the ravine of the Building 59 Watershed. Cesium-137 concentrations in samples collected from the Building 59 Watershed are statistically different from background levels established for this study. However the cesium-137 levels are below the literature values for background cesium (see Table 20).

Strontium-90 concentrations measured in sediment samples collected from the RMDF Watershed are statistically different from background values established for this study. However, the level of strontium-90 is below literature values for background level (see Table 20).

Plutonium-238 was not detected in any samples collected in RD-51 and Building 59 watersheds in 1994. The 1994 study results therefore do not confirm 1992 study results and plutonium-238 is therefore not a concern.

Mercury Results and Conclusions. Based on the sample results from the four sediment samples collected within the excavation area within the Sodium Burn Pit Watershed, mercury present in the watershed (0.35 mg/kg detected during the 1992 study) was removed during the excavation. Mercury was not detected (<0.1 mg/kg) in the four samples collected within the excavation area. A concentration of 0.12 mg/kg of mercury, slightly above the detection limit, was reported in one of the samples upgradient from the excavation. Analysis of a laboratory duplicate of the sample and analysis of an interlaboratory duplicate by USEPA were below the detection limit. Analysis of the interlaboratory duplicate by Brandeis-Bardin indicated a concentration of 0.14 mg/kg. Thus, the mercury (0.35 mg/kg) detected in the Sodium Burn Pit Watershed in 1992 was removed by excavation. Mercury at near detection level may be present upgradient from the excavation.

The Study Participants would like to acknowledge the accomplishments of Dennis Dineen, draft author of this report. Dennis put a great deal of effort into this project by contributing his expertise, organizational, logistical, and report preparational skills. The spirit of cooperation he showed during the preparation of the first report and this report coordinating the many comments and changes suggested by study participants and the SSFL Work Group kept this study together.

1.0
INTRODUCTION

1.0 INTRODUCTION

On March 10, 1993, the results of the investigation at the Brandeis-Bardin Institute (Brandeis-Bardin) and the Santa Monica Mountains Conservancy (Conservancy) were presented to the Santa Susana Field Laboratory (SSFL) Work Group public meeting at the Simi Valley Public Library. The results of the multi-media sampling were described in a report entitled "Multi-Media Sampling Report for the Brandeis-Bardin Institute and the Santa Monica Mountains Conservancy", March 10, 1993. Section 1.1 summarizes the results of the March 10, 1993 report.

Upon the review of the results reported, further work was determined to be justified by Rockwell International Corporation, Rocketdyne Division and the SSFL Work Group and McLaren/Hart was instructed to carry out the recommendations. Section 1.2 and the rest of this document describes the additional sampling performed at Brandeis-Bardin, the Conservancy, and three background locations as a follow-up to this earlier work.

1.1 BACKGROUND

A multi-media sampling program was conducted in 1992 to determine if chemicals or radionuclides had migrated or had been deposited on two properties adjacent to the north/northwest property line of Rockwell International Corporation, Rocketdyne Division's Santa Susana Field Laboratory (SSFL). The two properties (referred to as study areas) were the Brandeis-Bardin Institute and the Santa Monica Mountains Conservancy (hereafter, Brandeis-Bardin and the Conservancy, respectively). In addition to the study areas, six background locations between 1.5 to 12.5 miles from the SSFL were sampled to provide data on background concentrations of chemicals and radionuclides.

Number and Types of Analyses. Eighteen soil samples were collected from background areas and 118 soil/sediment samples were collected from the study areas in 1992. All soil/sediment samples were analyzed for: 37 volatile organic compounds (VOCs), 67 semi-volatile organic compounds (SVOCs), 13 priority pollutant metals, 75 naturally occurring and man made radionuclides as a gamma scan[1] as well as, tritium, isotopic plutonium (*i.e.*, plutonium-238 and plutonium-239), iodine-129, and strontium-90. One surface water sample was collected from a background area and seven surface water samples were collected from the study areas. All surface water samples were analyzed for the same chemicals and radionuclides cited for soils/sediments as well as for gross alpha and gross beta radioactivity. Groundwater was sampled from two private wells, owned and operated by the Conservancy, (a minimum of two times each) and analyzed for the same analytes as surface water except for metals. Fifteen fruit samples were collected from background areas. Nine fruit samples were collected from the study areas. All fruit samples were analyzed for the full suite of radionuclides listed above.

Quality Assurance/Quality Control. A rigorous quality assurance/quality control (QA/QC) program was implemented during sampling to produce valid data or to allow the identification of suspect data. Comparison of the QA/QC samples (blind field duplicates, field split samples, and interlaboratory split samples) to their respective scheduled sample showed an overall agreement of approximately 97 percent. This level of agreement demonstrated that the data were valid and acceptable for use in this analysis.

Data Evaluation. Radionuclide and heavy metal data from soil samples in the human use areas were evaluated statistically by comparison to background data. Sediment data from the Watersheds were not evaluated statistically because they were not randomly selected. All chemical and radionuclides measured above background concentrations are shown in Figure 1. Organic chemical data were not compared to background because organic chemicals are generally not naturally occurring. Fruit and water samples were not evaluated statistically because there were not enough background data points.

Results of Chemical Analyses. No VOCs or SVOCs associated with activities at the SSFL were detected in any of the 118 soil/sediment samples collected in the study areas.

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[1] Cesium-137 was the only man-made gamma-emitting radionuclide detected in the samples; thus, only Cesium-137 was reported in tabular form in the report.

Groundwater at an irrigation well (the Well by the Gate at the Conservancy, located approximately 800 feet north of the SSFL property line) had trichloroethene (TCE) in both samples at 10 micrograms per liter of water (μg/L) and 9 μg/L. It appears that the source of the TCE is located at SSFL because elevated levels have also been detected beneath the SSFL and no other likely sources are currently known to exist between SSFL and the irrigation well in question. The Well by the Gate has been added to Rocketdyne's on-going groundwater monitoring program. No other chemicals which are known to be associated with Rocketdyne's activities were detected in the surface water or groundwater samples collected.

Some organic chemicals that were not associated with Rocketdyne activities were reported in this study. Toluene was detected in two soil samples at the Visitor Center Parking Lot at the Conservancy at 7 and 9 micrograms per kilogram of soil (μg/kg). Toluene is a component of gasoline and is found in partially combusted gasoline such as car exhaust.

At Brandeis-Bardin, 4-methylphenol, a chemical found in disinfectants and pesticides, was detected in one soil sample at the Dormitory Area at 670 μg/kg; bis(2-ethylhexyl)phthalate, one of the most abundantly produced plasticizers, was found in five soil samples at the Counselor-in-Training Area ranging from 370 to 8,500 μg/kg; and 4,4'-dichlorodiphenyl-dichloroethene (4,4'-DDE), a breakdown product of the pesticide 4,4'-dichlorodiphenyl-dichloroethane (4,4'-DDT), was detected in one soil sample at the Vegetable Garden at 340 μg/kg.

Heavy metals above background and associated with Rocketdyne's activities were reported at two locations: lead in all five soil samples taken from the Former Rocketdyne Employee Shooting Range at the Conservancy ranging from 59 to 280 milligrams per kilogram of soil (mg/kg) and mercury in one of nine sediment samples at the Sodium Burn Pit Watershed at Brandeis-Bardin (located approximately 230 feet from the SSFL property line) at 0.35 mg/kg. The Former Rocketdyne Employee Shooting Range was previously used for skeet and trap shooting practice and lead shot was visible on the ground throughout the area. Rocketdyne began cleanup of the lead shot on October 19, 1992. Mercury was known to be contained in the former Sodium Burn Pit, which is currently undergoing excavation, cleanup and closure.

Zinc was detected in one of six sediment samples taken at the Radioactive Materials Disposal Facility (RMDF) Watershed at a concentration of 120 mg/kg, which was greater than the ninety-fifth percentile[2] of the measured background concentration for zinc of 112 mg/kg. Although this value was outside of the criteria established in the report, the concentration was the same as two soil samples collected at one of the background areas.

Radionuclide Results. Four radionuclides were detected in sediment samples in the watersheds at Brandeis-Bardin which exceeded the ninety-fifth percentile of the measured background concentrations (*i.e.*, above measured background) in soil: tritium, strontium-90, cesium-137, and plutonium-238. Two radionuclides were detected above measured background in two surface water samples from the RMDF Watershed: tritium and strontium-90. Radionuclide data from the fruit from the study areas were not above background. No radionuclides were detected above measured background in any of the human activity areas at either the Conservancy or Brandeis-Bardin. Radionuclides were not detected in groundwater in the two private wells that were sampled.

Tritium exceeded the ninety-fifth percentile of the measured background [552 picocuries per liter of water (pCi/L)] in seven of the 118 soil/sediment samples. Tritium concentrations in these sediment samples were: 1,100 ±100 pCi/L, 990 ±150 pCi/L, 1,300 ±300 pCi/L, 1,300 ±200 pCi/L, and 1,500 ±200 pCi/L in the RMDF Watershed and 10,800 ±300 pCi/L and 9,810 ±330 pCi/L in the Building 59 Watershed. Of the seven surface water samples, tritium was detected in one sample from the RMDF Watershed at a concentration of 1,500 ±100 pCi/L. [The maximum contaminant limit (MCL) for tritium in drinking water is 20,000 pCi/L.] It was concluded that the tritium was from off-site migration from the SSFL.

Of the 118 soil/sediment samples collected, strontium-90 was detected above the ninety-fifth percentile of the measured background [0.07 pCi/g(dry)] in three sediment samples at the RMDF Watershed [0.08 ±0.01 pCi/g(dry), 0.09 ±0.01 pCi/g(dry), and 0.15 ±0.02 pCi/g(dry)] and two sediment samples at the Sodium Reactor Experiment Watershed [0.08 ±0.002 pCi/g(dry) and 0.09 ±0.02 pCi/g(dry)]. Strontium-90 was also detected in two

2 The ninety-fifth percentile is equal to the mean of all background area samples plus two times the standard deviation.

associated surface water samples at the RMDF Watershed at 1.1 ±0.03 pCi/L and 1.8 ±0.05 pCi/L. (The MCL for strontium-90 in drinking water is 8.0 pCi/L).

Cesium-137 and plutonium-238 were also detected in the Brandeis-Bardin Watersheds along the SSFL property line at concentrations above the ninety-fifth percentile of the measured background [0.21 pCi/g(dry) for cesium-137 and 0.10 pCi/g(dry) for plutonium-238]. Cesium-137 was detected in four of the 118 soil/sediment samples collected in this study at a concentration of 0.34 ±0.04 pCi/g(dry) in the RMDF Watershed, 0.24 ±0.06 pCi/g(dry) and 0.30 ±0.05 pCi/g(dry) in the Sodium Reactor Experiment Watershed, and 0.23 ±0.03 pCi/g(dry) in the Building 59 Watershed. Plutonium-238 was detected in two of the 118 soil/sediment samples at 0.19 ±0.06 pCi/g(dry) and 0.22 ±0.07 pCi/g(dry) in the Building 59 and RD-51 Watersheds, respectively. Because the data from the ravines[3] were not statistically evaluated, it could not be determined if the presence of strontium-90, cesium-137 and plutonium-238 in the sediment at concentrations above the ninety-fifth percentile of the measured background were due to off-site migration or can be attributed to background. When the t-tests were run (statistical comparisons of the area samples to background), the concentrations of these radionuclides in the ravines appear similar to background levels and therefore may be present at naturally occurring levels.

Conclusions. The purpose of the 1992-93 study was to assess whether chemicals and/or radionuclides were present on Brandeis-Bardin or the Conservancy as a result of activities at the SSFL. The study identified the following chemicals and radionuclides at the study site which may be attributed to past SSFL activities:

- Trichloroethene (TCE) in the groundwater at the Well by the Gate at the Conservancy;
- Lead in the Former Rocketdyne Employee Shooting Range at the Conservancy;
- Mercury in one sediment sample at the Sodium Burn Pit Watershed at Brandeis-Bardin; and
- Tritium in the Radioactive Materials Disposal Facility Watershed and in the Building 59 Watershed at Brandeis-Bardin.

[3] Ravines, watersheds, and drainage ways are used synonymously throughout this workplan.

Recommendations. It was recommended that the sediment deposit containing the mercury be removed by Rocketdyne and properly disposed. Additional sampling was recommended to monitor the RMDF and Building 59 Watersheds. Recommendations were obtained from the regulatory agencies, the SSFL Work Group, and the public after the release of the March 10 report. The following section describes the follow-up activities formulated with the input from these groups.

1.2 Scope of Work

This section describes the additional sampling that was proposed to follow up on the March 10, 1993 results. Recommendations were received from the USEPA, the consultant for the Brandeis-Bardin Institute and other(s) in their report and in a letter dated March 26, 1993 (Appendix A). Based on the March 10 report and input from the participating groups, the following issues or questions were identified to be addressed by follow-up activities.

1) Re-evaluation of tritium in areas where the original data were analyzed by the gas counting method and later withdrawn by the laboratory because the laboratory could not validate the data. Ten areas were resampled and samples were analyzed for tritium.

2) Confirmation of the State of California Department of Health Services laboratory reported values of 2,470 $\pm$197 and 392 $\pm$153 picocuries per liter (pCi/L) for tritium at Campsite Area 2. The area was resampled.

3) Remediation of mercury from the Sodium Burn Pit Watershed. The site identified in 1992 to be with mercury-bearing sediment was excavated and resampled after excavation to confirm the removal of sediment containing mercury.

4) Determination whether the plutonium-238 reported in the vicinity of the RD-51 and Building 59 Watersheds is statistically different from background. Additional samples were collected in the watersheds and results were statistically compared to background.

5) Determination whether the strontium-90 and cesium-137 reported in the Sodium Reactor Experiment Watershed is statistically different from background. Additional samples were collected in the watershed and results were statistically compared to background.

6) Determination whether the concentrations of tritium, cesium-137, and strontium-90 reported at Radioactive Materials Disposal Facility (RMDF) Watershed were greater than background. Additional samples were collected in the watershed and the results were compared to the background.

7) Further characterization of tritium and cesium-137 at the Building 59 Watershed to determine if tritium and cesium-137 concentrations were greater than background. Additional samples were collected in the watershed and the results were compared to background.

8) Characterization of the distribution of tritium, strontium-90, and cesium-137 in the drainages between the RMDF/Building 59 Watersheds and Campsite Area 1. Samples were collected in the drainages and the results were evaluated.

9) Collection of additional background data, at the request of the Work Group, from sites away from the SSFL.

A description of the procedures used to conduct the additional work required to address the issues listed above are in the Work Group approved workplan, dated October, 1993. This report describes how these recommendations were carried out. Figure 2 shows the current sample locations in the study areas. Figure 3 shows the original and the current sample locations for the background areas.

The additional sampling work is summarized below:

1) Additional tritium samples - A total of 50 soil samples were collected from the areas where the original tritium results that were analyzed by the gas counting method (Section 2.0, Table 1) and later withdrawn by the laboratory.

2) Campsite Area 1 and 2 - Seven new samples were randomly taken from Campsite Area 2 and analyzed for tritium.

3) Sodium Burn Pit Watershed - Four samples were taken from the Sodium Burn Pit Watershed for mercury analysis. These samples were collected after the sediments containing mercury were removed.

4) Plutonium-238 reported in the RD-51 and Building 59 Watersheds - Twenty-seven additional soil samples were taken from the runoff channels and the results were statistically analyzed to evaluate whether the findings exceeded background levels.

5) Strontium-90 and cesium-137 reported in the Sodium Reactor Experiment Watershed - Five additional soil samples were taken from the runoff channel in the watershed and the significance of the results compared against background levels was determined.

6) Tritium, strontium-90, and cesium-137 in the RMDF Watershed - Five additional soil sample locations were selected for sampling in the runoff channels. Subsurface samples were collected from five locations along the property boundary. A statistical analysis was performed to evaluate whether the reported concentrations were significantly above background levels.

7) Tritium and cesium-137 in the Building 59 Watershed - As a follow-up to the finding of tritium in the Building 59 Watershed, additional characterization of tritium in the watershed was accomplished by collecting 22 additional soil samples within the watershed. The samples were also analyzed for cesium-137 to evaluate whether the cesium-137 detected in 1992 was statistically significant above background concentrations.

8) Campsite Area 1 Drainage way - Ten new samples were taken from the drainage way between Campsite Area 1 and the RMDF/Building 59 Watersheds and analyzed for tritium, strontium-90, and cesium-137.

9) Additional background data - Ten additional samples were taken from each of two new background sites (Wildwood Regional Park and Tapia County Park) and seven samples from Happy Camp. The background samples were collected both from areas with a relatively flat slope, similar to the original study area and from ravines similar to those found on Brandeis-Bardin near the SSFL. Samples from these areas were analyzed for radionuclides.

In addition, up to five additional samples were collected from each of the ravines if the study participants encountered obvious sediment deposits that might suggest that radionuclides could have been deposited in that location. The procedure for identifying additional sample locations in the field was based on a consensus of the work group participants. This was the same procedure used in the initial sampling.

Soil samples were analyzed only for those radionuclides specified. Surface water samples were analyzed for gross alpha and beta emitting radionuclides, strontium-90, tritium, and gamma emitting radionuclides. Strontium-90, tritium, and cesium-137 (a gamma emitter) isotopes are generally from man-made sources (*e.g.*, nuclear fission, neutron activation, and weapons test fallout), but all had a history of usage/production at the Rocketdyne-Santa Susana Field Laboratory facility.

2.0
SAMPLING APPROACH

2.0 SAMPLING APPROACH

This section presents the sample locations, sample analyses, and the sampling protocols for soil/sediment (hereafter referred to as soil) and surface water.

2.1 SAMPLING AREAS

This section describes the areas sampled within Brandeis-Bardin and the Conservancy and the background sampling areas.

For the purposes of clarity in this discussion, the following terms are used:

Study Participants: This term is used to refer to those parties which were actively involved in the field activities and sample analysis, which include Rocketdyne, USEPA, California Department of Health Services, and the consultant for the Brandeis-Bardin Institute.

Study Areas: This term is used to refer to Brandeis-Bardin and the Conservancy.

Background Areas: This term is used to refer to the locations which were sampled to establish background levels of the radionuclides (*i.e.*, Wildwood Regional Park, Tapia County Park, Happy Camp, and Santa Susana Park).

Sampling Area: This term refers to an area within one of the study areas or background areas from which samples were collected (*e.g.*, the Building 59 Watershed at Brandeis-Bardin).

Sampling Block: This term refers to the randomly selected blocks within a sampling area grid (refer to Section 3.3.1 for a complete description) from which discrete soil samples were collected.

Sampling Location: This term refers to a specific point within a sampling block or at a designated location in a drainage sampling area where a soil or surface water sample was collected.

Scheduled Sample: This term refers to the primary sample collected, analyzed and reported. All other sample descriptions refer to QA/QC samples further described in Section 3.6.2.

2.1.1 Sampling Areas

Sampling areas described in Section 1.0 were selected based on the results of the March 10 report and subsequent input from the USEPA and discussion at the March 10, 1993 SSFL Work Group public meeting. The sampling areas in this study used the same designations as the original study. (The italicized sample areas were resampled for tritium only):

Background (BG):

- Santa Susana Park (BG-02)
- Happy Camp (BG-05)

Brandeis-Bardin Institute (BB):

- *Dormitory Area (BB-02)*
- *Campsite Area 1 (BB-03)*
- *Campsite Area 2 (BB-04)*
- *Picnic Area (BB-05)*
- *House of the Book (BB-06)*
- *Main House Orchard (BB-12)*
- *Avocado Grove (BB-13)*
- *Old Well Campsite (BB-14)*
- RD-51 Watershed (BB-15)
- Radioactive Materials Disposal Facility Watershed (BB-16)
- Building 59 Watershed (BB-17)
- Sodium Burn Pit Watershed (BB-18)
- Sodium Reactor Experiment Watershed (BB-19)
- Campsite Area 1 Drainage Way (BB-20)

Santa Monica Mountains Conservancy (SM):

- *Former Rocketdyne Employee Shooting Range (SM-03)*

Five additional sample areas were also sampled during this study and have the following designations:

Background (BG):

- Wildwood Regional Park (BG-09)
- Wildwood Regional Park - Ravine (BG-10)
- Tapia County Park (BG-11)
- Tapia County Park - Ravine (BG-12)
- Rocky Peak - Ravine (BG-14)

The sample locations and the analyses performed at each location are discussed in Section 2.2.

2.1.2 Background Sampling Areas

The statistical analysis of the original background data showed the original background locations were not statistically different from each other. At the request of the SSFL Work Group, two additional background areas at least 10 miles from the SSFL were also sampled to provide additional documentation of background radionuclide concentrations. The new locations include ravine areas as well as level areas similar to the original background sampling areas. The new background areas are:

1) Wildwood Regional Park (located 13 miles west of the SSFL)

2) Tapia County Park (located 10 miles south of the SSFL)

These additional background areas were selected for their distance from the SSFL (at least 10 miles from the SSFL were specified by the SSFL Public Work Group) and because these areas exhibit topographic characteristics similar to the topography of the SSFL/Brandeis-Bardin ravine areas (Figure 3). Additionally, soil samples were collected from the ravine at Rocky Peak, (from which surface water samples were collected in the previous study).

To reduce confounding factors, reasonable judgement was used to collect samples from areas that did not appear disturbed by human activities. Only soil samples were collected from the background areas. Surface water was not observed at Wildwood Regional Park, Tapia County Park, or Rocky Peak during sampling in 1994.

2.2 SAMPLING APPROACH OVERVIEW

The additional off-site sampling was limited to those areas where chemicals or radionuclides were documented (*e.g.*, tritium in the Building 59 Watershed and mercury in the Sodium Burn Pit Watershed), where individual radionuclide samples were higher than the ninety-fifth percentile of the measured background (*e.g.*, Sr-90 and Cs-137 in the RMDF Watershed), where tritium samples were withdrawn by the laboratory (*e.g.*, House of the Book) or where the duplicate tritium analysis was significantly higher than the original sample result (Campsite Area 2).

This section provides a brief overview of the sampling approach used to collect the soil and surface water samples. The sample locations, analyses conducted for each sample, and the rationale for the selections of the sample locations are summarized in Table 1. A technical description of the sampling methods is provided in Section 3.0 (Sampling Methodology and Quality Assurance Program). The USEPA, the California Environmental Protection Agency (Cal-EPA), the California Department of Health Services (DHS), the Conservancy, and Brandeis-Bardin participated in this joint sampling effort to collect split samples.

2.2.1 Soil

Soil samples for the reanalysis of tritium were collected from areas where previous samples could not be validated by the laboratory and which were subsequently withdrawn due to the use of the gas counting method. The original randomly selected grid blocks were resampled one foot towards the SSFL from the original sampling locations (the XY coordinates). These tritium sample locations are located in grid areas consisting of numerous sample blocks of equal size. In most cases, some of the stakes denoting the sampling grid or location were still in place and were successfully used to closely relocate the original sample locations. Discrete, undisturbed soil samples were collected from the designated sample locations. The new sample locations are considered closely representative of the original sampling locations.

Soil samples were purposefully collected in ravine areas and drainage ways. Each ravine and drainage way area was sampled at a minimum of five locations. Samples were taken from the soil surface to a depth of approximately 6 inches and analyzed as shown on Table 1.

The new background sampling locations were collected from ravines as well as from a relatively undisturbed flat area similar in topography to the locations from which the original background samples were collected. Wildwood Regional Park and Tapia County Park were sampled at five locations in the ravines and in five undisturbed flat areas using a grid system. Five soil samples, from two additional and three at previous sample locations, were collected from the original sampling area at Happy Camp and Santa Susana Park using the random number table generated during the original sampling. Five soil samples, from five additional sample locations, were also collected at Rocky Peak using the next five random blocks on the random number table generated during the original sampling (Appendix B). In addition, five locations were sampled in the ravine at Rocky Peak, where a surface water sample had previously been collected. Soil samples were collected from each location as described in Section 3.3.2.

2.2.2 Surface Water

Surface water was sampled only at Campsite 1 and Campsite 2 where a sufficient flow of surface water was present. All other sites were either dry or did not contain enough running water to collect a representative sample from the location.

3.0
SAMPLING METHODOLOGY & QUALITY ASSURANCE PROGRAM

3.0 SAMPLING METHODOLOGY AND QUALITY ASSURANCE PROGRAM

This section provides an outline of each of each sampling protocol and the associated quality assurance procedures.

3.1 DECONTAMINATION PROCEDURES

All sampling equipment in direct contact with soil or surface water was decontaminated prior to use in the field to prevent or minimize cross-contamination between field samples and external sources, in accordance with the following procedure:

1) Scrub equipment in non-phosphate detergent

2) Rinse or soak in 10% nitric acid (trace metal or higher grade nitric acid diluted with distilled/deionized water)

3) Rinse in distilled/deionized water

4) Air dry

In the areas where subsurface samples were collected using a drill rig, the hollow-stem drilling augers were steam cleaned between each boring or sampling location.

Sampling equipment was generally used immediately after decontamination to avoid cross-contamination during storage. If decontaminated sampling equipment was transported between locations, the equipment was wrapped in aluminum foil so no portion was exposed. Disposable gloves were worn when handling cleaned sampling equipment. Soil sampling equipment was not decontaminated between soil sample collections at the same depth at a single sample location, because these samples are taken adjacent to each other and represent a single sample.

Decontamination waste water was placed in 5-gallon buckets and transported to the SSFL where the water was transferred to 55-gallon Department of Transportation approved drums. A drum inventory was maintained containing information on drum contents and date. Drum inventory information was written on the drum labels with indelible ink. All drums were sampled and held at the SSFL until analytical results were available.

3.1.1 Disposal

Since other chemicals were not detected above background concentrations during the Brandeis-Bardin and Santa Monica Mountains Conservancy multi-media sampling investigation, March-April in 1992, the decontamination waste water contained in the two 55-gallon drums generated during the 1994 sampling event, were only analyzed for radionuclides to determine appropriate methods of disposal. Results of the analyses indicated that tritium, gross alpha radiation, Strontium-90, isotopic plutonium, and cesium-137 were not detected in the samples collected from each drum. Gross beta radioactivity was detected at a level of 40 ± 9 pCi/L and 13 ± 7 pCi/L from Drums 1 and 2, respectively. These levels are below the MCL for Gross Beta radioactivity (50 pCi/L). Rocketdyne subsequently disposed of the drums in an appropriate manner.

3.2 SAMPLE IDENTIFICATION AND LABELING

3.2.1 Sample Identification

Soil and surface water samples were identified using an appropriate site-specific sample identification code as described below.

The site-specific sample identification code is a 9-digit code designed to provide a clear indication of the location from which the sample was collected and the intended analysis. An identical, preprinted label and a photocopy of the label were generated to identify each specific site and maintained in a sample label binder (Figure 4). The label was affixed to the sample container and covered with clear plastic tape. The photocopy served as a record to identify the sample location and description. The site-specific sample identification codes consists of the following components:

Digit 1 and 2: A two-letter code describes the facility of the samples' origin:

BG: Background Sampling Area
BB: Brandeis-Bardin Institute
SM: Santa Monica Mountains Conservancy

Digit 3 and 4: A two-digit number describes the sampling area of its origin (Table 1).

Digit 5, 6, and 7: A three digit code, further describing sample location which vary depending on the matrix being sampled:

Soil - code indicates the sampling block number.

Surface water - code indicates the number of the sample in the order of collection (*i.e.*, 001, 002, 003, etc.)

Blind Field Duplicates - blind field duplicates were designated by successive numbers reflecting the order in which they were collected. The relationship to the original sample was documented in the field label book. The purpose of blind field duplicate samples is discussed in Section 3.5 (Quality Assurance/Quality Control).

Digits 8 and 9: This two letter code indicates the medium sampled and the analysis conducted.

Soil	-	SS	=	strontium-90
		SP	=	isotopic plutonium
		SG	=	gamma scan
		ST	=	tritium
		SM	=	mercury
Surface water	-	WS	=	strontium-90
		WG	=	gamma scan
		WA	=	gross alpha and beta scans
		WT	=	tritium
Pre-Spiked Samples	-	PS	=	strontium-90
		PP	=	isotopic plutonium
		PG	=	gamma scan
		PT	=	tritium

Subsurface samples have two additional numbers at the end of the sample code to distinguish the depth from which the sample was collected:

Digits 10 and 11: This two letter code indicates the depth in feet at which the soil sample was collected from subsurface sample locations. All surface samples that are collected at these locations have a two digit number code of "00".

3.2.2 Sample Labeling

All samples received a descriptive site-specific sample label which along with identifying the sample location and intended analysis also included the following information:

- Project name,
- Date and time of collection,
- Requested analytical method, and
- Sampler's initials.

This same information was recorded in the field label book for all samples.

3.2.3 Sample Documentation

A bound field log book was maintained by the sampling team leader. Daily entries were made in ink to document the following:

- the date,
- the names of the field teams,
- weather conditions,
- location-specific entries for grid setup and sample locations, and
- sample area-specific entries for sample collection activities.

The field log book remained in the possession of the sampling team leader at all times. At the end of each day's activities, the sampling team leader reviewed all of the day's entries for accuracy and completeness. Each day's entries were photocopied and retained in a file at the McLaren/Hart office. This precaution was taken to provide backup should the field log book be lost or destroyed.

All corrections in the field log book observed the followed guidelines:

- Under no circumstances was "white out" or other correction materials used.
- A single line was drawn through the incorrect information and the corrected statement or information was written in the next available space. Both were initialed and dated by the person making the entry. Notations running along the margins were not acceptable.
- If there was insufficient space to place the correction at the point of the deletion, then a reference was provided to the location where the corrected information was presented.
- If a correction was made after the file photocopies had been made, copies of the corrected pages were appended to the original file copy.

3.3 SOIL SAMPLING

Soil samples were collected from 14 areas at Brandeis-Bardin, from one area at the Conservancy, and from eight background areas (Table 1). This section presents the protocols for the grid and random sampling, as well as the protocol for the collection, handling, and documentation of soil samples. Soil sample containers, container size, sample handling procedures, appropriate preservatives, and holding times are presented in Table 2.

3.3.1 Soil Sampling Strategy

This section presents the methods used for identifying the soil sampling locations at all sampling areas. Samples collected from the human activity areas in 1994 utilized the same grids designated in the March 10, 1993 report.

The random grid sampling protocol used a measure of the mean radioactivity level in an area and is appropriate for the purposes of comparing these levels to background levels. Predetermined sampling grids were originally described in the March 1993 report contained randomly selected sampling blocks and locations (X- and Y-coordinates). The random number tables from the March 1993 report were reused as necessary in this study and are included in Appendix B.

The generic sampling grids are 10,000 square feet in area and divided into 100 sampling blocks, each 100 square feet in area (10 feet by 10 feet), wherever possible. Site specific sampling grids may be smaller in size if the sample area could not accommodate a 100 foot by 100 foot grid. In general, the grid sampling blocks had assigned numbers starting with the number "001" in the southwest corner and numbered sequentially to the east, then north in rows so that the lowest number in any given row is always in the western end of the row. The only exception is the grid sampling block for the Dormitory Area (Figure 15) where the "001" corner originates in the southeast corner. Random numbers for each grid sampling area were used to identify the blocks to be sampled. Tables containing the randomly generated sample block numbers and X and Y coordinates for the specific sample locations, for the areas sampled during this investigation are presented in Appendix B.

Figures showing sampling areas are presented in the Figures Section for the background areas and study areas. Selected sample locations within the grid areas were resampled. At Campsite Areas 1 and 2 (BB-03 and BB-04), samples were collected from original locations and from five additional locations. At Rocky Peak (BG-01), five additional samples were collected within the original sampling grid area and combined with the original data. At Happy Camp (BG-05) and Santa Susana Park (BG-02), two additional samples were collected and the original sample locations were resampled. These additional randomly generated sampling locations in each grid were selected from the random number tables in Appendix B. The sample locations were determined from the next random block numbers and X-Y coordinates that followed the random block numbers that were selected for the original investigation.

Ravines were sampled using a non-randomized sampling approach. The ravines at RD-51 (BB-15) and the RMDF (BB-16) were sampled at intervals of approximately 50 feet beginning at the last location sampled in the original sampling (*i.e.*, at the location furthest downstream from the Rocketdyne property line) and continuing down the ravine. Additional samples were taken from locations closer to the Rocketdyne property line (*i.e.*, within the area previously sampled) in the Building 59 Watershed (BB-17), the Sodium Burn Pit Watershed (BB-18), and in the Sodium Reactor Experiment (SRE) Watershed (BB-19). Ten samples in the Campsite Area 1 Drainage Way (BB-20) were collected at approximately 250-foot intervals between Campsite Area 1 and the previously sampled ravine areas.

Sampling points for all ravine samples met the following criteria:

- The sampling point was a point of potential soil deposition,
- The sampling point contained enough soil to supply all of the soil necessary for the analytical requirements without compromising the sampling method,
- The sampling point was accessible with the required sampling equipment and without exceptional risk to the sampling crew.

In sample areas were these criteria could not be met, alternate locations, which met the above mentioned criteria, were sampled. At the Building 59 Watershed (BB-17) additional soil samples were also collected on both sides of the drainage way to further characterize tritium, cesium-137, and plutonium-238.

The sampling crew collected soil samples from the designated locations within each of the designated blocks or at locations within the ravines agreed upon by the study participants as described in Section 3.3.3. Prior to beginning each day's field operations, the sampling team leader was responsible for having all of the necessary equipment available and functioning properly.

3.3.2 Soil Sample Location Identification

The following procedure were followed to reestablish the previous grid locations. The sampling team upon arriving at a sampling area examined the sample area and determined if the marked sample stakes placed during the original investigation were still present. At most areas, one or more stakes were present facilitating the reidentification of all previous sampling locations.

In areas where the grid sample stakes were absent from locations at which resampling was required, the sampling crew conducted the following procedures to establish the sampling grid and mark the appropriate sampling locations.

1) Using the existing sample grid diagrams (generated during the original investigation), the southwest corner of the sampling area was remarked. The southwest corner was generally the starting point for sampling grids and the origin of the X and Y axes for locating the sample locations within the sample blocks.

2) The four corners of the predetermined sampling grid were measured and marked with stakes tied with colored tape. The stakes were marked with their orientation to the origin (*e.g.*, northeast, northwest, southeast, or southwest). A compass was used to ensure the grid was square. The sample team leader noted any changes to the sampling grid map and attached a copy to the field map book.

3) Each of the predetermined (randomly identified) sampling blocks that were sampled during this investigation, were located on the ground by measuring the appropriate footage along the X and Y axes starting at the grid origin. A compass was used to ensure the blocks were located in the appropriate orientation to the grid. The southwest corner of each block was marked with a stake labeled with the appropriate block number and tied with colored tape.

4) Each predetermined (randomly identified) sampling location within a sampling block was located using the values for the X and Y coordinates (increments of 1 foot). The sample location were measured and marked with a stake, labeled with the block number and the location coordinates (*i.e.*, block number, X-coordinate, Y-coordinate) and tied with colored tape.

5) If the sampling location fell on an obstruction, the sample was collected at the nearest point south of the obstruction, towards the SSFL.

6) The placement of the grid and the sampling locations was documented photographically, and an entry in the field log book was made describing each photograph.

7) Before leaving a sampling area, the sample team leader verified the following information was recorded in the field log book:

- Sample area name and location
- Date and time
- Team personnel
- Sketch of grid location and layout, including the blocks and sample locations clearly marked
- Documentation of the bearings and landmarks used to establish the grid
- Documentation of the random numbers, bearings and coordinates used to locate the predetermined sampling blocks and locations
- Documentation for all photographs taken.

For the additional soil locations which were collected at Campsite Area 1 and 2 and the background areas, the sample crew followed Steps 3 through 8 to mark the additional sample locations.

The following procedure were followed to implement the ravine sampling at the designated sampling areas. The sampling team upon arriving at a sampling area walked the ravine to determine the locations of the previous ravine sampling.

After the location of the furthest downgradient sample was identified, the sampling crew conducted the following procedures to establish and mark the appropriate sampling locations:

1) The drainage ways were marked approximately every fifty feet with a stake to designate the sample locations. If the specific block location did not contain soil or was inaccessible, that specific location was not marked. At the Campsite Area 1 Ravine, sample locations were marked every 250 feet.

2) The sampling team proceeded to the first downstream sample location, and collected the appropriate soil samples.

3) Soil samples were collected as described in Section 3.3.3.

4) The location of the sample collected was documented in the field log book and photographed.

5) Before leaving a sampling location, the sample team leader verified the following information was recorded in the field log book:

    - Sample area name and the area and location numbers
    - Date and time of sampling
    - A sketch of the sampling location depicting the soil sampling points.
    - Documentation of the bearings and landmarks used to establish the location.
    - Documentation of photographs taken.

3.3.3 Soil Sampling Procedure

3.3.3.1 Surface Soil Sampling Procedure

The sampling team leader was responsible for the availability and decontamination of the necessary equipment before entering the field. The sampling team leader consulted the sampling workplan for the locations, maps and coordinates for the sampling areas which were sampled each day. The procedures described below were followed for soil sampling, sample identification and documentation, and shipping and handling. Prior to collecting soil samples from an area, the EPA's consultant conducted a radiation survey using a Ludlum Model 19 Micro-R meter.

The volume of material collected at each sample location was adequate for radionuclide or mercury analysis for the specified locations. The soil samples were analyzed for one or more of the following radionuclides: strontium-90, isotopic plutonium, tritium, and gamma emitting radionuclides. At the Sodium Burn Pit Watershed, samples were analyzed only for mercury. One sample volume was required for each analysis.

Soil samples were collected using an impact driven hand-coring sampler at specific grid locations. The coring head was fitted with a 6-inch long brass tube. Soil samples were collected in the following manner:

1) A pre-cleaned coring head and brass tube were assembled and connected to the coring device. Clean latex gloves were worn at all times.

2) The sampling location was cleared of surface rocks, sticks and other loose debris. <u>The sample location stake were not removed</u>.

3) The cutting head was placed directly on the surface soil and the impact hammer was dropped on the coring head repeatedly until the top of the coring head was flush with the soil surface.

4) The corer was pulled from the ground and the coring head disassembled.

5) For surface samples, the brass tube was removed, a Teflon sheet and plastic end caps were placed at the end of each tube. The end caps were taped to the brass tube using duct tape or plastic tape.

6) The laboratory was directed to analyze the soil as marked. For tritium samples, the soil was to be extruded from the brass tube into a glass jar, closed and sealed with custody tape. If split samples were requested, the soil from the necessary number of cores was to be placed into a resealable plastic bag and mixed for one minute. The mixed soil was then divided and placed into the appropriate number of brass tubes (or jars for tritium) with a Teflon sheet and a plastic end cap placed on each end of the brass tube.

7) A label was filled out for each sample as described in Section 3.2.2 and placed on the plastic bag or jar. Clear plastic label tape was placed over the label to protect against water damage. The surface soil samples were put into clean, resealable plastic bags and placed in a cooler for the appropriate laboratory.

The sample identification number, the location, time, date, depth of sampling, analyses requested and name of sampler was recorded in the McLaren/Hart field log book.

At ravine locations the same sampling procedure was used with the exception that a drive sampler was not always used to collect the soil samples. In the ravines a trowel was used to scoop the surficial soil into the sample containers. All other procedures were followed as described above.

3.3.3.2 Subsurface Soil Sampling Procedures

Subsurface soil samples were collected at eight locations between the Building 59 and RMDF watersheds. Because of the rugged terrain in the ravine areas, three sampling methods were employed during the course of this investigation.

Five locations (B001 through B005) were sampled in the RMDF watershed using an all-terrain drill rig. Soil samples were collected at the surface at all five locations using sampling method described in Section 3.3.3.1.

Following surface sample collection a borehole was drilled to a depth of five feet. Soil samples were collected at a depth of 5 feet at all five RMDF watershed boring locations. The subsurface soil samples collected in the RMDF watershed were collected using three methods as a result of subsurface conditions at each boring location. The three sample collection methods were as follows:

1) Soil was collected off the end of the drill bit. The drill bit was advanced to a depth of five feet then retrieved out of the borehole. The soil material on the end of the drill bit consisted of soil from the bottom of the borehole (five feet). This method was employed at sample location B001 where the subsurface soil was too hard for a sampling device to penetrate.

2) Undisturbed samples were collected at B003 and B005 using a 12-inch long split-spoon sampler. The sampler was fitted with two 6-inch long brass tubes and driven into the subsurface using a hydraulic hammer mounted on the drill rig.

3) Soil samples were collected using a hand auger at B002 and B004. A hand auger was lowered down the borehole to collect soil from a depth of five feet. The soil material within the bucket of the hand auger was then manually transferred into the appropriate sample containers.

Three subsurface soil locations (B001 through B003) were sampled in the Building 59 watershed. Soil samples were initially collected at the surface at all three locations using sampling method described in Section 3.3.3.1. Three subsurface soil samples collected in the Building 59 watershed were all collected using a hand auger. A drill rig was not used as a result of the steep terrain at the subsurface sample locations in the Building 59 watershed and also due to the shallow depth to bedrock at these sample locations. The subsurface samples were collected at different depths at each location due to the varying depth to bedrock conditions. Soil samples were collected at depths of 2.5, 1.5, and 3.5 feet at sample locations B001, B002, and B003, respectively.

All samples collected at the subsurface sample locations in the RMDF and Building 59 watersheds were prepared and labeled per the procedures described in Section 3.3.3.1. The boreholes generated from drilling and hand auguring activities were backfilled with the excavated soil.

3.3.4 Split Samples

The USEPA, the California Department of Health Services (DHS), the California Environmental Protection Agency (Cal-EPA), the Santa Monica Mountains Conservancy, and the Brandeis-Bardin Institute were invited to analyze split samples. McLaren/Hart collected all samples and split the samples with the study participants as requested. True split samples were collected, *i.e.*, the medium being sampled was mixed prior to being placed in the appropriate sample container so that subsamples could be sent to different laboratories for analysis. Ideally, the results of these analyses can be compared to give an indication of the variability between laboratories on the same sample. However, environmental media, especially soil, are very difficult to homogenize and the results may differ due to the variability of the media, rather than the laboratories. In the event that the field split or adjacent sample results appear different, the blind duplicates, the laboratory spikes and the statistical variability of the data were evaluated to determine whether the apparent difference in split or adjacent samples is real.

The study participants determined the number and locations of the split samples they received. For all split samples collected, the location, date, time, depth of sampling, sample identification number, analyses requested and name of sampler was recorded in the McLaren/Hart field log book.

It was strongly recommended that all participants used the same analytical methodologies for duplicate samples so that the results could be compared to the scheduled samples. Since the results for tritium had the most methodological variability in the original off-site sampling, the methodology that was considered standard for this project was included in Appendix E of the Workplan (October 1993).

3.3.5 Soil Sampling Documentation

It was the responsibility of the sampling team leader to have appropriate information recorded in the field log book or field label book. Upon completion of soil sampling, the field log book and field label book contained:

- Project name
- Date and time of sample collection
- Sample location description
- Sample method description
- Description of sample conditions (*e.g.*, depth, unified soil classification, percentage of gravel, sand, silt or clay, color using Munsell number, plasticity, grain size, grading, density, and moisture). This information was only recorded at new locations in the ravines that were not described in 1992 investigation.
- Personnel collecting samples
- Description of environmental conditions
- Sample handling, containers, and preservation methods, register numbers and site-specific sample identification codes, and corresponding chain-of-custody numbers.
- Split sample documentation (*e.g.*, identification numbers and methods).

It was also the responsibility of the sampling team leader to ensure that the chain-of-custody forms were appropriately filled out and in complete agreement with the field log book.

3.3.6 Soil Sample Handling, Shipping, and Storage

Soil samples that had been sealed, labeled, and placed in appropriate containers were placed into the cooler without ice (with the exception of samples analyzed for mercury), for shipment to the laboratory. The chain of custody forms were placed in a sealed plastic bag and placed inside the cooler. All samples were shipped for overnight delivery.

It was the responsibility of the sampling team leader for the following:

- The chain-of-custody forms were properly filled out and accounted for every sample contained in the cooler.
- The samples and documentation being shipped coincided with the information contained in the field log book.
- The samples contained in the cooler were destined for the appropriate laboratory and that all of the samples were destined for the same laboratory.
- The samples were securely packed and no empty space remains within the cooler.
- The cooler was appropriately addressed and sealed with duct tape.

Appropriate QA/QC samples were shipped with the field samples. The protocols for the collection, shipping, and handling of QA/QC samples are presented in Section 3.5.

3.4 SURFACE WATER SAMPLING

Surface water grab samples were collected from surface water sources where possible (Campsite Area 1 and 2). Surface water is seasonal in the Simi Valley area and was only collected in areas where running water was present in sufficient quantities to collect the volume of sample required for all analyses. One round of sampling was conducted at each surface water source. Surface water samples were analyzed for the following radionuclides:

- strontium-90
- gamma scan
- tritium
- gross alpha and beta scan

Surface water sample containers, container size, sample handling procedures, appropriate preservatives, and holding time are presented in Table 2.

3.4.1 Surface Water Sampling Procedure

In general, when sampling surface waters, every reasonable effort was made to not disturb the bottom sediments in the water sample collection area or upstream from that area. As such, surface water samples were collected before sediment samples. The exact location of the sampling location was at the discretion of the sampling team and study participants, and its selection was based primarily on the need to submerge the sampling equipment. The location was marked with a stake tied with a colored ribbon, and its proximity to nearby landmarks recorded in the field log book. Upon arriving at the surface water sampling point, the appropriate sample bottles were set aside and labels prepared. Care was taken to approach each sampling location from below that point (*i.e.*, downstream). The following procedures were used for the collection of surface water samples.

1) Use a clean stainless-steel bucket to collect all surface water samples being analyzed for radionuclides.

2) Rinse the bucket thoroughly with sampling source water and discard the rinse water away from the sampling point.

3) Place a clean 0.45 micron Whatman glassfiber filter into the filter apparatus. Apply a small quantity (5 milliliters) of distilled/deionized water to the filter. Apply suction to seat the filter. Discard the rinse water from the filtrate flask.

4) Collect the surface water sample in the bucket.

5) Shake or swirl the sample and then pour it slowly into the filter funnel. Apply and maintain suction on the filter until the water has passed through the filter and the filter appears to be drying out.

6) Turn off the suction and disconnect the filtrate flask from the filter apparatus. Transfer the sample filtrate from the flask to an appropriate, labeled sample bottle (*i.e.*, a 1-liter glass bottle for tritium or a 1-liter plastic bottle for the other radionuclide analyses) with preservative as required (see Table 2).

7) Cap the sampling bottles and seal the lid with Teflon and clear plastic tape. Place a chain-of-custody sticker across the seal.

8) The filtration apparatus and the collection buckets were decontaminated between sampling areas. The filtration apparatus and the collection bucket were not decontaminated between samples at the same location.

9) Discard the used filter, and repeat steps 1 through 8 for the remaining samples from the same location.

The sample identification number, the location, time, date, analyses requested and the name of the sampler was recorded in the McLaren/Hart field log book.

3.4.2 Split Samples

Some study participants requested split samples for analysis at some or all of the surface water sampling locations. The filtrate was transferred to a large, clean stainless steel bucket and mixed. The contents were then divided between McLaren/Hart and the person or persons requesting a split sample. Notation of all split samples collected was recorded in the field label book.

3.4.3 Surface Water Sample Documentation

The following information was recorded in the field log book for each surface water sample collected.

- Project name
- Date and time of sample collection
- Sample area description
- Sample method description
- Surface water sample identification numbers and corresponding site-specific sample identification codes (see Section 3.2.2)
- Chain-of-custody reference numbers

- Filtered and preserved samples
- Location where the sample was collected on the sample area diagram
- Split sample documentation (*e.g.*, identification numbers and methods)
- Pertinent field notes (*e.g.*, weather conditions)
- Personnel collecting samples
- Description of sample conditions

It was also the responsibility of the sampling team leader that the chain-of-custody forms were appropriately filled out and in agreement with the field log book.

3.4.4 Surface Water Sample Handling, Shipping, and Storage

Surface water samples both in glass and plastic containers were sealed in resealable plastic bags and encased in bubble wrap to prevent breakage. All radionuclide samples were placed in a cooler without ice and shipped to the laboratory via overnight courier. The chain-of-custody documentation was sealed inside a plastic bag taped to the underside of the cooler lid.

Appropriate QA/QC samples were shipped with the field samples. The protocols for the collection, shipping and handling of QA/QC samples are presented in Section 3.5.

3.5 QUALITY ASSURANCE/QUALITY CONTROL (QA/QC)

Quality assurance and quality control (QA/QC) samples were included in the sampling program to provide quality control over the collection of environmental measurements and their subsequent review, interpretation and validation of the field collection methodologies and radionuclide measurements conducted by the analytical laboratories.

3.5.1 Field Documentation

Field documentation and quality control checks were made by the sampling team leader. At the end of each day's field activities, all of the day's field log book entries were reviewed for completeness, accuracy, reporting format, and thoroughness. The team leader initialed the last page of each day's entry as an indication that this review had been undertaken and that the entries in the log book were acceptable. It was the responsibility of the team leader to check that the chain-of-custody documentation agreed with the field log book entries.

3.5.2 QA/QC Sampling

The types, frequency, and numbers of QA/QC samples were collected during the field sampling are shown in Table 3. The specific sample block where QA/QC samples were collected is presented in Table 4. Several different types of QA/QC samples were used to account for variability and sources of contamination in various stages of the sampling and analytical process. The objectives and purpose of the sample types are outlined in the following sections.

3.5.2.1 Field Rinsate Blanks

Field rinsate blanks provided a check on contamination from various sources and from sampling instruments used to collect and transfer samples from the point of collection into sample containers. Field rinsate blank samples were collected following the decontamination procedure for field sampling equipment. A field rinsate blank was collected at a rate of one per 20 sampling events. A sampling event is defined to be the sampling that occurs for a medium at a single sampling block for soil or sampling location for water. The field rinsate blanks were prepared with analyte free distilled/deionized water. The field rinsate blank samples were collected in the required sample bottles for each analytical method. The following protocol was implemented to collect field rinsate blanks:

1) Decontaminate all sampling equipment.

2) Prior to any sampling, pour the required volume of analyte-free distilled/deionized water (*i.e.*, 5.5 liters for a soil field rinsate blank) over the precleaned sampling equipment into a precleaned (*i.e.*, decontaminated) basin. Split the sample into the appropriate 0.5-liter and 1-liter containers, each containing the appropriate preservative for the specific analyte group.

3) Affix a label to each rinsate container and assign a water sample register sample identification number. Seal the bottles with custody tape and store in cooler without ice.

4) Note in the field log book the date and the register sample number for each of the rinsate samples. Ship samples consistently with the methods for other field samples.

3.5.2.2 Blind Field Duplicate Samples

The collection of blind field duplicate samples provides for the evaluation of the laboratory's performance by comparing analytical results for two identical or nearly identical samples. As such, all blind field duplicate samples were taken as described for split samples in the previous sections. The blind samples were placed in separate containers and given distinct sample numbers to allow for "blind" receipt by the analytical laboratory. The true identity was concealed from the laboratory, but the identity of the samples was thoroughly documented in the field label book.

Blind field duplicates were collected at a target rate of one per 20 samples sent for laboratory analysis on a radionuclide group-specific basis. The total number of blind field duplicates prepared is summarized in Table 3. Blind field duplicates were designated by the number "00" in the 3rd and 4th digit of the site-specific sample identification code. Blind field duplicates were numbered successively in the 5th, 6th, and 7th digits as they were collected from new sampling areas.

Blind field duplicates were collected from randomly chosen sampling locations. For example, a total of 147 soil samples were taken and analyzed for tritium (see Table 1). This represents seven groups of 20 and one group of 7 samples. As shown in Table 3, eight blind field duplicates were submitted for the tritium analysis. For each group of samples, a computer generated random number table was used to select the location for each blind field duplicate. For example, if the random number generator produced the number "6" for tritium, then the location at which the sixth sample taken within this group of twenty samples was used for the corresponding blind field duplicate. A summary of the computer generated random numbers used for blind field duplicates is presented in Appendix C.

3.5.2.3 *Trip Blanks*

Trip blanks were not collected. Trip blanks were collected during the previous sample investigation (1992) to evaluate the cross-contamination of volatile organic compound samples during transport. Since volatile organic compounds were not analyzed during this investigation, trip blanks were not necessary.

3.5.2.4 *Field Blanks*

Field blanks are used to evaluate the cleanliness of the sample collection bottles and possible sources of contamination related to the field sampling environment. Field blanks consist of sample bottles that are filled with analyte-free distilled/deionized water in the field. The samples are then capped, sealed, and shipped to each of the appropriate analytical laboratories along with the other field samples. Field blanks were collected for radionuclide groups for which sample bottles are required (*i.e.*,surface water samples analyzed for the radionuclides of concern). Field blanks were collected at a rate of one per 20 samples surface water samples. Field blanks were assigned a site-specific sample identification code.

3.5.2.5 *Pre-spiked Blind Duplicate Samples*

Pre-spiked blind duplicate samples are QA/QC samples that were used to test the accuracy of the laboratory by submitting samples with known concentrations. The pre-spiked sample contains a known level of one or more of the radionuclides of concern which is added to the sample by another analytical laboratory. The spiked samples were sent back to the sampling crew then sent on with the other collected samples at a rate of one per 20 samples sent for laboratory analysis on a radionuclide group-specific basis. The total number of pre-spiked blind duplicates prepared is summarized in Table 3. Pre-spiked blind duplicates were designated by the number "00" in the 3rd and 4th digit of the site-specific sample identification code and a "P" in the 8th digit. Pre-spiked blind field duplicates were numbered successively in the 5th, 6th, and 7th digits as they were collected from new sampling areas. Only pre-spiked water samples were sent to the laboratory for gamma scan, tritium, gross alpha and beta radiation, strontium, and isotopic plutonium analyses because the study participants agreed that soil samples could not be effectively homogenized. Pre-spiked soil and water samples were submitted for tritium analyses. All study participants analyzed at least one pre-spiked sample for each analysis and media.

3.5.2.6 Matrix Spike/Matrix Spike Duplicate (MS/MSD) Samples

Matrix spike and matrix spike duplicate samples are QA/QC analyses performed by the analytical laboratory. The matrix spike is a sample to which one or more of the radionuclides of potential concern or a surrogate (spike) is added to an aliquot of the sample by the analytical laboratory. The matrix spike duplicate is an analysis of a second aliquot, spiked separately, of the original sample. The results of the spike analyses are expressed in terms of the percent recovery with regard to the amount of chemical added, and the results of the duplicate analyses are expressed in relative percent difference from the original sample. These results are used to evaluate the laboratory's precision in the analysis of that sample and to determine whether the sample matrix interfered with the extraction or analyses. The MS/MSD samples were collected at a rate of one per 20 samples (including other QA/QC samples) on an analyte-specific basis (Table 3). MS/MSD samples were assigned a site-specific sample identification code. For the purposes of conducting these analyses, the laboratories require a complete set of sample volumes. Therefore, soil samples were collected specifically for the purpose of running the MS/MSD analyses.

3.5.2.7 Split Samples

The USEPA, the DHS, Cal-EPA, and Brandeis-Bardin were present to observe the collection of split samples for QA/QC purposes. True split samples were collected by McLaren/Hart, *i.e.*, the medium being sampled was mixed so that subsamples were given to those requesting split samples and then were sent to different laboratories for analysis.

As noted previously, the results of the analyses from split samples can be compared to provide an indication of the variability between laboratories on the same sample. However, since environmental media, especially soil, are very difficult to homogenize, the results may differ due to variability of the media rather than in the laboratories. In the event that the field split or adjacent sample results appear to be different, the laboratory duplicates, the laboratory spikes, and the statistical variability of the data were evaluated to determine whether the apparent difference in split or adjacent samples is real.

3.6 LABORATORY ANALYSIS

Soil and water samples were analyzed for all radionuclides of concern (gamma-emitting radionuclides, tritium, isotopic plutonium, strontium-90) were submitted to Teledyne Isotopes.

Teledyne Isotopes
50 Van Buren Avenue
Westwood, New Jersey 07675
1-201-664-7070

Soil samples from the Sodium Burn Pit Watershed were analyzed for mercury at MBT Environmental Laboratories.

MBT Environmental Laboratories
3083 Gold Canal Drive
Rancho Cordova, CA 95670
1-916-852-6600

All adjacent/split samples taken were sent to certified laboratories identified by the study participants, independently.

4.0
QA/QC SAMPLING
RESULTS

4.0 QUALITY ASSURANCE/QUALITY CONTROL SAMPLING RESULTS

The following sections discuss the results of the Quality Assurance/Quality Control (QA/QC) sampling. The results are presented in separate sections for each QA/QC sample type and a summary section presents conclusions regarding the validity of data presented in this report.

The QA/QC sampling was designed to validate the analytical results and to identify discrepancies within the data set. When anomalous results were identified, the source of the anomaly was determined. Samples with inexplicable anomalies were identified and reanalyzed, as necessary, to locate the source or cause of the anomaly.

4.1 QUALITY ASSURANCE/QUALITY CONTROL RESULTS SUMMARIZED BY SAMPLE TYPE

The results for the QA/QC samples collected in 1994 are summarized in the following sections. Seven of the eight sample types were also collected in 1992. Pre-spiked duplicate samples were only used in 1994. The QA/QC samples included in this phase of work and discussed in this section include:

- Trip Blanks
- Field Rinsate Samples
- Field Blanks
- Laboratory Control Blanks
- Matrix Spike/Matrix Spike Duplicates
- Laboratory Duplicates
- Pre-spiked Duplicate Samples
- Blind Field Duplicate and Split Samples

4.1.1 Trip Blanks

Trip blanks were collected during previous 1992 sampling to evaluate potential cross-contamination of volatile organic compound samples during shipment to the laboratory. No samples were analyzed for volatile organic compounds during this sampling; therefore, no trip blanks were collected.

4.1.2 Field Rinsate Samples

Field rinsate samples contained distilled water used to rinse the sampling equipment after the decontamination procedure. No rinsate samples contained a reportable level of radionuclides or mercury. The rinsate analytical results can be found in Appendix D.

4.1.3 Field Blanks

Field blanks were used to evaluate the cleanliness of the water sample collection bottles and possible sources of contamination related to the field sampling environment. One field blank sample was collected and analyzed for mercury and the appropriate radionuclides. No mercury or radionuclides were found in the field blanks (only one field blank was taken in 1994). The field blank analytical results can be found in Appendix D.

4.1.4 Laboratory Control Blanks

Laboratory blank samples contained deionized water used at the time the samples were analyzed and measure whether the laboratory equipment contributed to concentrations of detectable mercury or radionuclides. Laboratory blank samples were run by the laboratory concurrently with soil/sediment and water samples. No mercury or radionuclides were detected in the laboratory blanks.

4.1.5 Matrix Spike/Matrix Spike Duplicate Samples

Matrix spike and matrix spike duplicates (MS/MSD) are QA/QC samples used to determine whether the sample matrix (*i.e.*, the soil/sediment or water) interfered with the extraction or analysis. MS/MSD samples were prepared in the laboratory by injecting a known amount of a mercury or radionuclide into the sample matrix and measuring how much of the injected mercury or radionuclide was recovered in the analysis. The matrix spike is an original sample aliquot from the original spiked sample; the matrix spike duplicate is a second aliquot of the same sample matrix, spiked separately. The results of the spike analyses are expressed as percent recovery of the added chemical. The results of the MS and the MSD are indicators of accuracy (how closely the results reflect the actual amount of the mercury(s) or radionuclide(s) injected). The results of the MS and the MSD analyses are compared and expressed as the relative percent difference (RPD). The RPD is then used to evaluate the precision (consistency) of a particular analysis. The MS/MSD samples were collected at a rate of one per 20 samples (including other QA/QC samples) for each analyte group.

Each analyte has an acceptable range of recovery (for both mercury and radionuclide analyses) and an acceptable RPD (for mercury analyses only). All but one of the radionuclide analyses were within the acceptable percent recovery. Sample number BG-20 010-MG analyzed for Cesium-137 exhibited a high recovery (128 percent) in the MSD sample. This is slightly above the MSDs upper control limit of 125 percent. Laboratory blank samples MS/MSD data is presented in Table 5. The MS/MSD analytical results can be found in Appendix D.

Matrix interference in soil/sediment and water samples is not uncommon due to the effects of the media on the analysis. Because matrix interference is the result of highly variable soil/sediment and water chemistry, the sample results reported by the laboratory were not adjusted to account for the interference measured in the one plutonium-238 sample. It would not be appropriate to assume that the percent recovery for one sample would be applicable to a second sample. Since the percent recoveries are within an order of magnitude of the control limit, the conclusions of this study would remain the same if the sample results were adjusted to account for the recovery outside the control range.

4.1.6 Laboratory Duplicates

Laboratory Duplicates consist of extracting a second aliquot from the original sample and analyzing for the same analyte. This is an internal laboratory duplicate analysis conducted to measure the reproducibility of the laboratory method. Results from the laboratory duplicates were below the reporting limits similar to the original sample or contained levels of radionuclides in the same range as the original sample levels (see Table 9).

4.1.7 Pre-spiked Blind Duplicate Samples

Pre-spiked blind duplicate samples consist of local soil from a background location or deionized water spiked with a known amount of a radionuclide, These samples are then submitted to participating laboratories to assess and compare the analyte recoveries. Pre-spiked blind duplicate sample results may indicate if a particular laboratory method generates results inconsistent with the actual spiked amount. The pre-spiked samples were prepared at the NAREL by the USEPA consultant. The samples were placed in identical containers and labeled similarly to other field samples so that the samples would be blind to the analyzing laboratories. Pre-spiked water samples were spiked and analyzed for gross alpha/gross beta radiation, tritium, plutonium-239, strontium-90, and gamma emitting radionuclides (cadmium-109, cobalt-57, cerium-139, mercury-203, tin-113, cesium-137, yttrium-88, and cobalt-60). Pre-spiked soil samples were spiked and analyzed for tritium. The results of the pre-spiked samples are presented in Table 6. For the purpose of comparison, a 25 percent deviation or less between the measured concentration and the pre-spiked concentration was considered acceptable. The pre-spiked blind duplicate analytical results for the samples analyzed by McLaren/Hart can be found in Appendix D.

As shown in Table 6, positive (containing analyte) tritium results were not erroneously reported in the five blank samples analyzed. Although detected amounts varied between the spiked amount and the analytical results, erroneous negative results were not reported. Based on this information, it is unlikely that a sample result was incorrectly identified as positive or below the method detection limit. Except one, all USEPA results were within the acceptance limit of 25 percent difference. The one exception was a deviation of 27.7 percent below the actual spiked amount for gross alpha radiation.

Recoveries for 19 out of 21 McLaren/Hart samples analyzed by Teledyne Isotopes for gross, alpha/gross beta radiation, tritium, plutonium-239 and strontium-90 were within the acceptance limit. One out of four samples spiked with tritium was below the spiked amount by 38.6 percent. Strontium-90 was initially reported below detection limits in all four pre-spiked samples. McLaren/Hart contacted Teledyne Isotopes to determine why strontium-90 was not detected since the spiked samples contained a level of 2.2 pCi/L. Teledyne indicated in a letter that the initial results indicated concentrations of strontium-90 at 2.2 to 2.3 pCi/L in three of the four samples. Since the concentrations were near the detection limits the samples were reanalyzed which produced the reported non-detectable results. The initial detectable concentrations of strontium-90 which are in agreement with the spiked concentration are presented in Table 6. The Teledyne Isotopes letter discussing the pre-spiked strontium-90 results is presented in Appendix E.

Only two (cesium-137 and cobalt-57) of the eight gamma emitting radionuclides spiked in the sample were initially identified and reported by Teledyne Isotopes. These analytes were not initially reported since these specific radionuclides are not part of Teledyne's standard suite of analytes reported for gamma scan. The Teledyne Isotopes' letter discussing the pre-spiked gamma scan results is presented in Appendix E. The complete pre-spiked gamma scan results are listed in Table 6. All four samples analyzed for gamma emitting radionuclides contained amounts of one or more of the eight radionuclides above or below a 25 percent deviation of the spiked amounts. The results for the gamma scan analysis with greater than 25 percent deviations were: cadmium-109, two of the four sample results were above the spiked amount by 29.2 and 31.5 percent; cobalt-57, one of the four sample results were 35.7 percent above the spiked amount; cerium-139, one of the four sample results were 27 percent above the spiked amounts; tin-113 of four sample results were below the spiked amount by 28.9 percent; cesium-137, one of four sample results were below the spiked amount by 31.7 percent.

The initial gamma-emitting radionuclide results reported by Brandeis-Bardin's consultant were in error as a result of a calculation error at the lab resulting in isotopic concentrations being under reported by a factor of two. After the error was identified, the values were corrected. The corrected values for Brandeis-Bardin pre-spiked results for gamma-emitting radionuclides are presented in Table 6. A letter discussing this revision is included in Appendix E. One of the two samples analyzed for gamma-emitting radionuclides contained two radionuclides outside the acceptance limit (25 percent deviation between measured and pre-spiked concentrations). The recovery of mercury-203 was 54.3 percent above the spiked amount and the recovery of yttrium-88 was 48.5 percent below the spiked amount. The other six gamma-emitting radionuclides reported for this sample were within the acceptance limit. One sample also contained an amount of strontium-90 below the spiked amount by 25.9 percent.

DHS analytical results were consistent with the spiked amount and within the acceptance limit for the isotopic plutonium analysis. For tritium the percent deviation for both of the water samples was 40.6 and 41.1 percent, which is outside the acceptance limit. For strontium-90 the percent deviation for both samples were 66.4 and 81.1 percent, which is outside the acceptance limit. One of the two samples analyzed for gamma-emitting radionuclides contained radionuclides outside the acceptance limit. Cadmium-109, cobalt-57, and yttrium-88 were 36.1 percent, 26.4 percent, and 36.1 percent above the spiked amount. The other five gamma-emitting radionuclides reported for this sample were within the acceptance limit.

4.1.8 Blind Field Duplicate and Split Samples

Blind field duplicate samples were evaluated by comparing the results of the duplicate sample with the scheduled sample. Split samples collected by the USEPA, the consultant to Brandeis-Bardin, and the DHS were evaluated in the same manner as blind field duplicate samples. The values for radionuclide analyses were not in agreement if the difference between the two sample results was greater than the sum of the standard deviations for the analyses (*i.e.,* if the range [±] of the two results did not overlap). The values for the mercury analyses were not in agreement if the sample results differed by greater than 50 percent. Table 7 summarizes the results of the blind field duplicates and split samples that were not in agreement with the scheduled sample for soil/sediment. The blind field duplicate analytical results can be found in Appendix D.

Differences between duplicate soil/sediment samples were observed in 5 samples for tritium, 4 samples for cesium-137, and one sample for strontium-90. (Table 7). (It should be noted that isotopic plutonium was not detected by any lab in this round of sampling and that the detection limits for strontium by USEPA and Brandeis-Bardin were above those for Teledyne Isotopes. This resulted in agreement between samples although the analytes were not detected.) Three of the tritium differences (BG-02-074, BB-17-006, and BB-17-007) and two of the cesium-137 differences (BB-17-005, and BB-16-007) were only slightly (less than 10 percent) beyond the acceptance criteria. In one of the remaining sample sets (BB-20-001), both cesium-137 results are below background and, therefore, unlikely to impact the conclusions from the results. In two of the instances where differences in results were above (greater than 10 percent) the acceptance criteria (BB-17-008 and BB-17-009), both results indicate an impact from tritium above background levels and are not likely to change conclusions from the study.

An additional QA/QC comparison for tritium at BG-12-005 (background, split sample with Brandeis-Bardin) was not in agreement. The scheduled tritium result at BG-12-005 contained a high result with associated high uncertainty (1200 ± 600 pCi/L). The entire data set was reviewed for similar instances where a high uncertainty (greater than 30 percent the value of the result) was associated with a result, particularly for background samples. Four similar additional occurrences were identified although there were no associated QA/QC samples for these results (BG-12-001, BG-14-003, BG-14-004, and BG-14-005). McLaren/Hart reviewed the analytical data with the laboratory to attempt to determine the source of these anomalous readings. The results of that review are shown in Table 8. Two possible causes were evaluated: cross-contamination by a previous sample and low water yield (less than 3 ml). As shown in Table 8, low yield seems to have consistently occurred with these samples resulting in a high degree of uncertainty in the analytical result. A separate aliquot from sample BG-14-003 was reanalyzed for tritium, and the result was <300 pCi/L. Other sample tritium results where yields were below 3 ml, were withdrawn from the study by the laboratory (BG-2-001, BG-12-005, BG-14-004, and BG-14-005). A letter from Teledyne Isotopes Laboratory documenting the withdrawal of these samples is included in Appendix E.

Only one significant difference was observed between duplicate surface water samples. Surface water results from Campsite 1 Drainage (BB-20-002) were different for gross beta radiation between the McLaren/Hart sample (15 ± 3 pCi/L) and the USEPA sample (<9.6 pCi/L). These results are below drinking water Maximum Contaminant Limit (MCL) of 50 pCi/L for gross beta radiation and do not impact the study results.

One hundred and ninety-seven of the 208 blind field duplicate, interlaboratory duplicate, and split sample results for all compounds confirmed the scheduled sample laboratory results. Many of the comparisons were made between as many as four different laboratories each with different equipment, technicians, and other variables, yet the interlaboratory results were comparable for 93 percent of the duplicate samples. Additionally, the comparison criteria used for this report for radionuclides are considered conservative because the standard deviation only accounts for the error in the counting statistics. Other sources of error, including sample preparation, sample weight, and technician variance, are not accounted for in the standard deviation of the counting statistics.

4.2 QA/QC Results Summarized by Analysis Type

In this section, the results of the QA/QC samples are organized and discussed by analysis to evaluate whether any trends were evident in the QA/QC for individual analyses.

4.2.1 Metals (Mercury)

QA/QC samples were not collected for metals analysis as only seven soil samples were collected during the 1994 sampling investigation. The seven soil samples were collected from the Sodium Burn Pit Watershed (BB-18) and only analyzed for mercury. A concentration of 0.12 mg/kg of mercury, slightly above the detection limit (0.1 mg/kg), was measured in one (BB-18-006B) of the seven samples. This result prompted some limited QA/QC analysis in the form of analysis of a lab duplicate of this sample and submitting interlaboratory duplicates to the USEPA and the consultant for the Brandeis-Bardin Institute for mercury analysis. Results of these QA/QC analyses indicated that mercury was not detected in the laboratory duplicate or the USEPA interlaboratory duplicate (<0.1 and <0.09, respectively). Mercury was detected at a concentration of 0.14 mg/kg in the Brandeis-Bardin interlaboratory duplicate sample. These QA/QC results for mercury are in agreement (the difference between the scheduled sample results and the QA/QC results was less than 50 percent). Since only limited QA/QC analysis was conducted for mercury the results are not summarized in Table 9 or illustrated in Figures 5.

4.2.2 Radionuclides

The QA/QC data for the radionuclide analyses conducted by the Teledyne Isotopes Laboratory (New Jersey and Illinois) are discussed in this section. A summary of the results are presented in Table 9 (soil samples) and Table 10 (surface water samples), and Figures 5 (soil samples) and 6 (surface water samples).

4.2.2.1 Strontium-90

QA/QC results for strontium-90 were in agreement in 97 percent of all the duplicate and split soil/sediment samples and in three of four of the pre-spiked water samples. All other QA/QC results, *e.g.*, matrix spikes, and field rinsate blanks were consistent and met the acceptance criteria for soil/sediment and water.

4.2.2.2 Tritium

QA/QC results for tritium in soil/sediment samples were in agreement 94 percent of the time. Of the five samples that were not in agreement, three differed greater than 10 percent from the acceptance criteria. In four of these cases, the conclusion that the Building 59 Watershed was impacted with tritium holds in spite of the differences in the sample results. In two of the five samples, the concentration of tritium detected by Teledyne Isotopes was less than that measured by USEPA.

All other QA/QC results for tritium, *e.g.*, matrix spikes and field rinsate blanks, were consistent and considered acceptable for soil/sediment and water.

4.2.2.3 Gross Alpha and Gross Beta Analysis

One of the two split water samples analyzed for alpha- and beta-emitting radionuclides was not in agreement with the sample results for beta-emitting radionuclides. Alpha- and beta-emitting radionuclides were not detected in the water rinsate sample indicating that sampling methods did not affect the analytical results. Matrix spike samples were within control limits.

4.2.2.4 Isotopic Plutonium

All duplicate and split soil/sediment and water samples analyzed for isotopic plutonium (Pu-238 and Pu-239) were all in agreement. Isotopic plutonium was not detected in any of the field samples collected during the study. Matrix spike samples were within control limits. Plutonium-238 and plutonium-239 was not detected in field rinsate blanks.

4.2.2.5 Gamma Scan

Cesium-137 was the only analyte detected in the gamma scan analysis that was not naturally occurring and, therefore, the only radionuclide from the gamma scan analysis evaluated in this study. Naturally occurring radionuclides (*i.e.*, potassium-40, and radium-226, and thorium-228) were detected in most of the soil samples, but are not discussed.

Four out of thirty-five (11 percent) QA/QC split/duplicate samples for soil/sediment were not in agreement with their respective scheduled sample. The split or duplicate soil/sediment samples not in agreement were at Wildwood Regional Park Ravine (BG-10-004), the Building 59 watershed (BB-17-005), the Campsite 1 drainage (BB-20-001) and the Radioactive Materials Disposal Facility (BB-16-007). Although these sample results were 3 to 40 percent outside the acceptance criteria, the results are within the range considered representative of background and the criteria do not impact the conclusions from the study. These results are consistent with the pre-spiked sample results where Teledyne Isotopes generally obtained greater sample recoveries than the original spiked amount.

Matrix spike, field rinsates and field blanks for all other soil/sediment and water samples were within control limits.

4.3 CONCLUSION

Overall agreement (based on the acceptance criteria described in Section 4.1) for this project for the primary QA/QC soil samples (*i.e.*, blind field duplicates, interlaboratory split duplicates, split samples, and pre-spiked samples) was 96 percent for the following analyses: tritium, cesium-137, plutonium-238, plutonium-239, and strontium-90. The overall agreement is based on all QA/QC results including results that were reported as less than the detection limit. The overall agreement for the primary QA/QC water samples was 88 percent. However, this agreement percentage is due to small number of QA/QC samples for water and one split sample analyzed for beta-emitting radiation. Beta-emitting radiation was not detected in field samples above background levels. Thus, the results of the water QA/QC samples are acceptable and support the conclusions from the field data.

5.0
STATISTICAL ANALYSIS
OF SAMPLE RESULTS

5.0 STATISTICAL ANALYSIS OF SAMPLE RESULTS

This section discusses the statistical evaluation methods used in this study. Because radionuclides are naturally occurring and because certain radionuclides are deposited throughout the world as a result of nuclear weapons testing, the goal of the statistical evaluation was to determine whether chemicals or radionuclides in the study areas were different from background concentrations. The statistical evaluation of the background areas and the study areas was conducted in three steps. First, the background area data were evaluated to determine the background concentration range and mean. Second, the study area data were evaluated relative to background to determine whether the study areas were different from background. Finally, if a study area had a concentration that was statistically higher than background, possible explanations for the elevated concentrations were evaluated. Section 5.1 describes the methods used to analyze the background sampling areas and to develop the range of naturally occurring levels of radionuclides. Section 5.2 discusses the methods used to compare analytical results for each sampling area to the results of the statistical analysis of the background samples.

Mercury was not evaluated statistically because the majority of background values were below the detection limit, and, thus, there were insufficient positive numbers on which to perform meaningful statistical analyses. The majority of background samples for tritium and isotopic plutonium were also below detection limits; statistical analysis was not used to evaluate concentrations of these radionuclides. However, twice the maximum detection limit was used as a benchmark to assess concentrations of tritium detected in 1994. This benchmark was established for tritium to account for laboratory variability before declaring a sample above background.

Surface water data were not evaluated statistically because there was only one background sample from both rounds of sampling.

Since the sample grids or the ravine sampling were considered to be representative of an entire area and since the sample locations were randomly selected, it was assumed that if the mean concentration of all samples from a sampling area was statistically at or below the mean concentration of the background areas, then the area had not been impacted by activities at the SSFL. If radionuclides were below the detection limit, a value of one-half the detection limit was used to calculate the mean and standard deviation for that area. The use of one-half the detection limit is based on the conservative assumption that some level of the chemical is present throughout the area and is consistent with USEPA's Risk Assessment Guidance for Superfund (United States Environmental Protection Agency, 1989).

5.1. STATISTICAL EVALUATION OF BACKGROUND SOIL SAMPLES

In accordance with the Workplan, an analysis of variance (ANOVA) was used to evaluate whether all of the eleven background soil sampling areas (six from 1992 and five from 1994) were representative of general background levels of the radionuclides of interest. Using the ANOVA results, any background areas where the levels of radionuclides in soil were significantly different from the other background area soils could be identified. If an area was identified as different, the appropriateness of including the sample area in the group of background sample areas was further evaluated.

The purpose of collecting background samples was to determine the range and distribution of metals and radionuclides in soil that was similar to the soil in the study areas (*i.e.*, of similar geologic origin and composition) but that was physically removed from the SSFL. Because all background were a minimum of 1.5 miles from the SSFL and none of the background locations were in the predominant wind direction (based on a windrose for the SSFL), it was assumed that soils should not have been measurably impacted by activities at the SSFL. Background locations were also chosen to have no impact from surface water runoff from SSFL.

The eleven background sample areas within a 1.5 to 12.5-mile radius of the SSFL were selected as representative of the background. In some cases, a background area was sampled in both 1992 and 1994. In these cases, data from 1994 was used whenever available for a specific location. If the location was not sampled in 1994, the 1992 data was used.

A Type I (random effects) ANOVA was used to evaluate background sample areas for each analyte. A separate ANOVA was calculated for the following radionuclides:

- Cesium-137
- Strontium-90

Each of the background areas was treated as a separate sample set for each analyte. A computer program, *Systat* (Systat, Inc., 1989), was used to perform the ANOVA calculations. The Type I (fixed effects) ANOVA was used to determine whether all eleven background areas were from the same population (*i.e.*, general background) or whether one or more of the six sample sets was statistically different from the others. The hypothesis being tested in this analysis is that the sample sets have the same mean concentration as background. A significance probability (p-value) less than 0.05 indicates that under the hypothesis that all background sample areas are from the same population, the chance of seeing differences as great as those observed between sample areas is less than 5 percent. Therefore, when the p-value calculated in the ANOVA was less than or equal to 0.05, the hypothesis was rejected and the eleven background areas were considered not to have the same mean. When the p-value was greater than 0.05, the hypothesis that the eleven background areas were from the same population was accepted.

To determine if and which of the background sample areas was different, the results of the Tukey "honest significant difference" (HSD) output (part of the *Systat* ANOVA output) were evaluated. In the Tukey HSD, each of the background sample areas was compared to the other background sample areas resulting in 55 comparisons. Each comparison was characterized by a p-value. As with the ANOVA for the group of background sample areas, if p-values were greater than 0.05, the hypothesis that the sample areas were from the same population was accepted. If the p-value is less than or equal to 0.05, the chance of seeing differences as great as those observed between sample groups is less than 5 percent and the hypothesis is rejected.

To further evaluate the appropriateness of deleting a background location based on the statistical results, Dr. Max Layard of Layard Associates, was consulted. According to Dr. Layard, an "appropriate benchmark (for background) would be the overall average from all the sites, and this average would be interpreted as an estimate of the average in all possible background sites. This assumes that there are no identifiable reasons for considering the measurements from any location to be nonrepresentative, such as known analytical errors" (personal communication, 1992). In other words, because the background sites were specifically identified to be representative of the general area and if there were no identifiable reasons for considering measurements at any background area to be nonrepresentative of the full spectrum of possible background measurements, all six 1992 background sites were considered representative and used to evaluate the results at the sampling areas. Dr. Layard also indicated that the fixed effects ANOVA would not adequately represent the variability of the overall mean because it does not account for variability between sample areas. Because the sampling areas were relatively small (*i.e.*, 10,000 square feet) when compared with the entire background area population (*i.e.*, all soil within a 12.5 mile radius of the SSFL), the variance between background sample areas would be expected to be larger than the variance within background sample areas. If the variance within a sample area and the variance between sample areas differed substantially, the ANOVA would result in a p-value less than 0.05 when in actuality the sample areas are all representative of background. Based on this analysis in the 1992 report, all sample areas were retained as representative of the full range of background levels of metals and radionuclides, based on Dr. Layard's recommendation and with the consensus of the USEPA representative and the consultant for Brandeis-Bardin.

However, in evaluating the more robust data set from the 1992 and 1994 data, one area for cesium-137 and one area for strontium-90 appeared to be different from the general background areas. For cesium-137, Wildwood Regional Park Ravine (BG-10) was shown to be statistically different from the other background areas. A reevaluation of the cesium-137 data without including the Wildwood Regional Park Ravine, resulted in the acceptance of the hypothesis that the remaining areas were from the same population. For strontium-90, Wildwood Regional Park (BG-09) was shown to be statistically different from the other background areas. A reevaluation of the strontium-90 data without including the Wildwood Regional Park data, resulted in the acceptance of the hypothesis that the remaining areas were from the same population. As a result, Wildwood Regional Park Ravine data was excluded from the cesium-137 analysis, and the Wildwood Regional Park data was excluded from the strontium-90 analysis. By excluding these two background data sets (cesium-137: Wildwood Regional Park Ravine, and strontium-90: Wildwood Regional Park) more conservative background values were established. A graphical evaluation of cesium-137 and strontium-90 background results from sample areas distinguishable from background is presented on Figures 1 through 9 in Appendix F.

5.2 STATISTICAL EVALUATION OF SAMPLING AREAS

Due to the more robust data set including the 1992 and 1994 data, all sampling data, including ravine data, was assessed as randomly collected data. Each area sampled was statistically evaluated on an area-by-area basis because it was assumed that the sampling area represented a separate and distinct "population". The sample results from the randomly sampled areas were described by a mean, range, and a standard deviation.

Initial comparisons between the randomly sampled areas and background data were made using the Behrens-Fisher t-Test. This test provides a statistical comparison of the means between two data sets assuming the data are normally distributed. The t-Test is an appropriate procedure because the test is known to be only slightly affected by departures from normality. The data at a sample area were considered to be the same as background if the p-value was greater than 0.05. A p-value less than 0.05 indicated that, assuming the sample area is within the range of background, the probability of seeing a difference as great as those observed between the sample area and background is less than 5 percent.

Dr. Layard was also contacted regarding the appropriateness of using the Behrens-Fisher t-Test to identify when a sample area was different from background. Dr. Layard indicated that the use of the Behrens-Fisher t-Test may be overly conservative since the variance within the background sample areas is not considered.

6.0
SAMPLING RESULTS FROM
BACKGROUND AREAS

6.0 SAMPLING RESULTS FROM BACKGROUND AREAS

This section presents the results of the multi-media sampling program at the Background Areas. The results are presented in two parts. Section 6.1 describes the sites and sampling locations and Section 6.2 describes the statistical data analysis.

6.1 BACKGROUND AREA DESCRIPTIONS

Eight background areas were sampled.

- BG-01: Rocky Peak
- BG-02: Santa Susana Park
- BG-05: Happy Camp
- BG-09: Wildwood Regional Park
- BG-10: Wildwood Regional Park Ravine
- BG-11: Tapia County Park
- BG-12: Tapia County Park Ravine
- BG-14: Rocky Peak Ravine

This section is a brief description of the Background Areas sampled in 1994 (Figure 3). The analytical results for each sample area are presented in the form of tables and figures. The table summarizes the results for the radionuclide analyses. The detection limit preceded by a "less than" symbol (<) is used to represent radionuclide results below detection limits[4]. The figure is used to present all the data above the detection limit. The sample grid and sample locations as well as relevant landmarks are noted on the figures. Only the original sample results (the scheduled sample, not QA/QC results) collected by McLaren/Hart (the scheduled sample) above background levels for metals and radionuclides are shown on these figures. In

[4]Minimum detectable activity.

some cases, all the results for a particular analyte are presented on a figure, although some of those results are not considered representative of background, to show the trend in that particular area. Results of splits, duplicate counts, and interlaboratory samples are only reported in the tables as they were used solely for quality assurance/quality control (QA/QC) purposes.

6.1.1 Rocky Peak (BG-01)

The Rocky Peak background sample area is approximately 4.9 miles northeast of the SSFL, north of the 118 Freeway, at the Rocky Peak exit. The sample grid was located along the north side of a fire road directly above the parking area. The grid was on a steeply sloping area near the northern edge of the grid and on a more level area along the southern margin of the grid. The grid was partially covered by grasses with some shrubs. Numerous sandstone outcroppings and boulders were also present along the slope. The grid location was originally selected in 1992 because the distance and height above the freeway was considered sufficient to avoid the majority of the chemical deposition from freeway traffic.

Soil samples were collected on March 15, 1994 at five sampling locations, in addition to the three locations sampled in 1992, from the grid according to the approved Workplan. Four blind field duplicate samples were collected: isotopic plutonium at Block 087, gamma scan at Block 090, strontium-90 at Block 016, and tritium at Block 034. In addition, three rinsate blanks were collected at this location. The sampling grid is shown on Figure 7. Summaries of radionuclide analytical results for the soil samples are presented in Table 11.

6.1.2 Santa Susana Park (BG-02)

Santa Susana Park is located approximately 2 miles south of the 118 Freeway and approximately 3 miles north of the SSFL main gate. The area that was sampled was a plateau south of the main park area. The plateau was bounded on the north by a short slope and to the south by a gradual hill leading to a steeper hill. The area was partially devoid of grass or plants except around the perimeter; several trees were present. A small drainage area from the eastern slope appeared to run through the center of the sampling area, which was dry at the time of sampling.

On March 10, 1994, five locations were sampled from the grid according to the approved Workplan. Three areas were previously sampled in 1992 and two additional blocks were identified based on the random number tables. In addition one rinsate sample and one matrix spike sample was collected at Block 017 and Block 085, respectively. A sample split with Brandeis-Bardin was collected at Block 074. The radiation survey of the area by the USEPA showed an ambient radiation field of 12 (micro Roentgen/hr [μR/hr] is a unit of exposure rate of X-ray or gamma radiation). Results from all radiation surveys conducted by the USEPA at each sample area are presented in Appendix F. The sampling grid is shown on Figure 8. A summary of the radionuclide analytical results for soil samples are presented in Table 12.

6.1.3 Happy Camp (BG-05)

The Happy Camp background area is located in Moorpark approximately 12.5 miles northwest of the SSFL. The sampling area was a relatively flat area located between two plateaus seemingly created by erosion off the Middle Ridge Fire Road approximately one mile from the main gate. A stream bed cuts through the center of the Happy Camp Area and west of the sampling area (the stream bed was dry during the sampling). The northeast corner of the sampling grid was located 60 feet west of a large double-trunked oak tree. The area was sparsely covered by grasses and small shrubs.

On March 11, 1994, five sets of soil samples were collected from the grid according to the approved Workplan. Based on stakes still in place at the sampling location, the sample identified as BG-05-026 in 1992 was actually collected at BG-05-027. The sample collected in 1994 was appropriately labeled as BG-05-027. A blind field duplicate sample for gamma scan was collected at Block 017. A split sample with USEPA was collected at Block 056. In addition, a matrix spike was collected at Block 050. The radiation survey of the area by the USEPA showed an ambient radiation field of 16 μR/hr. The sampling grid is shown on Figure 9. A summary of the radionuclide analytical results for soil samples is presented in Table 13.

6.1.4 Wildwood Regional Park (BG-09)

The Wildwood Regional Park background area is located approximately 2 miles north of Highway 101 and approximately 12.5 miles west of the SSFL facility. The sampling area was a large open field located west of the main parking lot. The sampling area was adjacent to and south of a dirt access road and northwest of a dirt hiking trail. The sampling grid was located on a flat area covered by grasses and forbs. A few shrubs were located west of the sampling area.

On March 11, 1994, five sets of soil samples were collected from the grid according to the approved Workplan. Blind field duplicates were collected at Block 003 for isotopic plutonium and at Block 013 for strontium-90. A split sample with USEPA was collected at Block 003. A split sample with DHS was collected at Block 005. Three rinsate blanks were collected at this site. The radiation survey of the area by USEPA showed an ambient radiation field of 12 μR/hr. The sampling grid is shown on Figure 10. A summary of the radionuclide analytical results for soil samples is presented in Table 14.

6.1.5 Wildwood Regional Park Ravine (BG-10)

The Wildwood Regional Park Ravine background area is located approximately 2 miles north of Highway 101 and approximately 12.5 miles west of the SSFL facility. The sampling area was a ravine located adjacent to the Santa Rosa trail. Both the Santa Rosa trail and the ravine cross the dirt access road that leads from the main road. The ravine had a shallow grade and spanned approximately 750 feet. The ravine was covered with grasses and contained large rocks at various locations along the ravine.

On March 14, 1994, five sets of soil samples were collected from the ravine, randomly spaced approximately 150 feet apart according to the approved Workplan. A blind field duplicate sample was collected at Block 002 for gamma scan. A split sample with USEPA was collected at Block 003. A split sample with DHS was collected at Block 004. A split sample with Brandeis-Bardin was collected at Block 001. One rinsate blank was collected at this sampling area. The radiation survey of the area by USEPA showed an ambient radiation field of 12 μR/hr. The sampling grid is shown on Figure 11. A summary of the radionuclide analytical results for soil samples is presented in Table 15.

6.1.6 Tapia County Park (BG-11)

The Tapia County Park background area is located in Malibu Canyon approximately 4 miles south of Highway 101 and approximately 10 miles south of the SSFL facility. The sampling area was a large open field adjacent to a dirt road. The western edge sloped to a creek located below. The area was bordered to the north and the south by trees and shrubs. The sampling grid was located on a flat, sloping area covered by grasses and forbs.

On March 14, 1994, five sets of soil samples were collected from the sampling grid according to the approved Workplan. A blind field duplicate sample was collected at Block 036 for strontium-90. A split sample with USEPA was collected at Block 011. A matrix spike sample was collected at Block 010 and Block 031. The radiation survey of the area by USEPA showed an ambient radiation field of 7 μR/hr. The sampling grid is shown on Figure 12. A summary of the radionuclide analytical results for soil samples is presented in Table 16.

6.1.7 Tapia County Park Ravine (BG-12)

The Tapia County Park Ravine background area is located approximately 4 miles north of Highway 101 and approximately 10 miles south of the SSFL facility. The sampling area was a ravine that crosses the Tapia Spur Trail approximately 450 feet from the intersection of the trail with the paved road. Sample locations 003, 004, and 005 were south of the trail, approximately 50 feet apart. Samples locations 001 and 002 were approximately 25 feet apart; Sample location 002 was approximately 60 feet from the trail. The ravine had a steep grade above the trail and a more shallow grade below the trail. The steep section of the ravine was divided into two arms. One arm of this section of the ravine exhibited signs of soil disturbance (rock slides), therefore; the undisturbed arm of the ravine was selected for sampling.

On March 14, 1994, five sets of soil samples were collected from the ravine according to the approved Workplan. A split sample with USEPA was collected at Block 003. A split sample with Brandeis-Bardin was collected at Block 005. A matrix spike sample was collected at Block 001 and Block 004. The radiation survey of the area by USEPA showed an ambient radiation field of 7 μR/hr. The sampling grid is shown on Figure 13. A summary of the radionuclide analytical results for soil samples is presented in Table 17.

6.1.8 Rocky Peak Ravine (BG-14)

The Rocky Peak Ravine background area is located approximately 4.9 miles northeast of the SSFL, north of the 118 Freeway, at the Rocky Peak exit. Sample location 005 in the ravine was located approximately 165 feet northeast of the grid location. The ravine began as a steep slope amidst very narrow rocky terrain. Sample locations 001 and 002 were in the steep section of the ravine. From sample location 003 to 004, the terrain became broader, but remained rocky. The ravine gently sloped from sample location 004 toward a culvert below sample location 005 and was less rocky.

On March 14, 1994, five sets of soil samples were collected from the ravine according to the approved Workplan. A matrix spike sample was collected at Blocks 001 and 003. One rinsate sample was also collected at this sample location. The sampling grid is shown on Figure 14. A summary of the radionuclide analytical results for soil samples is presented in Table 18.

6.2 BACKGROUND ANALYSIS SUMMARY

Soil/sediment samples were collected to provide data on the naturally occurring levels of radionuclides in the soil within a fifteen-mile radius of the SSFL. These data were compared to the data from the Brandeis-Bardin Institute and the Santa Monica Mountains Conservancy to determine whether these sites had significantly higher radionuclide concentrations, which may have been due to activities at the SSFL. The measured data were tabulated for all of the background areas. A complete summary of all the data by analysis is included in Appendix D.

Low levels of radionuclides are ubiquitous as a result of two sources: naturally occurring radionuclides such as radon and uranium and fallout from atmospheric testing of nuclear weapons since 1945.

The radionuclides that were evaluated and discussed are limited to the following man-made radionuclides detected in the samples:

- Cesium-137 (Cs-137)
- Strontium-90 (Sr-90)
- Tritium (H-3) (also naturally produced in the upper atmosphere)

Plutonium-238 and plutonium-239 man-made radionuclides were not detected in any of the samples and, therefore, are not discussed.

6.3 SUMMARY OF BACKGROUND RESULTS

The measured background data sets for metals and radionuclides were evaluated using analysis of variance (ANOVA) and Tukey's "honest significant difference" (HSD) statistical methods to determine if all of the background data sets had the same mean and therefore considered to be from the same population. The ANOVA was used to indicate whether or not any of the data sets were different and Tukey's HSD was used, if necessary, to indicate which sample area(s) was significantly different.

As the majority of the background sample results for tritium were below the detection limit, an analysis of variance was not conducted on the data. Site samples were compared with a background concentration near the detection limits of 100 to 400 pCi/L.

As discussed previously, the significance probability (p-value) was used to determine if one or more background sample areas were different from the other background sample areas. As shown in Table 19, the p-values for cesium-137 and strontium-90 were less than 0.05. Upon review of Tukey's HSD, Wildwood Regional Park Ravine (BG-10) was the source of the significant differences between mean background concentrations of cesium-137. Reanalysis of the remaining data was consistent with the hypothesis that remaining Background Areas were not from different populations. Therefore, the statistical comparison of the sampling areas to background was based on all samples from 10 of the 11 background areas for cesium-137. Upon review of Tukey's HSD, Wildwood Regional Park (BG-09) was the source of the significant differences between mean background concentrations of strontium-90. Reanalysis of the remaining data was consistent with the hypothesis that remaining Background Areas were not from different populations. Therefore, the statistical comparison of the sampling areas to background was based on all samples from 10 of the 11 background areas for strontium-90.

The following sections describe the background results for cesium-137 and strontium-90 for soil/sediment samples. Table 20 summarizes the statistical parameters (mean, standard deviation, and range) defining measured background for each analyte as well as background values found in the literature for soil samples.

6.3.1 Cesium-137

Cesium-137 in the 1994 background soil samples 10 of 11 Background Areas ranged from less than 0.03 picocuries per gram of soil dried [pCi/g(dry)] at several background locations to 0.213 ±0.072 pCi/g(dry) at Santa Susana Park (BG-02) with an arithmetic mean concentration of approximately 0.087 ±0.062 pCi/g(dry). [Background cesium-137 concentrations at Wildwood Regional Park Ravine ranged from 0.215 ±0.039 to 0.456 ±0.052 pCi/g(dry), but were not included in the background statistical analysis.] Their exclusion resulted in the lowering of the Cesium-137 background and a bias toward a lower background concentration. Cesium-137 in all Background Areas was well within the background cesium-137 range from published reports, which range from 0.001 pCi/g(dry) (Layton, 1990) to 1.3 pCi/g(dry) (Ritchie and McHenry, 1977 and 1982).

6.3.2 Strontium-90

Strontium-90 in the measured background soil samples ranged from <0.01 pCi/g(dry) at several background locations to 0.13 ±0.1 pCi/g(dry) at Santa Susana Park (BG-02) with an arithmetic mean concentration of approximately 0.052 ±0.031 pCi/g(dry). [Background strontium-90 concentrations at Wildwood Regional Park ranged from <0.1 to 0.13 ± 0.05 pCi/g(dry). The strontium-90 in the Background Areas was less than the published background levels of strontium-90 in soil [0.16-0.32 pCi/g(dry), which were calculated based on inventories from above-ground nuclear weapons testing through 1965 (Eisenbud, 1987).

6.3.3 Tritium

Tritium in the measured background soil samples ranged from less than 100 picocuries per liter of water (pCi/L) at several background locations to 750 ±200 pCi/L at the Western site (BG-04). Scheduled results for tritium in background soil samples BG-12-001, BG-12-005, BG-14-004, and BG-14-005 indicated high levels with associated uncertainty greater than 50 percent of the sample result uncertainty. These samples also had low water yield (3 ml or less) and the results were subsequently withdrawn by the laboratory. A level of 2000 ± 700 pCi/l also measured at BG-14-003. This sample also contained a water yield of 1 ml and a separate aliquot was reanalyzed and the result was < 300 pCi/L. Background levels of tritium in soil were not available in the literature.

7.0
SAMPLING RESULTS
FROM OFF-SITE LOCATIONS

7.0 SAMPLING RESULTS FROM OFF-SITE LOCATIONS

Fifteen off-site locations were sampled during the sampling program, nine human activity areas and six Watershed (ravine) areas. Eight of the human activity areas were located at the Brandeis-Bardin Institute and one was located at the Santa Monica Mountains Conservancy. All six of the Watershed areas were along the Brandeis-Bardin/Rocketdyne property boundary. The sampling locations were shown on Figure 2. The results from each location are discussed in the following sections. A summary of all data from the off-site locations is presented in Appendix D.

The nine human activity sampling areas were resampled for tritium only to supplement 1992 sampling results. As 76 percent (including 1992 data) of tritium results for the background areas were below detection limits an analysis of variance was not conducted on the data. Therefore, a statistical comparison of the data to measured background concentrations would not be appropriate. The, concentrations detected in sampling areas were compared with the range of concentrations detected in the background areas. Isotopic plutonium (plutonium-238 and 239) and mercury were not detected in background areas. For this reason, 1994 sampling results in the off-site areas were noted when above the detection limit. Gamma scan and strontium-90 results were evaluated using the statistical criteria described in Section 5.0.

The analytical results for each sample area are presented in the form of tables and figures. The tables summarize the results for radionuclide analyses. The detection limit preceded by a "less than" (<) symbol is used to represent radionuclide results at or below detection limits. The sample grid and sample locations are noted on the figures as well as relevant landmarks. Buildings and areas on the Rocketdyne property are referenced as landmarks only and are not intended to suggest a source of any chemicals detected. Sample results from 1992 and only 1994 results distinguishable from background are shown on each figure. Only the original sample results (from 1992 and/or 1994) are presented on each figure because the duplicate split and confirmatory samples were used for QA/QC purposes.

7.1 DORMITORY AREA (BB-02)

The Dormitory area is approximately 7,000 feet north of the Rocketdyne property line. The area to be sampled was located between dormitory buildings to the north and the creek (partially dry) to the south. The sampling area was nearly level and the top layer of soil was a silty sand. Many boulders and rocks were present leading to the assumption that the area had been washed out by the creek during heavy storms in February 1994. The area was surrounded by trees, but was devoid of other vegetation.

On March 7, 1994, five soil samples were collected at the previously sampled grid locations according to the approved Workplan. The five locations were resampled for tritium. The Brandeis-Bardin consultant collected a split sample at Block 075. The USEPA radiation survey of the area ranged from 15 to 16 μR/hr. The sampling locations are shown on Figure 15.

Tritium was below detection limits in all ten samples collected at the Dormitory Area in 1994. Table 21 summarizes the radionuclide results for soil.

7.2 CAMPSITE AREA 1 (BB-03)

Campsite Area 1 is approximately 3,500 feet northwest of the Rocketdyne property line and is connected by stream beds to the runoff from the Building 59, RMDF, and the Sodium Burn Pit watersheds. Samples were taken from a relatively flat area approximately 250 feet north/northeast of a large red water tank. A creek ran through the center of the sampling area and a water sample was collected downstream. The access road ran along the southwest side of the sampling area. The area was covered with grasses and forbs, including abundant growth of poison oak. Several trees were located on both sides of the creek; three trees were used as landmarks to anchor the grid. Several of the stakes from the previous sampling round were relocated when the grid was reestablished.

On March 8, 1994, ten soil samples were collected from the grid according to the approved Workplan. Four samples were collected from locations sampled in 1992, and six samples were collected from the next five sampling locations in the random number table. Block 092 was not resampled due to growth of poison ivy making access extremely difficult. All samples were analyzed for tritium. Split samples were collected by the Brandeis-Bardin consultant at Block 025 and Block 081. A lab duplicate was analyzed at BB-03. The radiation survey of the area by the USEPA showed an ambient radiation field of 15 to 16 μR/hr. The sampling grid is shown on Figure 16. The relationship of Campsite Area 1 to the watersheds is shown in Figure 30.

Tritium was below detection limits in all ten samples collected at Campsite Area 1 in 1994. Table 22 summarize the radionuclide data for soil samples.

7.3 CAMPSITE AREA 2 (BB-04)

Campsite Area 2 was an amphitheater with concrete bleachers in the center of the hillside soil. Samples were collected from the level area in front of the bleachers in an area with picnic benches and fire pits. One area in the center of the amphitheater was used for camp fires. A small creek ran along the north side of the sampling area and a larger stream ran down from the RD-51 Watershed on the south side. The area was sparsely vegetated and trees were present to the north and northwest.

Campsite Area 2 is approximately 2,400 feet north of the Rocketdyne property line, near the vicinity of the RD-51 Watershed (BB-15). Campsite Area 2 is hydrologically connected to the RD-51 Watershed by the stream that passes through the southwest portion of the area approximately 150 feet from the grid which potentially carries runoff from the SSFL.

On March 4, 1994, five soil samples were collected from the grid according to the approved Workplan. Five samples were collected from locations sampled in 1992, and five samples were collected from the next five sampling locations in the random number table. All samples were analyzed for tritium. The radiation survey of the area by the USEPA showed an ambient radiation field of 16 to 18 uR/hr. The USEPA collected split samples at Blocks 021, 023, 078, 082, and 097. The Brandeis-Bardin consultant collected split samples at Blocks 084 and 097. A rinsate blank was collected at Block 021. The sampling grid is shown on Figure 17.

Tritium was below detection limits in all ten samples collected at Campsite Area 2 in 1994. Radionuclide analytical results for soil samples are presented in Table 23.

A surface water sample was collected from the creek approximately 500 feet upstream from the sampling grid. Water collected for the gross alpha radiation, gross beta radiation, and tritium analyses was filtered prior to placement in the sample bottle. The USEPA collected a split of the surface water at this location and also analyzed the sample for gamma radiation. The Brandeis-Bardin consultant collected a split sample, which was analyzed for tritium. A rinsate sample was also collected at this location. Gross beta activity was 12 ± 4 picocuries per liter of water (pCi/L) for the scheduled sample and < 10 for the USEPA split. Cesium-137 was below detection limits in the USEPA sample analyzed for gamma radiation. Table 24 summarizes the radionuclide data for surface water samples at Campsite Area 2.

7.4 PICNIC AREA (BB-05)

The Picnic Area is approximately 7,000 feet north of the Rocketdyne property line. The sampling area was located on a sloped area under several trees. Picnic tables, a fire pit, a sink, and a drinking fountain were located in the area. An amphitheater was located to the west. The sampling area was generally devoid of vegetation at the southern end of the slope and was sparsely vegetated at the top. Stakes from the 1992 round of sampling were identified when reestablishing the grid.

On March 7, 1994, five soil samples were collected from the previously sampled grid locations according to the approved Workplan. All samples were analyzed for tritium. A blind field duplicate sample was collected at Block 089. The Brandeis-Bardin consultant collected a split sample at Block 057. The radiation survey of the area by the USEPA showed an ambient radiation field of 15 to 16 μR/hr. The sampling grid is shown on Figure 18.

Tritium was below detection limits in all five samples collected at the Picnic Area in 1994. Radionuclide analytical data for soil samples is summarized in Table 25.

7.5 HOUSE OF THE BOOK (BB-06)

The House of the Book is approximately 6,500 feet north of the Rocketdyne property line. The area sampled was a flat grassy area located across the parking lot north of the House of the Book. The sampling area was bordered by an access road to the south. One tree was present in a depression west of the sampling grid. The area was uniformly covered with annual grasses and forbs. Several stakes from the 1992 round of sampling were identified while reestablishing the grid.

On March 7, 1994, five soil samples were collected from previously sampled grid locations according to the approved Workplan. All samples were analyzed for tritium. The Brandeis-Bardin consultant collected a split sample at Block 066. The USEPA radiation survey of the area was 16 μR/hr. The sampling grid is shown on Figure 19.

Tritium was below detection limits in all five samples collected at House of the Book in 1994. Radionuclide analytical results are summarized in Table 26.

7.6 MAIN HOUSE ORCHARD (BB-12)

The Main House Orchard is approximately 9,800 feet north of the Rocketdyne property line. The sampling area encompassed the entire orchard and extended slightly beyond on the northwestern side. Several trees had fruit (lemons, tangerines and grapefruit) while others were barren. There were large gaps between adjacent trees. A house was located to the south of the sampling area. The main road ran alongside the northern edge of the sampling area. The soil was devoid of vegetation. Several stakes from the 1992 round of sampling were identified while reestablishing the grid.

On March 7, 1994, five soil samples were collected from previously sampled grid locations according to the approved Workplan. The Brandeis-Bardin consultant collected a split soil sample at Block 023. A lab duplicate was analyzed at Block 023. All samples were analyzed for tritium. The radiation survey of the area by the USEPA showed an ambient radiation field of 14 to 15 *u*R/hr. The sampling grid is shown on Figure 20.

Tritium was below detection limits in all five samples collected at the Main House Orchard in 1994. Radionuclide analytical results for soil samples are included in Table 25.

7.7 AVOCADO GROVE (BB-13)

The Avocado Grove is approximately 7,100 feet north of the Rocketdyne property line. The sampling area encompassed the southeastern portion of the avocado grove, that was ten trees long and three trees wide. A wire hutch was located near Block 034. Samples were collected from the soil underneath the trees (within the drip line). A production bee hive was located adjacent to the road leading up to the southeastern part of the grove. The area between the trees was vegetated with grasses and forbs. Several stakes from 1992 round of sampling were identified while reestablishing the grid.

On March 7, 1994, five soil samples were collected from previously sampled grid locations according to the approved Workplan. All samples were analyzed for tritium. The Brandeis-Bardin consultant collected a split sample at Block 039. A rinsate sample was also collected. The radiation survey of the area by the USEPA showed an ambient radiation field of 13 to 15 μR/hr. The sampling grid is shown on Figure 21.

Tritium was below detection limits in all five samples collected at the Avocado Grove in 1994. A summary of radionuclide analytical results is presented in Table 28.

7.8 OLD WELL CAMPSITE (BB-14)

The Old Well Campsite is approximately 4,200 feet north of the Rocketdyne property line. The sampling area was located adjacent to, but at least 10 feet above, the run-off creek bed. An old pump house was located in the center of the sampling area. Stagnant, standing water surrounding the pump house on the southern, western, and eastern sides that had been present in 1992 was not present. The southern side of the sampling area was located on a steeply sloping hill. Oak trees and other trees and shrubs surrounded the sampling area; two trees were selected for use as landmarks in addition to the fixed piping. Grasses of various heights were present in areas. Several stakes from the 1994 round of sampling were identified when reestablishing the grid.

On March 7, 1994, five soil samples were collected from previously sampled grid locations according to the approved Workplan. The USEPA collected a split sample at Block 094. The Brandeis-Bardin consultant collected a split sample at Block 079. The radiation survey of the area by the USEPA showed an ambient radiation field of 15 to 17 μR/hr. The sampling grid is shown on Figure 22.

Tritium was below detection limits in all five samples collected at the Old Well Campsite in 1994. Radionuclide data for soil samples is summarized in Table 29.

7.9 FORMER ROCKETDYNE EMPLOYEE SHOOTING RANGE (SM-03)

The Former Rocketdyne Employee Shooting Range was approximately 1,700 feet west of the main Rocketdyne gate, bordering the property line. The soil sampling grid was located on a level area on the north/northeast side of the dirt road where lead shot was observed and was only one block wide. The area had moderate growth of annual grasses and forbs. Several stakes from the 1992 round of sampling were identified when reestablishing the grid.

On March 7, 1994, five soil samples were collected from previously sampled grid locations according to the approved Workplan. A lab duplicate was analyzed from the sample collected at Block 012. A rinsate sample was also collected at Block 012. The radiation survey of the area by the USEPA showed an ambient radiation field of 15 μR/hr. The sampling grid is shown on Figure 23.

Tritium was below detection limits in all five samples collected at the Former Rocketdyne Employee Shooting Range in 1994. A summary of the analytical results is presented in Table 30.

7.10 RD-51 WATERSHED (BB-15)

The RD-51 Watershed is approximately 4,800 to 5,600 feet northeast of Building 59. This area represents the watershed northwest of the well WS-13. The sampled area was a narrow creek bed that connected to the main ravine which appeared to be connected to the stream bed near Campsite 2.

The drainage area was vegetated with tall grasses and some woody scrub. The drainage channel was followed from the top of the hill (near the east end of the parking lot where the cluster wells RD-51 A, B, and C are located) to the edge of the cliff where the water falls off into the main ravine that originates to the northwest of WS-13. An attempt was made to locate the property line from tanks on the Rocketdyne facility and the fence. The tanks were not always visible and the location of the sample points relative to the fence line is only an approximation. Some stakes from the 1992 round of sampling were identified when reestablishing the grid.

On March 10, 1994, ten sediment samples were collected from the creek bed according to the approved Workplan. Five samples were collected from locations 001 through 005, which were previously sampled in 1992, and reanalyzed for tritium. Five new locations upgradient from the 1992 samples (closer to the Rocketdyne property boundary) were sampled for isotopic plutonium. In addition, location 001 was resampled for isotopic plutonium because plutonium-238 was detected at location 001 at 0.22 picocuries per gram of dry soil [pCi/g(dry)] in 1992. A split sediment sample was collected for the USEPA at location 001 and location 007 for isotopic plutonium. The USEPA also collected a split sediment sample at location 001 for tritium. A split sediment sample was collected for the Brandeis-Bardin consultant at location 006 and 009 for isotopic plutonium. A field duplicate sample was collected at location 009 for isotopic plutonium. A rinsate sample for isotopic plutonium was also collected. The radiation survey of the area by the USEPA showed an ambient radiation field of 16 to 17 μR/hr. The sample locations and the results are shown on Figure 24.

Tritium was below detection limits in all five samples collected at the RD-51 Watershed in 1994. One split sample collected at location 003 and analyzed by the Brandeis-Bardin consultant indicated a tritium level of 550 ± 350 pCi/l. Isotopic plutonium was below detection limits in all six samples collected at the RD-51 Watershed in 1994. Radionuclide analytical results for the sediment samples are summarized in Table 31.

7.11 Radioactive Materials Disposal Facility Watershed (BB-16)

The Radioactive Materials Disposal Facility (RMDF), consists of Buildings 075, 621, 021, 022, 044, and 034. The watershed was sampled approximately 200 feet north of the northwest corner of the RMDF, immediately below the Rocketdyne property line. The sediment samples were collected in the creek bed directly downstream from the RD-30 well, located on Rocketdyne property, and the cluster wells RD-34, A, B, and C (hereafter RD-34 located on Brandeis-Bardin). The RMDF is on the top of a hill overlooking the ravine.

Downstream from RD-34 was heavily vegetated with woody scrub, trees, and intermittent areas of thick growths of poison ivy and poison oak. A path was made along the more level southern side of the creek bed with sample points at turns in the stream where sediments had accumulated. The property line at this location was clearly marked with surveyor stakes. Some stakes from the 1992 round of sampling were identified when reestablishing the sample locations.

On March 9, 1994, five sediment samples were collected from the creek bed downstream of RD-34 and the 1992 sample locations according to the approved Workplan. The samples (locations 006 through 010) were analyzed for tritium, strontium-90, and gamma scan. A split sediment sample was collected at locations 007 and 010 for the USEPA. A split sediment sample was collected at locations 008 and 009 for the Brandeis-Bardin consultant. A split sediment sample was collected from locations 008 and 010 for the DHS. Field duplicate samples were collected at location 007 (tritium and strontium-90) and at Block 006 (gamma scan). A lab duplicate sample was analyzed for gamma scan at location 008. He radiation survey of the area by the USEPA showed an ambient radiation field of 17 to 18 μR/hr. The sample locations and all the 1992 results and the 1994 results distinguishable from background are shown on Figure 25.

Tritium was detected in the five sediment samples from the ravine at concentrations ranging from <100 to 230 ± 100 picocuries per liter of water (pCi/L). Tritium had been detected in five of the six samples collected in 1992 at concentrations from 990 to 1,500 pCi/L. Strontium-90 was detected in the RMDF Watershed in all five of the 1994 sediment samples at 0.08 ± 0.044, 0.11 ± 0.05, 0.15 ± 0.09, 0.24 ± 0.04, and 0.14 ± 0.07 pCi/g(dry) at locations 006 through 010, respectively. (Location 010 is the furthest sample down gradient from the Rocketdyne property border.) The USEPA and the consultant for Brandeis-Bardin were not able to detect strontium-90 at these levels as their detection limits were in the range of 0.5 to 0.74 pCi/g(dry). Strontium-90 had been detected in three of the six samples collected in 1992 at concentrations from 0.08 to 0.15 pCi/g(dry). Cesium-137 was detected in three of three of the five samples collected. The concentrations were 0.046 ±0.022 at location 006, 0.199 ±0.044 at location 009, and 0.075 ±0.028 at location 010. Cesium-137 was detected in one of the six samples previously collected in 1992 at 0.34 pCi/g(dry). Radionuclide sediment sample results are presented in Table 32. Sample results are further discussed in Section 8.0.

On March 9, 1994, samples were also collected from five boring locations along the Rocketdyne property boundary at surface and at five feet below ground surface. The borings were designated as BB-16-B001 through B005. These samples were also analyzed for tritium, strontium-90, and gamma scan. The Brandeis-Bardin consultant collected split samples at B002 at surface and B002 at 5 feet. A lab duplicate was analyzed for tritium at B004 at approximately 5 feet below ground surface. The sample locations and results distinguishable from background are shown on Figure 26 and Table 32.

Tritium was detected at one of the five boring locations. The only tritium concentration reported was at B004 at 5 feet below ground surface. The concentration was 270 ±150 pCi/L. This result was confirmed by lab duplicate result. Tritium was not detected in the sample collected at B004 at the surface. Strontium-90 was detected at 5 feet below surface in one of the five boring locations. The strontium-90 concentration reported at B001 was 0.093 ±0.042 pCi/g(dry). Strontium-90 was not detected in the sampled collected at B001 at the surface. Cesium-137 was detected at three of the five boring locations. The cesium-137 concentrations reported were 0.147 ±0.051 pCi/g(dry) at B001 at the surface, 0.109 ±0.044 pCi/g(dry) at B002 at the surface, and 0.087 ±0.0415 pCi/g(dry) at B003 at the surface. The Brandeis-Bardin consultant's result at B002 at the surface was <0.07 pCi/g(dry). Cesium-137 was not detected in the samples collected at 5 feet below ground surface at these locations. Radionuclide sediment sample results are presented in Table 32. The results distinguishable from the background are in Figure 26. Sample results are further discussed in Section 8.0.

7.12 BUILDING 59 WATERSHED (BB-17)

In 1992, four samples were collected from the Building 59 Watershed. The 1992 sample locations (Block 001, 002, 003 and 004) was approximately 200 to 400 feet north of Building

59. There were two arms of drainage in this area. Block 001 was located closest to Building 59, within 20 feet of a sample collected during a previous study (Cehn, 1991) by the Brandeis-Bardin consultant. The block was in the arm of drainage originating north of Building 59. Additional samples were not collected here because of heavy growth of poison oak in the drainage. A second arm originated northeast of Building 59 and more approximate to Building 012. Block 003 and 004 were located beyond the confluence of the two drainages just below where emergent water appeared. The area downstream of Block 004 could not be sampled due to thick vegetation (mostly poison oak) and a steep drop. Some stakes from the 1992 sampling round were identified when the sampling locations were reestablished.

On March 9, 1994, sixteen additional samples were collected from the Building 59 Watershed to further evaluate locations where tritium, cesium-137, and plutonium-238 were detected and to collect samples further down gradient from previous sampling. One sample was collected at location 001 (named 010 in 1994). The remaining fifteen samples were collected in five sets of three across the ravine. The primary sample (locations 006 through 009) were collected down the center of the ravine. Samples were collected at all three 1992 locations (002 through 004). Two additional locations down gradient were also sampled. Two additional samples were collected at each location approximately five feet on either side of the ravine on the embankment. Samples designated as "A" were collected on the east side of the ravine, and samples designated as "B" were collected on the west side of the ravine. Sample location 009 was approximately 150 feet down gradient of sample location 004.

Several QA/QC samples were collected from the Building 59 Watershed. Split sediment samples were collected at locations 005, 006, 007, 008, and 009 for the USEPA. A split sediment sample was collected at location 010 for the Brandeis-Bardin consultant. A field duplicate sample for tritium was collected at location 008A. A matrix spike sample was collected at location 009. Two rinsate samples were collected. Lab duplicate samples for plutonium-238 were analyzed at locations 006 and 010. A lab duplicate sample for tritium was analyzed at 009A. The radiation survey of the area by the USEPA showed an ambient radiation field of 18 μR/hr. The sample locations and the results distinguishable from background are shown on Figure 27.

Tritium was not detected in the sediment at locations 005, 005A, 005B, or 010, which is consistent with previous non-detect results at location 002. Tritium was not detected (<100 pCi/l) at 010, which was collected at the former location of 001 (1992), which contained 130±80 pCi/L. Tritium was detected at the four remaining locations within the ravine: 3,500 ±200 pCi/L at 006 (10,800 ±300 pCi/L was detected in 1992 at 003); 2,900 ±200 pCi/L at 007 (9,810 ±330 pCi/L was detected in 1992 at 004); 5,400 ±200 pCi/L at 008 (not previously sampled); and 3,900 ±200 pCi/L at 009. Tritium was below detection limits in all samples on either side of the ravine. USEPA split samples at locations 005, 006, 007, 008, and 009 confirmed these results although USEPA's results at 008 and 009 were approximately 1,000 pCi/L greater.

Cesium-137 was detected at the following sample locations in pCi/g(dry): 005 (0.22 ±0.04), 005A (0.15 ±0.05), 005B (0.39 ±0.05), 006 (0.19 ±0.03), 006A (0.16 ±0.04), 006B (0.23 ±0.06), 007 (0.22 ±0.04), 007A (0.12 ±0.04), 007B (0.30 ±0.05), 008 (0.12 ±0.05), 008A (0.25 ±0.05), 008B (0.24 ±0.02), 009 (0.15 ±0.02), 009A (0.19 ±0.04), and 009B (0.36 ±0.05). These results were consistent with USEPA's results and with results of sampling in 1992.

Plutonium-238 and plutonium-239 were below detection limits in all samples analyzed in 1994. The plutonium-238 result of 0.19 ±0.06 pCi/g(dry) at location 001 (location 010 in 1994) was not confirmed.

Radionuclide sample results are summarized in Table 33. Sample results are discussed further in Section 8.0.

On March 9, 1994, samples were also collected from three boring locations along the Rocketdyne property boundary at surface and at 2.5 feet below ground surface. The borings were designated as BB-17-B001 through B003. These samples were also analyzed for tritium, strontium-90, and gamma scan. A field duplicate sample was collected at B003 at surface for isotopic plutonium. USEPA collected split samples at B001 at the surface and at 2.5 feet below ground surface. A lab duplicate for tritium was analyzed of a sample collected from B003 at 2.5 feet below ground surface. The sample locations and results distinguishable from background are shown on Figure 26.

Tritium was detected at 7,600 ±300 pCi/L in sample B002 at 2.5 feet below ground surface. Tritium was not detected in the surface sample at B002. Tritium was also detected at 300 ±110 pCi/L in sample B001 at 2.5 feet below ground surface. This result was confirmed by the USEPA result. Tritium was not detected in the surface sample at B001. Tritium was not detected in either sample at B003. Cesium-137 was detected at 0.12 ±0.04 pCi/g(dry) in the surface sample at B001 and at 0.13 ±0.04 pCi/g(dry) in the surface sample at B002. Cesium-137 was below detection limits in all samples at 2.5 feet below ground surface and in the surface sample at B003. Isotopic plutonium was below detection limits at all boring sample locations.

Sampling results are discussed further in Section 8.0. Radionuclide results are summarized in Table 33.

7.13 Sodium Burn Pit Watershed (BB-18)

In 1992, the former Sodium Burn Pit Watershed was sampled approximately 600 to 1,300 feet north/northeast of the former Sodium Burn Facility. The sampled area was directly down stream of two run-off channels from the Facility. The natural drainage slopes away from the Sodium Burn Facility toward the north (toward the Brandeis-Bardin Institute); any runoff would collect into one of two channels. The first runs from the center of the former Sodium Burn Pit Facility and crosses the property line approximately 400 feet toward the north/northeast. The initial sampling location (Block 001B) in this channel was approximately 150 feet beyond the Rocketdyne property line. The second channel collects runoff from the eastern area of the former Sodium Burn Facility and crosses the property line approximately 650 feet towards the northeast. The initial sampling location (Block 001A) in this channel was approximately 25 feet beyond the Rocketdyne property line. At the location where these two channels converged on the Brandeis-Bardin property, the initial sediment sample was collected at Block 001. These drainage channels are hydrologically connected to Campsite Area 1 (located downgradient).

Leg B of the drainage area (Blocks 001B, 002B, and 003B) was a very narrow channel with relatively steep rock outcrops on either side. Leg A (Blocks 001A, 002A, and 003A) was less narrow but heavily vegetated with woody scrub, trees, and poison oak. The area around

Block 001 was the most level and open, and below this point, the ravine narrowed again (Blocks 002 and 003).

Samples were collected in 1994 to confirm that mercury detected in the 1992 round of sampling had been removed from the area where legs A and B of the drainage converged. In January and February 1994, the area was excavated and soil was collected in three 55-gallon drums. (The drums were observed during the sampling in 1994.) Several stakes from the 1992 round of sampling were identified when identifying sampling locations.

On March 10, 1994, seven sediment samples were collected from the watershed in the vicinity of the excavation according to the approved Workplan. Three samples, two upgradient (006A and 006B) and one downgradient (004), were collected beyond the limits of the excavation. Four samples (005, 005A, 005B, and 005C) were collected within the excavated area and near sample location 001 where mercury was previously detected at 0.35 mg/kg. USEPA and the Brandeis-Bardin consultant analyzed sample 006B for mercury. The sample locations and the results are shown on Figure 28.

Mercury was not detected in the samples within the excavated area. Mercury was detected at 0.12 mg/kg at Block 006B, which was beyond the limits of the excavated area. A laboratory duplicate of the sample was analyzed by the McLaren/Hart laboratory was below detection limits (0.10 mg/kg). A split sample from Block 006B were analyzed by the USEPA and Brandeis-Bardin. The result from the USEPA analysis indicated mercury was below detection limits (0.09 mg/kg). Mercury was detected in the split sample analyzed by the Brandeis-Bardin consultant at a concentration of 0.14 mg/kg. (See Section 8.0 for further discussion.) Mercury results are summarized in Table 34.

7.14 SODIUM REACTOR EXPERIMENT WATERSHED (BB-19)

Building 143, the Sodium Reactor Experiment (SRE) Watershed was sampled immediately below the Rocketdyne property line. The sampled area was directly downstream from the SRE in the run-off creek bed. The SRE is surrounded on three sides by rock outcrops and any surface runoff from the area drained to the northeast.

The drainage area was heavily vegetated with woody scrub and large areas of poison oak. A path was made along the less vegetated western side of the ravine until the property line was reached. A path was cut along the creek bed between the property line and the cliff dropping off toward Brandeis-Bardin Institute. The sample locations relative to the property line were only an approximation, since the actual property line was not easy to ascertain from this area. Samples were collected in 1994 to assess the strontium-90 and cesium-137 previously detected in two samples in the watershed. Several stakes from the 1992 round of sampling were identified when identifying sample locations.

On March 10, 1994, five sediment samples were collected along the creek bed according to the approved Workplan. Samples collected in 1994 were approximately from the same locations as 1992, with the addition of one sample approximately 100 feet upgradient (closer to the Rocketdyne property) from the previous upgradient sample. Samples were analyzed for strontium-90 and gamma scan. The USEPA collected split sediment samples at locations 005 and 006. The Brandeis-Bardin consultant collected a split sediment sample at location 007. Rinsate samples were collected at locations 005 and 006. The radiation survey of the area by the USEPA showed an ambient radiation field of 16 to 17 μR/hr. The sample locations and the results distinguishable from background are shown on Figure 29.

Cesium-137 was detected in three samples (005, 006, and 008) at concentrations of 0.045 to 0.056 pCi/g(dry). The USEPA split samples confirmed these results (0.05 $\pm$0.01 pCi/g(dry) at 005 and 0.06 $\pm$0.02 pCi/g(dry) at 006). These 1994 results did not match the concentrations detected in 1992 (0.30 $\pm$0.05 pCi/g(dry) at 001 and 0.24 $\pm$0.06 pCi/g(dry) at 002). Strontium-90 was detected at 0.12 $\pm$0.08 pCi/g(dry) at 006 and 0.061 $\pm$0.041 pCi/g(dry) at 009. These results are consistent with concentrations detected in 1992.

Sample results are discussed further in Section 8.0. Radionuclide results are summarized in Tables 35.

7.15 CAMPSITE AREA 1 DRAINAGE (BB-20)

The Campsite Area 1 Drainage is a continuation of the drainage from the Building 59 Watershed to Campsite Area 1. (Originally it was believed to be continuous with the

Radioactive Materials Disposal Facility (RMDF) Watershed, but a separate drainage to Campsite Area 1 from the RMDF was identified during sampling. Accessibility to the entire drainage was impeded by steep slopes; sampling in the drainage was initiated approximately 1200 feet downgradient of the northern-most sample in the Building 59 Watershed. Sample 001 was collected adjacent to an abandoned water tank. From sample locations 001 to 003, the drainage channel flows to the west. A second drainage joined the main drainage between location 001 and 002. At location 003 a third drainage (which was sampled at location 004) joined the main drainage channel and the drainage turned sharply to the north. The drainage from the RMDF joined the main drainage approximately 50 feet south of location 009. Samples were collected from the Campsite Area 1 Drainage to evaluate whether radionuclides detected in the Building 59 Watershed were present further downgradient on the Brandeis-Bardin property.

On March 8, 1994, ten sediment samples were collected along the drainage area leading to Campsite Area 1 according to the approved Workplan. Samples were spaced approximately 250 feet apart, except when conditions prohibited collecting a sample at that distance. Samples were analyzed for tritium, gamma scan, and strontium-90. The USEPA collected split sediment samples at locations 001, 003, 004, 006, and 007. The Brandeis-Bardin consultant collected split sediment samples at locations 001, 003, and 009. Field duplicate samples were collected at locations 003 (tritium) and 005 (gamma scan). A matrix spike sample was collected at 010 for gamma scan and at 008 for strontium-90. Rinsate samples were collected at locations 001, 002, and 006. Lab duplicate samples were analyzed at 004 (strontium-90), 005 (tritium), and 010 (strontium-90). The radiation survey of the area by the USEPA showed an ambient radiation field of 17 to 20 μR/hr. The sample locations are shown on Figure 30.

Tritium results in the Campsite Area 1 Drainage were all below detection limits. Cesium-137 was detected at location 001 at 0.11 $\pm$0.037 pCi/g(dry) and at 009 at 0.076 $\pm$0.036 pCi/g(dry). The cesium-137 results were confirmed by the Brandeis-Bardin consultant results at both locations. Strontium-90 was detected at one location 004 at 0.18 pCi/g(dry). Sample results are further discussed in Section 8.0. Radionuclide results are summarized in Table 36.

A surface water sample was collected from a pool of running water near sample location 010. The water flowed along the rock and collected in a pool at the point where the samples were collected. Samples were analyzed for gross alpha/beta activity and tritium. USEPA collected a split sample which they also analyzed for gamma scan. Gross beta activity was detected at 15 ±3 pCi/L. Tritium and gross alpha activity was below detection limits in the sample collected, which was confirmed by the USEPA results. Cesium-137 results for USEPA were also below detection limits. Radionuclide results are summarized in Table 37.

8.0
DISCUSSION OF RESULTS

8.0 DISCUSSION OF RESULTS

In Section 4.0, the quality assurance/quality control (QA/QC) results were presented, and in Sections 6.0 and 7.0, the sampling results were discussed by Sampling Area. After summarizing the results of the QA/QC samples, a generalized discussion of all the results by analysis and sampling media is presented in this section.

8.1 QUALITY ASSURANCE/QUALITY CONTROL

As discussed in Section 3.0, quality assurance/quality control (QA/QC) samples were collected throughout the project so that the results of the study represent the concentrations of chemicals and radionuclides in the sampling areas. Although six types of QA/QC samples were collected and analyzed, the blind field duplicates and split samples (including interlaboratory split samples) are key representations of data quality because the samples were analyzed blindly as if they came from different sources and, in the case of split samples, were analyzed by entirely different laboratories. Laboratory duplicate samples, while not analyzed blindly, also provide perspective on the consistency of the data. A summary of the percentage that blind field duplicate, split samples, pre-spiked samples, and laboratory duplicates were in agreement[5] or not in agreement with the respective scheduled sample for each analyte is presented in Figure 5 for soil/sediment samples and Figure 6 for surface water samples.

As shown in Figure 5, the soil/sediment samples were in 100 percent agreement for plutonium-238 and plutonium-239. For the strontium-90 analysis, the detection limits used by USEPA and the Brandeis-Bardin consultant were approximately an order of magnitude greater than that used by Teledyne Isotopes, resulting in the Teledyne results being below the detection limits reported for the split samples. One split sample analyzed by DHS for

[5] In agreement for samples analyzed for radionuclides means that the difference between the scheduled sample results and the QA/QC results was less than the sum of the standard deviations of the sample results.

strontium-90 was not in agreement with the Teledyne Isotopes result. Strontium-90 samples were in agreement 98 percent of the time. For plutonium-239 and plutonium-239, DHS was the only lab to detect plutonium-238 in two split samples, but, due to DHS's low detection limit, their results were below the detection limit of the Teledyne Isotopes results. Tritium samples were in agreement 94 percent of the time. Cesium-137 samples were in agreement 91 percent of the time.

As shown in Figure 6, the surface water samples were in 100 percent agreement for tritium, gross alpha radioactivity scan, plutonium-238, and plutonium-239. Plutonium-238 was in 100 percent agreement as results at all labs were below detection limits. Gross beta radioactivity and strontium-90 samples were 83 percent in agreement, and gamma scan samples were 82 percent in agreement.

As shown in Figure 5, 96 percent of the QA/QC soil/sediment samples, *i.e.*, field duplicates, rinsate samples, split samples, pre-spiked samples, and lab duplicates compared to their respective scheduled sample, were in agreement. Matrix spike/matrix spike duplicates (MS/MSD) indicated that matrix interferences did not impact sample results. Equipment rinsates indicated that cross contamination between samples analyzed did not occur. The QA/QC soil/sediment samples validate the data.

As shown in Figure 6, 88 percent of the QA/QC water samples compared to their respective scheduled sample were in agreement. The QA/QC water samples validate the data.

The tritium results presented in this report were validated by the laboratory and by the QA/QC protocol established for this project. Four of the original 147 soil/sediment samples at the study areas and background areas analyzed for tritium, were withdrawn by the laboratory because the laboratory could not validate the tritium concentration as a low yield of water (2 ml or less) had been extracted from the original sample. The low yield of water impacted the reported value and associated error. An adjacent sample to one of the four samples was reanalyzed and a significantly better yield was obtained. The result of this reanalysis was used in this report upon the consensus of the representative of the USEPA, the DHS, and the consultant to Brandeis-Bardin.

8.2 Results by Analysis

8.2.1 Mercury

Mercury was below detection limits in the four sediment samples collected from the area of Sodium Burn Pit Watershed (BB-18) that had been excavated following the results of sampling in 1992. Mercury was found in one (0.12 mg/kg) of the three sediment samples collected outside but in the vicinity of the excavated area. The results from this sample were not confirmed by an analysis of a laboratory duplicate of the sample or by interlaboratory split samples with the USEPA. The interlaboratory split with the Brandeis-Bardin consultant indicated a concentration of 0.14 mg/kg.

8.2.2 Tritium

Tritium was not detected in any of the 50 samples collected in the human activity areas in 1994. Tritium samples were collected in four ravine/drainage areas in 1994. Tritium was not detected in samples collected from the RD-51 Watershed or Campsite Area 1 Drainage. The majority of tritium concentrations in background samples were below detection limits. For this reason, twice the maximum detection limit was used as a benchmark to assess concentrations of tritium detected in 1994 to account for laboratory variability before declaring a sample above background. The detection limit for tritium ranged from less than 100 to 300 pCi/L, therefore; the background concentration used to assess the tritium detected in 1994 was 600 pCi/L.

Sample results in the Radioactive Materials Disposal Facility (RMDF) Watershed (BB-16) sediments indicated that concentrations of tritium were not present further downgradient from the RMDF than previously detected in 1992. Concentrations in the RMDF Watershed in 1994 ranged from less than 100 to 230 ± pCi/L. Tritium was only detected one order of magnitude above the detection limits in the Building 59 Watershed (BB-17) and borings located upgradient from the watershed. Concentrations of tritium in the Building 59 Watershed in 1994 ranged from less than 100 to 5,400 ±200 pCi/L. Tritium was only detected in samples in the ravine and not on either side as indicated by the results from the samples that spanned the ravine five feet on either side. In a boring located above the Building 59 Watershed, tritium was detected at 7,600 ±300 pCi/L. Because tritium was not detected in samples in the Campsite Area 1 Drainage, which is directly downgradient of the Building 59 Watershed, the impact of tritium in the Building 59 Watershed is limited to the area sampled near Rocketdyne property boundary. The results in these Watersheds were confirmed by split samples by the USEPA, the DHS, and the Brandeis-Bardin consultant.

Tritium was not detected above the detection limits in the surface water samples collected at Campsite Area 2 and at the Campsite Area 1 Drainage. The California drinking water standard for tritium is 20,000 pCi/L (22 California Code of Regulations (CCR) 64443).

8.2.3 Strontium-90

Strontium-90 samples were collected in three of the ravine/drainage sampling areas. The results in these Watersheds were confirmed by split samples by the USEPA, the DHS, and the Brandeis-Bardin consultant. Strontium-90 results from 1994 and 1992 (one result for each unique sampling location) were compared statistically to background results using the Behrens-Fisher t-Test for each of the three ravines. As a result of the analysis, the strontium-90 results at the Sodium Reactor Watershed Building 59 Watershed and Campsite Area 1 Drainage were not identified as statistically different from the background sampling results. The strontium-90 results for the borings at the RMDF Watershed were also not identified as statistically different from the background sampling results. The strontium-90 results for the RMDF Watershed were considered statistically different with a mean of 0.103 pCi/g(dry) compared to the mean of strontium-90 in background samples of 0.052 pCi/g(dry). A summary of background versus sample areas that are statistically different is presented in Table 38. Strontium-90 was detected in all five of the samples collected in 1994 and five of the six samples collected in 1992. A graphical evaluation of the strontium-90 data obtained from samples collected in the RMDF Watershed is presented in Figure 8 of Appendix F. However, strontium-90 was not detected in the samples collected by the USEPA or the Brandeis-Bardin consultant because the detection levels used ranged from 0.5 to 0.74 pCi/g(dry), values two to three times higher than the highest concentration of strontium-90 detected in soil or sediment in the RMDF watershed. Strontium-90 concentrations were detected in one of the DHS split samples in the same range as the scheduled result.

It should also be noted that had the Wildwood Regional Park Strontium-90 results been included in the aggregate background data, the RMDF Watershed results would have become statistically insignificant. It may be noted that a cleanup of a spill of Strontium-90 bearing radioactive materials near RMDF Watershed was completed in 1978. Potential exposure pathways and doses were evaluated and the results summarized in an environmental evaluation report in February, 1982. The evaluation concluded that the potential doses of residual radionuclides in the soil were orders-of-magnitude lower than the release limits for unrestricted use.

8.2.4 Cesium-137

Four of the ravines/drainages were sampled and a gamma scan analysis conducted. The results in these Watersheds were confirmed by split samples by the USEPA, the California Department of Health Services (DHS), and the Brandeis-Bardin consultant. Cesium-137 results from 1994 and 1992 (one result for each unique sampling location) were compared statistically to background results using the Behrens-Fisher t-Test for each of the three ravines. As a result of the analysis, the cesium-137 results at the Radioactive Materials Disposal Facility (RMDF) Watershed, the Sodium Reactor Experiment, and Campsite Area 1 Drainage were not identified as statistically different from the background sampling results. The cesium-137 results for the borings above the RMDF and Building 59 Watersheds were also not statistically different from the background sampling results. The cesium-137 results in the Building 59 Watershed were considered statistically different with a mean of 0.20 pCi/g(dry) compared to the mean of cesium-137 in background samples of 0.087 pCi/g(dry). A summary of background versus sample areas that are statistically different is presented in Table 38. Cesium-137 was detected in all sixteen of the samples collected in 1994 and in all five of the samples collected in 1992. Unlike tritium, concentrations of cesium-137 in the 1994 samples spanned an approximately 10-foot cross-section of the ravine in five locations. Concentrations of cesium-137 in samples on the southwest side of the ravine (designated with a "B") were consistently higher than samples in the center of the ravine (no designation) or northeast of the ravine (designated "A"). Concentrations of cesium-137 detected at the top of the ravine were consistent with comparable samples (*i.e.*, samples on the same side) at the bottom of the ravine. Because concentrations of cesium-137 in the Campsite Area 1 Drainage, which is directly downgradient of the Building 59 Watershed, were not significantly different than background, the impact of cesium-137 in the Building 59 Watershed is limited to the area sampled near the Rocketdyne property boundary. A graphical evaluation of the cesium-137 data collected in the Building 59 Watershed is presented in Figure 9 of Appendix F. It should also be noted that all cesium-137 values are within the range of cesium-137 found at Wildwood Park Ravine background location.

8.2.5 Plutonium-238

Isotopic plutonium samples were collected in two ravines during the 1994 sampling. Plutonium-238 and plutonium-239 were below detection limits in all samples collected in 1994. Thus, the plutonium-238 results from the 1992 study were not confirmed indicating that plutonium-238 is not an issue in these ravines. The results in these Watersheds were confirmed by split samples by the USEPA, the California Department of Health Services (DHS), and the Brandeis-Bardin consultant.

9.0
CONCLUSIONS

9.0 CONCLUSIONS

In this study, soil/sediment and surface water samples were collected from nine human activity areas and six ravines/drainages at the Brandeis-Bardin Institute or the Santa Monica Mountains Conservancy. The sample locations and analyses were selected to address specific issues or questions raised after completion of the original study in 1992. Samples were also collected from five additional background areas to provide a more robust data set for the comparison of sample results. The soil/sediment samples were analyzed for tritium, isotopic plutonium (plutonium-238 and plutonium-239), strontium-90, and a gamma scan which measured 75 other radionuclides, both naturally occurring (*e.g.*, potassium-40) and man made (*e.g.*, cesium-137). Surface water was analyzed for the tritium and for gross alpha/beta radioactivity, which would serve as an indicator for the other radionuclides. The 1992 and 1994 soil/sediment results at the designated sampling areas were compared to the results from 11 background areas (sampled in 1992 and 1994) to determine if the values in the Study Areas exceeded the values in the Background Areas.

In reviewing QA/QC results, there was a high agreement between blind field duplicates, split samples, pre-spiked samples, and the laboratory duplicate samples with their respective scheduled sample. A comparison of the split samples, the blind field duplicates, the pre-spiked samples and the laboratory duplicates with the scheduled samples indicated that the overall agreement of these QA/QC samples with the scheduled samples was 96 percent (soil/sediment) and 88 percent (water). The data in this report, thus, were determined to be valid and representative.

The issues raised following the 1992 sampling activity and which were addressed by the additional 1994 sampling and the conclusions based on the data in this report are summarized in the rest of this chapter. The data presented are illustrated on Figure 31.

Issue 1. **Re-evaluation of locations for which tritium results were withdrawn or dried by the Teledyne Isotopes laboratory. Results of resampling and analyses.**

Tritium samples were collected in nine human activity areas and one ravine to replace the 1992 data withdrawn by Teledyne Isotopes. All tritium results in the nine human activity areas and one ravine were below detection limits.

Issue 2. **Confirmation of the 1992 DHS sample result of 2,470 ±197 pCi/L at Campsite Area 2. Results of resampling.**

Tritium in all samples collected at Campsite Area 2 in 1994, was below detection limits.

Issue 3. **Remediation of mercury present in the Sodium Burn Pit Watershed (BB-18) at Brandeis-Bardin in the vicinity of previously detected mercury. Results of excavation and follow-up sampling.**

Based on the sample results within the excavation, mercury previously measured in the watershed (0.35 mg/kg) has been removed within the area subsequently excavated. Mercury was not detected (<0.1 mg/kg) in the four samples collected from within the excavation area. A concentration of 0.12 mg/kg of mercury, slightly above the detection limit, was reported in one of the samples upgradient from the excavation. However, an analysis of a laboratory duplicate of the sample and analysis of an interlaboratory duplicate by the USEPA were below the detection limit (<0.1 and <0.09 mg/kg, respectively). Analysis of the interlaboratory duplicate by Brandeis-Bardin indicated a concentration of 0.14 mg/kg. Thus, the mercury (0.35 mg/kg) detected in the Sodium Burn Pit Watershed in 1992 was removed by excavation. Mercury at near detection level may be present upgradient from the excavation.

Issue 4. **Determination whether the plutonium-238 detected in 1992 in the RD-51 and Building 59 Watersheds is representative of a concentration distinguishable from background plutonium-238. Results of additional sampling and statistical comparison.**

Plutonium-238 was not detected in any samples collected in either watershed in 1994. The results of the 1992 study were not confirmed by 1994 study results.

Issue 5. **Determination whether strontium-90 in the Sodium Reactor Experiment Watershed is statistically different than background. Results of additional sampling and statistical comparison.**

The collection of additional data in 1994 allowed for a statistical comparison of strontium-90 concentrations in the Sodium Reactor Experiment Watershed. Based on these results, watershed concentrations were not considered statistically different than background.

Issue 6. **Determination whether concentrations of tritium, cesium-137, and strontium-90 in the Radioactive Materials Disposal Facility Watershed are greater than background. Results of additional sampling and comparison of the results with the background data.**

Since a significant number of background results for tritium were below the detection limit, an analysis of variance for tritium was not conducted on the data set. Tritium results for the RMDF watershed samples collected in 1994 indicate that the RMDF is not significantly different from background results. Strontium-90 results are statistically different from the background results. Cs-137 results were not statistically different from background results.

Issue 7. **Determination whether concentrations of tritium and cesium-137 in the Building 59 Watershed are greater than background. Results of additional sampling and comparison of the results with the background data.**

Since significant number of background results for tritium were below the detection limit an analysis of variance for tritium was not conducted on the data set. Tritium at elevated levels, but about 50 percent or more below the MCL for drinking water (20,000 pCi/l), was measured in the samples collected in the ravine of the Building 59 Watershed. These elevated tritium levels were confirmed by split samples by the USEPA and the Brandeis-Bardin consultant, and are significantly different than background. Based on results using the Behrens-Fisher t-Test cesium-137 results are statistically different from background sampling.

Issue 8. **Determination of whether tritium, cesium-137, or strontium-90 impacted the Campsite Area 1 Drainage Area leading to Campsite Area 1. Results of additional sampling in the drainage and comparison of results with the background data.**

Tritium was not detected in samples collected in the Campsite Area 1 Drainage Area. Cesium-137 and strontium-90 was detected in two of the 10 samples collected in the Campsite Area 1 Drainage Area. The results were compared statistically to background results using the Behrens-Fisher t-Test. Cesium-137 and strontium-90 results were not statistically different from background sampling results. A 1,200-foot section of drainageway from the lowest sampling point of the Building 59 Watershed (009, Figure 27) and the uppermost sample (001, Figure 30) of the Campsite Area 1 Drainage was not sampled due to the steepness of the terrain and vegetation constraints.

TABLES

Tables

TABLE 1

SUMMARY OF ADDITIONAL (1994) SOIL SAMPLING

Sample Area	Analysis	Number of Samples	Rationale
Background Areas			
Rocky Peak (BG-01)	Tritium Strontium-90 Gamma Scan Isotopic Plutonium	5 5 5 5	Background site located 2 miles from SSFL. Five additional locations were sampled in the original gridded area. Both the original and new data are used as background.
Santa Susana Park (BG-02)	Tritium Strontium-90 Gamma Scan Isotopic Plutonium	5 5 5 5	Background site located 1.5 miles from SSFL. Original tritium data analyzed by the gas counting method were withdrawn by the laboratory in 1992. Two additional locations and three of the original locations were sampled in the original gridded area.
Happy Camp (BG-05)	Tritium Strontium-90 Gamma Scan Isotopic Plutonium	5 5 5 5	Background site located 12.5 miles from the SSFL. Two additional locations were sampled in the original gridded area. Both the original and new data are used as background.
Wildwood Regional Park (BG-09)	Tritium Strontium-90 Gamma Scan Isotopic Plutonium	5 5 5 5	Background site located 13 miles from the SSFL to indicate background levels of radionuclides in an undisturbed flat area.
Wildwood Regional Park - Ravine (BG-10)	Tritium Strontium-90 Gamma Scan Isotopic Plutonium	5 5 5 5	Background site located 13 miles from the SSFL to indicate background levels of radionuclides in a ravine.
Tapia County Park (BG-11)	Tritium Strontium-90 Gamma Scan Isotopic Plutonium	5 5 5 5	Background site located 10 miles from the SSFL to indicate background levels of radionuclides in an undisturbed flat area.
Tapia County Park - Ravine (BG-12)	Tritium Strontium-90 Gamma Scan Isotopic Plutonium	5 5 5 5	Background site located 10 miles from the SSFL to indicate background levels of radionuclides in a ravine.
Rocky Peak Ravine (BG-14)	Tritium Strontium-90 Gamma Scan Isotopic Plutonium	5 5 5 5	Background site located 2 miles from the SSFL to indicate background levels of radionuclides in a ravine.
Brandeis-Bardin Institute			
Dormitory Area (BB-02)	Tritium	5	Original tritium data analyzed by the gas counting method were withdrawn by the laboratory in 1992.
Campsite Area 1 (BB-03)	Tritium Tritium	5 5	Original tritium data analyzed by the gas counting method were withdrawn by the laboratory in 1992. Five additional blocks were selected to provide additional characterization.

TABLE 1 (continued)

SUMMARY OF SOIL SAMPLING

Sample Area	Analysis	Number of Samples	Rationale
Campsite Area 2 (BB-04)	Tritium Tritium	5 5	Original sample blocks were resampled to evaluate the validity of the 1992 DHS sample result. Five additional blocks were selected to evaluate the validity of the 1992 DHS sample result.
Picnic Area (BB-05)	Tritium	5	Original tritium data analyzed by the gas counting method were withdrawn by the laboratory in 1992.
House of the Book (BB-06)	Tritium	5	Original tritium data analyzed by the gas counting method were withdrawn by the laboratory in 1992.
Main House Orchard (BB-12)	Tritium	5	Original tritium data analyzed by the gas counting method were withdrawn by the laboratory in 1992.
Avocado Grove (BB-13)	Tritium	5	Original tritium data analyzed by the gas counting method were withdrawn by the laboratory in 1992.
Old Well Campsite (BB-14)	Tritium	5	Original tritium data analyzed by the gas counting method were withdrawn by the laboratory in 1992.
RD-51 Watershed (BB-15)	Tritium Isotopic Plutonium	5 5	Original tritium data analyzed by the gas counting method were withdrawn by the laboratory in 1992. Five samples were collected to determine whether plutonium-238 reported in the vicinity of the RD-51 watershed is statistically different from background.
Radioactive Materials Disposal Facility Watershed (BB-16)	Tritium Strontium-90 Gamma Scan	15 15 15	Five samples collected to determine whether tritium, strontium-90, and cesium-137 reported in the vicinity of the RMDF Watershed are statistically different from background. Five samples were collected at surface and at depth at locations between the RMDF and Building 59 watersheds.
Building-59 Watershed (BB-17)	Tritium Gamma Scan Isotopic Plutonium	22 22 22	Sixteen samples collected to characterize tritium in the soil in the Building-59 Watershed. Sixteen samples collected to determine whether cesium-137 and plutonium-238 reported in the vicinity of the Building-59 Watershed are statistically different from background. Three additional samples were collected at the surface and at depth at locations between the RMDF and Building 59 watersheds.
Sodium Burn Pit Watershed (BB-18)	Mercury	7	Seven samples were collected to document that mercury within the Sodium Burn Pit Watershed was removed.
Sodium Reactor Experiment Watershed (BB19)	Gamma Scan Strontium-90	5 5	Five samples were collected to determine whether strontium-90, and cesium-137 reported in the vicinity of the Sodium Reactor Experiment Watershed are statistically different from background.
Campsite-1 Drainage Way (BB-20)	Tritium Strontium-90 Gamma Scan	10 10 10	Ten sample locations within the drainage way between Campsite Area 1 and the Building 59/RMDF Watersheds to determine potential impact below the areas documented in 1992.

TABLE 1 (continued)

SUMMARY OF SOIL SAMPLING

Sample Area	Analysis	Number of Samples	Rationale
Santa Monica Mountains Conservancy			
Former Rocketdyne Employee Shooting Range (SM-03)	Tritium	5	Original tritium data analyzed by the gas counting method were withdrawn by the laboratory in 1992.

TABLE 2

SAMPLE CONTAINER AND PRESERVATION SPECIFICATIONS

Analytical Parameter	Container Size	Container Type	Sample Handling	Preservative	Holding Time[a]
Soil Samples					
Mercury	6-inch	brass tube[b]	N/A	none	28 days
Strontium-90	6-inch	brass tube[b]	N/A	none	N/A
Isotopic Plutonium	6-inch	brass tube[b]	N/A	none	N/A
Gamma Scan	6-inch	brass tube[b]	N/A	none	N/A
Tritium	1 quart	glass jar	N/A	none	N/A
Water Samples					
Strontium-90	1 liter	plastic bottle	filtered[c]	4 ml HNO_3[d]	N/A
Gamma Scan	1 liter	plastic bottle	filtered[c]	4 ml HNO_3[d]	N/A
Tritium	1 liter	glass bottle	filtered[c]	none	N/A
Gross alpha and beta scan	1 liter	plastic bottle	filtered[c]	2 ml HNO_3[d]	N/A

N/A = Not Applicable

a Holding time from day of collection to extraction.
b A 1-gallon resealable plastic bag was used for split samples.
c Samples are filtered in the field using a 0.45 micron Whatman glass fiber filter.
d 1:1 solution of 16 molar nitric acid and distilled/deionized water.

TABLE 3

FIELD QUALITY ASSURANCE CONTROL SAMPLE REQUIREMENTS[a]

Analytical Parameter	Field Rinsate Blank		Blind Field Duplicate	Field Blanks	Pre-spiked Blind Duplicate	MS/MSD
	Required Volume	No. of Analyses	No. of Analyses	No. of Analyses	No. of Analyses	No. of Analyses
Soil Samples						
Strontium-90	2 liters	4	4	N/A	0	4
Isotopic Plutonium	2 liters	4	4	N/A	0	4
Gamma Scan	2 liters	5	4	N/A	0	5
Tritium	1 liter	8	8	N/A	7	8
Water Samples						
Isotopic Plutonium	2 liters	0	0	0	4	0
Strontium-90	2 liters	1	0	1	4	0
Gamma Scan	2 liters	1	0	1	4	0
Tritium	1 liter	1	0	1	2	0
Gross alpha and beta scan	1 liter	1	0	1	4	0

N/A = Not Applicable (Field blanks are for water samples only and consist of distilled water placed in sample containers at a field location)
MS/MSD = Matrix Spike/Matrix Spike Duplicate
[a] = Based on the following number of soil analyses

Tritium - 147
Strontium-90 - 70
Cesium-137 - 92
Isotopic Plutonium - 67

TABLE 4
QUALITY ASSURANCE/QUALITY CONTROL SOIL/ SEDIMENT SAMPLE LOCATIONS

Sample Location	Sample Block Number	Field Rinsate Blank	Blind Field Duplicate	Matrix Spike/Matrix Spike Duplicate
Dormitory Area (BB-02)	045			Tritium
Campsite 1 (BB-03)	026			Tritium
Campsite 2 (BB-04)	021	Tritium	Tritium	
Picnic Area (BB-05)	089		Tritium	
House of the Book (BB-06)	092			Tritium
Avocado Grove (BB-13)	024	Tritium		
RD-51 Watershed (BB-15)	001			Tritium
	006	Pu		
	009		Pu	
RMDF Watershed (BB-16)	006		Cs-137	
	007		Tritium, Sr-90	
Building 59 Watershed (BB-17)	B001-Surface	Tritium		
	B003-Surface		Pu	
	005	Pu		
	006A			Tritium
	007B			Pu
	008A	Cs-137	Tritium	
	009A			Cs-137
Sodium Reactor Experiment Watershed (BB-1	005	Sr-90		
	006	Cs-137		
Campsite 1 Drainage (BB-20)	001	Sr-90		
	002	Cs-137	Tritium	
	005		Cs-137	
	006	Tritium		
	008			Sr-90
	010			Cs-137
Shooting Range (SM-03)	012	Tritium		
Rocky Peak (BG-01)	016	Pu	Sr-90	
	034		Tritium	
	082			
	087	Cs-137	Pu	
	090	Sr-90	Cs-137	
Santa Susana Park (BG-02)	017			Cs-137
	076	Tritium		
	085			Pu
Happy Camp (BG-05)	017		Cs-137	
	027			Tritium
	050			Sr-90

Pu - Isotopic Plutonium (Plutonium-238 and -239)
Sr-90 - Strontium-90
Cs-137 - Cesium-137

TABLE 4 (continued)
QUALITY ASSURANCE/QUALITY CONTROL SOIL/ SEDIMENT SAMPLE LOCATIONS

Sample Location	Sample Block Number	Field Rinsate Blank	Blind Field Duplicate	Matrix Spike/Matrix Spike Duplicate
Wildwood Regional Park (BG-09)	003		Sr-90, Pu	
	005	Cs-137		
	013		Sr-90	
	057	Pu	Tritium	
	096	Sr-90		
Wildwood Regional Park Ravine (BG-10)	001	Tritium		
	002		Cs-137	
Tapia County Park (BG-11)	010			Sr
	031			Tritium
	036		Tritium	
Tapia County Park Ravine (BG-12)	001			Pu
	004			Cs-137
Rocky Peak Ravine (BG-14)	001	Tritium		Sr-90
	002			Pu
	003			Cs-137
	005			Tritium

Pu - Isotopic Plutonium (Plutonium-238 and -239)
Sr-90 - Strontium-90
Cs-137 - Cesium-137

TABLE 5
MATRIX SPIKE/MATRIX SPIKE DUPLICATE DATA

	Spike Identification	Spike Concentration (pCi/g)	1st Run (pCi/g)	2nd Run (pCi/g)	3rd Run (pCi/g)	Spike Recovery	Spike Duplicate Recovery	Relative Percentage Difference
BB-17-009A-MG	Cs-137	0.56	0.199	0.715	0.764	92	101	7
BB-20-010-MG	Cs-137	0.64	<0.005	0.746	0.822	117	128	10
BG-02-017-MG	Cs-137	0.62	0.168	0.877	0.866	114	113	1
BG-12-004-MG	Cs-137	0.7	0.0741	0.943	0.949	124	125	1
BG-14-003-MG	Cs-137	0.58	0.0846	0.57	0.761	84	117	29
BB-17-007B-MP	Pu-239	0.33	<0.008	0.35	0.31	106	94	12
BG-02-085-MP	Pu-239	0.66	<0.02	0.63	0.58	95	85	8
BG-12-001-MP	Pu-239	0.33	<0.006	0.32	0.29	97	88	10
BG-14-002-MP	Pu-239	0.33	<0.001	0.31	0.32	94	97	3
BB-20-008-MS	Sr-90	3.8	0.11	3.9	3.9	100	100	0
BG-05-050-MS	Sr-90	3.8	<0.2	3.8	3.9	100	103	3
BG-11-010-MS	Sr-90	3.8	0.099	3.9	4.1	100	105	5
BG-14-001-MS	Sr-90	3.8	<0.07	4	4	105	105	0
BB-02-045-MT	Tritium	2700	<200	3100	2900	114	107	7
BB-03-026-MT	Tritium	14000	<100	15000	17000	107	121	13
BB-06-092	Tritium	2700	<100	3000	3300	111	122	10
BB-15-001-MT	Tritium	3500	<300	3300	3800	94	109	14
BB-17-006A-MT	Tritium	1400	<100	1400	1700	100	121	19
BG-05-027-MT	Tritium	3500	<300	3500	3700	100	106	6
BG-11-031-MT	Tritium	7000	<700	7900	8400	113	120	6
BG-14-005-MT	Tritium	14000	1300	16000	15000	105	98	6

Spike Recovery = (2nd run - 1st run/spike amount x 100)
Spike Duplicate Recovery = (3rd run - 1st run/spike amount) x 100
Relative Percent Difference = (2nd run - 3rd run/(2nd run + 3rd run) x .50) x 100
1st Run: Aliquot from original sample analysed prior to spiking sample.
2nd Run: Additional aliquot extracted from original sample and spiked with specified concentration of analyte.
3rd Run: Third aliquot extracted from original sample and spiked with specified concentration of analyte.

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TABLE 6

PRE-SPIKED BLIND DUPLICATE SAMPLE RESULTS

Radionuclide*	True Value pCi/L	USEPA Results		McLaren/Hart Results		Brandeis-Bardin Results		California Department of Health Services Results	
		Activity pCi/L	% Deviation	Activity pCi/L	% Deviation	Activity pCi/L	% Deviation	Activity pCi/L	% Deviation
Gross Alpha Radiation	43.7	38.1 ± 8.1	-12.8	41 ± 5	-6.2	NR		79.8 ± 6.7	82.6
		31.6 ± 7.5	-27.7	41 ± 5	-6.2	NR		41.6 ± 3.7	-4.8
Gross Beta Radiation	84.0	94.1 ± 11.1	12.1	100 ± 10	19.1	NR		114.8 ± 5.4	36.7
		81.7 ± 10.5	-2.7	96 ± 5	14.3	NR		75.7 ± 5.5	-9.9
Tritium in Soil	Blank	< 260	0	< 200	0	< 400	0	NS	
		NS	--	< 200	0	NS	--	NS	
		NS	--	< 100	0	NS	--	NS	
Tritium in Soil	1953	1600 ± 210	-18.1	1700 ± 200	-13.0	1600 ± 340	-18.1	NS	
		NS	--	1700 ± 200	-13.0	NS	--	NS	
		NS	--	1200 ± 100	-38.6	NS	--	NS	
		NS	--	1500 ± 200	-23.2	NS	--	NS	
Tritium in Water	1953	1800 ± 210	-7.8	1700 ± 100	-13.0	2000 ± 300	2.4	1160±140	-40.6
		1900 ± 210	-2.7	1800 ± 200	-7.8	1900 ± 300	-2.7	1150±140	-41.1

* - Radionuclides were spiked into water samples unless otherwise noted.
NS - Not sampled , NR - Not reported, NI - Not Identified
USEPA - United States Environmental Protection Agency
< - Less than the minimum detectable concentration (MDC) [i.e., the detection limit (DL)].
% Deviation - The percent variance from the true value.
Values in ( ) indicate a second result reported by the study participant after the source of error in the intial result was determined.

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TABLE 6 (continued)
PRE-SPIKED BLIND DUPLICATE SAMPLE RESULTS

Radionuclide*	True Value pCi/L	USEPA Results		McLaren/Hart Results		Brandeis-Bardin Results		California Department of Health Services Results	
		Activity pCi/L	% Deviation	Activity pCi/L	% Deviation	Activity pCi/L	% Deviation	Activity pCi/L	% Deviation
Plutonium-239	2.88	3.1 ± 0.42	7.6	2.9 ± 0.7	0.7	3.02 ± 0.43	4.9	3.178±0.338	10.3
		3.0 ± 0.33	4.2	3.3 ± 0.8	14.6	2.43 ± 0.36	-15.6	3.143±0.254	9.13
		NS	--	2.5 ± 0.7	-13.2	NS	--	NS	--
		NS	--	2.6 ± 0.7	-9.7	NS	--	NS	--
Strontium-90	2.2	2.1 ± 0.94	-4.	<2 (2.2 ± 1.0)	(0)	1.63 ± 0.78	-25.9	3.66±0.73	66.4
		2.4 ± 0.59	9.1	<1 (2.2 ± 1.6)	(0)	2.62 ± 0.94	19.1	4.06±0.60	81.1
		NS	--	< 1	(-54.5)	NS	--	NS	--
		NS	--	<3 (2.3 ± 1.2)	(4.5)	NS	--	NS	--
Cadmium-109	7377	6860 ± 150	-7.0	NI (9530 ± 250)	(29.2)	8200 ± 230	11.2	8211 ± 286	11.3
		7040 ± 190	-4.6	NI (7970 ± 240)	(8.0)	4100±160 (8200 ± 320)	-44.4 (11.2)	10040 ± 134	36.1
		NS	--	NI (8510 ± 170)	(15.4)	NS	--	NS	--
		NS	--	NI (9700 ± 310)	(31.5)	NS	--	NS	--

* - Radionuclides were spiked into water samples unless otherwise noted.
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USEPA - United States Environmental Protection Agency
< - Less than the minimum detectable concentration (MDC) [i.e., the detection limit (DL)].
% Deviation - The percent variance from the true value.
Values in ( ) indicate a second result reported by the study participant after the source of error in the intial result was determined.

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TABLE 6 (continued)
PRE-SPIKED BLIND DUPLICATE SAMPLE RESULTS

Radionuclide*	True Value pCi/L	USEPA Results		McLaren/Hart Results		Brandeis-Bardin Results		California Department of Health Services Results	
		Activity pCi/L	% Deviation	Activity pCi/L	% Deviation	Activity pCi/L	% Deviation	Activity pCi/L	% Deviation
Cobalt-57	168	163 ± 4.55	-3.0	209 ± 21	24.4	187.8 ± 5.8	11.8	177.5 ± 7.2	5.7
		157 ± 5.59	-6.5	194 ± 19	15.5	97.8 ± 7.9 (196 ± 16)	-41.8 (16.7)	212.4 ± 5.2	26.4
		NS	--	210 ± 21	25.0	NS	--	NS	--
		NS	--	228 ± 23	35.7	NS	--	NS	--
Cerium-139	163	156 ± 4.66	-4.3	NI (207 ± 7)	(27)	180.1 ± 8.4	10.5	162 ± 7.5	-0.6
		166 ± 6.05	1.8	NI (167 ± 7)	(2.5)	89.9 ± 8.9 (180 ± 18)	-44.8 (10.4)	182.3 ± 4.6	11.8
		NS	--	NI (200 ± 6)	(22.7)	NS	--	NS	--
		NS	--	NI (199 ± 8)	(22.1)	NS	--	NS	--
Mercury-203	162	158 ± 6.1	-2.5	NI (186 ± 7)	(14.8)	250 ± 13	54.3	153 ± 9.2	-5.5
		155 ± 8.34	-4.3	NI (169 ± 7)	(4.3)	87 ± 12 (174 ± 24)	-46.3 (7.4)	171.2 ± 5.5	5.7
		NS	--	NI (188 ± 7)	(16.0)	NS	--	NS	--
		NS	--	NI (185 ± 8)	(14.2)	NS	--	NS	--

* - Radionuclides were spiked into water samples unless otherwise noted.
NS - Not sampled , NR - Not reported, NI - Not Identified
USEPA - United States Environmental Protection Agency
< - Less than the minimum detectable concentration (MDC) [i.e., the detection limit (DL)].
% Deviation - The percent variance from the true value.
Values in ( ) indicate a second result reported by the study participant after the source of error in the intial result was determined.

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TABLE 6 (continued)
PRE-SPIKED BLIND DUPLICATE SAMPLE RESULTS

Radionuclide*	True Value pCi/L	USEPA Results		McLaren/Hart Results		Brandeis-Bardin Results		California Department of Health Services Results	
		Activity pCi/L	% Deviation	Activity pCi/L	% Deviation	Activity pCi/L	% Deviation	Activity pCi/L	% Deviation
Tin-113	308	302 ± 8.1	-1.9	NI (240 ± 6)	(-22.1)	330 ± 17	7.1	323.3 ± 12.8	5.0
		292 ± 12.3	-5.2	NI (219 ± 8)	(-28.9)	170 ± 15 (340 ± 30)	-44.8 (10.4)	349.3 ± 8.8	13.4
		NS	--	NI (236 ± 7)	(-23.4)	NS	--	NS	--
		NS	--	NI (232 ± 8)	(-24.7)	NS	--	NS	--
Cesium-137	221	211 ± 7.47	-4.5	291 ± 29	31.7	250 ± 13	13.1	237.2 ± 12.7	7.3
		220 ± 12.5	-0.5	261 ± 26	18.1	110 ± 12 (220 ± 24)	-50.2 (-0.5)	235.7 ± 8.0	6.7
		NS	--	250 ± 28	13.1	NS	--	NS	--
		NS	--	264 ± 26	19.5	NS	--	NS	--
Yttrium-88	544	513 ± 8.75	-5.7	NI (661 ± 13)	(21.5)	280 ± 26	-48.5	664.6 ± 18.5	22.2
		515 ± 14.9	-5.3	NI (606 ± 20)	(11.4)	290 ± 24 (580 ± 48)	-46.7 (6.6)	740.4 ± 16.7	36.1
		NS	--	NI (680 ± 18)	(25.0)	NS	--	NS	--
		NS	--	NI (650 ± 21)	(19.5)	NS	--	NS	--

* - Radionuclides were spiked into water samples unless otherwise noted.
NS - Not sampled , NR - Not reported, NI - Not Identified
USEPA - United States Environmental Protection Agency
< - Less than the minimum detectable concentration (MDC) [i.e., the detection limit (DL)].
% Deviation - The percent variance from the true value.
Values in ( ) indicate a second result reported by the study participant after the source of error in the intial result was determined.

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TABLE 6 (continued)
PRE-SPIKED BLIND DUPLICATE SAMPLE RESULTS

Radionuclide*	True Value pCi/L	USEPA Results		McLaren/Hart Results		Brandeis-Bardin Results		California Department of Health Services Results	
		Activity pCi/L	% Deviation	Activity pCi/L	% Deviation	Activity pCi/L	% Deviation	Activity pCi/L	% Deviation
Cobalt-60	302	294 ± 6.42	-6.0	386 ± 39	27.8	340 ± 18	12.6	278.9 ± 11.3	-7.6
		295 ± 10.9	-2.3	229 ± 34	12.3	160 ± 15 (320 ± 30)	-47 (6.0)	315.4 ± 9.5	4.4
		NS	--	376 ± 38	24.5	NS	--	NS	--
		NS	--	370 ± 37	22.5	NS	--	NS	--

* - Radionuclides were spiked into water samples unless otherwise noted.
NS - Not sampled , NR - Not reported, NI - Not Identified
USEPA - United States Environmental Protection Agency
< - Less than the minimum detectable concentration (MDC) [i.e., the detection limit (DL)].
% Deviation - The percent variance from the true value.
Values in ( ) indicate a second result reported by the study participant after the source of error in the intial result was determined.

TABLE 7

SIGNIFICANT[1] DIFFERENCES BETWEEN THE SCHEDULED SAMPLE AND THE RESPECTIVE DUPLICATE AND/OR SPLIT SOIL/SEDIMENT SAMPLE

Sample Location	Grid Block	Laboratory	Radionuclide	Quantity
Santa Susana Park	BG-02-074	Brandeis-Bardin Teledyne	Tritium Tritium	430 ±150 pCi/L < 200 pCi/L
Wildwood Regional Park	BG-09-005	DHS Teledyne	Strontium-90 Strontium-90	0.20 ± 0.04 pCi/g <0.1 pCi/g
Wildwood Regional Park Ravine	BG-10-004	DHS Teledyne	Cesium-137 Cesium-137	0.147 ± 0.014 pCi/g 0.215 ± 0.039 pCi/g
Radioactive Materials Disposal Facility Watershed	BB-16-007	USEPA Teledyne	Cesium-137 Cesium-137	0.06 ±0.01 pCi/g < 0.04 pCi/g
Campsite 1	BB-20-001	USEPA Teledyne	Cesium-137 Cesium-137	0.04 ±0.01 pCi/g 0.11 ±0.037 pCi/g
Building 59 Watershed	BB-17-005	USEPA Teledyne	Cesium-137 Cesium-137	0.15 ±0.02 pCi/g 0.218 ±0.043 pCi/g
	BB-17-006	USEPA Teledyne	Tritium Tritium	3970 ±262 pCi/L 3500 ±200 pCi/L
	BB-17-007	USEPA Teledyne	Tritium Tritium	3360 ±253 pCi/L 2900 ±200 pCi/L
	BB-17-008	USEPA Teledyne	Tritium Tritium	6700 ±316 pCi/L 5400 ±200 pCi/L
	BB-17-009	USEPA Teledyne	Tritium Tritium	4790 ±282 pCi/L 3900 ±200 pCi/L

pCi/g - Picocuries per gram
pCi/l - Picocuries per liter
DHS - Department of Health Services
Teledyne - Teledyne Isotopes (New Jersey)
USEPA - United States Environmental Protection Agency
[1]Significant means that the sum of the standard error did not account for the difference between the two analytical values for radionuclide samples.
± - Plus or minus
< - Less than

TABLE 8

WITHDRAWN TRITIUM DATA SUMMARY

Sample Location (sequence order for analysis)	Sample Type	Tritium (pCi/L)	Water Yield (ml)
BG-11-031	Matrix Spike (1st Run)	< 700	2
BG-11-031	Matrix Spike (2nd Run)	7900 ± 600	1
BG-11-031	Matrix Spike (3rd Run)	8400 ± 600	1
BG-12-001*	Sample	720 ± 340	2
BG-12-005*	Sample	1200 ± 600	1
FB-00-001	Field Blank-Water	< 100	10
BG-11-010	Sample	< 100	10
BG-11-075	Sample	< 200	10
BG-01-016	Sample	< 100	10
BG-01-034	Sample	< 100	9
BG-01-082	Sample	< 200	5
BG-14-005*	Sample	370 ± 220	3
BG-14-005	Matrix Spike (1st Run)	1300 ± 600	1
BG-14-005	Matrix Spike (2nd Run)	16000 ± 1000	1
BG-14-005	Matrix Spike (3rd Run)	15000 ± 1000	1
BG-14-003**	Sample	2000 ± 700	1
BG-14-004*	Sample	520 ± 320	2
BG-14-001	Sample	< 100	10
BG-14-001	Rinsate	< 100	10
BG-14-002	Sample	< 100	10

* Withdrawn tritum results

** Second aliquot of sample (5 ml) reanalyzed, result concentration was below detection limits (<300)

ml mililiters

< less than

TABLE 9
ROCKETDYNE
SOIL/SEDIMENT SAMPLE QA/QC SUMMARY

	Tritium		Cesium-137		Plutonium-238*		Plutonium-239*		Stontium-90	
	meet criteria	total	meet criteria	total	meet criteria	total	meet criteria	total	meet criteria	total
RINSATE	8	8	5	5	4	4	4	4	4	4
MATRIX SPIKE	8	8	4	5	4	4	4	4	4	4
BLIND FIELD DUPLICATE	8	8	5	5	4	4	4	4	4	4
LABORATORY DUPLICATE	10	10	4	4	6	6	6	6	4	4
SPLIT SAMPLES	37	42	31	35	22	22	22	22	25	26
PRE-SPIKED BLIND DUPLICATE	7	7	0	0	0	0	0	0	0	0
TOTAL	78	83	49	54	40	40	40	40	41	42
PERCENT IN AGREEMENT	94%		91%		100%		100%		98%	

"In agreement" for samples analyzed for radionuclides means that the difference between the sample results was less than the sum of the standard deviations of the sample results. For pre-spiked samples a result of 25 percent deviation or less from the spiked value were considered "in agreement". All "less than" values were considered "in agreement".

* All sample results were below method detection limits.

TABLE 10
ROCKETDYNE
WATER SAMPLES QA/QC SUMMARY

	Tritium		Gamma Scan		Gross alpha		Gross beta		Plutonium-238		Plutonium-239		Stontium-90	
	meet criteria	total	meet criteria	total	meet criteria	total	meet criteria	total	meet criteria	total	meet criteria	total	meet criteria	total
RINSATE	1	1	1	1	1	1	1	1	1	1	1	1	1	1
PRE-SPIKED BLIND DUPLICATE	2	2	26	32	2	2	2	2	0	0	4	4	3	4
SPLIT SAMPLES	2	2	0	0	2	2	1	2	0	0	0	0	0	0
FIELD BLANKS	1	1	1	1	1	1	1	1	1	1	1	1	1	1
TOTAL	6	6	28	34	6	6	5	6	2	2	6	6	5	6
PERCENT IN AGREEMENT	100%		82%		100%		83%		100%		100%		83%	

"In agreement" for samples analyzed for radionuclides means that the difference between the sample results was less than the sum of the standard deviations of the sample results. For pre-spiked samples a result of 25 percent deviation or less from the spiked value were considered "in agreement". All "less than" values were considered "in agreement".

Matrix spike and blind field duplicates not collected for water samples.

Gamma Scan: Cadmium-109, Cobalt-57, Cerium-139, Mercury-203, Tin-113, Cesium-137, Yttrium-88, and Cobalt-60.

TABLE 11

Radionuclide Results for Soil Samples at Rocky Peak (BG-01)

	Cesium-137 [pCi/g(dry)]	Plutonium-238 [pCi/g(dry)]	Plutonium-239 [pCi/g(dry)]	Strontium-90 [pCi/g(dry)]	Iodine-129 [pCi/g(dry)]	Tritium (pCi/L)
BG-01-005 Sample*	0.092 +/- 0.027	< 0.07	< 0.01	0.03 +/- 0.01	< 0.2	220 +/- 80
BG-01-008 Sample*	< 0.04	< 0.04	< 0.01	0.01 +/- 0.01	< 0.2	< 100
BG-01-016 Sample^ Field Duplicate^	< 0.04	< 0.03	< 0.01	< 0.09 < 0.09		< 100
BG-01-034 Sample^ Field Duplicate^	0.1 +/- 0.032	< 0.01	< 0.01	< 0.1		< 100 < 200
BG-01-082 Sample^	< 0.04	< 0.01	< 0.01	< 0.08		< 200
BG-01-087 Sample^ Field Duplicate^ Lab Duplicate^	0.158 +/- 0.038	< 0.007 < 0.02	< 0.01 < 0.02	< 0.07		< 200 < 200
BG-01-090 Sample^ Field Duplicate^	0.175 +/- 0.026 0.209 +/- 0.03	< 0.009	< 0.009	< 0.1		< 200
BG-01-100 Sample*	0.18 +/- 0.04	< 0.02	< 0.01	0.05 +/- 0.01	< 0.1	380 +/- 100

pCi/g(dry) -- Picocuries per gram of undried sample
pCi/L -- Picocuries per liter of water
< -- Less than

* -- 1992 Sample
^ -- 1994 Sample
Blank -- Not analyzed
+/- -- Plus or minus

BBI -- Brandeis-Bardin Institute split sample
DHS -- Department of Health Services split sample
USEPA -- United States Environmental Protection Agency split sample

Field Duplicate -- A duplicate sample is collected in the field and submitted under an anonymous sample identifier.
Lab Duplicate -- A reanalysis of the sample including extraction and counting.

Cesium-137 was the only man-made radionuclide detected in the gamma scan analysis.

TABLE 12

Radionuclide Results for Soil Samples at Santa Susana Park (BG-02)

	Cesium-137 [pCi/g(dry)]	Plutonium-238 [pCi/g(dry)]	Plutonium-239 [pCi/g(dry)]	Strontium-90 [pCi/g(dry)]	Iodine-129 [pCi/g(dry)]	Tritium (pCi/L)
BG-02-007						
Sample*	0.17 +/- 0.04	< 0.02	< 0.01	0.02 +/- 0.01	< 0.1	360 +/- 90
Interlab Duplicate*						170 +/- 90
USEPA*	0.19 +/- 0.01	0.05 +/- 0.05	0.06 +/- 0.06	< 0.68	< 0.37	< 200
Sample^	< 0.06	< 0.007	< 0.007	0.13 +/- 0.08		< 100
BG-02-017						
Sample^	0.213 +/- 0.04	< 0.007	< 0.007	0.12 +/- 0.05		< 200
BG-02-074						
Sample*	< 0.04	< 0.01	< 0.007	< 0.01	< 0.3	W
Sample^	< 0.05	< 0.01	< 0.01	< 0.08		< 200
BBI^	< 0.07	< 0.05	< 0.05	< 0.5		430 +/- 150
BG-02-076						
Sample*	0.099 +/- 0.032	< 0.02	< 0.01	0.03 +/- 0.01	< 0.1	420 +/- 90
Sample^	< 0.04	< 0.01	< 0.01	< 0.09		< 200
Lab Duplicate^						< 200
BG-02-085						
Sample^	< 0.04	< 0.007	< 0.007	0.13 +/- 0.1		< 200

pCi/g(dry) -- Picocuries per gram of undried sample
pCi/L -- Picocuries per liter of water
< -- Less than

* -- 1992 Sample
^ -- 1994 Sample
Blank -- Not analyzed
+/- -- Plus or minus

BBI -- Brandeis-Bardin Institute split sample
DHS -- Department of Health Services split sample
USEPA -- United States Environmental Protection Agency split sample

W -- Samples results could not be verified by the laboratory and subsequently were withdrawn by the laboratory.
Lab Duplicate -- A reanalysis of the sample including extraction and counting.

Cesium-137 was the only man-made radionuclide detected in the gamma scan analysis.

TABLE 13

Radionuclide Results for Soil Samples at Happy Camp (BG-05)

	Cesium-137 [pCi/g(dry)]	Plutonium-238 [pCi/g(dry)]	Plutonium-239 [pCi/g(dry)]	Strontium-90 [pCi/g(dry)]	Iodine-129 [pCi/g(dry)]	Tritium (pCi/L)
BG-05-016 Sample*	0.074 +/- 0.029	< 0.02	< 0.005	0.05 +/- 0.01	< 0.2	260 +/- 160
BG-05-017 Sample^ Field Duplicate^	0.147 +/- 0.033 0.1 +/- 0.035	< 0.02	< 0.02	0.088 +/- 0.056		< 200
BG-05-026 Sample* Interlab Duplicate*	0.067 +/- 0.025	< 0.03	< 0.006	0.08 +/- 0.02	< 0.2	380 +/- 160 200 +/- 70
BG-05-027 Sample^	0.099 +/- 0.0214	< 0.01	< 0.01	0.1 +/- 0.04		< 200
BG-05-050 Sample^	0.101 +/- 0.022	< 0.02	< 0.02	0.069 +/- 0.046		< 200
BG-05-056 Sample^ USEPA^	0.148 +/- 0.028 0.08 +/- 0.04	< 0.01 < 0.06	< 0.01 < 0.03	0.097 +/- 0.055 < 0.79		< 200 < 270
BG-05-074 Sample* Field Duplicate* Sample^ Lab Duplicate^	0.10 +/- 0.03 0.073 +/- 0.026 0.153 +/- 0.028	< 0.02 < 0.02	< 0.005 < 0.02	0.05 +/- 0.01 0.084 +/- 0.04	< 0.3	490 +/- 180 140 +/- 80 < 500 < 500

pCi/g(dry) -- Picocuries per gram of undried sample
pCi/L -- Picocuries per liter of water
< -- Less than

* -- 1992 Sample
^ -- 1994 Sample
Blank -- Not analyzed
+/- -- Plus or minus

BBI -- Brandeis-Bardin Institute split sample
DHS -- Department of Health Services split sample
USEPA -- United States Environmental Protection Agency split sample

Lab Duplicate -- A reanalysis of the sample including extraction and counting.

Cesium-137 was the only man-made radionuclide detected in the gamma scan analysis.

TABLE 14

Radionuclide Results for Soil Samples at Wildwood Regional Park (BG-09)

	Cesium-137 [pCi/g(dry)]	Plutonium-238 [pCi/g(dry)]	Plutonium-239 [pCi/g(dry)]	Strontium-90 [pCi/g(dry)]	Tritium (pCi/L)
BG-09-003					
Sample^	< 0.05	< 0.008	< 0.008	0.13 +/- 0.05	< 200
Field Duplicate^		< 0.006	< 0.006		
USEPA^	0.05 +/- 0.04	< 0.04	< 0.04	< 0.69	< 270
BG-09-005					
Sample^	0.188 +/- 0.061	< 0.01	< 0.01	< 0.1	< 200
Lab Duplicate^		< 0.01	< 0.01		
DHS^	0.116 +/- 0.014	< 0.0019	0.0069 +/- 0.0016	0.2 +/- 0.04	
BG-09-013					
Sample^	0.198 +/- 0.072	< 0.008	< 0.008	0.12 +/- 0.05	< 200
Field Duplicate^				0.14 +/- 0.06	
Lab Duplicate^	0.088 +/- 0.0421				
BG-09-057					
Sample^	< 0.06	< 0.008	< 0.008	0.11 +/- 0.05	< 200
Field Duplicate^					< 200
BG-09-096					
Sample^	0.079 +/- 0.0296	< 0.02	< 0.02	0.12 +/- 0.05	< 200

pCi/g(dry) -- Picocuries per gram of undried sample
pCi/L -- Picocuries per liter of water
< -- Less than

^ -- 1994 Sample
Blank -- Not analyzed
+/- -- Plus or minus

BBI -- Brandeis-Bardin Institute split sample
DHS -- Department of Health Services split sample
USEPA -- United States Environmental Protection Agency split sample

Field Duplicate -- A duplicate sample is collected in the field and submitted under an anonymous sample identifier.
Lab Duplicate -- A reanalysis of the sample including extraction and counting.

Cesium-137 was the only man-made radionuclide detected in the gamma scan analysis.

TABLE 15

Radionuclide Results for Soil Samples at Wildwood Regional Park Ravine (BG-10)

	Cesium-137 [pCi/g(dry)]	Plutonium-238 [pCi/g(dry)]	Plutonium-239 [pCi/g(dry)]	Strontium-90 [pCi/g(dry)]	Tritium (pCi/L)
BG-10-001					
Sample^	0.245 +/- 0.037	< 0.01	< 0.01	0.098 +/- 0.048	< 100
Lab Duplicate^		< 0.009	< 0.01		
BBI^	0.21 +/- 0.08	< 0.05	< 0.05	< 0.5	< 700
BG-10-002					
Sample^	0.276 +/- 0.029	< 0.008	< 0.008	< 0.09	< 100
Field Duplicate^	0.306 +/- 0.041				
BG-10-003					
Sample^	0.257 +/- 0.034	< 0.007	< 0.01	< 0.09	< 100
USEPA^	0.29 +/- 0.02	< 0.05	< 0.02	< 0.60	< 270
BG-10-004					
Sample^	0.215 +/- 0.039	< 0.009	< 0.009	< 0.04	< 100
DHS^	0.147 +/- 0.014	< 0.0015	0.0051 +/- 0.0012	0.07 +/- 0.03	
BG-10-005					
Sample^	0.456 +/- 0.052	< 0.01	< 0.01	< 0.09	< 100

pCi/g(dry) -- Picocuries per gram of undried sample
pCi/L -- Picocuries per liter of water
< -- Less than

^ -- 1994 Sample
Blank -- Not analyzed
+/- -- Plus or minus

BBI -- Brandeis-Bardin Institute split sample
DHS -- Department of Health Services split sample
USEPA -- United States Environmental Protection Agency split sample

Field Duplicate -- A duplicate sample is collected in the field and submitted under an anonymous sample identifier.
Lab Duplicate -- A reanalysis of the sample including extraction and counting.

Cesium-137 was the only man-made radionuclide detected in the gamma scan analysis.

TABLE 16

Radionuclide Results for Soil Samples at Tapia County Park (BG-11)

	Cesium-137 [pCi/g(dry)]	Plutonium-238 [pCi/g(dry)]	Plutonium-239 [pCi/g(dry)]	Strontium-90 [pCi/g(dry)]	Tritium (pCi/L)
BG-11-010 Sample^	0.158 +/- 0.035	< 0.01	< 0.01	0.089 +/- 0.041	< 200
BG-11-011 Sample^ USEPA^	0.109 +/- 0.029 0.14 +/- 0.01	< 0.006 < 0.03	< 0.006 < 0.02	< 0.1 < 0.61	< 100 < 270
BG-11-031 Sample^ Lab Duplicate^	0.059 +/- 0.0234	< 0.007 < 0.03	< 0.009 < 0.03	< 0.09	< 1000
BG-11-036 Sample^ Field Duplicate^	0.067 +/- 0.0338	< 0.008	< 0.008	< 0.1	< 100 < 100
BG-11-075 Sample^	0.113 +/- 0.043	< 0.006	< 0.009	< 0.09	< 200

pCi/g(dry) -- Picocuries per gram of undried sample
pCi/L -- Picocuries per liter of water
< -- Less than

^ -- 1994 Sample
Blank -- Not analyzed
+/- -- Plus or minus

BBI -- Brandeis-Bardin Institute split sample
DHS -- Department of Health Services split sample
USEPA -- United States Environmental Protection Agency split sample

Field Duplicate -- A duplicate sample is collected in the field and submitted under an anonymous sample identifier.
Lab Duplicate -- A reanalysis of the sample including extraction and counting.

Cesium-137 was the only man-made radionuclide detected in the gamma scan analysis.

TABLE 17

Radionuclide Results for Soil Samples at Tapia County Park Ravine (BG-12)

	Cesium-137 [pCi/g(dry)]	Plutonium-238 [pCi/g(dry)]	Plutonium-239 [pCi/g(dry)]	Strontium-90 [pCi/g(dry)]	Tritium (pCi/L)
BG-12-001 Sample^	< 0.03	< 0.006	< 0.006	< 0.08	W
BG-12-002 Sample^ Lab Duplicate^	0.031 +/- 0.018	< 0.02 < 0.008	< 0.02 < 0.008	< 0.09	< 100
BG-12-003 Sample^ USEPA^	0.042 +/- 0.016 0.04 +/- 0.01	< 0.007 < 0.03	< 0.007 < 0.01	< 0.09 < 0.70	< 100 < 270
BG-12-004 Sample^	0.097 +/- 0.0202	< 0.008	< 0.01	< 0.09	< 100
BG-12-005 Sample^ Lab Duplicate^ BBI^	< 0.03 < 0.02 < 0.07	< 0.007 < 0.05	< 0.007 < 0.05	< 0.05 < 0.5	W < 380

pCi/g(dry) -- Picocuries per gram of undried sample
pCi/L -- Picocuries per liter of water
< -- Less than

^ -- 1994 Samples^ -- 1994 Sample
Blank -- Not analyzed
+/- -- Plus or minus

BBI -- Brandeis-Bardin Institute split sample
DHS -- Department of Health Services split sample
USEPA -- United States Environmental Protection Agency split sample

W -- Samples results could not be verified by the laboratory and subsequently were withdrawn by the laboratory.
Lab Duplicate -- A reanalysis of the sample including extraction and counting.

Cesium-137 was the only man-made radionuclide detected in the gamma scan analysis.

TABLE 18

Radionuclide Results for Soil Samples at Rocky Peak Ravine (BG-14)

	Cesium-137 [pCi/g(dry)]	Plutonium-238 [pCi/g(dry)]	Plutonium-239 [pCi/g(dry)]	Strontium-90 [pCi/g(dry)]	Tritium (pCi/L)
BG-14-001 Sample^	< 0.04	< 0.009	< 0.009	0.082 +/- 0.043	< 100
BG-14-002 Sample^	0.085 +/- 0.0426	< 0.01	< 0.01	< 0.09	< 100
BG-14-003 Sample^	0.080 +/- 0.0375	< 0.007	< 0.007	< 0.08	< 300
BG-14-004 Sample^ Lab Duplicate^	< 0.03	< 0.008	< 0.008	< 0.07 0.093 +/- 0.051	W
BG-14-005 Sample^ Lab Duplicate^	< 0.04 < 0.03	< 0.008	< 0.008	< 0.05	W

pCi/g(dry) -- Picocuries per gram of undried sample
pCi/L -- Picocuries per liter of water
< -- Less than

^ -- 1994 Sample
Blank -- Not analyzed
+/- -- Plus or minus

BBI -- Brandeis-Bardin Institute split sample
DHS -- Department of Health Services split sample
USEPA -- United States Environmental Protection Agency split sample

W -- Samples results could not be verified by the laboratory and subsequently were withdrawn by the laboratory.
Lab Duplicate -- A reanalysis of the sample including extraction and counting.

Cesium-137 was the only man-made radionuclide detected in the gamma scan analysis.

TABLE 19

Summary of the Results of the Analysis of Variance (ANOVA) and the Tukey Honest Significant Difference (HSD) Test for the Background Sample Areas

Radionuclides[3] (Soil)	Significance Probability (P value)[1]	Background Areas[2] Differing from More Than Two Other Background Locations
Cesium-137	0.024	BG-10
Strontium-90	0.031	BG-09

1 P values less than 0.05 indicate At least one background sample area differs from the others
2 BG-09 – Wildwood Regional Park
BG-10 – Wildwood Regional Park Ravine
3 The majority of background samples for tritium and plutonium-238 were below detection limits; statistical analysis was not used to evaluate concentrations of these radionuclides

TABLE 20

Background Levels of Radionuclides in Soil

	Measured Background Areas				Literature Values			Reference
	Range	Arithmetic Mean	SD	5^{TH} to 95^{th} Percentile[2]	Range	Arithmetic Mean	Geometic Mean ± SD	
Radionuclides[3] (pCi/g(dry))								
Cesium-137	< 0.03-0.213	0.087	0.062	< 0.03-0.21	0.1-0.8[1] 0.01-0.39 0.024-0.253 0.005-0.24 0.3-1.3	0.5 0.09 0.10 0.8	0.5	Gustafson, 1969 and 1070 Eisenbud, 1987 Layton, 1990 Dinnel, 1985 USEPA, 1992a Ritchie and McHenry, 1977 and 1982
Strontium-90	<0.005-0.13	0.052	0.031	<0.005-0.11	0.16-0.32[1]	0.24 0.27		Eisenbud, 1987 UNSCEAR, 1969 and 1972 Ritchie and McHenry, 1977 and 1982

1 Adjusted for decay over-time.

2 The fifth percentile equals the mean minus two times the standard deviation (mean-2 SD)
The ninety-fifth percentile equals the mean plus two times the standard deviation (mean + 2 SD).

3 The majority of background samples for tritium and plutonium-238 were below detection limits; statistical analysis was not used to evaluate concentrations of these radionuclides

pCi/g(dry) - Picocuries per gram of dried sample water

SD - Standard deviation

< - less than

± - Plus or minus

TABLE 21

Radionuclide Results for Soil Samples at the Dormitory Area (BB-02)

	Cesium-137 [pCi/g(dry)]	Plutonium-238 [pCi/g(dry)]	Plutonium-239 [pCi/g(dry)]	Strontium-90 [pCi/g(dry)]	Iodine-129 [pCi/g(dry)]	Tritium (pCi/L)
BB-02-045 Sample* Sample^	< 0.05	< 0.01	< 0.004	< 0.01	< 0.2	W < 200
BB-02-068 Sample* Field Duplicate* Sample^	< 0.05 < 0.05	< 0.02	< 0.006	0.01 +/- 0.01	< 0.2	< 200 < 200 < 200
BB-02-071 Sample* BBI* Sample^	0.058 +/- 0.032 < 0.3	< 0.01	< 0.003	0.01 +/- 0.01 < 1.2	< 0.3	W < 200
BB-02-075 Sample* Sample^ BBI^	0.048 +/- 0.025	< 0.03	< 0.007	0.01 +/- 0.01	< 0.3	< 200 < 200 < 750
BB-02-078 Sample* Sample^	0.10 +/- 0.04	< 0.05	< 0.02	0.02 +/- 0.01	< 0.3	< 200 < 200

pCi/g(dry) -- Picocuries per gram of undried sample
pCi/L -- Picocuries per liter of water
< -- Less than

* -- 1992 Sample
^ -- 1994 Sample
Blank -- Not analyzed
+/- -- Plus or minus

BBI -- Brandeis-Bardin Institute split sample
DHS -- Department of Health Services split sample
USEPA -- United States Environmental Protection Agency split sample

W -- Samples results could not be verified by the laboratory and subsequently were withdrawn by the laboratory.

Cesium-137 was the only man-made radionuclide detected in the gamma scan analysis.

TABLE 22

Radionuclide Results for Soil Samples at Campsite Area 1 (BB-03)

	Cesium-137 [pCi/g(dry)]	Plutonium-238 [pCi/g(dry)]	Plutonium-239 [pCi/g(dry)]	Strontium-90 [pCi/g(dry)]	Iodine-129 [pCi/g(dry)]	Tritium (pCi/L)
BB-03-003 Sample^						< 200
BB-03-005 Sample* USEPA* Sample^	0.20 +/- 0.04 0.26 +/- 0.02	< 0.08 0.04 +/- 0.05	< 0.02 < 0.023	0.06 +/- 0.01 < 0.66	< 0.2 < 0.28	< 200 < 209 < 200
BB-03-017 Sample* Field Duplicate* Sample^	0.085 +/- 0.038 0.057 +/- 0.028	< 0.007	< 0.007	0.05 +/- 0.01	< 0.3	< 300 < 400 < 200
BB-03-025 Sample* Interlab Duplicate* Sample^ BBI^	0.20 +/- 0.05	< 0.2	< 0.05	0.09 +/- 0.01	< 0.2	340 +/- 120 240 +/- 120 < 200 < 710
BB-03-026 Sample^ Lab Duplicate^						< 100 < 100
BB-03-029 Sample^						< 100

pCi/g(dry) -- Picocuries per gram of undried sample
pCi/L -- Picocuries per liter of water
< -- Less than

^ -- 1994 Sample
Blank -- Not analyzed
+/- -- Plus or minus

BBI -- Brandeis-Bardin Institute split sample
DHS -- Department of Health Services split sample
USEPA -- United States Environmental Protection Agency split sample

Lab Duplicate -- A reanalysis of the sample including extraction and counting.

Cesium-137 was the only man-made radionuclide detected in the gamma scan analysis.

TABLE 22 (continued)

Radionuclide Results for Soil Samples at Campsite Area 1 (BB-03)

	Cesium-137 [pCi/g(dry)]	Plutonium-238 [pCi/g(dry)]	Plutonium-239 [pCi/g(dry)]	Strontium-90 [pCi/g(dry)]	Iodine-129 [pCi/g(dry)]	Tritium (pCi/L)
BB-03-079						
Sample*	< 0.04	< 0.01	< 0.01	0.03 +/- 0.01	< 0.2	< 200
Sample^						< 100
BB-03-081						
Sample^						< 100
BBI^						< 920
BB-03-092						
Sample*	0.38 +/- 0.06	< 0.1	< 0.04	0.04 +/- 0.01	< 0.2	< 200
BB-03-096						
Sample^						< 100
BB-03-097						
Sample^						< 100

pCi/g(dry) -- Picocuries per gram of undried sample
pCi/L -- Picocuries per liter of water
< -- Less than

* -- 1992 Sample
^ -- 1994 Sample
Blank -- Not analyzed
+/- -- Plus or minus

BBI -- Brandeis-Bardin Institute split sample
DHS -- Department of Health Services split sample
USEPA -- United States Environmental Protection Agency split sample

Cesium-137 was the only man-made radionuclide detected in the gamma scan analysis.

TABLE 23

Radionuclide Results for Soil Samples at Campsite Area 2 (BB-04)

	Cesium-137 [pCi/g(dry)]	Plutonium-238 [pCi/g(dry)]	Plutonium-239 [pCi/g(dry)]	Strontium-90 [pCi/g(dry)]	Iodine-129 [pCi/g(dry)]	Tritium (pCi/L)
BB-04-021 Sample* USEPA* Sample^ Field Duplicate^ USEPA^	< 0.05 0.034 +/- 0.018	< 0.02 0.025 +/- 0.020	< 0.007 < 0.016	0.03 +/- 0.01 < 0.71	< 0.2 < 0.29	390 +/- 200 < 200 < 100 < 100 < 260
BB-04-023 Sample* Interlab Duplicate* Sample^ USEPA^	0.099 +/- 0.040	< 0.01	< 0.006	0.02 +/- 0.01	< 0.3	310 +/- 160 230 +/- 90 < 100 < 260
BB-04-026 Sample* Sample^	0.15 +/- 0.03	< 0.009	< 0.006	0.03 +/- 0.01	< 0.2	660 +/- 210 < 100
BB-04-049 Sample^						< 100
BB-04-062 Sample^						< 100
BB-04-078 Sample^ USEPA^						< 100 < 260
BB-04-079 Sample^						< 100

pCi/g(dry) -- Picocuries per gram of undried sample
pCi/L -- Picocuries per liter of water
< -- Less than

* -- 1992 Sample
^ -- 1994 Sample
Blank -- Not analyzed
+/- -- Plus or minus

BBI -- Brandeis-Bardin Institute split sample
DHS -- Department of Health Services split sample
USEPA -- United States Environmental Protection Agency split sample

Field Duplicate -- A duplicate sample is collected in the field and submitted under an anonymous sample identifier.

Cesium-137 was the only man-made radionuclide detected in the gamma scan analysis.
* A second analysis was conducted three months later by DHS with the result of the 392 +/-153 pCi/L, which was lower than the initial analysis. The DHS attributed this to loss during long-term storage.

TABLE 23(continued)

Radionuclide Results for Soil Samples at Campsite Area 2 (BB-04)

	Cesium-137 [pCi/g(dry)]	Plutonium-238 [pCi/g(dry)]	Plutonium-239 [pCi/g(dry)]	Strontium-90 [pCi/g(dry)]	Iodine-129 [pCi/g(dry)]	Tritium (pCi/L)
BB-04-082						
Sample*	< 0.03	< 0.02	< 0.007	0.01 +/- 0.01	< 0.3	510 +/- 180
Field Duplicate*				0.04 +/- 0.01	< 0.3	
Sample^						< 100
USEPA^						< 260
BB-04-084						
Sample^						< 100
BBI^						< 500
BB-04-097						
Sample*	< 0.03	< 0.02	< 0.005	0.01 +/- 0.01	< 0.3	< 200
DHS*	0.03 +/- 0.01					2470 +/- 197
USEPA*						< 192
Sample^						< 100
BBI^						< 430
USEPA^						< 260

pCi/g(dry) -- Picocuries per gram of undried sample
pCi/L -- Picocuries per liter of water
< -- Less than

* -- 1992 Sample
^ -- 1994 Sample
Blank -- Not analyzed
+/- -- Plus or minus

BBI -- Brandeis-Bardin Institute split sample
DHS -- Department of Health Services split sample
USEPA -- United States Environmental Protection Agency split sample

Cesium-137 was the only man-made radionuclide detected in the gamma scan analysis.
* A second analysis was conducted three months later by DHS with the result of the 392 +/-153 pCi/L, which was lower than the initial analysis. The DHS attributed this to loss during long-term storage.

TABLE 24

Radionuclide Results for Surface Water Samples at Campsite Area 2 (BB-04)

	Cesium-137 (pCi/L)	Plutonium-238 (pCi/L)	Plutonium-239 (pCi/L)	Strontium-90 (pCi/L)	Iodine-129 (pCi/L)	Tritium (pCi/L)	Gross Alpha (pCi/L)	Gross Beta (pCi/L)
BB-04-001								
Sample*	< 4	< 0.2	< 0.2	< 0.4	< 0.8	< 100	< 3	< 4
USEPA*	< 8.1	< 0.027	< 0.016	< 0.99	< 3.3	< 200	< 1.6	4.2 +/- 1.5
Sample^						< 200	< 4	12 +/- 4
BBI^						< 300		
USEPA^	< 5.90					< 260	< 7.8	< 10

pCi/L -- Picocuries per liter of water
< -- Less than
+/- -- Plus or minus

* -- 1992 Sample
^ -- 1994 Sample
Blank -- Not analyzed

BBI -- Brandeis-Bardin Institute split sample
DHS -- Department of Health Services split sample
USEPA -- United States Environmental Protection Agency split or interlaboratory duplicate sample

Cesium-137 was the only man-made radionuclide detected in the gamma scan analysis.

TABLE 25

Radionuclide Results for Soil Samples at the Picnic Area (BB-05)

	Cesium-137 [pCi/g(dry)]	Plutonium-238 [pCi/g(dry)]	Plutonium-239 [pCi/g(dry)]	Strontium-90 [pCi/g(dry)]	Iodine-129 [pCi/g(dry)]	Tritium (pCi/L)
BB-05-003 Sample* Field Duplicate* Sample^	0.22 +/- 0.03	< 0.01 < 0.02	< 0.005 < 0.02	0.02 +/- 0.01	< 0.2	280 +/- 130 < 100
BB-05-006 Sample* Sample^	0.11 +/- 0.02	< 0.03	< 0.008	0.02 +/- 0.01	< 0.2	200 +/- 110 < 100
BB-05-057 Sample* Sample^ BBI^	0.052 +/- 0.030	< 0.006	< 0.006	0.03 +/- 0.01	< 0.2	< 200 < 100 < 700
BB-05-077 Sample* USEPA* Sample^	0.16 +/- 0.04 0.086 +/- 0.014	< 0.008 0.03 +/- 0.03	< 0.01 0.015 +/- 0.02	0.06 +/- 0.01 < 0.71	< 0.2 < 0.23	< 200 < 200 < 100
BB-05-089 Sample* Sample^ Field Duplicate^	0.14 +/- 0.04	< 0.03	< 0.02	0.02 +/- 0.01	< 0.2	< 200 < 100 < 100

pCi/g(dry) -- Picocuries per gram of undried sample
pCi/L -- Picocuries per liter of water
< -- Less than

* -- 1992 Sample
^ -- 1994 Sample
Blank -- Not analyzed
+/- -- Plus or minus

BBI -- Brandeis-Bardin Institute split sample
DHS -- Department of Health Services split sample
USEPA -- United States Environmental Protection Agency split sample

Cesium-137 was the only man-made radionuclide detected in the gamma scan analysis.

TABLE 26

Radionuclide Results for Soil Samples at the House of the Book (BB-06)

	Cesium-137 [pCi/g(dry)]	Plutonium-238 [pCi/g(dry)]	Plutonium-239 [pCi/g(dry)]	Strontium-90 [pCi/g(dry)]	Iodine-129 [pCi/g(dry)]	Tritium (pCi/L)
BB-06-007 Sample* Interlab Duplicate* Sample^	< 0.05	< 0.02	< 0.004	< 0.01	< 0.3	480 +/- 90 < 100
BB-06-013 Sample* Sample^	< 0.05	< 0.02	< 0.01	0.01 +/- 0.01	< 0.2	< 300 < 200
BB-06-017 Sample* Lab Duplicate* Sample^	< 0.03 < 0.04	< 0.01	< 0.004	0.01 +/- 0.01	< 0.2	W < 200
BB-06-066 Sample* Sample^ BBI^	< 0.04	< 0.01	< 0.009	< 0.01	< 0.2	< 300 < 200 < 480
BB-06-092 Sample* USEPA* Sample^	< 0.04 < 0.033	< 0.006 0.031 +/- 0.05	< 0.006 < 0.022	< 0.01 < 0.70	< 0.2 < 0.28	190 +/- 100 < 210 < 100

pCi/g(dry) -- Picocuries per gram of undried sample
pCi/L -- Picocuries per liter of water
< -- Less than

* -- 1992 Sample
^ -- 1994 Sample
Blank -- Not analyzed
+/- -- Plus or minus

BBI -- Brandeis-Bardin Institute split sample
DHS -- Department of Health Services split sample
USEPA -- United States Environmental Protection Agency split sample

W -- Samples results could not be verified by the laboratory and subsequently were withdrawn by the laboratory.

Cesium-137 was the only man-made radionuclide detected in the gamma scan analysis.

TABLE 27

Radionuclide Results for Soil Samples at the Main House Orchard (BB-12)

	Cesium-137 [pCi/g(dry)]	Plutonium-238 [pCi/g(dry)]	Plutonium-239 [pCi/g(dry)]	Strontium-90 [pCi/g(dry)]	Iodine-129 [pCi/g(dry)]	Tritium (pCi/L)
BB-12-003						
Sample*	< 0.04	< 0.08	< 0.03	0.01 +/- 0.01	< 0.2	< 200
Sample^						< 200
BB-12-006						
Sample*	0.091 +/- 0.027	< 0.07	< 0.02	0.03 +/- 0.01	< 0.2	< 100
Sample^						< 200
BB-12-019						
Sample*	0.15 +/- 0.03	< 0.1	< 0.09	0.04 +/- 0.01	< 0.2	< 200
BBI*				< 1.1		
Sample^						< 200
BB-12-020						
Sample*	0.15 +/- 0.03	< 0.1	< 0.04	0.03 +/- 0.01	< 0.2	W
Lab Duplicate*	0.091 +/- 0.030					< 200
Interlab Duplicate*						< 200
USEPA*	0.084 +/- 0.017	0.03 +/- 0.04	< 0.019	< 0.74	< 0.23	< 200
Sample^						< 200
BB-12-023						
Sample*	0.12 +/- 0.03	< 0.07	< 0.02	0.02 +/- 0.01	< 0.3	< 200
BBI*	< 0.3					
USEPA*	0.130 +/- 0.016					
Sample^						< 200
Lab Duplicate^						< 200
BBI^						< 700

pCi/g(dry) -- Picocuries per gram of undried sample
pCi/L -- Picocuries per liter of water
< -- Less than

* -- 1992 Sample
^ -- 1994 Sample
Blank -- Not analyzed
+/- -- Plus or minus

BBI -- Brandeis-Bardin Institute split sample
DHS -- Department of Health Services split sample
USEPA -- United States Environmental Protection Agency split sample

W -- Samples results could not be verified by the laboratory and subsequently were withdrawn by the laboratory.

Cesium-137 was the only man-made radionuclide detected in the gamma scan analysis.

TABLE 28

Radionuclide Results for Soil Samples at the Avocado Grove (BB-13)

	Cesium-137 [pCi/g(dry)]	Plutonium-238 [pCi/g(dry)]	Plutonium-239 [pCi/g(dry)]	Strontium-90 [pCi/g(dry)]	Iodine-129 [pCi/g(dry)]	Tritium (pCi/L)
BB-13-010 Sample* Sample^	< 0.05	< 0.05	< 0.01	< 0.01	< 0.2	< 200 < 200
BB-13-011 Sample* Sample^	0.098 +/- 0.039	< 0.05	< 0.02	0.01 +/- 0.01	< 0.2	520 +/- 110 < 200
BB-13-024 Sample* Field Duplicate* Interlab Duplicate* USEPA* Sample^	< 0.05 0.030 +/- 0.011	< 0.09 < 0.05 < 0.03	< 0.02 < 0.01 < 0.021	0.01 +/- 0.01 < 0.65	< 0.2 < 0.29	760 +/- 200 120 +/- 70 < 206 < 200
BB-13-037 Sample* Sample^	0.10 +/- 0.04	< 0.03	< 0.01	0.01 +/- 0.01	< 0.2	400 +/- 130 < 200
BB-13-039 Sample* Lab Duplicate* Interlab Duplicate* Sample^ BBI^	0.077 +/- 0.018 0.059 +/- 0.033	< 0.1	< 0.04	0.01 +/- 0.01	< 0.2	< 200 < 200 170 +/- 80 < 200 < 590

pCi/g(dry) -- Picocuries per gram of undried sample
pCi/L -- Picocuries per liter of water
< -- Less than

* -- 1992 Sample
^ -- 1994 Sample
Blank -- Not analyzed
+/- -- Plus or minus

BBI -- Brandeis-Bardin Institute split sample
DHS -- Department of Health Services split sample
USEPA -- United States Environmental Protection Agency split sample

Cesium-137 was the only man-made radionuclide detected in the gamma scan analysis.

TABLE 29

Radionuclide Results for Soil Samples at the Old Well Campsite (BB-14)

	Cesium-137 [pCi/g(dry)]	Plutonium-238 [pCi/g(dry)]	Plutonium-239 [pCi/g(dry)]	Strontium-90 [pCi/g(dry)]	Iodine-129 [pCi/g(dry)]	Tritium (pCi/L)
BB-14-004 Sample* Field Duplicate* Sample^	0.20 +/- 0.04	< 0.07	< 0.02	0.05 +/- 0.01 0.06 +/- 0.01	< 0.3 < 0.2	< 200 < 200
BB-14-037 Sample* Sample^	0.17 +/- 0.04	< 0.01	< 0.009	0.02 +/- 0.01	< 0.2	W < 100
BB-14-041 Sample* Sample^	0.27 +/- 0.05	< 0.06	< 0.008	0.06 +/- 0.01	< 0.2	W < 100
BB-14-079 Sample* Lab Duplicate* Duplicate Count* USEPA* Sample^ BBI^	< 0.04 0.015 +/- 0.008	0.12 +/- 0.03 < 0.08 0.10 +/- 0.03 < 0.02	< 0.006 < 0.011	0.03 +/- 0.01 < 0.71	< 0.3 < 0.28	140 +/- 80 < 200 < 100 < 420
BB-14-094 Sample* Sample^ USEPA^	< 0.04	< 0.05	< 0.01	0.02 +/- 0.01	< 0.2	W < 100 < 280

pCi/g(dry) -- Picocuries per gram of undried sample
pCi/L -- Picocuries per liter of water
< -- Less than

* -- 1992 Sample
^ -- 1994 Sample
Blank -- Not analyzed
+/- -- Plus or minus

BBI -- Brandeis-Bardin Institute split sample
DHS -- Department of Health Services split sample
USEPA -- United States Environmental Protection Agency split sample

W -- Samples results could not be verified by the laboratory and subsequently were withdrawn by the laboratory.

Cesium-137 was the only man-made radionuclide detected in the gamma scan analysis.

TABLE 30

Radionuclide Results for Soil Samples at the Former Rocketdyne Employee Shooting Range (SM-03)

	Cesium-137 [pCi/g(dry)]	Plutonium-238 [pCi/g(dry)]	Plutonium-239 [pCi/g(dry)]	Strontium-90 [pCi/g(dry)]	Iodine-129 [pCi/g(dry)]	Tritium (pCi/L)
SM-03-001 Sample* USEPA* Sample^	0.19 +/- 0.05 0.17 +/- 0.02	< 0.02 < 0.029	< 0.02 < 0.027	0.07 +/- 0.01 < 0.69	< 0.2 < 0.27	< 100 < 200 < 100
SM-03-009 Sample* Sample^	0.13 +/- 0.04	< 0.02	< 0.005	0.03 +/- 0.01	< 0.2	< 100 < 100
SM-03-012 Sample* Sample^ Lab Duplicate^	0.13 +/- 0.03	< 0.02	< 0.004	0.02 +/- 0.01	< 0.1	< 100 < 100 < 200
SM-03-014 Sample* Field Duplicate* Sample^	0.10 +/- 0.03 0.083 +/- 0.026	< 0.02	< 0.005	0.02 +/- 0.01	< 0.1	< 100 < 100 < 100
SM-03-015 Sample* Interlab Duplicate* Sample^	0.27 +/- 0.04	< 0.04	< 0.01	0.05 +/- 0.01	< 0.1	< 200 < 869 < 100

pCi/g(dry) -- Picocuries per gram of undried sample
pCi/L -- Picocuries per liter of water
< -- Less than

* -- 1992 Sample
^ -- 1994 Sample
Blank -- Not analyzed
+/- -- Plus or minus

BBI -- Brandeis-Bardin Institute split sample
DHS -- Department of Health Services split sample
USEPA -- United States Environmental Protection Agency split sample

Lab Duplicate -- A reanalysis of the sample including extraction and counting.

Cesium-137 was the only man-made radionuclide detected in the gamma scan analysis.

TABLE 31

Radionuclide Results for Sediment Samples at the RD-51 Watershed (BB-15)

	Cesium-137 [pCi/g(dry)]	Plutonium-238 [pCi/g(dry)]	Plutonium-239 [pCi/g(dry)]	Strontium-90 [pCi/g(dry)]	Iodine-129 [pCi/g(dry)]	Tritium (pCi/L)
BB-15-001						
Sample*	0.045 +/- 0.026	0.22 +/- 0.07	< 0.01	0.01 +/- 0.01	< 0.3	W
Field Duplicate*				0.02 +/- 0.02	< 0.3	
DHS*	0.04 +/- 0.01					316 +/- 152
Sample^		< 0.01	< 0.01			< 200
USEPA^		< 0.03	< 0.03			< 270
BB-15-002						
Sample*	0.044 +/- 0.022	0.067 +/- 0.025	< 0.005	< 0.01	< 0.3	< 200
Field Duplicate*	< 0.04					< 100
Sample^						< 200
BBI^						550 +/- 350
BB-15-003						
Sample*	0.039 +/- 0.020	< 0.05	< 0.01	0.01 +/- 0.01	< 0.3	< 200
Interlab Duplicate*						
Sample^						< 200
BB-15-004						
Sample*	0.043 +/- 0.025	< 0.05	< 0.01	< 0.01	< 0.2	W
BBI*	< 0.3			< 0.6		
Sample^						< 200
BBI^						< 400
BB-15-005						
Sample*	0.052 +/- 0.025	0.055 +/- 0.042	< 0.01	< 0.01	< 0.2	W
USEPA*	0.041 +/- 0.013	< 0.02	< 0.011	< 0.73	< 0.17	< 171
Sample^						< 200

pCi/g(dry) -- Picocuries per gram of undried sample
pCi/L -- Picocuries per liter of water
< -- Less than

* -- 1992 Sample
^ -- 1994 Sample
Blank -- Not analyzed
+/- -- Plus or minus

BBI -- Brandeis-Bardin Institute split sample
DHS -- Department of Health Services split sample
USEPA -- United States Environmental Protection Agency split sample

W -- Samples results could not be verified by the laboratory and subsequently were withdrawn by the laboratory.

Cesium-137 was the only man-made radionuclide detected in the gamma scan analysis.

TABLE 31 (continued)

Radionuclide Results for Sediment Samples at the RD-51 Watershed (BB-15)

	Cesium-137 [pCi/g(dry)]	Plutonium-238 [pCi/g(dry)]	Plutonium-239 [pCi/g(dry)]	Strontium-90 [pCi/g(dry)]	Iodine-129 [pCi/g(dry)]	Tritium (pCi/L)
BB-15-006 Sample^ BBI^		< 0.01 < 0.05	< 0.01 < 0.05			
BB-15-007 Sample^ USEPA^		< 0.01 < 0.04	< 0.01 < 0.03			
BB-15-008 Sample^		< 0.01	< 0.01			
BB-15-009 Sample^ Field Duplicate^ BBI^		< 0.009 < 0.008 < 0.1	< 0.009 < 0.01 < 0.05			
BB-15-010 Sample^		< 0.009	< 0.009			

pCi/g(dry) -- Picocuries per gram of undried sample
pCi/L -- Picocuries per liter of water
< -- Less than

* -- 1992 Sample
^ -- 1994 Sample
Blank -- Not analyzed
+/- -- Plus or minus

BBI -- Brandeis-Bardin Institute split sample
DHS -- Department of Health Services split sample
USEPA -- United States Environmental Protection Agency split sample

Field Duplicate -- A duplicate sample is collected in the field and submitted under an anonymous sample identifier.

Cesium-137 was the only man-made radionuclide detected in the gamma scan analysis.

TABLE 32

Radionuclide Results for Sediment Samples at Radioactive Materials Disposal Facility Watershed (BB-16)

	Cesium-137 [pCi/g(dry)]	Plutonium-238 [pCi/g(dry)]	Plutonium-239 [pCi/g(dry)]	Strontium-90 [pCi/g(dry)]	Iodine-129 [pCi/g(dry)]	Tritium (pCi/L)
BB-16-001A						
Sample*	0.070 +/- 0.028	< 0.04	< 0.008	0.08 +/- 0.01	< 0.3	990 +/- 150
Interlab Duplicate*						955 +/- 100
BB-16-001B						
Sample*	< 0.04	< 0.03	< 0.01	0.03 +/- 0.01	< 0.3	< 200
Interlab Duplicate*						220 +/- 120
USEPA*	< 0.017	< 0.02	< 0.019	< 0.63	< 0.17	< 190
BB-16-002						
Sample*	< 0.04	0.066 +/- 0.061	< 0.02	0.09 +/- 0.01	< 0.3	1100 +/- 100
Field Duplicate*				0.12 +/- 0.02	< 0.2	
Lab Duplicate*		< 0.04				710 +/- 120
Interlab Duplicate*						
BB-16-003						
Sample*	< 0.03	< 0.02	< 0.009	0.02 +/- 0.01	< 0.3	1300 +/- 300
Interlab Duplicate*						1500 +/- 200
USEPA*	0.0078 +/- 0.008					
BB-16-004						
Sample*	0.34 +/- 0.04	< 0.07	< 0.03	0.15 +/- 0.02	< 0.3	1300 +/- 200
Interlab Duplicate*						1600 +/- 200
DHS*	0.60 +/- 0.03					1902 +/- 186
BB-16-005						
Sample*	< 0.04	< 0.02	< 0.005	0.04 +/- 0.01	< 0.3	1500 +/- 200
Interlab Duplicate*						1700 +/- 200
BBI*	< 0.3			< 1		

pCi/g(dry) -- Picocuries per gram of undried sample
pCi/L -- Picocuries per liter of water
< -- Less than

* -- 1992 Sample
^ -- 1994 Sample
Blank -- Not analyzed
+/- -- Plus or minus

BBI -- Brandeis-Bardin Institute split sample
DHS -- Department of Health Services split sample
USEPA -- United States Environmental Protection Agency split sample

Cesium-137 was the only man-made radionuclide detected in the gamma scan analysis.

TABLE 32(continued)

Radionuclide Results for Sediment Samples at Radioactive Materials Disposal Facility Watershed (BB-16)

	Cesium-137 [pCi/g(dry)]	Plutonium-238 [pCi/g(dry)]	Plutonium-239 [pCi/g(dry)]	Strontium-90 [pCi/g(dry)]	Iodine-129 [pCi/g(dry)]	Tritium (pCi/L)
BB-16-006 Sample^ Field Duplicate^ DHS^	0.046 +/- 0.0216 0.076 +/- 0.0315 0.034 +/- 0.01			0.08 +/- 0.044 < 0.06		< 100
BB-16-007 Sample^ Field Duplicate^ USEPA^	< 0.04 0.06 +/- 0.01			0.11 +/- 0.05 0.19 +/- 0.03 < 0.66		230 +/- 100 210 +/- 100 < 270
BB-16-008 Sample^ Lab Duplicate^ BBI^ DHS^	< 0.04 < 0.05 < 0.07 0.034 +/- 0.01			0.15 +/- 0.09 < 0.5 < 0.06		< 100 < 390
BB-16-009 Sample^ BBI^	0.199 +/- 0.044 0.14 +/- 0.04			0.24 +/- 0.04 < 0.5		< 100 < 2300
BB-16-010 Sample^ DHS^ USEPA^	0.075 +/- 0.0283 0.043 +/- 0.011 0.06 +/- 0.01			0.14 +/- 0.07 0.15 +/- 0.03 < 0.74		< 100 < 270

pCi/g(dry) -- Picocuries per gram of undried sample
pCi/L -- Picocuries per liter of water
< -- Less than

* -- 1992 Sample
^ -- 1994 Sample
Blank -- Not analyzed
+/- -- Plus or minus

BBI -- Brandeis-Bardin Institute split sample
DHS -- Department of Health Services split sample
USEPA -- United States Environmental Protection Agency split sample

Field Duplicate -- A duplicate sample is collected in the field and submitted under an anonymous sample identifier.
Lab Duplicate -- A reanalysis of the sample including extraction and counting.

Cesium-137 was the only man-made radionuclide detected in the gamma scan analysis.

TABLE 32(continued)

Radionuclide Results for Sediment Samples at Radioactive Materials Disposal Facility Watershed (BB-16)

	Cesium-137 [pCi/g(dry)]	Plutonium-238 [pCi/g(dry)]	Plutonium-239 [pCi/g(dry)]	Strontium-90 [pCi/g(dry)]	Iodine-129 [pCi/g(dry)]	Tritium (pCi/L)
BB-16-B001/0.0 Sample^	0.147 +/- 0.051			< 0.05		< 200
BB-16-B001/5.0 Sample^	< 0.08			0.093 +/- 0.042		< 200
BB-16-B002/0.0 Sample^ BBI^	0.109 +/- 0.044 < 0.07			< 0.08 < 0.5		< 100 < 620
BB-16-B002/5.0 Sample^ BBI^	< 0.04 < 0.07			< 0.07 < 0.5		< 100 < 380
BB-16-B003/0.0 Sample^	0.087 +/- 0.0415			< 0.07		< 100
BB-16-B003/5.0 Sample^	< 0.05			< 0.07		< 100
BB-16-B004/0.0 Sample^	< 0.04			< 0.1		< 100
BB-16-B004/5.0 Sample^ Lab Duplicate^	< 0.07			< 0.09		270 +/- 150 290 +/- 150
BB-16-B005/0.0 Sample^	< 0.05			< 0.05		< 100
BB-16-B005/5.0 Sample^	< 0.06			< 0.08		< 200

pCi/g(dry) -- Picocuries per gram of undried sample
pCi/L -- Picocuries per liter of water
< -- Less than

* -- 1992 Sample
^ -- 1994 Sample
Blank -- Not analyzed
+/- -- Plus or minus

BBI -- Brandeis-Bardin Institute split sample
DHS -- Department of Health Services split sample
USEPA -- United States Environmental Protection Agency split sample

Samples from boring locations (B001 through B005) were collected at the surface (0.0) or at a depth of 5 feet (5.0).

Cesium-137 was the only man-made radionuclide detected in the gamma scan analysis.

TABLE 33

Radionuclide Results for Sediment Samples at the Building 59 Watershed (BB-17)

	Cesium-137 [pCi/g(dry)]	Plutonium-238 [pCi/g(dry)]	Plutonium-239 [pCi/g(dry)]	Strontium-90 [pCi/g(dry)]	Iodine-129 [pCi/g(dry)]	Tritium (pCi/L)
BB-17-001						
Sample*	0.077 +/- 0.032	0.19 +/- 0.06	< 0.02	0.01 +/- 0.01	< 0.3	130 +/- 80
Lab Duplicate*		< 0.009				
Duplicate Count*		0.15 +/- 0.05				
USEPA*	0.086 +/- 0.016	0.027 +/- 0.030	< 0.008	< 0.66	< 0.17	< 190
BB-17-002						
Sample*	0.16 +/- 0.04	0.055 +/- 0.024	< 0.005	0.02 +/- 0.01	< 0.2	< 100
Interlab Duplicate*						< 100
USEPA*						< 200
BB-17-003						
Sample*	0.13 +/- 0.03	0.055 +/- 0.031	< 0.007	0.01 +/- 0.01	< 0.2	10800 +/- 300
Duplicate Count*						11000 +/- 1000
DHS*	0.09 +/- 0.02					10700 +/- 300
USEPA*						12380 +/- 371
BB-17-004						
Sample*	0.23 +/- 0.03	< 0.04	< 0.007	0.03 +/- 0.01	< 0.2	9810 +/- 330
Field Duplicate*		0.33 +/- 0.08	< 0.01			
Lab Duplicate*		< 0.06		0.02 +/- 0.01	< 0.2	
Duplicate Count*		0.27 +/- 0.07				
BBI*	< 0.3			< 0		12720 +/- 4300
USEPA*						9855 +/- 325
BB-17-005						
Sample^	0.218 +/- 0.043	< 0.01	< 0.02			< 100
USEPA^	0.15 +/- 0.02	< 0.01	< 0.01			< 270

pCi/g(dry) -- Picocuries per gram of undried sample
pCi/L -- Picocuries per liter of water
< -- Less than

* -- 1992 Sample
^ -- 1994 Sample
Blank -- Not analyzed
+/- -- Plus or minus

BBI -- Brandeis-Bardin Institute split sample
DHS -- Department of Health Services split sample
USEPA -- United States Environmental Protection Agency split sample

Cesium-137 was the only man-made radionuclide detected in the gamma scan analysis.

TABLE 33(continued)

Radionuclide Results for Sediment Samples at the Building 59 Watershed (BB-17)

	Cesium-137 [pCi/g(dry)]	Plutonium-238 [pCi/g(dry)]	Plutonium-239 [pCi/g(dry)]	Strontium-90 [pCi/g(dry)]	Iodine-129 [pCi/g(dry)]	Tritium (pCi/L)
BB-17-005A Sample^	0.148 +/- 0.05	< 0.02	< 0.02			< 100
BB-17-005B Sample^	0.385 +/- 0.053	< 0.04	< 0.04			< 100
BB-17-006 Sample^ Lab Duplicate^ USEPA^	0.193 +/- 0.03 0.14 +/- 0.02	< 0.02 < 0.02 < 0.07	< 0.02 < 0.02 < 0.04			3500 +/- 200 3970 +/- 262
BB-17-006A Sample^	0.164 +/- 0.035	< 0.01	< 0.01			180 +/- 90
BB-17-006B Sample^	0.23 +/- 0.056	< 0.02	< 0.03			< 100
BB-17-007 Sample^ USEPA^	0.22 +/- 0.04 0.19 +/- 0.02	< 0.02 0.05 +/- 0.03	< 0.02 < 0.04			2900 +/- 200 3360 +/- 253
BB-17-007A Sample^	0.123 +/- 0.041	< 0.01	< 0.02			230 +/- 100
BB-17-007B Sample^	0.299 +/- 0.051	< 0.02	< 0.02			220 +/- 100
BB-17-008 Sample^ USEPA^	0.124 +/- 0.047 0.13 +/- 0.02	< 0.03 < 0.04	< 0.03 < 0.02			5400 +/- 200 6700 +/- 316

pCi/g(dry) -- Picocuries per gram of undried sample
pCi/L -- Picocuries per liter of water
< -- Less than

* -- 1992 Sample
^ -- 1994 Sample
Blank -- Not analyzed
+/- -- Plus or minus

BBI -- Brandeis-Bardin Institute split sample
DHS -- Department of Health Services split sample
USEPA -- United States Environmental Protection Agency split sample

Lab Duplicate -- A reanalysis of the sample including extraction and counting.

Cesium-137 was the only man-made radionuclide detected in the gamma scan analysis.

TABLE 33(continued)

Radionuclide Results for Sediment Samples at the Building 59 Watershed (BB-17)

	Cesium-137 [pCi/g(dry)]	Plutonium-238 [pCi/g(dry)]	Plutonium-239 [pCi/g(dry)]	Strontium-90 [pCi/g(dry)]	Iodine-129 [pCi/g(dry)]	Tritium (pCi/L)
BB-17-008A Sample^ Field Duplicate^	0.249 +/- 0.047	< 0.02	< 0.02			300 +/- 110 510 +/- 110
BB-17-008B Sample^	0.242 +/- 0.024	< 0.04	< 0.05			< 100
BB-17-009 Sample^ USEPA^	0.149 +/- 0.018 0.12 +/- 0.02	< 0.03 < 0.04	< 0.03 < 0.03			3900 +/- 200 4790 +/- 282
BB-17-009A Sample^ Lab Duplicate^	0.187 +/- 0.04	< 0.01	< 0.01			< 200 < 200
BB-17-009B Sample^	0.36 +/- 0.045	< 0.008	< 0.01			
BB-17-010 Sample^ Lab Duplicate^ BBI^	0.116 +/- 0.046 0.15 +/- 0.07	< 0.01 < 0.02 < 0.05	< 0.01 < 0.02 < 0.05			< 100

pCi/g(dry) -- Picocuries per gram of undried sample
pCi/L -- Picocuries per liter of water
< -- Less than

* -- 1992 Sample
^ -- 1994 Sample
Blank -- Not analyzed
+/- -- Plus or minus

BBI -- Brandeis-Bardin Institute split sample
DHS -- Department of Health Services split sample
USEPA -- United States Environmental Protection Agency split sample

Field Duplicate -- A duplicate sample is collected in the field and submitted under an anonymous sample identifier.
Lab Duplicate -- A reanalysis of the sample including extraction and counting.

Cesium-137 was the only man-made radionuclide detected in the gamma scan analysis.

TABLE 33(continued)

Radionuclide Results for Sediment Samples at the Building 59 Watershed (BB-17)

	Cesium-137 [pCi/g(dry)]	Plutonium-238 [pCi/g(dry)]	Plutonium-239 [pCi/g(dry)]	Strontium-90 [pCi/g(dry)]	Iodine-129 [pCi/g(dry)]	Tritium (pCi/L)
BB-17-B001/0.0 Sample^ USEPA^	0.115 +/- 0.041 0.13 +/- 0.02	< 0.01 < 0.05	< 0.01 < 0.02			< 200 < 270
BB-17-B001/2.5 Sample^ USEPA^	< 0.03 < 0.02	< 0.008 < 0.03	< 0.008 < 0.02			300 +/- 110 480 +/- 180
BB-17-B002/0.0 Sample^	0.13 +/- 0.04	< 0.01	< 0.01			< 200
BB-17-B002/2.5 Sample^	< 0.05	< 0.009	< 0.009			7600 +/- 300
BB-17-B003/0.0 Sample^ Field Duplicate^	< 0.05	< 0.01 < 0.009	< 0.02 < 0.009			< 200
BB-17-B003/2.5 Sample^ Lab Duplicate^	< 0.05	< 0.01	< 0.01			< 200 < 200

pCi/g(dry) -- Picocuries per gram of undried sample
pCi/L -- Picocuries per liter of water
< -- Less than

* -- 1992 Sample
^ -- 1994 Sample
Blank -- Not analyzed
+/- -- Plus or minus

BBI -- Brandeis-Bardin Institute split sample
DHS -- Department of Health Services split sample
USEPA -- United States Environmental Protection Agency split sample

Samples collected at boring locations (B001 through B003) were collected at the surface (0.0) or at at a depth of 2.5 feet (2.5).

Field Duplicate -- A duplicate sample is collected in the field and submitted under an anonymous sample identifier.
Lab Duplicate -- A reanalysis of the sample including extraction and counting.

Cesium-137 was the only man-made radionuclide detected in the gamma scan analysis.

TABLE 34

Mercury Results for Soil Samples at Sodium Burn Pit Watershed (BB-18)

Sample Location	Mercury (mg/kg)
BB-18-004	
Sample	< 0.1
BB-18-005	
Sample	< 0.1
BB-18-005A	
Sample	< 0.1
BB-18-005B	
Sample	< 0.1
BB-18-005C	
Sample	< 0.1
BB-18-006A	
Sample	< 0.1
BB-16-006B	
Sample	0.12
Lab Duplicate	<0.1
USEPA	< 0.09
BBI	0.14

< -- Less than 0.1 mg/kg

USEPA -- United States Environmental Protection Agency split sample

BBI -- Brandeis-Bardin Institute split sample

Lab Duplicate -- A reanalysis of the sample including extraction

TABLE 35

Radionuclide Results for Sediment Samples at the Sodium Reactor Experiment Watershed (BB-19)

	Cesium-137 [pCi/g(dry)]	Plutonium-238 [pCi/g(dry)]	Plutonium-239 [pCi/g(dry)]	Strontium-90 [pCi/g(dry)]	Iodine-129 [pCi/g(dry)]	Tritium (pCi/L)
BB-19-001 Sample*	0.30 +/- 0.05	< 0.05	< 0.03	0.08 +/- 0.02	< 0.3	
BB-19-002 Sample* DHS*	0.24 +/- 0.06 0.28 +/- 0.03	< 0.06	< 0.01	0.09 +/- 0.02	< 0.3	< 100 444 +/- 153
BB-19-003 Sample* USEPA*	< 0.04 0.055 +/- 0.010	< 0.07 0.03 +/- 0.05	< 0.01 < 0.020	0.02 +/- 0.01 < 0.74	< 0.3 < 0.17	200 +/- 100 < 200
BB-19-004 Sample* Field Duplicate* BBI*	0.18 +/- 0.03 < 0.3	< 0.04 0.03 +/- 0.02	< 0.01 < 0.005	0.03 +/- 0.01 < 0.6	< 0.3	< 100 < 4500
BB-19-005 Sample^ Lab Duplicate^ USEPA^	0.056 +/- 0.0258 0.05 +/- 0.01			< 0.08 < 0.08 < 0.78		
BB-19-006 Sample^ USEPA^	0.051 +/- 0.028 0.06 +/- 0.02			0.12 +/- 0.08 < 0.62		

pCi/g(dry) -- Picocuries per gram of undried sample
pCi/L -- Picocuries per liter of water
< -- Less than

* -- 1992 Sample
^ -- 1994 Sample
Blank -- Not analyzed
+/- -- Plus or minus

BBI -- Brandeis-Bardin Institute split sample
DHS -- Department of Health Services split sample
USEPA -- United States Environmental Protection Agency split sample

Lab Duplicate -- A reanalysis of the sample including extraction and counting.

Cesium-137 was the only man-made radionuclide detected in the gamma scan analysis.

TABLE 35(continued)

Radionuclide Results for Sediment Samples at the Sodium Reactor Experiment Watershed (BB-19)

	Cesium-137 [pCi/g(dry)]	Plutonium-238 [pCi/g(dry)]	Plutonium-239 [pCi/g(dry)]	Strontium-90 [pCi/g(dry)]	Iodine-129 [pCi/g(dry)]	Tritium (pCi/L)
BB-19-007 Sample^ BBI^	< 0.04 < 0.07			< 0.1 < 0.5		
BB-19-008 Sample^ DHS^	0.045 +/- 0.0257 0.052 +/- 0.011			< 0.1 < 0.08		
BB-19-009 Sample^	< 0.03			0.061 +/- 0.041		

pCi/g(dry) -- Picocuries per gram of undried sample
pCi/L -- Picocuries per liter of water
< -- Less than

* -- 1992 Sample
^ -- 1994 Sample
Blank -- Not analyzed
+/- -- Plus or minus

BBI -- Brandeis-Bardin Institute split sample
DHS -- Department of Health Services split sample
USEPA -- United States Environmental Protection Agency split sample

Cesium-137 was the only man-made radionuclide detected in the gamma scan analysis.

TABLE 36

Radionuclide Results for Sediment Samples at Campsite 1 Drainage (BB-20)

	Cesium-137 [pCi/g(dry)]	Plutonium-238 [pCi/g(dry)]	Plutonium-239 [pCi/g(dry)]	Strontium-90 [pCi/g(dry)]	Iodine-129 [pCi/g(dry)]	Tritium (pCi/L)
BB-20-001						
Sample^	0.11 +/- 0.037			< 0.1		< 100
BBI^	0.1 +/- 0.05			< 0.3		< 520
USEPA^	0.04 +/- 0.01			< 0.78		< 270
BB-20-002						
Sample^	< 0.04			< 0.09		< 100
BB-20-003						
Sample^	< 0.04			< 0.06		< 100
Field Duplicate^						< 100
BBI^	< 0.07			< 0.3		< 180
USEPA^	0.04 +/- 0.02			< 0.64		< 270
BB-20-004						
Sample^	< 0.04			0.18 +/- 0.04		< 100
Lab Duplicate^				0.088 +/- 0.036		
USEPA^	< 0.04			< 0.71		< 270
BB-20-005						
Sample^	< 0.03			< 0.06		< 100
Field Duplicate^	< 0.04					
Lab Duplicate^						< 100
BB-20-006						
Sample^	< 0.05			< 0.05		< 100
USEPA^	0.02 +/- 0.01			< 0.75		< 270

pCi/g(dry) -- Picocuries per gram of undried sample
pCi/L -- Picocuries per liter of water
< -- Less than

* -- 1992 Sample
^ 1994 Sample
Blank -- Not analyzed
+/- -- Plus or minus

BBI -- Brandeis-Bardin Institute split sample
DHS -- Department of Health Services split sample
USEPA -- United States Environmental Protection Agency split sample

Field Duplicate -- A duplicate sample is collected in the field and submitted under an anonymous sample identifier.
Lab Duplicate -- A reanalysis of the sample including extraction and counting.

Cesium-137 was the only man-made radionuclide detected in the gamma scan analysis.

TABLE 36(continued)

Radionuclide Results for Sediment Samples at Campsite 1 Drainage (BB-20)

	Cesium-137 [pCi/g(dry)]	Plutonium-238 [pCi/g(dry)]	Plutonium-239 [pCi/g(dry)]	Strontium-90 [pCi/g(dry)]	Iodine-129 [pCi/g(dry)]	Tritium (pCi/L)
BB-20-007 Sample^ USEPA^	< 0.05 0.04 +/- 0.02			< 0.05 < 0.65		< 100 < 270
BB-20-008 Sample^	< 0.05			< 0.06		< 100
BB-20-009 Sample^ BBI^	0.076 +/- 0.0364 < 0.07			< 0.06 < 0.3		< 100 < 310
BB-20-010 Sample^ Lab Duplicate^	< 0.05			< 0.1 < 0.06		< 100

pCi/g(dry) -- Picocuries per gram of undried sample
pCi/L -- Picocuries per liter of water
< -- Less than

* -- 1992 Sample
^ -- 1994 Sample
Blank -- Not analyzed
+/- -- Plus or minus

BBI -- Brandeis-Bardin Institute split sample
DHS -- Department of Health Services split sample
USEPA -- United States Environmental Protection Agency split sample

Lab Duplicate -- A reanalysis of the sample including extraction and counting.

Cesium-137 was the only man-made radionuclide detected in the gamma scan analysis.

TABLE 37

Radionuclide Results for Surface Water Samples at Campsite 1 Drainage (BB-20)

	Cesium-137 (pCi/L)	Tritium (pCi/L)	Gross Alpha (pCi/L)	Gross Beta (pCi/L)
BB-20-002				
Sample^		< 200	< 6	15 +/- 3
BBI^		< 300		
USEPA^	< 7.18	< 260	< 8.4	< 9.6

pCi/L -- Picocuries per liter of water
< -- Less than
+/- -- Plus or minus

^ -- 1994 Sample
Blank -- Not analyzed

BBI -- Brandeis-Bardin Institute split sample
DHS -- Department of Health Services split sample
USEPA -- United States Environmental Protection Agency split or interlaboratory duplicate sample

Cesium-137 was the only man-made radionuclide detected in the gamma scan analysis.

TABLE 38

Sample Area Levels Statistically Different From Background Levels

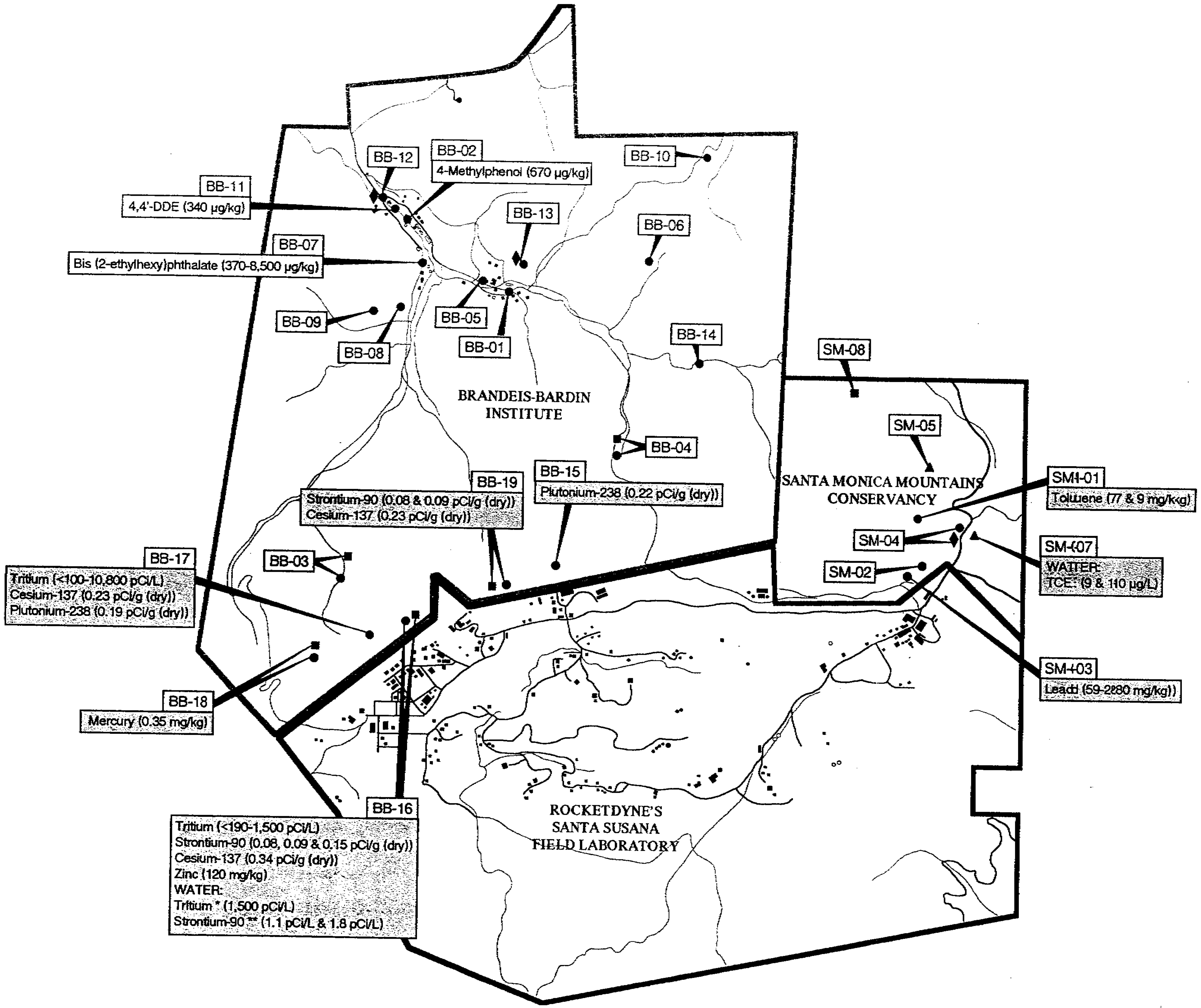
Radionuclide[1] (pCi/g (dry))	Range	Arithmetic Mean	SD	5th to 95th Percentile[2]
Cesium-137				
Background Areas	<0.03-0.213	0.087	0.062	<0.03-0.21
Building 59 Watershed (BB-17)	0.077-0.385	0.20	0.08	0.04-0.36
Strontium-90				
Background Areas	<0.005-0.13	0.052	0.031	<0.005-0.11
RMDF Watershed (BB-16)	0.02-0.24	0.103	0.62	<0.005-0.227

1 The majority of the background samples for tritium and plutonium-238 were below detection limits; statistical analysis was not used to evaluate concentrations of these radionuclides.

2 The fifth percentile equals the mean minus two times the standard deviation (mean - 2 x SD)
The ninety-fifth percentile equals the mean plus two times the standard deviation (mean + 2 x SD)

Figures

FIGURE 1
SUMMARY OF 1992
MULTI-MEDIA SAMPLING



LEGEND

▲ Groundwater Sample
● Soil / Sediment Sample
◆ Fruit Sample
■ Surface Water Sample
µg/kg Micrograms Per Kilogram
µg/L Micrograms Per Liter
mg/kg Milligrams Per Kilogram
pCi/L Picocuries Per Liter
pCi/g (dry) Picocuries Per Gram (Dry)
DDE Dichlorodiphenyldichloroethene
TCE Trichloroethene
< Less Than
* Below The Maximum Contaminant Limit (MCL) of 20,000 pCi/L
** Below The MCL of 8 pCi/L

NOTE: Only McLaren/Hart results are shown. Results are for soil samples unless otherwise indicated.

N

0 2,500'
SCALE

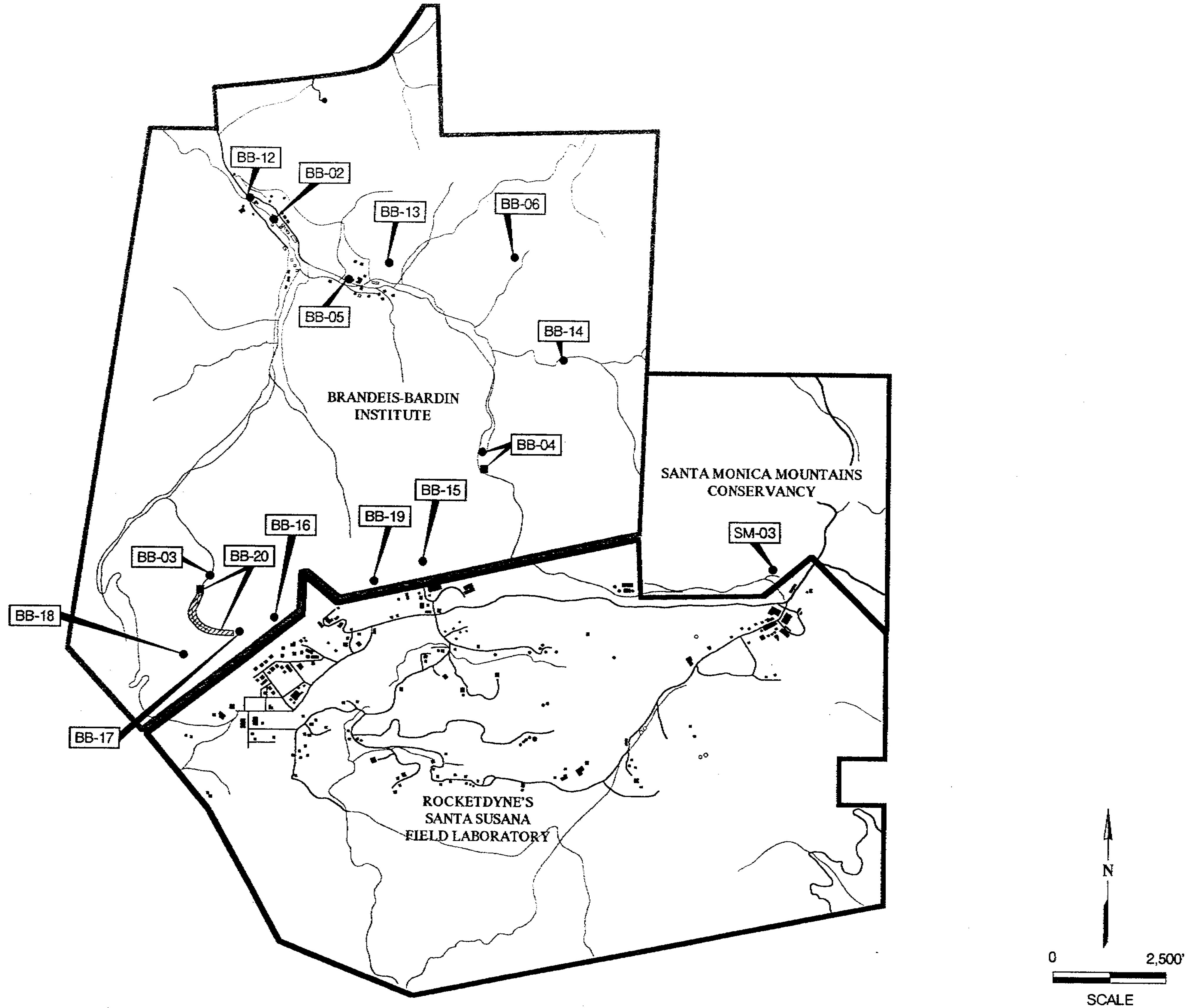
Brandeis-Bardin Institute	
BB-01	Perimeter of the Playground
BB-02	Dormitory Area
BB-03	Campsite Area 1
BB-04	Campsite Area 2
BB-05	Picnic Area
BB-06	House of The Book
BB-07	Counselor-in-Training Area
BB-08	Potential Development Site 1
BB-09	Potential Development Site 2
BB-10	Potential Development Site 3
BB-11	Vegetable Garden
BB-12	Main House Orchard
BB-13	Avocado Grove
BB-14	Old Well Campsite
BB-15	RD-51 Watershed
BB-16	Radioactive Materials Disposal Facility (RMDF) Watershed
BB-17	Building 59 Watershed
BB-18	Sodium Burn Pit Watershed
BB-19	Sodium Reactor Experiment (SRE) Watershed

Santa Monica Mountains Conservancy	
SM-01	Visitor Center Parking Lot
SM-02	Existing Road System
SM-03	Former Rocketdyne Employee Shooting Range
SM-04	Orange Groves
SM-05	Antenna Well
SM-07	Well by the Gate
SM-08	A Spring

McLaren Hart

T9501018**

FIGURE 2
ADDITIONAL SAMPLE AREAS
BRANDEIS-BARDIN INSTITUTE AND
SANTA MONICA MOUNTAINS CONSERVANCY



LEGEND

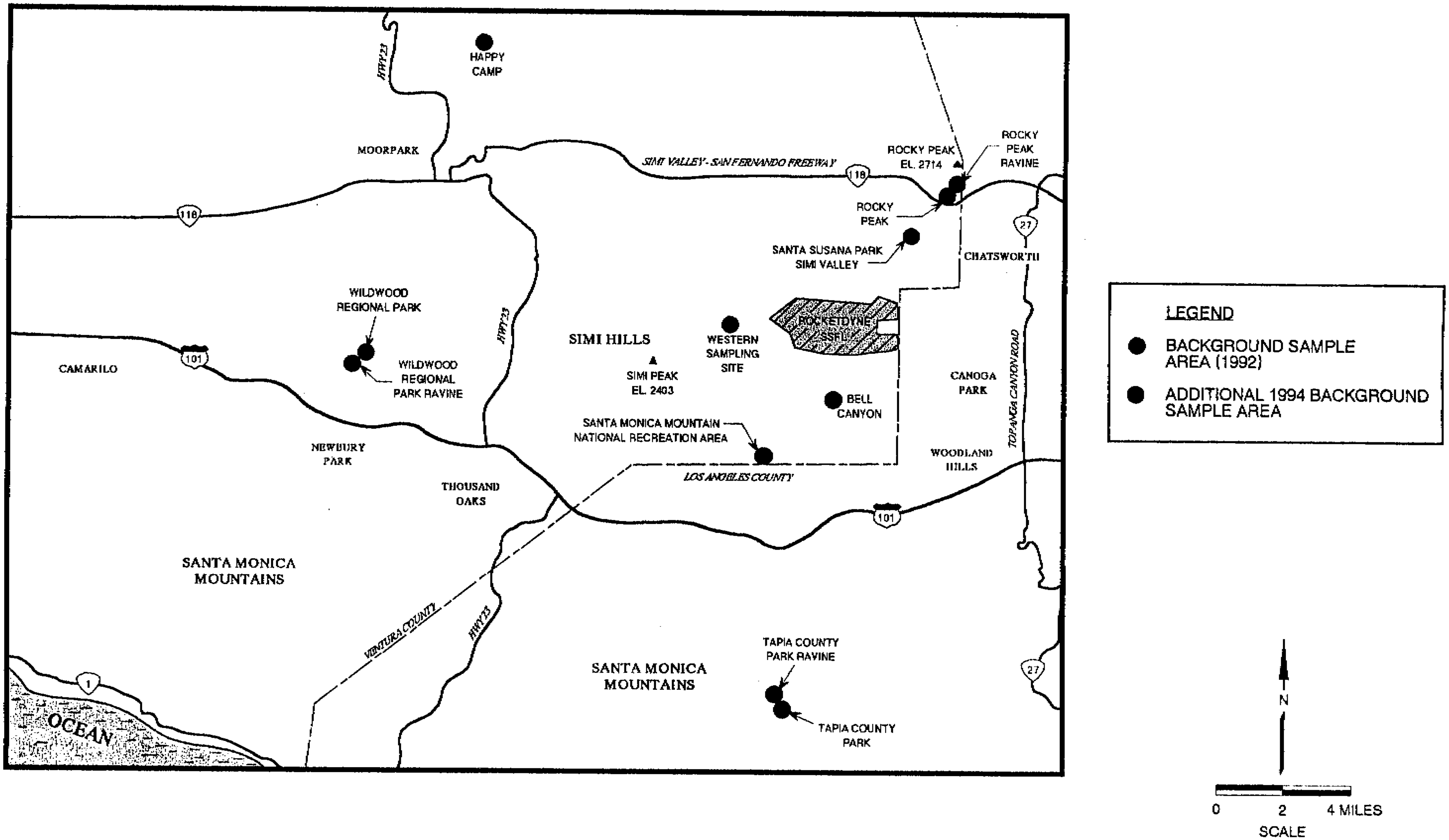
- ● Soil / Sediment Sample
- ■ Surface Water Sample

Brandeis-Bardin Institute	
BB-02	Dormitory Area
BB-03	Campsite Area 1
BB-04	Campsite Area 2
BB-05	Picnic Area
BB-06	House of The Book
BB-12	Main House Orchard
BB-13	Avocado Grove
BB-14	Old Well Campsite
BB-15	RD-51 Watershed
BB-16	Radioactive Materials Disposal Facility (RMDF) Watershed
BB-17	Building 59 Watershed
BB-18	Sodium Burn Pit Watershed
BB-19	Sodium Reactor Experiment (SRE) Watershed
BB-20	Camp Site Area 1 - Drainage
Santa Monica Mountains Conservancy	
SM-03	Former Rocketdyne Employee Shooting Range

McLaren Hart

T9501016**

FIGURE 3
PREVIOUS AND ADDITIONAL
BACKGROUND SAMPLE AREAS



T9501017*

APPENDIX A
USEPA
COMMENTS LETTER

FIGURE 4
REGISTER LABEL EXAMPLE

McLaren Hart™

Soils Label Register

#S- 80418

Project and Task #: ______________________

SB/MW#:
HA#: ______________ Field Log #: __________
GS#:

Date: ______________________

Analysis: ______________________

Depth: ______________________

C-O-C #: ______________________

Initials: ______________________

Notes: ______________________

____

____

____

McLaren Hart

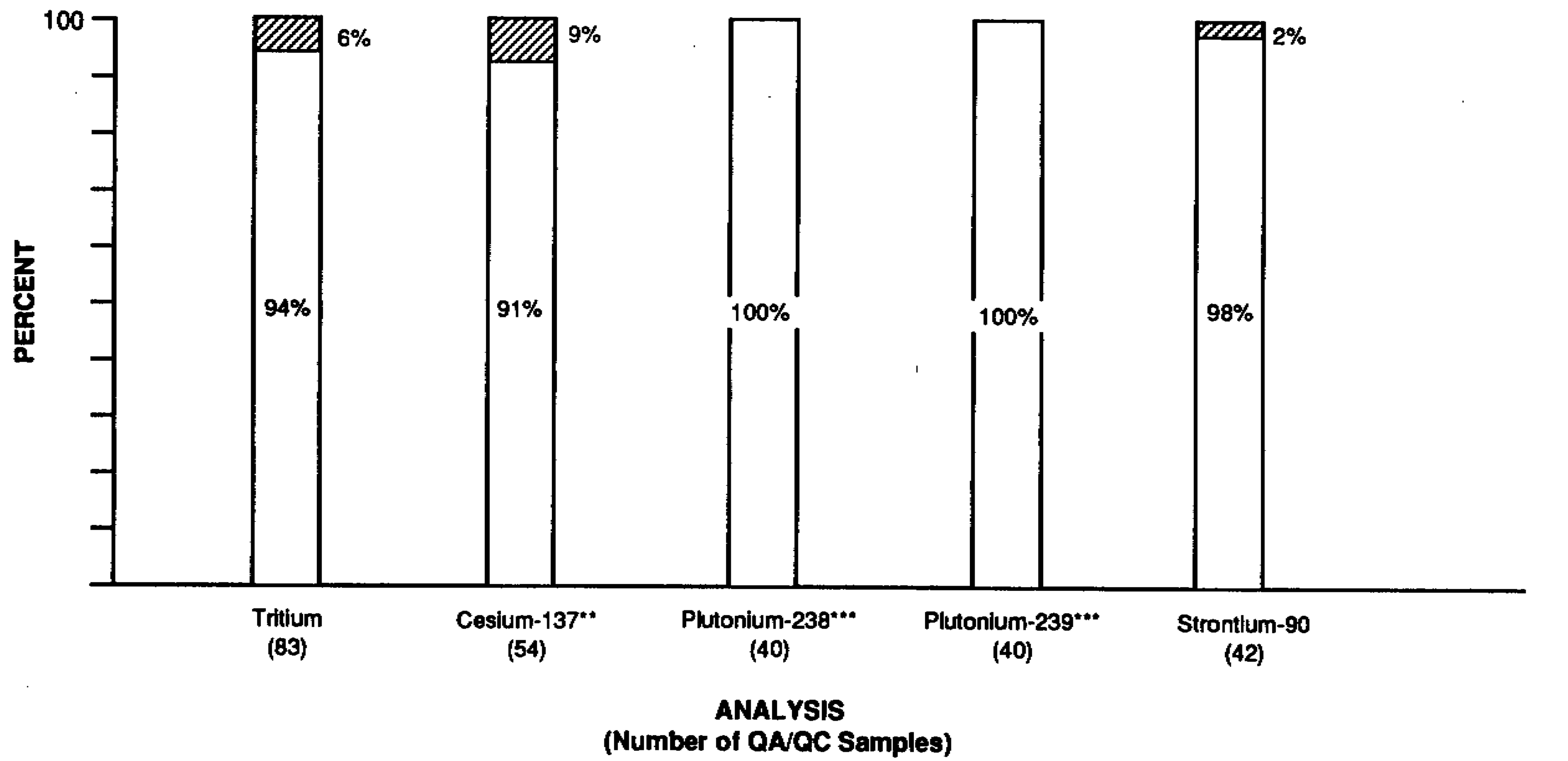
11101 White Rock Road
Rancho Cordova, CA 95670
916.638.3696

- - - - - - - - - - - - - - - - - - - -

#S- 80418
Project: ______________ SB#:
Depth: ______________ HA#: ______________
Date: ______________ GS#:
Analysis: ______________
McLaren

DETACHABLE ADHESIVE LABEL FOR SAMPLE CONTAINER

Figure 5
Quality Assurance / Quality Control (QA/QC) Summary *
(Soil/Sediment Samples)



* Rinsate matrix spike, field duplicate, field split, and pre-spiked duplicate QA/QC samples compared to their respective scheduled sample.

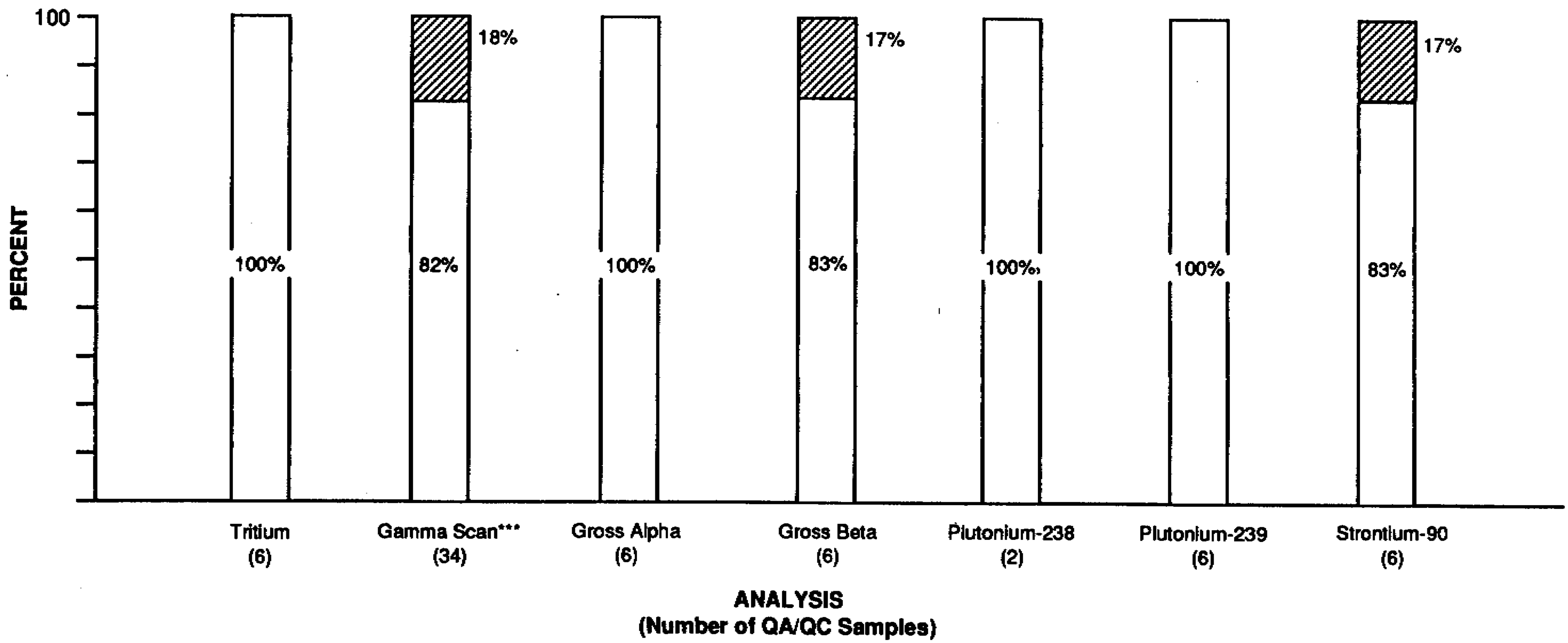
** Cesium-137 was the only man-made radionuclide detected in the gamma-scan analysis.

*** All values were below detection limits.

1 "In agreement" for samples analyzed for radionuclides means that the difference between the sample results was less than the sum of the standard deviations of the sample results.
For pre-spiked samples a result of 25 percent deviation or less from the spiked valve were considered "in agreement".
Matrix sipke results were considered "in agreement" if they were within acceptable percent recovery.
All "less than" values were considered "in agreement".

E9408002

Figure 6
Quality Assurance / Quality Control (QA/QC) Summary *
(Water Samples)**



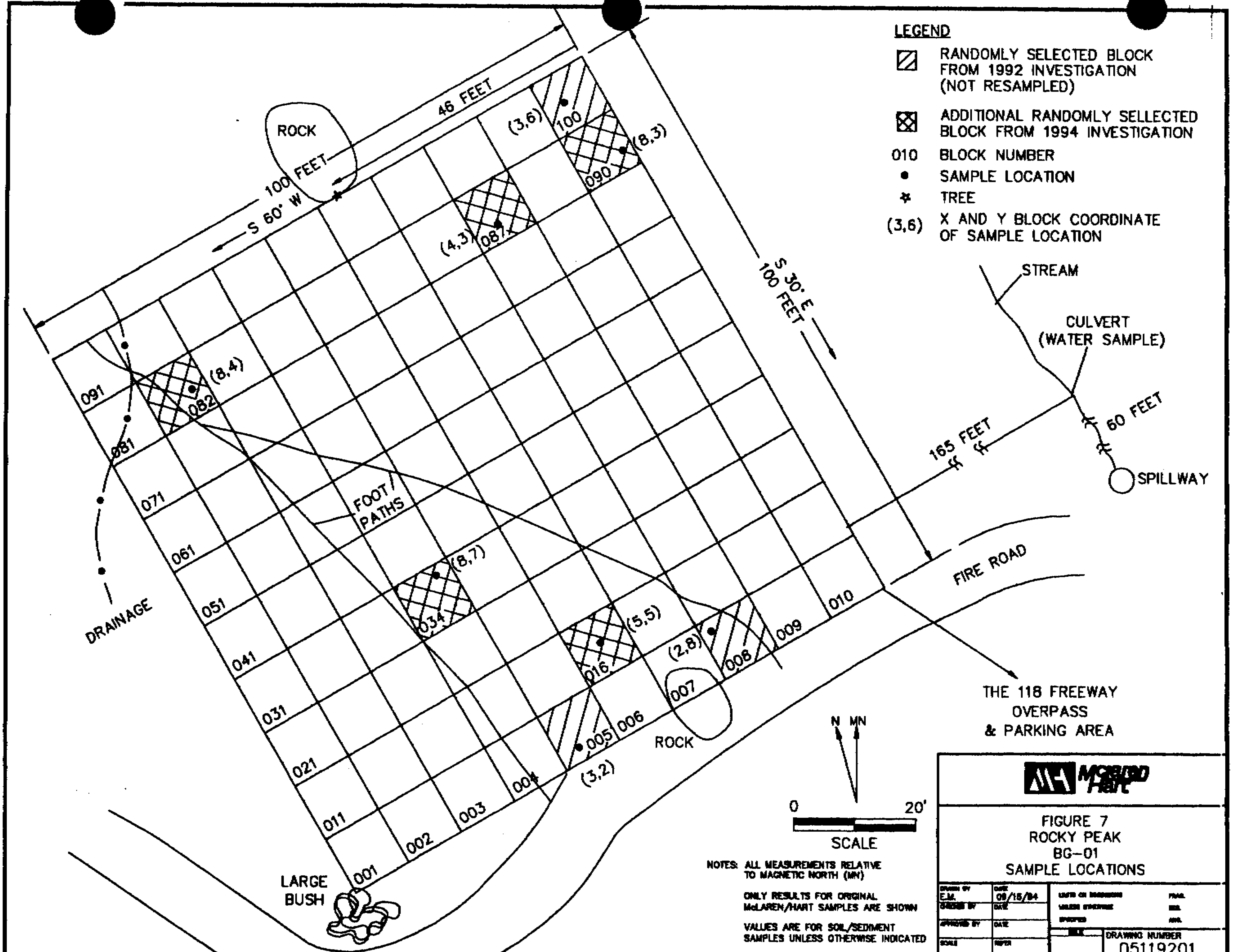
* Includes surface water.

** Rinsate, pre-spiked blind duplicate, field split, and field blank QA/QC samples compared to their respective scheduled sample.

*** Gamma Scan: Cadmium-109, Cobalt-57, Cerium-139, Mercury-203, Tin-113, Cesium-173, Yttrium-88, and Cobalt-60.

1 "In agreement" for samples analyzed for radionuclides means that the difference between the sample results was less than the sum of the standard deviations of the sample results. For pre-spiked samples a result of 25 percent deviation or less from the spiked valve were considered "in agreement". All "less than" values were considered "in agreement".

E9408001



NOTES: ALL MEASUREMENTS RELATIVE TO MAGNETIC NORTH (MN)

ONLY RESULTS FOR ORIGINAL McLAREN/HART SAMPLES ARE SHOWN

VALUES ARE FOR SOIL/SEDIMENT SAMPLES UNLESS OTHERWISE INDICATED

McLaren Hart

FIGURE 7
ROCKY PEAK
BG-01
SAMPLE LOCATIONS

DRAWN BY E.M. DATE 08/15/94

DRAWING NUMBER 05119201

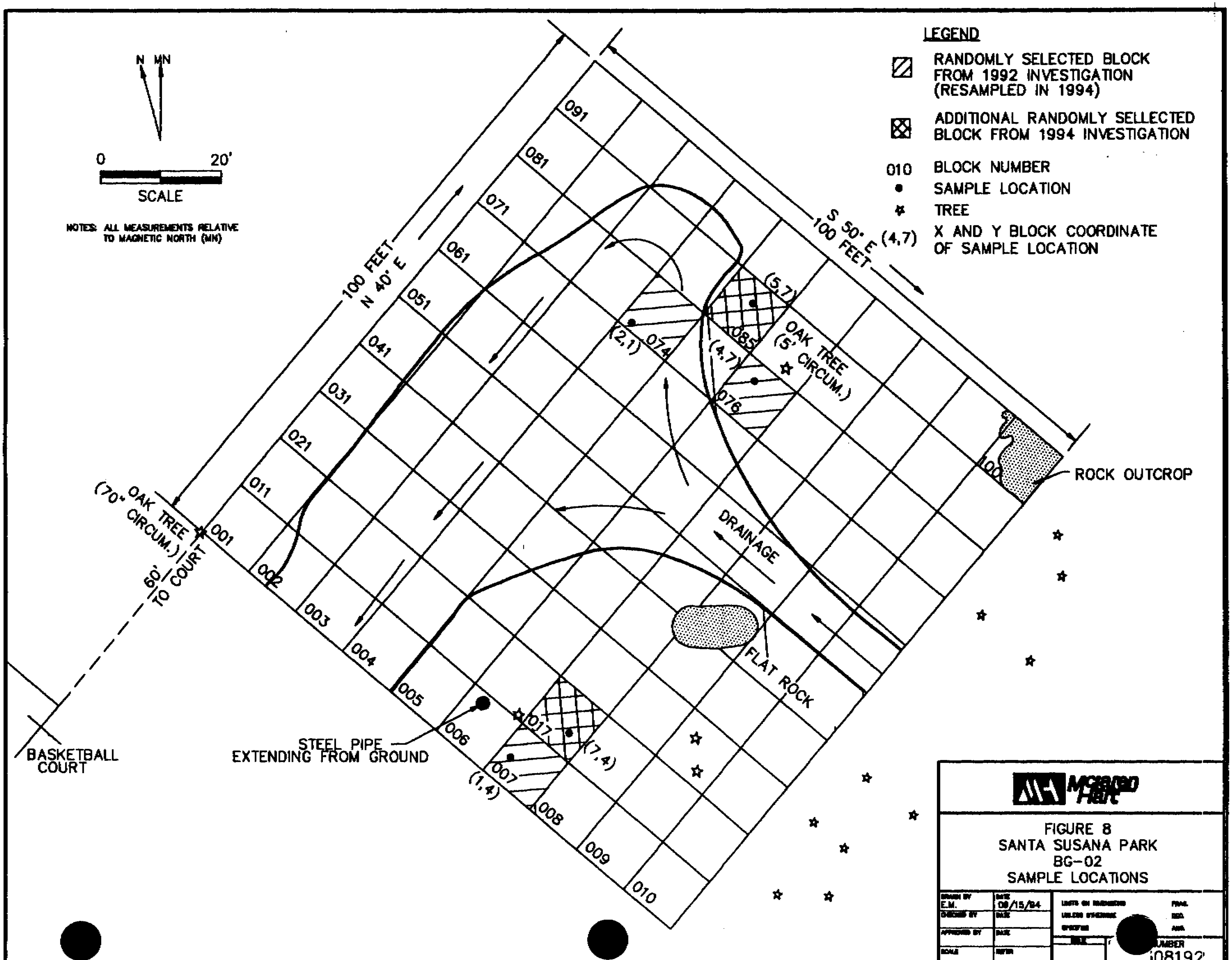


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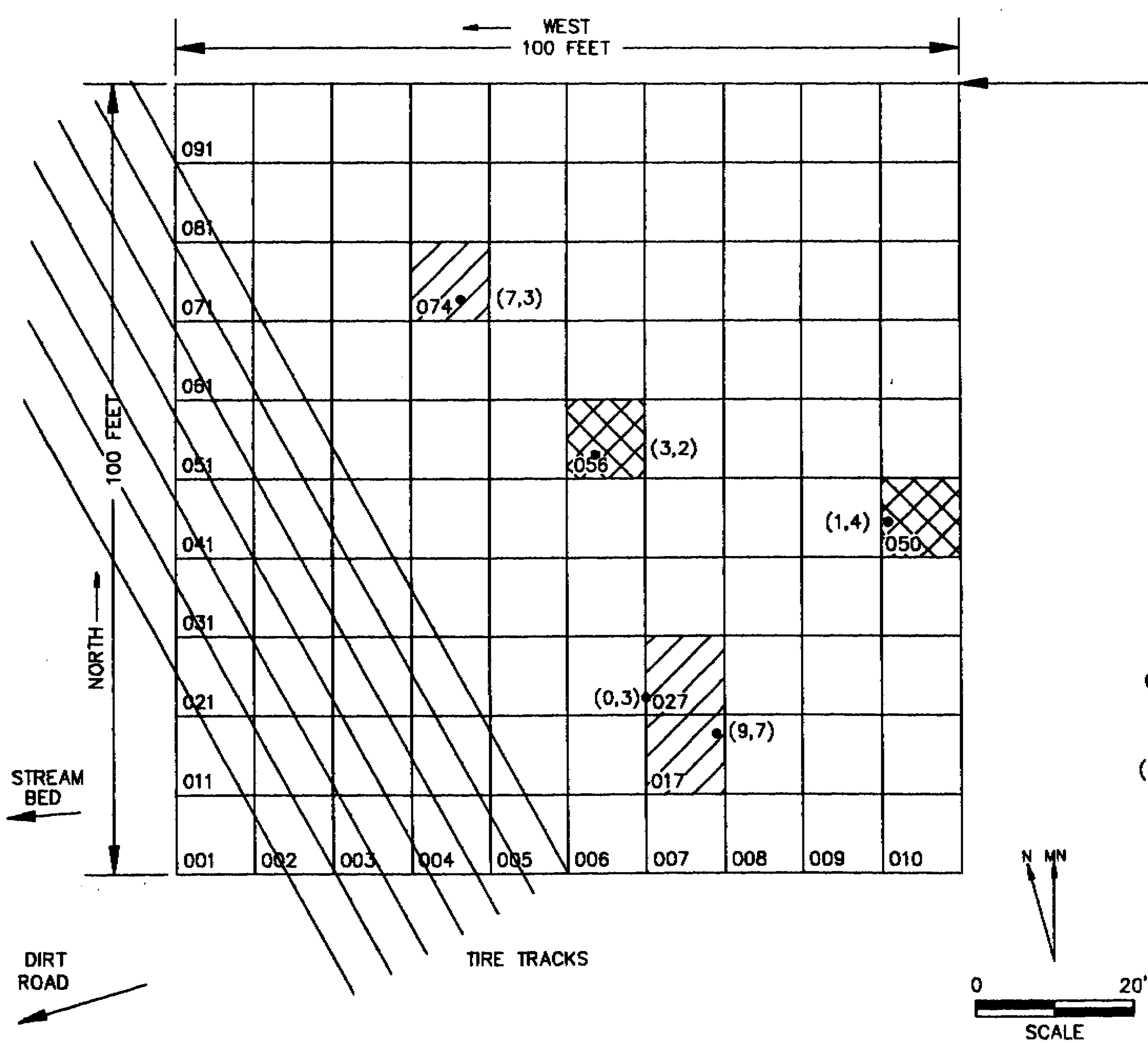
FIGURE 8
SANTA SUSANA PARK
BG-02
SAMPLE LOCATIONS

DRAWN BY E.M.	DATE 08/15/94		
CHECKED BY	DATE		
APPROVED BY	DATE		
SCALE			NUMBER 08192



NOTES: ALL MEASUREMENTS RELATIVE TO MAGNETIC NORTH (MN)

ONLY ORIGINAL McLAREN/HART SAMPLE RESULTS ARE SHOWN ON THIS FIGURE

VALUES ARE FOR SOIL/SEDIMENT SAMPLES UNLESS OTHERWISE INDICATED

LEGEND

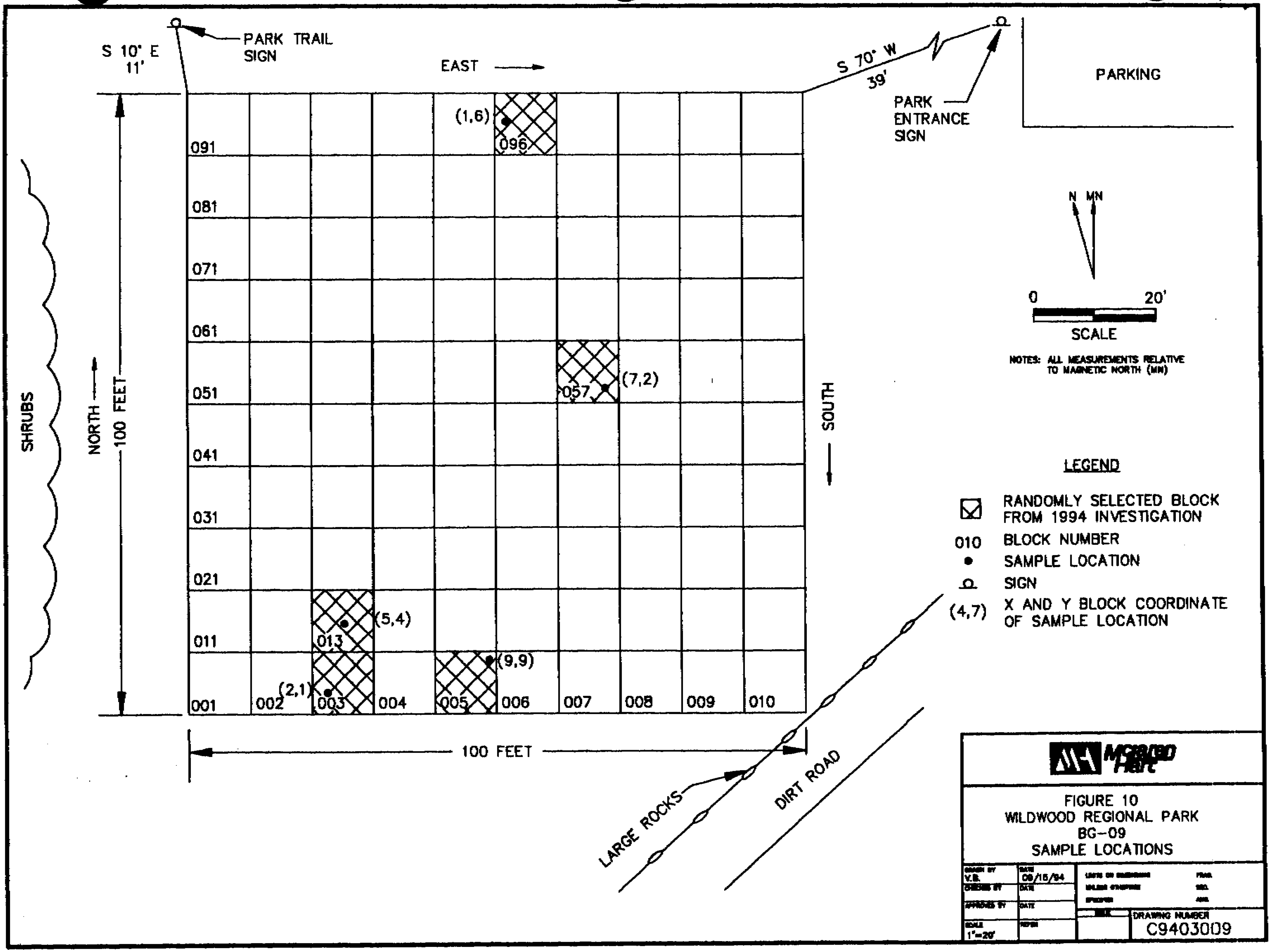
- RANDOMLY SELECTED BLOCK FROM 1992 INVESTIGATION (RESAMPLED IN 1994)
- ADDITIONAL RANDOMLY SELLECTED BLOCK FROM 1994 INVESTIGATION
- 010 BLOCK NUMBER
- • SAMPLE LOCATION
- TREE
- (0,3) X AND Y BLOCK COORDINATE OF SAMPLE LOCATION

McLaren Hart

FIGURE 9
HAPPY CAMP
BG-05
SAMPLE LOCATIONS

DRAWN BY E.M. DATE 08/15/94

DRAWING NUMBER 05139309



PARK TRAIL SIGN
S 10° E 11'
EAST
S 70° W 39'
PARK ENTRANCE SIGN
PARKING
N MN
0 20'
SCALE
NOTES: ALL MEASUREMENTS RELATIVE TO MAGNETIC NORTH (MN)
SHRUBS
NORTH
100 FEET
SOUTH
091
081
071
061
051
041
031
021
011
001
002
003
004
005
006
007
008
009
010
096
(1,6)
057
(7,2)
013
(5,4)
(2,1)
(9,9)
100 FEET
LARGE ROCKS
DIRT ROAD
LEGEND
RANDOMLY SELECTED BLOCK FROM 1994 INVESTIGATION
010 BLOCK NUMBER
SAMPLE LOCATION
SIGN
(4,7) X AND Y BLOCK COORDINATE OF SAMPLE LOCATION
McLaren Hart
FIGURE 10
WILDWOOD REGIONAL PARK
BG-09
SAMPLE LOCATIONS
V.B.
09/15/94
1"=20'
DRAWING NUMBER
C9403009

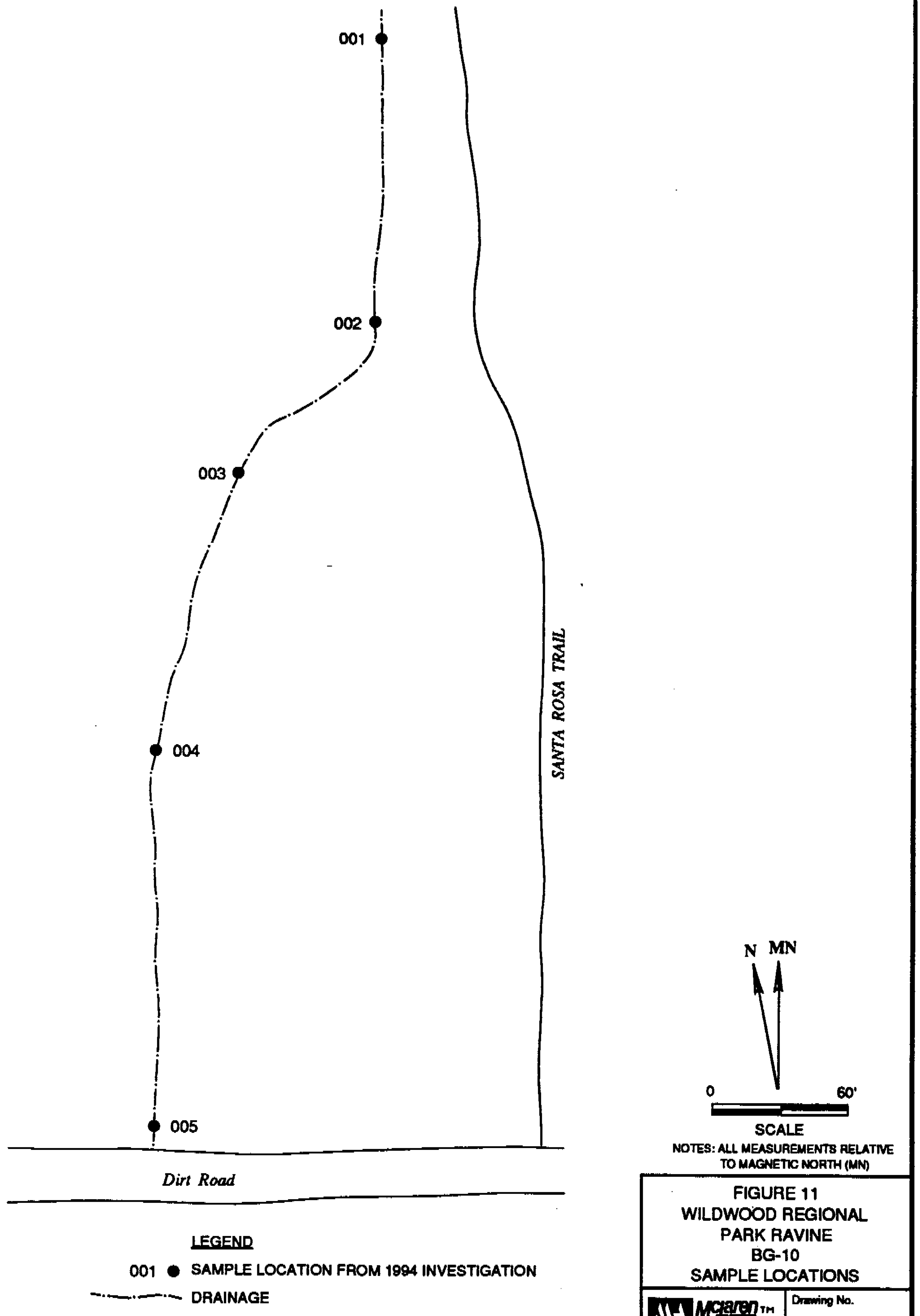


FIGURE 11
WILDWOOD REGIONAL
PARK RAVINE
BG-10
SAMPLE LOCATIONS

McLaren Hart™

Drawing No.
T9405021

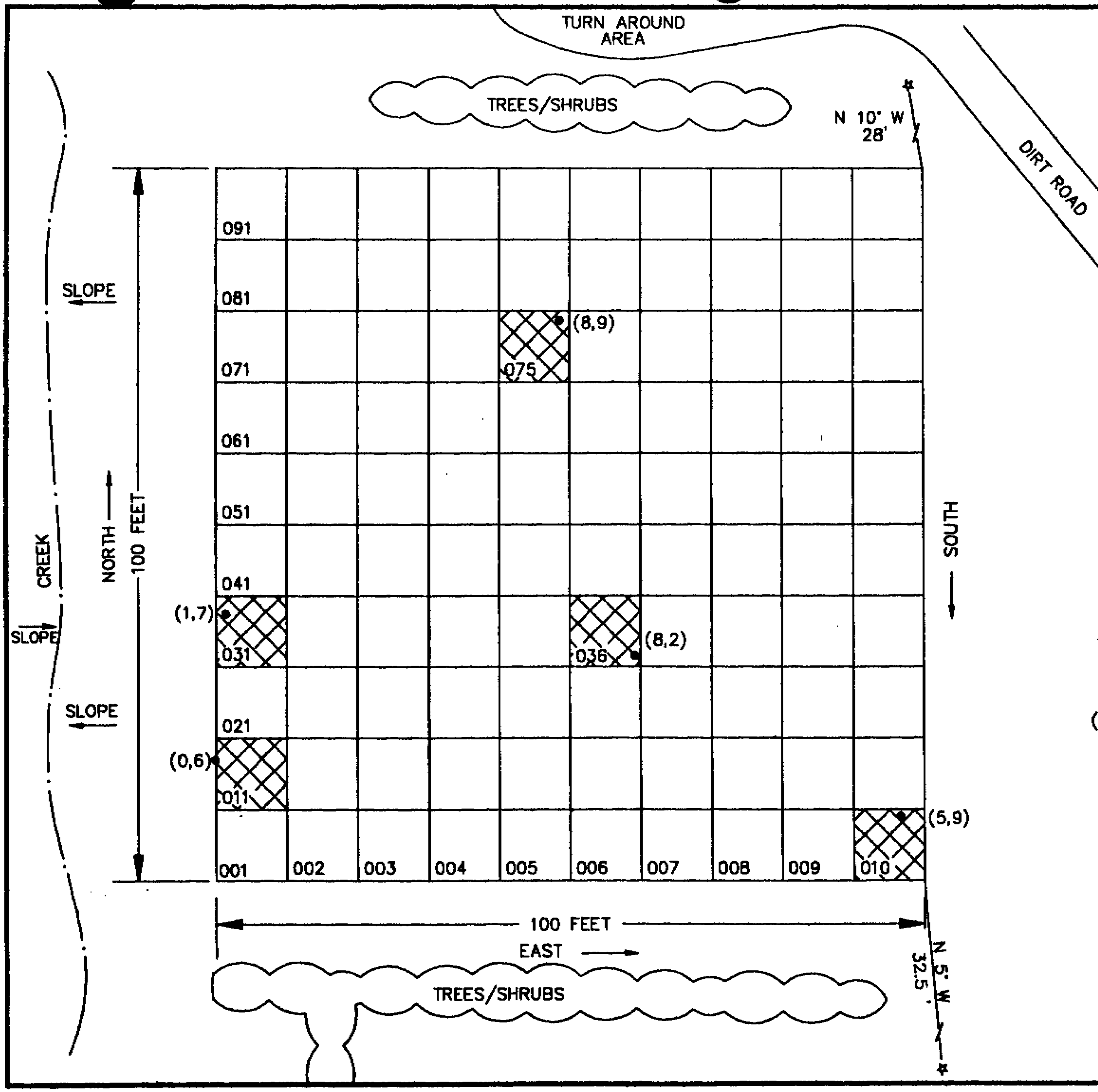


FIGURE 12
TAPIA COUNTY PARK
BG-11
SAMPLE LOCATIONS

V.B. 08/15/94
1"=20'
DRAWING NUMBER C9403010

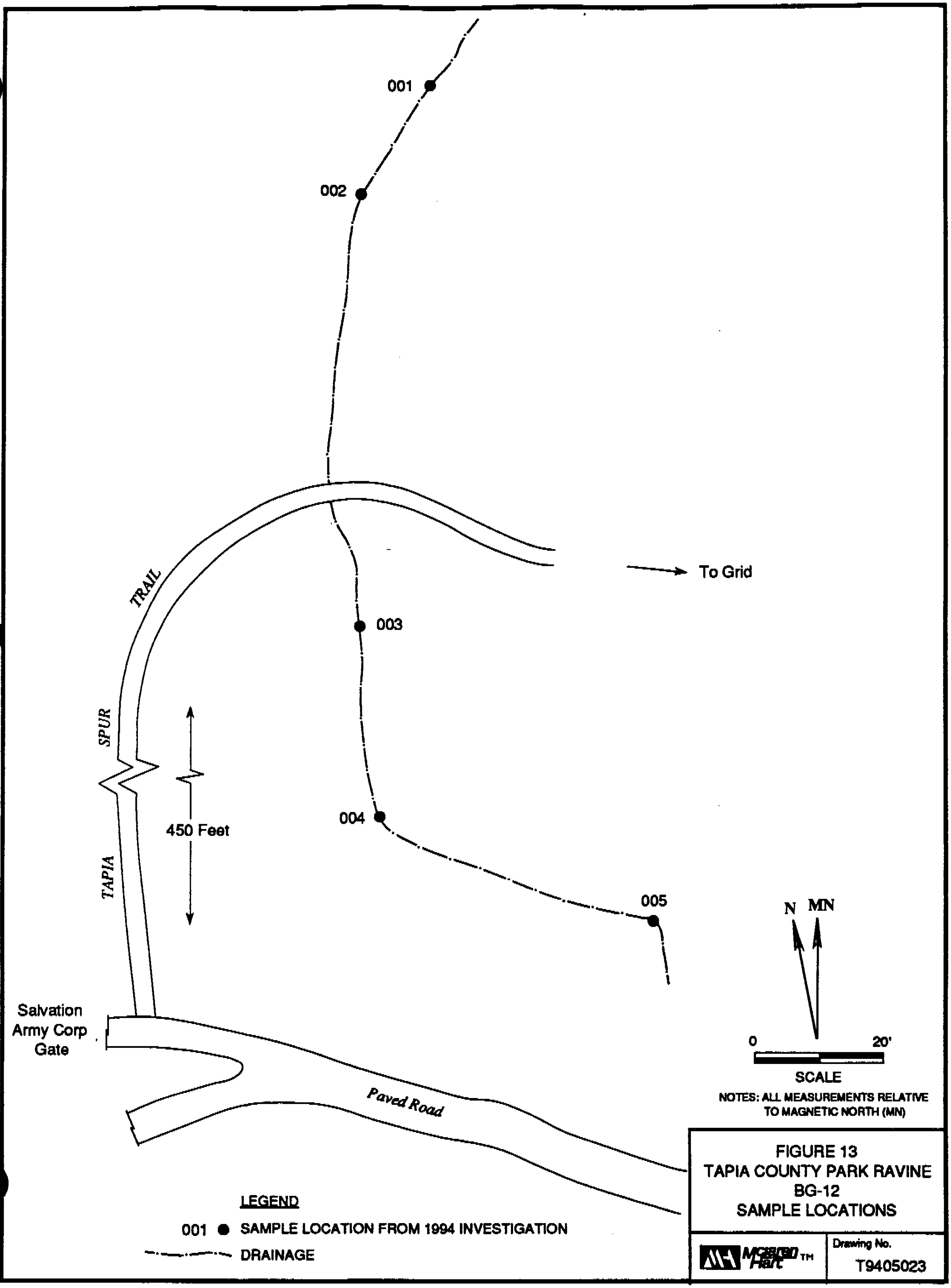


FIGURE 13
TAPIA COUNTY PARK RAVINE
BG-12
SAMPLE LOCATIONS

McLaren Hart

Drawing No. T9405023

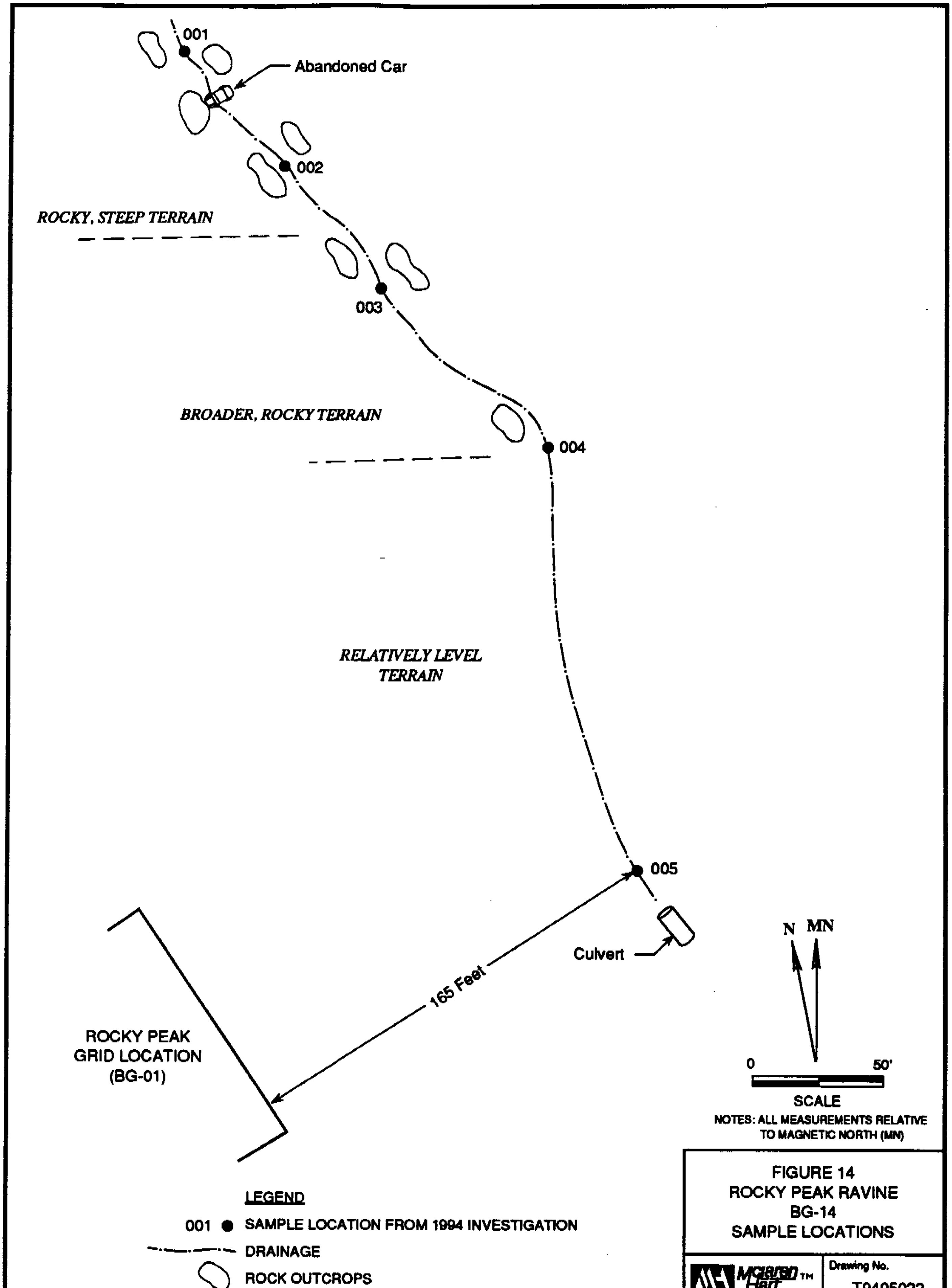
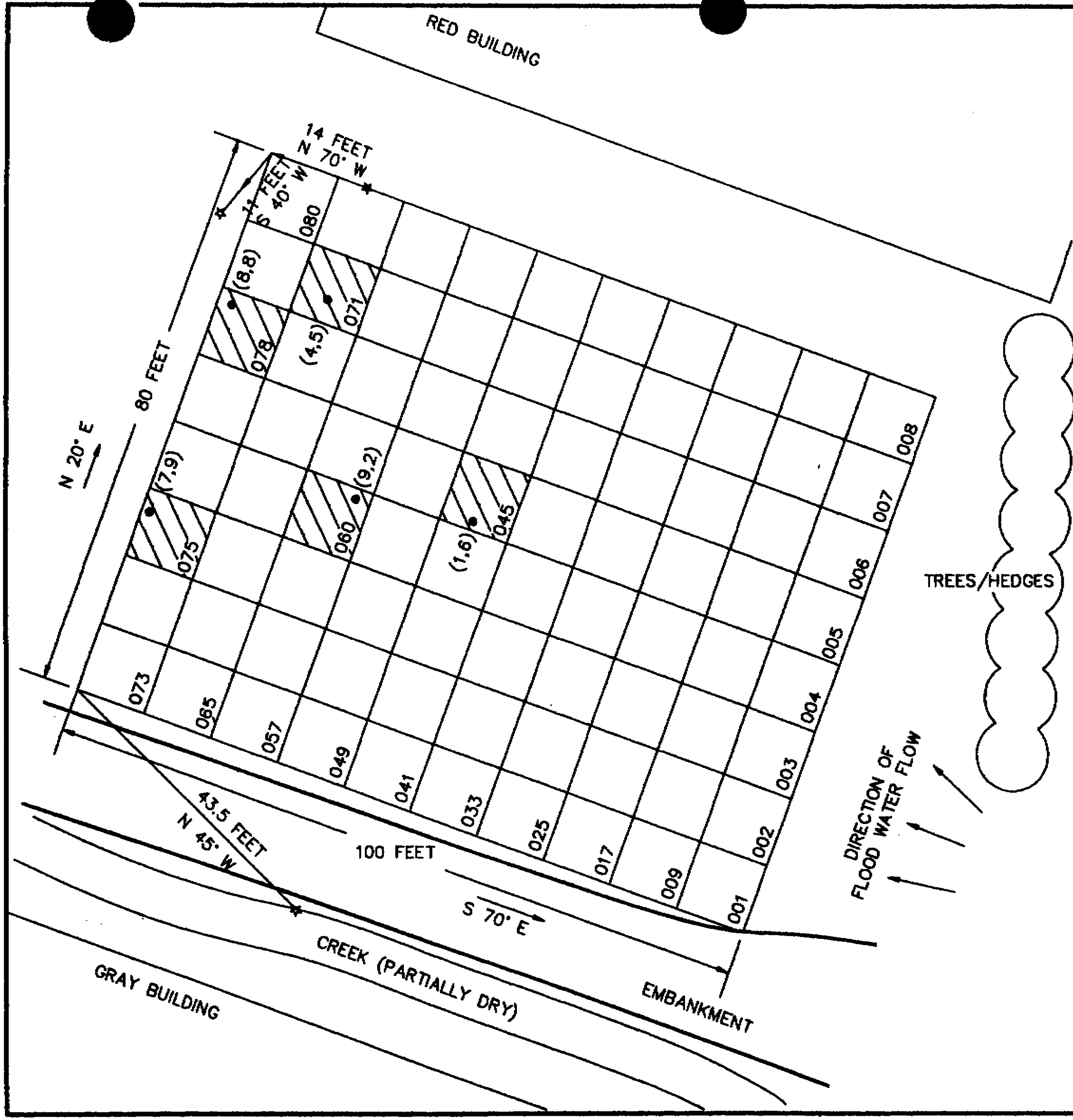


FIGURE 14
ROCKY PEAK RAVINE
BG-14
SAMPLE LOCATIONS

McLaren Hart TM

Drawing No.
T9405022



NOTES: ALL MEASUREMENTS RELATIVE TO MAGNETIC NORTH (MN)

LEGEND

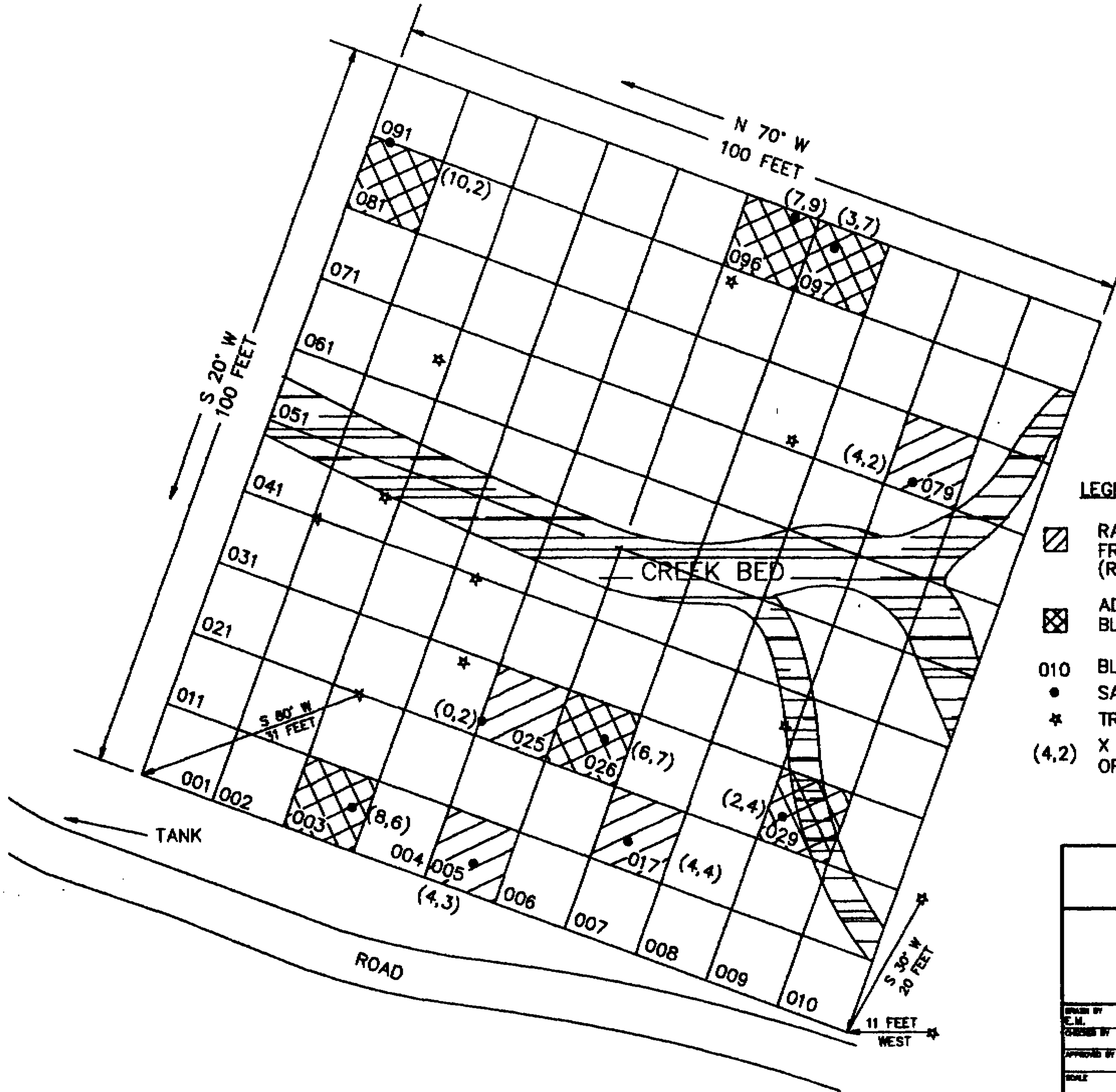
- RANDOMLY SELECTED BLOCK FROM 1992 INVESTIGATION (RESAMPLED IN 1994)
- 010 BLOCK NUMBER
- • SAMPLE LOCATION
- ✲ TREE
- (4,2) X AND Y BLOCK COORDINATE OF SAMPLE LOCATION
- ug/kg microgram per kilogram

McLaren Hart

FIGURE 15
DORMITORY AREA
BB-02
SAMPLE LOCATIONS

DRAWN BY E.M. DATE 08/15/94

DRAWING NUMBER 08079306



N MN

0 20'

SCALE

NOTE: ALL MEASUREMENTS RELATIVE TO MAGNETIC NORTH (MN)

LEGEND

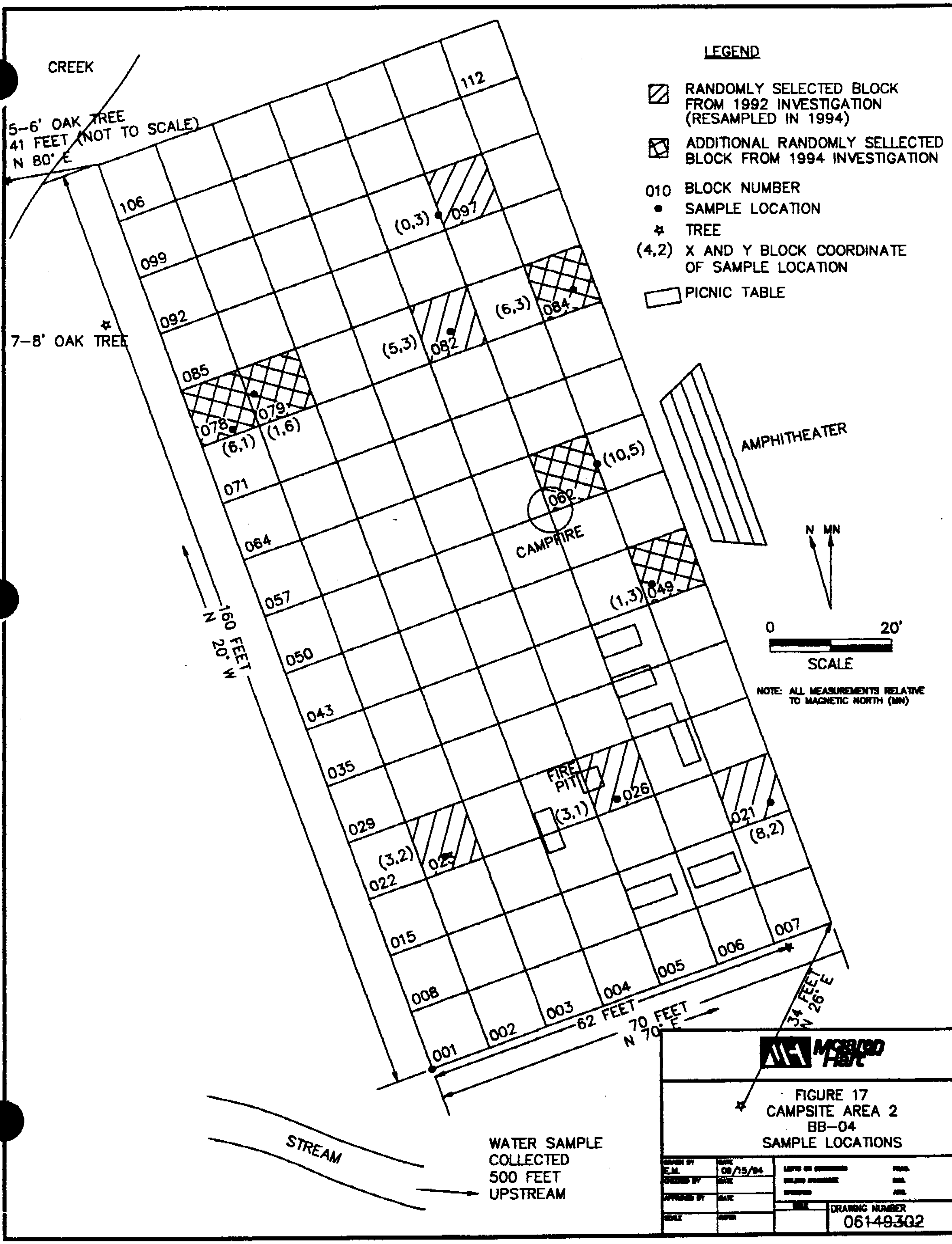
▨	RANDOMLY SELECTED BLOCK FROM 1992 INVESTIGATION (RESAMPLED IN 1994)
⊠	ADDITIONAL RANDOMLY SELLECTED BLOCK FROM 1994 INVESTIGATION
010	BLOCK NUMBER
●	SAMPLE LOCATION
☆	TREE
(4,2)	X AND Y BLOCK COORDINATE OF SAMPLE LOCATION

McLaren Hart

FIGURE 16
CAMPSITE AREA 1
BB-03
SAMPLE LOCATIONS

DRAWN BY E.M. DATE 06/15/94

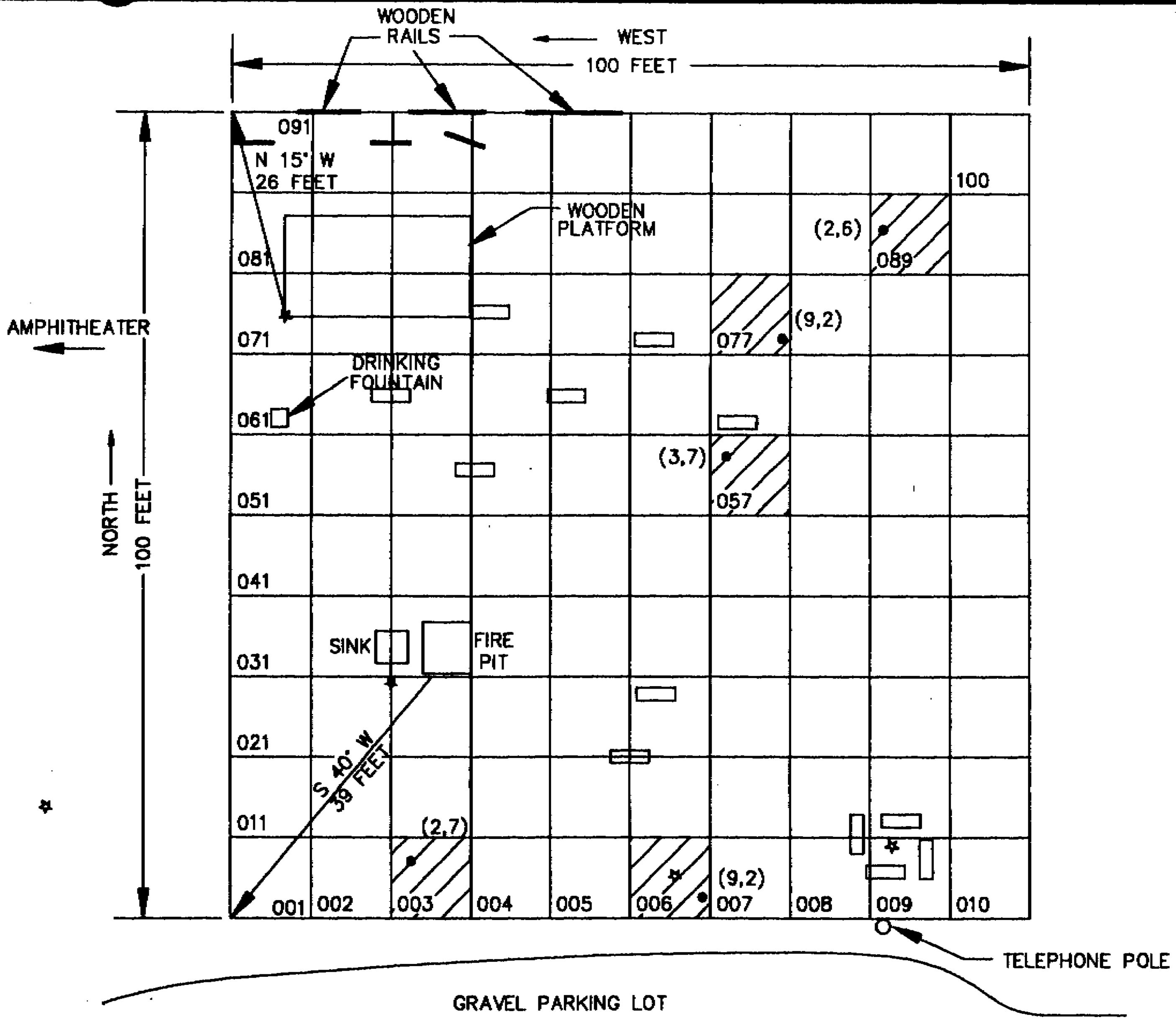
DRAWING NUMBER 06259301



McLaren Hart

FIGURE 17
CAMPSITE AREA 2
BB–04
SAMPLE LOCATIONS

DRAWN BY E.M.	DATE 08/15/94		
CHECKED BY	DATE		
APPROVED BY	DATE		
SCALE			DRAWING NUMBER 06149302



LEGEND

- RANDOMLY SELECTED BLOCK FROM 1992 INVESTIGATION (RESAMPLED IN 1994)
- 010 BLOCK NUMBER
- • SAMPLE LOCATION
- TREE
- (3,7) X AND Y BLOCK COORDINATE OF SAMPLE LOCATION

N MN

0 20'

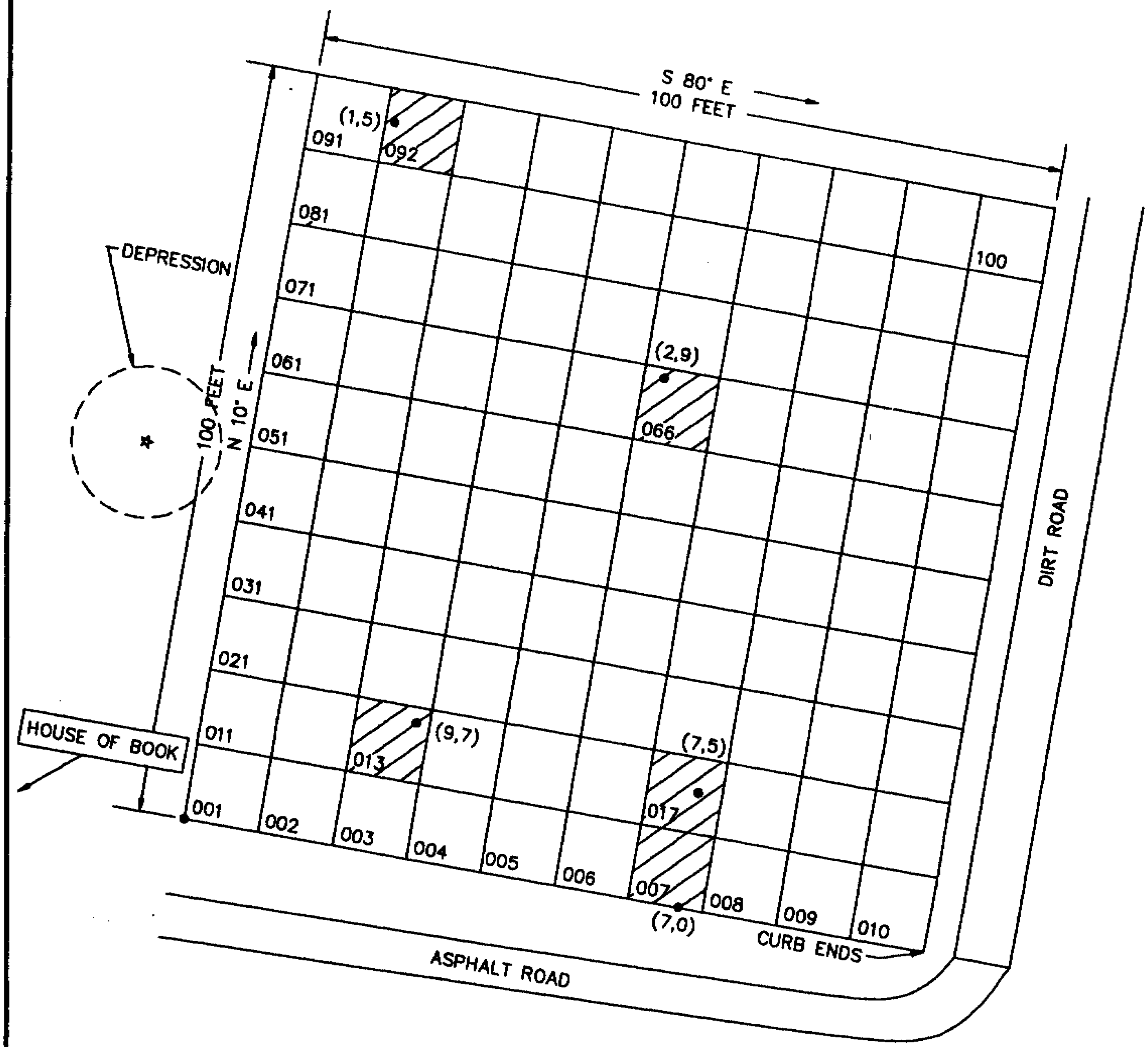
SCALE

NOTES: ALL MEASUREMENTS RELATIVE TO MAGNETIC NORTH (MN)

FIGURE 18
PICNIC AREA
BB-05
SAMPLE LOCATIONS

DRAWN BY E.M. DATE 09/15/94

DRAWING NUMBER 05139308



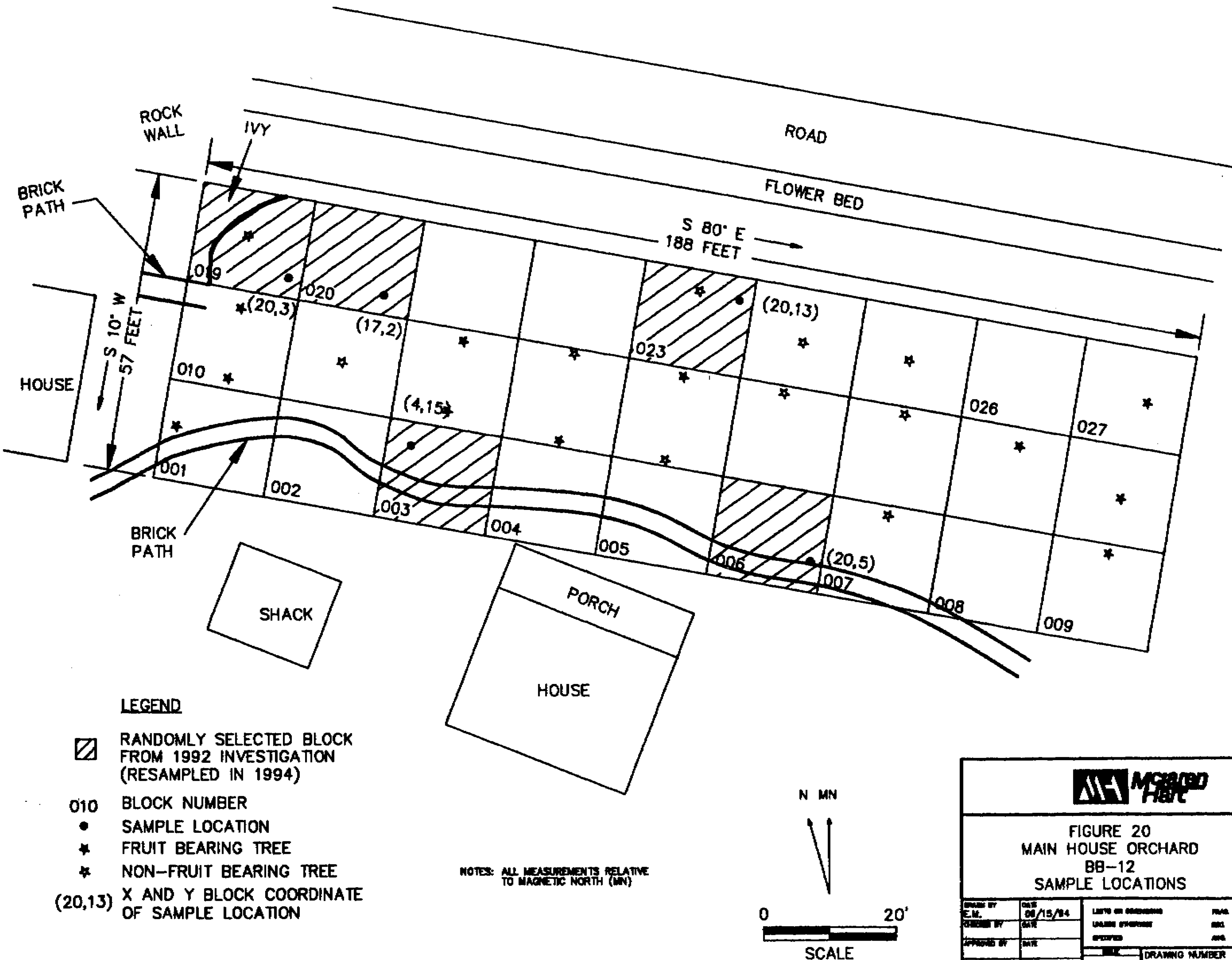
LEGEND

- ▨ RANDOMLY SELECTED BLOCK FROM 1992 INVESTIGATION (RESAMPLED IN 1994)
- 010 BLOCK NUMBER
- ● SAMPLE LOCATION
- ✲ TREE
- (4,2) X AND Y BLOCK COORDINATE OF SAMPLE LOCATION

FIGURE 19
HOUSE OF THE BOOK
BB-06
SAMPLE LOCATIONS

DRAWN BY E.M. DATE 08/15/94

DRAWING NUMBER 08069303

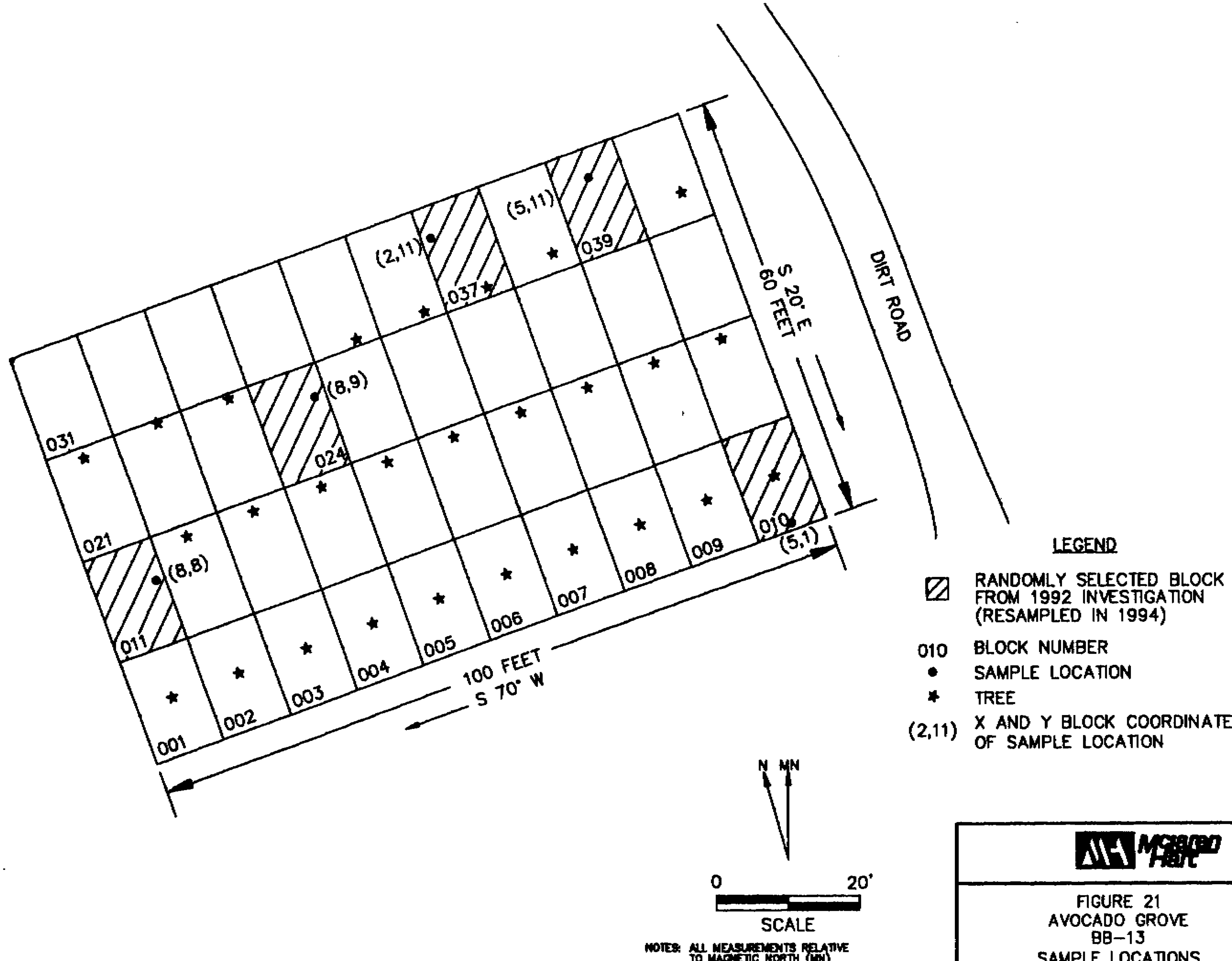


McLaren Hart

FIGURE 20
MAIN HOUSE ORCHARD
BB-12
SAMPLE LOCATIONS

E.M. 06/15/94

DRAWING NUMBER
05149313

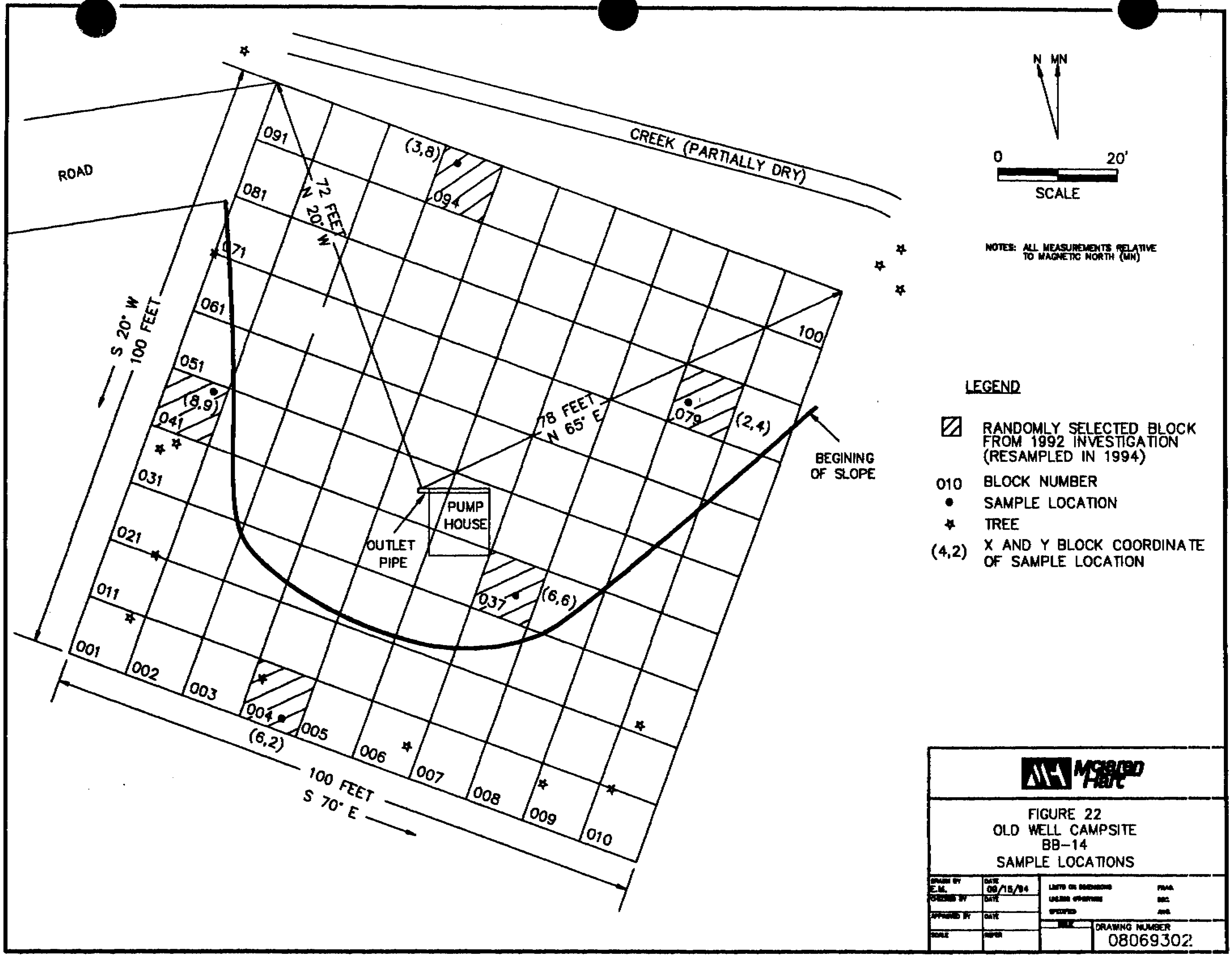


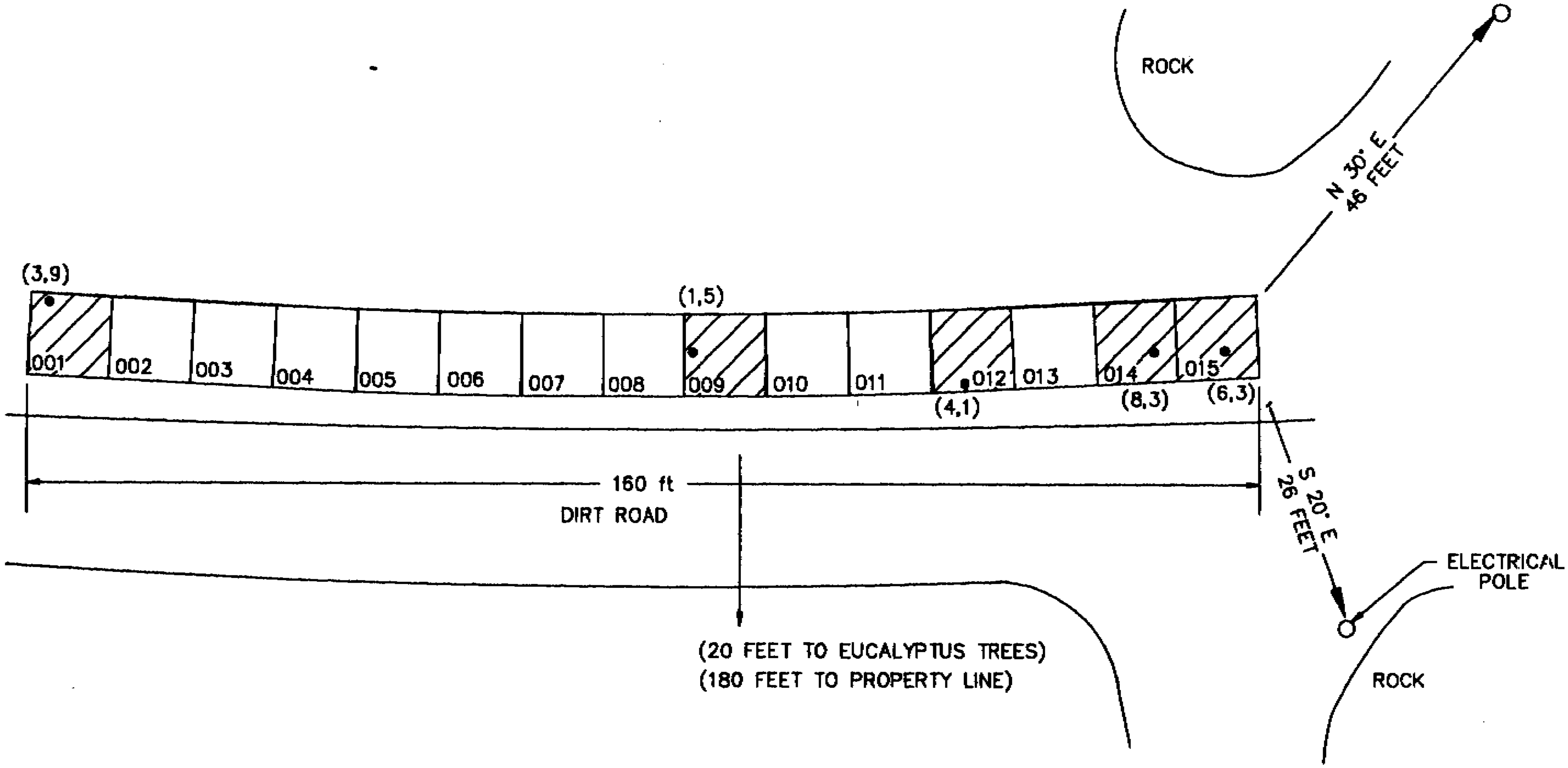
McLaren Hart

FIGURE 21
AVOCADO GROVE
BB-13
SAMPLE LOCATIONS

DRAWN BY E.M. DATE 08/15/94

DRAWING NUMBER 05149314


ROAD
CREEK (PARTIALLY DRY)
N
MN
0
20'
SCALE
NOTES: ALL MEASUREMENTS RELATIVE TO MAGNETIC NORTH (MN)
72 FEET N 20° W
78 FEET N 65° E
S 20° W 100 FEET
100 FEET S 70° E
PUMP HOUSE
OUTLET PIPE
BEGINING OF SLOPE
001
002
003
004
005
006
007
008
009
010
011
021
031
041
051
061
071
081
091
094
037
079
100
(3,8)
(8,9)
(6,2)
(6,6)
(2,4)
LEGEND
RANDOMLY SELECTED BLOCK FROM 1992 INVESTIGATION (RESAMPLED IN 1994)
010 BLOCK NUMBER
SAMPLE LOCATION
TREE
(4,2) X AND Y BLOCK COORDINATE OF SAMPLE LOCATION
McLaren Hart
FIGURE 22
OLD WELL CAMPSITE
BB-14
SAMPLE LOCATIONS
E.M.
08/15/94
DRAWING NUMBER
08069302



LEGEND

▨	RANDOMLY SELECTED BLOCKS (TO BE RESAMPLED)
010	BLOCK NUMBER
•	SAMPLE LOCATION
○	TELEPHONE POLE
(6,3)	X AND Y BLOCK COORDINATE OF SAMPLE LOCATION
mg/kg	milligram per kilogram

NOTES: ALL MEASUREMENTS RELATIVE TO MAGNETIC NORTH (MN)

ONLY RESULTS FOR ORIGINAL McLAREN/HART SAMPLES ARE SHOWN

VALUES ARE FOR SOIL/SEDIMENT SAMPLES UNLESS OTHERWISE INDICATED

McLaren Hart

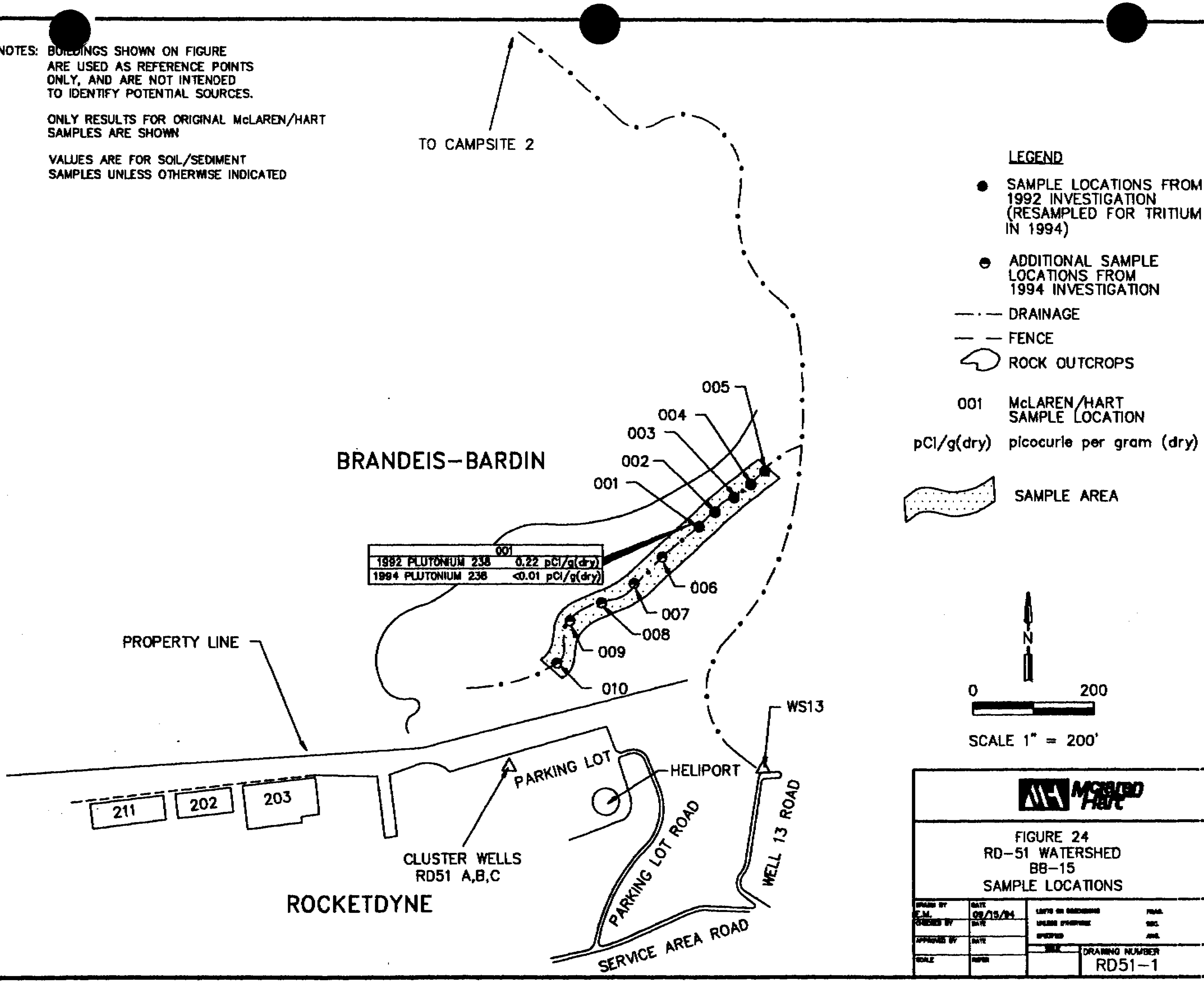
FIGURE 23
FORMER ROCKETDYNE
EMPLOYEE SHOOTING RANGE
SM-03
SAMPLING LOCATIONS

DRAWN BY E.M.	DATE 09/15/94	LIMITS ON DIMENSIONS UNLESS OTHERWISE SPECIFIED	FRAC. DEC. ANG.
CHECKED BY	DATE		
APPROVED BY	DATE	ISSUE	DRAWING NUMBER 05149315
SCALE	REFER		

NOTES: BUILDINGS SHOWN ON FIGURE ARE USED AS REFERENCE POINTS ONLY, AND ARE NOT INTENDED TO IDENTIFY POTENTIAL SOURCES.

ONLY RESULTS FOR ORIGINAL McLAREN/HART SAMPLES ARE SHOWN

VALUES ARE FOR SOIL/SEDIMENT SAMPLES UNLESS OTHERWISE INDICATED



McLaren Hart

FIGURE 24
RD-51 WATERSHED
BB-15
SAMPLE LOCATIONS

DATE 09/15/94

DRAWING NUMBER RD51-1

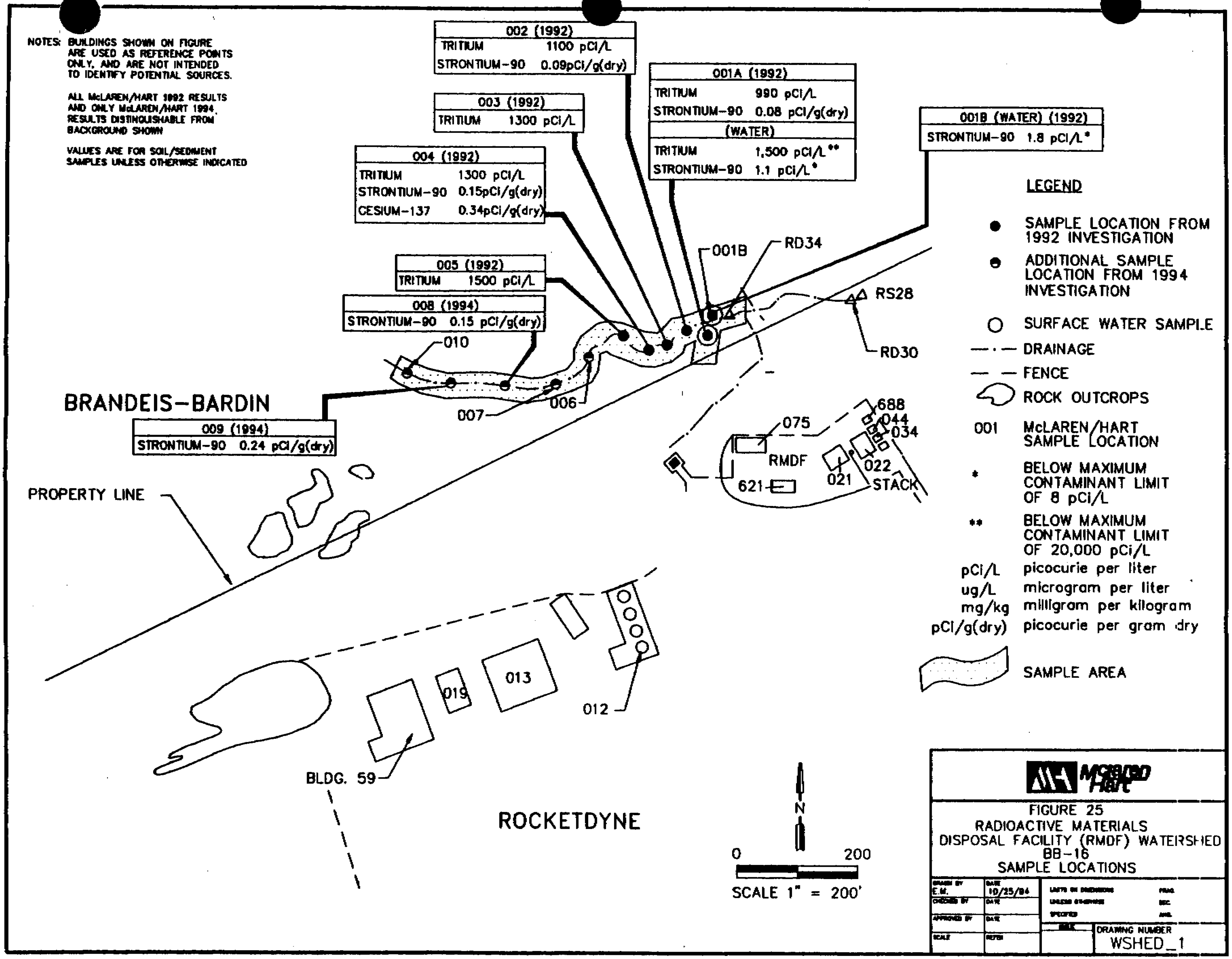


FIGURE 25
RADIOACTIVE MATERIALS DISPOSAL FACILITY (RMDF) WATERSHED BB-16
SAMPLE LOCATIONS

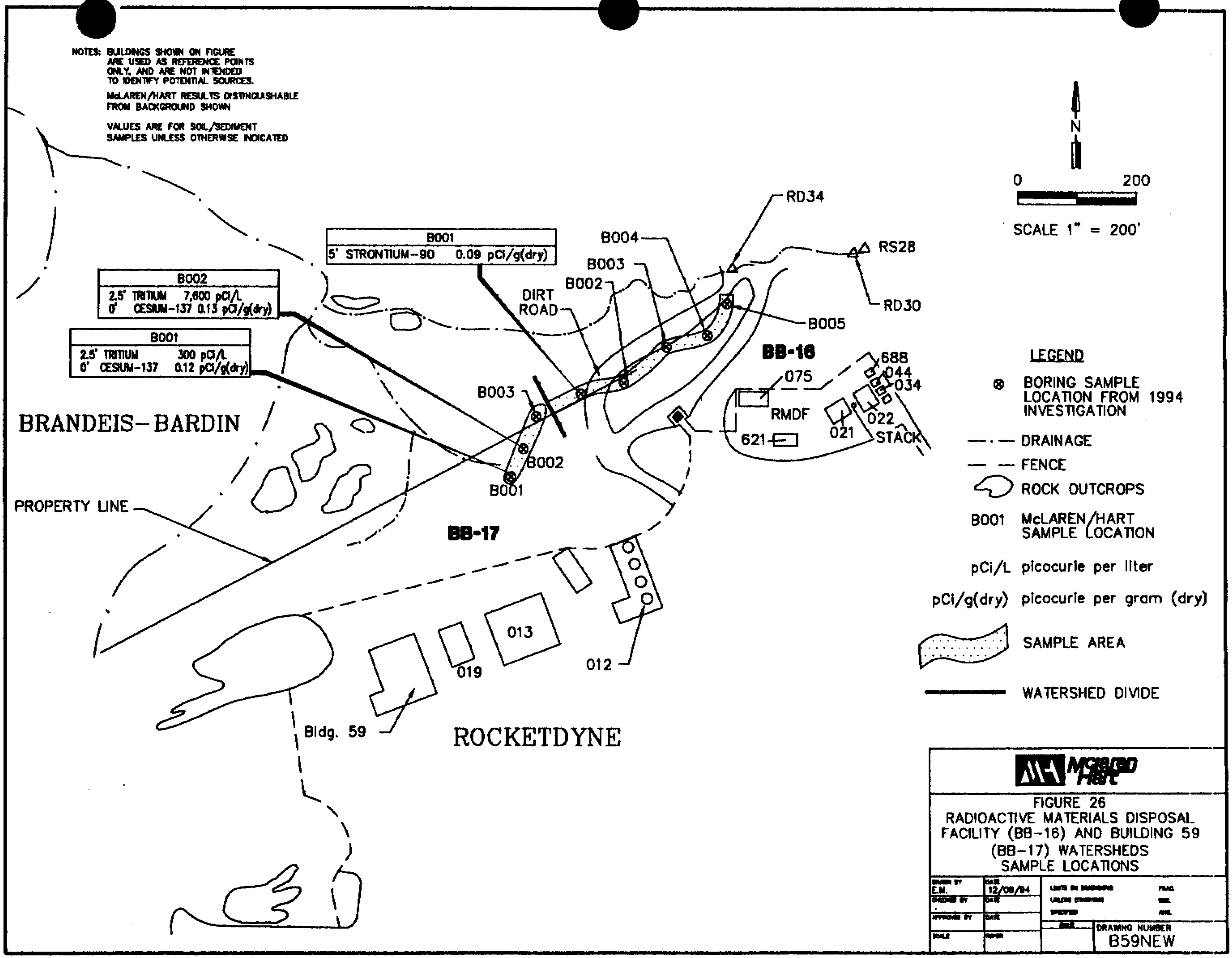
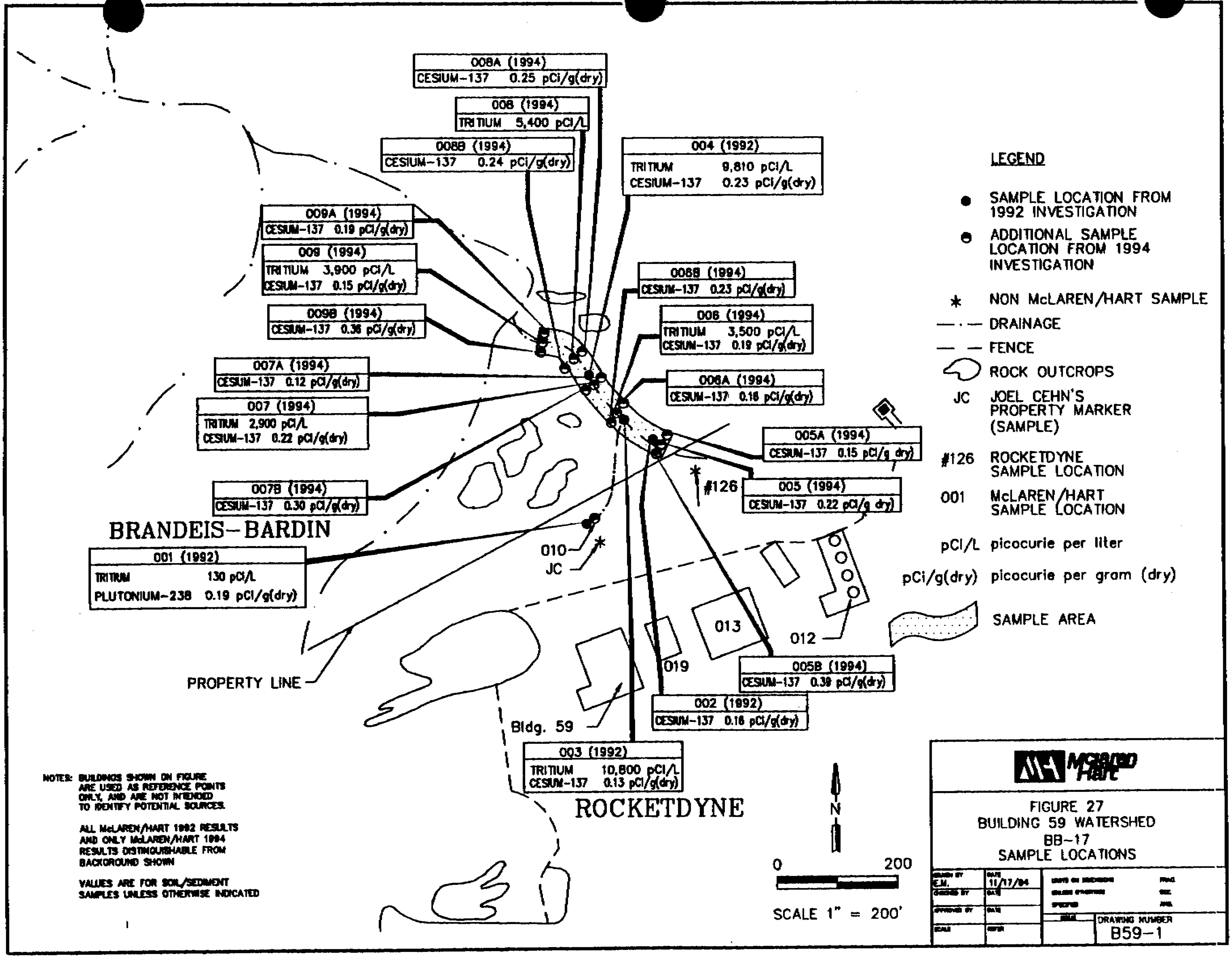
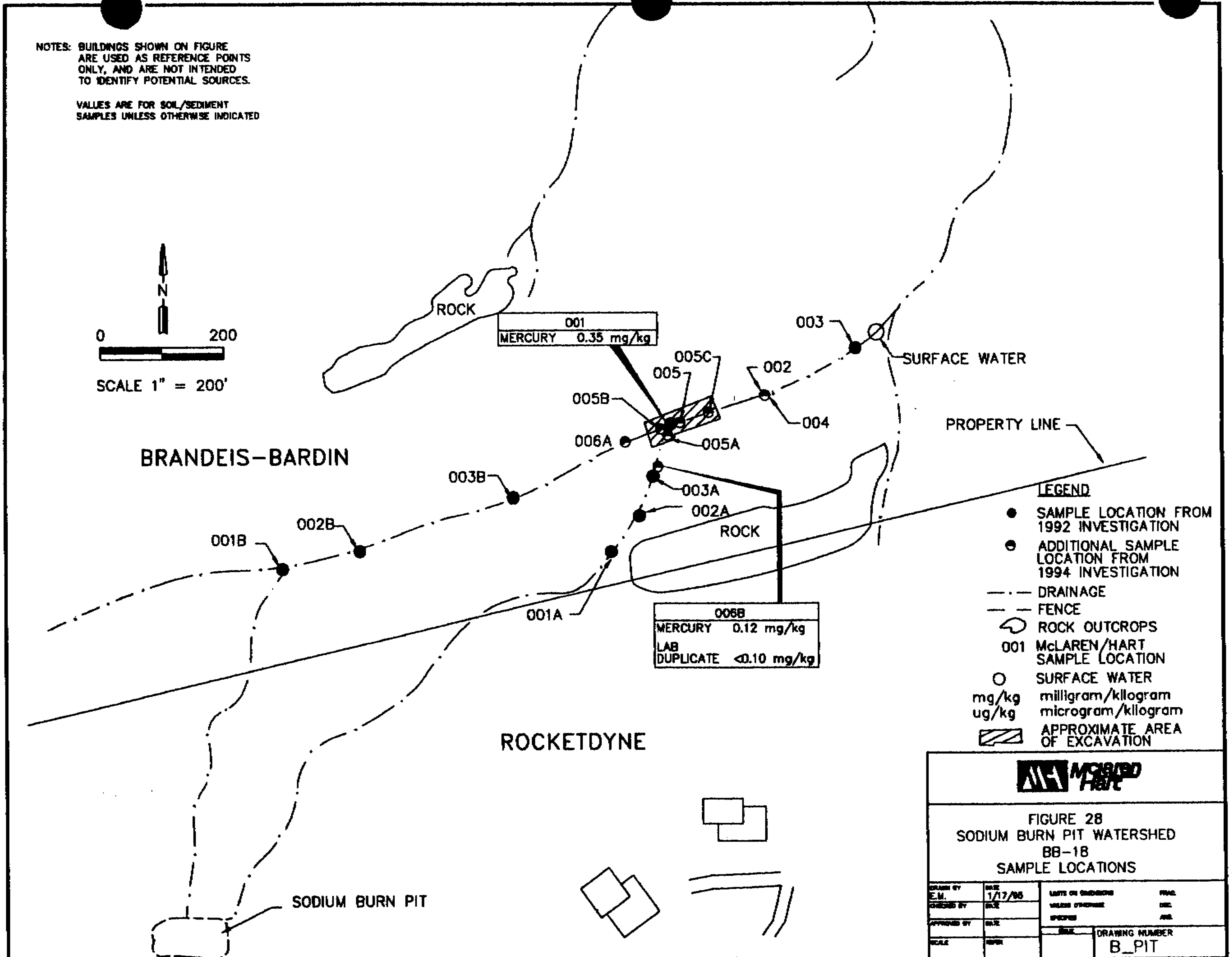


FIGURE 26
RADIOACTIVE MATERIALS DISPOSAL FACILITY (BB-16) AND BUILDING 59 (BB-17) WATERSHEDS SAMPLE LOCATIONS



008A (1994)
CESIUM-137 0.25 pCi/g(dry)
008 (1994)
TRITIUM 5,400 pCi/L
008B (1994)
CESIUM-137 0.24 pCi/g(dry)
004 (1992)
TRITIUM 9,810 pCi/L
CESIUM-137 0.23 pCi/g(dry)
009A (1994)
CESIUM-137 0.19 pCi/g(dry)
009 (1994)
TRITIUM 3,900 pCi/L
CESIUM-137 0.15 pCi/g(dry)
006B (1994)
CESIUM-137 0.23 pCi/g(dry)
009B (1994)
CESIUM-137 0.36 pCi/g(dry)
006 (1994)
TRITIUM 3,500 pCi/L
CESIUM-137 0.19 pCi/g(dry)
007A (1994)
CESIUM-137 0.12 pCi/g(dry)
006A (1994)
CESIUM-137 0.16 pCi/g(dry)
007 (1994)
TRITIUM 2,900 pCi/L
CESIUM-137 0.22 pCi/g(dry)
005A (1994)
CESIUM-137 0.15 pCi/g dry)
007B (1994)
CESIUM-137 0.30 pCi/g(dry)
#126
005 (1994)
CESIUM-137 0.22 pCi/g dry)
BRANDEIS-BARDIN
010
JC
001 (1992)
TRITIUM 130 pCi/L
PLUTONIUM-238 0.19 pCi/g(dry)
013
012
019
PROPERTY LINE
005B (1994)
CESIUM-137 0.39 pCi/g(dry)
002 (1992)
CESIUM-137 0.16 pCi/g(dry)
Bldg. 59
003 (1992)
TRITIUM 10,800 pCi/L
CESIUM-137 0.13 pCi/g(dry)
ROCKETDYNE
N
0
200
SCALE 1" = 200'
LEGEND
SAMPLE LOCATION FROM 1992 INVESTIGATION
ADDITIONAL SAMPLE LOCATION FROM 1994 INVESTIGATION
* NON McLAREN/HART SAMPLE
DRAINAGE
FENCE
ROCK OUTCROPS
JC JOEL CEHN'S PROPERTY MARKER (SAMPLE)
#126 ROCKETDYNE SAMPLE LOCATION
001 McLAREN/HART SAMPLE LOCATION
pCi/L picocurie per liter
pCi/g(dry) picocurie per gram (dry)
SAMPLE AREA
NOTES: BUILDINGS SHOWN ON FIGURE ARE USED AS REFERENCE POINTS ONLY, AND ARE NOT INTENDED TO IDENTIFY POTENTIAL SOURCES.
ALL McLAREN/HART 1992 RESULTS AND ONLY McLAREN/HART 1994 RESULTS DISTINGUISHABLE FROM BACKGROUND SHOWN
VALUES ARE FOR SOIL/SEDIMENT SAMPLES UNLESS OTHERWISE INDICATED
McLaren Hart
FIGURE 27
BUILDING 59 WATERSHED
BB-17
SAMPLE LOCATIONS
E.M.
11/17/94
DRAWING NUMBER
B59-1



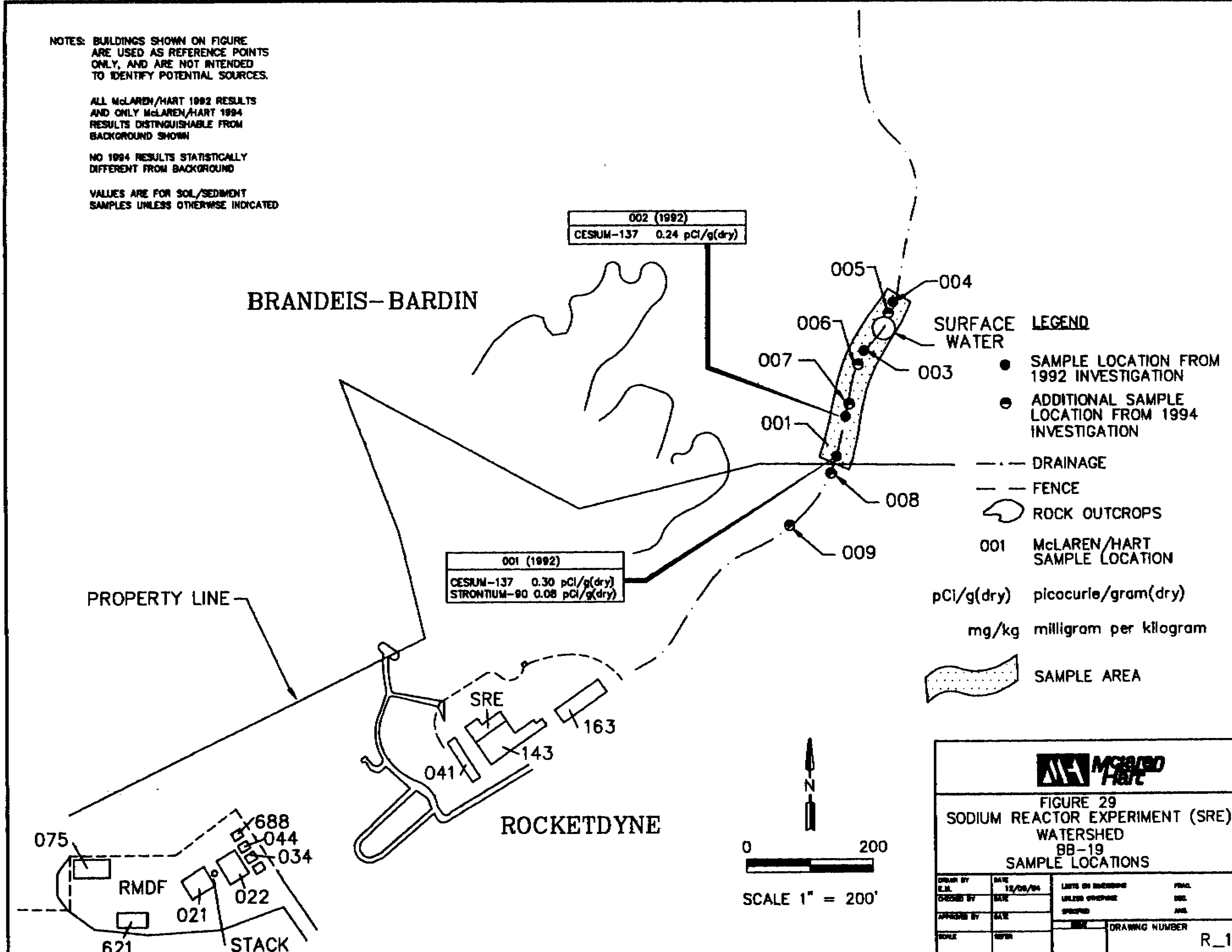
NOTES: BUILDINGS SHOWN ON FIGURE ARE USED AS REFERENCE POINTS ONLY, AND ARE NOT INTENDED TO IDENTIFY POTENTIAL SOURCES.
VALUES ARE FOR SOIL/SEDIMENT SAMPLES UNLESS OTHERWISE INDICATED
N
0
200
SCALE 1" = 200'
ROCK
001
MERCURY 0.35 mg/kg
003
SURFACE WATER
005C
005
002
005B
004
006A
005A
PROPERTY LINE
BRANDEIS-BARDIN
003B
003A
002A
002B
ROCK
001B
006B
MERCURY 0.12 mg/kg
LAB DUPLICATE <0.10 mg/kg
001A
ROCKETDYNE
SODIUM BURN PIT
LEGEND
SAMPLE LOCATION FROM 1992 INVESTIGATION
ADDITIONAL SAMPLE LOCATION FROM 1994 INVESTIGATION
DRAINAGE
FENCE
ROCK OUTCROPS
001 McLAREN/HART SAMPLE LOCATION
SURFACE WATER
mg/kg milligram/kilogram
ug/kg microgram/kilogram
APPROXIMATE AREA OF EXCAVATION
McLaren Hart
FIGURE 28
SODIUM BURN PIT WATERSHED
BB-1B
SAMPLE LOCATIONS
DRAWN BY E.M.
DRAWING NUMBER B_PIT

NOTES: BUILDINGS SHOWN ON FIGURE ARE USED AS REFERENCE POINTS ONLY, AND ARE NOT INTENDED TO IDENTIFY POTENTIAL SOURCES.

ALL McLAREN/HART 1992 RESULTS AND ONLY McLAREN/HART 1994 RESULTS DISTINGUISHABLE FROM BACKGROUND SHOWN

NO 1994 RESULTS STATISTICALLY DIFFERENT FROM BACKGROUND

VALUES ARE FOR SOIL/SEDIMENT SAMPLES UNLESS OTHERWISE INDICATED



McLaren Hart

FIGURE 29
SODIUM REACTOR EXPERIMENT (SRE)
WATERSHED
BB-19
SAMPLE LOCATIONS

DRAWN BY E.M. DATE 12/08/94

DRAWING NUMBER R_1

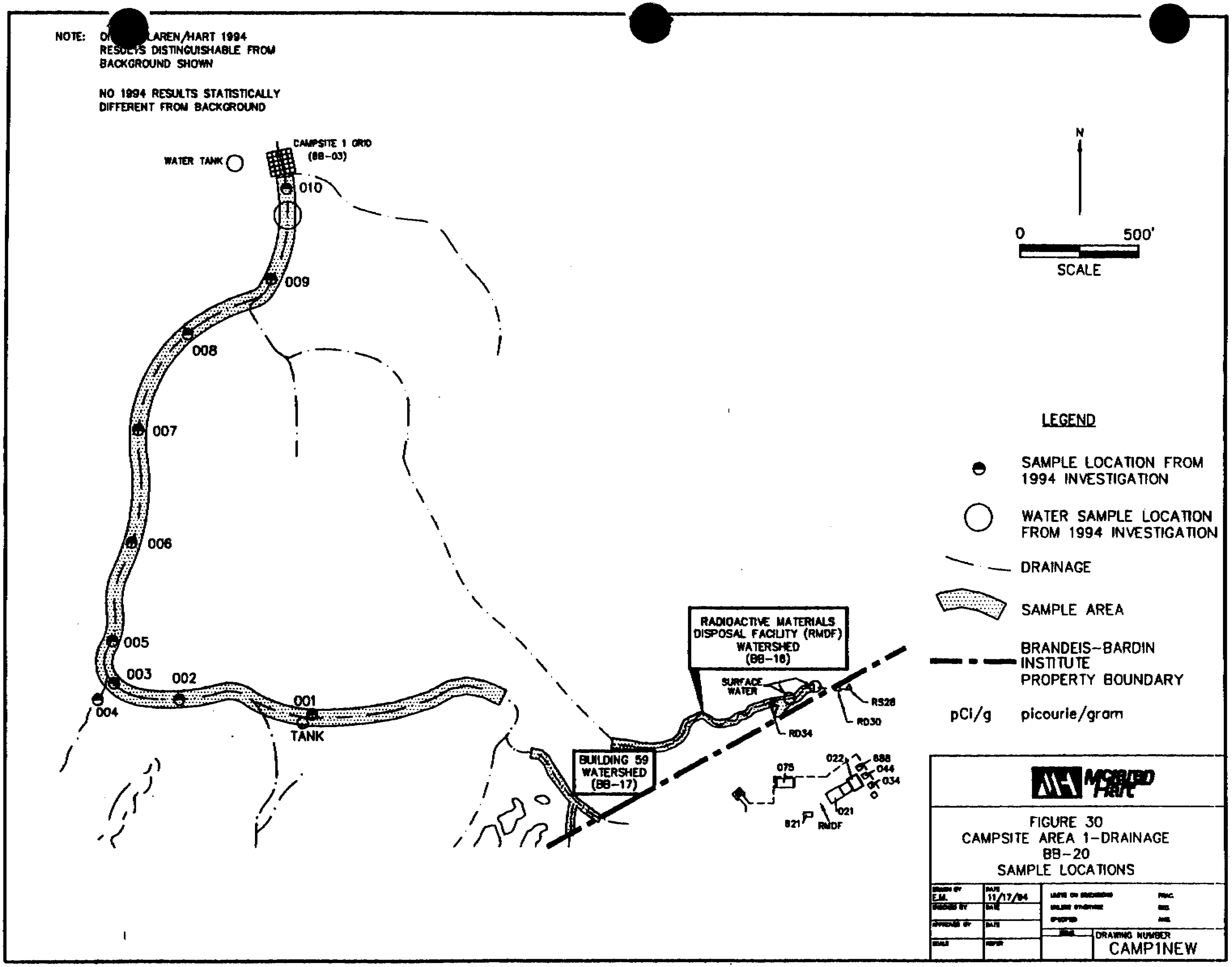
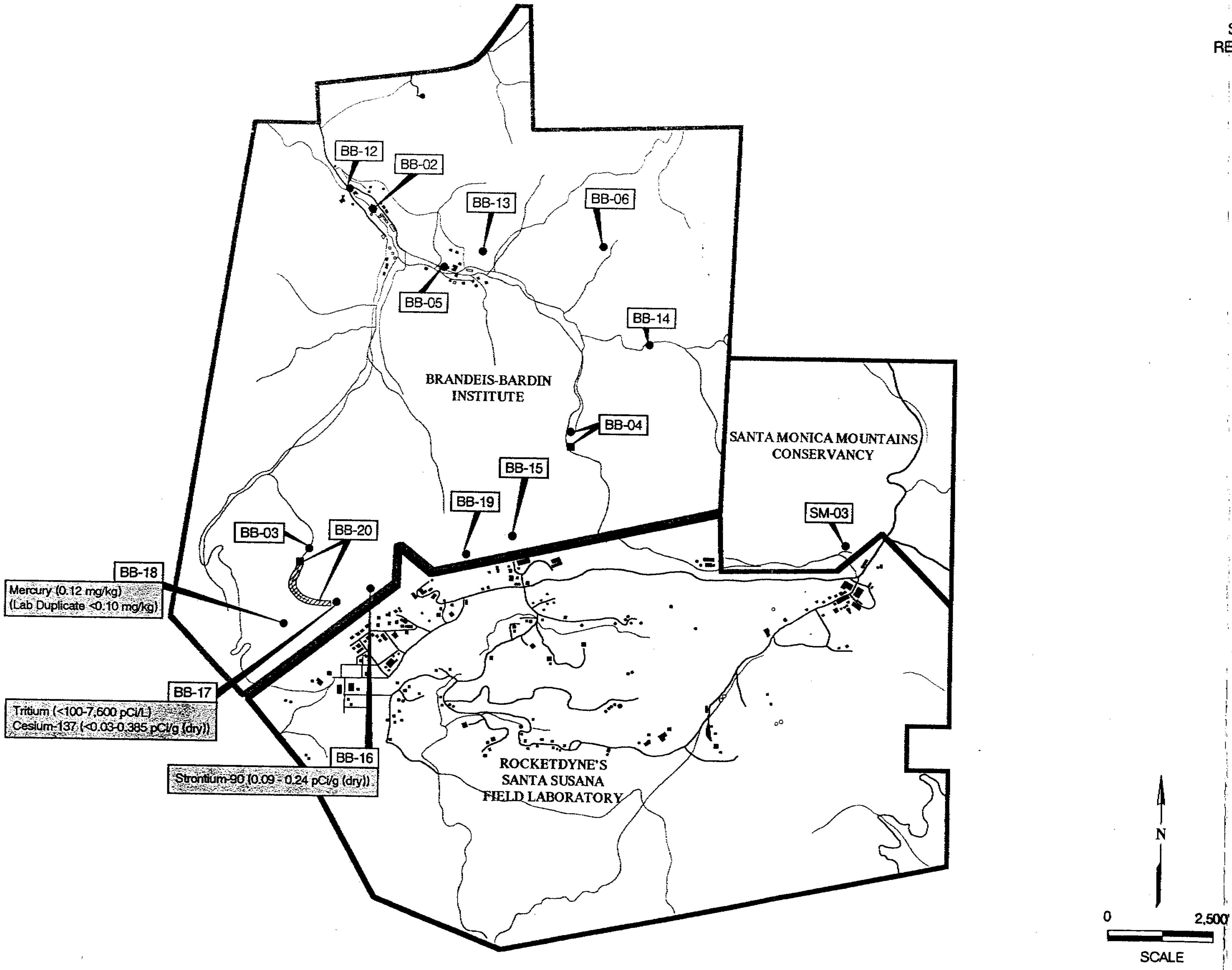


FIGURE 30
CAMPSITE AREA 1-DRAINAGE
BB-20
SAMPLE LOCATIONS

FIGURE 31
SUMMARY OF 1994 RADIONUCLIDE SAMPLING RESULTS DISTINGUISHABLE FROM BACKGROUND AND MERCURY SAMPLING RESULTS



LEGEND

- ● Soil / Sediment Sample
- ■ Surface Water Sample
- mg/kg Milligrams Per Kilogram
- pCi/L Picocuries Per Liter
- pCi/g (dry) Picocuries Per Gram (Dry)
- < Less Than

NOTE: Only McLaren/Hart results are shown. Results are for soil samples.

Brandeis-Bardin Institute	
BB-02	Dormitory Area
BB-03	Campsite Area 1
BB-04	Campsite Area 2
BB-05	Picnic Area
BB-06	House of The Book
BB-12	Main House Orchard
BB-13	Avocado Grove
BB-14	Old Well Campsite
BB-15	RD-51 Watershed
BB-16	Radioactive Materials Disposal Facility (RMDF) Watershed
BB-17	Building 59 Watershed
BB-18	Sodium Burn Pit Watershed
BB-19	Sodium Reactor Experiment (SRE) Watershed
BB-20	Camp Site Area 1 - Drainage
Santa Monica Mountains Conservancy	
SM-03	Former Rocketdyne Employee Shooting Range

McLaren Hart

T9501019""

APPENDIX C
RANDOM NUMBER TABLES FOR BLEND FIELD DUPLICATES

Appendix C

Random Number Tables for Blind Field Duplicates

RANDOM NUMBERS USED TO SELECT BLIND FIELD DUPLICATES

SOIL SAMPLES

QA/QC Group	Sequential Number in QA/QC Group to be used for Blind Field Duplicate			
	Tritium	Gamma Scan	Strontium-90	Isotopic Plutonium
1 (n=20)	1	5	12	18
2 (n=20)	7	11	20	4
3 (n=20)	17	13	4	5
4 (n=20)	16	7	4	1
5 (n=20)	7	7	-	-
6 (n=20)	13	-	-	-
7 (n=20)	9	-	-	-
8 (n=7)	1	-	-	-

QA/QC = Quality Assurance/ Quality Control.
n = Number of samples in each group.

Note: As a result of only two water samples being collected during the 1994 sampling no blind field duplicate water samples were required.

APPENDIX D
SUMMARY OF
ANALYTICAL RESULTS
BY ANALYSIS

Appendix D

Summary of Analytical Results by Analysis

ROCKY PEAK
(BG01)

TELEDYNE BROWN ENGINEERING ENVIRONMENTAL SERVICES

REPORT OF ANALYSIS

RUN DATE 06/03/94

WORK ORDER NUMBER	CUSTOMER P.O. NUMBER	DATE RECEIVED	DELIVERY DATE	PAGE 1
4-0472	030225/030600829	03/21/94	04/23/94	

ANN MARIE HOLBROW
MCLAREN/HART
16755 VON KARMAN AVE
IRVINE CA 92714

S O I L

TELEDYNE SAMPLE NUMBER		CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE TIME	COLLECTION-DATE STOP DATE TIME	NUCLIDE	ACTIVITY (PCI/LITER)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
45032	10582	BG-01-090-ST		03/15 0841		H-3	L.T. 2. E 02		05/26		5
45033	10583	BG-01-090-SP		03/15 0841		PU-238	L.T. 9. E-03	PCI/GM DRY *	05/09		6
						U-234	3.8 +-0.5 E-01	PCI/GM DRY *	05/10		6
						TH-230	4.4 +-0.7 E-01	PCI/GM DRY *	05/13		6
						PU-239	L.T. 9. E-03	PCI/GM DRY *	05/09		6
						U-235	1.2 +-0.9 E-02	PCI/GM DRY *	05/10		6
						U-238	4.0 +-0.5 E-01	PCI/GM DRY *	05/10		6
						TH-230	4.4 +-0.7 E-01	PCI/GM DRY *	05/13		6
						TH-228	6.9 +-1.0 E-01	PCI/GM DRY *	05/13		6
45034	10585	BG-01-090-SG		03/15 0841		BE-7	L.T. 4. E-01	PCI/GM DRY *	04/25		4
						K-40	2.15+-0.22E 01	PCI/GM DRY *	04/25		4
						MN-54	L.T. 4. E-02	PCI/GM DRY *	04/25		4
						CO-58	L.T. 4. E-02	PCI/GM DRY *	04/25		4
						FE-59	L.T. 1. E-01	PCI/GM DRY *	04/25		4
						CO-60	L.T. 4. E-02	PCI/GM DRY *	04/25		4
						ZN-65	L.T. 1. E-01	PCI/GM DRY *	04/25		4
						ZR-95	L.T. 6. E-02	PCI/GM DRY *	04/25		4
						RU-103	L.T. 6. E-02	PCI/GM DRY *	04/25		4
						RU-106	L.T. 3. E-01	PCI/GM DRY *	04/25		4
						I-131	L.T. 1. E 00	PCI/GM DRY *	04/25		4
						CS-134	L.T. 4. E-02	PCI/GM DRY *	04/25		4
						CS-137	1.75+-0.26E-01	PCI/GM DRY *	04/25		4
						BA-140	L.T. 3. E-01	PCI/GM DRY *	04/25		4
						CE-141	L.T. 1. E-01	PCI/GM DRY *	04/25		4
						CE-144	L.T. 2. E-01	PCI/GM DRY *	04/25		4
						RA-226	1.77+-0.53E 00	PCI/GM DRY *	04/25		4
						TH-228	1.60+-0.16E 00	PCI/GM DRY *	04/25		4

TELEDYNE BROWN ENGINEERING ENVIRONMENTAL SERVICES

REPORT OF ANALYSIS

WORK ORDER NUMBER	CUSTOMER P.O. NUMBER	DATE RECEIVED	DELIVERY DATE
4-0472	030225/030600829	03/21/94	04/23/94

ANN MARIE HOLBROW
MCLAREN/HART
16755 VON KARMAN AVE
IRVINE CA 92714

S O I L

TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION		STA NUM	COLLECTION-DATE START DATE TIME	STOP DATE TIME	NUCLIDE	ACTIVITY (PCI/LITER)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
45036	10588	BG-01-087-ST		03/15 0905		H-3	L.T. 2. E 02		05/26		5
45037	10588DUP	BG-01-087-ST		03/15 0905		H-3	L.T. 2. E 02		05/26		5
45038	10589	BG-01-087-SS		03/15 0905		SR-90	L.T. 7. E-02	PCI/GM DRY *	04/28		3
45039	10590	BG-01-087-SP		03/15 0905		PU-238	L.T. 7. E-03	PCI/GM DRY *	05/09		6
						U-234	5.1 +-0.6 E-01	PCI/GM DRY *	05/10		6
						TH-230	4.2 +-0.8 E-01	PCI/GM DRY *	05/13		6
						PU-239	L.T. 1. E-02	PCI/GM DRY *	05/09		6
						U-235	2.1 +-1.2 E-02	PCI/GM DRY *	05/10		6
						U-238	5.2 +-0.6 E-01	PCI/GM DRY *	05/10		6
						TH-230	4.2 +-0.8 E-01	PCI/GM DRY *	05/13		6
						TH-228	5.1 +-1.0 E-01	PCI/GM DRY *	05/13		6
45040	10592	BG-01-087-SG		03/15 0905		BE-7	L.T. 4. E-01	PCI/GM DRY *	04/26		4
						K-40	2.17+-0.22E 01	PCI/GM DRY *	04/26		4
						MN-54	L.T. 4. E-02	PCI/GM DRY *	04/26		4
						CO-58	L.T. 4. E-02	PCI/GM DRY *	04/26		4
						FE-59	L.T. 1. E-01	PCI/GM DRY *	04/26		4
						CO-60	L.T. 3. E-02	PCI/GM DRY *	04/26		4
						ZN-65	L.T. 1. E-01	PCI/GM DRY *	04/26		4
						ZR-95	L.T. 6. E-02	PCI/GM DRY *	04/26		4
						RU-103	L.T. 6. E-02	PCI/GM DRY *	04/26		4
						RU-106	L.T. 3. E-01	PCI/GM DRY *	04/26		4
						I-131	L.T. 1. E 00	PCI/GM DRY *	04/26		4
						CS-134	L.T. 4. E-02	PCI/GM DRY *	04/26		4
						CS-137	1.58+-0.38E-01	PCI/GM DRY *	04/26		4
						BA-140	L.T. 3. E-01	PCI/GM DRY *	04/26		4
						CE-141	L.T. 1. E-01	PCI/GM DRY *	04/26		4
						CE-144	L.T. 2. E-01	PCI/GM DRY *	04/26		4
						RA-226	2.43+-0.55E 00	PCI/GM DRY *	04/26		4
						TH-228	1.48+-0.15E 00	PCI/GM DRY *	04/26		4

TELEDYNE BROWN ENGINEERING ENVIRONMENTAL SERVICES

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WORK ORDER NUMBER	CUSTOMER P.O. NUMBER	DATE RECEIVED	DELIVERY DATE	PAGE 3
4-0472	030225/030600829	03/21/94	04/23/94	

ANN MARIE HOLBROW
MCLAREN/HART
16755 VON KARMAN AVE
IRVINE CA 92714

S O I L

TELEDYNE SAMPLE NUMBER		CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE TIME	STOP DATE TIME	NUCLIDE	ACTIVITY (PCI/LITER)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
45042	10595	BG-01-016-ST		03/15 0841		H-3	L.T. 1. E 02		05/26		5
45043	10596	BG-01-016-SS		03/15 0841		SR-90	L.T. 9. E-02	PCI/GM DRY *	04/28		3
45044	10597	BG-01-016-SP		03/15 0841		PU-238	L.T. 3. E-02	PCI/GM DRY *	05/09		6
						U-234	2.7 +-0.4 E-01	PCI/GM DRY *	05/10		6
						TH-230	3.0 +-0.5 E-01	PCI/GM DRY *	05/13		6
						PU-239	L.T. 1. E-02	PCI/GM DRY *	05/09		6
						U-235	L.T. 1. E-02	PCI/GM DRY *	05/10		6
						U-238	3.1 +-0.5 E-01	PCI/GM DRY *	05/10		6
						TH-232	4.4 +-0.6 E-01	PCI/GM DRY *	05/13		6
						TH-228	4.1 +-0.6 E-01	PCI/GM DRY *	05/13		6
45045	10599	BG-01-016-SG		03/15 0841		BE-7	L.T. 4. E-01	PCI/GM DRY *	04/26		4
						K-40	2.23+-0.22E 01	PCI/GM DRY *	04/26		4
						MN-54	L.T. 3. E-02	PCI/GM DRY *	04/26		4
						CO-58	L.T. 4. E-02	PCI/GM DRY *	04/26		4
						FE-59	L.T. 1. E-01	PCI/GM DRY *	04/26		4
						CO-60	L.T. 3. E-02	PCI/GM DRY *	04/26		4
						ZN-65	L.T. 8. E-02	PCI/GM DRY *	04/26		4
						ZR-95	L.T. 5. E-02	PCI/GM DRY *	04/26		4
						RU-103	L.T. 6. E-02	PCI/GM DRY *	04/26		4
						RU-106	L.T. 3. E-01	PCI/GM DRY *	04/26		4
						I-131	L.T. 1. E 00	PCI/GM DRY *	04/26		4
						CS-134	L.T. 4. E-02	PCI/GM DRY *	04/26		4
						CS-137	L.T. 4. E-02	PCI/GM DRY *	04/26		4
						BA-140	L.T. 3. E-01	PCI/GM DRY *	04/26		4
						CE-141	L.T. 1. E-01	PCI/GM DRY *	04/26		4
						CE-144	L.T. 2. E-01	PCI/GM DRY *	04/26		4
						RA-226	1.99+-0.46E 00	PCI/GM DRY *	04/26		4
						TH-228	1.34+-0.13E 00	PCI/GM DRY *	04/26		4

TELEDYNE BROWN ENGINEERING ENVIRONMENTAL SERVICES

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WORK ORDER NUMBER	CUSTOMER P.O. NUMBER	DATE RECEIVED	DELIVERY DATE
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ANN MARIE HOLBROW
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16755 VON KARMAN AVE
IRVINE CA 92714

S O I L

TELEDYNE SAMPLE NUMBER		CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE	START TIME	STOP DATE	STOP TIME	NUCLIDE	ACTIVITY (PCI/LITER)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE	MID-COUNT TIME TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
45047	10602	BG-01-034-ST		03/15	0908			H-3	L.T. 1. E 02		05/26			5
45048	10603	BG-01-034-SS		03/15	0908			SR-90	L.T. 1. E-01	PCI/GM DRY *	04/28			3
45049	10604	BG-01-034-SP		03/15	0908			PU-238	L.T. 1. E-02	PCI/GM DRY *	05/09			6
								U-234	3.5 +-0.5 E-01	PCI/GM DRY *	05/12			6
								TH-230	3.1 +-0.8 E-01	PCI/GM DRY *	05/13			6
								PU-239	L.T. 1. E-02	PCI/GM DRY *	05/09			6
								U-235	2.2 +-1.2 E-02	PCI/GM DRY *	05/12			6
								U-238	3.9 +-0.5 E-01	PCI/GM DRY *	05/12			6
								TH-232	3.7 +-0.9 E-01	PCI/GM DRY *	05/13			6
								TH-228	5.9 +-1.3 E-01	PCI/GM DRY *	05/13			6
45050	10606	BG-01-034-SG		03/15	0908			BE-7	L.T. 5. E-01	PCI/GM DRY *	04/26			4
								K-40	2.22+-0.22E 01	PCI/GM DRY *	04/26			4
								MN-54	L.T. 4. E-02	PCI/GM DRY *	04/26			4
								CO-58	L.T. 5. E-02	PCI/GM DRY *	04/26			4
								FE-59	L.T. 1. E-01	PCI/GM DRY *	04/26			4
								CO-60	L.T. 4. E-02	PCI/GM DRY *	04/26			4
								ZN-65	L.T. 1. E-01	PCI/GM DRY *	04/26			4
								ZR-95	L.T. 7. E-02	PCI/GM DRY *	04/26			4
								RU-103	L.T. 7. E-02	PCI/GM DRY *	04/26			4
								RU-106	L.T. 3. E-01	PCI/GM DRY *	04/26			4
								I-131	L.T. 1. E 00	PCI/GM DRY *	04/26			4
								CS-134	L.T. 5. E-02	PCI/GM DRY *	04/26			4
								CS-137	1.00+-0.32E-01	PCI/GM DRY *	04/26			4
								BA-140	L.T. 4. E-01	PCI/GM DRY *	04/26			4
								CE-141	L.T. 1. E-01	PCI/GM DRY *	04/26			4
								CE-144	L.T. 2. E-01	PCI/GM DRY *	04/26			4
								RA-226	2.05+-0.53E 00	PCI/GM DRY *	04/26			4
								TH-228	1.53+-0.15E 00	PCI/GM DRY *	04/26			4

WORK ORDER NUMBER	CUSTOMER P.O. NUMBER	DATE RECEIVED	DELIVERY DATE	
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16755 VON KARMAN AVE
IRVINE CA 92714

S O I L

TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE	START TIME	STOP DATE	STOP TIME	NUCLIDE	ACTIVITY (PCI/LITER)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE	TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
45051 10608	BG-01-082-ST		03/15	0920			H-3	L.T. 2. E 02		05/26			5
45052 10609	BG-01-082-SS		03/15	0920			SR-90	L.T. 8. E-02	PCI/GM DRY *	04/28			3
45053 10637	BG-14-004-SG		03/15	1031			BE-7	L.T. 4. E-01	PCI/GM DRY *	04/26			4
							K-40	2.10+-0.21E 01	PCI/GM DRY *	04/26			4
							MN-54	L.T. 3. E-02	PCI/GM DRY *	04/26			4
							CO-58	L.T. 3. E-02	PCI/GM DRY *	04/26			4
							FE-59	L.T. 1. E-01	PCI/GM DRY *	04/26			4
							CO-60	L.T. 3. E-02	PCI/GM DRY *	04/26			4
							ZN-65	L.T. 8. E-02	PCI/GM DRY *	04/26			4
							ZR-95	L.T. 5. E-02	PCI/GM DRY *	04/26			4
							RU-103	L.T. 5. E-02	PCI/GM DRY *	04/26			4
							RU-106	L.T. 3. E-01	PCI/GM DRY *	04/26			4
							I-131	L.T. 9. E-01	PCI/GM DRY *	04/26			4
							CS-134	L.T. 3. E-02	PCI/GM DRY *	04/26			4
							CS-137	L.T. 3. E-02	PCI/GM DRY *	04/26			4
							BA-140	L.T. 2. E-01	PCI/GM DRY *	04/26			4
							CE-141	L.T. 9. E-02	PCI/GM DRY *	04/26			4
							CE-144	L.T. 2. E-01	PCI/GM DRY *	04/26			4
							RA-226	1.36+-0.40E 00	PCI/GM DRY *	04/26			4
							TH-228	9.72+-0.97E-01	PCI/GM DRY *	04/26			4
45054 10639	BG-14-005-ST		03/15	1026			H-3	3.7 +-2.2 E 02		05/26			5
45055 10640	BG-14-005-SS		03/15	1026			SR-90	L.T. 5. E-02	PCI/GM DRY *	04/28			3
45056 10641	BG-14-005-SP		03/15	1026			PU-238	L.T. 8. E-03	PCI/GM DRY *	05/09			6
							U-234	1.4 +-0.3 E-01	PCI/GM DRY *	05/12			6
							TH-230	2.0 +-0.5 E-01	PCI/GM DRY *	05/18			6
							PU-239	L.T. 8. E-03	PCI/GM DRY *	05/09			6
							U-235	7.4 +-7.2 E-03	PCI/GM DRY *	05/12			6
							U-238	1.8 +-0.3 E-01	PCI/GM DRY *	05/12			6

TELEDYNE BROWN ENGINEERING ENVIRONMENTAL SERVICES

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ANN MARIE HOLBROW
MCLAREN/HART
16755 VON KARMAN AVE
IRVINE CA 92714

S O I L

TELEDYNE SAMPLE NUMBER		CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE	TIME	STOP DATE	TIME	NUCLIDE	ACTIVITY (PCI/GM DRY)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE	TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
45080	10635	BG-14-004-SP		03/15				PU-238	L.T. 8. E-03		05/10			6
								U-234	2.0 +-0.4 E-01		05/12			6
								TH-230	2.7 +-0.6 E-01		05/18			6
								PU-239	L.T. 8. E-03		05/10			6
								U-235	L.T. 5. E-03		05/12			6
								U-238	2.2 +-0.4 E-01		05/12			6
								TH-232	6.4 +-1.0 E-01		05/18			6
								TH-228	4.0 +-0.9 E-01		05/18			6
45081	10610	BG-01-082-SP		03/15	0920			PU-238	L.T. 1. E-02		05/09			6
								U-234	4.4 +-0.6 E-01		05/12			6
								TH-230	3.9 +-0.7 E-01		05/18			6
								PU-239	L.T. 1. E-02		05/09			6
								U-235	3.4 +-1.5 E-02		05/12			6
								U-238	4.3 +-0.6 E-01		05/12			6
								TH-232	7.5 +-1.0 E-01		05/18			6
								TH-228	8.2 +-1.2 E-01		05/18			6
45082	10612	BG-01-082-SG		03/15	0920			BE-7	L.T. 5. E-01		04/27			4
								K-40	1.99+-0.20E 01		04/27			4
								MN-54	L.T. 4. E-02		04/27			4
								CO-58	L.T. 5. E-02		04/27			4
								FE-59	L.T. 1. E-01		04/27			4
								CO-60	L.T. 3. E-02		04/27			4
								ZN-65	L.T. 1. E-01		04/27			4
								ZR-95	L.T. 6. E-02		04/27			4
								RU-103	L.T. 7. E-02		04/27			4
								RU-106	L.T. 3. E-01		04/27			4
								I-131	L.T. 1. E 00		04/27			4
								CS-134	L.T. 5. E-02		04/27			4
								CS-137	L.T. 4. E-02		04/27			4
								BA-140	L.T. 3. E-01		04/27			4
								CE-141	L.T. 1. E-01		04/27			4

TELEDYNE BROWN ENGINEERING ENVIRONMENTAL SERVICES

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ANN MARIE HOLBROW
MCLAREN/HART
16755 VON KARMAN AVE
IRVINE CA 92714

S O I L

TELEDYNE SAMPLE NUMBER		CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE TIME	STOP DATE TIME	NUCLIDE	ACTIVITY (PCI/GM DRY)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
45082	10612	BG-01-082-SG		03/15 0920		CE-144	L.T. 2. E-01		04/27		4
						RA-226	2.13+-0.54E 00		04/27		4
						TH-228	2.08+-0.21E 00		04/27		4
45083	10614	BG-14-001-ST		03/15 1000		H-3	L.T. 1. E 02	PCI/LITER *	05/27		5
45084	10615	BG-14-001-SP		03/15 1000		PU-238	L.T. 9. E-03		05/09		6
						U-234	2.3 +-0.4 E-01		05/12		6
						TH-230	3.0 +-0.5 E-01		05/18		6
						PU-239	L.T. 9. E-03		05/09		6
						U-235	1.1 +-0.8 E-02		05/12		6
						U-238	2.1 +-0.4 E-01		05/12		6
						TH-232	8.7 +-1.0 E-01		05/18		6
						TH-228	5.3 +-0.8 E-01		05/18		6
45085	10617	BG-14-001-SG		03/15 1000		BE-7	L.T. 5. E-01		04/27		4
						K-40	2.05+-0.20E 01		04/27		4
						MN-54	L.T. 3. E-02		04/27		4
						CO-58	L.T. 4. E-02		04/27		4
						FE-59	L.T. 1. E-01		04/27		4
						CO-60	L.T. 3. E-02		04/27		4
						ZN-65	L.T. 9. E-02		04/27		4
						ZR-95	L.T. 6. E-02		04/27		4
						RU-103	L.T. 6. E-02		04/27		4
						RU-106	L.T. 3. E-01		04/27		4
						I-131	L.T. 1. E 00		04/27		4
						CS-134	L.T. 4. E-02		04/27		4
						CS-137	L.T. 4. E-02		04/27		4
						BA-140	L.T. 3. E-01		04/27		4
						CE-141	L.T. 1. E-01		04/27		4
						CE-144	L.T. 2. E-01		04/27		4
						RA-226	9.59+-4.72E-01		04/27		4
						TH-228	9.95+-0.99E-01		04/27		4

SANTA SUSANA
PARK (BG02)

TELEDYNE BROWN ENGINEERING ENVIRONMENTAL SERVICES

RUN DATE 05/12/94

REPORT OF ANALYSIS

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ANN MARIE HOLBROW
MCLAREN/HART
16755 VON KARMAN AVE
IRVINE CA 92714

S O I L

TELEDYNE SAMPLE NUMBER		CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE TIME	STOP DATE TIME	NUCLIDE	ACTIVITY (PCI/LITER)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
44151	10338	BG-02-074-ST		03/10 1617		H-3	L.T. 2. E 02		05/08		5
44152	10339	BG-02-074-SS		03/10 1617		SR-90	L.T. 8. E-02	PCI/GM DRY *	04/14		3
44153	10342	BG-02-074-SG		03/10 1617		BE-7	L.T. 6. E-01	PCI/GM DRY *	04/09		4
						K-40	2.32+-0.23E 01	PCI/GM DRY *	04/09		4
						MN-54	L.T. 5. E-02	PCI/GM DRY *	04/09		4
						CO-58	L.T. 5. E-02	PCI/GM DRY *	04/09		4
						FE-59	L.T. 1. E-01	PCI/GM DRY *	04/09		4
						CO-60	L.T. 5. E-02	PCI/GM DRY *	04/09		4
						ZN-65	L.T. 1. E-01	PCI/GM DRY *	04/09		4
						ZR-95	L.T. 7. E-02	PCI/GM DRY *	04/09		4
						RU-103	L.T. 8. E-02	PCI/GM DRY *	04/09		4
						RU-106	L.T. 4. E-01	PCI/GM DRY *	04/09		4
						I-131	L.T. 6. E-01	PCI/GM DRY *	04/09		4
						CS-134	L.T. 6. E-02	PCI/GM DRY *	04/09		4
						CS-137	L.T. 5. E-02	PCI/GM DRY *	04/09		4
						BA-140	L.T. 3. E-01	PCI/GM DRY *	04/09		4
						CE-141	L.T. 2. E-01	PCI/GM DRY *	04/09		4
						CE-144	L.T. 4. E-01	PCI/GM DRY *	04/09		4
						RA-226	L.T. 1. E 00	PCI/GM DRY *	04/09		4
						TH-228	1.37+-0.14E 00	PCI/GM DRY *	04/09		4
44154	10340	BG-02-074-SP		03/10 1617		PU-238	L.T. 1. E-02	PCI/GM DRY *	04/09		6
						PU-239	L.T. 1. E-02	PCI/GM DRY *	04/09		6
44155	10343	BG-02-017-ST		03/10 1622		H-3	L.T. 2. E 02		05/08		5
44156	10344	BG-02-017-SS		03/10 1622		SR-90	1.2 +-0.5 E-01	PCI/GM DRY *	04/14		3

The analysis (as shown on the Acknowledgement) of TI#44159, 44180 and 44201 were canceled by the customer and then later, reinstated. The results will be reported on a different Report of Analysis.

WORK ORDER NUMBER	CUSTOMER P.O. NUMBER	DATE RECEIVED	DELIVERY DATE
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TELEDYNE SAMPLE NUMBER		CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE TIME	COLLECTION-DATE STOP DATE TIME	NUCLIDE	ACTIVITY (PCI/GM DRY)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
44157	10347	BG-02-017-SG		03/10 1622		BE-7	L.T. 4. E-01		04/09		4
						K-40	2.14+-0.21E 01		04/09		4
						MN-54	L.T. 4. E-02		04/09		4
						CO-58	L.T. 4. E-02		04/09		4
						FE-59	L.T. 1. E-01		04/09		4
						CO-60	L.T. 4. E-02		04/09		4
						ZN-65	L.T. 1. E-01		04/09		4
						ZR-95	L.T. 6. E-02		04/09		4
						RU-103	L.T. 6. E-02		04/09		4
						RU-106	L.T. 3. E-01		04/09		4
						I-131	L.T. 5. E-01		04/09		4
						CS-134	L.T. 5. E-02		04/09		4
						CS-137	2.13+-0.40E-01		04/09		4
						BA-140	L.T. 2. E-01		04/09		4
						CE-141	L.T. 1. E-01		04/09		4
						CE-144	L.T. 2. E-01		04/09		4
						RA-226	1.51+-0.58E 00		04/09		4
						TH-228	1.35+-0.14E 00		04/09		4
44158	10326	BG-02-076-ST		03/10 1605		H-3	L.T. 2. E 02	PCI/LITER *	05/08		5
44160	10327	BG-02-076-SS		03/10 1605		SR-90	L.T. 9. E-02		04/16		3
44161	10328	BG-02-076-SP		03/10 1605		PU-238	L.T. 1. E-02		04/09		6
						PU-239	L.T. 1. E-02		04/09		6
44162	10329	BG-02-076-SG		03/10 1605		GAMMA	NOT ANALYZED				4
44163	10330	BG-02-076-SG		03/10 1605		BE-7	L.T. 4. E-01		04/09		4
						K-40	2.09+-0.21E 01		04/09		4
						MN-54	L.T. 4. E-02		04/09		4
						CO-58	L.T. 4. E-02		04/09		4
						FE-59	L.T. 1. E-01		04/09		4

TELEDYNE BROWN ENGINEERING ENVIRONMENTAL SERVICES

REPORT OF ANALYSIS

RUN DATE 05/12/94

WORK ORDER NUMBER	CUSTOMER P.O. NUMBER	DATE RECEIVED	DELIVERY DATE
4-0409	030225/030600829	03/14/94	04/16/94

ANN MARIE HOLBROW
MCLAREN/HART
16755 VON KARMAN AVE
IRVINE CA 92714

S O I L

TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE TIME	COLLECTION-DATE STOP DATE TIME	NUCLIDE	ACTIVITY (PCI/GM DRY)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
44163	10330 BG-02-076-SG		03/10 1605		CO-60	L.T. 4. E-02		04/09		4
					ZN-65	L.T. 1. E-01		04/09		4
					ZR-95	L.T. 6. E-02		04/09		4
					RU-103	L.T. 5. E-02		04/09		4
					RU-106	L.T. 3. E-01		04/09		4
					I-131	L.T. 4. E-01		04/09		4
					CS-134	L.T. 4. E-02		04/09		4
					CS-137	L.T. 4. E-02		04/09		4
					BA-140	L.T. 2. E-01		04/09		4
					CE-141	L.T. 1. E-01		04/09		4
					CE-144	L.T. 2. E-01		04/09		4
					RA-226	1.61+-0.55E 00		04/09		4
					TH-228	1.42+-0.14E 00		04/09		4
44164	10333 BG-02-007-SS		03/10 1610		SR-90	1.3 +-0.8 E-01		04/16		3
44165	10334 BG-02-007-SP		03/10 1610		PU-238	L.T. 7. E-03		04/14		6
					PU-239	L.T. 7. E-03		04/14		6
44166	10335 BG-02-007-SG		03/10 1610		GAMMA	NOT ANALYZED				4
44167	10336 BG-02-007-SG		03/10 1610		BE-7	L.T. 5. E-01		04/09		4
					K-40	2.15+-0.21E 01		04/09		4
					MN-54	L.T. 5. E-02		04/09		4
					CO-58	L.T. 5. E-02		04/09		4
					FE-59	L.T. 1. E-01		04/09		4
					CO-60	L.T. 5. E-02		04/09		4
					ZN-65	L.T. 1. E-01		04/09		4
					ZR-95	L.T. 6. E-02		04/09		4
					RU-103	L.T. 7. E-02		04/09		4
					RU-106	L.T. 4. E-01		04/09		4
					I-131	L.T. 6. E-01		04/09		4
					CS-134	L.T. 6. E-02		04/09		4

TELEDYNE BROWN ENGINEERING ENVIRONMENTAL SERVICES

REPORT OF ANALYSIS

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WORK ORDER NUMBER	CUSTOMER P.O. NUMBER	DATE RECEIVED	DELIVERY DATE
4-0409	030225/030600829	03/14/94	04/16/94

ANN MARIE HOLBROW
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16755 VON KARMAN AVE
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S O I L

TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE TIME	STOP DATE TIME	NUCLIDE	ACTIVITY (PCI/GM DRY)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
44167 10336	BG-02-007-SG		03/10 1610		CS-137	L.T. 6. E-02		04/09		4
					BA-140	L.T. 3. E-01		04/09		4
					CE-141	L.T. 1. E-01		04/09		4
					CE-144	L.T. 3. E-01		04/09		4
					RA-226	2.44+-0.69E 00		04/09		4
					TH-228	1.37+-0.14E 00		04/09		4
44168 10348	BG-02-017-MG		03/10 1622		BE-7	L.T. 5. E-01		04/09		4
					K-40	2.26+-0.23E 01		04/09		4
					MN-54	L.T. 5. E-02		04/09		4
					CO-58	L.T. 5. E-02		04/09		4
					FE-59	L.T. 1. E-01		04/09		4
					CO-60	L.T. 5. E-02		04/09		4
					ZN-65	L.T. 1. E-01		04/09		4
					ZR-95	L.T. 6. E-02		04/09		4
					RU-103	L.T. 7. E-02		04/09		4
					RU-106	L.T. 4. E-01		04/09		4
					I-131	L.T. 5. E-01		04/09		4
					CS-134	L.T. 5. E-02		04/09		4
					CS-137	1.68+-0.42E-01		04/09		4
					BA-140	L.T. 2. E-01		04/09		4
					CE-141	L.T. 1. E-01		04/09		4
					CE-144	L.T. 3. E-01		04/09		4
					RA-226	1.94+-0.63E 00		04/09		4
					TH-228	1.23+-0.12E 00		04/09		4
44169 10348MS	BG-02-017-MG		/		BE-7	L.T. 5. E-01		04/14		4
					K-40	2.21+-0.22E 01		04/14		4
					MN-54	L.T. 4. E-02		04/14		4
					CO-58	L.T. 5. E-02		04/14		4
					FE-59	L.T. 1. E-01		04/14		4
					CO-60	L.T. 4. E-02		04/14		4
					ZN-65	L.T. 1. E-01		04/14		4

TELEDYNE BROWN ENGINEERING ENVIRONMENTAL SERVICES

REPORT OF ANALYSIS

RUN DATE 05/12/94

WORK ORDER NUMBER	CUSTOMER P.O. NUMBER	DATE RECEIVED	DELIVERY DATE	PAGE 6
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ANN MARIE HOLBROW
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16755 VON KARMAN AVE
IRVINE CA 92714

S O I L

TELEDYNE SAMPLE NUMBER		CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE TIME	STOP DATE TIME	NUCLIDE	ACTIVITY (PCI/GM DRY)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
44171	10345	BG-02-017-SP		03/10 1622		PU-238	L.T. 7. E-03		04/14		6
						PU-239	L.T. 7. E-03		04/14		6
44172	10349	BG-02-085-ST		03/10 1632		H-3	L.T. 2. E 02	PCI/LITER *	05/08		5
44173	11199	BG-02-085-SS		03/10 1632		SR-90	1.3 +-1.0 E-01		04/16		3
44174	10353	BG-02-085-SG		03/10 1632		BE-7	L.T. 5. E-01		04/15		4
						K-40	2.14+-0.21E 01		04/15		4
						MN-54	L.T. 4. E-02		04/15		4
						CO-58	L.T. 5. E-02		04/15		4
						FE-59	L.T. 1. E-01		04/15		4
						CO-60	L.T. 4. E-02		04/15		4
						ZN-65	L.T. 1. E-01		04/15		4
						ZR-95	L.T. 6. E-02		04/15		4
						RU-103	L.T. 6. E-02		04/15		4
						RU-106	L.T. 4. E-01		04/15		4
						I-131	L.T. 8. E-01		04/15		4
						CS-134	L.T. 5. E-02		04/15		4
						CS-137	L.T. 4. E-02		04/15		4
						BA-140	L.T. 2. E-01		04/15		4
						CE-141	L.T. 1. E-01		04/15		4
						CE-144	L.T. 3. E-01		04/15		4
						RA-226	2.35+-0.62E 00		04/15		4
						TH-228	1.23+-0.12E 00		04/15		4
44175	10351	BG-02-085-SP		03/10 1632		PU-238	L.T. 7. E-03		04/14		6
						PU-239	L.T. 7. E-03		04/14		6

TELEDYNE BROWN ENGINEERING ENVIRONMENTAL SERVICES

REPORT OF ANALYSIS

RUN DATE 06/03/94

WORK ORDER NUMBER	CUSTOMER P.O. NUMBER	DATE RECEIVED	DELIVERY DATE
4-0472	030225/030600829	03/21/94	04/23/94

ANN MARIE HOLBROW
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16755 VON KARMAN AVE
IRVINE CA 92714

S O I L

TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION		STA NUM	COLLECTION-DATE START DATE	START TIME	STOP DATE	STOP TIME	NUCLIDE	ACTIVITY (PCI/GM DRY)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE	TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
45087	10619	BG-14-001-MS		03/15	1000			SR-90	L.T. 7. E-02		04/28			3
45088	10619MS	BG-14-001-MS		/				SR-90	4.0 +-0.3 E 00		05/02			3
45089	10619MSD	BG-14-001-MS		/				SR-90	4.0 +-0.2 E 00		04/30			3
45090	10620	BG-14-002-ST		03/15	1000			H-3	L.T. 1. E 02	PCI/LITER *	05/27			5
45091	10621	BG-14-002-SS		03/15	1000			SR-90	L.T. 9. E-02		04/30			3
45092	10622	BG-14-002-SP		03/15	1000			PU-238	L.T. 1. E-02		05/09			6
								U-234	3.1 +-0.4 E-01		05/12			6
								TH-230	3.8 +-0.5 E-01		05/18			6
								PU-239	L.T. 1. E-02		05/09			6
								U-235	1.8 +-1.0 E-02		05/12			6
								U-238	4.0 +-0.5 E-01		05/12			6
								TH-232	1.2 +-0.1 E 00		05/18			6
								TH-228	7.8 +-0.8 E-01		05/18			6
45114	11225	01-016 BG-00-004-FS		03/15	0841			SR-90	L.T. 9. E-02		04/30			3
45115	11226	BG-01-090-SS		03/15				SR-90	L.T. 1. E-01		04/30			3
45116	11227	01 034 BG-00-008-FT		03/15	0908			H-3	L.T. 2. E 02	PCI/LITER *	05/27			5
45117	11229	BG-14-001-SS		03/15	1000			SR-90	8.2 +-4.3 E-02		04/30			3
45490	10332	BG-02-007-ST		03/10	1610			H-3	L.T. 1. E 02	PCI/LITER *	05/27			5

TELEDYNE BROWN ENGINEERING ENVIRONMENTAL SERVICES

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RUN DATE 05/26/94

WORK ORDER NUMBER	CUSTOMER P.O. NUMBER	DATE RECEIVED	DELIVERY DATE
4-1294	030225/030600829	03/11/94	04/13/94

ANN MARIE HOLBROW
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16755 VON KARMAN AVE
IRVINE CA 92714

S O I L

TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE	START TIME	STOP DATE	STOP TIME	NUCLIDE	ACTIVITY (PCI/LITER)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE	MID-COUNT TIME TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
44019	111830UPBB-17-B003-ST		03/09	1610			H-3	L.T. 2. E 02		05/03			5
44159	10326DUPBG-02-076 -ST		03/10	1605			H-3	L.T. 2. E 02		05/08			5
44180	10302DUPBB-17-005 -SS		03/10	1136			SR-90	L.T. 8. E-02	PCI/GM DRY *	04/16			3

HAPPY CAMP
(BG05)

TELEDYNE BROWN ENGINEERING ENVIRONMENTAL SERVICES

REPORT OF ANALYSIS

RUN DATE 05/25/94

WORK ORDER NUMBER	CUSTOMER P.O. NUMBER	DATE RECEIVED	DELIVERY DATE	PAGE 24
4-0514	030225/030600829	03/15/94	04/17/94	

ANN MARIE HOLBROW
MCLAREN/HART
16755 VON KARMAN AVE
IRVINE CA 92714

S O I L

TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE TIME	STOP DATE TIME	NUCLIDE	ACTIVITY (PCI/GM DRY)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
44715	10448 BG-09-057-SG		03/11 1404		I-131	L.T. 2. E 00		04/26		4
					CS-134	L.T. 4. E-02		04/26		4
					CS-137	L.T. 6. E-02		04/26		4
					BA-140	L.T. 5. E-01		04/26		4
					CE-141	L.T. 2. E-01		04/26		4
					CE-144	L.T. 4. E-01		04/26		4
	09-057				RA-226	L.T. 1. E 00		04/26		4
					TH-228	3.85+-0.55E-01		04/26		4
44716	11031 BG-00-006-FT		03/11 1404		H-3	L.T. 2. E 02	PCI/LITER *	05/23		5
44719	10458 BG-09-013-ST		03/11 1420		H-3	L.T. 2. E 02	PCI/LITER *	05/23		5
44720	10451 BG-09-013-SS		03/11 1420		SR-90	1.2 +-0.5 E-01		04/20		3
44721	10452 BG-09-013-SP		03/11 1420		PU-238	L.T. 8. E-03		05/02		6
					U-234	1.3 +-0.3 E-01		05/02		6
					TH-230	2.3 +-0.4 E-01		05/07		6
					PU-239	L.T. 8. E-03		05/02		6
					U-235	L.T. 7. E-03		05/02		6
					U-238	1.3 +-0.3 E-01		05/02		6
					TH-232	2.0 +-0.4 E-01		05/07		6
					TH-228	2.1 +-0.5 E-01		05/07		6
44722	10360 BG-05-074-ST		03/11 1037		H-3	L.T. 5. E 02	PCI/LITER *	05/23		5
44723	10360DUP BG-05-074-ST		03/11 1037		H-3	L.T. 5. E 02	PCI/LITER *	05/23		5
44724	10361 BG-05-074-SS		03/11 1037		SR-90	8.4 +-4.0 E-02		04/20		3

WORK ORDER NUMBER	CUSTOMER P.O. NUMBER	DATE RECEIVED	DELIVERY DATE
4-0514	030225/030600829	03/15/94	04/17/94

ANN MARIE HOLBROW
MCLAREN/HART
16755 VON KARMAN AVE
IRVINE CA 92714

S O I L

TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION		STA NUM	COLLECTION-DATE START DATE TIME	STOP DATE TIME	NUCLIDE	ACTIVITY (PCI/GM DRY)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
44725	10364	BG-05-074-SG		03/11 1037		BE-7	L.T. 5. E-01		04/26		4
						K-40	2.02+-0.20E 01		04/26		4
						MN-54	L.T. 4. E-02		04/26		4
						CO-58	L.T. 6. E-02		04/26		4
						FE-59	L.T. 2. E-01		04/26		4
						CO-60	L.T. 4. E-02		04/26		4
						ZN-65	L.T. 1. E-01		04/26		4
						ZR-95	L.T. 7. E-02		04/26		4
						RU-103	L.T. 7. E-02		04/26		4
						RU-106	L.T. 3. E-01		04/26		4
						I-131	L.T. 2. E 00		04/26		4
						CS-134	L.T. 4. E-02		04/26		4
						CS-137	1.53+-0.28E-01		04/26		4
						BA-140	L.T. 4. E-01		04/26		4
						CE-141	L.T. 1. E-01		04/26		4
						CE-144	L.T. 3. E-01		04/26		4
						RA-226	2.04+-0.58E 00		04/26		4
						TH-228	L.T. 1. E-01		04/26		4
44726	10362	BG-05-074-SP		03/11 1037		PU-238	L.T. 2. E-02		05/02		6
						U-234	7.3 +-0.8 E-01		05/02		6
						TH-230	6.3 +-0.8 E-01		05/09		6
						PU-239	L.T. 2. E-02		05/02		6
						U-235	3.6 +-1.5 E-02		05/02		6
						U-238	9.1 +-0.9 E-01		05/02		6
						TH-232	1.5 +-0.4 E-01		05/09		6
						TH-228	1.7 +-0.5 E-01		05/09		6
44727	10366	BG-05-027-ST		03/11 1045		H-3	L.T. 2. E 02	PCI/LITER *	05/23		5

TELEDYNE BROWN ENGINEERING ENVIRONMENTAL SERVICES

REPORT OF ANALYSIS

WORK ORDER NUMBER	CUSTOMER P.O. NUMBER	DATE RECEIVED	DELIVERY DATE
4-0514	030225/030600829	03/15/94	04/17/94

ANN MARIE HOLBROW
MCLAREN/HART
16755 VON KARMAN AVE
IRVINE CA 92714

S O I L

TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION		STA NUM	COLLECTION-DATE START DATE TIME	STOP DATE TIME	NUCLIDE	ACTIVITY (PCI/LITER)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
44728	10371	BG-05-027-MT		03/11 1045		H-3	L.T. 3. E 02		05/23		5
44729	10371MS	BG-05-027-MT		/		H-3	3.5 +-0.3 E 03		05/23		5
44730	10371MSD	BG-05-027-MT		/		H-3	3.7 +-0.3 E 03		05/23		5
44731	10367	BG-05-027-SS		03/11 1045		SR-90	1.0 +-0.4 E-01	PCI/GM DRY *	04/20		3
44732	10370	BG-05-027-SG		03/11 1045		BE-7	L.T. 4. E-01	PCI/GM DRY *	04/26		4
						K-40	2.07+-0.21E 01	PCI/GM DRY *	04/26		4
						MN-54	L.T. 3. E-02	PCI/GM DRY *	04/26		4
						CO-58	L.T. 4. E-02	PCI/GM DRY *	04/26		4
						FE-59	L.T. 1. E-01	PCI/GM DRY *	04/26		4
						CO-60	L.T. 3. E-02	PCI/GM DRY *	04/26		4
						ZN-65	L.T. 9. E-02	PCI/GM DRY *	04/26		4
						ZR-95	L.T. 6. E-02	PCI/GM DRY *	04/26		4
						RU-103	L.T. 6. E-02	PCI/GM DRY *	04/26		4
						RU-106	L.T. 3. E-01	PCI/GM DRY *	04/26		4
						I-131	L.T. 1. E 00	PCI/GM DRY *	04/26		4
						CS-134	L.T. 3. E-02	PCI/GM DRY *	04/26		4
						CS-137	9.91+-2.14E-02	PCI/GM DRY *	04/26		4
						BA-140	L.T. 3. E-01	PCI/GM DRY *	04/26		4
						CE-141	L.T. 1. E-01	PCI/GM DRY *	04/26		4
						CE-144	L.T. 2. E-01	PCI/GM DRY *	04/26		4
						RA-226	2.74+-0.46E 00	PCI/GM DRY *	04/26		4
						TH-228	8.02+-0.80E-01	PCI/GM DRY *	04/26		4
44733	10368	BG-05-027-SP		03/11 1045		PU-238	L.T. 1. E-02	PCI/GM DRY *	05/02		6
						U-234	6.0 +-0.8 E-01	PCI/GM DRY *	05/02		6
						TH-230	3.4 +-0.6 E-01	PCI/GM DRY *	05/09		6
						PU-239	L.T. 1. E-02	PCI/GM DRY *	05/02		6
						U-235	2.1 +-1.3 E-02	PCI/GM DRY *	05/02		6
						U-238	6.3 +-0.8 E-01	PCI/GM DRY *	05/02		6

TELEDYNE BROWN ENGINEERING ENVIRONMENTAL SERVICES

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WORK ORDER NUMBER	CUSTOMER P.O. NUMBER	DATE RECEIVED	DELIVERY DATE
4-0514	030225/030600829	03/15/94	04/17/94

ANN MARIE HOLBROW
MCLAREN/HART
16755 VON KARMAN AVE
IRVINE CA 92714

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TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION		STA NUM	COLLECTION-DATE START DATE	TIME	STOP DATE	TIME	NUCLIDE	ACTIVITY (PCI/GM DRY)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE	TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
44733	10368	BG-05-027-SP		03/11	1045			TH-232	1.5 +-0.4 E-01		05/09			6
								TH-228	1.1 +-0.6 E-01		05/09			6
44734	10431	BG-09-096-ST		03/11	1329			H-3	L.T. 2. E 02	PCI/LITER *	05/23			5
44735	10432	BG-09-096-SS		03/11	1329			SR-90	1.2 +-0.5 E-01		04/20			3
44737	10435	BG-09-096-SG		03/11	1329			BE-7	L.T. 7. E-01		05/19			4
								K-40	5.58+-0.60E 00		05/19			4
								MN-54	L.T. 4. E-02		05/19			4
								CO-58	L.T. 6. E-02		05/19			4
								FE-59	L.T. 2. E-01		05/19			4
								CO-60	L.T. 5. E-02		05/19			4
								ZN-65	L.T. 1. E-01		05/19			4
								ZR-95	L.T. 8. E-02		05/19			4
								RU-103	L.T. 1. E-01		05/19			4
								RU-106	L.T. 3. E-01		05/19			4
								I-131	L.T. 1. E 01		05/19			4
								CS-134	L.T. 4. E-02		05/19			4
								CS-137	7.91+-2.96E-02		05/19			4
								BA-140	L.T. 1. E 00		05/19			4
								CE-141	L.T. 2. E-01		05/19			4
								CE-144	L.T. 3. E-01		05/19			4
								RA-226	L.T. 8. E-01		05/19			4
								TH-228	3.52+-0.46E-01		05/19			4
44738	10433	BG-09-096-SP		03/11	1329			PU-238	L.T. 2. E-02		05/02			6
								U-234	5.6 +-3.9 E-02		05/05			6
								TH-230	1.1 +-0.6 E-01		05/09			6
								PU-239	L.T. 2. E-02		05/02			6
								U-235	L.T. 3. E-02		05/05			6
								U-238	1.1 +-0.4 E-01		05/05			6
								TH-232	1.2 +-0.6 E-01		05/09			6

TELEDYNE BROWN ENGINEERING ENVIRONMENTAL SERVICES

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WORK ORDER NUMBER	CUSTOMER P.O. NUMBER	DATE RECEIVED	DELIVERY DATE
4-0514	030225/030600829	03/15/94	04/17/94

ANN MARIE HOLBROW
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TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE TIME	COLLECTION-DATE STOP DATE TIME	NUCLIDE	ACTIVITY (PCI/GM DRY)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
44744	10440DUP BG-09-005-SP		03/11 1320		PU-238	L.T. 1. E-02		05/02		6
					U-234	1.3 +-0.4 E-01		05/04		6
					TH-230	1.7 +-0.5 E-01		05/09		6
					PU-239	L.T. 1. E-02		05/02		6
					U-235	L.T. 9. E-03		05/04		6
					U-238	1.0 +-0.3 E-01		05/04		6
					TH-232	1.4 +-0.4 E-01		05/09		6
					TH-228	1.9 +-0.6 E-01		05/09		6
44745	10372 BG-05-017-ST		03/11 1053		H-3	L.T. 2. E 02	PCI/LITER *	05/24		5
44746	10373 BG-05-017 SS		03/11 1053		SR-90	8.8 +-5.6 E-02		04/21		3
44747	10376 BG-05-017-SG		03/11 1053		BE-7	L.T. 4. E-01		04/25		4
					K-40	2.10+-0.21E 01		04/25		4
					MN-54	L.T. 4. E-02		04/25		4
					CO-58	L.T. 4. E-02		04/25		4
					FE-59	L.T. 1. E-01		04/25		4
					CO-60	L.T. 3. E-02		04/25		4
					ZN-65	L.T. 9. E-02		04/25		4
					ZR-95	L.T. 6. E-02		04/25		4
					RU-103	L.T. 6. E-02		04/25		4
					RU-106	L.T. 3. E-01		04/25		4
					I-131	L.T. 1. E 00		04/25		4
					CS-134	L.T. 4. E-02		04/25		4
					CS-137	1.47+-0.33E-01		04/25		4
					BA-140	L.T. 4. E-01		04/25		4
					CE-141	L.T. 1. E-01		04/25		4
					CE-144	L.T. 2. E-01		04/25		4
					RA-226	1.97+-0.48E 00		04/25		4
					TH-228	9.48+-0.95E-01		04/25		4

TELEDYNE BROWN ENGINEERING ENVIRONMENTAL SERVICES

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WORK ORDER NUMBER	CUSTOMER P.O. NUMBER	DATE RECEIVED	DELIVERY DATE
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ANN MARIE HOLBROW
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TELEDYNE SAMPLE NUMBER		CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE	START TIME	STOP DATE	STOP TIME	NUCLIDE	ACTIVITY (PCI/GM DRY)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE	MID-COUNT TIME TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
44748	10374	BG-05-017-SP		03/11				PU-238	L.T. 2. E-02		05/04			6
								U-234	5.6 +-0.7 E-01		05/04			6
								TH-230	4.1 +-0.7 E-01		05/09			6
								PU-239	L.T. 2. E-02		05/04			6
								U-235	2.1 +-1.3 E-02		05/04			6
								U-238	5.9 +-0.8 E-01		05/04			6
								TH-232	2.0 +-0.4 E-01		05/09			6
								TH-228	2.0 +-0.5 E-01		05/09			6
44749	10378	BG-05-050 ST		03/11	1057			H-3	L.T. 2. E 02	PCI/LITER *	05/24			5
44750	10379	BG-05-050-SS		03/11	1057			SR-90	6.9 +-4.6 E-02		04/21			3
44751	10383	BG-05-050-MS		03/11				SR-90	L.T. 2. E-01		04/25			3
44752	10383MS	BG-05-050-MS		/				SR-90	3.8 +-0.2 E 00		04/21			3
44753	10383MSD	BG-05-050-MS		/				SR-90	3.9 +-0.2 E 00		04/21			3
44754	10382	BG-05-050-SG		03/11				BE-7	L.T. 4. E-01		04/25			4
								K-40	2.20+-0.22E 01		04/25			4
								MN-54	L.T. 3. E-02		04/25			4
								CO-58	L.T. 4. E-02		04/25			4
								FE-59	L.T. 1. E-01		04/25			4
								CO-60	L.T. 3. E-02		04/25			4
								ZN-65	L.T. 7. E-02		04/25			4
								ZR-95	L.T. 5. E-02		04/25			4
								RU-103	L.T. 6. E-02		04/25			4
								RU-106	L.T. 2. E-01		04/25			4
								I-131	L.T. 1. E 00		04/25			4
								CS-134	L.T. 4. E-02		04/25			4
								CS-137	1.01+-0.22E-01		04/25			4
								BA-140	L.T. 3. E-01		04/25			4

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IRVINE CA 92714

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TELEDYNE SAMPLE NUMBER		CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE	TIME	STOP DATE	TIME	NUCLIDE	ACTIVITY (PCI/GM DRY)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE	TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
44754	10382	BG-05-050-SG		03/11				CE-141	L.T. 1. E-01		04/25			4
								CE-144	L.T. 2. E-01		04/25			4
								RA-226	1.52+-0.47E 00		04/25			4
								TH-228	7.84+-0.78E-01		04/25			4
44755	10380	BG-05-050-SP		03/11				PU-238	L.T. 2. E-02		05/04			6
								U-234	3.6 +-0.6 E-01		05/04			6
								TH-230	2.7 +-0.6 E-01		05/09			6
								PU-239	L.T. 2. E-02		05/04			6
								U-235	L.T. 8. E-03		05/04			6
								U-238	3.3 +-0.6 E-01		05/04			6
								TH-232	3.1 +-0.6 E-01		05/09			6
								TH-228	3.1 +-0.7 E-01		05/09			6
44756	10384	BG-05-056-ST		03/11	1105			H-3	L.T. 2. E 02	PCI/LITER *	05/24			5
44757	10385	BG-05-056-SS		03/11	1105			SR-90	9.7 +-5.5 E-02		04/21			3
44758	10388	BG-05-056-SG		03/11	1105			BE-7	L.T. 5. E-01		04/25			4
								K-40	2.06+-0.21E 01		04/25			4
								MN-54	L.T. 4. E-02		04/25			4
								CO-58	L.T. 5. E-02		04/25			4
								FE-59	L.T. 2. E-01		04/25			4
								CO-60	L.T. 4. E-02		04/25			4
								ZN-65	L.T. 1. E-01		04/25			4
								ZR-95	L.T. 7. E-02		04/25			4
								RU-103	L.T. 7. E-02		04/25			4
								RU-106	L.T. 3. E-01		04/25			4
								I-131	L.T. 2. E 00		04/25			4
								CS-134	L.T. 4. E-02		04/25			4
								CS-137	1.48+-0.28E-01		04/25			4
								BA-140	L.T. 4. E-01		04/25			4
								CE-141	L.T. 1. E-01		04/25			4

TELEDYNE BROWN ENGINEERING ENVIRONMENTAL SERVICES

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TELEDYNE SAMPLE NUMBER		CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE	START TIME	STOP DATE	STOP TIME	NUCLIDE	ACTIVITY (PCI/GM DRY)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE	MID-COUNT TIME TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
44758	10388	BG-05-056-SG		03/11	1105			CE-144	L.T. 2. E-01		04/25			4
								RA-226	2.45+-0.55E 00		04/25			4
								TH-228	7.30+-0.73E-01		04/25			4
44759	10386	BG-05-056-SP		03/11	1105			PU-238	L.T. 1. E-02		05/04			6
								U-234	7.4 +-0.8 E-01		05/05			6
								TH-230	5.2 +-0.8 E-01		05/10			6
								PU-239	L.T. 1. E-02		05/04			6
								U-235	3.7 +-1.5 E-02		05/05			6
								U-238	9.2 +-0.8 E-01		05/05			6
								TH-232	1.5 +-0.4 E-01		05/10			6
								TH-228	2.0 +-0.6 E-01		05/10			6

WILDWOOD REGIONAL PARK (BG09)

TELEDYNE BROWN ENGINEERING ENVIRONMENTAL SERVICES

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TELEDYNE SAMPLE NUMBER		CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE	START TIME	STOP DATE	STOP TIME	NUCLIDE	ACTIVITY (PCI/GM DRY)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE	MID-COUNT TIME TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
44695	10518	BG-11-075-SS		03/14	1205			SR-90	L.T. 9. E-02		04/16			3
44696	10519	BG-11-075-SP		03/14	1205			PU-238	L.T. 6. E-03		05/02			6
								U-234	3.8 +-1.7 E-02		05/02			6
								TH-230	5.0 +-2.4 E-02		05/07			6
								PU-239	L.T. 9. E-03		05/02			6
								U-235	L.T. 7. E-03		05/02			6
								U-238	4.1 +-1.8 E-02		05/02			6
								TH-232	5.0 +-2.5 E-02		05/07			6
								TH-228	L.T. 6. E-02		05/07			6
44701	10454	BG-09-013-SG		03/11	1420			BE-7	L.T. 1. E 00		04/26			4
								K-40	7.74+-1.02E 00		04/26			4
								MN-54	L.T. 8. E-02		04/26			4
								CO-58	L.T. 1. E-01		04/26			4
								FE-59	L.T. 3. E-01		04/26			4
								CO-60	L.T. 7. E-02		04/26			4
								ZN-65	L.T. 2. E-01		04/26			4
								ZR-95	L.T. 1. E-01		04/26			4
								RU-103	L.T. 2. E-01		04/26			4
								RU-106	L.T. 8. E-01		04/26			4
								I-131	L.T. 4. E 00		04/26			4
								CS-134	L.T. 9. E-02		04/26			4
								CS-137	1.98+-0.72E-01		04/26			4
								BA-140	L.T. 9. E-01		04/26			4
								CE-141	L.T. 3. E-01		04/26			4
								CE-144	L.T. 5. E-01		04/26			4
								RA-226	L.T. 2. E 00		04/26			4
								TH-228	6.10+-1.24E-01		04/26			4

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TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE TIME	STOP DATE TIME	NUCLIDE	ACTIVITY (PCI/GM DRY)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
44702	10454DUP BG-09-013-SG		03/11 1420		BE-7	L.T. 7. E-01		04/27		4
					K-40	4.62+-0.59E 00		04/27		4
					MN-54	L.T. 4. E-02		04/27		4
					CO-58	L.T. 6. E-02		04/27		4
					FE-59	L.T. 2. E-01		04/27		4
					CO-60	L.T. 4. E-02		04/27		4
					ZN-65	L.T. 1. E-01		04/27		4
					ZR-95	L.T. 7. E-02		04/27		4
					RU-103	L.T. 9. E-02		04/27		4
					RU-106	L.T. 4. E-01		04/27		4
					I-131	L.T. 2. E 00		04/27		4
					CS-134	L.T. 5. E-02		04/27		4
					CS-137	8.83+-4.21E-02		04/27		4
					BA-140	L.T. 5. E-01		04/27		4
					CE-141	L.T. 1. E-01		04/27		4
					CE-144	L.T. 2. E-01		04/27		4
					RA-226	L.T. 7. E-01		04/27		4
					TH-228	3.09+-0.62E-01		04/27		4
44703	11034 BG-00-003-FS 09-017		03/11 1420		SR-90	1.4 +-0.6 E-01		04/16		3
44704	10456 BG-09-003-ST		03/11 1430		H-3	L.T. 2. E 02	PCI/LITER *	05/23		5
44705	10457 BG-09-003-SS		03/11 1430		SR-90	1.3 +-0.5 E-01		04/20		3
44706	10458 BG-09-003-SP		03/11 1430		PU-238	L.T. 8. E-03		05/02		6
					U-234	1.0 +-0.3 E-01		05/02		6
					TH-230	2.3 +-0.7 E-01		05/09		6
					PU-239	L.T. 8. E-03		05/02		6
					U-235	L.T. 7. E-03		05/02		6
					U-238	7.9 +-2.8 E-02		05/02		6
					TH-232	2.6 +-0.7 E-01		05/09		6
					TH-228	2.0 +-0.8 E-01		05/09		6

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TELEDYNE SAMPLE NUMBER		CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE	START TIME	STOP DATE	STOP TIME	NUCLIDE	ACTIVITY (PCI/GM DRY)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE	MID-COUNT TIME TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
44707	10460	BG-09-003-SG		03/11	1430			BE-7	L.T. 5. E-01		04/26			4
								K-40	5.81+-0.64E 00		04/26			4
								MN-54	L.T. 4. E-02		04/26			4
								CO-58	L.T. 5. E-02		04/26			4
								FE-59	L.T. 2. E-01		04/26			4
								CO-60	L.T. 4. E-02		04/26			4
								ZN-65	L.T. 8. E-02		04/26			4
								ZR-95	L.T. 6. E-02		04/26			4
								RU-103	L.T. 8. E-02		04/26			4
								RU-106	L.T. 3. E-01		04/26			4
								I-131	L.T. 2. E 00		04/26			4
								CS-134	L.T. 4. E-02		04/26			4
								CS-137	L.T. 5. E-02		04/26			4
								BA-140	L.T. 6. E-01		04/26			4
								CE-141	L.T. 2. E-01		04/26			4
								CE-144	L.T. 3. E-01		04/26			4
								RA-226	L.T. 8. E-01		04/26			4
								TH-228	5.87+-0.76E-01		04/26			4
44708	11035	BG-00-003-FP 04-003-FS		03/11	1430			PU-238	L.T. 6. E-03		04/22			6
								PU-239	L.T. 6. E-03		04/22			6
44709	11032	BG-00-002-SS 04-013		03/11	1430			SR-90	8.8 +-4.5 E-02		04/20			3
44710	11030	BG-00-003-FG 05-017		03/11	1053			BE-7	L.T. 5. E-01		04/26			4
								K-40	2.11+-0.21E 01		04/26			4
								MN-54	L.T. 4. E-02		04/26			4
								CO-58	L.T. 5. E-02		04/26			4
								FE-59	L.T. 2. E-01		04/26			4
								CO-60	L.T. 4. E-02		04/26			4
								ZN-65	L.T. 1. E-01		04/26			4
								ZR-95	L.T. 7. E-02		04/26			4
								RU-103	L.T. 8. E-02		04/26			4

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WORK ORDER NUMBER	CUSTOMER P.O. NUMBER	DATE RECEIVED	DELIVERY DATE
4-0514	030225/030600829	03/15/94	04/17/94

ANN MARIE HOLBROW
MCLAREN/HART
16755 VON KARMAN AVE
IRVINE CA 92714

S O I L

TELEDYNE SAMPLE NUMBER		CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE TIME	STOP DATE TIME	NUCLIDE	ACTIVITY (PCI/GM DRY)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
44710	11030	BG-00-003-FG		03/11 1053		RU-106	L.T. 3. E-01		04/26		4
						I-131	L.T. 2. E 00		04/26		4
						CS-134	L.T. 4. E-02		04/26		4
						CS-137	1.00+-0.35E-01		04/26		4
						BA-140	L.T. 5. E-01		04/26		4
						CE-141	L.T. 1. E-01		04/26		4
						CE-144	L.T. 3. E-01		04/26		4
						RA-226	1.52+-0.62E 00		04/26		4
						TH-228	8.44+-0.84E-01		04/26		4
44712	10444	BG-09-057-ST		03/11 1404		H-3	L.T. 2. E 02	PCI/LITER *	05/23		5
44713	10445	BG-09-057-SS		03/11 1404		SR-90	1.1 +-0.5 E-01		04/26		3
44714	10446	BG-09-057-SP		03/11 1404		PU-238	L.T. 8. E-03		05/02		6
						U-234	1.2 +-0.3 E-01		05/02		6
						TH-230	1.9 +-0.4 E-01		05/07		6
						PU-239	L.T. 8. E-03		05/02		6
						U-235	L.T. 7. E-03		05/02		6
						U-238	1.2 +-0.3 E-01		05/02		6
						TH-232	1.7 +-0.4 E-01		05/07		6
						TH-228	1.4 +-0.4 E-01		05/07		6
44715	10448	BG-09-057-SG		03/11 1404		BE-7	L.T. 5. E-01		04/26		4
						K-40	5.81+-0.65E 00		04/26		4
						MN-54	L.T. 4. E-02		04/26		4
						CO-58	L.T. 5. E-02		04/26		4
						FE-59	L.T. 1. E-01		04/26		4
						CO-60	L.T. 3. E-02		04/26		4
						ZN-65	L.T. 8. E-02		04/26		4
						ZR-95	L.T. 6. E-02		04/26		4
						RU-103	L.T. 7. E-02		04/26		4
						RU-106	L.T. 3. E-01		04/26		4

TELEDYNE BROWN ENGINEERING ENVIRONMENTAL SERVICES

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TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION		STA NUM	COLLECTION-DATE START DATE	START TIME	STOP DATE	STOP TIME	NUCLIDE	ACTIVITY (PCI/GM DRY)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE	MID-COUNT TIME TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
44715	10448	BG-09-057-SG		03/11	1404			I-131	L.T. 2. E 00		04/26			4
								CS-134	L.T. 4. E-02		04/26			4
								CS-137	L.T. 6. E-02		04/26			4
								BA-140	L.T. 5. E-01		04/26			4
								CE-141	L.T. 2. E-01		04/26			4
								CE-144	L.T. 4. E-01		04/26			4
								RA-226	L.T. 1. E 00		04/26			4
								TH-228	3.85+-0.55E-01		04/26			4
44716	11031	BG-00-006-FT 09057		03/11	1404			H-3	L.T. 2. E 02	PCI/LITER *	05/23			5
44719	10458	BG-09-013-ST		03/11	1420			H-3	L.T. 2. E 02	PCI/LITER *	05/23			5
44720	10451	BG-09-013-SS		03/11	1420			SR-90	1.2 +-0.5 E-01		04/20			3
44721	10452	BG-09-013-SP		03/11	1420			PU-238	L.T. 8. E-03		05/02			6
								U-234	1.3 +-0.3 E-01		05/02			6
								TH-230	2.3 +-0.4 E-01		05/07			6
								PU-239	L.T. 8. E-03		05/02			6
								U-235	L.T. 7. E-03		05/02			6
								U-238	1.3 +-0.3 E-01		05/02			6
								TH-232	2.0 +-0.4 E-01		05/07			6
								TH-228	2.1 +-0.5 E-01		05/07			6
44722	10360	BG-05-074-ST		03/11	1037			H-3	L.T. 5. E 02	PCI/LITER *	05/23			5
44723	10360DUP	BG-05-074-ST		03/11	1037			H-3	L.T. 5. E 02	PCI/LITER *	05/23			5
44724	10361	BG-05-074-SS		03/11	1037			SR-90	8.4 +-4.0 E-02		04/20			3

TELEDYNE BROWN ENGINEERING ENVIRONMENTAL SERVICES

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TELEDYNE SAMPLE NUMBER		CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE	START TIME	STOP DATE	STOP TIME	NUCLIDE	ACTIVITY (PCI/GM DRY)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE	MID-COUNT TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
44733	10368	BG-05-027-SP		03/11	1045			TH-232	1.5 +-0.4 E-01		05/09			6
								TH-228	1.1 +-0.6 E-01		05/09			6
44734	10431	BG-09-096-ST		03/11	1329			H-3	L.T. 2. E 02	PCI/LITER *	05/23			5
44735	10432	BG-09-096-SS		03/11	1329			SR-90	1.2 +-0.5 E-01		04/20			3
44737	10435	BG-09-096-SG		03/11	1329			BE-7	L.T. 7. E-01		05/19			4
								K-40	5.58+-0.60E 00		05/19			4
								MN-54	L.T. 4. E-02		05/19			4
								CO-58	L.T. 6. E-02		05/19			4
								FE-59	L.T. 2. E-01		05/19			4
								CO-60	L.T. 5. E-02		05/19			4
								ZN-65	L.T. 1. E-01		05/19			4
								ZR-95	L.T. 8. E-02		05/19			4
								RU-103	L.T. 1. E-01		05/19			4
								RU-106	L.T. 3. E-01		05/19			4
								I-131	L.T. 1. E 01		05/19			4
								CS-134	L.T. 4. E-02		05/19			4
								CS-137	7.91+-2.96E-02		05/19			4
								BA-140	L.T. 1. E 00		05/19			4
								CE-141	L.T. 2. E-01		05/19			4
								CE-144	L.T. 3. E-01		05/19			4
								RA-226	L.T. 8. E-01		05/19			4
								TH-228	3.52+-0.46E-01		05/19			4
44738	10433	BG-09-096-SP		03/11	1329			PU-238	L.T. 2. E-02		05/02			6
								U-234	5.6 +-3.9 E-02		05/05			6
								TH-230	1.1 +-0.6 E-01		05/09			6
								PU-239	L.T. 2. E-02		05/02			6
								U-235	L.T. 3. E-02		05/05			6
								U-238	1.1 +-0.4 E-01		05/05			6
								TH-232	1.2 +-0.6 E-01		05/09			6

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TELEDYNE SAMPLE NUMBER		CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE TIME	STOP DATE TIME	NUCLIDE	ACTIVITY (PCI/GM DRY)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
44738	10433	BG-09-096-SP		03/11 1329		TH-228	L.T. 2. E-01		05/09		6
44739	10438	BG-09-005-ST		03/11 1320		H-3	L.T. 2. E 02	PCI/LITER *	05/24		5
44740	10439	BG-09-005-SS		03/11 1320		SR-90	L.T. 1. E-01		04/23		3
44741	10442	BG-09-005-SG		03/11 1320		BE-7	L.T. 9. E-01		04/26		4
						K-40	7.84+-0.83E 00		04/26		4
						MN-54	L.T. 6. E-02		04/26		4
						CO-58	L.T. 9. E-02		04/26		4
						FE-59	L.T. 2. E-01		04/26		4
						CO-60	L.T. 7. E-02		04/26		4
						ZN-65	L.T. 1. E-01		04/26		4
						ZR-95	L.T. 1. E-01		04/26		4
						RU-103	L.T. 1. E-01		04/26		4
						RU-106	L.T. 6. E-01		04/26		4
						I-131	L.T. 3. E 00		04/26		4
						CS-134	L.T. 7. E-02		04/26		4
						CS-137	1.88+-0.61E-01		04/26		4
						BA-140	L.T. 7. E-01		04/26		4
						CE-141	L.T. 2. E-01		04/26		4
						CE-144	L.T. 4. E-01		04/26		4
						RA-226	L.T. 1. E 00		04/26		4
						TH-228	5.03+-0.70E-01		04/26		4
44743	10440	BG-09-005-SP		03/11 1320		PU-238	L.T. 1. E-02		05/02		6
						U-234	1.2 +-0.4 E-01		05/04		6
						TH-230	2.2 +-0.7 E-01		05/09		6
						PU-239	L.T. 1. E-02		05/02		6
						U-235	L.T. 1. E-02		05/04		6
						U-238	1.4 +-0.4 E-01		05/04		6
						TH-232	1.7 +-0.7 E-01		05/09		6
						TH-228	2.5 +-0.9 E-01		05/09		6

TELEDYNE BROWN ENGINEERING ENVIRONMENTAL SERVICES

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TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE	START TIME	STOP DATE	STOP TIME	NUCLIDE	ACTIVITY (PCI/GM DRY)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE	MID-COUNT TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
44744	10440DUP BG-09-005-SP		03/11	1320			PU-238	L.T. 1. E-02		05/02			6
							U-234	1.3 +-0.4 E-01		05/04			6
							TH-230	1.7 +-0.5 E-01		05/09			6
							PU-239	L.T. 1. E-02		05/02			6
							U-235	L.T. 9. E-03		05/04			6
							U-238	1.0 +-0.3 E-01		05/04			6
							TH-232	1.4 +-0.4 E-01		05/09			6
							TH-228	1.9 +-0.6 E-01		05/09			6
44745	10372 BG-05-017-ST		03/11	1053			H-3	L.T. 2. E 02	PCI/LITER *	05/24			5
44746	10373 BG-05-017 SS		03/11	1053			SR-90	8.8 +-5.6 E-02		04/21			3
44747	10376 BG-05-017-SG		03/11	1053			BE-7	L.T. 4. E-01		04/25			4
							K-40	2.10+-0.21E 01		04/25			4
							MN-54	L.T. 4. E-02		04/25			4
							CO-58	L.T. 4. E-02		04/25			4
							FE-59	L.T. 1. E-01		04/25			4
							CO-60	L.T. 3. E-02		04/25			4
							ZN-65	L.T. 9. E-02		04/25			4
							ZR-95	L.T. 6. E-02		04/25			4
							RU-103	L.T. 6. E-02		04/25			4
							RU-106	L.T. 3. E-01		04/25			4
							I-131	L.T. 1. E 00		04/25			4
							CS-134	L.T. 4. E-02		04/25			4
							CS-137	1.47+-0.33E-01		04/25			4
							BA-140	L.T. 4. E-01		04/25			4
							CE-141	L.T. 1. E-01		04/25			4
							CE-144	L.T. 2. E-01		04/25			4
							RA-226	1.97+-0.48E 00		04/25			4
							TH-228	9.48+-0.95E-01		04/25			4

PARK RAVINE (BG10)

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S O I L

TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE	TIME	STOP DATE	TIME	NUCLIDE	ACTIVITY (PCI/LITER)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE	TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
44615	10472 BG-10-001-ST		03/14	0920			H-3	L.T. 1. E 02		05/21			5
44616	10473 BG-10-001-SS		03/14	0920			SR-90	9.8 +-4.8 E-02	PCI/GM DRY *	04/16			3
44617	10474 BG-10-001-SP		03/14	0920			PU-238	L.T. 1. E-02	PCI/GM DRY *	04/20			6
							U-234	8.4 +-2.3 E-02	PCI/GM DRY *	04/26			6
							TH-230	6.9 +-2.2 E-02	PCI/GM DRY *	04/28			6
							PU-239	L.T. 1. E-02	PCI/GM DRY *	04/20			6
							U-235	L.T. 6. E-03	PCI/GM DRY *	04/26			6
							U-238	1.0 +-0.3 E-01	PCI/GM DRY *	04/26			6
							TH-232	2.9 +-1.5 E-02	PCI/GM DRY *	04/28			6
							TH-228	5.8 +-2.7 E-02	PCI/GM DRY *	04/28			6
44618	10474DUP BG-10-001-SP		03/14	0920			PU-238	L.T. 9. E-03	PCI/GM DRY *	04/20			6
							U-234	1.0 +-0.3 E-01	PCI/GM DRY *	04/26			6
							TH-230	4.7 +-2.0 E-02	PCI/GM DRY *	04/28			6
							PU-239	L.T. 1. E-02	PCI/GM DRY *	04/20			6
							U-235	L.T. 6. E-03	PCI/GM DRY *	04/26			6
							U-238	1.1 +-0.3 E-01	PCI/GM DRY *	04/26			6
							TH-232	3.5 +-1.8 E-02	PCI/GM DRY *	04/28			6
							TH-228	4.1 +-3.0 E-02	PCI/GM DRY *	04/28			6
44619	10476 BG-10-001-SG		03/14	0920			BE-7	L.T. 4. E-01	PCI/GM DRY *	04/25			4
							K-40	5.92+-0.59E 00	PCI/GM DRY *	04/25			4
							MN-54	L.T. 4. E-02	PCI/GM DRY *	04/25			4
							CO-58	L.T. 4. E-02	PCI/GM DRY *	04/25			4
							FE-59	L.T. 1. E-01	PCI/GM DRY *	04/25			4
							CO-60	L.T. 3. E-02	PCI/GM DRY *	04/25			4
							ZN-65	L.T. 9. E-02	PCI/GM DRY *	04/25			4
							ZR-95	L.T. 5. E-02	PCI/GM DRY *	04/25			4
							RU-103	L.T. 6. E-02	PCI/GM DRY *	04/25			4
							RU-106	L.T. 3. E-01	PCI/GM DRY *	04/25			4
							I-131	L.T. 1. E 00	PCI/GM DRY *	04/25			4

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44619	10476	BG-10-001-SG		03/14 0920		CS-134	L.T. 4. E-02		04/25		4
						CS-137	2.45+-0.37E-01		04/25		4
						BA-140	L.T. 3. E-01		04/25		4
						CE-141	L.T. 1. E-01		04/25		4
						CE-144	L.T. 2. E-01		04/25		4
						RA-226	9.29+-5.29E-01		04/25		4
						TH-228	3.69+-0.42E-01		04/25		4
44621	10478	BG-10-004-ST		03/14 0945		H-3	L.T. 1. E 02	PCI/LITER *	05/21		5
44622	10479	BG-10-004-SS		03/14 0945		SR-90	L.T. 4. E-02		04/16		3
44623	10480	BG-10-004-SP		03/14 0945		PU-238	L.T. 9. E-03		04/20		6
						U-234	1.4 +-0.3 E-01		04/26		6
						TH-230	6.2 +-2.6 E-02		04/28		6
						PU-239	L.T. 9. E-03		04/20		6
						U-235	L.T. 6. E-03		04/26		6
						U-238	1.5 +-0.3 E-01		04/26		6
						TH-232	8.3 +-2.9 E-02		04/28		6
						TH-228	7.7 +-3.7 E-02		04/28		6
44624	10482	BG-10-004-SG		03/14 0945		BE-7	L.T. 5. E-01		04/25		4
						K-40	5.25+-0.53E 00		04/25		4
						MN-54	L.T. 4. E-02		04/25		4
						CO-58	L.T. 4. E-02		04/25		4
						FE-59	L.T. 1. E-01		04/25		4
						CO-60	L.T. 3. E-02		04/25		4
						ZN-65	L.T. 7. E-02		04/25		4
						ZR-95	L.T. 5. E-02		04/25		4
						RU-103	L.T. 7. E-02		04/25		4
						RU-106	L.T. 3. E-01		04/25		4
						I-131	L.T. 1. E 00		04/25		4
						CS-134	L.T. 4. E-02		04/25		4

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44624	10482	BG-10-004-SG		03/14	0945			CS-137	2.15+-0.39E-01		04/25			4
								BA-140	L.T. 4. E-01		04/25			4
								CE-141	L.T. 1. E-01		04/25			4
								CE-144	L.T. 2. E-01		04/25			4
								RA-226	L.T. 6. E-01		04/25			4
								TH-228	4.02+-0.54E-01		04/25			4
44625	11036	10.002 BG-00-004-FG		03/14	0945			BE-7	L.T. 5. E-01		04/25			4
								K-40	6.33+-0.63E 00		04/25			4
								MN-54	L.T. 4. E-02		04/25			4
								CO-58	L.T. 4. E-02		04/25			4
								FE-59	L.T. 1. E-01		04/25			4
								CO-60	L.T. 3. E-02		04/25			4
								ZN-65	L.T. 9. E-02		04/25			4
								ZR-95	L.T. 6. E-02		04/25			4
								RU-103	L.T. 7. E-02		04/25			4
								RU-106	L.T. 4. E-01		04/25			4
								I-131	L.T. 1. E 00		04/25			4
								CS-134	L.T. 4. E-02		04/25			4
								CS-137	3.06+-0.41E-01		04/25			4
								BA-140	L.T. 3. E-01		04/25			4
								CE-141	L.T. 1. E-01		04/25			4
								CE-144	L.T. 2. E-01		04/25			4
								RA-226	L.T. 7. E-01		04/25			4
								TH-228	L.T. 7. E-02		04/25			4
44626	10485	BG-10-003-ST		03/14	1010			H-3	L.T. 1. E 02	PCI/LITER *	05/21			5
44627	10486	BG-10-003-SS		03/14	1010			SR-90	L.T. 9. E-02		04/16			3

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ANN MARIE HOLBROW
MCLAREN/HART
16755 VON KARMAN AVE
IRVINE CA 92714

S O I L

TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE TIME	COLLECTION-DATE STOP DATE TIME	NUCLIDE	ACTIVITY (PCI/GM DRY)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
44628 10487	BG-10-003-SP		03/14 1010		PU-238	L.T. 7. E-03		04/20		6
					U-234	1.5 +-0.3 E-01		04/26		6
					TH-230	1.0 +-0.3 E-01		04/28		6
					PU-239	L.T. 1. E-02		04/20		6
					U-235	L.T. 6. E-03		04/26		6
					U-238	1.2 +-0.3 E-01		04/26		6
					TH-232	6.5 +-2.2 E-02		04/28		6
					TH-228	5.9 +-3.0 E-02		04/28		6
44629 10489	BG-10-003-SG		03/14 1010		BE-7	L.T. 4. E-01		04/25		4
					K-40	3.53+-0.43E 00		04/25		4
					MN-54	L.T. 3. E-02		04/25		4
					CO-58	L.T. 3. E-02		04/25		4
					FE-59	L.T. 9. E-02		04/25		4
					CO-60	L.T. 3. E-02		04/25		4
					ZN-65	L.T. 8. E-02		04/25		4
					ZR-95	L.T. 4. E-02		04/25		4
					RU-103	L.T. 5. E-02		04/25		4
					RU-106	L.T. 2. E-01		04/25		4
					I-131	L.T. 1. E 00		04/25		4
					CS-134	L.T. 3. E-02		04/25		4
					CS-137	2.57+-0.34E-01		04/25		4
					BA-140	L.T. 2. E-01		04/25		4
					CE-141	L.T. 9. E-02		04/25		4
					CE-144	L.T. 2. E-01		04/25		4
					RA-226	L.T. 5. E-01		04/25		4
					TH-228	2.49+-0.35E-01		04/25		4
44630 10490	BG-10-002-ST		03/14 0945		H-3	L.T. 1. E 02	PCI/LITER *	05/21		5

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ANN MARIE HOLBROW
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IRVINE CA 92714

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TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION		STA NUM	COLLECTION-DATE START DATE TIME	COLLECTION-DATE STOP DATE TIME	NUCLIDE	ACTIVITY (PCI/GM DRY)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
44631	10491	BG-10-002-SS		03/14 0945		SR-90	L.T. 9. E-02		04/18		3
44632	10492	BG-10-002-SP		03/14 0945		PU-238	L.T. 8. E-03		04/20		6
						U-234	1.2 +-0.3 E-01		04/26		6
						TH-230	6.8 +-2.2 E-02		05/04		6
						PU-239	L.T. 8. E-03		04/20		6
						U-235	L.T. 6. E-03		04/26		6
						U-238	9.9 +-2.5 E-02		04/26		6
						TH-232	5.1 +-2.2 E-02		05/04		6
						TH-228	8.1 +-3.5 E-02		05/04		6
44633	10494	BG-10-002-SG		03/14 0945		BE-7	L.T. 4. E-01		04/25		4
						K-40	7.18+-0.72E 00		04/25		4
						MN-54	L.T. 3. E-02		04/25		4
						CO-58	L.T. 3. E-02		04/25		4
						FE-59	L.T. 9. E-02		04/25		4
						CO-60	L.T. 3. E-02		04/25		4
						ZN-65	L.T. 6. E-02		04/25		4
						ZR-95	L.T. 4. E-02		04/25		4
						RU-103	L.T. 5. E-02		04/25		4
						RU-106	L.T. 2. E-01		04/25		4
						I-131	L.T. 9. E-01		04/25		4
						CS-134	L.T. 3. E-02		04/25		4
						CS-137	2.76+-0.29E-01		04/25		4
						BA-140	L.T. 2. E-01		04/25		4
						CE-141	L.T. 8. E-02		04/25		4
						CE-144	L.T. 2. E-01		04/25		4
						RA-226	L.T. 5. E-01		04/25		4
						TH-228	2.39+-0.28E-01		04/25		4

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ANN MARIE HOLBROW
MCLAREN/HART
16755 VON KARMAN AVE
IRVINE CA 92714

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TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION		STA NUM	COLLECTION-DATE START DATE TIME	STOP DATE TIME	NUCLIDE	ACTIVITY (PCI/LITER)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
44634	10495	BG-10-005-ST		03/14 0925		H-3	L.T. 1. E 02		05/22		5
44635	10496	BG-10-005-SS		03/14 0925		SR-90	L.T. 9. E-02	PCI/GM DRY *	04/16		3
44636	10551	BG-12-002-ST		03/14 1150		H-3	L.T. 1. E 02		05/22		5
44637	10552	BG-12-002-SS		03/14 1150		SR-90	L.T. 9. E-02	PCI/GM DRY *	04/18		3
44638	10553	BG-12-002-SP		03/14 1150		PU-238	L.T. 2. E-02	PCI/GM DRY *	04/20		6
						U-234	3.5 +-1.5 E-02	PCI/GM DRY *	04/26		6
						TH-230	2.7 +-1.4 E-02	PCI/GM DRY *	05/04		6
						PU-239	L.T. 2. E-02	PCI/GM DRY *	04/20		6
						U-235	L.T. 6. E-03	PCI/GM DRY *	04/26		6
						U-238	2.5 +-1.3 E-02	PCI/GM DRY *	04/26		6
						TH-232	2.3 +-1.3 E-02	PCI/GM DRY *	05/04		6
						TH-228	L.T. 3. E-02	PCI/GM DRY *	05/04		6
44639	10553DUP	BG-12-002-SP		03/14 1150		PU-238	L.T. 8. E-03	PCI/GM DRY *	04/20		6
						U-234	1.5 +-1.1 E-02	PCI/GM DRY *	04/26		6
						TH-230	2.9 +-1.4 E-02	PCI/GM DRY *	05/06		6
						PU-239	L.T. 8. E-03	PCI/GM DRY *	04/20		6
						U-235	L.T. 7. E-03	PCI/GM DRY *	04/26		6
						U-238	2.0 +-1.3 E-02	PCI/GM DRY *	04/26		6
						TH-232	2.8 +-1.4 E-02	PCI/GM DRY *	05/06		6
						TH-228	L.T. 4. E-02	PCI/GM DRY *	05/06		6
44640	10555	BG-12-002-SG		03/14 1150		BE-7	L.T. 3. E-01	PCI/GM DRY *	04/25		4
						K-40	1.72+-0.29E 00	PCI/GM DRY *	04/25		4
						MN-54	L.T. 2. E-02	PCI/GM DRY *	04/25		4
						CO-58	L.T. 3. E-02	PCI/GM DRY *	04/25		4
						FE-59	L.T. 7. E-02	PCI/GM DRY *	04/25		4
						CO-60	L.T. 2. E-02	PCI/GM DRY *	04/25		4
						ZN-65	L.T. 5. E-02	PCI/GM DRY *	04/25		4

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16755 VON KARMAN AVE
IRVINE CA 92714

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TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION		STA NUM	COLLECTION-DATE START DATE TIME	STOP DATE TIME	NUCLIDE	ACTIVITY (PCI/GM DRY)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
44680	10571	BG-12-005-SG		03/14 1245		I-131	L.T. 9. E-01		04/26		4
						CS-134	L.T. 3. E-02		04/26		4
						CS-137	L.T. 3. E-02		04/26		4
						BA-140	L.T. 2. E-01		04/26		4
						CE-141	L.T. 8. E-02		04/26		4
						CE-144	L.T. 2. E-01		04/26		4
						RA-226	L.T. 4. E-01		04/26		4
						TH-228	L.T. 4. E-02		04/26		4
44681	10571DUP	BG-12-005-SG		03/14 1245		BE-7	L.T. 3. E-01		04/27		4
						K-40	1.31+-0.22E 00		04/27		4
						MN-54	L.T. 2. E-02		04/27		4
						CO-58	L.T. 3. E-02		04/27		4
						FE-59	L.T. 7. E-02		04/27		4
						CO-60	L.T. 2. E-02		04/27		4
						ZN-65	L.T. 5. E-02		04/27		4
						ZR-95	L.T. 3. E-02		04/27		4
						RU-103	L.T. 4. E-02		04/27		4
						RU-106	L.T. 2. E-01		04/27		4
						I-131	L.T. 8. E-01		04/27		4
						CS-134	L.T. 2. E-02		04/27		4
						CS-137	L.T. 2. E-02		04/27		4
						BA-140	L.T. 2. E-01		04/27		4
						CE-141	L.T. 6. E-02		04/27		4
						CE-144	L.T. 1. E-01		04/27		4
						RA-226	L.T. 3. E-01		04/27		4
						TH-228	L.T. 3. E-02		04/27		4
44685	10497	BG-10-005-SP		03/14 0925		PU-238	L.T. 1. E-02		05/02		6
						U-234	1.3 +-0.3 E-01		05/02		6
						TH-230	1.6 +-0.5 E-01		05/06		6
						PU-239	L.T. 1. E-02		05/02		6
						U-235	L.T. 7. E-03		05/02		6

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TELEDYNE SAMPLE NUMBER		CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE TIME	STOP DATE TIME	NUCLIDE	ACTIVITY (PCI/GM DRY)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
44685	10497	BG-10-005-SP		03/14 0925		U-238	9.2 +-2.7 E-02		05/02		6
						TH-232	1.5 +-0.4 E-01		05/06		6
						TH-228	1.2 +-0.5 E-01		05/06		6
44686	10499	BG-10-005-SG		03/14 0925		BE-7	L.T. 6. E-01		04/26		4
						K-40	1.20+-0.12E 01		04/26		4
						MN-54	L.T. 5. E-02		04/26		4
						CO-58	L.T. 6. E-02		04/26		4
						FE-59	L.T. 2. E-01		04/26		4
						CO-60	L.T. 4. E-02		04/26		4
						ZN-65	L.T. 1. E-01		04/26		4
						ZR-95	L.T. 7. E-02		04/26		4
						RU-103	L.T. 9. E-02		04/26		4
						RU-106	L.T. 4. E-01		04/26		4
						I-131	L.T. 2. E 00		04/26		4
						CS-134	L.T. 5. E-02		04/26		4
						CS-137	4.56+-0.52E-01		04/26		4
						BA-140	L.T. 4. E-01		04/26		4
						CE-141	L.T. 1. E-01		04/26		4
						CE-144	L.T. 3. E-01		04/26		4
						RA-226	1.31+-0.60E 00		04/26		4
						TH-228	4.31+-0.49E-01		04/26		4
44687	10511	BG-11-010-ST		03/14 1310		H-3	L.T. 2. E 02	PCI/LITER *	05/23		5
44688	10512	BG-11-010-SS		03/14 1310		SR-90	8.9 +-4.1 E-02		04/16		3
44689	10513	BG-11-010-SP		03/14 1310		PU-238	L.T. 1. E-02		05/06		6
						U-234	3.3 +-1.8 E-02		05/02		6
						TH-230	3.3 +-2.0 E-02		05/06		6
						PU-239	L.T. 1. E-02		05/06		6
						U-235	L.T. 1. E-02		05/02		6
						U-238	2.2 +-1.5 E-02		05/02		6

TAPIA COUNTY PARK
(BG11)

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S O I L

TELEDYNE SAMPLE NUMBER		CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE TIME	STOP DATE TIME	NUCLIDE	ACTIVITY (PCI/GM DRY)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
44644	10560	BG-12-003-SG		03/14 1210		RU-103	L.T. 4. E-02		04/25		4
						RU-106	L.T. 2. E-01		04/25		4
						I-131	L.T. 7. E-01		04/25		4
						CS-134	L.T. 2. E-02		04/25		4
						CS-137	4.19+-1.60E-02		04/25		4
						BA-140	L.T. 2. E-01		04/25		4
						CE-141	L.T. 8. E-02		04/25		4
						CE-144	L.T. 2. E-01		04/25		4
						RA-226	7.34+-4.21E-01		04/25		4
						TH-228	L.T. 5. E-02		04/25		4
44645	10561	BG-12-004-ST		03/14 1225		H-3	L.T. 1. E 02	PCI/LITER *	05/22		5
44646	10562	BG-12-004-SS		03/14 1225		SR-90	L.T. 9. E-02		04/16		3
44647	10521	BG-11-075-SG		03/14 1205		BE-7	L.T. 5. E-01		04/25		4
						K-40	4.03+-0.59E 00		04/25		4
						MN-54	L.T. 4. E-02		04/25		4
						CO-58	L.T. 5. E-02		04/25		4
						FE-59	L.T. 2. E-01		04/25		4
						CO-60	L.T. 4. E-02		04/25		4
						ZN-65	L.T. 9. E-02		04/25		4
						ZR-95	L.T. 7. E-02		04/25		4
						RU-103	L.T. 8. E-02		04/25		4
						RU-106	L.T. 4. E-01		04/25		4
						I-131	L.T. 1. E 00		04/25		4
						CS-134	L.T. 5. E-02		04/25		4
						CS-137	1.13+-0.43E-01		04/25		4
						BA-140	L.T. 4. E-01		04/25		4
						CE-141	L.T. 2. E-01		04/25		4
						CE-144	L.T. 4. E-01		04/25		4
						RA-226	L.T. 1. E 00		04/25		4
						TH-228	1.53+-0.56E-01		04/25		4

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TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE	START TIME	STOP DATE	STOP TIME	NUCLIDE	ACTIVITY (PCI/LITER)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE	MID-COUNT TIME TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
44648	10523 BG-11-036-ST		03/14	1215			H-3	L.T. 1. E 02		05/22			5
44649	10524 BG-11-036-SS		03/14	1215			SR-90	L.T. 1. E-01	PCI/GM DRY *	04/18			3
44650	10525 BG-11-036-SP		03/14	1215			PU-238	L.T. 8. E-03	PCI/GM DRY *	04/20			6
							U-234	5.7 +-2.0 E-02	PCI/GM DRY *	04/26			6
							TH-230	3.9 +-2.2 E-02	PCI/GM DRY *	05/04			6
							PU-239	L.T. 8. E-03	PCI/GM DRY *	04/20			6
							U-235	L.T. 7. E-03	PCI/GM DRY *	04/26			6
							U-238	6.7 +-2.2 E-02	PCI/GM DRY *	04/26			6
							TH-232	L.T. 3. E-02	PCI/GM DRY *	05/04			6
							TH-228	L.T. 4. E-02	PCI/GM DRY *	05/04			6
44651	10527 BG-11-036-SG		03/14	1215			BE-7	L.T. 5. E-01	PCI/GM DRY *	04/25			4
							K-40	3.10+-0.44E 00	PCI/GM DRY *	04/25			4
							MN-54	L.T. 4. E-02	PCI/GM DRY *	04/25			4
							CO-58	L.T. 5. E-02	PCI/GM DRY *	04/25			4
							FE-59	L.T. 1. E-01	PCI/GM DRY *	04/25			4
							CO-60	L.T. 3. E-02	PCI/GM DRY *	04/25			4
							ZN-65	L.T. 9. E-02	PCI/GM DRY *	04/25			4
							ZR-95	L.T. 6. E-02	PCI/GM DRY *	04/25			4
							RU-103	L.T. 6. E-02	PCI/GM DRY *	04/25			4
							RU-106	L.T. 3. E-01	PCI/GM DRY *	04/25			4
							I-131	L.T. 1. E 00	PCI/GM DRY *	04/25			4
							CS-134	L.T. 4. E-02	PCI/GM DRY *	04/25			4
							CS-137	6.67+-3.38E-02	PCI/GM DRY *	04/25			4
							BA-140	L.T. 3. E-01	PCI/GM DRY *	04/25			4
							CE-141	L.T. 1. E-01	PCI/GM DRY *	04/25			4
							CE-144	L.T. 2. E-01	PCI/GM DRY *	04/25			4
							RA-226	L.T. 6. E-01	PCI/GM DRY *	04/25			4
							TH-228	1.00+-0.53E-01	PCI/GM DRY *	04/25			4

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ANN MARIE HOLBROW
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IRVINE CA 92714

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TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE	START TIME	STOP DATE	STOP TIME	NUCLIDE	ACTIVITY (PCI/LITER)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE	TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
44652 11038	BG-00-007-FT		03/14	1215			H-3	L.T. 1. E 02		05/22			5
44653 10529	BG-11-011-ST		03/14	1230			H-3	L.T. 1. E 02		05/22			5
44654 10530	BG-11-011-SS		03/14	1230			SR-90	L.T. 1. E-01	PCI/GM DRY *	04/18			3
44655 10531	BG-11-011-SP		03/14	1230			PU-238	L.T. 6. E-03	PCI/GM DRY *	04/20			6
							U-234	5.1 +-1.8 E-02	PCI/GM DRY *	04/26			6
							TH-230	3.1 +-2.2 E-02	PCI/GM DRY *	05/04			6
							PU-239	L.T. 6. E-03	PCI/GM DRY *	04/20			6
							U-235	L.T. 6. E-03	PCI/GM DRY *	04/26			6
							U-238	5.3 +-1.8 E-02	PCI/GM DRY *	04/26			6
							TH-232	2.6 +-2.3 E-02	PCI/GM DRY *	05/04			6
							TH-228	L.T. 8. E-02	PCI/GM DRY *	05/04			6
44656 10533	BG-11-011-SG		03/14	1230			BE-7	L.T. 4. E-01	PCI/GM DRY *	04/25			4
							K-40	2.85+-0.35E 00	PCI/GM DRY *	04/25			4
							MN-54	L.T. 3. E-02	PCI/GM DRY *	04/25			4
							CO-58	L.T. 3. E-02	PCI/GM DRY *	04/25			4
							FE-59	L.T. 8. E-02	PCI/GM DRY *	04/25			4
							CO-60	L.T. 3. E-02	PCI/GM DRY *	04/25			4
							ZN-65	L.T. 6. E-02	PCI/GM DRY *	04/25			4
							ZR-95	L.T. 4. E-02	PCI/GM DRY *	04/25			4
							RU-103	L.T. 5. E-02	PCI/GM DRY *	04/25			4
							RU-106	L.T. 2. E-01	PCI/GM DRY *	04/25			4
							I-131	L.T. 9. E-01	PCI/GM DRY *	04/25			4
							CS-134	L.T. 3. E-02	PCI/GM DRY *	04/25			4
							CS-137	1.09+-0.29E-01	PCI/GM DRY *	04/25			4
							BA-140	L.T. 2. E-01	PCI/GM DRY *	04/25			4
							CE-141	L.T. 8. E-02	PCI/GM DRY *	04/25			4
							CE-144	L.T. 2. E-01	PCI/GM DRY *	04/25			4
							RA-226	L.T. 5. E-01	PCI/GM DRY *	04/25			4
							TH-228	9.04+-2.40E-02	PCI/GM DRY *	04/25			4

TELEDYNE BROWN ENGINEERING ENVIRONMENTAL SERVICES

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WORK ORDER NUMBER	CUSTOMER P.O. NUMBER	DATE RECEIVED	DELIVERY DATE
4-0514	030225/030600829	03/15/94	04/17/94

ANN MARIE HOLBROW
MCLAREN/HART
16755 VON KARMAN AVE
IRVINE CA 92714

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TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION		STA NUM	COLLECTION-DATE START DATE TIME	STOP DATE TIME	NUCLIDE	ACTIVITY (PCI/LITER)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
44657	10534	BG-11-031-ST		03/14 1250		H-3	L.T. 1. E 03		05/25		5
44658	10535	BG-11-031-SS		03/14 1250		SR-90	L.T. 9. E-02	PCI/GM DRY *	04/16		3
44659	10536	BG-11-031-SP		03/14 1250		PU-238	L.T. 7. E-03	PCI/GM DRY *	04/20		6
						U-234	2.7 +-1.7 E-02	PCI/GM DRY *	04/26		6
						TH-230	2.9 +-1.7 E-02	PCI/GM DRY *	05/06		6
						PU-239	L.T. 9. E-03	PCI/GM DRY *	04/20		6
						U-235	L.T. 9. E-03	PCI/GM DRY *	04/26		6
						U-238	5.8 +-2.3 E-02	PCI/GM DRY *	04/26		6
						TH-232	2.7 +-1.6 E-02	PCI/GM DRY *	05/06		6
						TH-228	L.T. 7. E-02	PCI/GM DRY *	05/06		6
44660	10536DUP	BG-11-031-SP		03/14 1250		PU-238	L.T. 3. E-02	PCI/GM DRY *	04/20		6
						U-234	3.6 +-1.7 E-02	PCI/GM DRY *	04/26		6
						TH-230	3.7 +-1.7 E-02	PCI/GM DRY *	05/06		6
						PU-239	L.T. 3. E-02	PCI/GM DRY *	04/20		6
						U-235	L.T. 8. E-03	PCI/GM DRY *	04/26		6
						U-238	4.5 +-1.9 E-02	PCI/GM DRY *	04/26		6
						TH-232	2.7 +-1.5 E-02	PCI/GM DRY *	05/06		6
						TH-228	L.T. 5. E-02	PCI/GM DRY *	05/06		6
44661	10539	BG-11-031-SG		03/14 1250		BE-7	L.T. 4. E-01	PCI/GM DRY *	04/25		4
						K-40	2.64+-0.34E 00	PCI/GM DRY *	04/25		4
						MN-54	L.T. 3. E-02	PCI/GM DRY *	04/25		4
						CO-58	L.T. 4. E-02	PCI/GM DRY *	04/25		4
						FE-59	L.T. 1. E-01	PCI/GM DRY *	04/25		4
						CO-60	L.T. 3. E-02	PCI/GM DRY *	04/25		4
						ZN-65	L.T. 7. E-02	PCI/GM DRY *	04/25		4
						ZR-95	L.T. 4. E-02	PCI/GM DRY *	04/25		4
						RU-103	L.T. 6. E-02	PCI/GM DRY *	04/25		4
						RU-106	L.T. 3. E-01	PCI/GM DRY *	04/25		4
						I-131	L.T. 1. E 00	PCI/GM DRY *	04/25		4

TELEDYNE BROWN ENGINEERING ENVIRONMENTAL SERVICES

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TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION		STA NUM	COLLECTION-DATE START DATE TIME	STOP DATE TIME	NUCLIDE	ACTIVITY (PCI/GM DRY)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
44661	10538	BG-11-031-SG		03/14 1250		CS-134	L.T. 3. E-02		04/25		4
						CS-137	5.87+-2.34E-02		04/25		4
						BA-140	L.T. 3. E-01		04/25		4
						CE-141	L.T. 1. E-01		04/25		4
						CE-144	L.T. 2. E-01		04/25		4
						RA-226	L.T. 6. E-01		04/25		4
						TH-228	1.81+-0.45E-01		04/25		4
44662	10539	BG-11-031-MT		03/14 1250		H-3	L.T. 7. E 02	PCI/LITER *	05/25		5
44663	10539MS	BG-11-031-MT		03/14 1250		H-3	7.9 +-0.6 E 03	PCI/LITER *	05/22		5
44664	10539MSD	BG-11-031-MT		03/14 1250		H-3	8.4 +-0.6 E 03	PCI/LITER *	05/22		5
44665	10545	BG-12-001-ST		03/14 1200		H-3	7.2 +-3.4 E 02	PCI/LITER *	05/22		5
44666	10546	BG-12-001-SS		03/14 1200		SR-90	L.T. 8. E-02		04/16		3
44667	10547	BG-12-001-SP		03/14 1200		PU-238	L.T. 6. E-03		04/22		6
						U-234	8.9 +-7.8 E-03		04/26		6
						TH-230	2.2 +-1.7 E-02		05/06		6
						PU-238	L.T. 6. E-03		04/22		6
						U-235	L.T. 6. E-03		04/26		6
						U-238	3.3 +-1.4 E-02		04/26		6
						TH-232	2.4 +-1.5 E-02		05/06		6
						TH-228	L.T. 4. E-02		05/06		6
44668	10549	BG-12-001-SG		03/14 1200		BE-7	L.T. 3. E-01		04/25		4
						K-40	1.72+-0.26E 00		04/25		4
						MN-54	L.T. 3. E-02		04/25		4
						CO-58	L.T. 3. E-02		04/25		4
						FE-59	L.T. 9. E-02		04/25		4
						CO-60	L.T. 2. E-02		04/25		4

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IRVINE CA 92714

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TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE TIME	COLLECTION-DATE STOP DATE TIME	NUCLIDE	ACTIVITY (PCI/GM DRY)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
44685	10497 BG-10-005-SP		03/14 0925		U-238	9.2 +-2.7 E-02		05/02		6
					TH-232	1.5 +-0.4 E-01		05/06		6
					TH-228	1.2 +-0.5 E-01		05/06		6
44686	10499 BG-10-005-SG		03/14 0925		BE-7	L.T. 6. E-01		04/26		4
					K-40	1.20+-0.12E 01		04/26		4
					MN-54	L.T. 5. E-02		04/26		4
					CO-58	L.T. 6. E-02		04/26		4
					FE-59	L.T. 2. E-01		04/26		4
					CO-60	L.T. 4. E-02		04/26		4
					ZN-65	L.T. 1. E-01		04/26		4
					ZR-95	L.T. 7. E-02		04/26		4
					RU-103	L.T. 9. E-02		04/26		4
					RU-106	L.T. 4. E-01		04/26		4
					I-131	L.T. 2. E 00		04/26		4
					CS-134	L.T. 5. E-02		04/26		4
					CS-137	4.56+-0.52E-01		04/26		4
					BA-140	L.T. 4. E-01		04/26		4
					CE-141	L.T. 1. E-01		04/26		4
					CE-144	L.T. 3. E-01		04/26		4
					RA-226	1.31+-0.60E 00		04/26		4
					TH-228	4.31+-0.49E-01		04/26		4
44687	10511 BG-11-010-ST		03/14 1310		H-3	L.T. 2. E 02	PCI/LITER *	05/23		5
44688	10512 BG-11-010-SS		03/14 1310		SR-90	8.9 +-4.1 E-02		04/16		3
44689	10513 BG-11-010-SP		03/14 1310		PU-238	L.T. 1. E-02		05/06		6
					U-234	3.3 +-1.8 E-02		05/02		6
					TH-230	3.3 +-2.0 E-02		05/06		6
					PU-239	L.T. 1. E-02		05/06		6
					U-235	L.T. 1. E-02		05/02		6
					U-238	2.2 +-1.5 E-02		05/02		6

TELEDYNE BROWN ENGINEERING ENVIRONMENTAL SERVICES

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TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION		STA NUM	COLLECTION-DATE START DATE TIME	STOP DATE TIME	NUCLIDE	ACTIVITY (PCI/GM DRY)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
44689	10513	BG-11-010-SP		03/14 1310		TH-232	6.4 +-2.5 E-02		05/06		6
						TH-228	5.0 +-3.1 E-02		05/06		6
44690	10515	BG-11-010-SG		03/14 1310		BE-7	L.T. 4. E-01		04/26		4
						K-40	3.12+-0.49E 00		04/26		4
						MN-54	L.T. 3. E-02		04/26		4
						CO-58	L.T. 4. E-02		04/26		4
						FE-59	L.T. 1. E-01		04/26		4
						CO-60	L.T. 3. E-02		04/26		4
						ZN-65	L.T. 7. E-02		04/26		4
						ZR-95	L.T. 5. E-02		04/26		4
						RU-103	L.T. 6. E-02		04/26		4
						RU-106	L.T. 3. E-01		04/26		4
						I-131	L.T. 1. E 00		04/26		4
						CS-134	L.T. 3. E-02		04/26		4
						CS-137	1.58+-0.35E-01		04/26		4
						BA-140	L.T. 2. E-01		04/26		4
						CE-141	L.T. 1. E-01		04/26		4
						CE-144	L.T. 2. E-01		04/26		4
						RA-226	L.T. 7. E-01		04/26		4
						TH-228	1.24+-0.39E-01		04/26		4
44691	10516	BG-11-010-MS		03/14 1310		SR-90	9.9 +-5.8 E-02		04/20		3
44692	10516MS	BG-11-010-MS		/		SR-90	3.9 +-0.2 E 00		04/20		3
44693	10516MSD	BG-11-010-MS		/		SR-90	4.1 +-0.2 E 00		04/20		3
44694	10517	BG-11-075-ST		03/14 1205		H-3	L.T. 2. E 02	PCI/LITER *	05/23		5

TELEDYNE BROWN ENGINEERING ENVIRONMENTAL SERVICES

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4-0514	030225/030600829	03/15/94	04/17/94

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TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE TIME	STOP DATE TIME	NUCLIDE	ACTIVITY (PCI/GM DRY)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
44695	10518 BG-11-075-SS		03/14 1205		SR-90	L.T. 9. E-02		04/16		3
44696	10519 BG-11-075-SP		03/14 1205		PU-238	L.T. 6. E-03		05/02		6
					U-234	3.8 +-1.7 E-02		05/02		6
					TH-230	5.0 +-2.4 E-02		05/07		6
					PU-239	L.T. 9. E-03		05/02		6
					U-235	L.T. 7. E-03		05/02		6
					U-238	4.1 +-1.8 E-02		05/02		6
					TH-232	5.0 +-2.5 E-02		05/07		6
					TH-228	L.T. 6. E-02		05/07		6
44701	10454 BG-09-013-SG		03/11 1420		BE-7	L.T. 1. E 00		04/26		4
					K-40	7.74+-1.02E 00		04/26		4
					MN-54	L.T. 8. E-02		04/26		4
					CO-58	L.T. 1. E-01		04/26		4
					FE-59	L.T. 3. E-01		04/26		4
					CO-60	L.T. 7. E-02		04/26		4
					ZN-65	L.T. 2. E-01		04/26		4
					ZR-95	L.T. 1. E-01		04/26		4
					RU-103	L.T. 2. E-01		04/26		4
					RU-106	L.T. 8. E-01		04/26		4
					I-131	L.T. 4. E 00		04/26		4
					CS-134	L.T. 9. E-02		04/26		4
					CS-137	1.98+-0.72E-01		04/26		4
					BA-140	L.T. 9. E-01		04/26		4
					CE-141	L.T. 3. E-01		04/26		4
					CE-144	L.T. 5. E-01		04/26		4
					RA-226	L.T. 2. E 00		04/26		4
					TH-228	6.10+-1.24E-01		04/26		4

TAPIA COUNTY
PARK RAVINE (BG12)

TELEDYNE BROWN ENGINEERING ENVIRONMENTAL SERVICES

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44676	10566MSD BG-12-004-MG		/		RU-106	L.T. 3. E-01		05/13		4
					I-131	L.T. 5. E 00		05/13		4
					CS-134	L.T. 3. E-02		05/13		4
					CS-137	9.49+-0.95E-01		05/13		4
					BA-140	L.T. 7. E-01		05/13		4
					CE-141	L.T. 1. E-01		05/13		4
					CE-144	L.T. 2. E-01		05/13		4
					RA-226	L.T. 5. E-01		05/13		4
					TH-228	1.21+-0.45E-01		05/13		4
44677	10567 BG-12-005-ST		03/14 1245		H-3	1.2 +-0.6 E 03	PCI/LITER *	05/22		5
44678	10568 BG-12-005-SS		03/14 1245		SR-90	L.T. 5. E-02		04/16		3
44679	10569 BG-12-005-SP		03/14 1245		PU-238	L.T. 7. E-03		05/02		6
					U-234	L.T. 2. E-02		05/02		6
					TH-230	3.6 +-2.1 E-02		05/06		6
					PU-239	L.T. 7. E-03		05/02		6
					U-235	L.T. 8. E-03		05/02		6
					U-238	2.3 +-1.5 E-02		05/02		6
					TH-232	2.4 +-1.8 E-02		05/06		6
					TH-228	L.T. 6. E-02		05/06		6
44680	10571 BG-12-005-SG		03/14 1245		BE-7	L.T. 3. E-01		04/26		4
					K-40	1.69+-0.26E 00		04/26		4
					MN-54	L.T. 2. E-02		04/26		4
					CO-58	L.T. 3. E-02		04/26		4
					FE-59	L.T. 8. E-02		04/26		4
					CO-60	L.T. 2. E-02		04/26		4
					ZN-65	L.T. 5. E-02		04/26		4
					ZR-95	L.T. 3. E-02		04/26		4
					RU-103	L.T. 5. E-02		04/26		4
					RU-106	L.T. 2. E-01		04/26		4

TELEDYNE BROWN ENGINEERING ENVIRONMENTAL SERVICES

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44680	10571	BG-12-005-SG		03/14 1245		I-131	L.T. 9. E-01		04/26		4
						CS-134	L.T. 3. E-02		04/26		4
						CS-137	L.T. 3. E-02		04/26		4
						BA-140	L.T. 2. E-01		04/26		4
						CE-141	L.T. 8. E-02		04/26		4
						CE-144	L.T. 2. E-01		04/26		4
						RA-226	L.T. 4. E-01		04/26		4
						TH-228	L.T. 4. E-02		04/26		4
44681	10571DUP	BG-12-005-SG		03/14 1245		BE-7	L.T. 3. E-01		04/27		4
						K-40	1.31+-0.22E 00		04/27		4
						MN-54	L.T. 2. E-02		04/27		4
						CO-58	L.T. 3. E-02		04/27		4
						FE-59	L.T. 7. E-02		04/27		4
						CO-60	L.T. 2. E-02		04/27		4
						ZN-65	L.T. 5. E-02		04/27		4
						ZR-95	L.T. 3. E-02		04/27		4
						RU-103	L.T. 4. E-02		04/27		4
						RU-106	L.T. 2. E-01		04/27		4
						I-131	L.T. 8. E-01		04/27		4
						CS-134	L.T. 2. E-02		04/27		4
						CS-137	L.T. 2. E-02		04/27		4
						BA-140	L.T. 2. E-01		04/27		4
						CE-141	L.T. 6. E-02		04/27		4
						CE-144	L.T. 1. E-01		04/27		4
						RA-226	L.T. 3. E-01		04/27		4
						TH-228	L.T. 3. E-02		04/27		4
44685	10497	BG-10-005-SP		03/14 0925		PU-238	L.T. 1. E-02		05/02		6
						U-234	1.3 +-0.3 E-01		05/02		6
						TH-230	1.6 +-0.5 E-01		05/06		6
						PU-239	L.T. 1. E-02		05/02		6
						U-235	L.T. 7. E-03		05/02		6

TELEDYNE BROWN ENGINEERING ENVIRONMENTAL SERVICES

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ANN MARIE HOLBROW
MCLAREN/HART
16755 VON KARMAN AVE
IRVINE CA 92714

S O I L

TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION		STA NUM	COLLECTION-DATE START DATE	START TIME	STOP DATE	STOP TIME	NUCLIDE	ACTIVITY (PCI/LITER)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE	TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
44634	10495	BG-10-005-ST		03/14	0925			H-3	L.T. 1. E 02		05/22			5
44635	10496	BG-10-005-SS		03/14	0925			SR-90	L.T. 9. E-02	PCI/GM DRY *	04/16			3
44636	10551	BG-12-002-ST		03/14	1150			H-3	L.T. 1. E 02		05/22			5
44637	10552	BG-12-002-SS		03/14	1150			SR-90	L.T. 9. E-02	PCI/GM DRY *	04/18			3
44638	10553	BG-12-002-SP		03/14	1150			PU-238	L.T. 2. E-02	PCI/GM DRY *	04/20			6
								U-234	3.5 +-1.5 E-02	PCI/GM DRY *	04/26			6
								TH-230	2.7 +-1.4 E-02	PCI/GM DRY *	05/04			6
								PU-239	L.T. 2. E-02	PCI/GM DRY *	04/20			6
								U-235	L.T. 6. E-03	PCI/GM DRY *	04/26			6
								U-238	2.5 +-1.3 E-02	PCI/GM DRY *	04/26			6
								TH-232	2.3 +-1.3 E-02	PCI/GM DRY *	05/04			6
								TH-228	L.T. 3. E-02	PCI/GM DRY *	05/04			6
44639	10553DUP	BG-12-002-SP		03/14	1150			PU-238	L.T. 8. E-03	PCI/GM DRY *	04/20			6
								U-234	1.5 +-1.1 E-02	PCI/GM DRY *	04/26			6
								TH-230	2.9 +-1.4 E-02	PCI/GM DRY *	05/06			6
								PU-239	L.T. 8. E-03	PCI/GM DRY *	04/20			6
								U-235	L.T. 7. E-03	PCI/GM DRY *	04/26			6
								U-238	2.0 +-1.3 E-02	PCI/GM DRY *	04/26			6
								TH-232	2.8 +-1.4 E-02	PCI/GM DRY *	05/06			6
								TH-228	L.T. 4. E-02	PCI/GM DRY *	05/06			6
44640	10555	BG-12-002-SG		03/14	1150			BE-7	L.T. 3. E-01	PCI/GM DRY *	04/25			4
								K-40	1.72+-0.29E 00	PCI/GM DRY *	04/25			4
								MN-54	L.T. 2. E-02	PCI/GM DRY *	04/25			4
								CO-58	L.T. 3. E-02	PCI/GM DRY *	04/25			4
								FE-59	L.T. 7. E-02	PCI/GM DRY *	04/25			4
								CO-60	L.T. 2. E-02	PCI/GM DRY *	04/25			4
								ZN-65	L.T. 5. E-02	PCI/GM DRY *	04/25			4

TELEDYNE BROWN ENGINEERING ENVIRONMENTAL SERVICES

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ANN MARIE HOLBROW
MCLAREN/HART
16755 VON KARMAN AVE
IRVINE CA 92714

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TELEDYNE SAMPLE NUMBER		CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE TIME	STOP DATE TIME	NUCLIDE	ACTIVITY (PCI/GM DRY)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
44640	10555	BG-12-002-SG		03/14 1150		ZR-95	L.T. 3. E-02		04/25		4
						RU-103	L.T. 4. E-02		04/25		4
						RU-106	L.T. 2. E-01		04/25		4
						I-131	L.T. 7. E-01		04/25		4
						CS-134	L.T. 2. E-02		04/25		4
						CS-137	3.13+-1.80E-02		04/25		4
						BA-140	L.T. 2. E-01		04/25		4
						CE-141	L.T. 8. E-02		04/25		4
						CE-144	L.T. 2. E-01		04/25		4
						RA-226	L.T. 4. E-01		04/25		4
						TH-228	L.T. 4. E-02		04/25		4
44641	10556	BG-12-003-ST		03/14 1210		H-3	L.T. 1. E 02	PCI/LITER *	05/22		5
44642	10557	BG-12-003-SS		03/14 1210		SR-90	L.T. 9. E-02		04/18		3
44643	10558	BG-12-003-SP		03/14 1210		PU-238	L.T. 7. E-03		04/20		6
						U-234	1.9 +-1.1 E-02		04/26		6
						TH-230	3.2 +-1.6 E-02		05/06		6
						PU-239	L.T. 7. E-03		04/20		6
						U-235	L.T. 6. E-03		04/26		6
						U-238	2.2 +-1.2 E-02		04/26		6
						TH-232	4.2 +-2.0 E-02		05/06		6
						TH-228	L.T. 3. E-02		05/06		6
44644	10560	BG-12-003-SG		03/14 1210		BE-7	L.T. 3. E-01		04/25		4
						K-40	1.62+-0.32E 00		04/25		4
						MN-54	L.T. 2. E-02		04/25		4
						CO-58	L.T. 2. E-02		04/25		4
						FE-59	L.T. 8. E-02		04/25		4
						CO-60	L.T. 2. E-02		04/25		4
						ZN-65	L.T. 5. E-02		04/25		4
						ZR-95	L.T. 3. E-02		04/25		4

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ANN MARIE HOLBROW
MCLAREN/HART
16755 VON KARMAN AVE
IRVINE CA 92714

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TELEDYNE SAMPLE NUMBER		CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE	START TIME	STOP DATE	STOP TIME	NUCLIDE	ACTIVITY (PCI/GM DRY)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE	MID-COUNT TIME TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
44644	10560	BG-12-003-SG		03/14	1210			RU-103	L.T. 4. E-02		04/25			4
								RU-106	L.T. 2. E-01		04/25			4
								I-131	L.T. 7. E-01		04/25			4
								CS-134	L.T. 2. E-02		04/25			4
								CS-137	4.19+-1.60E-02		04/25			4
								BA-140	L.T. 2. E-01		04/25			4
								CE-141	L.T. 8. E-02		04/25			4
								CE-144	L.T. 2. E-01		04/25			4
								RA-226	7.34+-4.21E-01		04/25			4
								TH-228	L.T. 5. E-02		04/25			4
44645	10561	BG-12-004-ST		03/14	1225			H-3	L.T. 1. E 02	PCI/LITER *	05/22			5
44646	10562	BG-12-004-SS		03/14	1225			SR-90	L.T. 9. E-02		04/16			3
44647	10521	BG-11-075-SG		03/14	1205			BE-7	L.T. 5. E-01		04/25			4
								K-40	4.03+-0.59E 00		04/25			4
								MN-54	L.T. 4. E-02		04/25			4
								CO-58	L.T. 5. E-02		04/25			4
								FE-59	L.T. 2. E-01		04/25			4
								CO-60	L.T. 4. E-02		04/25			4
								ZN-65	L.T. 9. E-02		04/25			4
								ZR-95	L.T. 7. E-02		04/25			4
								RU-103	L.T. 8. E-02		04/25			4
								RU-106	L.T. 4. E-01		04/25			4
								I-131	L.T. 1. E 00		04/25			4
								CS-134	L.T. 5. E-02		04/25			4
								CS-137	1.13+-0.43E-01		04/25			4
								BA-140	L.T. 4. E-01		04/25			4
								CE-141	L.T. 2. E-01		04/25			4
								CE-144	L.T. 4. E-01		04/25			4
								RA-226	L.T. 1. E 00		04/25			4
								TH-228	1.53+-0.56E-01		04/25			4

TELEDYNE BROWN ENGINEERING ENVIRONMENTAL SERVICES

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MCLAREN/HART
16755 VON KARMAN AVE
IRVINE CA 92714

S O I L

TELEDYNE SAMPLE NUMBER		CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE	TIME	STOP DATE	TIME	NUCLIDE	ACTIVITY (PCI/GM DRY)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE	TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
44661	10538	BG-11-031-SG		03/14	1250			CS-134	L.T. 3. E-02		04/25			4
								CS-137	5.87+-2.34E-02		04/25			4
								BA-140	L.T. 3. E-01		04/25			4
								CE-141	L.T. 1. E-01		04/25			4
								CE-144	L.T. 2. E-01		04/25			4
								RA-226	L.T. 6. E-01		04/25			4
								TH-228	1.81+-0.45E-01		04/25			4
44662	10539	BG-11-031-MT		03/14	1250			H-3	L.T. 7. E 02	PCI/LITER *	05/25			5
44663	10539MS	BG-11-031-MT		03/14	1250			H-3	7.9 +-0.6 E 03	PCI/LITER *	05/22			5
44664	10539MSD	BG-11-031-MT		03/14	1250			H-3	8.4 +-0.6 E 03	PCI/LITER *	05/22			5
44665	10545	BG-12-001-ST		03/14	1200			H-3	7.2 +-3.4 E 02	PCI/LITER *	05/22			5
44666	10546	BG-12-001-SS		03/14	1200			SR-90	L.T. 8. E-02		04/16			3
44667	10547	BG-12-001-SP		03/14	1200			PU-238	L.T. 6. E-03		04/22			6
								U-234	8.9 +-7.8 E-03		04/26			6
								TH-230	2.2 +-1.7 E-02		05/06			6
								PU-238	L.T. 6. E-03		04/22			6
								U-235	L.T. 6. E-03		04/26			6
								U-238	3.3 +-1.4 E-02		04/26			6
								TH-232	2.4 +-1.5 E-02		05/06			6
								TH-228	L.T. 4. E-02		05/06			6
44668	10549	BG-12-001-SG		03/14	1200			BE-7	L.T. 3. E-01		04/25			4
								K-40	1.72+-0.26E 00		04/25			4
								MN-54	L.T. 3. E-02		04/25			4
								CO-58	L.T. 3. E-02		04/25			4
								FE-59	L.T. 9. E-02		04/25			4
								CO-60	L.T. 2. E-02		04/25			4

TELEDYNE BROWN ENGINEERING ENVIRONMENTAL SERVICES

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ANN MARIE HOLBROW
MCLAREN/HART
16755 VON KARMAN AVE
IRVINE CA 92714

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TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION		STA NUM	COLLECTION-DATE START DATE TIME	STOP DATE TIME	NUCLIDE	ACTIVITY (PCI/GM DRY)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
44668	10549	BG-12-001-SG		03/14 1200		ZN-65	L.T. 6. E-02		04/25		4
						ZR-95	L.T. 4. E-02		04/25		4
						RU-103	L.T. 5. E-02		04/25		4
						RU-106	L.T. 2. E-01		04/25		4
						I-131	L.T. 9. E-01		04/25		4
						CS-134	L.T. 3. E-02		04/25		4
						CS-137	L.T. 3. E-02		04/25		4
						BA-140	L.T. 2. E-01		04/25		4
						CE-141	L.T. 7. E-02		04/25		4
						CE-144	L.T. 2. E-01		04/25		4
						RA-226	L.T. 4. E-01		04/25		4
						TH-228	L.T. 5. E-02		04/25		4
44669	10550	BG-12-001-MP		03/14 1200		PU-238	L.T. 6. E-03		04/22		6
						PU-239	L.T. 6. E-03		04/22		6
44670	10550MS	BG-12-001-MP		/		PU-239	3.2 +-0.4 E-01		04/22		6
44671	10550MSD	BG-12-001-MP		/		PU-239	2.9 +-0.5 E-01		04/22		6
44672	10563	BG-12-004-SP		03/14 1225		PU-238	L.T. 8. E-03		04/23		6
						U-234	4.9 +-1.7 E-02		04/26		6
						TH-230	8.2 +-3.0 E-02		05/03		6
						PU-239	L.T. 1. E-02		04/23		6
						U-235	L.T. 6. E-03		04/26		6
						U-238	5.8 +-1.9 E-02		04/26		6
						TH-232	6.3 +-2.7 E-02		05/03		6
						TH-228	8.0 +-4.1 E-02		05/03		6

TELEDYNE BROWN ENGINEERING ENVIRONMENTAL SERVICES

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ANN MARIE HOLBROW
MCLAREN/HART
16755 VON KARMAN AVE
IRVINE CA 92714

S O I L

TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE TIME	STOP DATE TIME	NUCLIDE	ACTIVITY (PCI/GM DRY)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
44673 10565	BG-12-004-SG		03/14 1225		BE-7	L.T. 3. E-01		04/26		4
					K-40	1.79+-0.32E 00		04/26		4
					MN-54	L.T. 2. E-02		04/26		4
					CO-58	L.T. 3. E-02		04/26		4
					FE-59	L.T. 9. E-02		04/26		4
					CO-60	L.T. 2. E-02		04/26		4
					ZN-65	L.T. 5. E-02		04/26		4
					ZR-95	L.T. 4. E-02		04/26		4
					RU-103	L.T. 5. E-02		04/26		4
					RU-106	L.T. 2. E-01		04/26		4
					I-131	L.T. 1. E 00		04/26		4
					CS-134	L.T. 2. E-02		04/26		4
					CS-137	9.71+-2.02E-02		04/26		4
					BA-140	L.T. 2. E-01		04/26		4
					CE-141	L.T. 8. E-02		04/26		4
					CE-144	L.T. 2. E-01		04/26		4
					RA-226	L.T. 5. E-01		04/26		4
					TH-228	1.16+-0.29E-01		04/26		4
44674 10566	BG-12-004-MG		03/14 1225		BE-7	L.T. 4. E-01		04/26		4
					K-40	1.91+-0.29E 00		04/26		4
					MN-54	L.T. 3. E-02		04/26		4
					CO-58	L.T. 3. E-02		04/26		4
					FE-59	L.T. 9. E-02		04/26		4
					CO-60	L.T. 3. E-02		04/26		4
					ZN-65	L.T. 5. E-02		04/26		4
					ZR-95	L.T. 3. E-02		04/26		4
					RU-103	L.T. 5. E-02		04/26		4
					RU-106	L.T. 2. E-01		04/26		4
					I-131	L.T. 1. E 00		04/26		4
					CS-134	L.T. 3. E-02		04/26		4
					CS-137	7.41+-2.32E-02		04/26		4
					BA-140	L.T. 2. E-01		04/26		4

ROCKY PEAK
RAVINE (BG14)

TELEDYNE BROWN ENGINEERING ENVIRONMENTAL SERVICES

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S O I L

TELEDYNE SAMPLE NUMBER		CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE TIME	STOP DATE TIME	NUCLIDE	ACTIVITY (PCI/LITER)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
45051	10608	BG-01-082-ST		03/15 0920		H-3	L.T. 2. E 02		05/26		5
45052	10609	BG-01-082-SS		03/15 0920		SR-90	L.T. 8. E-02	PCI/GM DRY *	04/28		3
45053	10637	BG-14-004-SG		03/15 1031		BE-7	L.T. 4. E-01	PCI/GM DRY *	04/26		4
						K-40	2.10+-0.21E 01	PCI/GM DRY *	04/26		4
						MN-54	L.T. 3. E-02	PCI/GM DRY *	04/26		4
						CO-58	L.T. 3. E-02	PCI/GM DRY *	04/26		4
						FE-59	L.T. 1. E-01	PCI/GM DRY *	04/26		4
						CO-60	L.T. 3. E-02	PCI/GM DRY *	04/26		4
						ZN-65	L.T. 8. E-02	PCI/GM DRY *	04/26		4
						ZR-95	L.T. 5. E-02	PCI/GM DRY *	04/26		4
						RU-103	L.T. 5. E-02	PCI/GM DRY *	04/26		4
						RU-106	L.T. 3. E-01	PCI/GM DRY *	04/26		4
						I-131	L.T. 9. E-01	PCI/GM DRY *	04/26		4
						CS-134	L.T. 3. E-02	PCI/GM DRY *	04/26		4
						CS-137	L.T. 3. E-02	PCI/GM DRY *	04/26		4
						BA-140	L.T. 2. E-01	PCI/GM DRY *	04/26		4
						CE-141	L.T. 9. E-02	PCI/GM DRY *	04/26		4
						CE-144	L.T. 2. E-01	PCI/GM DRY *	04/26		4
						RA-226	1.36+-0.40E 00	PCI/GM DRY *	04/26		4
						TH-228	9.72+-0.97E-01	PCI/GM DRY *	04/26		4
45054	10639	BG-14-005-ST		03/15 1026		H-3	3.7 +-2.2 E 02		05/26		5
45055	10640	BG-14-005-SS		03/15 1026		SR-90	L.T. 5. E-02	PCI/GM DRY *	04/28		3
45056	10641	BG-14-005-SP		03/15 1026		PU-238	L.T. 8. E-03	PCI/GM DRY *	05/09		6
						U-234	1.4 +-0.3 E-01	PCI/GM DRY *	05/12		6
						TH-230	2.0 +-0.5 E-01	PCI/GM DRY *	05/18		6
						PU-239	L.T. 8. E-03	PCI/GM DRY *	05/09		6
						U-235	7.4 +-7.2 E-03	PCI/GM DRY *	05/12		6
						U-238	1.8 +-0.3 E-01	PCI/GM DRY *	05/12		6

TELEDYNE BROWN ENGINEERING ENVIRONMENTAL SERVICES

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ANN MARIE HOLBROW
MCLAREN/HART
16755 VON KARMAN AVE
IRVINE CA 92714

S O I L

TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE	START TIME	STOP DATE	STOP TIME	NUCLIDE	ACTIVITY (PCI/GM DRY)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE	MID-COUNT TIME TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
45056	10641 BG-14-005-SP		03/15	1026			TH-232	2.3 +-0.6 E-01		05/18			6
							TH-228	2.7 +-0.7 E-01		05/18			6
45057	10643 BG-14-005-SG		03/15	1026			BE-7	L.T. 5. E-01		04/27			4
							K-40	2.25+-0.23E 01		04/27			4
							MN-54	L.T. 4. E-02		04/27			4
							CO-58	L.T. 5. E-02		04/27			4
							FE-59	L.T. 2. E-01		04/27			4
							CO-60	L.T. 4. E-02		04/27			4
							ZN-65	L.T. 1. E-01		04/27			4
							ZR-95	L.T. 6. E-02		04/27			4
							RU-103	L.T. 7. E-02		04/27			4
							RU-106	L.T. 3. E-01		04/27			4
							I-131	L.T. 1. E 00		04/27			4
							CS-134	L.T. 4. E-02		04/27			4
							CS-137	L.T. 4. E-02		04/27			4
							BA-140	L.T. 3. E-01		04/27			4
							CE-141	L.T. 1. E-01		04/27			4
							CE-144	L.T. 2. E-01		04/27			4
							RA-226	1.17+-0.53E 00		04/27			4
							TH-228	L.T. 1. E-01		04/27			4
45058	10643DUP BG-14-005-SG		03/15	1026			BE-7	L.T. 4. E-01		04/28			4
							K-40	2.38+-0.24E 01		04/28			4
							MN-54	L.T. 3. E-02		04/28			4
							CU-58	L.T. 4. E-02		04/28			4
							FE-59	L.T. 1. E-01		04/28			4
							CO-60	L.T. 3. E-02		04/28			4
							ZN-65	L.T. 8. E-02		04/28			4
							ZR-95	L.T. 5. E-02		04/28			4
							RU-103	L.T. 6. E-02		04/28			4
							RU-106	L.T. 3. E-01		04/28			4
							I-131	L.T. 1. E 00		04/28			4

TELEDYNE BROWN ENGINEERING ENVIRONMENTAL SERVICES

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TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE TIME	STOP DATE TIME	NUCLIDE	ACTIVITY (PCI/GM DRY)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
45058	10643DUP BG-14-005-SG		03/15 1026		CS-134	L.T. 4. E-02		04/28		4
					CS-137	L.T. 3. E-02		04/28		4
					BA-140	L.T. 3. E-01		04/28		4
					CE-141	L.T. 1. E-01		04/28		4
					CE-144	L.T. 2. E-01		04/28		4
					RA-226	1.25+-0.43E 00		04/28		4
					TH-228	8.61+-0.86E-01		04/28		4
45059	10644 BG-14-005-MT		03/15 1026		H-3	1.3 +-0.6 E 03	PCI/LITER *	05/26		5
45060	10644MS BG-14-005-MT		/		H-3	1.6 +-0.1 E 04	PCI/LITER *	05/26		5
45061	10644MSD BG-14-005-MT		/		H-3	1.5 +-0.1 E 04	PCI/LITER *	05/26		5
45063	11213 BG-00-005-FG		03/15 0841		BE-7	L.T. 4. E-01		04/27		4
	01-010				K-40	2.28+-0.23E 01		04/27		4
					MN-54	L.T. 3. E-02		04/27		4
					CO-58	L.T. 4. E-02		04/27		4
					FE-59	L.T. 1. E-01		04/27		4
					CO-60	L.T. 3. E-02		04/27		4
					ZN-65	L.T. 7. E-02		04/27		4
					ZR-95	L.T. 5. E-02		04/27		4
					RU-103	L.T. 6. E-02		04/27		4
					RU-106	L.T. 3. E-01		04/27		4
					I-131	L.T. 1. E 00		04/27		4
					CS-134	L.T. 4. E-02		04/27		4
					CS-137	2.09+-0.30E-01		04/27		4
					BA-140	L.T. 3. E-01		04/27		4
					CE-141	L.T. 1. E-01		04/27		4
					CE-144	L.T. 2. E-01		04/27		4
					RA-226	2.15+-0.42E 00		04/27		4
					TH-228	1.92+-0.19E 00		04/27		4

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TELEDYNE SAMPLE NUMBER		CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE	START TIME	STOP DATE	STOP TIME	NUCLIDE	ACTIVITY (PCI/GM DRY)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE	MID-COUNT TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
45065	11223	BG-00-004-FP		03/15	0905			PU-238	L.T. 2. E-02		05/09			6
								PU-239	L.T. 2. E-02		05/09			6
45066	10624	BG-14-002-SG		03/15				BE-7	L.T. 5. E-01		04/27			4
								K-40	2.03+-0.20E 01		04/27			4
								MN-54	L.T. 4. E-02		04/27			4
								CO-58	L.T. 5. E-02		04/27			4
								FE-59	L.T. 2. E-01		04/27			4
								CO-60	L.T. 4. E-02		04/27			4
								ZN-65	L.T. 1. E-01		04/27			4
								ZR-95	L.T. 7. E-02		04/27			4
								RU-103	L.T. 8. E-02		04/27			4
								RU-106	L.T. 4. E-01		04/27			4
								I-131	L.T. 2. E 00		04/27			4
								CS-134	L.T. 5. E-02		04/27			4
								CS-137	8.45+-4.26E-02		04/27			4
								BA-140	L.T. 4. E-01		04/27			4
								CE-141	L.T. 1. E-01		04/27			4
								CE-144	L.T. 3. E-01		04/27			4
								RA-226	2.19+-0.67E 00		04/27			4
								TH-228	1.51+-0.15E 00		04/27			4
45067	10626	BG-14-002-MP		03/15				PU-238	L.T. 1. E-02		05/09			6
								PU-239	L.T. 1. E-02		05/09			6
45068	10626MS	BG-14-002-MP		/				PU-238	L.T. 9. E-03		05/09			6
								PU-239	3.1 +-0.6 E-01		05/09			6
45069	10626MSD	BG-14-002-MP		/				PU-238	L.T. 7. E-03		05/09			6
								PU-239	3.2 +-0.5 E-01		05/09			6

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TELEDYNE SAMPLE NUMBER		CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE	TIME	STOP DATE	TIME	NUCLIDE	ACTIVITY (PCI/LITER)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE	TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
45070	10627	BG-14-003-ST		03/15				H-3	2.0 +-0.7 E 03		05/26			5
45071	10628	BG-14-003-SS		03/15				SR-90	L.T. 8. E-02	PCI/GM DRY *	04/28			3
45072	10629	BG-14-003-SP		03/15				PU-238	L.T. 7. E-03	PCI/GM DRY *	05/10			6
								U-234	2.7 +-0.4 E-01	PCI/GM DRY *	05/12			6
								TH-230	2.4 +-0.5 E-01	PCI/GM DRY *	05/18			6
								PU-239	L.T. 7. E-03	PCI/GM DRY *	05/10			6
								U-235	1.2 +-0.9 E-02	PCI/GM DRY *	05/12			6
								U-238	3.1 +-0.5 E-01	PCI/GM DRY *	05/12			6
								TH-232	5.6 +-0.9 E-01	PCI/GM DRY *	05/18			6
								TH-228	5.7 +-0.9 E-01	PCI/GM DRY *	05/18			6
45073	10631	BG-14-003-SG		03/15				BE-7	L.T. 6. E-01	PCI/GM DRY *	04/27			4
								K-40	2.03+-0.20E 01	PCI/GM DRY *	04/27			4
								MN-54	L.T. 5. E-02	PCI/GM DRY *	04/27			4
								CO-58	L.T. 5. E-02	PCI/GM DRY *	04/27			4
								FE-59	L.T. 1. E-01	PCI/GM DRY *	04/27			4
								CO-60	L.T. 4. E-02	PCI/GM DRY *	04/27			4
								ZN-65	L.T. 1. E-01	PCI/GM DRY *	04/27			4
								ZR-95	L.T. 7. E-02	PCI/GM DRY *	04/27			4
								RU-103	L.T. 8. E-02	PCI/GM DRY *	04/27			4
								RU-106	L.T. 3. E-01	PCI/GM DRY *	04/27			4
								I-131	L.T. 1. E 00	PCI/GM DRY *	04/27			4
								CS-134	L.T. 5. E-02	PCI/GM DRY *	04/27			4
								CS-137	7.99+-3.75E-02	PCI/GM DRY *	04/27			4
								BA-140	L.T. 4. E-01	PCI/GM DRY *	04/27			4
								CE-141	L.T. 1. E-01	PCI/GM DRY *	04/27			4
								CE-144	L.T. 3. E-01	PCI/GM DRY *	04/27			4
								RA-226	1.45+-0.52E 00	PCI/GM DRY *	04/27			4
								TH-228	1.37+-0.14E 00	PCI/GM DRY *	04/27			4

TELEDYNE BROWN ENGINEERING ENVIRONMENTAL SERVICES

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IRVINE CA 92714

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TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION		STA NUM	COLLECTION-DATE START DATE	START TIME	STOP DATE	STOP TIME	NUCLIDE	ACTIVITY (PCI/LITER)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE	MID-COUNT TIME TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
45070	10627	BG-14-003-ST		03/15				H-3	L.T. 3. E 02		07/24			5
45071	10628	BG-14-003-SS		03/15				SR-90	L.T. 8. E-02	PCI/GM DRY *	04/28			3
45072	10629	BG-14-003-SP		03/15				PU-238	L.T. 7. E-03	PCI/GM DRY *	05/10			6
								U-234	2.7 +-0.4 E-01	PCI/GM DRY *	05/12			6
								TH-230	2.4 +-0.5 E-01	PCI/GM DRY *	05/18			6
								PU-239	L.T. 7. E-03	PCI/GM DRY *	05/10			6
								U-235	1.2 +-0.9 E-02	PCI/GM DRY *	05/12			6
								U-238	3.1 +-0.5 E-01	PCI/GM DRY *	05/12			6
								TH-232	5.6 +-0.9 E-01	PCI/GM DRY *	05/18			6
								TH-228	5.7 +-0.9 E-01	PCI/GM DRY *	05/18			6
45073	10631	BG-14-003-SG		03/15				BE-7	L.T. 6. E-01	PCI/GM DRY *	04/27			4
								K-40	2.03+-0.20E 01	PCI/GM DRY *	04/27			4
								MN-54	L.T. 5. E-02	PCI/GM DRY *	04/27			4
								CO-58	L.T. 5. E-02	PCI/GM DRY *	04/27			4
								FE-59	L.T. 1. E-01	PCI/GM DRY *	04/27			4
								CO-60	L.T. 4. E-02	PCI/GM DRY *	04/27			4
								ZN-65	L.T. 1. E-01	PCI/GM DRY *	04/27			4
								ZR-95	L.T. 7. E-02	PCI/GM DRY *	04/27			4
								RU-103	L.T. 8. E-02	PCI/GM DRY *	04/27			4
								RU-106	L.T. 3. E-01	PCI/GM DRY *	04/27			4
								I-131	L.T. 1. E 00	PCI/GM DRY *	04/27			4
								CS-134	L.T. 5. E-02	PCI/GM DRY *	04/27			4
								CS-137	7.99+-3.75E-02	PCI/GM DRY *	04/27			4
								BA-140	L.T. 4. E-01	PCI/GM DRY *	04/27			4
								CE-141	L.T. 1. E-01	PCI/GM DRY *	04/27			4
								CE-144	L.T. 3. E-01	PCI/GM DRY *	04/27			4
								RA-226	1.45+-0.52E 00	PCI/GM DRY *	04/27			4
								TH-228	1.37+-0.14E 00	PCI/GM DRY *	04/27			4

The reanalysis of Teledyne #45070 did not confirm the original result, thus this revision. D. Martin 8-2-94

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TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE	TIME	STOP DATE	TIME	NUCLIDE	ACTIVITY (PCI/GM DRY)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE	TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
45075	10632MS BG-14-003-MG		/				CE-141	L.T. 2. E-01		05/12			4
							CE-144	L.T. 3. E-01		05/12			4
							RA-226	2.08+-0.64E 00		05/12			4
							TH-228	1.41+-0.14E 00		05/12			4
45076	10632MSD BG-14-003-MG		/				BE-7	L.T. 7. E-01		05/13			4
							K-40	2.07+-0.21E 01		05/13			4
							MN-54	L.T. 4. E-02		05/13			4
							CO-58	L.T. 6. E-02		05/13			4
							FE-59	L.T. 2. E-01		05/13			4
							CO-60	L.T. 4. E-02		05/13			4
							ZN-65	L.T. 1. E-01		05/13			4
							ZR-95	L.T. 8. E-02		05/13			4
							RU-103	L.T. 1. E-01		05/13			4
							RU-106	L.T. 4. E-01		05/13			4
							I-131	L.T. 6. E 00		05/13			4
							CS-134	L.T. 5. E-02		05/13			4
							CS-137	7.61+-0.76E-01		05/13			4
							BA-140	L.T. 8. E-01		05/13			4
							CE-141	L.T. 2. E-01		05/13			4
							CE-144	L.T. 3. E-01		05/13			4
							RA-226	1.56+-0.64E 00		05/13			4
							TH-228	1.42+-0.14E 00		05/13			4
45077	10633 BG-14-004-ST		03/15				H-3	5.2 +-3.2 E 02	PCI/LITER *	05/26			5
45078	10634 BG-14-004-SS		03/15				SR-90	L.T. 7. E-02		04/28			3
45079	10634DUP BG-14-004-SS		03/15				SR-90	9.3 +-5.1 E-02		04/30			3

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TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE	START TIME	STOP DATE	STOP TIME	NUCLIDE	ACTIVITY (PCI/GM DRY)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE	MID-COUNT TIME TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
45080	10635 BG-14-004-SP		03/15				PU-238	L.T. 8. E-03		05/10			6
							U-234	2.0 +-0.4 E-01		05/12			6
							TH-230	2.7 +-0.6 E-01		05/18			6
							PU-239	L.T. 8. E-03		05/10			6
							U-235	L.T. 5. E-03		05/12			6
							U-238	2.2 +-0.4 E-01		05/12			6
							TH-232	6.4 +-1.0 E-01		05/18			6
							TH-228	4.0 +-0.9 E-01		05/18			6
45081	10610 BG-01-082-SP		03/15	0920			PU-238	L.T. 1. E-02		05/09			6
							U-234	4.4 +-0.6 E-01		05/12			6
							TH-230	3.9 +-0.7 E-01		05/18			6
							PU-239	L.T. 1. E-02		05/09			6
							U-235	3.4 +-1.5 E-02		05/12			6
							U-238	4.3 +-0.6 E-01		05/12			6
							TH-232	7.5 +-1.0 E-01		05/18			6
							TH-228	8.2 +-1.2 E-01		05/18			6
45082	10612 BG-01-082-SG		03/15	0920			BE-7	L.T. 5. E-01		04/27			4
							K-40	1.99+-0.20E 01		04/27			4
							MN-54	L.T. 4. E-02		04/27			4
							CO-58	L.T. 5. E-02		04/27			4
							FE-59	L.T. 1. E-01		04/27			4
							CO-60	L.T. 3. E-02		04/27			4
							ZN-65	L.T. 1. E-01		04/27			4
							ZR-95	L.T. 6. E-02		04/27			4
							RU-103	L.T. 7. E-02		04/27			4
							RU-106	L.T. 3. E-01		04/27			4
							I-131	L.T. 1. E 00		04/27			4
							CS-134	L.T. 5. E-02		04/27			4
							CS-137	L.T. 4. E-02		04/27			4
							BA-140	L.T. 3. E-01		04/27			4
							CE-141	L.T. 1. E-01		04/27			4

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TELEDYNE SAMPLE NUMBER		CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE TIME	STOP DATE TIME	NUCLIDE	ACTIVITY (PCI/GM DRY)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
45082	10612	BG-01-082-SG		03/15 0920		CE-144	L.T. 2. E-01		04/27		4
						RA-226	2.13+-0.54E 00		04/27		4
						TH-228	2.08+-0.21E 00		04/27		4
45083	10614	BG-14-001-ST		03/15 1000		H-3	L.T. 1. E 02	PCI/LITER *	05/27		5
45084	10615	BG-14-001-SP		03/15 1000		PU-238	L.T. 9. E-03		05/09		6
						U-234	2.3 +-0.4 E-01		05/12		6
						TH-230	3.0 +-0.5 E-01		05/18		6
						PU-239	L.T. 9. E-03		05/09		6
						U-235	1.1 +-0.8 E-02		05/12		6
						U-238	2.1 +-0.4 E-01		05/12		6
						TH-232	8.7 +-1.0 E-01		05/18		6
						TH-228	5.3 +-0.8 E-01		05/18		6
45085	10617	BG-14-001-SG		03/15 1000		BE-7	L.T. 5. E-01		04/27		4
						K-40	2.05+-0.20E 01		04/27		4
						MN-54	L.T. 3. E-02		04/27		4
						CO-58	L.T. 4. E-02		04/27		4
						FE-59	L.T. 1. E-01		04/27		4
						CO-60	L.T. 3. E-02		04/27		4
						ZN-65	L.T. 9. E-02		04/27		4
						ZR-95	L.T. 6. E-02		04/27		4
						RU-103	L.T. 6. E-02		04/27		4
						RU-106	L.T. 3. E-01		04/27		4
						I-131	L.T. 1. E 00		04/27		4
						CS-134	L.T. 4. E-02		04/27		4
						CS-137	L.T. 4. E-02		04/27		4
						BA-140	L.T. 3. E-01		04/27		4
						CE-141	L.T. 1. E-01		04/27		4
						CE-144	L.T. 2. E-01		04/27		4
						RA-226	9.59+-4.72E-01		04/27		4
						TH-228	9.95+-0.99E-01		04/27		4

TELEDYNE BROWN ENGINEERING ENVIRONMENTAL SERVICES

REPORT OF ANALYSIS

RUN DATE 06/03/94

WORK ORDER NUMBER	CUSTOMER P.O. NUMBER	DATE RECEIVED	DELIVERY DATE	PAGE 14
4-0472	030225/030600829	03/21/94	04/23/94	

ANN MARIE HOLBROW
MCLAREN/HART
16755 VON KARMAN AVE
IRVINE CA 92714

S O I L

TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION		STA NUM	COLLECTION-DATE START DATE TIME	STOP DATE TIME	NUCLIDE	ACTIVITY (PCI/GM DRY)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
45087	10619	BG-14-001-MS		03/15 1000		SR-90	L.T. 7. E-02		04/28		3
45088	10619MS	BG-14-001-MS		/		SR-90	4.0 +-0.3 E 00		05/02		3
45089	10619MSD	BG-14-001-MS		/		SR-90	4.0 +-0.2 E 00		04/30		3
45090	10620	BG-14-002-ST		03/15 1000		H-3	L.T. 1. E 02	PCI/LITER *	05/27		5
45091	10621	BG-14-002-SS		03/15 1000		SR-90	L.T. 9. E-02		04/30		3
45092	10622	BG-14-002-SP		03/15 1000		PU-238	L.T. 1. E-02		05/09		6
						U-234	3.1 +-0.4 E-01		05/12		6
						TH-230	3.8 +-0.5 E-01		05/18		6
						PU-239	L.T. 1. E-02		05/09		6
						U-235	1.8 +-1.0 E-02		05/12		6
						U-238	4.0 +-0.5 E-01		05/12		6
						TH-232	1.2 +-0.1 E 00		05/18		6
						TH-228	7.8 +-0.8 E-01		05/18		6
45114	11225	BG-00-004-FS 01-016		03/15 0841		SR-90	L.T. 9. E-02		04/30		3
45115	11226	BG-01-090-SS		03/15		SR-90	L.T. 1. E-01		04/30		3
45116	11227	BG-00-008-FT 01-034		03/15 0908		H-3	L.T. 2. E 02	PCI/LITER *	05/27		5
45117	11229	BG-14-001-SS		03/15 1000		SR-90	8.2 +-4.3 E-02		04/30		3
45490	10332	BG-02-007-ST		03/10 1610		H-3	L.T. 1. E 02	PCI/LITER *	05/27		5

DORMITORY
AREA (BB02)

TELEDYNE BROWN ENGINEERING ENVIRONMENTAL SERVICES

REPORT OF ANALYSIS

WORK ORDER NUMBER	CUSTOMER P.O. NUMBER	DATE RECEIVED	DELIVERY DATE
4-0185	030225/030600829	03/08/94	03/18/94

ANN MARIE HOLBROW
MCLAREN/HART
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IRVINE CA 92714

S O I L

TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION		STA NUM	COLLECTION-DATE START DATE TIME	STOP DATE TIME	NUCLIDE	ACTIVITY (PCI/LITER)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
43203	10031	BB-06-066-ST		03/07 0926		H-3	L.T. 2. E 02		03/26		5
43204	10033	BB-06-017-ST		03/07 0910		H-3	L.T. 2. E 02		03/27		5
43205	10034	BB-06-013-ST		03/07 0930		H-3	L.T. 2. E 02		03/27		5
43206	10056	BB-12-006-ST		03/07 1308		H-3	L.T. 2. E 02		03/27		5
43207	10057	BB-12-019-ST		03/07 1311		H-3	L.T. 2. E 02		03/27		5
43208	10058	BB-12-023-ST		03/07 1313		H-3	L.T. 2. E 02		03/27		5
43209	10060	BB-12-020-ST		03/07 1320		H-3	L.T. 2. E 02		03/27		5
43210	10061	BB-12-003-ST		03/07 1326		H-3	L.T. 2. E 02		03/27		5
43212	10038	BB-13-011-ST		03/07 1018		H-3	L.T. 2. E 02		03/27		5
43213	10039	BB-13-010-ST		03/07 1023		H-3	L.T. 2. E 02		03/27		5
43214	10040	BB-13-037-ST		03/07 1007		H-3	L.T. 2. E 02		03/27		5
43215	10041	BB-13-039-ST		03/07 1010		H-3	L.T. 2. E 02		03/27		5
43216	10035	BB-13-024-ST		03/07 1004		H-3	L.T. 2. E 02		03/27		5
43217	10049	BB-02-071-ST		03/07 1131		H-3	L.T. 2. E 02		03/28		5
43218	10050	BB-02-045-ST		03/07 1133		H-3	L.T. 2. E 02		03/28		5

TELEDYNE BROWN ENGINEERING ENVIRONMENTAL SERVICES

REPORT OF ANALYSIS

WORK ORDER NUMBER	CUSTOMER P.O. NUMBER	DATE RECEIVED	DELIVERY DATE
4-0185	030225/030600829	03/08/94	03/18/94

ANN MARIE HOLBROW
MCLAREN/HART
16755 VON KARMAN AVE
IRVINE CA 92714

S O I L

TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION		STA NUM	COLLECTION-DATE START DATE	TIME	STOP DATE	TIME	NUCLIDE	ACTIVITY (PCI/LITER)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE	TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
43219	10051MS	BB-02-045-MT		03/07	1133			H-3	3.1 +-0.3 E 03		03/30			5
43220	10052	BB-02-060-ST		03/07	1134			H-3	L.T. 2. E 02		03/28			5
43221	10053	BB-02-075-ST		03/07	1140			H-3	L.T. 2. E 02		03/28			5
43222	10055	BB-02-078-ST		03/07	1139			H-3	L.T. 2. E 02		03/28			5
43262	10062DUP	SM-03-012-ST		03/07	1422			H-3	L.T. 2. E 02		03/30			5
43263	10030MSD	BB-06-092-MT		/				H-3	3.3 +-0.3 E 03		03/30			5
43264	10058DUP	BB-12-023-ST		03/07	1313			H-3	L.T. 2. E 02		03/27			5
43265	10051MSD	BB-02-045-MT		/				H-3	2.9 +-0.2 E 03		03/30			5
43368	10030	BB-06-092-MT		03/07	0918			H-3	L.T. 1. E 02		03/30			5
43369	10051	BB-02-045-MT		03/07	1133			H-3	2.3 +-1.4 E 02		03/30			5

<u>H-3 activity added to prepare matrix spikes</u>

TI#	H-3 pCi/l
43202	2.7 +- 0.3 E 03
43263	2.7 +- 0.3 E 03
43219	2.7 +- 0.3 E 03
43265	2.7 +- 0.3 E 03

TELEDYNE BROWN ENGINEERING ENVIRONMENTAL SERVICES

REPORT OF ANALYSIS

WORK ORDER NUMBER	CUSTOMER P.O. NUMBER	DATE RECEIVED	DELIVERY DATE
4-0353	030225/030600829	03/09/94	04/11/94

ANN MARIE HOLBROW
MCLAREN/HART
16755 VON KARMAN AVE
IRVINE CA 92714

S O I L

TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE TIME	COLLECTION-DATE STOP DATE TIME	NUCLIDE	ACTIVITY (PCI/GM DRY)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
43743	BB-00-001-FG		03/08 1126		CS-137	L.T. 4. E-02		03/21		4
					BA-140	L.T. 7. E-02		03/21		4
					CE-141	L.T. 7. E-02		03/21		4
					CE-144	L.T. 2. E-01		03/21		4
					RA-226	1.92+-0.54E 00		03/21		4
					TH-228	9.63+-0.96E-01		03/21		4
43796	11138 BB-03-081-ST		03/08 1421		H-3	L.T. 1. E 02	PCI/LITER *	04/08		5
43797	10076 BB-03-029-ST		03/08 1415		H-3	L.T. 1. E 02	PCI/LITER *	04/08		5

TELEDYNE BROWN ENGINEERING ENVIRONMENTAL SERVICES

RUN DATE 04/20/94

REPORT OF ANALYSIS

PAGE 1

WORK ORDER NUMBER	CUSTOMER P.O. NUMBER	DATE RECEIVED	DELIVERY DATE
4-0353	030225/030600R29	03/09/94	04/11/94

ANN MARIE HOLBROW
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16755 VON KARMAN AVE
IRVINE CA 92714

S O I L

TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION		STA NUM	COLLECTION-DATE START DATE	TIME	STOP DATE	TIME	NUCLIDE	ACTIVITY (PCI/LITER)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE	TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
43677	11043	BB-00-002-PT		03/08				H-3	1.7 +-0.2 E 03		04/03			5
43678	11042	BB-00-001-PT		03/08				H-3	L.T. 2. E 02		04/03			5
43684	11045	BB-00-004-PT		03/08				H-3	L.T. 2. E 02		04/03			5
43685	11044	BB-00-003-PT		03/08				H-3	1.7 +-0.2 E 03		04/04			5
43689	10068	BB-03-025-ST		03/08	1358			H-3	L.T. 2. E 02		04/04			5
43690	10071	BB-03-079-ST		03/08	1405			H-3	L.T. 1. E 02		04/04			5
43691	10072	BB-03-017-ST		03/08	1407			H-3	L.T. 2. E 02		04/04			5
43692	10074	BB-03-005-ST		03/08	1410			H-3	L.T. 2. E 02		04/04			5
43693	10078	BB-03-003-ST		03/08	1423			H-3	L.T. 2. E 02		04/04			5
43694	10081	BB-03-026-ST		03/08	1428			H-3	L.T. 1. E 02		04/07			5
43695	10081DUP	BB-03-026-ST		03/08	1428			H-3	L.T. 1. E 02		04/07			5
43696	11019	BB-03-026-MT		03/08	1359			H-3	L.T. 1. E 02		04/08			5
43697	11019MS	BB-03-026-MT		/				H-3	1.5 +-0.1 E 04		04/08			5
43698	11019MSD	BB-03-026-MT		/				H-3	1.7 +-0.1 E 04		04/08			5
43699	10070	BB-03-096-ST		03/08	1400			H-3	L.T. 1. E 02		04/06			5

TELEDYNE BROWN ENGINEERING ENVIRONMENTAL SERVICES

REPORT OF ANALYSIS

RUN DATE 04/20/94

WORK ORDER NUMBER	CUSTOMER P.O. NUMBER	DATE RECEIVED	DELIVERY DATE
4-0353	030225/030600829	03/09/94	04/11/94

ANN MARIE HOLBROW
MCLAREN/HART
16755 VON KARMAN AVE
IRVINE CA 92714

S O I L

TELEDYNE SAMPLE NUMBER		CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE TIME	STOP DATE TIME	NUCLIDE	ACTIVITY (PCI/LITER)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
43700	10079	BB-03-097-ST		03/08 1416		H-3	L.T. 1. E 02		04/06		5
43701	10083	BB-20-001-ST		03/08 1000		H-3	L.T. 1. E 02		04/07		5
43702	10084	BB-20-001-SS		03/08 1010		SR-90	L.T. 1. E-01	PCI/GM DRY *	03/28.		3
43703	10085	BB-20-001-SG		03/08 1010		BE-7	L.T. 4. E-01	PCI/GM DRY *	03/21		4
						K-40	2.08+-0.21E 01	PCI/GM DRY *	03/21		4
						MN-54	L.T. 4. E-02	PCI/GM DRY *	03/21		4
						CO-58	L.T. 4. E-02	PCI/GM DRY *	03/21		4
						FE-59	L.T. 1. E-01	PCI/GM DRY *	03/21		4
						CO-60	L.T. 4. E-02	PCI/GM DRY *	03/21		4
						ZN-65	L.T. 1. E-01	PCI/GM DRY *	03/21		4
						ZR-95	L.T. 5. E-02	PCI/GM DRY *	03/21		4
						RU-103	L.T. 4. E-02	PCI/GM DRY *	03/21		4
						RU-106	L.T. 3. E-01	PCI/GM DRY *	03/21		4
						I-131	L.T. 1. E-01	PCI/GM DRY *	03/21		4
						CS-134	L.T. 5. E-02	PCI/GM DRY *	03/21		4
						CS-137	1.10+-0.37E-01	PCI/GM DRY *	03/21		4
						BA-140	L.T. 7. E-02	PCI/GM DRY *	03/21		4
						CE-141	L.T. 7. E-02	PCI/GM DRY *	03/21		4
						CE-144	L.T. 2. E-01	PCI/GM DRY *	03/21		4
						RA-226	1.76+-0.58E 00	PCI/GM DRY *	03/21		4
						TH-228	8.10+-0.81E-01	PCI/GM DRY *	03/21		4
43705	10087	BB-20-002-ST		03/08 1030		H-3	L.T. 1. E 02		04/07		5
43706	10088	BB-20-002-SS		03/08 1030		SR-90	L.T. 9. E-02	PCI/GM DRY *	03/28		3

TELEDYNE BROWN ENGINEER NVIRONMENTAL SERVICES

REPORT OF ANALYSIS

REVISEL 21/94
RUN DATE 04/20/94

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ANN MARIE HOLBROW
MCLAREN/HART
16755 VON KARMAN AVE
IRVINE CA 92714

S O I L

TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE TIME	COLLECTION-DATE STOP DATE TIME	NUCLIDE	ACTIVITY (PCI/GM DRY)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
43743	BB-00-001-FG 11021		03/08 1126		CS-137	L.T. 4. E-02		03/21		4
					BA-140	L.T. 7. E-02		03/21		4
					CE-141	L.T. 7. E-02		03/21		4
					CE-144	L.T. 2. E-01		03/21		4
					RA-226	1.92+-0.54E 00		03/21		4
					TH-228	9.63+-0.96E-01		03/21		4
43796	11138 BB-03-081-ST		03/08 1421		H-3	L.T. 1. E 02	PCI/LITER *	04/08		5
43797	10076 BB-03-029-ST		03/08 1415		H-3	L.T. 1, E 02	PCI/LITER *	04/08		5

CAMPSITE 2
(BB04)

TELEDYNE BROWN ENGINEERING ENVIRONMENTAL SERVICES

REPORT OF ANALYSIS

RUN DATE 04/06/94

WORK ORDER NUMBER	CUSTOMER P.O. NUMBER	DATE RECEIVED	DELIVERY DATE
4-0185	030225/030600829	03/08/94	03/18/94

ANN MARIE HOLBROW
MCLAREN/HART
16755 VON KARMAN AVE
IRVINE CA 92714

S O I L

TELEDYNE SAMPLE NUMBER		CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE	START TIME	STOP DATE	STOP TIME	NUCLIDE	ACTIVITY (PCI/LITER)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE	MID-COUNT TIME TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
43169	10001	BB-04-021-ST		03/04	1405			H-3	L.T. 1. E 02		03/19			5
43171	10004	BB-04-021-FT		03/04	1405			H-3	L.T. 1. E 02		03/19			5
43172	10005	BB-04-023-ST		03/04	1415			H-3	L.T. 1. E 02		03/20			5
43173	10007	BB-04-097-ST		03/04	1415			H-3	L.T. 1. E 02		03/26			5
43174	10011	BB-04-082-ST		03/04	1420			H-3	L.T. 1. E 02		03/26			5
43175	10013	BB-04-026-ST		03/04	1435			H-3	L.T. 1. E 02		03/20			5
43176	11009	BB-04-062-ST		03/04	1435			H-3	L.T. 1. E 02		03/20			5
43177	10015	BB-04-079-ST		03/04	1445			H-3	L.T. 1. E 02		03/20			5
43178	10016	BB-04-084-ST		03/04	1450			H-3	L.T. 1. E 02		03/20			5
43179	10018	BB-04-078-ST		03/04	1500			H-3	L.T. 1. E 02		03/20			5
43180	10020	BB-04-049-ST		03/04	1500			H-3	L.T. 1. E 02		03/20			5
43183	10021	BB-14-037-ST		03/04	1603			H-3	L.T. 1. E 02		03/20			5
43184	10022	BB-14-041-ST		03/04	1500			H-3	L.T. 1. E 02		03/20			5
43185	10023	BB-14-079-ST		03/04	1605			H-3	L.T. 1. E 02		03/20			5
43186	10025	BB-14-094-ST		03/04	1625			H-3	L.T. 1. E 02		03/20			5

TELEDYNE BROWN ENGINEERING ENVIRONMENTAL SERVICES

REPORT OF ANALYSIS

RUN DATE 04/06/94

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ANN MARIE HOLBROW
MCLAREN/HART
16755 VON KARMAN AVE
IRVINE CA 92714

W A T E R

TELEDYNE SAMPLE NUMBER		CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE	START TIME	STOP DATE	STOP TIME	NUCLIDE	ACTIVITY (PCI/LITER)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE	MID-COUNT TIME TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
43170	10003	BB-04-021-RT		03/04	1445			H-3	L.T. 1. E 02		03/20			5
43181	11001	BB-04-001-WT		03/04	1440			H-3	L.T. 2. E 02		03/21			5
43182	11002	BB-04-001-WA		03/04	1450			GR-A	L.T. 4. E 00		03/14			3
								GR-B	1.2 +-0.4 E 01		03/14			3
43189	10063	SM-03-012-RT		03/07	1420			H-3	L.T. 2. E 02		03/21			5
43211	10036	BB-13-024-RT		03/07	1000			H-3	L.T. 2. E 02		03/27			5

LAST PAGE OF REPORT

JMartin
APPROVED BY J. GUENTHER 04/06/94

SEND 1 COPIES TO MC480S ANN MARIE HOLBROW

2 - GAS LAB. 3 - RADIO CHEMISTRY LAB. 4 - GE(LI) GAMMA SPEC LAB. 5 - TRITIUM GAS/L.S. LAB. 6 - ALPHA SPEC LAB.

PICNIC AREA
(BB05)

TELEDYNE BROWN ENGINEERING ENVIRONMENTAL SERVICES

REPORT OF ANALYSIS

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ANN MARIE HOLBROW
MCLAREN/HART
16755 VON KARMAN AVE
IRVINE CA 92714

S O I L

TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION		STA NUM	COLLECTION-DATE START DATE	START TIME	STOP DATE	STOP TIME	NUCLIDE	ACTIVITY (PCI/LITER)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE	TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
43187	10027	BB-14-004-ST		03/04	1625			H-3	L.T. 2. E 02		03/20			5
43188	10062	SM-03-012-ST		03/07	1422			H-3	L.T. 1. E 02		03/30			5
43190	10064	SM-03-015-ST		03/07	1420			H-3	L.T. 1. E 02		03/21			5
43191	10065	SM-03-009-ST		03/07	1423			H-3	L.T. 1. E 02		03/21			5
43192	10066	SM-03-001-ST		03/07	1425			H-3	L.T. 1. E 02		03/21			5
43193	10067	SM-03-014-ST		03/07	1430			H-3	L.T. 1. E 02		03/21			5
43194	10047	BB-05-003-ST		03/07	1050			H-3	L.T. 1. E 02		03/30			5
43195	10043	BB-05-089-ST		03/07	1052			H-3	L.T. 1. E 02		03/21			5
43196	10042	BB-05-089FDT		03/07	1052			H-3	L.T. 1. E 02		03/21			5
43197	10048	BB-05-006-ST		03/07	1102			H-3	L.T. 1. E 02		03/21			5
43198	10044	BB-05-057-ST		03/07	1112			H-3	L.T. 1. E 02		03/21			5
43199	10046	BB-05-077-ST		03/07	1110			H-3	L.T. 1. E 02		03/21			5
43200	10028	BB-06-007-ST		03/07	0910			H-3	L.T. 1. E 02		03/21			5
43201	10029	BB-06-092-ST		03/07	0918			H-3	L.T. 1. E 02		03/21			5
43202	10030MS	BB-06-092-MT		/				H-3	3.0 +-0.2 E 03		03/30			5

HOUSE OF THE BOOK
(BB06)

TELEDYNE BROWN ENGINEERING ENVIRONMENTAL SERVICES

REPORT OF ANALYSIS

RUN DATE 04/06/94

WORK ORDER NUMBER	CUSTOMER P.O. NUMBER	DATE RECEIVED	DELIVERY DATE	PAGE 2
4-0185	030225/030600829	03/08/94	03/18/94	

ANN MARIE HOLBROW
MCLAREN/HART
16755 VON KARMAN AVE
IRVINE CA 92714

S O I L

TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION		STA NUM	COLLECTION-DATE START DATE TIME	STOP DATE TIME	NUCLIDE	ACTIVITY (PCI/LITER)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
43187	10027	BB-14-004-ST		03/04 1625		H-3	L.T. 2. E 02		03/20		5
43188	10062	SM-03-012-ST		03/07 1422		H-3	L.T. 1. E 02		03/30		5
43190	10064	SM-03-015-ST		03/07 1420		H-3	L.T. 1. E 02		03/21		5
43191	10065	SM-03-009-ST		03/07 1423		H-3	L.T. 1. E 02		03/21		5
43192	10066	SM-03-001-ST		03/07 1425		H-3	L.T. 1. E 02		03/21		5
43193	10067	SM-03-014-ST		03/07 1430		H-3	L.T. 1. E 02		03/21		5
43194	10047	BB-05-003-ST		03/07 1050		H-3	L.T. 1. E 02		03/30		5
43195	10043	BB-05-089-ST		03/07 1052		H-3	L.T. 1. E 02		03/21		5
43196	10042	BB-05-089FDT		03/07 1052		H-3	L.T. 1. E 02		03/21		5
43197	10048	BB-05-006-ST		03/07 1102		H-3	L.T. 1. E 02		03/21		5
43198	10044	BB-05-057-ST		03/07 1112		H-3	L.T. 1. E 02		03/21		5
43199	10046	BB-05-077-ST		03/07 1110		H-3	L.T. 1. E 02		03/21		5
43200	10028	BB-06-007-ST		03/07 0910		H-3	L.T. 1. E 02		03/21		5
43201	10029	BB-06-092-ST		03/07 0918		H-3	L.T. 1. E 02		03/21		5
43202	10030MS	BB-06-092-MT		/		H-3	3.0 +-0.2 E 03		03/30		5

TELEDYNE BROWN ENGINEERING ENVIRONMENTAL SERVICES

REPORT OF ANALYSIS

WORK ORDER NUMBER	CUSTOMER P.O. NUMBER	DATE RECEIVED	DELIVERY DATE
4-0185	030225/030600829	03/08/94	03/18/94

ANN MARIE HOLBROW
MCLAREN/HART
16755 VON KARMAN AVE
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S O I L

TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION		STA NUM	COLLECTION-DATE START DATE TIME	STOP DATE TIME	NUCLIDE	ACTIVITY (PCI/LITER)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
43203	10031	BB-06-066-ST		03/07 0926		H-3	L.T. 2. E 02		03/26		5
43204	10033	BB-06-017-ST		03/07 0910		H-3	L.T. 2. E 02		03/27		5
43205	10034	BB-06-013-ST		03/07 0930		H-3	L.T. 2. E 02		03/27		5
43206	10056	BB-12-006-ST		03/07 1308		H-3	L.T. 2. E 02		03/27		5
43207	10057	BB-12-019-ST		03/07 1311		H-3	L.T. 2. E 02		03/27		5
43208	10058	BB-12-023-ST		03/07 1313		H-3	L.T. 2. E 02		03/27		5
43209	10060	BB-12-020-ST		03/07 1320		H-3	L.T. 2. E 02		03/27		5
43210	10061	BB-12-003-ST		03/07 1326		H-3	L.T. 2. E 02		03/27		5
43212	10038	BB-13-011-ST		03/07 1018		H-3	L.T. 2. E 02		03/27		5
43213	10039	BB-13-010-ST		03/07 1023		H-3	L.T. 2. E 02		03/27		5
43214	10040	BB-13-037-ST		03/07 1007		H-3	L.T. 2. E 02		03/27		5
43215	10041	BB-13-039-ST		03/07 1010		H-3	L.T. 2. E 02		03/27		5
43216	10035	BB-13-024-ST		03/07 1004		H-3	L.T. 2. E 02		03/27		5
43217	10049	BB-02-071-ST		03/07 1131		H-3	L.T. 2. E 02		03/28		5
43218	10050	BB-02-045-ST		03/07 1133		H-3	L.T. 2. E 02		03/28		5

TELEDYNE BROWN ENGINEERING ENVIRONMENTAL SERVICES

REPORT OF ANALYSIS

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WORK ORDER NUMBER	CUSTOMER P.O. NUMBER	DATE RECEIVED	DELIVERY DATE
4-0185	030225/030600829	03/08/94	03/18/94

ANN MARIE HOLBROW
MCLAREN/HART
16755 VON KARMAN AVE
IRVINE CA 92714

S O I L

TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION		STA NUM	COLLECTION-DATE START DATE TIME	STOP DATE TIME	NUCLIDE	ACTIVITY (PCI/LITER)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
43219	10051MS	BB-02-045-MT		03/07 1133		H-3	3.1 +-0.3 E 03		03/30		5
43220	10052	BB-02-060-ST		03/07 1134		H-3	L.T. 2. E 02		03/28		5
43221	10053	BB-02-075-ST		03/07 1140		H-3	L.T. 2. E 02		03/28		5
43222	10055	BB-02-078-ST		03/07 1139		H-3	L.T. 2. E 02		03/28		5
43262	10062DUP	SM-03-012-ST		03/07 1422		H-3	L.T. 2. E 02		03/30		5
43263	10030MSD	BB-06-092-MT		/		H-3	3.3 +-0.3 E 03		03/30		5
43264	10058DUP	BB-12-023-ST		03/07 1313		H-3	L.T. 2. E 02		03/27		5
43265	10051MSD	BB-02-045-MT		/		H-3	2.9 +-0.2 E 03		03/30		5
43368	10030	BB-06-092-MT		03/07 0918		H-3	L.T. 1. E 02		03/30		5
43369	10051	BB-02-045-MT		03/07 1133		H-3	2.3 +-1.4 E 02		03/30		5

<u>H-3 activity added to prepare matrix spikes</u>

TI#	H-3 pCi/l
43202	2.7 +- 0.3 E 03
43263	2.7 +- 0.3 E 03
43219	2.7 +- 0.3 E 03
43265	2.7 +- 0.3 E 03

ORCHARD (BB12)

TELEDYNE BROWN ENGINEERING ENVIRONMENTAL SERVICES

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PAGE 3

WORK ORDER NUMBER	CUSTOMER P.O. NUMBER	DATE RECEIVED	DELIVERY DATE
4-0185	030225/030600829	03/08/94	03/18/94

ANN MARIE HOLBROW
MCLAREN/HART
16755 VON KARMAN AVE
IRVINE CA 92714

S O I L

TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION		STA NUM	COLLECTION-DATE START DATE	START TIME	STOP DATE	STOP TIME	NUCLIDE	ACTIVITY (PCI/LITER)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE	MID-COUNT TIME TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
43203	10031	BB-06-066-ST		03/07	0926			H-3	L.T. 2. E 02		03/26			5
43204	10033	BB-06-017-ST		03/07	0910			H-3	L.T. 2. E 02		03/27			5
43205	10034	BB-06-013-ST		03/07	0930			H-3	L.T. 2. E 02		03/27			5
43206	10056	BB-12-006-ST		03/07	1308			H-3	L.T. 2. E 02		03/27			5
43207	10057	BB-12-019-ST		03/07	1311			H-3	L.T. 2. E 02		03/27			5
43208	10058	BB-12-023-ST		03/07	1313			H-3	L.T. 2. E 02		03/27			5
43209	10060	BB-12-020-ST		03/07	1320			H-3	L.T. 2. E 02		03/27			5
43210	10061	BB-12-003-ST		03/07	1326			H-3	L.T. 2. E 02		03/27			5
43212	10038	BB-13-011-ST		03/07	1018			H-3	L.T. 2. E 02		03/27			5
43213	10039	BB-13-010-ST		03/07	1023			H-3	L.T. 2. E 02		03/27			5
43214	10040	BB-13-037-ST		03/07	1007			H-3	L.T. 2. E 02		03/27			5
43215	10041	BB-13-039-ST		03/07	1010			H-3	L.T. 2. E 02		03/27			5
43216	10035	BB-13-024-ST		03/07	1004			H-3	L.T. 2. E 02		03/27			5
43217	10049	BB-02-071-ST		03/07	1131			H-3	L.T. 2. E 02		03/28			5
43218	10050	BB-02-045-ST		03/07	1133			H-3	L.T. 2. E 02		03/28			5

TELEDYNE BROWN ENGINEERING ENVIRONMENTAL SERVICES

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ANN MARIE HOLBROW
MCLAREN/HART
16755 VON KARMAN AVE
IRVINE CA 92714

W A T E R

TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION		STA NUM	COLLECTION-DATE START DATE	START TIME	STOP DATE	STOP TIME	NUCLIDE	ACTIVITY (PCI/LITER)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE	MID-COUNT TIME TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
43170	10003	BB-04-021-RT		03/04	1445			H-3	L.T. 1. E 02		03/20			5
43181	11001	BB-04-001-WT		03/04	1440			H-3	L.T. 2. E 02		03/21			5
43182	11002	BB-04-001-WA		03/04	1450			GR-A	L.T. 4. E 00		03/14			3
								GR-B	1.2 +-0.4 E 01		03/14			3
43189	10063	SM-03-012-RT		03/07	1420			H-3	L.T. 2. E 02		03/21			5
43211	10036	BB-13-024-RT		03/07	1000			H-3	L.T. 2. E 02		03/27			5

LAST PAGE OF REPORT

JDMartin
APPROVED BY J. GUENTHER 04/06/94

SEND 1 COPIES TO MC480S ANN MARIE HOLBROW

2 - GAS LAB. 3 - RADIO CHEMISTRY LAB. 4 - GE(LI) GAMMA SPEC LAB. 5 - TRITIUM GAS/L.S. LAB. 6 - ALPHA SPEC LAB.

(BB13)

TELEDYNE BROWN ENGINEERING ENVIRONMENTAL SERVICES

REPORT OF ANALYSIS

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WORK ORDER NUMBER	CUSTOMER P.O. NUMBER	DATE RECEIVED	DELIVERY DATE
4-0185	030225/030600829	03/08/94	03/18/94

ANN MARIE HOLBROW
MCLAREN/HART
16755 VON KARMAN AVE
IRVINE CA 92714

S O I L

TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE	START TIME	STOP DATE	STOP TIME	NUCLIDE	ACTIVITY (PCI/LITER)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE	MID-COUNT TIME TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
43203	10031 BB-06-066-ST		03/07	0926			H-3	L.T. 2. E 02		03/26			5
43204	10033 BB-06-017-ST		03/07	0910			H-3	L.T. 2. E 02		03/27			5
43205	10034 BB-06-013-ST		03/07	0930			H-3	L.T. 2. E 02		03/27			5
43206	10056 BB-12-006-ST		03/07	1308			H-3	L.T. 2. E 02		03/27			5
43207	10057 BB-12-019-ST		03/07	1311			H-3	L.T. 2. E 02		03/27			5
43208	10058 BB-12-023-ST		03/07	1313			H-3	L.T. 2. E 02		03/27			5
43209	10060 BB-12-020-ST		03/07	1320			H-3	L.T. 2. E 02		03/27			5
43210	10061 BB-12-003-ST		03/07	1326			H-3	L.T. 2. E 02		03/27			5
43212	10038 BB-13-011-ST		03/07	1018			H-3	L.T. 2. E 02		03/27			5
43213	10039 BB-13-010-ST		03/07	1023			H-3	L.T. 2. E 02		03/27			5
43214	10040 BB-13-037-ST		03/07	1007			H-3	L.T. 2. E 02		03/27			5
43215	10041 BB-13-039-ST		03/07	1010			H-3	L.T. 2. E 02		03/27			5
43216	10035 BB-13-024-ST		03/07	1004			H-3	L.T. 2. E 02		03/28			5
43217	10049 BB-02-071-ST		03/07	1131			H-3	L.T. 2. E 02		03/28			5
43218	10050 BB-02-045-ST		03/07	1133			H-3	L.T. 2. E 02		03/28			5

OLD WELL
CAMPSITE (BB14)

TELEDYNE BROWN ENGINEERING ENVIRONMENTAL SERVICES

RUN DATE 04/06/94

REPORT OF ANALYSIS

PAGE 1

WORK ORDER NUMBER	CUSTOMER P.O. NUMBER	DATE RECEIVED	DELIVERY DATE
4-0185	030225/030600829	03/08/94	03/18/94

ANN MARIE HOLBROW
MCLAREN/HART
16755 VON KARMAN AVE
IRVINE CA 92714

S O I L

TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION		STA NUM	COLLECTION-DATE START DATE	START TIME	STOP DATE	STOP TIME	NUCLIDE	ACTIVITY (PCI/LITER)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE	MID-COUNT TIME TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
43169	10001	BB-04-021-ST		03/04	1405			H-3	L.T. 1. E 02		03/19			5
43171	10004	BB-04-021-FT		03/04	1405			H-3	L.T. 1. E 02		03/19			5
43172	10005	BB-04-023-ST		03/04	1415			H-3	L.T. 1. E 02		03/20			5
43173	10007	BB-04-097-ST		03/04	1415			H-3	L.T. 1. E 02		03/26			5
43174	10011	BB-04-082-ST		03/04	1420			H-3	L.T. 1. E 02		03/26			5
43175	10013	BB-04-026-ST		03/04	1435			H-3	L.T. 1. E 02		03/20			5
43176	11009	BB-04-062-ST		03/04	1435			H-3	L.T. 1. E 02		03/20			5
43177	10015	BB-04-079-ST		03/04	1445			H-3	L.T. 1. E 02		03/20			5
43178	10016	BB-04-084-ST		03/04	1450			H-3	L.T. 1. E 02		03/20			5
43179	10018	BB-04-078-ST		03/04	1500			H-3	L.T. 1. E 02		03/20			5
43180	10020	BB-04-049-ST		03/04	1500			H-3	L.T. 1. E 02		03/20			5
43183	10021	BB-14-037-ST		03/04	1603			H-3	L.T. 1. E 02		03/20			5
43184	10022	BB-14-041-ST		03/04	1500			H-3	L.T. 1. E 02		03/20			5
43185	10023	BB-14-079-ST		03/04	1605			H-3	L.T. 1. E 02		03/20			5
43186	10025	BB-14-094-ST		03/04	1625			H-3	L.T. 1. E 02		03/20			5

TELEDYNE BROWN ENGINEERING ENVIRONMENTAL SERVICES

REPORT OF ANALYSIS

WORK ORDER NUMBER	CUSTOMER P.O. NUMBER	DATE RECEIVED	DELIVERY DATE
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ANN MARIE HOLBROW
MCLAREN/HART
16755 VON KARMAN AVE
IRVINE CA 92714

S O I L

TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION		STA NUM	COLLECTION-DATE START DATE TIME	STOP DATE TIME	NUCLIDE	ACTIVITY (PCI/LITER)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
43187	10027	BB-14-004-ST		03/04 1625		H-3	L.T. 2. E 02		03/20		5
43188	10062	SM-03-012-ST		03/07 1422		H-3	L.T. 1. E 02		03/30		5
43190	10064	SM-03-015-ST		03/07 1420		H-3	L.T. 1. E 02		03/21		5
43191	10065	SM-03-009-ST		03/07 1423		H-3	L.T. 1. E 02		03/21		5
43192	10066	SM-03-001-ST		03/07 1425		H-3	L.T. 1. E 02		03/21		5
43193	10067	SM-03-014-ST		03/07 1430		H-3	L.T. 1. E 02		03/21		5
43194	10047	BB-05-003-ST		03/07 1050		H-3	L.T. 1. E 02		03/30		5
43195	10043	BB-05-089-ST		03/07 1052		H-3	L.T. 1. E 02		03/21		5
43196	10042	BB-05-089FDT		03/07 1052		H-3	L.T. 1. E 02		03/21		5
43197	10048	BB-05-006-ST		03/07 1102		H-3	L.T. 1. E 02		03/21		5
43198	10044	BB-05-057-ST		03/07 1112		H-3	L.T. 1. E 02		03/21		5
43199	10046	BB-05-077-ST		03/07 1110		H-3	L.T. 1. E 02		03/21		5
43200	10028	BB-06-007-ST		03/07 0910		H-3	L.T. 1. E 02		03/21		5
43201	10029	BB-06-092-ST		03/07 0918		H-3	L.T. 1. E 02		03/21		5
43202	10030MS	BB-06-092-MT		/		H-3	3.0 +-0.2 E 03		03/30		5

RD-51 WATERSHED
(BB15)

TELEDYNE BROWN ENGINEERING ENVIRONMENTAL SERVICES

REPORT OF ANALYSIS

WORK ORDER NUMBER	CUSTOMER P.O. NUMBER	DATE RECEIVED	DELIVERY DATE
4-0409	030225/030600829	03/14/94	04/16/94

ANN MARIE HOLBROW
MCLAREN/HART
16755 VON KARMAN AVE
IRVINE CA 92714

S O I L

TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION		STA NUM	COLLECTION-DATE START DATE TIME	COLLECTION-DATE STOP DATE TIME	NUCLIDE	ACTIVITY (PCI/GM DRY)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
44190	10312	BB-19-009-SS		03/10 1228		SR-90	6.1 +-4.1 E-02		04/28		3
44191	10313	BB-19-009-SG		03/10 1228		BE-7	L.T. 3. E-01		04/15		4
						K-40	2.37+-0.24E 01		04/15		4
						MN-54	L.T. 3. E-02		04/15		4
						CO-58	L.T. 3. E-02		04/15		4
						FE-59	L.T. 1. E-01		04/15		4
						CO-60	L.T. 3. E-02		04/15		4
						ZN-65	L.T. 7. E-02		04/15		4
						ZR-95	L.T. 4. E-02		04/15		4
						RU-103	L.T. 4. E-02		04/15		4
						RU-106	L.T. 2. E-01		04/15		4
						I-131	L.T. 5. E-01		04/15		4
						CS-134	L.T. 3. E-02		04/15		4
						CS-137	L.T. 3. E-02		04/15		4
						BA-140	L.T. 2. E-01		04/15		4
						CE-141	L.T. 8. E-02		04/15		4
						CE-144	L.T. 2. E-01		04/15		4
						RA-226	1.00+-0.34E 00		04/15		4
						TH-228	6.60+-0.66E-01		04/15		4
44202	10288	BB-15-006-SP		03/10 0930		PU-238	L.T. 1. E-02		04/09		6
						PU-239	L.T. 1. E-02		04/09		6
44204	10290	BB-15-007-SP		03/10 1010		PU-238	L.T. 1. E-02		04/09		6
						PU-239	L.T. 1. E-02		04/09		6
44205	10291	BB-15-008-SP		03/10 1016		PU-238	L.T. 1. E-02		04/09		6
						PU-239	L.T. 1. E-02		04/09		6

TELEDYNE BROWN ENGINEERING ENVIRONMENTAL SERVICES

REPORT OF ANALYSIS

RUN DATE 05/12/94

WORK ORDER NUMBER	CUSTOMER P.O. NUMBER	DATE RECEIVED	DELIVERY DATE
4-0409	030225/030600829	03/14/94	04/16/94

ANN MARIE HOLBROW
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IRVINE CA 92714

S O I L

TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION		STA NUM	COLLECTION-DATE START DATE	START TIME	STOP DATE	STOP TIME	NUCLIDE	ACTIVITY (PCI/GM DRY)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE	MID-COUNT TIME TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
44206	10292	BB-15-009-SP		03/10	1025			PU-238	L.T. 9. E-03		04/09			6
								PU-239	L.T. 9. E-03		04/09			6
44207	11191	BB-15-010-SP		03/10	1030			PU-238	L.T. 9. E-03		04/09			6
								PU-239	L.T. 9. E-03		04/09			6
44208	11029	BB-00-002-FP		03/10	1025			PU-238	L.T. 8. E-03		04/09			6
								PU-239	L.T. 1. E-02		04/09			6
44210	10282	BB-15-001-ST		03/10	0945			H-3	L.T. 2. E 02	PCI/LITER *	05/08			5
44211	10283	BB-15-001-MT		03/10	0945			H-3	L.T. 3. E 02	PCI/LITER *	05/09			5
44212	10283MS	BB-15-001-MT		/				H-3	3.3 +-0.3 E 03	PCI/LITER *	05/09			5
44213	10283MSD	BB-15-001-MT		/				H-3	3.8 +-0.3 E 03	PCI/LITER *	05/09			5
44214	10284	BB-15-002-ST		03/10	0935			H-3	L.T. 2. E 02	PCI/LITER *	05/09			5
44215	10285	BB-15-003-ST		03/10	0915			H-3	L.T. 2. E 02	PCI/LITER *	05/09			5
44216	10286	BB-15-004-ST		03/10	0910			H-3	L.T. 2. E 02	PCI/LITER *	05/09			5
44217	10287	BB-15-005-ST		03/10	0910			H-3	L.T. 2. E 02	PCI/LITER *	05/09			5
44218	11190	BB-15-001-SP		03/10	0945			PU-238	L.T. 1. E-02		04/10			6
								PU-239	L.T. 1. E-02		04/10			6

RADIOACTIVE MATERIALS
DISPOSAL FACILITY
WATERSHED (BB16)

TELEDYNE BROWN ENGINEERI[illegible] ENVIRONMENTAL SERVICES

REPORT OF ANALYSIS

WORK ORDER NUMBER	CUSTOMER P.O. NUMBER	DATE RECEIVED	DELIVERY DATE
4-0354	030225/030600829	03/11/94	04/13/94

ANN MARIE HOLBROW
MCLAREN/HART
16755 VON KARMAN AVE
IRVINE CA 92714

S O I L

TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION		STA NUM	COLLECTION-DATE START DATE TIME	STOP DATE TIME	NUCLIDE	ACTIVITY (PCI/GM DRY)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
43896	11155	BB-16-B002-SS		03/09 1330		SR-90	L.T. 7. E-02		03/30		3
43897	11156	BB-16-B002-SG		03/09 1330		BE-7	L.T. 4. E-01		03/31		4
						K-40	2.14+-0.21E 01		03/31		4
						MN-54	L.T. 4. E-02		03/31		4
						CO-58	L.T. 5. E-02		03/31		4
						FE-59	L.T. 1. E-01		03/31		4
						CO-60	L.T. 5. E-02		03/31		4
						ZN-65	L.T. 1. E-01		03/31		4
						ZR-95	L.T. 6. E-02		03/31		4
						RU-103	L.T. 6. E-02		03/31		4
						RU-106	L.T. 4. E-01		03/31		4
						I-131	L.T. 2. E-01		03/31		4
						CS-134	L.T. 5. E-02		03/31		4
						CS-137	L.T. 4. E-02		03/31		4
						BA-140	L.T. 1. E-01		03/31		4
						CE-141	L.T. 9. E-02		03/31		4
						CE-144	L.T. 3. E-01		03/31		4
						RA-226	2.44+-0.65E 00		03/31		4
						TH-228	1.13+-0.11E 00		03/31		4
43898	10273	BB-16-B003-ST		03/09 1345		H-3	L.T. 1. E 02	PCI/LITER *	04/30		5
43899	10274	BB-16-B003-SS		03/09 1345		SR-90	L.T. 7. E-02		03/30		3
43900	10275	BB-16-B003-SG		03/09 1345		BE-7	L.T. 5. E-01		03/31		4
						K-40	2.25+-0.22E 01		03/31		4
						MN-54	L.T. 5. E-02		03/31		4
						CO-58	L.T. 5. E-02		03/31		4
						FE-59	L.T. 1. E-01		03/31		4
						CO-60	L.T. 5. E-02		03/31		4
						ZN-65	L.T. 1. E-01		03/31		4
						ZR-95	L.T. 6. E-02		03/31		4

TELEDYNE BROWN ENGINEERING ENVIRONMENTAL SERVICES

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WORK ORDER NUMBER	CUSTOMER P.O. NUMBER	DATE RECEIVED	DELIVERY DATE
4-0354	030225/030600829	03/11/94	04/13/94

ANN MARIE HOLBROW
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IRVINE CA 92714

S O I L

TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION		STA NUM	COLLECTION-DATE START DATE	TIME	STOP DATE	TIME	NUCLIDE	ACTIVITY (PCI/GM DRY)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE	TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
43900	10275	BB-16-B003-SG		03/09	1345			RU-103	L.T. 5. E-02		03/31			4
								RU-106	L.T. 4. E-01		03/31			4
								I-131	L.T. 3. E-01		03/31			4
								CS-134	L.T. 6. E-02		03/31			4
								CS-137	8.72+-4.15E-02		03/31			4
								BA-140	L.T. 1. E-01		03/31			4
								CE-141	L.T. 1. E-01		03/31			4
								CE-144	L.T. 3. E-01		03/31			4
								RA-226	1.53+-0.58E 00		03/31			4
								TH-228	1.25+-0.12E 00		03/31			4
43901	11157	BB-16-B003-SS		03/09	1350			SR-90	L.T. 7. E-02		03/30			3
43902	11158	BB-16-B003-ST		03/09	1350			H-3	L.T. 1. E 02	PCI/LITER *	04/30			5
43903	11159	BB-16-B003-SG		03/09	1350			BE-7	L.T. 5. E-01		03/31			4
								K-40	2.18+-0.22E 01		03/31			4
								MN-54	L.T. 5. E-02		03/31			4
								CO-58	L.T. 5. E-02		03/31			4
								FE-59	L.T. 1. E-01		03/31			4
								CO-60	L.T. 5. E-02		03/31			4
								ZN-65	L.T. 1. E-01		03/31			4
								ZR-95	L.T. 6. E-02		03/31			4
								RU-103	L.T. 6. E-02		03/31			4
								RU-106	L.T. 4. E-01		03/31			4
								I-131	L.T. 3. E-01		03/31			4
								CS-134	L.T. 6. E-02		03/31			4
								CS-137	L.T. 5. E-02		03/31			4
								BA-140	L.T. 2. E-01		03/31			4
								CE-141	L.T. 1. E-01		03/31			4
								CE-144	L.T. 3. E-01		03/31			4
								RA-226	1.92+-0.71E 00		03/31			4
								TH-228	1.15+-0.11E 00		03/31			4

TELEDYNE BROWN ENGINEERING ENVIRONMENTAL SERVICES

REPORT OF ANALYSIS

WORK ORDER NUMBER	CUSTOMER P.O. NUMBER	DATE RECEIVED	DELIVERY DATE
4-0354	030225/030600829	03/11/94	04/13/94

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TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION		STA NUM	COLLECTION-DATE START DATE TIME	STOP DATE TIME	NUCLIDE	ACTIVITY (PCI/LITER)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
43904	10276	BB-16-B004-ST		03/09 1410		H-3	L.T. 1. E 02		04/30		5
43905	10277	BB-16-B004-SS		03/09 1410		SR-90	L.T. 1. E-01	PCI/GM DRY *	04/01		3
43906	11027	BB-00-001-FS		03/09 1037		SR-90	1.9 +-0.3 E-01	PCI/GM DRY *	04/04		3
43907	10234	BB-16-008-ST		03/09 1014		H-3	L.T. 1. E 02		04/30		5
43908	10235	BB-16-008-SS		03/09 1014		SR-90	1.5 +-0.9 E-01	PCI/GM DRY *	04/04		3
43909	10236	BB-16-008-SG		03/09 1014		BE-7	L.T. 4. E-01	PCI/GM DRY *	03/31		4
						K-40	2.39+-0.24E 01	PCI/GM DRY *	03/31		4
						MN-54	L.T. 3. E-02	PCI/GM DRY *	03/31		4
						CO-58	L.T. 4. E-02	PCI/GM DRY *	03/31		4
						FE-59	L.T. 1. E-01	PCI/GM DRY *	03/31		4
						CO-60	L.T. 4. E-02	PCI/GM DRY *	03/31		4
						ZN-65	L.T. 1. E-01	PCI/GM DRY *	03/31		4
						ZR-95	L.T. 4. E-02	PCI/GM DRY *	03/31		4
						RU-103	L.T. 4. E-02	PCI/GM DRY *	03/31		4
						RU-106	L.T. 3. E-01	PCI/GM DRY *	03/31		4
						I-131	L.T. 2. E-01	PCI/GM DRY *	03/31		4
						CS-134	L.T. 4. E-02	PCI/GM DRY *	03/31		4
						CS-137	L.T. 4. E-02	PCI/GM DRY *	03/31		4
						BA-140	L.T. 1. E-01	PCI/GM DRY *	03/31		4
						CE-141	L.T. 6. E-02	PCI/GM DRY *	03/31		4
						CE-144	L.T. 2. E-01	PCI/GM DRY *	03/31		4
						RA-226	1.50+-0.51E 00	PCI/GM DRY *	03/31		4
						TH-228	8.80+-0.88E-01	PCI/GM DRY *	03/31		4

TELEDYNE BROWN ENGINEERING ENVIRONMENTAL SERVICES RUN DATE 05/04/94

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WORK ORDER NUMBER	CUSTOMER P.O. NUMBER	DATE RECEIVED	DELIVERY DATE
4-0354	030225/030600829	03/11/94	04/13/94

ANN MARIE HOLBROW
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16755 VON KARMAN AVE
IRVINE CA 92714

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TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION		STA NUM	COLLECTION-DATE START DATE TIME	STOP DATE TIME	NUCLIDE	ACTIVITY (PCI/LITER)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
43911	10237	BB-16-009-ST		03/09 0925		H-3	L.T. 1. E 02		04/30		5
43912	10238	BB-16-009-SS		03/09 0925		SR-90	2.4 +-0.4 E-01	PCI/GM DRY *	04/04		3
43913	10239	BB-16-009-SG		03/09 0925		BE-7	L.T. 4. E-01	PCI/GM DRY *	04/01		4
						K-40	2.38+-0.24E 01	PCI/GM DRY *	04/01		4
						MN-54	L.T. 4. E-02	PCI/GM DRY *	04/01		4
						CO-58	L.T. 4. E-02	PCI/GM DRY *	04/01		4
						FE-59	L.T. 1. E-01	PCI/GM DRY *	04/01		4
						CO-60	L.T. 5. E-02	PCI/GM DRY *	04/01		4
						ZN-65	L.T. 1. E-01	PCI/GM DRY *	04/01		4
						ZR-95	L.T. 6. E-02	PCI/GM DRY *	04/01		4
						RU-103	L.T. 6. E-02	PCI/GM DRY *	04/01		4
						RU-106	L.T. 4. E-01	PCI/GM DRY *	04/01		4
						I-131	L.T. 3. E-01	PCI/GM DRY *	04/01		4
						CS-134	L.T. 5. E-02	PCI/GM DRY *	04/01		4
						CS-137	1.99+-0.44E-01	PCI/GM DRY *	04/01		4
						BA-140	L.T. 2. E-01	PCI/GM DRY *	04/01		4
						CE-141	L.T. 1. E-01	PCI/GM DRY *	04/01		4
						CE-144	L.T. 3. E-01	PCI/GM DRY *	04/01		4
						RA-226	1.77+-0.58E 00	PCI/GM DRY *	04/01		4
						TH-228	1.30+-0.13E 00	PCI/GM DRY *	04/01		4
43914	10240	BB-16-010-ST		03/09 0945		H-3	L.T. 1. E 02		04/30		5
43915	10241	BB-16-010-SS		03/09 0945		SR-90	1.4 +-0.7 E-01	PCI/GM DRY *	04/03		3
43916	10242	BB-16-010-SG		03/09 0945		BE-7	L.T. 3. E-01	PCI/GM DRY *	03/31		4
						K-40	2.41+-0.24E 01	PCI/GM DRY *	03/31		4
						MN-54	L.T. 4. E-02	PCI/GM DRY *	03/31		4
						CO-58	L.T. 3. E-02	PCI/GM DRY *	03/31		4
						FE-59	L.T. 8. E-02	PCI/GM DRY *	03/31		4
						CO-60	L.T. 3. E-02	PCI/GM DRY *	03/31		4

TELEDYNE BROWN ENGINEERING ENVIRONMENTAL SERVICES

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WORK ORDER NUMBER	CUSTOMER P.O. NUMBER	DATE RECEIVED	DELIVERY DATE
4-0354	030225/030600829	03/11/94	04/13/94

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TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION		STA NUM	COLLECTION-DATE START DATE TIME	STOP DATE TIME	NUCLIDE	ACTIVITY (PCI/GM DRY)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
43916	10242	BB-16-010-SG		03/09 0945		ZN-65	L.T. 8. E-02		03/31		4
						ZR-95	L.T. 4. E-02		03/31		4
						RU-103	L.T. 4. E-02		03/31		4
						RU-106	L.T. 3. E-01		03/31		4
						I-131	L.T. 2. E-01		03/31		4
						CS-134	L.T. 4. E-02		03/31		4
						CS-137	7.54+-2.83E-02		03/31		4
						BA-140	L.T. 1. E-01		03/31		4
						CE-141	L.T. 7. E-02		03/31		4
						CE-144	L.T. 2. E-01		03/31		4
						RA-226	1.57+-0.45E 00		03/31		4
						TH-228	9.94+-0.99E-01		03/31		4
43917	10144	BB-17-005-ST		03/09 1615		H-3	L.T. 1. E 02	PCI/LITER *	04/30		5
43918	10145	BB-17-005-SP		03/09 1615		PU-238	L.T. 1. E-02		03/29		6
						PU-239	L.T. 2. E-02		03/29		6
43919	10146	BB-17-005-SG		03/09 1615		BE-7	L.T. 5. E-01		03/31		4
						K-40	2.44+-0.24E 01		03/31		4
						MN-54	L.T. 5. E-02		03/31		4
						CO-58	L.T. 5. E-02		03/31		4
						FE-59	L.T. 1. E-01		03/31		4
						CO-60	L.T. 5. E-02		03/31		4
						ZN-65	L.T. 1. E-01		03/31		4
						ZR-95	L.T. 6. E-02		03/31		4
						RU-103	L.T. 6. E-02		03/31		4
						RU-106	L.T. 4. E-01		03/31		4
						I-131	L.T. 3. E-01		03/31		4
						CS-134	L.T. 5. E-02		03/31		4
						CS-137	2.18+-0.43E-01		03/31		4
						BA-140	L.T. 1. E-01		03/31		4
						CE-141	L.T. 8. E-02		03/31		4

TELEDYNE BROWN ENGINEERING ENVIRONMENTAL SERVICES

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TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION		STA NUM	COLLECTION-DATE START DATE	TIME	STOP DATE	TIME	NUCLIDE	ACTIVITY (PCI/GM DRY)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE	TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
43949	10172	BB-17-007B-SG		03/09	1401			BE-7	L.T. 4. E-01		04/01			4
								K-40	2.45+-0.24E 01		04/01			4
								MN-54	L.T. 4. E-02		04/01			4
								CO-58	L.T. 5. E-02		04/01			4
								FE-59	L.T. 1. E-01		04/01			4
								CO-60	L.T. 5. E-02		04/01			4
								ZN-65	L.T. 1. E-01		04/01			4
								ZR-95	L.T. 7. E-02		04/01			4
								RU-103	L.T. 6. E-02		04/01			4
								RU-106	L.T. 4. E-01		04/01			4
								I-131	L.T. 3. E-01		04/01			4
								CS-134	L.T. 5. E-02		04/01			4
								CS-137	2.99+-0.51E-01		04/01			4
								BA-140	L.T. 2. E-01		04/01			4
								CE-141	L.T. 9. E-02		04/01			4
								CE-144	L.T. 2. E-01		04/01			4
								RA-226	4.14+-0.74E 00		04/01			4
								TH-228	1.33+-0.13E 00		04/01			4
43950	10278	BB-16-B004-SG		03/09	1410			BE-7	L.T. 4. E-01		04/01			4
								K-40	2.62+-0.26E 01		04/01			4
								MN-54	L.T. 4. E-02		04/01			4
								CO-58	L.T. 4. E-02		04/01			4
								FE-59	L.T. 1. E-01		04/01			4
								CO-60	L.T. 4. E-02		04/01			4
								ZN-65	L.T. 1. E-01		04/01			4
								ZR-95	L.T. 5. E-02		04/01			4
								RU-103	L.T. 5. E-02		04/01			4
								RU-106	L.T. 3. E-01		04/01			4
								I-131	L.T. 3. E-01		04/01			4
								CS-134	L.T. 5. E-02		04/01			4
								CS-137	L.T. 4. E-02		04/01			4
								BA-140	L.T. 2. E-01		04/01			4

TELEDYNE BROWN ENGINEERING ENVIRONMENTAL SERVICES

REPORT OF ANALYSIS

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TELEDYNE SAMPLE NUMBER		CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE TIME	STOP DATE TIME	NUCLIDE	ACTIVITY (PCI/GM DRY)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
43950	10278	BB-16-B004-SG		03/09 1410		CE-141	L.T. 1. E-01		04/01		4
						CE-144	L.T. 3. E-01		04/01		4
						RA-226	1.75+-0.56E 00		04/01		4
						TH-228	1.37+-0.14E 00		04/01		4
43951	11160	BB-16-B004-ST		03/09 1420		H-3	2.7 +-1.5 E 02	PCI/LITER *	05/01		5
43953	11161	BB-16-B004-SS		03/09 1420		SR-90	L.T. 9. E-02		04/03		3
43954	11162	BB-16-B004-SG		03/09 1420		BE-7	L.T. 6. E-01		04/01		4
						K-40	2.95+-0.30E 01		04/01		4
						MN-54	L.T. 6. E-02		04/01		4
						CO-58	L.T. 6. E-02		04/01		4
						FE-59	L.T. 2. E-01		04/01		4
						CO-60	L.T. 5. E-02		04/01		4
						ZN-65	L.T. 1. E-01		04/01		4
						ZR-95	L.T. 8. E-02		04/01		4
						RU-103	L.T. 8. E-02		04/01		4
						RU-106	L.T. 5. E-01		04/01		4
						I-131	L.T. 4. E-01		04/01		4
						CS-134	L.T. 7. E-02		04/01		4
						CS-137	L.T. 7. E-02		04/01		4
						BA-140	L.T. 2. E-01		04/01		4
						CE-141	L.T. 1. E-01		04/01		4
						CE-144	L.T. 3. E-01		04/01		4
						RA-226	3.55+-0.86E 00		04/01		4
						TH-228	1.82+-0.18E 00		04/01		4
43955	10279	BB-16-B005-ST		03/09 1435		H-3	L.T. 1. E 02	PCI/LITER *	05/01		5

TELEDYNE BROWN ENGINEERING ENVIRONMENTAL SERVICES

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WORK ORDER NUMBER	CUSTOMER P.O. NUMBER	DATE RECEIVED	DELIVERY DATE
4-0354	030225/030600829	03/11/94	04/13/94

ANN MARIE HOLBROW
MCLAREN/HART
16755 VON KARMAN AVE
IRVINE CA 92714

S O I L

TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION		STA NUM	COLLECTION-DATE START DATE	TIME	STOP DATE	TIME	NUCLIDE	ACTIVITY (PCI/GM DRY)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE	TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
43956	10280	BB-16-B005-SS		03/09	1435			SR-90	L.T. 5. E-02		04/07			3
43957	11147	BB-16-B005-SG		03/09	1435			BE-7	L.T. 6. E-01		04/01			4
								K-40	2.67+-0.27E 01		04/01			4
								MN-54	L.T. 5. E-02		04/01			4
								CO-58	L.T. 6. E-02		04/01			4
								FE-59	L.T. 1. E-01		04/01			4
								CO-60	L.T. 5. E-02		04/01			4
								ZN-65	L.T. 1. E-01		04/01			4
								ZR-95	L.T. 7. E-02		04/01			4
								RU-103	L.T. 7. E-02		04/01			4
								RU-106	L.T. 5. E-01		04/01			4
								I-131	L.T. 4. E-01		04/01			4
								CS-134	L.T. 7. E-02		04/01			4
								CS-137	L.T. 5. E-02		04/01			4
								BA-140	L.T. 2. E-01		04/01			4
								CE-141	L.T. 1. E-01		04/01			4
								CE-144	L.T. 3. E-01		04/01			4
								RA-226	2.54+-0.80E 00		04/01			4
								TH-228	1.70+-0.17E 00		04/01			4
43958	11163	BB-16-B005-ST		03/09	1440			H-3	L.T. 2. E 02	PCI/LITER *	05/01			5
43959	11164	BB-16-B005-SS		03/09	1440			SR-90	L.T. 8. E-02		04/07			3
43960	11165	BB-16-B005-SG		03/09	1440			BE-7	L.T. 6. E-01		04/02			4
								K-40	2.96+-0.30E 01		04/02			4
								MN-54	L.T. 6. E-02		04/02			4
								CO-58	L.T. 7. E-02		04/02			4
								FE-59	L.T. 2. E-01		04/02			4
								CO-60	L.T. 6. E-02		04/02			4
								ZN-65	L.T. 2. E-01		04/02			4
								ZR-95	L.T. 8. E-02		04/02			4

TELEDYNE BROWN ENGINEERING ENVIRONMENTAL SERVICES

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ANN MARIE HOLBROW
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S O I L

TELEDYNE SAMPLE NUMBER		CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE TIME	STOP DATE TIME	NUCLIDE	ACTIVITY (PCI/GM DRY)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
43960	11165	BB-16-B005-SG		03/09 1440		RU-103	L.T. 8. E-02		04/02		4
						RU-106	L.T. 5. E-01		04/02		4
						I-131	L.T. 4. E-01		04/02		4
						CS-134	L.T. 7. E-02		04/02		4
						CS-137	L.T. 6. E-02		04/02		4
						BA-140	L.T. 2. E-01		04/02		4
						CE-141	L.T. 1. E-01		04/02		4
						CE-144	L.T. 4. E-01		04/02		4
						RA-226	3.69+-0.87E 00		04/02		4
						TH-228	2.53+-0.25E 00		04/02		4
43961	10267	BB-16-B001-ST		03/09 1130		H-3	L.T. 2. E 02	PCI/LITER *	05/01		5
43962	10268	BB-16-B001-SS		03/09 1130		SR-90	L.T. 5. E-02		04/07		3
43963	10269	BB-16-B001-SG		03/09 1130		BE-7	L.T. 5. E-01		04/02		4
						K-40	2.41+-0.24E 01		04/02		4
						MN-54	L.T. 5. E-02		04/02		4
						CO-58	L.T. 6. E-02		04/02		4
						FE-59	L.T. 1. E-01		04/02		4
						CO-60	L.T. 5. E-02		04/02		4
						ZN-65	L.T. 1. E-01		04/02		4
						ZR-95	L.T. 7. E-02		04/02		4
						RU-103	L.T. 7. E-02		04/02		4
						RU-106	L.T. 4. E-01		04/02		4
						I-131	L.T. 4. E-01		04/02		4
						CS-134	L.T. 7. E-02		04/02		4
						CS-137	1.47+-0.51E-01		04/02		4
						BA-140	L.T. 2. E-01		04/02		4
						CE-141	L.T. 1. E-01		04/02		4
						CE-144	L.T. 3. E-01		04/02		4
						RA-226	3.19+-0.81E 00		04/02		4
						TH-228	1.63+-0.16E 00		04/02		4

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ANN MARIE HOLBROW
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S O I L

TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION		STA NUM	COLLECTION-DATE START DATE	TIME	STOP DATE	TIME	NUCLIDE	ACTIVITY (PCI/LITER)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE	TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
43964	11148	BB-16-B001-ST		03/09	1300			H-3	L.T. 2. E 02		05/02			5
43965	11149	BB-16-B001-SS		03/09	1300			SR-90	9.3 +-4.2 E-02	PCI/GM DRY *	04/07			3
43966	11150	BB-16-B001-SG		03/09	1300			BE-7	L.T. 8. E-01	PCI/GM DRY *	04/02			4
								K-40	3.00+-0.30E 01	PCI/GM DRY *	04/02			4
								MN-54	L.T. 8. E-02	PCI/GM DRY *	04/02			4
								CO-58	L.T. 8. E-02	PCI/GM DRY *	04/02			4
								FE-59	L.T. 2. E-01	PCI/GM DRY *	04/02			4
								CO-60	L.T. 7. E-02	PCI/GM DRY *	04/02			4
								ZN-65	L.T. 2. E-01	PCI/GM DRY *	04/02			4
								ZR-95	L.T. 1. E-01	PCI/GM DRY *	04/02			4
								RU-103	L.T. 1. E-01	PCI/GM DRY *	04/02			4
								RU-106	L.T. 7. E-01	PCI/GM DRY *	04/02			4
								I-131	L.T. 6. E-01	PCI/GM DRY *	04/02			4
								CS-134	L.T. 9. E-02	PCI/GM DRY *	04/02			4
								CS-137	L.T. 8. E-02	PCI/GM DRY *	04/02			4
								BA-140	L.T. 3. E-01	PCI/GM DRY *	04/02			4
								CE-141	L.T. 2. E-01	PCI/GM DRY *	04/02			4
								CE-144	L.T. 4. E-01	PCI/GM DRY *	04/02			4
								RA-226	2.86+-0.95E 00	PCI/GM DRY *	04/02			4
								TH-228	2.04+-0.20E 00	PCI/GM DRY *	04/02			4
43967	10270	BB-16-B002-ST		03/09	1320			H-3	L.T. 1. E 02		05/02			5
43968	10271	BB-16-B002-SS		03/09	1320			SR-90	L.T. 8. E-02	PCI/GM DRY *	04/08			3
43969	10272	BB-16-B002-SG		03/09	1320			BE-7	L.T. 5. E-01	PCI/GM DRY *	04/02			4
								K-40	3.12+-0.31E 01	PCI/GM DRY *	04/02			4
								MN-54	L.T. 5. E-02	PCI/GM DRY *	04/02			4
								CO-58	L.T. 5. E-02	PCI/GM DRY *	04/02			4
								FE-59	L.T. 1. E-01	PCI/GM DRY *	04/02			4
								CO-60	L.T. 5. E-02	PCI/GM DRY *	04/02			4

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ANN MARIE HOLBROW
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IRVINE CA 92714

S O I L

TELEDYNE SAMPLE NUMBER		CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE TIME	STOP DATE TIME	NUCLIDE	ACTIVITY (PCI/GM DRY)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
43969	10272	BB-16-B002-SG		03/09 1320		ZN-65	L.T. 1. E-01		04/02		4
						ZR-95	L.T. 6. E-02		04/02		4
						RU-103	L.T. 7. E-02		04/02		4
						RU-106	L.T. 4. E-01		04/02		4
						I-131	L.T. 3. E-01		04/02		4
						CS-134	L.T. 6. E-02		04/02		4
						CS-137	1.09+-0.44E-01		04/02		4
						BA-140	L.T. 2. E-01		04/02		4
						CE-141	L.T. 1. E-01		04/02		4
						CE-144	L.T. 3. E-01		04/02		4
						RA-226	3.49+-0.79E 00		04/02		4
						TH-228	2.05+-0.21E 00		04/02		4
43970	11154	BB-16-B002-ST		03/09 1330		H-3	L.T. 1. E 02	PCI/LITER *	05/02		5
43971	11135	BB-17-010-ST		03/09 1650		H-3	L.T. 1. E 02	PCI/LITER *	05/02		5
43972	11137	BB-17-010-SP		03/09 1650		PU-238	L.T. 1. E-02		04/05		6
						PU-239	L.T. 1. E-02		04/05		6
43974	11139	BB-17-010-SG		03/09 1650		BE-7	L.T. 5. E-01		04/02		4
						K-40	2.04+-0.20E 01		04/02		4
						MN-54	L.T. 5. E-02		04/02		4
						CO-58	L.T. 6. E-02		04/02		4
						FE-59	L.T. 1. E-01		04/02		4
						CO-60	L.T. 5. E-02		04/02		4
						ZN-65	L.T. 1. E-01		04/02		4
						ZR-95	L.T. 7. E-02		04/02		4
						RU-103	L.T. 7. E-02		04/02		4
						RU-106	L.T. 4. E-01		04/02		4
						I-131	L.T. 4. E-01		04/02		4
						CS-134	L.T. 6. E-02		04/02		4
						CS-137	1.16+-0.46E-01		04/02		4

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ANN MARIE HOLBROW
MCLAREN/HART
16755 VON KARMAN AVE
IRVINE CA 92714

S O I L

TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION		STA NUM	COLLECTION-DATE START DATE TIME	STOP DATE TIME	NUCLIDE	ACTIVITY (PCI/GM DRY)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
43974	11139	88-17-010-SG		03/09 1650		BA-140	L.T. 2. E-01		04/02		4
						CE-141	L.T. 1. E-01		04/02		4
						CE-144	L.T. 4. E-01		04/02		4
						RA-226	1.55+-0.86E 00		04/02		4
						TH-228	1.44+-0.14E 00		04/02		4
43975	11025	88-00-002-FG 16-SCC		03/09 1100		BE-7	L.T. 4. E-01		04/02		4
						K-40	2.41+-0.24E 01		04/02		4
						MN-54	L.T. 4. E-02		04/02		4
						CO-58	L.T. 4. E-02		04/02		4
						FE-59	L.T. 1. E-01		04/02		4
						CO-60	L.T. 4. E-02		04/02		4
						ZN-65	L.T. 1. E-01		04/02		4
						ZR-95	L.T. 5. E-02		04/02		4
						RU-103	L.T. 5. E-02		04/02		4
						RU-106	L.T. 3. E-01		04/02		4
						I-131	L.T. 3. E-01		04/02		4
						CS-134	L.T. 5. E-02		04/02		4
						CS-137	7.64+-3.15E-02		04/02		4
						BA-140	L.T. 1. E-01		04/02		4
						CE-141	L.T. 9. E-02		04/02		4
						CE-144	L.T. 3. E-01		04/02		4
						RA-226	1.42+-0.57E 00		04/02		4
						TH-228	7.55+-0.76E-01		04/02		4
43976	10193	88-17-009B-SP		03/09 1420		PU-238	L.T. 8. E-03		04/14		6
						PU-239	L.T. 1. E-02		04/14		6
43977	10194	88-17-009B-SG		03/09 1420		BE-7	L.T. 4. E-01		04/02		4
						K-40	2.36+-0.24E 01		04/02		4
						MN-54	L.T. 4. E-02		04/02		4
						CO-58	L.T. 4. E-02		04/02		4
						FE-59	L.T. 1. E-01		04/02		4

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WORK ORDER NUMBER	CUSTOMER P.O. NUMBER	DATE RECEIVED	DELIVERY DATE
4-0354	030225/030600829	03/11/94	04/13/94

ANN MARIE HOLBROW
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16755 VON KARMAN AVE
IRVINE CA 92714

S O I L

TELEDYNE SAMPLE NUMBER		CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE TIME	STOP DATE TIME	NUCLIDE	ACTIVITY (PCI/GM DRY)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
43977	10194	BB-17-009B-SG		03/09 1420		CO-60	L.T. 4. E-02		04/02		4
						ZN-65	L.T. 1. E-01		04/02		4
						ZR-95	L.T. 6. E-02		04/02		4
						RU-103	L.T. 5. E-02		04/02		4
						RU-106	L.T. 4. E-01		04/02		4
						I-131	L.T. 3. E-01		04/02		4
						CS-134	L.T. 4. E-02		04/02		4
						CS-137	3.60+-0.45E-01		04/02		4
						BA-140	L.T. 1. E-01		04/02		4
						CE-141	L.T. 9. E-02		04/02		4
						CE-144	L.T. 3. E-01		04/02		4
						RA-226	2.17+-0.62E 00		04/02		4
						TH-228	1.23+-0.12E 00		04/02		4
43978	10226	BB-16-006-ST		03/09 1100		H-3	L.T. 1. E 02	PCI/LITER *	05/02		5
43979	10227	BB-16-006-SS		03/09 1100		SR-90	8.0 +-4.4 E-02		04/08		3
43980	10228	BB-16-006-SG		03/09 1100		BE-7	L.T. 3. E-01		04/02		4
						K-40	2.50+-0.25E 01		04/02		4
						MN-54	L.T. 3. E-02		04/02		4
						CO-58	L.T. 3. E-02		04/02		4
						FE-59	L.T. 9. E-02		04/02		4
						CO-60	L.T. 3. E-02		04/02		4
						ZN-65	L.T. 8. E-02		04/02		4
						ZR-95	L.T. 4. E-02		04/02		4
						RU-103	L.T. 4. E-02		04/02		4
						RU-106	L.T. 3. E-01		04/02		4
						I-131	L.T. 2. E-01		04/02		4
						CS-134	L.T. 3. E-02		04/02		4
						CS-137	4.64+-2.16E-02		04/02		4
						BA-140	L.T. 1. E-01		04/02		4
						CE-141	L.T. 7. E-02		04/02		4

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ANN MARIE HOLBROW
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TELEDYNE SAMPLE NUMBER		CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE TIME	STOP DATE TIME	NUCLIDE	ACTIVITY (PCI/GM DRY)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
43980	10228	BB-16-006-SG		03/09 1100		CF-144	L.T. 2. E-01		04/02		4
						RA-226	1.06+-0.42E 00		04/02		4
						TH-228	7.49+-0.75E-01		04/02		4
43981	10230	BB-16-007-ST		03/09 1037		H-3	2.3 +-1.0 E 02	PCI/LITER *	05/02		5
43982	10231	BB-16-007-SS		03/09 1037		SR-90	1.1 +-0.5 E-01		04/08		3
43983	10232	BB-16-007-SG		03/09 1037		BE-7	L.T. 4. E-01		04/02		4
						K-40	2.31+-0.23E 01		04/02		4
						MN-54	L.T. 4. E-02		04/02		4
						CO-58	L.T. 4. E-02		04/02		4
						FE-59	L.T. 1. E-01		04/02		4
						CO-60	L.T. 4. E-02		04/02		4
						ZN-65	L.T. 1. E-01		04/02		4
						ZR-95	L.T. 6. E-02		04/02		4
						RU-103	L.T. 5. E-02		04/02		4
						RU-106	L.T. 3. E-01		04/02		4
						I-131	L.T. 3. E-01		04/02		4
						CS-134	L.T. 4. E-02		04/02		4
						CS-137	L.T. 4. E-02		04/02		4
						BA-140	L.T. 1. E-01		04/02		4
						CE-141	L.T. 9. E-02		04/02		4
						CE-144	L.T. 3. E-01		04/02		4
						RA-226	1.65+-0.62E 00		04/02		4
						TH-228	7.91+-0.79E-01		04/02		4
43984	11026	BB-00-005-FT		03/09 1037		H-3	2.1 +-1.0 E 02	PCI/LITER *	05/02		5

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ANN MARIE HOLBROW
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16755 VON KARMAN AVE
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S O I L

TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE	START TIME	STOP DATE	STOP TIME	NUCLIDE	ACTIVITY (PCI/GM DRY)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE	MID-COUNT TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
43910	10236DUP BB-16-008-SG		03/09	1014			BE-7	L.T. 6. E-01		04/13			4
							K-40	2.33+-0.23E 01		04/13			4
							MN-54	L.T. 4. E-02		04/13			4
							CO-58	L.T. 5. E-02		04/13			4
							FE-59	L.T. 2. E-01		04/13			4
							CO-60	L.T. 4. E-02		04/13			4
							ZN-65	L.T. 1. E-01		04/13			4
							ZR-95	L.T. 7. E-02		04/13			4
							RU-103	L.T. 7. E-02		04/13			4
							RU-106	L.T. 4. E-01		04/13			4
							I-131	L.T. 8. E-01		04/13			4
							CS-134	L.T. 5. E-02		04/13			4
							CS-137	L.T. 5. E-02		04/13			4
							BA-140	L.T. 3. E-01		04/13			4
							CE-141	L.T. 1. E-01		04/13			4
							CE-144	L.T. 3. E-01		04/13			4
							RA-226	L.T. 8. E-01		04/13			4
							TH-228	8.63+-0.86E-01		04/13			4
43931	10155DUP BB-17-006-SP		03/09	1540			PU-239	L.T. 2. E-02		03/29			6
							PU-238	L.T. 2. E-02		03/29			6
43952	11160DUPBB-16-B004-ST		03/09	1420			H-3	2.9 +-1.5 E 02	PCI/LITER *	05/01			5
43973	11137DUPBB-17-010 -SP		03/09	1650			PU-239	L.T. 2. E-02		04/05			6
							PU-238	L.T. 2. E-02		04/05			6
43997	10192DUPBB-17-009A-ST		03/09				H-3	L.T. 2. E 02	PCI/LITER *	05/02			5

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4-0354	030225/030600829	03/11/94	04/13/94

ANN MARIE HOLBROW
MCLAREN/HART
16755 VON KARMAN AVE
IRVINE CA 92714

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TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION		STA NUM	COLLECTION-DATE START DATE TIME	STOP DATE TIME	NUCLIDE	ACTIVITY (PCI/GM DRY)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
43916	10242	BB-16-010-SG		03/09 0945		ZN-65	L.T. 8. E-02		03/31		4
						ZR-95	L.T. 4. E-02		03/31		4
						RU-103	L.T. 4. E-02		03/31		4
						RU-106	L.T. 3. E-01		03/31		4
						I-131	L.T. 2. E-01		03/31		4
						CS-134	L.T. 4. E-02		03/31		4
						CS-137	7.54+-2.83E-02		03/31		4
						BA-140	L.T. 1. E-01		03/31		4
						CE-141	L.T. 7. E-02		03/31		4
						CE-144	L.T. 2. E-01		03/31		4
						RA-226	1.57+-0.45E 00		03/31		4
						TH-228	9.94+-0.99E-01				
43917	10144	BB-17-005-ST		03/09 1615		H-3	L.T. 1. E 02	PCI/LITER *	04/30		5
43918	10145	BB-17-005-SP		03/09 1615		PU-238	L.T. 1. E-02		03/29		6
						PU-239	L.T. 2. E-02		03/29		6
43919	10146	BB-17-005-SG		03/09 1615		BE-7	L.T. 5. E-01		03/31		4
						K-40	2.44+-0.24E 01		03/31		4
						MN-54	L.T. 5. E-02		03/31		4
						CO-58	L.T. 5. E-02		03/31		4
						FE-59	L.T. 1. E-01		03/31		4
						CO-60	L.T. 5. E-02		03/31		4
						ZN-65	L.T. 1. E-01		03/31		4
						ZR-95	L.T. 6. E-02		03/31		4
						RU-103	L.T. 6. E-02		03/31		4
						RU-106	L.T. 4. E-01		03/31		4
						I-131	L.T. 3. E-01		03/31		4
						CS-134	L.T. 5. E-02		03/31		4
						CS-137	2.18+-0.43E-01		03/31		4
						BA-140	L.T. 1. E-01		03/31		4
						CE-141	L.T. 8. E-02		03/31		4

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ANN MARIE HULBROW
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TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE TIME	STOP DATE TIME	NUCLIDE	ACTIVITY (PCI/GM DRY)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
43919	10146 BB-17-005-SG		03/09 1615		CE-144	L.T. 3. E-01		03/31		4
					RA-226	1.86+-0.61E 00		03/31		4
					TH-228	1.22+-0.12E 00		03/31		4
					H-3	L.T. 1. E 02	PCI/LITER *	04/30		5
43922	10148 BB-17-005A-ST		03/09 1630		PU-238	L.T. 2. E-02		03/29		6
43923	10149 BB-17-005A-SP		03/09 1630		PU-239	L.T. 2. E-02		03/29		6
43924	10150 BB-17-005A-SG		03/09 1630		BE-7	L.T. 6. E-01		04/01		4
					K-40	2.16+-0.22E 01		04/01		4
					MN-54	L.T. 5. E-02		04/01		4
					CO-58	L.T. 5. E-02		04/01		4
					FE-59	L.T. 1. E-01		04/01		4
					CO-60	L.T. 6. E-02		04/01		4
					ZN-65	L.T. 1. E-01		04/01		4
					ZR-95	L.T. 7. E-02		04/01		4
					RU-103	L.T. 7. E-02		04/01		4
					RU-106	L.T. 5. E-01		04/01		4
					I-131	L.T. 3. E-01		04/01		4
					CS-134	L.T. 7. E-02		04/01		4
					CS-137	1.48+-0.50E-01		04/01		4
					BA-140	L.T. 2. E-01		04/01		4
					CE-141	L.T. 1. E-01		04/01		4
					CE-144	L.T. 4. E-01		04/01		4
					RA-226	2.32+-0.87E 00		04/01		4
					TH-228	1.06+-0.11E 00		04/01		4
43925	10151 BB-17-005B-ST		03/09 1627		H-3	L.T. 1. E 02	PCI/LITER *	04/30		5

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ANN MARIE HOLBROW
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16755 VON KARMAN AVE
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TELEDYNE SAMPLE NUMBER		CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE TIME	STOP DATE TIME	NUCLIDE	ACTIVITY (PCI/GM DRY)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
43926	10152	BB-17-005B-SP		03/09 1627		PU-238	L.T. 4. E-02		03/29		6
						PU-239	L.T. 4. E-02		03/29		6
43927	10153	BB-17-005B-SG		03/09 1627		BE-7	L.T. 5. E-01		04/01		4
						K-40	2.36+-0.24E 01		04/01		4
						MN-54	L.T. 5. E-02		04/01		4
						CO-58	L.T. 5. E-02		04/01		4
						FE-59	L.T. 1. E-01		04/01		4
						CO-60	L.T. 4. E-02		04/01		4
						ZN-65	L.T. 1. E-01		04/01		4
						ZR-95	L.T. 7. E-02		04/01		4
						RU-103	L.T. 7. E-02		04/01		4
						RU-106	L.T. 5. E-01		04/01		4
						I-131	L.T. 3. E-01		04/01		4
						CS-134	L.T. 6. E-02		04/01		4
						CS-137	3.85+-0.53E-01		04/01		4
						BA-140	L.T. 1. E-01		04/01		4
						CE-141	L.T. 1. E-01		04/01		4
						CE-144	L.T. 3. E-01		04/01		4
						RA-226	1.49+-0.69E 00		04/01		4
						TH-228	1.53+-0.15E 00		04/01		4
43928	10154	BB-17-006-ST		03/09 1540		H-3	3.5 +-0.2 E 03	PCI/LITER *	05/01		5
43929	10169	BB-17-007A-SG		03/09 1355		BE-7	L.T. 5. E-01		04/01		4
						K-40	L.T. 2. E 00		04/01		4
						MN-54	L.T. 5. E-02		04/01		4
						CO-58	L.T. 5. E-02		04/01		4
						FE-59	L.T. 1. E-01		04/01		4
						CO-60	L.T. 5. E-02		04/01		4
						ZN-65	L.T. 1. E-01		04/01		4
						ZR-95	L.T. 6. E-02		04/01		4
						RU-103	L.T. 7. E-02		04/01		4

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DATE RECEIVED 03/11/94

DELIVERY DATE 04/13/94

ANN MARIE HOLBROW
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TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE TIME	STOP DATE TIME	NUCLIDE	ACTIVITY (PCI/GM DRY)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
43929 10169	BB-17-007A-SG		03/09 1355		RU-106	L.T. 4. E-01		04/01		4
					I-131	L.T. 3. E-01		04/01		4
					CS-134	L.T. 6. E-02		04/01		4
					CS-137	1.23+-0.41E-01		04/01		4
					BA-140	L.T. 2. E-01		04/01		4
					CE-141	L.T. 1. E-01		04/01		4
					CE-144	L.T. 3. E-01		04/01		4
					RA-226	2.79+-0.71E 00		04/01		4
					TH-228	1.54+-0.15E 00		04/01		4
43930 10155	BB-17-006-SP		03/09 1540		PU-238	L.T. 2. E-02		03/29		6
					PU-239	L.T. 2. E-02		03/29		6
43932 10156	BB-17-006-SG		03/09 1540		BE-7	L.T. 4. E-01		04/01		4
					K-40	2.34+-0.23E 01		04/01		4
					MN-54	L.T. 4. E-02		04/01		4
					CO-58	L.T. 4. E-02		04/01		4
					FE-59	L.T. 1. E-01		04/01		4
					CO-60	L.T. 4. E-02		04/01		4
					ZN-65	L.T. 9. E-02		04/01		4
					ZR-95	L.T. 6. E-02		04/01		4
					RU-103	L.T. 5. E-02		04/01		4
					RU-106	L.T. 3. E-01		04/01		4
					I-131	L.T. 3. E-01		04/01		4
					CS-134	L.T. 5. E-02		04/01		4
					CS-137	1.93+-0.30E-01		04/01		4
					BA-140	L.T. 1. E-01		04/01		4
					CE-141	L.T. 9. E-02		04/01		4
					CE-144	L.T. 3. E-01		04/01		4
					RA-226	2.61+-0.63E 00		04/01		4
					TH-228	1.51+-0.15E 00		04/01		4

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ANN MARIE HOLBROW
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16755 VON KARMAN AVE
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TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE TIME	STOP DATE TIME	NUCLIDE	ACTIVITY (PCI/LITER)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
43933	10157 BB-17-006A-ST		03/09 1600		H-3	1.8 +-0.9 E 02		05/01		5
43934	10158 BB-17-006A-SP		03/09 1600		PU-238	L.T. 1. E-02	PCI/GM DRY *	03/29		6
					PU-239	L.T. 1. E-02	PCI/GM DRY *	03/29		6
43935	10159 BB-17-006A-SG		03/09 1600		BE-7	L.T. 4. E-01	PCI/GM DRY *	04/01		4
					K-40	2.22+-0.22E 01	PCI/GM DRY *	04/01		4
					MN-54	L.T. 4. E-02	PCI/GM DRY *	04/01		4
					CO-58	L.T. 4. E-02	PCI/GM DRY *	04/01		4
					FE-59	L.T. 1. E-01	PCI/GM DRY *	04/01		4
					CO-60	L.T. 4. E-02	PCI/GM DRY *	04/01		4
					ZN-65	L.T. 9. E-02	PCI/GM DRY *	04/01		4
					ZR-95	L.T. 5. E-02	PCI/GM DRY *	04/01		4
					RU-103	L.T. 5. E-02	PCI/GM DRY *	04/01		4
					RU-106	L.T. 3. E-01	PCI/GM DRY *	04/01		4
					I-131	L.T. 2. E-01	PCI/GM DRY *	04/01		4
					CS-134	L.T. 5. E-02	PCI/GM DRY *	04/01		4
					CS-137	1.64+-0.35E-01	PCI/GM DRY *	04/01		4
					BA-140	L.T. 1. E-01	PCI/GM DRY *	04/01		4
					CE-141	L.T. 8. E-02	PCI/GM DRY *	04/01		4
					CE-144	L.T. 2. E-01	PCI/GM DRY *	04/01		4
					RA-226	2.37+-0.51E 00	PCI/GM DRY *	04/01		4
					TH-228	1.36+-0.14E 00	PCI/GM DRY *	04/01		4
43936	10160 BB-17-006A-MT		03/09 1600		H-3	L.T. 1. E 02		05/01		5
43937	10160MS BB-17-006A-MT		/		H-3	1.4 +-0.1 E 03		05/01		5
43938	10160MSDBB-17-006A-MT		/		H-3	1.7 +-0.2 E 03		05/01		5

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IRVINE CA 92714

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TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE TIME	STOP DATE TIME	NUCLIDE	ACTIVITY (PCI/LITER)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
43939	10161 BB-17-006B-ST		03/09 1550		H-3	L.T. 1. E 02		05/01		5
43940	10162 BB-17-006B-SP		03/09 1550		PU-238	L.T. 2. E-02	PCI/GM DRY *	03/31		6
					PU-239	L.T. 3. E-02	PCI/GM DRY *	03/31		6
43941	10163 BB-17-006B-SG		03/09 1550		BE-7	L.T. 5. E-01	PCI/GM DRY *	04/01		4
					K-40	2.02+-0.20E 01	PCI/GM DRY *	04/01		4
					MN-54	L.T. 5. E-02	PCI/GM DRY *	04/01		4
					CO-58	L.T. 6. E-02	PCI/GM DRY *	04/01		4
					FE-59	L.T. 1. E-01	PCI/GM DRY *	04/01		4
					CO-60	L.T. 5. E-02	PCI/GM DRY *	04/01		4
					ZN-65	L.T. 1. E-01	PCI/GM DRY *	04/01		4
					ZR-95	L.T. 7. E-02	PCI/GM DRY *	04/01		4
					RU-103	L.T. 7. E-02	PCI/GM DRY *	04/01		4
					RU-106	L.T. 5. E-01	PCI/GM DRY *	04/01		4
					I-131	L.T. 4. E-01	PCI/GM DRY *	04/01		4
					CS-134	L.T. 6. E-02	PCI/GM DRY *	04/01		4
					CS-137	2.30+-0.56E-01	PCI/GM DRY *	04/01		4
					BA-140	L.T. 2. E-01	PCI/GM DRY *	04/01		4
					CE-141	L.T. 1. E-01	PCI/GM DRY *	04/01		4
					CE-144	L.T. 4. E-01	PCI/GM DRY *	04/01		4
					RA-226	2.97+-0.84E 00	PCI/GM DRY *	04/01		4
					TH-228	1.46+-0.15E 00	PCI/GM DRY *	04/01		4
43942	10164 BB-17-007-ST		03/09 1340		H-3	2.9 +-0.2 E 03		05/01		5
43943	10165 BB-17-007-SP		03/09 1340		PU-238	L.T. 2. E-02	PCI/GM DRY *	04/05		6
					PU-239	L.T. 2. E-02	PCI/GM DRY *	04/05		6

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TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE TIME	STOP DATE TIME	NUCLIDE	ACTIVITY (PCI/GM DRY)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
43944 10166	BB-17-007-SG		03/09 1340		BE-7	L.T. 4. E-01		04/01		4
					K-40	2.34+-0.23E 01		04/01		4
					MN-54	L.T. 4. E-02		04/01		4
					CO-58	L.T. 4. E-02		04/01		4
					FE-59	L.T. 1. E-01		04/01		4
					CO-60	L.T. 4. E-02		04/01		4
					ZN-65	L.T. 9. E-02		04/01		4
					ZR-95	L.T. 5. E-02		04/01		4
					RU-103	L.T. 5. E-02		04/01		4
					RU-106	L.T. 4. E-01		04/01		4
					I-131	L.T. 3. E-01		04/01		4
					CS-134	L.T. 5. E-02		04/01		4
					CS-137	2.20+-0.40E-01		04/01		4
					BA-140	L.T. 1. E-01		04/01		4
					CE-141	L.T. 9. E-02		04/01		4
					CE-144	L.T. 3. E-01		04/01		4
					RA-226	3.36+-0.71E 00		04/01		4
					TH-228	1.51+-0.15E 00		04/01		4
43945 10167	BB-17-007A-ST		03/09 1355		H-3	2.3 +-1.0 E 02	PCI/LITER *	05/01		5
43946 10168	BB-17-007A-SP		03/09 1355		PU-238	L.T. 1. E-02		04/05		6
					PU-239	L.T. 2. E-02		04/05		6
43947 10170	BB-17-007B-ST		03/09 1401		H-3	2.2 +-1.0 E 02	PCI/LITER *	05/01		5
43948 10171	BB-17-007B-SP		03/09 1401		PU-238	L.T. 2. E-02		04/05		6
					PU-239	L.T. 2. E-02		04/05		6

TELEDYNE BROWN ENGINEERING ENVIRONMENTAL SERVICES

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TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE TIME	STOP DATE TIME	NUCLIDE	ACTIVITY (PCI/GM DRY)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
43949 10172	BB-17-007B-SG		03/09 1401		BE-7	L.T. 4. E-01		04/01		4
					K-40	2.45+-0.24E 01		04/01		4
					MN-54	L.T. 4. E-02		04/01		4
					CO-58	L.T. 5. E-02		04/01		4
					FE-59	L.T. 1. E-01		04/01		4
					CO-60	L.T. 5. E-02		04/01		4
					ZN-65	L.T. 1. E-01		04/01		4
					ZR-95	L.T. 7. E-02		04/01		4
					PU-103	L.T. 6. E-02		04/01		4
					RU-106	L.T. 4. E-01		04/01		4
					I-131	L.T. 3. E-01		04/01		4
					CS-134	L.T. 5. E-02		04/01		4
					CS-137	2.99+-0.51E-01		04/01		4
					BA-140	L.T. 2. E-01		04/01		4
					CE-141	L.T. 9. E-02		04/01		4
					CE-144	L.T. 2. E-01		04/01		4
					RA-226	4.14+-0.74E 00		04/01		4
					TH-228	1.33+-0.13E 00		04/01		4
43950 10278	BB-16-B004-SG		03/09 1410		BE-7	L.T. 4. E-01		04/01		4
					K-40	2.62+-0.26E 01		04/01		4
					MN-54	L.T. 4. E-02		04/01		4
					CO-58	L.T. 4. E-02		04/01		4
					FE-59	L.T. 1. E-01		04/01		4
					CO-60	L.T. 4. E-02		04/01		4
					ZN-65	L.T. 1. E-01		04/01		4
					ZR-95	L.T. 5. E-02		04/01		4
					RU-103	L.T. 5. E-02		04/01		4
					RU-106	L.T. 3. E-01		04/01		4
					I-131	L.T. 3. E-01		04/01		4
					CS-134	L.T. 5. E-02		04/01		4
					CS-137	L.T. 4. E-02		04/01		4
					BA-140	L.T. 2. E-01		04/01		4

TELEDYNE BROWN ENGINEERING ENVIRONMENTAL SERVICES

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WORK ORDER NUMBER	CUSTOMER P.O. NUMBER	DATE RECEIVED	DELIVERY DATE
4-0354	030225/030600829	03/11/94	04/13/94

ANN MARIE HOLBROW
MCLAREN/HART
16755 VON KARMAN AVE
IRVINE CA 92714

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TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE TIME	STOP DATE TIME	NUCLIDE	ACTIVITY (PCI/GM DRY)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
43969	10272	BB-16-B002-SG	03/09 1320		ZN-65	L.T. 1. E-01		04/02		4
					ZR-95	L.T. 6. E-02		04/02		4
					RU-103	L.T. 7. E-02		04/02		4
					RU-106	L.T. 4. E-01		04/02		4
					I-131	L.T. 3. E-01		04/02		4
					CS-134	L.T. 6. E-02		04/02		4
					CS-137	1.09+-0.44E-01		04/02		4
					BA-140	L.T. 2. E-01		04/02		4
					CE-141	L.T. 1. E-01		04/02		4
					CE-144	L.T. 3. E-01		04/02		4
					RA-226	3.49+-0.79E 00		04/02		4
					TH-228	2.05+-0.21E 00		04/02		4
43970	11154	BB-16-B002-ST	03/09 1330		H-3	L.T. 1. E 02	PCI/LITER *	05/02		5
43971	11135	BB-17-010-ST	03/09 1650		H-3	L.T. 1. E 02	PCI/LITER *	05/02		5
43972	11137	BB-17-010-SP	03/09 1650		PU-238	L.T. 1. E-02		04/05		6
					PU-239	L.T. 1. E-02		04/05		6
43974	11139	BB-17-010-SG	03/09 1650		BE-7	L.T. 5. E-01		04/02		4
					K-40	2.04+-0.20E 01		04/02		4
					MN-54	L.T. 5. E-02		04/02		4
					CO-58	L.T. 6. E-02		04/02		4
					FE-59	L.T. 1. E-01		04/02		4
					CO-60	L.T. 5. E-02		04/02		4
					ZN-65	L.T. 1. E-01		04/02		4
					ZR-95	L.T. 7. E-02		04/02		4
					RU-103	L.T. 7. E-02		04/02		4
					RU-106	L.T. 4. E-01		04/02		4
					I-131	L.T. 4. E-01		04/02		4
					CS-134	L.T. 6. E-02		04/02		4
					CS-137	1.16+-0.46E-01		04/02		4

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16755 VON KARMAN AVE
IRVINE CA 92714

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TELEDYNE SAMPLE NUMBER		CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE TIME	STOP DATE TIME	NUCLIDE	ACTIVITY (PCI/GM DRY)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
43974	11139	BB-17-010-SG		03/09 1650		BA-140	L.T. 2. E-01		04/02		4
						CE-141	L.T. 1. E-01		04/02		4
						CE-144	L.T. 4. E-01		04/02		4
						RA-226	1.55+-0.86E 00		04/02		4
						TH-228	1.44+-0.14E 00		04/02		4
43975	11025	BB-00-002-FG		03/09 1100		BE-7	L.T. 4. E-01		04/02		4
						K-40	2.41+-0.24E 01		04/02		4
						MN-54	L.T. 4. E-02		04/02		4
						CO-58	L.T. 4. E-02		04/02		4
						FE-59	L.T. 1. E-01		04/02		4
						CO-60	L.T. 4. E-02		04/02		4
						ZN-65	L.T. 1. E-01		04/02		4
						ZR-95	L.T. 5. E-02		04/02		4
						RU-103	L.T. 5. E-02		04/02		4
						RU-106	L.T. 3. E-01		04/02		4
						I-131	L.T. 3. E-01		04/02		4
						CS-134	L.T. 5. E-02		04/02		4
						CS-137	7.64+-3.15E-02		04/02		4
						BA-140	L.T. 1. E-01		04/02		4
						CE-141	L.T. 9. E-02		04/02		4
						CE-144	L.T. 3. E-01		04/02		4
						RA-226	1.42+-0.57E 00		04/02		4
						TH-228	7.55+-0.76E-01		04/02		4
43976	10193	BB-17-009B-SP		03/09 1420		PU-238	L.T. 8. E-03		04/14		6
						PU-239	L.T. 1. E-02		04/14		6
43977	10194	BB-17-009B-SG		03/09 1420		BE-7	L.T. 4. E-01		04/02		4
						K-40	2.36+-0.24E 01		04/02		4
						MN-54	L.T. 4. E-02		04/02		4
						CO-58	L.T. 4. E-02		04/02		4
						FE-59	L.T. 1. E-01		04/02		4

TELEDYNE BROWN ENGINEERING ENVIRONMENTAL SERVICES

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ANN MARIE HOLBROW
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16755 VON KARMAN AVE
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TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE TIME	STOP DATE TIME	NUCLIDE	ACTIVITY (PCI/GM DRY)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
43977 10194	BB-17-009B-SG		03/09 1420		CO-60	L.T. 4. E-02		04/02		4
					ZN-65	L.T. 1. E-01		04/02		4
					ZR-95	L.T. 6. E-02		04/02		4
					RU-103	L.T. 5. E-02		04/02		4
					RU-106	L.T. 4. E-01		04/02		4
					I-131	L.T. 3. E-01		04/02		4
					CS-134	L.T. 4. E-02		04/02		4
					CS-137	3.60+-0.45E-01		04/02		4
					BA-140	L.T. 1. E-01		04/02		4
					CE-141	L.T. 9. E-02		04/02		4
					CE-144	L.T. 3. E-01		04/02		4
					RA-226	2.17+-0.62E 00		04/02		4
					TH-228	1.23+-0.12E 00		04/02		4
43978 10226	BB-16-006-ST		03/09 1100		H-3	L.T. 1. E 02	PCI/LITER *	05/02		5
43979 10227	BB-16-006-SS		03/09 1100		SR-90	8.0 +-4.4 E-02		04/08		3
43980 10228	BB-16-006-SG		03/09 1100		BE-7	L.T. 3. E-01		04/02		4
					K-40	2.50+-0.25E 01		04/02		4
					MN-54	L.T. 3. E-02		04/02		4
					CO-58	L.T. 3. E-02		04/02		4
					FE-59	L.T. 9. E-02		04/02		4
					CO-60	L.T. 3. E-02		04/02		4
					ZN-65	L.T. 8. E-02		04/02		4
					ZR-95	L.T. 4. E-02		04/02		4
					RU-103	L.T. 4. E-02		04/02		4
					RU-106	L.T. 3. E-01		04/02		4
					I-131	L.T. 2. E-01		04/02		4
					CS-134	L.T. 3. E-02		04/02		4
					CS-137	4.64+-2.16E-02		04/02		4
					BA-140	L.T. 1. E-01		04/02		4
					CE-141	L.T. 7. E-02		04/02		4

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ANN MARIE HOLBROW
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16755 VON KARMAN AVE
IRVINE CA 92714

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TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE TIME	STOP DATE TIME	NUCLIDE	ACTIVITY (PCI/GM DRY)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
43986 10184	BB-17-008B-SG		03/09 1415		BE-7	L.T. 2. E-01		04/02		4
					K-40	2.22+-0.22E 01		04/02		4
					MN-54	L.T. 2. E-02		04/02		4
					CO-58	L.T. 2. E-02		04/02		4
					FE-59	L.T. 6. E-02		04/02		4
					CO-60	L.T. 2. E-02		04/02		4
					ZN-65	L.T. 6. E-02		04/02		4
					ZR-95	L.T. 3. E-02		04/02		4
					RU-103	L.T. 3. E-02		04/02		4
					RU-106	L.T. 2. E-01		04/02		4
					I-131	L.T. 2. E-01		04/02		4
					CS-134	L.T. 3. E-02		04/02		4
					CS-137	2.42+-0.24E-01		04/02		4
					BA-140	L.T. 9. E-02		04/02		4
					CE-141	L.T. 5. E-02		04/02		4
					CE-144	L.T. 2. E-01		04/02		4
					RA-226	2.20+-0.36E 00		04/02		4
					TH-228	1.27+-0.13E 00		04/02		4
43987 10185	BB-17-009-ST		03/09 1420		H-3	3.9 +-0.2 E 03	PCI/LITER *	05/02		5
43988 10186	BB-17-009-SP		03/09 1420		PU-238	L.T. 3. E-02		04/10		6
					PU-239	L.T. 3. E-02		04/10		6
43989 10187	BB-17-009-SG		03/09 1420		BE-7	L.T. 2. E-01		04/02		4
					K-40	2.05+-0.20E 01		04/02		4
					MN-54	L.T. 2. E-02		04/02		4
					CO-58	L.T. 2. E-02		04/02		4
					FE-59	L.T. 7. E-02		04/02		4
					CO-60	L.T. 2. E-02		04/02		4
					ZN-65	L.T. 6. E-02		04/02		4
					ZR-95	L.T. 3. E-02		04/02		4
					RU-103	L.T. 3. E-02		04/02		4

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ANN MARIE HOLBROW
MCLAREN/HART
16755 VON KARMAN AVE
IRVINE CA 92714

S O I L

TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE TIME	STOP DATE TIME	NUCLIDE	ACTIVITY (PCI/GM DRY)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
43989 10187	88-17-009-SG		03/09 1420		RU-106	L.T. 2. E-01		04/02		4
					I-131	L.T. 2. E-01		04/02		4
					CS-134	L.T. 3. E-02		04/02		4
					CS-137	1.49+-0.18E-01		04/02		4
					BA-140	L.T. 9. E-02		04/02		4
					CE-141	L.T. 6. E-02		04/02		4
					CE-144	L.T. 2. E-01		04/02		4
					RA-226	2.82+-0.35E 00		04/02		4
					TH-228	1.20+-0.12E 00		04/02		4
43990 10188	88-17-009A-ST		03/09 1420		H-3	L.T. 2. E 02	PCI/LITER *	05/02		5
43991 10189	88-17-009A-SP		03/09 1420		PU-238	L.T. 1. E-02		04/05		6
					PU-239	L.T. 1. E-02		04/05		6
43992 10190	88-17-009A-SG		03/09 1420		BE-7	L.T. 4. E-01		04/02		4
					K-40	2.47+-0.25E 01		04/02		4
					MN-54	L.T. 4. E-02		04/02		4
					CO-58	L.T. 5. E-02		04/02		4
					FE-59	L.T. 1. E-01		04/02		4
					CO-60	L.T. 4. E-02		04/02		4
					ZN-65	L.T. 1. E-01		04/02		4
					ZR-95	L.T. 5. E-02		04/02		4
					RU-103	L.T. 5. E-02		04/02		4
					RU-106	L.T. 3. E-01		04/02		4
					I-131	L.T. 3. E-01		04/02		4
					CS-134	L.T. 4. E-02		04/02		4
					CS-137	1.87+-0.40E-01		04/02		4
					BA-140	L.T. 1. E-01		04/02		4
					CE-141	L.T. 8. E-02		04/02		4
					CE-144	L.T. 2. E-01		04/02		4
					RA-226	2.92+-0.57E 00		04/02		4
					TH-228	1.26+-0.13E 00		04/02		4

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IRVINE CA 92714

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TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE	START TIME	STOP DATE	STOP TIME	NUCLIDE	ACTIVITY (PCI/GM DRY)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE	MID-COUNT TIME TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
43994	10191MS BB-17-009A-MT		03/09				CE-141	L.T. 2. E-01		05/03			4
							CE-144	L.T. 3. E-01		05/03			4
							RA-226	1.92+-0.66E 00		05/03			4
							TH-228	1.11+-0.11E 00		05/03			4
43995	10191MSDBB-17-009A-MT		03/09				BE-7	L.T. 9. E-01		05/03			4
							K-40	2.16+-0.22E 01		05/03			4
							MN-54	L.T. 6. E-02		05/03			4
							CO-58	L.T. 8. E-02		05/03			4
							FE-59	L.T. 3. E-01		05/03			4
							CO-60	L.T. 5. E-02		05/03			4
							ZN-65	L.T. 1. E-01		05/03			4
							ZR-95	L.T. 1. E-01		05/03			4
							RU-103	L.T. 1. E-01		05/03			4
							RU-106	L.T. 5. E-01		05/03			4
							I-131	L.T. 6. E 00		05/03			4
							CS-134	L.T. 7. E-02		05/03			4
							CS-137	7.64+-0.77E-01		05/03			4
							BA-140	L.T. 9. E-01		05/03			4
							CE-141	L.T. 3. E-01		05/03			4
							CE-144	L.T. 5. E-01		05/03			4
							RA-226	2.60+-0.89E 00		05/03			4
							TH-228	1.23+-0.12E 00		05/03			4
43996	10192 BB-17-009A-ST		03/09				H-3	L.T. 2. E 02	PCI/LITER *	05/02			5
43999	10173 BB-17-007B-MP		03/09	1401			PU-238	L.T. 8. E-03		04/05			6
							PU-239	L.T. 8. E-03		04/05			6

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TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION		STA NUM	COLLECTION-DATE START DATE TIME	STOP DATE TIME	NUCLIDE	ACTIVITY (PCI/GM DRY)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
44000	10173MS	BB-17-007B-MP		/		PU-238	NOT ANALYZED				6
						PU-239	3.5 +-0.6 E-01		04/05		6
44001	10173MSD	BB-17-007B-MP		/		PU-238	NOT ANALYZED				6
						PU-239	3.1 +-0.6 E-01		04/05		6
44002	10174	BB-17-008-ST		03/09 1415		H-3	5.4 +-0.2 E 03	PCI/LITER *	05/02		5
44003	10175	BB-17-008-SP		03/09 1415		PU-238	L.T. 3. E-02		04/05		6
						PU-239	L.T. 3. E-02		04/05		6
44004	10176	BB-17-008-SG		03/09 1415		BE-7	L.T. 5. E-01		04/07		4
						K-40	2.17+-0.22E 01		04/07		4
						MN-54	L.T. 5. E-02		04/07		4
						CO-58	L.T. 5. E-02		04/07		4
						FE-59	L.T. 2. E-01		04/07		4
						CO-60	L.T. 5. E-02		04/07		4
						ZN-65	L.T. 1. E-01		04/07		4
						ZR-95	L.T. 7. E-02		04/07		4
						RU-103	L.T. 7. E-02		04/07		4
						RU-106	L.T. 4. E-01		04/07		4
						I-131	L.T. 5. E-01		04/07		4
						CS-134	L.T. 5. E-02		04/07		4
						CS-137	1.24+-0.47E-01		04/07		4
						BA-140	L.T. 2. E-01		04/07		4
						CE-141	L.T. 1. E-01		04/07		4
						CE-144	L.T. 3. E-01		04/07		4
						RA-226	2.12+-0.73E 00		04/07		4
						TH-228	1.18+-0.12E 00		04/07		4

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TELEDYNE SAMPLE NUMBER		CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE TIME	STOP DATE TIME	NUCLIDE	ACTIVITY (PCI/LITER)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
44005	10177	BB-17-008A-ST		03/09 1415		H-3	3.0 +-1.1 E 02		05/02		5
44006	10178	BB-17-008A-SP		03/09 1415		PU-238	L.T. 2. E-02	PCI/GM DRY *	04/05		6
						PU-239	L.T. 2. E-02	PCI/GM DRY *	04/05		6
44007	10179	BB-17-008A-SG		03/09 1415		BE-7	L.T. 5. E-01	PCI/GM DRY *	04/07		4
						K-40	2.19+-0.22E 01	PCI/GM DRY *	04/07		4
						MN-54	L.T. 5. E-02	PCI/GM DRY *	04/07		4
						CO-58	L.T. 5. E-02	PCI/GM DRY *	04/07		4
						FE-59	L.T. 2. E-01	PCI/GM DRY *	04/07		4
						CO-60	L.T. 5. E-02	PCI/GM DRY *	04/07		4
						ZN-65	L.T. 2. E-01	PCI/GM DRY *	04/07		4
						ZR-95	L.T. 6. E-02	PCI/GM DRY *	04/07		4
						RU-103	L.T. 6. E-02	PCI/GM DRY *	04/07		4
						RU-106	L.T. 4. E-01	PCI/GM DRY *	04/07		4
						I-131	L.T. 5. E-01	PCI/GM DRY *	04/07		4
						CS-134	L.T. 5. E-02	PCI/GM DRY *	04/07		4
						CS-137	2.49+-0.47E-01	PCI/GM DRY *	04/07		4
						BA-140	L.T. 2. E-01	PCI/GM DRY *	04/07		4
						CE-141	L.T. 1. E-01	PCI/GM DRY *	04/07		4
						CE-144	L.T. 3. E-01	PCI/GM DRY *	04/07		4
						RA-226	2.06+-0.64E 00	PCI/GM DRY *	04/07		4
						TH-228	1.37+-0.14E 00	PCI/GM DRY *	04/07		4
44008	11022	BB-00-004-FT		03/09 1415		H-3	5.1 +-1.1 E 02		05/02		5
44009	10182	BB-17-008B-ST		03/09 1415		H-3	L.T. 1. E 02		05/02		5
44010	10183	BB-17-008B-SP		03/09 1415		PU-238	L.T. 4. E-02	PCI/GM DRY *	04/05		6
						PU-239	L.T. 5. E-02	PCI/GM DRY *	04/05		6

17-008A

TELEDYNE BROWN ENGINEERING ENVIRONMENTAL SERVICES

REPORT OF ANALYSIS

WORK ORDER NUMBER	CUSTOMER P.O. NUMBER	DATE RECEIVED	DELIVERY DATE
4-0354	030225/030600829	03/11/94	04/13/94

ANN MARIE HOLBROW
MCLAREN/HART
16755 VON KARMAN AVE
IRVINE CA 92714

S O I L

TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION		STA NUM	COLLECTION-DATE START DATE TIME	STOP DATE TIME	NUCLIDE	ACTIVITY (PCI/LITER)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
44011	11178	BB-17-B002-ST		03/09 1600		H-3	7.6 +-0.3 E 03		05/03		5
44012	11179	BB-17-B002-SP		03/09 1600		PU-238	L.T. 9. E-03	PCI/GM DRY *	04/05		6
						PU-239	L.T. 9. E-03	PCI/GM DRY *	04/05		6
44013	11180	BB-17-B002-SG		03/09 1600		BE-7	L.T. 5. E-01	PCI/GM DRY *	04/07		4
						K-40	1.82+-0.18E 01	PCI/GM DRY *	04/07		4
						MN-54	L.T. 5. E-02	PCI/GM DRY *	04/07		4
						CO-58	L.T. 5. E-02	PCI/GM DRY *	04/07		4
						FE-59	L.T. 1. E-01	PCI/GM DRY *	04/07		4
						CO-60	L.T. 4. E-02	PCI/GM DRY *	04/07		4
						ZN-65	L.T. 1. E-01	PCI/GM DRY *	04/07		4
						ZR-95	L.T. 6. E-02	PCI/GM DRY *	04/07		4
						RU-103	L.T. 7. E-02	PCI/GM DRY *	04/07		4
						RU-106	L.T. 4. E-01	PCI/GM DRY *	04/07		4
						I-131	L.T. 5. E-01	PCI/GM DRY *	04/07		4
						CS-134	L.T. 6. E-02	PCI/GM DRY *	04/07		4
						CS-137	L.T. 5. E-02	PCI/GM DRY *	04/07		4
						BA-140	L.T. 2. E-01	PCI/GM DRY *	04/07		4
						CE-141	L.T. 1. E-01	PCI/GM DRY *	04/07		4
						CE-144	L.T. 3. E-01	PCI/GM DRY *	04/07		4
						RA-226	3.37+-0.73E 00	PCI/GM DRY *	04/07		4
						TH-228	1.79+-0.18E 00	PCI/GM DRY *	04/07		4
44014	10202	BB-17-B003-ST		03/09 1600		H-3	L.T. 2. E 02		05/03		5
44015	10203	BB-17-B003-SP		03/09 1600		PU-238	L.T. 1. E-02	PCI/GM DRY *	04/05		6
						PU-239	L.T. 2. E-02	PCI/GM DRY *	04/05		6

TELEDYNE BROWN ENGINEERING ENVIRONMENTAL SERVICES

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RUN DATE 05/04/94

WORK ORDER NUMBER	CUSTOMER P.O. NUMBER	DATE RECEIVED	DELIVERY DATE
4-0354	030225/030600829	03/11/94	04/13/94

ANN MARIE HOLBROW
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S O I L

TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE	START TIME	STOP DATE	STOP TIME	NUCLIDE	ACTIVITY (PCI/GM DRY)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE	MID-COUNT TIME TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
44016	10204 BB-17-B003-SG		03/09	1600			BE-7	L.T. 5. E-01		04/07			4
							K-40	2.13+-0.21E 01		04/07			4
							MN-54	L.T. 4. E-02		04/07			4
							CO-58	L.T. 5. E-02		04/07			4
							FE-59	L.T. 1. E-01		04/07			4
							CO-60	L.T. 4. E-02		04/07			4
							ZN-65	L.T. 1. E-01		04/07			4
							ZR-95	L.T. 6. E-02		04/07			4
							RU-103	L.T. 7. E-02		04/07			4
							RU-106	L.T. 4. E-01		04/07			4
							I-131	L.T. 4. E-01		04/07			4
							CS-134	L.T. 5. E-02		04/07			4
							CS-137	L.T. 5. E-02		04/07			4
							BA-140	L.T. 2. E-01		04/07			4
							CE-141	L.T. 1. E-01		04/07			4
							CE-144	L.T. 3. E-01		04/07			4
							RA-226	2.38+-0.66E 00		04/07			4
							TH-228	1.28+-0.13E 00		04/07			4
44017	11145 BB-00-001-FP		03/09	1600			PU-238	L.T. 9. E-03		04/05			6
							PU-239	L.T. 9. E-03		04/05			6
44018	11183 BB-17-B003-ST		03/09	1610			H-3	L.T. 2. E 02	PCI/LITER *	05/03			5
44020	11185 BB-17-B003-SP		03/09	1610			PU-238	L.T. 1. E-02		04/05			6
							PU-239	L.T. 1. E-02		04/05			6
44021	11187 BB-17-B003-SG		03/09	1610			BE-7	L.T. 5. E-01		04/07			4
							K-40	1.92+-0.19E 01		04/07			4
							MN-54	L.T. 5. E-02		04/07			4
							CO-58	L.T. 6. E-02		04/07			4
							FE-59	L.T. 1. E-01		04/07			4
							CO-60	L.T. 4. E-02		04/07			4

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TELEDYNE BROWN ENGINEERING ENVIRONMENTAL SERVICES

REPORT OF ANALYSIS

RUN DATE 05/04/94

WORK ORDER NUMBER	CUSTOMER P.O. NUMBER	DATE RECEIVED	DELIVERY DATE
4-0354	030225/030600829	03/11/94	04/13/94

ANN MARIE HOLBROW
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S O I L

TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE TIME	STOP DATE TIME	NUCLIDE	ACTIVITY (PCI/GM DRY)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
44021 11187	BB-17-B003-SG		03/09 1610		ZN-65	L.T. 1. E-01		04/07		4
					ZR-95	L.T. 6. E-02		04/07		4
					RU-103	L.T. 6. E-02		04/07		4
					RU-106	L.T. 5. E-01		04/07		4
					I-131	L.T. 5. E-01		04/07		4
					CS-134	L.T. 6. E-02		04/07		4
					CS-137	L.T. 5. E-02		04/07		4
					BA-140	L.T. 3. E-01		04/07		4
					CE-141	L.T. 1. E-01		04/07		4
					CE-144	L.T. 4. E-01		04/07		4
					RA-226	1.79+-0.79E 00		04/07		4
					TH-228	1.20+-0.12E 00		04/07		4
44022 11140	BB-17-B001-ST		03/09 1540		H-3	L.T. 2. E 02	PCI/LITER *	05/03		5
44023 11141	BB-17-B001-SP		03/09 1540		PU-238	L.T. 1. E-02		04/05		6
					PU-239	L.T. 1. E-02		04/05		6
44024 10197	BB-17-B001-SG		03/09 1540		BE-7	L.T. 5. E-01		04/07		4
					K-40	2.22+-0.22E 01		04/07		4
					MN-54	L.T. 5. E-02		04/07		4
					CO-58	L.T. 5. E-02		04/07		4
					FE-59	L.T. 1. E-01		04/07		4
					CO-60	L.T. 4. E-02		04/07		4
					ZN-65	L.T. 1. E-01		04/07		4
					ZR-95	L.T. 7. E-02		04/07		4
					RU-103	L.T. 7. E-02		04/07		4
					RU-106	L.T. 4. E-01		04/07		4
					I-131	L.T. 5. E-01		04/07		4
					CS-134	L.T. 5. E-02		04/07		4
					CS-137	1.15+-0.41E-01		04/07		4
					BA-140	L.T. 2. E-01		04/07		4
					CE-141	L.T. 1. E-01		04/07		4

TELEDYNE BROWN ENGINEERING ENVIRONMENTAL SERVICES

RUN DATE 05/04/94

REPORT OF ANALYSIS

WORK ORDER NUMBER	CUSTOMER P.O. NUMBER	DATE RECEIVED	DELIVERY DATE
4-0354	030225/030600829	03/11/94	04/13/94

ANN MARIE HOLBROW
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S O I L

TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION		STA NUM	COLLECTION-DATE START DATE TIME	STOP DATE TIME	NUCLIDE	ACTIVITY (PCI/GM DRY)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
44024	10197	BB-17-B001-SG		03/09 1540		CE-144	L.T. 3. E-01		04/07		4
						RA-226	3.33+-0.67E 00		04/07		4
						TH-228	1.65+-0.17E 00		04/07		4
						H-3	3.0 +-1.1 E 02	PCI/LITER *	05/03		5
44026	11172	BB-17-B001-ST		03/09 1545		PU-238	L.T. 8. E-03		04/05		6
44027	11173	BB-17-B001-SP		03/09 1545		PU-239	L.T. 8. E-03		04/05		6
44028	11174	BB-17-B001-SG		03/09 1545		BE-7	L.T. 3. E-01		04/07		4
						K-40	1.98+-0.20E 01		04/07		4
						MN-54	L.T. 3. E-02		04/07		4
						CO-58	L.T. 3. E-02		04/07		4
						FE-59	L.T. 9. E-02		04/07		4
						CO-60	L.T. 3. E-02		04/07		4
						ZN-65	L.T. 8. E-02		04/07		4
						ZR-95	L.T. 4. E-02		04/07		4
						RU-103	L.T. 4. E-02		04/07		4
						RU-106	L.T. 2. E-01		04/07		4
						I-131	L.T. 3. E-01		04/07		4
						CS-134	L.T. 3. E-02		04/07		4
						CS-137	L.T. 3. E-02		04/07		4
						BA-140	L.T. 1. E-01		04/07		4
						CE-141	L.T. 8. E-02		04/07		4
						CE-144	L.T. 2. E-01		04/07		4
						RA-226	1.87+-0.45E 00		04/07		4
						TH-228	1.17+-0.12E 00		04/07		4
44029	10199	BB-17-B002-ST		03/09 1355		H-3	L.T. 2. E 02	PCI/LITER *	05/03		5

TELEDYNE BROWN ENGINEERING ENVIRONMENTAL SERVICES

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REPORT OF ANALYSIS

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WORK ORDER NUMBER	CUSTOMER P.O. NUMBER	DATE RECEIVED	DELIVERY DATE
4-0354	030225/030600829	03/11/94	04/13/94

ANN MARIE HOLBROW
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S O I L

TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION		STA NUM	COLLECTION-DATE START DATE TIME	STOP DATE TIME	NUCLIDE	ACTIVITY (PCI/GM DRY)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
44030	10200	BB-17-B002-SP		03/09 1355		PU-238	L.T. 1. E-02		04/05		6
						PU-239	L.T. 1. E-02		04/05		6
44031	10201	BB-17-B002-SG		03/09 1355		BE-7	L.T. 5. E-01		04/09		4
						K-40	2.28+-0.23E 01		04/09		4
						MN-54	L.T. 4. E-02		04/09		4
						CO-58	L.T. 5. E-02		04/09		4
						FE-59	L.T. 1. E-01		04/09		4
						CO-60	L.T. 4. E-02		04/09		4
						ZN-65	L.T. 9. E-02		04/09		4
						ZR-95	L.T. 6. E-02		04/09		4
						RU-103	L.T. 6. E-02		04/09		4
						RU-106	L.T. 4. E-01		04/09		4
						I-131	L.T. 5. E-01		04/09		4
						CS-134	L.T. 5. E-02		04/09		4
						CS-137	1.30+-0.40E-01		04/09		4
						BA-140	L.T. 2. E-01		04/09		4
						CE-141	L.T. 1. E-01		04/09		4
						CE-144	L.T. 3. E-01		04/09		4
						RA-226	2.04+-0.62E 00		04/09		4
						TH-228	1.16+-0.12E 00		04/09		4

Activity added to spiked samples

TI#	Isotope	Activity
43937	H-3	1.4 E 04 pCi/l
43938	H-3	1.4 E 04 pCi/l
43994	Cs-137	5.6 E-01 pCi/g
43995	Cs-137	5.6 E-01 pCi/g
44000	Pu-239	3.3 E-01 pCi/g
44001	Pu-239	3.3 E-01 pCi/g

TELEDYNE BROWN ENGINEERING ENVIRONMENTAL SERVICES

RUN DATE 06/02/94

REPORT OF ANALYSIS

WORK ORDER NUMBER	CUSTOMER P.O. NUMBER	DATE RECEIVED	DELIVERY DATE
4-0595	030225/030600829	04/01/94	05/04/94

ANN MARIE HOLBROW
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S O I L

TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE	START TIME	STOP DATE	STOP TIME	NUCLIDE	ACTIVITY (PCI/LITER)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE	MID-COUNT TIME TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
46247	11046 BB-00-005-PT		03/09	1200			H-3	1.2 +-0.1 E 03		05/28			5
46248	11047 BB-00-006-PT		03/09	1200			H-3	L.T. 1. E 02		05/28			5
46249	11048 BB-00-007-PT		03/09	1200			H-3	1.5 +-0.2 E 03		05/28			5
46250	11182 BB-17-010-ST		03/09	1650			H-3	L.T. 1. E 02		05/28			5

LAST PAGE OF REPORT

J Guenther
APPROVED BY J. GUENTHER 06/02/94

SEND 1 COPIES TO MC480S ANN MARIE HOLBROW

2 - GAS LAB. 3 - RADIO CHEMISTRY LAB. 4 - GE(LI) GAMMA SPEC LAB. 5 - TRITIUM GAS/L.S. LAB. 6 - ALPHA SPEC LAB.

TELEDYNE BROWN ENGINEERING ENVIRONMENTAL SERVICES

RUN DATE 05/26/94

REPORT OF ANALYSIS

PAGE 1

WORK ORDER NUMBER	CUSTOMER P.O. NUMBER	DATE RECEIVED	DELIVERY DATE
4-1294	030225/030600829	03/11/94	04/13/94

ANN MARIE HOLBROW
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S O I L

TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE	START TIME	STOP DATE	STOP TIME	NUCLIDE	ACTIVITY (PCI/GM DRY)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE	MID-COUNT TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
43910	10236DUP BB-16-008-SG		03/09	1014			BE-7	L.T. 6. E-01		04/13			4
							K-40	2.33+-0.23E 01		04/13			4
							MN-54	L.T. 4. E-02		04/13			4
							CO-58	L.T. 5. E-02		04/13			4
							FE-59	L.T. 2. E-01		04/13			4
							CO-60	L.T. 4. E-02		04/13			4
							ZN-65	L.T. 1. E-01		04/13			4
							ZR-95	L.T. 7. E-02		04/13			4
							RU-103	L.T. 7. E-02		04/13			4
							RU-106	L.T. 4. E-01		04/13			4
							I-131	L.T. 8. E-01		04/13			4
							CS-134	L.T. 5. E-02		04/13			4
							CS-137	L.T. 5. E-02		04/13			4
							BA-140	L.T. 3. E-01		04/13			4
							CE-141	L.T. 1. E-01		04/13			4
							CE-144	L.T. 3. E-01		04/13			4
							RA-226	L.T. 8. E-01		04/13			4
							TH-228	8.63+-0.86E-01		04/13			4
43931	10155DUP BB-17-006-SP		03/09	1540			PU-239	L.T. 2. E-02		03/29			6
							PU-238	L.T. 2. E-02		03/29			6
43952	11160DUPBB-16-B004-ST		03/09	1420			H-3	2.9 +-1.5 E 02	PCI/LITER *	05/01			5
43973	11137DUPBB-17-010 -SP		03/09	1650			PU-239	L.T. 2. E-02		04/05			6
							PU-238	L.T. 2. E-02		04/05			6
43997	10192DUPBB-17-009A-ST		03/09				H-3	L.T. 2. E 02	PCI/LITER *	05/02			5

TELEDYNE BROWN ENGINEERING ENVIRONMENTAL SERVICES

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REPORT OF ANALYSIS

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WORK ORDER NUMBER	CUSTOMER P.O. NUMBER	DATE RECEIVED	DELIVERY DATE
4-1294	030225/030600829	03/11/94	04/13/94

ANN MARIE HOLBROW
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IRVINE CA 92714

S O I L

TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE	TIME	STOP DATE	TIME	NUCLIDE	ACTIVITY (PCI/LITER)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE	TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
44019	111830UPBB-17-B003-ST		03/09	1610			H-3	L.T. 2. E 02		05/03			5
44159	103260UPBG-02-076 -ST		03/10	1605			H-3	L.T. 2. E 02		05/08			5
44180	103020UPBB-17-005 -SS		03/10	1136			SR-90	L.T. 8. E-02	PCI/GM DRY *	04/16			3

TELEDYNE BROWN ENGINEERING ENVIRONMENTAL SERVICES

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WORK ORDER NUMBER	CUSTOMER P.O. NUMBER	DATE RECEIVED	DELIVERY DATE
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IRVINE CA 92714

W A T E R

TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE TIME	STOP DATE TIME	NUCLIDE	ACTIVITY (PCI/LITER)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
43921	11127DUP 88-17-005-RP		03/09 0755		PU-239	L.T. 2. E-01		03/31		6
					PU-238	L.T. 2. E-01		03/31		6
44201	11192DUP88-19-006 -RG		03/10 1050		BE-7	L.T. 3. E 01		04/01		4
					K-40	L.T. 7. E 01		04/01		4
					MN-54	L.T. 3. E 00		04/01		4
					CO-58	L.T. 3. E 00		04/01		4
					FE-59	L.T. 8. E 00		04/01		4
					CO-60	L.T. 3. E 00		04/01		4
					ZN-65	L.T. 6. E 00		04/01		4
					ZR-95	L.T. 4. E 00		04/01		4
					RU-103	L.T. 4. E 00		04/01		4
					RU-106	L.T. 3. E 01		04/01		4
					I-131	L.T. 2. E 01		04/01		4
					CS-134	L.T. 3. E 00		04/01		4
					CS-137	L.T. 3. E 00		04/01		4
					BA-140	L.T. 9. E 00		04/01		4
					CE-141	L.T. 7. E 00		04/01		4
					CE-144	L.T. 2. E 01		04/01		4
					RA-226	L.T. 6. E 01		04/01		4
					TH-228	L.T. 5. E 00		04/01		4

LAST PAGE OF REPORT

J. Guenther
APPROVED BY J. GUENTHER 05/26/94

SEND 1 COPIES TO MC480S ANN MARIE HOLBROW

2 - GAS LAB. 3 - RADIO CHEMISTRY LAB. 4 - GE(LI) GAMMA SPEC LAB. 5 - TRITIUM GAS/L.S. LAB. 6 - ALPHA SPEC LAB.

TELEDYNE BROWN ENGINEERING ENVIRONMENTAL SERVICES

REPORT OF ANALYSIS

RUN DATE 06/02/94

PAGE 1

WORK ORDER NUMBER	CUSTOMER P.O. NUMBER	DATE RECEIVED	DELIVERY DATE
4-0595	030225/030600829	04/01/94	05/04/94

ANN MARIE HOLBROW
MCLAREN/HART
16755 VON KARMAN AVE
IRVINE CA 92714

S O I L

TELEDYNE SAMPLE NUMBER		CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE	START TIME	STOP DATE	STOP TIME	NUCLIDE	ACTIVITY (PCI/LITER)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE	MID-COUNT TIME TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
46247	11046	BB-00-005-PT		03/09	1200			H-3	1.2 +-0.1 E 03		05/28			5
46248	11047	BB-00-006-PT		03/09	1200			H-3	L.T. 1. E 02		05/28			5
46249	11048	BB-00-007-PT		03/09	1200			H-3	1.5 +-0.2 E 03		05/28			5
46250	11182	BB-17-010-ST		03/09	1650			H-3	L.T. 1. E 02		05/28			5

LAST PAGE OF REPORT

J Guenther
APPROVED BY J. GUENTHER 06/02/94

SEND 1 COPIES TO MC480S ANN MARIE HOLBROW

2 - GAS LAB. 3 - RADIO CHEMISTRY LAB. 4 - GE(LI) GAMMA SPEC LAB. 5 - TRITIUM GAS/L.S. LAB. 6 - ALPHA SPEC LAB.

METALS

Preparation Method: {a}

Project Name: *Rocketdyne-SSFL*

Sample Description: *BB-18-004-SM 0*

Sample Number: *11200*

Date Received: *03/16/94*

Project Number: *030600829003*

Lab Project-ID Number: *8918-7*

Date Sampled: *03/10/94*

Date Digested: *03/25/94*

Batch Number: *940325-2201*

Analyte (Symbol)/EPA Method	Date Analyzed	Concentration mg/Kg (ppm)	Reporting Limit mg/Kg (ppm)
Mercury (Hg)/7471	03/27/94	< 0.10	0.10

Comments

The cover letter and enclosures are integral parts of this report.

{a} EPA Method 7471 was used for digestion.

Approved by: um Date: 3-30-94.

373

MBT Environmental Laboratories

Master Builders Technologies

METALS

Preparation Method: {a}

Project Name: Rocketdyne-SSFL

Sample Description: BB-18-005-SM 0

Sample Number: 11193

Date Received: 03/16/94

Project Number: 030600829003

Lab Project-ID Number: 8918-1

Date Sampled: 03/10/94

Date Digested: 03/25/94

Batch Number: 940325-2201

Analyte (Symbol)/EPA Method	Date Analyzed	Concentration mg/Kg (ppm)	Reporting Limit mg/Kg (ppm)
Mercury (Hg)/7471	03/27/94	< 0.10	0.10

Comments

The cover letter and enclosures are integral parts of this report.

{a} EPA Method 7471 was used for digestion.

Approved by: UM Date: 3-30-94

373

MBT Environmental Laboratories

Master Builders Technologies

METALS

Preparation Method: {a}

Project Name: *Rocketdyne-SSFL*

Sample Description: *BB-18-005A-SM 0*

Sample Number: *11195*

Date Received: *03/16/94*

Project Number: *030600829003*

Lab Project-ID Number: *8918-3*

Date Sampled: *03/10/94*

Date Digested: *03/25/94*

Batch Number: *940325-2201*

Analyte (Symbol)/EPA Method	Date Analyzed	Concentration mg/Kg (ppm)	Reporting Limit mg/Kg (ppm)
Mercury (Hg)/7471	03/27/94	< 0.10	0.10

Comments

The cover letter and enclosures are integral parts of this report.

{a} EPA Method 7471 was used for digestion.

Approved by: UM Date: 3-30-94

MBT Environmental Laboratories

Master Builders Technologies

METALS

Preparation Method: {a}

Project Name: *Rocketdyne-SSFL*

Sample Description: *BB-18-005B-SM 0*

Sample Number: *11194*

Date Received: *03/16/94*

Project Number: *030600829003*

Lab Project-ID Number: *8918-2*

Date Sampled: *03/10/94*

Date Digested: *03/25/94*

Batch Number: *940325-2201*

Analyte (Symbol)/EPA Method	Date Analyzed	Concentration mg/Kg (ppm)	Reporting Limit mg/Kg (ppm)
Mercury (Hg)/7471	03/27/94	< 0.10	0.10

Comments

The cover letter and enclosures are integral parts of this report.

{a} EPA Method 7471 was used for digestion.

Approved by: UM Date: 3-30-94

MBT Environmental Laboratories

Master Builders Technologies

METALS

Preparation Method: {a}

Project Name:	*Rocketdyne-SSFL*	Project Number:	*030600829003*
Sample Description:	*BB-18-005C-SM 0*	Lab Project-ID Number:	*8918-5*
Sample Number:	*11197*	Date Sampled:	*03/10/94*
Date Received:	*03/16/94*	Date Digested:	*03/25/94*
		Batch Number:	*940325-2201*

Analyte (Symbol)/EPA Method	Date Analyzed	Concentration mg/Kg (ppm)	Reporting Limit mg/Kg (ppm)
Mercury (Hg)/7471	03/27/94	< 0.10	0.10

Comments

The cover letter and enclosures are integral parts of this report.

{a} EPA Method 7471 was used for digestion.

Approved by: UM Date: 3-30-94

MBT Environmental Laboratories

Master Builders Techno...

METALS

Preparation Method: {a}

Project Name: *Rocketdyne-SSFL*

Sample Description: *BB-18-006A-SM 0*

Sample Number: *11196*

Date Received: *03/16/94*

Project Number: *030600829003*

Lab Project-ID Number: *8918-4*

Date Sampled: *03/10/94*

Date Digested: *03/25/94*

Batch Number: *940325-2201*

Analyte (Symbol)/EPA Method	Date Analyzed	Concentration mg/Kg (ppm)	Reporting Limit mg/Kg (ppm)
Mercury (Hg)/7471	03/27/94	< 0.10	0.10

Comments

The cover letter and enclosures are integral parts of this report.

{a} EPA Method 7471 was used for digestion.

Approved by: UM Date: 3-30-94

MBT Environmental Laboratories

Master Builders Technologies

METALS

Preparation Method: {a}

Project Name: *Rocketdyne-SSFL*

Sample Description: *BB-18-006B-SM 0*

Sample Number: *11198*

Date Received: *03/16/94*

Project Number: *030600829003*

Lab Project-ID Number: *8918-6*

Date Sampled: *03/10/94*

Date Digested: *03/25/94*

Batch Number: *940325-2201*

Analyte (Symbol)/EPA Method	Date Analyzed	Concentration mg/Kg (ppm)	Reporting Limit mg/Kg (ppm)
Mercury (Hg)/7471	03/27/94	0.12	0.10

Comments

The cover letter and enclosures are integral parts of this report.

{a} EPA Method 7471 was used for digestion.

Approved by: UM Date: 3-30-94

MBT Environmental Laboratories

Master Builders Technologies

METALS

Preparation Method: {a}

Project Name:	*Rocketdyne-SSFL*	Project Number:	*030600829003*
Sample Description:	*BB-18-006B-SM*	Lab Project-ID Number:	*9066-1*
Sample Number:	*11198*	Date Sampled:	*03/10/94*
Date Received:	*03/12/94*	Date Digested:	*04/25/94*
		Batch Number:	*940425-4304*

Analyte (Symbol)/EPA Method	Date Analyzed	Concentration mg/Kg (ppm)	Reporting Limit mg/Kg (ppm)
Mercury (Hg)/7471	04/25/94	BRL	0.10

Comments

The cover letter and enclosures are integral parts of this report.

{a} EPA Method 7471 was used for Mercury digestion.

Approved by: JM Date: 4-29-94

MBT Environmental Laboratories

Master Builders Technologies

SODIUM REACTOR
PERIMENT WATERSHED
(BB19)

TELEDYNE BROWN ENGINEERING ENVIRONMENTAL SERVICES

RUN DATE 05/12/94

REPORT OF ANALYSIS

WORK ORDER NUMBER	CUSTOMER P.O. NUMBER	DATE RECEIVED	DELIVERY DATE
4-0409	030225/030600829	03/14/94	04/16/94

ANN MARIE HOLBROW
MCLAREN/HART
16755 VON KARMAN AVE 92714
IRVINE CA

S O I L

TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION		STA NUM	COLLECTION-DATE START DATE TIME	STOP DATE TIME	NUCLIDE	ACTIVITY (PCI/GM DRY)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
44176	10354	BG-02-085-MP		03/10 1632		PU-238	L.T. 2. E-02		04/14		6
						PU-239	L.T. 2. E-02		04/14		6
44177	10354MS	BG-02-085-MP		/		PU-238	L.T. 1. E-02		04/16		6
						PU-239	6.3 +-1.0 E-01		04/16		6
44178	10354MSD	BG-02-085-MP		/		PU-238	L.T. 1. E-02		04/16		6
						PU-239	5.8 +-0.9 E-01		04/16		6
44179	10302	BB-19-005-SS		03/10 1136		SR-90	L.T. 8. E-02		04/14		3
44182	10303	BB-19-005-SG		03/10 1136		BE-7	L.T. 3. E-01		04/15		4
						K-40	2.39+-0.24E 01		04/15		4
						MN-54	L.T. 3. E-02		04/15		4
						CO-58	L.T. 3. E-02		04/15		4
						FE-59	L.T. 1. E-01		04/15		4
						CO-60	L.T. 3. E-02		04/15		4
						ZN-65	L.T. 6. E-02		04/15		4
						ZR-95	L.T. 4. E-02		04/15		4
						RU-103	L.T. 4. E-02		04/15		4
						RU-106	L.T. 2. E-01		04/15		4
						I-131	L.T. 5. E-01		04/15		4
						CS-134	L.T. 3. E-02		04/15		4
						CS-137	5.61+-2.58E-02		04/15		4
						BA-140	L.T. 2. E-01		04/15		4
						CE-141	L.T. 8. E-02		04/15		4
						CE-144	L.T. 2. E-01		04/15		4
						RA-226	1.07+-0.40E 00		04/15		4
						TH-228	5.88+-0.59E-01		04/15		4

TELEDYNE BROWN ENGINEERING ENVIRONMENTAL SERVICES

RUN DATE 05/12/94

REPORT OF ANALYSIS

WORK ORDER NUMBER	CUSTOMER P.O. NUMBER	DATE RECEIVED	DELIVERY DATE
4-0409	030225/030600829	03/14/94	04/16/94

ANN MARIE HOLBROW
MCLAREN/HART
16755 VON KARMAN AVE
IRVINE CA 92714

S O I L

TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION		STA NUM	COLLECTION-DATE START DATE TIME	STOP DATE TIME	NUCLIDE	ACTIVITY (PCI/GM DRY)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
44183	10305	BB-19-006-SS		03/10 1150		SR-90	1.2 +-0.8 E-01		04/16		3
44184	10306	BB-19-006-SG		03/10 1150		BE-7	L.T. 5. E-01		04/15		4
						K-40	2.31+-0.23E 01		04/15		4
						MN-54	L.T. 4. E-02		04/15		4
						CO-58	L.T. 5. E-02		04/15		4
						FE-59	L.T. 1. E-01		04/15		4
						CO-60	L.T. 4. E-02		04/15		4
						ZN-65	L.T. 1. E-01		04/15		4
						ZR-95	L.T. 5. E-02		04/15		4
						RU-103	L.T. 5. E-02		04/15		4
						RU-106	L.T. 3. E-01		04/15		4
						I-131	L.T. 7. E-01		04/15		4
						CS-134	L.T. 5. E-02		04/15		4
						CS-137	5.11+-2.80E-02		04/15		4
						BA-140	L.T. 3. E-01		04/15		4
						CE-141	L.T. 1. E-01		04/15		4
						CE-144	L.T. 3. E-01		04/15		4
						RA-226	1.53+-0.55E 00		04/15		4
						TH-228	7.53+-0.75E-01		04/15		4
44186	10308	BB-19-007-SS		03/10 1205		SR-90	L.T. 1. E-01		04/16		3
44187	10309	BB-19-007-SG		03/10 1205		BE-7	L.T. 5. E-01		04/15		4
						K-40	2.13+-0.21E 01		04/15		4
						MN-54	L.T. 4. E-02		04/15		4
						CO-58	L.T. 5. E-02		04/15		4
						FE-59	L.T. 1. E-01		04/15		4
						CO-60	L.T. 4. E-02		04/15		4
						ZN-65	L.T. 1. E-01		04/15		4
						ZR-95	L.T. 5. E-02		04/15		4
						RU-103	L.T. 6. E-02		04/15		4
						RU-106	L.T. 3. E-01		04/15		4

TELEDYNE BROWN ENGINEERING ENVIRONMENTAL SERVICES

RUN DATE 05/12/94

REPORT OF ANALYSIS

PAGE 9

WORK ORDER NUMBER	CUSTOMER P.O. NUMBER	DATE RECEIVED	DELIVERY DATE
4-0409	030225/030600829	03/14/94	04/16/94

ANN MARIE HOLBROW
MCLAREN/HART
16755 VON KARMAN AVE
IRVINE CA 92714

S O I L

TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE TIME	COLLECTION-DATE STOP DATE TIME	NUCLIDE	ACTIVITY (PCI/GM DRY)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
44187 10309	88-19-007-SG		03/10 1205		I-131	L.T. 7. E-01		04/15		4
					CS-134	L.T. 4. E-02		04/15		4
					CS-137	L.T. 4. E-02		04/15		4
					BA-140	L.T. 2. E-01		04/15		4
					CE-141	L.T. 1. E-01		04/15		4
					CE-144	L.T. 3. E-01		04/15		4
					RA-226	1.06+-0.52E 00		04/15		4
					TH-228	5.52+-0.55E-01		04/15		4
44188 10310	88-19-008-SS		03/10 1220		SR-90	L.T. 1. E-01		04/16		3
44189 10311	88-19-008-SG		03/10 1220		BE-7	L.T. 4. E-01		04/15		4
					K-40	2.36+-0.24E 01		04/15		4
					MN-54	L.T. 3. E-02		04/15		4
					CO-58	L.T. 3. E-02		04/15		4
					FE-59	L.T. 1. E-01		04/15		4
					CO-60	L.T. 3. E-02		04/15		4
					ZN-65	L.T. 9. E-02		04/15		4
					ZR-95	L.T. 4. E-02		04/15		4
					RU-103	L.T. 5. E-02		04/15		4
					RU-106	L.T. 3. E-01		04/15		4
					I-131	L.T. 5. E-01		04/15		4
					CS-134	L.T. 4. E-02		04/15		4
					CS-137	4.47+-2.57E-02		04/15		4
					BA-140	L.T. 2. E-01		04/15		4
					CE-141	L.T. 7. E-02		04/15		4
					CE-144	L.T. 2. E-01		04/15		4
					RA-226	1.32+-0.49E 00		04/15		4
					TH-228	8.63+-0.86E-01		04/15		4

TELEDYNE BROWN ENGINEERING ENVIRONMENTAL SERVICES

REPORT OF ANALYSIS

WORK ORDER NUMBER	CUSTOMER P.O. NUMBER	DATE RECEIVED	DELIVERY DATE
4-0409	030225/030600829	03/14/94	04/16/94

ANN MARIE HOLBROW
MCLAREN/HART
16755 VON KARMAN AVE
IRVINE CA 92714

S O I L

TELEDYNE SAMPLE NUMBER		CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE	TIME	STOP DATE	TIME	NUCLIDE	ACTIVITY (PCI/GM DRY)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE	TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
44190	10312	BB-19-009-SS		03/10	1228			SR-90	6.1 +-4.1 E-02		04/28			3
44191	10313	BB-19-009-SG		03/10	1228			BE-7	L.T. 3. E-01		04/15			4
								K-40	2.37+-0.24E 01		04/15			4
								MN-54	L.T. 3. E-02		04/15			4
								CO-58	L.T. 3. E-02		04/15			4
								FE-59	L.T. 1. E-01		04/15			4
								CO-60	L.T. 3. E-02		04/15			4
								ZN-65	L.T. 7. E-02		04/15			4
								ZR-95	L.T. 4. E-02		04/15			4
								RU-103	L.T. 4. E-02		04/15			4
								RU-106	L.T. 2. E-01		04/15			4
								I-131	L.T. 5. E-01		04/15			4
								CS-134	L.T. 3. E-02		04/15			4
								CS-137	L.T. 3. E-02		04/15			4
								BA-140	L.T. 2. E-01		04/15			4
								CE-141	L.T. 8. E-02		04/15			4
								CE-144	L.T. 2. E-01		04/15			4
								RA-226	1.00+-0.34E 00		04/15			4
								TH-228	6.60+-0.66E-01		04/15			4
44202	10288	BB-15-006-SP		03/10	0930			PU-238	L.T. 1. E-02		04/09			6
								PU-239	L.T. 1. E-02		04/09			6
44204	10290	BB-15-007-SP		03/10	1010			PU-238	L.T. 1. E-02		04/09			6
								PU-239	L.T. 1. E-02		04/09			6
44205	10291	BB-15-008-SP		03/10	1016			PU-238	L.T. 1. E-02		04/09			6
								PU-239	L.T. 1. E-02		04/09			6

TELEDYNE BROWN ENGINEERING ENVIRONMENTAL SERVICES

REPORT OF ANALYSIS

WORK ORDER NUMBER	CUSTOMER P.O. NUMBER	DATE RECEIVED	DELIVERY DATE
4-1294	030225/030600829	03/11/94	04/13/94

ANN MARIE HOLBROW
MCLAREN/HART
16755 VON KARMAN AVE
IRVINE CA 92714

S O I L

TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE	START TIME	STOP DATE	STOP TIME	NUCLIDE	ACTIVITY (PCI/LITER)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE	MID-COUNT TIME TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
44019	11183DUPBB-17-B003-ST		03/09	1610			H-3	L.T. 2. E 02		05/03			5
44159	10326DUPBG-02-076 -ST		03/10	1605			H-3	L.T. 2. E 02		05/08			5
44180	10302DUPBB-17-005 -SS		03/10	1136			SR-90	L.T. 8. E-02	PCI/GM DRY *	04/16			3

TELEDYNE BROWN ENGINEERING ENVIRONMENTAL SERVICES

REPORT OF ANALYSIS

WORK ORDER NUMBER	CUSTOMER P.O. NUMBER	DATE RECEIVED	DELIVERY DATE
4-1294	030225/030600829	03/11/94	04/13/94

ANN MARIE HOLBROW
MCLAREN/HART
16755 VON KARMAN AVE
IRVINE CA 92714

W A T E R

TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE	START TIME	STOP DATE	STOP TIME	NUCLIDE	ACTIVITY (PCI/LITER)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE	MID-COUNT TIME TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
43921	11127DUP 88-17-005-RP		03/09	0755			PU-239	L.T. 2. E-01		03/31			6
							PU-238	L.T. 2. E-01		03/31			6
44201	11192DUP88-19-006 -RG		03/10	1050			BE-7	L.T. 3. E 01		04/01			4
							K-40	L.T. 7. E 01		04/01			4
							MN-54	L.T. 3. E 00		04/01			4
							CO-58	L.T. 3. E 00		04/01			4
							FE-59	L.T. 8. E 00		04/01			4
							CO-60	L.T. 3. E 00		04/01			4
							ZN-65	L.T. 6. E 00		04/01			4
							ZR-95	L.T. 4. E 00		04/01			4
							RU-103	L.T. 4. E 00		04/01			4
							RU-106	L.T. 3. E 01		04/01			4
							I-131	L.T. 2. E 01		04/01			4
							CS-134	L.T. 3. E 00		04/01			4
							CS-137	L.T. 3. E 00		04/01			4
							BA-140	L.T. 9. E 00		04/01			4
							CE-141	L.T. 7. E 00		04/01			4
							CE-144	L.T. 2. E 01		04/01			4
							RA-226	L.T. 6. E 01		04/01			4
							TH-228	L.T. 5. E 00					

LAST PAGE OF REPORT

J Guenther
APPROVED BY J. GUENTHER 05/26/94

SEND 1 COPIES TO MC480S ANN MARIE HOLBROW

2 - GAS LAB. 3 - RADIO CHEMISTRY LAB. 4 - GE(LI) GAMMA SPEC LAB. 5 - TRITIUM GAS/L.S. LAB. 6 - ALPHA SPEC LAB.

CAMPSITE 1
DRAINAGE (BB20)

TELEDYNE BROWN ENGINEERING ENVIRONMENTAL SERVICES

REPORT OF ANALYSIS

RUN DATE 04/20/94

WORK ORDER NUMBER	CUSTOMER P.O. NUMBER	DATE RECEIVED	DELIVERY DATE
4-0353	030225/030600829	03/09/94	04/11/94

ANN MARIE HOLBROW
MCLAREN/HART
16755 VON KARMAN AVE
IRVINE CA 92714

S O I L

TELEDYNE SAMPLE NUMBER		CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE TIME	STOP DATE TIME	NUCLIDE	ACTIVITY (PCI/LITER)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
43700	10079	BB-03-097-ST		03/08 1416		H-3	L.T. 1. E 02		04/06		5
43701	10083	BB-20-001-ST		03/08 1000		H-3	L.T. 1. E 02		04/07		5
43702	10084	BB-20-001-SS		03/08 1010		SR-90	L.T. 1. E-01	PCI/GM DRY *	03/28		3
43703	10085	BB-20-001-SG		03/08 1010		BE-7	L.T. 4. E-01	PCI/GM DRY *	03/21		4
						K-40	2.08+-0.21E 01	PCI/GM DRY *	03/21		4
						MN-54	L.T. 4. E-02	PCI/GM DRY *	03/21		4
						CO-58	L.T. 4. E-02	PCI/GM DRY *	03/21		4
						FE-59	L.T. 1. E-01	PCI/GM DRY *	03/21		4
						CO-60	L.T. 4. E-02	PCI/GM DRY *	03/21		4
						ZN-65	L.T. 1. E-01	PCI/GM DRY *	03/21		4
						ZR-95	L.T. 5. E-02	PCI/GM DRY *	03/21		4
						RU-103	L.T. 4. E-02	PCI/GM DRY *	03/21		4
						RU-106	L.T. 3. E-01	PCI/GM DRY *	03/21		4
						I-131	L.T. 1. E-01	PCI/GM DRY *	03/21		4
						CS-134	L.T. 5. E-02	PCI/GM DRY *	03/21		4
						CS-137	1.10+-0.37E-01	PCI/GM DRY *	03/21		4
						BA-140	L.T. 7. E-02	PCI/GM DRY *	03/21		4
						CE-141	L.T. 7. E-02	PCI/GM DRY *	03/21		4
						CE-144	L.T. 2. E-01	PCI/GM DRY *	03/21		4
						RA-226	1.76+-0.58E 00	PCI/GM DRY *	03/21		4
						TH-228	8.10+-0.81E-01	PCI/GM DRY *	03/21		4
43705	10087	BB-20-002-ST		03/08 1030		H-3	L.T. 1. E 02		04/07		5
43706	10088	BB-20-002-SS		03/08 1030		SR-90	L.T. 9. E-02	PCI/GM DRY *	03/28		3

TELEDYNE BROWN ENGINEERING ENVIRONMENTAL SERVICES

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WORK ORDER NUMBER	CUSTOMER P.O. NUMBER	DATE RECEIVED	DELIVERY DATE
4-0353	030225/030600829	03/09/94	04/11/94

ANN MARIE HOLBROW
MCLAREN/HART
16755 VON KARMAN AVE
IRVINE CA 92714

S O I L

TELEDYNE SAMPLE NUMBER	STA NUM	CUSTOMER'S IDENTIFICATION	COLLECTION-DATE START DATE TIME	STOP DATE TIME	NUCLIDE	ACTIVITY (PCI/GM DRY)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
43707	10089	BB-20-002-SG	03/08 1030		BE-7	L.T. 3. E-01		03/21		4
					K-40	2.40+-0.24E 01		03/21		4
					MN-54	L.T. 3. E-02		03/21		4
					CO-58	L.T. 3. E-02		03/21		4
					FE-59	L.T. 8. E-02		03/21		4
					CO-60	L.T. 4. E-02		03/21		4
					ZN-65	L.T. 8. E-02		03/21		4
					ZR-95	L.T. 4. E-02		03/21		4
					RU-103	L.T. 3. E-02		03/21		4
					RU-106	L.T. 3. E-01		03/21		4
					I-131	L.T. 9. E-02		03/21		4
					CS-134	L.T. 4. E-02		03/21		4
					CS-137	L.T. 4. E-02		03/21		4
					BA-140	L.T. 6. E-02		03/21		4
					CE-141	L.T. 5. E-02		03/21		4
					CE-144	L.T. 2. E-01		03/21		4
					RA-226	8.58+-4.62E-01		03/21		4
					TH-228	7.07+-0.71E-01		03/21		4
43709	10092	BB-20-003-ST	03/08 1048		H-3	L.T. 1. E 02	PCI/LITER *	04/07		5
43710	10093	BB-20-003-SS	03/08 1048		SR-90	L.T. 6. E-02		03/26		3
43711	10094	BB-20-003-SG	03/08 1048		BE-7	L.T. 3. E-01		03/21		4
					K-40	2.46+-0.25E 01		03/21		4
					MN-54	L.T. 4. E-02		03/21		4
					CO-58	L.T. 3. E-02		03/21		4
					FE-59	L.T. 9. E-02		03/21		4
					CO-60	L.T. 4. E-02		03/21		4
					ZN-65	L.T. 9. E-02		03/21		4
					ZR-95	L.T. 4. E-02		03/21		4
					RU-103	L.T. 4. E-02		03/21		4
					RU-106	L.T. 3. E-01		03/21		4

TELEDYNE BROWN [illegible] ENVIRONMENTAL SERVICES

REPORT OF ANALYSIS

ADDITIONAL D[illegible]A 06/29/94
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WORK ORDER NUMBER	CUSTOMER P.O. NUMBER	DATE RECEIVED	DELIVERY DATE
4-0353	030225/030600829	03/09/94	04/11/94

ANN MARIE HULBROW
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16755 VON KARMAN AVE
IRVINE CA 92714

S O I L

TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION		STA NUM	COLLECTION-DATE START DATE TIME	STOP DATE TIME	NUCLIDE	ACTIVITY (PCI/GM DRY)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
43711	10094	BB-20-003-SG		03/08 1048		I-131	L.T. 1. E-01		03/21		4
						CS-134	L.T. 5. E-02		03/21		4
						CS-137	L.T. 4. E-02		C3/21		4
						BA-140	L.T. 8. E-02		03/21		4
						CE-141	L.T. 6. E-02		03/21		4
						CE-144	L.T. 2. E-01		03/21		4
						RA-226	2.03+-0.52E 00		03/21		4
						TH-228	1.10+-0.11E 00		03/21		4
43712	10095	BB-20-004-ST		03/08 1115		H-3	L.T. 1. E 02	PCI/LITER *	04/07		5
43713	10096	BB-20-004-SS		03/08 1115		SR-90	1.8 +-0.4 E-01		03/29		3
43714	10097	BB-20-004-SG		03/08 1115		BE-7	L.T. 3. E-01		03/21		4
						K-40	2.42+-0.24E 01		03/21		4
						MN-54	L.T. 4. E-02		03/21		4
						CO-58	L.T. 3. E-02		03/21		4
						FE-59	L.T. 9. E-02		03/21		4
						CO-60	L.T. 4. E-02		03/21		4
						ZN-65	L.T. 1. E-01		03/21		4
						ZR-95	L.T. 4. E-02		03/21		4
						RU-103	L.T. 4. E-02		03/21		4
						RU-106	L.T. 3. E-01		03/21		4
						I-131	L.T. 9. E-02		03/21		4
						CS-134	L.T. 4. E-02		03/21		4
						CS-137	L.T. 4. E-02		03/21		4
						BA-140	L.T. 5. E-02		03/21		4
						CE-141	L.T. 6. E-02		03/21		4
						CE-144	L.T. 2. E-01		03/21		4
						RA-226	2.00+-0.56E 00		03/21		4
						TH-228	9.60+-0.96E-01		03/21		4

The second analysis of TI#43713 for Sr-90 gave result of 8.8 ± 3.6 E-02. J Martin 6-29-94

TELEDYNE BROWN ENGINEERING ENVIRONMENTAL SERVICES

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REPORT OF ANALYSIS

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WORK ORDER NUMBER	CUSTOMER P.O. NUMBER	DATE RECEIVED	DELIVERY DATE
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ANN MARIE HOLBROW
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S O I L

TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION		STA NUM	COLLECTION-DATE START DATE TIME	STOP DATE TIME	NUCLIDE	ACTIVITY (PCI/GM DRY)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
43711	10094	BB-20-003-SG		03/08 1048		I-131	L.T. 1. E-01		03/21		4
						CS-134	L.T. 5. E-02		03/21		4
						CS-137	L.T. 4. E-02		03/21		4
						BA-140	L.T. 8. E-02		03/21		4
						CE-141	L.T. 6. E-02		03/21		4
						CE-144	L.T. 2. E-01		03/21		4
						RA-226	2.03+-0.52E 00		03/21		4
						TH-228	1.10+-0.11E 00		03/21		4
						H-3	L.T. 1. E 02	PCI/LITER *	04/07		5
43712	10095	BB-20-004-ST		03/08 1115		SR-90	1.8 +-0.4 E-01		03/29		3
43713	10096	BB-20-004-SS		03/08 1115							
43714	10097	BB-20-004-SG		03/08 1115		BE-7	L.T. 3. E-01		03/21		4
						K-40	2.42+-0.24E 01		03/21		4
						MN-54	L.T. 4. E-02		03/21		4
						CO-58	L.T. 3. E-02		03/21		4
						FE-59	L.T. 9. E-02		03/21		4
						CO-60	L.T. 4. E-02		03/21		4
						ZN-65	L.T. 1. E-01		03/21		4
						ZR-95	L.T. 4. E-02		03/21		4
						RU-103	L.T. 4. E-02		03/21		4
						RU-106	L.T. 3. E-01		03/21		4
						I-131	L.T. 9. E-02		03/21		4
						CS-134	L.T. 4. E-02		03/21		4
						CS-137	L.T. 4. E-02		03/21		4
						BA-140	L.T. 5. E-02		03/21		4
						CE-141	L.T. 6. E-02		03/21		4
						CE-144	L.T. 2. E-01		03/21		4
						RA-226	2.00+-0.56E 00		03/21		4
						TH-228	9.60+-0.96E-01		03/21		4

TELEDYNE BROWN ENGINEERING ENVIRONMENTAL SERVICES

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WORK ORDER NUMBER	CUSTOMER P.O. NUMBER	DATE RECEIVED	DELIVERY DATE
4-0353	030225/030600829	03/09/94	04/11/94

ANN MARIE HOLBROW
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IRVINE CA 92714

S O I L

TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION		STA NUM	COLLECTION-DATE START DATE TIME	STOP DATE TIME	NUCLIDE	ACTIVITY (PCI/LITER)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
43715	10098	BB-20-005-ST		03/08 1126		H-3	L.T. 1. E 02		04/07		5
43716	10098DUP	BB-20-005-ST		03/08 1126		H-3	L.T. 1. E 02		04/07		5
43717	10099	BB-20-005-SS		03/08 1126		SR-90	L.T. 6. E-02	PCI/GM DRY *	03/26		3
43718	10100	BB-20-005-SG		03/08 1126		BE-7	L.T. 3. E-01	PCI/GM DRY *	03/21		4
						K-40	2.61+-0.26E 01	PCI/GM DRY *	03/21		4
						MN-54	L.T. 3. E-02	PCI/GM DRY *	03/21		4
						CO-58	L.T. 3. E-02	PCI/GM DRY *	03/21		4
						FE-59	L.T. 8. E-02	PCI/GM DRY *	03/21		4
						CO-60	L.T. 3. E-02	PCI/GM DRY *	03/21		4
						ZN-65	L.T. 7. E-02	PCI/GM DRY *	03/21		4
						ZR-95	L.T. 3. E-02	PCI/GM DRY *	03/21		4
						RU-103	L.T. 3. E-02	PCI/GM DRY *	03/21		4
						RU-106	L.T. 2. E-01	PCI/GM DRY *	03/21		4
						I-131	L.T. 8. E-02	PCI/GM DRY *	03/21		4
						CS-134	L.T. 4. E-02	PCI/GM DRY *	03/21		4
						CS-137	L.T. 3. E-02	PCI/GM DRY *	03/21		4
						BA-140	L.T. 6. E-02	PCI/GM DRY *	03/21		4
						CE-141	L.T. 5. E-02	PCI/GM DRY *	03/21		4
						CE-144	L.T. 2. E-01	PCI/GM DRY *	03/21		4
						RA-226	1.50+-0.36E 00	PCI/GM DRY *	03/21		4
						TH-228	1.13+-0.11E 00	PCI/GM DRY *	03/21		4
43719	10101	BB-20-006-ST		03/08		H-3	L.T. 1. E 02		04/07		5
43720	10102	BB-20-006-SS		03/08 1142		SR-90	L.T. 5. E-02	PCI/GM DRY *	03/26		3

TELEDYNE BROWN ENGINEERING ENVIRONMENTAL SERVICES

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REPORT OF ANALYSIS

WORK ORDER NUMBER	CUSTOMER P.O. NUMBER	DATE RECEIVED	DELIVERY DATE
4-0353	030225/030600829	03/09/94	04/11/94

ANN MARIE HOLBROW
MCLAREN/HART
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IRVINE CA 92714

S O I L

TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE TIME	STOP DATE TIME	NUCLIDE	ACTIVITY (PCI/GM DRY)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
43721 10103	BB-20-006-SG		03/08 1142		BE-7	L.T. 4. E-01		03/21		4
					K-40	2.46+-0.25E 01		03/21		4
					MN-54	L.T. 5. E-02		03/21		4
					CO-58	L.T. 5. E-02		03/21		4
					FE-59	L.T. 1. E-01		03/21		4
					CO-60	L.T. 4. E-02		03/21		4
					ZN-65	L.T. 1. E-01		03/21		4
					ZR-95	L.T. 5. E-02		03/21		4
					RU-103	L.T. 5. E-02		03/21		4
					RU-106	L.T. 3. E-01		03/21		4
					I-131	L.T. 1. E-01		03/21		4
					CS-134	L.T. 5. E-02		03/21		4
					CS-137	L.T. 5. E-02		03/21		4
					BA-140	L.T. 8. E-02		03/21		4
					CE-141	L.T. 8. E-02		03/21		4
					CE-144	L.T. 3. E-01		03/21		4
					RA-226	2.04+-0.69E 00		03/21		4
					TH-228	1.10+-0.11E 00		03/21		4
43723 10105	BB-20-007-ST		03/08 1210		H-3	L.T. 1. E 02	PCI/LITER *	04/07		5
43724 10106	BB-20-007-SS		03/08 1210		SR-90	L.T. 5. E-02		03/26		3
43725 10107	BB-20-007-SG		03/08 1210		BE-7	L.T. 4. E-01		03/21		4
					K-40	2.26+-0.23E 01		03/21		4
					MN-54	L.T. 5. E-02		03/21		4
					CO-58	L.T. 4. E-02		03/21		4
					FE-59	L.T. 1. E-01		03/21		4
					CO-60	L.T. 5. E-02		03/21		4
					ZN-65	L.T. 1. E-01		03/21		4
					ZR-95	L.T. 5. E-02		03/21		4
					RU-103	L.T. 6. E-02		03/21		4
					RU-106	L.T. 4. E-01		03/21		4

TELEDYNE BROWN ENGINEERING ENVIRONMENTAL SERVICES

REPORT OF ANALYSIS

RUN DATE 04/20/94

WORK ORDER NUMBER	CUSTOMER P.O. NUMBER	DATE RECEIVED	DELIVERY DATE
4-0353	030225/030600829	03/09/94	04/11/94

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S O I L

TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE TIME	STOP DATE TIME	NUCLIDE	ACTIVITY (PCI/GM DRY)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
43725	10107 BB-20-007-SG		03/08 1210		I-131	L.T. 1. E-01		03/21		4
					CS-134	L.T. 6. E-02		03/21		4
					CS-137	L.T. 5. E-02		03/21		4
					BA-140	L.T. 1. E-01		03/21		4
					CE-141	L.T. 8. E-02		03/21		4
					CE-144	L.T. 3. E-01		03/21		4
					RA-226	1.76+-0.68E 00		03/21		4
					TH-228	1.08+-0.11E 00		03/21		4
43726	10108 BB-20-008-ST		03/08 1316		H-3	L.T. 1. E 02	PCI/LITER *	04/07		5
43727	10109 BB-20-008-SS		03/08 1316		SR-90	L.T. 6. E-02		03/26		3
43728	10110 BB-20-008-SG		03/08 1316		BE-7	L.T. 4. E-01		03/21		4
					K-40	2.31+-0.23E 01		03/21		4
					MN-54	L.T. 5. E-02		03/21		4
					CO-58	L.T. 4. E-02		03/21		4
					FE-59	L.T. 1. E-01		03/21		4
					CO-60	L.T. 5. E-02		03/21		4
					ZN-65	L.T. 1. E-01		03/21		4
					ZR-95	L.T. 5. E-02		03/21		4
					RU-103	L.T. 5. E-02		03/21		4
					RU-106	L.T. 4. E-01		03/21		4
					I-131	L.T. 1. E-01		03/21		4
					CS-134	L.T. 5. E-02		03/21		4
					CS-137	L.T. 5. E-02		03/21		4
					BA-140	L.T. 1. E-01		03/21		4
					CE-141	L.T. 1. E-01		03/21		4
					CE-144	L.T. 4. E-01		03/21		4
					RA-226	1.23+-0.70E 00		03/21		4
					TH-228	9.86+-0.99E-01		03/21		4

TELEDYNE BROWN ENGINEERING ENVIRONMENTAL SERVICES

REPORT OF ANALYSIS

WORK ORDER NUMBER	CUSTOMER P.O. NUMBER	DATE RECEIVED	DELIVERY DATE
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S O I L

TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION		STA NUM	COLLECTION-DATE START DATE TIME	STOP DATE TIME	NUCLIDE	ACTIVITY (PCI/GM DRY)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
43729	10111	BB-20-008-MS		03/08 1316		SR-90	1.1 +-0.4 E-01		03/29		3
43730	10111MS	BB-20-008-MS		/		SR-90	3.9 +-0.2 E 00		04/07		3
43731	10111MSD	BB-20-008-MS		/		SR-90	3.9 +-0.2 E 00		04/07		3
43732	10112	BB-20-009-ST		03/08 1326		H-3	L.T. 1. E 02	PCI/LITER *	04/07		5
43733	10113	BB-20-009-SS		03/08 1326		SR-90	L.T. 6. E-02		03/30		3
43734	10114	BB-20-009-SG		03/08 1326		BE-7	L.T. 4. E-01		03/21		4
						K-40	2.53+-0.25E 01		03/21		4
						MN-54	L.T. 4. E-02		03/21		4
						CO-58	L.T. 4. E-02		03/21		4
						FE-59	L.T. 1. E-01		03/21		4
						CO-60	L.T. 4. E-02		03/21		4
						ZN-65	L.T. 1. E-01		03/21		4
						ZR-95	L.T. 5. E-02		03/21		4
						RU-103	L.T. 5. E-02		03/21		4
						RU-106	L.T. 3. E-01		03/21		4
						I-131	L.T. 1. E-01		03/21		4
						CS-134	L.T. 5. E-02		03/21		4
						CS-137	7.56+-3.64E-02		03/21		4
						BA-140	L.T. 7. E-02		03/21		4
						CE-141	L.T. 7. E-02		03/21		4
						CE-144	L.T. 2. E-01		03/21		4
						RA-226	1.54+-0.54E 00		03/21		4
						TH-228	1.41+-0.14E 00		03/21		4

TELEDYNE BROWN ENGINEERING ENVIRONMENTAL SERVICES

REPORT OF ANALYSIS

WORK ORDER NUMBER	CUSTOMER P.O. NUMBER	DATE RECEIVED	DELIVERY DATE
4-0353	030225/030600829	03/09/94	04/11/94

ANN MARIE HOLBROW
MCLAREN/HART
16755 VON KARMAN AVE
IRVINE CA 92714

S O I L

TELEDYNE SAMPLE NUMBER	STA NUM	CUSTOMER'S IDENTIFICATION	COLLECTION-DATE START DATE TIME	STOP DATE TIME	NUCLIDE	ACTIVITY (PCI/LITER)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
43735	10115	BB-20-010-ST	03/08 1340		H-3	L.T. 1. E 02		04/07		5
43736	10116	BB-20-010-SS	03/08 1340		SR-90	L.T. 1. E-01	PCI/GM DRY *	04/01		3
43737	10116DUP	BB-20-010-SS	03/08 1340		SR-90	L.T. 6. E-02	PCI/GM DRY *	03/30		3
43738	10117	BB-20-010-SG	03/08 1340		BE-7	L.T. 3. E-01	PCI/GM DRY *	03/21		4
					K-40	2.27+-0.23E 01	PCI/GM DRY *	03/21		4
					MN-54	L.T. 4. E-02	PCI/GM DRY *	03/21		4
					CO-58	L.T. 4. E-02	PCI/GM DRY *	03/21		4
					FE-59	L.T. 1. E-01	PCI/GM DRY *	03/21		4
					CO-60	L.T. 4. E-02	PCI/GM DRY *	03/21		4
					ZN-65	L.T. 9. E-02	PCI/GM DRY *	03/21		4
					ZR-95	L.T. 4. E-02	PCI/GM DRY *	03/21		4
					RU-103	L.T. 4. E-02	PCI/GM DRY *	03/21		4
					RU-106	L.T. 3. E-01	PCI/GM DRY *	03/21		4
					I-131	L.T. 1. E-01	PCI/GM DRY *	03/21		4
					CS-134	L.T. 4. E-02	PCI/GM DRY *	03/21		4
					CS-137	L.T. 5. E-02	PCI/GM DRY *	03/21		4
					BA-140	L.T. 8. E-02	PCI/GM DRY *	03/21		4
					CE-141	L.T. 7. E-02	PCI/GM DRY *	03/21		4
					CE-144	L.T. 2. E-01	PCI/GM DRY *	03/21		4
					RA-226	1.46+-0.60E 00	PCI/GM DRY *	03/21		4
					TH-228	9.71+-0.97E-01	PCI/GM DRY *	03/21		4
43739	10118	BB-20-010-MG	03/08 1340		BE-7	L.T. 3. E-01	PCI/GM DRY *	03/21		4
					K-40	2.42+-0.24E 01	PCI/GM DRY *	03/21		4
					MN-54	L.T. 3. E-02	PCI/GM DRY *	03/21		4
					CO-58	L.T. 3. E-02	PCI/GM DRY *	03/21		4
					FE-59	L.T. 8. E-02	PCI/GM DRY *	03/21		4
					CO-60	L.T. 3. E-02	PCI/GM DRY *	03/21		4
					ZN-65	L.T. 8. E-02	PCI/GM DRY *	03/21		4
					ZR-95	L.T. 4. E-02	PCI/GM DRY *	03/21		4

TELEDYNE BROWN ENGINEER[illegible]NVIRONMENTAL SERVICES

REPORT OF ANALYSIS

WORK ORDER NUMBER	CUSTOMER P.O. NUMBER	DATE RECEIVED	DELIVERY DATE
4-0353	030225/030600829	03/09/94	04/11/94

ANN MARIE HOLBROW
MCLAREN/HART
16755 VON KARMAN AVE
IRVINE CA 92714

S O I L

TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE TIME	STOP DATE TIME	NUCLIDE	ACTIVITY (PCI/GM DRY)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
43741	10118MSD BB-20-010-MG		/		BE-7	L.T. 5. E-01		04/15		4
					K-40	2.50+-0.25E 01		04/15		4
					MN-54	L.T. 4. E-02		04/15		4
					CO-58	L.T. 5. E-02		04/15		4
					FE-59	L.T. 1. E-01		04/15		4
					CO-60	L.T. 4. E-02		04/15		4
					ZN-65	L.T. 1. E-01		04/15		4
					ZR-95	L.T. 6. E-02		04/15		4
					RU-103	L.T. 7. E-02		04/15		4
					RU-106	L.T. 4. E-01		04/15		4
					I-131	L.T. 9. E-01		04/15		4
					CS-134	L.T. 5. E-02		04/15		4
					CS-137	8.22+-0.82E-01		04/15		4
					BA-140	L.T. 2. E-01		04/15		4
					CE-141	L.T. 1. E-01		04/15		4
					CE-144	L.T. 2. E-01		04/15		4
					RA-226	1.69+-0.52E 00		04/15		4
					TH-228	9.86+-0.99E-01		04/15		4
43742	11018 BB-20-003-FT		03/08 1010		H-3	L.T. 1. E 02	PCI/LITER *	04/07		5
43743	BB-00-001-FG	11021	03/08 1126		BE-7	L.T. 4. E-01		03/21		4
	BB-20-005				K-40	2.37+-0.24E 01		03/21		4
					MN-54	L.T. 4. E-02		03/21		4
					CO-58	L.T. 4. E-02		03/21		4
					FE-59	L.T. 1. E-01		03/21		4
					CO-60	L.T. 4. E-02		03/21		4
					ZN-65	L.T. 9. E-02		03/21		4
					ZR-95	L.T. 5. E-02		03/21		4
					RU-103	L.T. 4. E-02		03/21		4
					RU-106	L.T. 3. E-01		03/21		4
					I-131	L.T. 1. E-01		03/21		4
					CS-134	L.T. 5. E-02		03/21		4

The customer's identification for Teledyne #43743 has been corrected. J Martin 4-21-94

TELEDYNE BROWN ENGINEERING ENVIRONMENTAL SERVICES

RUN DATE 04/19/94

REPORT OF ANALYSIS

PAGE 1

WORK ORDER NUMBER	CUSTOMER P.O. NUMBER	DATE RECEIVED	DELIVERY DATE
4-0638	030225/030600829	03/16/94	04/18/94

ANN MARIE HOLBROW
MCLAREN/HART
16755 VON KARMAN AVE
IRVINE CA 92714

W A T E R

TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE TIME	COLLECTION-DATE STOP DATE TIME	NUCLIDE	ACTIVITY (PCI/LITER)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
45715 11040	BB-20-001-RS		03/08 0854		SR-90	L.T. 1. E 00		04/15		3
45716 11039	BB-20-002-RG		03/08 0854		BE-7	L.T. 5. E 01		04/13		4
					K-40	L.T. 1. E 02		04/13		4
					MN-54	L.T. 4. E 00		04/13		4
					CO-58	L.T. 5. E 00		04/13		4
					FE-59	L.T. 1. E 01		04/13		4
					CO-60	L.T. 4. E 00		04/13		4
					ZN-65	L.T. 9. E 00		04/13		4
					ZR-95	L.T. 5. E 00		04/13		4
					RU-103	L.T. 7. E 00		04/13		4
					RU-106	L.T. 4. E 01		04/13		4
					I-131	L.T. 9. E 01		04/13		4
					CS-134	L.T. 4. E 00		04/13		4
					CS-137	L.T. 4. E 00		04/13		4
					BA-140	L.T. 3. E 01		04/13		4
					CE-141	L.T. 1. E 01		04/13		4
					CE-144	L.T. 3. E 01		04/13		4
					RA-226	L.T. 8. E 01		04/13		4
					TH-228	L.T. 7. E 00		04/13		4
45717 11032	BB-20-002-WA		03/08 1400		GR-A	L.T. 6. E 00		04/09		3
					GR-B	1.5 +-0.3 E 01		04/09		3
45718 11126	BB-20-002-WT		03/08 1400		H-3	L.T. 2. E 02		04/14		5

LAST PAGE OF REPORT

J Guenther
APPROVED BY J. GUENTHER 04/19/94

SEND 1 COPIES TO MC480S ANN MARIE HOLBROW

2 - GAS LAB. 3 - RADIO CHEMISTRY LAB. 4 - GE(LI) GAMMA SPEC LAB. 5 - TRITIUM GAS/L.S. LAB. 6 - ALPHA SPEC LAB.

FORMER ROCKETDYNE
EMPLOYEE SHOOTING
RANGE (SM03)

TELEDYNE BROWN ENGINEERING ENVIRONMENTAL SERVICES

RUN DATE 04/06/94

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REPORT OF ANALYSIS

WORK ORDER NUMBER	CUSTOMER P.O. NUMBER	DATE RECEIVED	DELIVERY DATE
4-0185	030225/030600829	03/08/94	03/18/94

ANN MARIE HOLBROW
MCLAREN/HART
16755 VON KARMAN AVE
IRVINE CA 92714

S O I L

TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION		STA NUM	COLLECTION-DATE START DATE TIME	COLLECTION-DATE STOP DATE TIME	NUCLIDE	ACTIVITY (PCI/LITER)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
43187	10027	BB-14-004-ST		03/04 1625		H-3	L.T. 2. E 02		03/20		5
43188	10062	SM-03-012-ST		03/07 1422		H-3	L.T. 1. E 02		03/30		5
43190	10064	SM-03-015-ST		03/07 1420		H-3	L.T. 1. E 02		03/21		5
43191	10065	SM-03-009-ST		03/07 1423		H-3	L.T. 1. E 02		03/21		5
43192	10066	SM-03-001-ST		03/07 1425		H-3	L.T. 1. E 02		03/21		5
43193	10067	SM-03-014-ST		03/07 1430		H-3	L.T. 1. E 02		03/21		5
43194	10047	BB-05-003-ST		03/07 1050		H-3	L.T. 1. E 02		03/30		5
43195	10043	BB-05-089-ST		03/07 1052		H-3	L.T. 1. E 02		03/21		5
43196	10042	BB-05-089FDT		03/07 1052		H-3	L.T. 1. E 02		03/21		5
43197	10048	BB-05-006-ST		03/07 1102		H-3	L.T. 1. E 02		03/21		5
43198	10044	BB-05-057-ST		03/07 1112		H-3	L.T. 1. E 02		03/21		5
43199	10046	BB-05-077-ST		03/07 1110		H-3	L.T. 1. E 02		03/21		5
43200	10028	BB-06-007-ST		03/07 0910		H-3	L.T. 1. E 02		03/21		5
43201	10029	BB-06-092-ST		03/07 0918		H-3	L.T. 1. E 02		03/21		5
43202	10030MS	BB-06-092-MT		/		H-3	3.0 +-0.2 E 03		03/30		5

Gamma Scan

TELEDYNE BROWN ENGINEERING ENVIRONMENTAL SERVICES

REPORT OF ANALYSIS

RUN DATE 04/20/94

WORK ORDER NUMBER	CUSTOMER P.O. NUMBER	DATE RECEIVED	DELIVERY DATE	PAGE 9
4-0353	030225/030600829	03/09/94	04/11/94	

ANN MARIE HOLBROW
MCLAREN/HART
16755 VON KARMAN AVE
IRVINE CA 92714

S O I L

TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE	START TIME	STOP DATE	STOP TIME	NUCLIDE	ACTIVITY (PCI/LITER)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE	TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
43735	10115 BB-20-010-ST		03/08	1340			H-3	L.T. 1. E 02		04/07			5
43736	10116 BB-20-010-SS		03/08	1340			SR-90	L.T. 1. E-01	PCI/GM DRY *	04/01			3
43737	10116DUP BB-20-010-SS		03/08	1340			SR-90	L.T. 6. E-02	PCI/GM DRY *	03/30			3
43738	10117 BB-20-010-SG		03/08	1340			BE-7	L.T. 3. E-01	PCI/GM DRY *	03/21			4
							K-40	2.27+-0.23E 01	PCI/GM DRY *	03/21			4
							MN-54	L.T. 4. E-02	PCI/GM DRY *	03/21			4
							CO-58	L.T. 4. E-02	PCI/GM DRY *	03/21			4
							FE-59	L.T. 1. E-01	PCI/GM DRY *	03/21			4
							CO-60	L.T. 4. E-02	PCI/GM DRY *	03/21			4
							ZN-65	L.T. 9. E-02	PCI/GM DRY *	03/21			4
							ZR-95	L.T. 4. E-02	PCI/GM DRY *	03/21			4
							RU-103	L.T. 4. E-02	PCI/GM DRY *	03/21			4
							RU-106	L.T. 3. E-01	PCI/GM DRY *	03/21			4
							I-131	L.T. 1. E-01	PCI/GM DRY *	03/21			4
							CS-134	L.T. 4. E-02	PCI/GM DRY *	03/21			4
							CS-137	L.T. 5. E-02	PCI/GM DRY *	03/21			4
							BA-140	L.T. 8. E-02	PCI/GM DRY *	03/21			4
							CE-141	L.T. 7. E-02	PCI/GM DRY *	03/21			4
							CE-144	L.T. 2. E-01	PCI/GM DRY *	03/21			4
							RA-226	1.46+-0.60E 00	PCI/GM DRY *	03/21			4
							TH-228	9.71+-0.97E-01	PCI/GM DRY *	03/21			4
43739	10118 BB-20-010-MG		03/08	1340			BE-7	L.T. 3. E-01	PCI/GM DRY *	03/21			4
							K-40	2.42+-0.24E 01	PCI/GM DRY *	03/21			4
							MN-54	L.T. 3. E-02	PCI/GM DRY *	03/21			4
							CO-58	L.T. 3. E-02	PCI/GM DRY *	03/21			4
							FE-59	L.T. 8. E-02	PCI/GM DRY *	03/21			4
							CO-60	L.T. 3. E-02	PCI/GM DRY *	03/21			4
							ZN-65	L.T. 8. E-02	PCI/GM DRY *	03/21			4
							ZR-95	L.T. 4. E-02	PCI/GM DRY *	03/21			4

TELEDYNE BROWN ENGINEERING ENVIRONMENTAL SERVICES

RUN DATE 04/20/94

REPORT OF ANALYSIS

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WORK ORDER NUMBER	CUSTOMER P.O. NUMBER	DATE RECEIVED	DELIVERY DATE
4-0353	030225/030600829	03/09/94	04/11/94

ANN MARIE HOLBROW
MCLAREN/HART
16755 VON KARMAN AVE
IRVINE CA 92714

S O I L

TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE TIME	STOP DATE TIME	NUCLIDE	ACTIVITY (PCI/GM DRY)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
43739	10118 BB-20-010-MG		03/08 1340		RU-103	L.T. 3. E-02		03/21		4
					RU-106	L.T. 3. E-01		03/21		4
					I-131	L.T. 9. E-02		03/21		4
					CS-134	L.T. 4. E-02		03/21		4
					CS-137	L.T. 4. E-02		03/21		4
					BA-140	L.T. 6. E-02		03/21		4
					CE-141	L.T. 6. E-02		03/21		4
					CE-144	L.T. 2. E-01		03/21		4
					RA-226	1.07+-0.48E 00		03/21		4
					TH-228	9.80+-0.98E-01		03/21		4
43740	10118MS BB-20-010-MG		/		BE-7	L.T. 5. E-01		04/14		4
					K-40	2.34+-0.23E 01		04/14		4
					MN-54	L.T. 4. E-02		04/14		4
					CO-58	L.T. 5. E-02		04/14		4
					FE-59	L.T. 1. E-01		04/14		4
					CO-60	L.T. 4. E-02		04/14		4
					ZN-65	L.T. 1. E-01		04/14		4
					ZR-95	L.T. 6. E-02		04/14		4
					RU-103	L.T. 7. E-02		04/14		4
					RU-106	L.T. 4. E-01		04/14		4
					I-131	L.T. 9. E-01		04/14		4
					CS-134	L.T. 5. E-02		04/14		4
					CS-137	7.46+-0.75E-01		04/14		4
					BA-140	L.T. 3. E-01		04/14		4
					CE-141	L.T. 1. E-01		04/14		4
					CE-144	L.T. 2. E-01		04/14		4
					RA-226	1.14+-0.60E 00		04/14		4
					TH-228	9.39+-0.94E-01		04/14		4

TELEDYNE BROWN ENGINEERING ENVIRONMENTAL SERVICES

REPORT OF ANALYSIS

WORK ORDER NUMBER	CUSTOMER P.O. NUMBER	DATE RECEIVED	DELIVERY DATE
4-0353	030225/030600829	03/09/94	04/11/94

ANN MARIE HOLBROW
MCLAREN/HART
16755 VON KARMAN AVE
IRVINE CA 92714

S O I L

TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE TIME	COLLECTION-DATE STOP DATE TIME	NUCLIDE	ACTIVITY (PCI/GM DRY)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
43741	10118MSD 88-20-010-MG		/		BE-7	L.T. 5. E-01		04/15		4
					K-40	2.50+-0.25E 01		04/15		4
					MN-54	L.T. 4. E-02		04/15		4
					CO-58	L.T. 5. E-02		04/15		4
					FE-59	L.T. 1. E-01		04/15		4
					CO-60	L.T. 4. E-02		04/15		4
					ZN-65	L.T. 1. E-01		04/15		4
					ZR-95	L.T. 6. E-02		04/15		4
					RU-103	L.T. 7. E-02		04/15		4
					RU-106	L.T. 4. E-01		04/15		4
					I-131	L.T. 9. E-01		04/15		4
					CS-134	L.T. 5. E-02		04/15		4
					CS-137	8.22+-0.82E-01		04/15		4
					BA-140	L.T. 2. E-01		04/15		4
					CE-141	L.T. 1. E-01		04/15		4
					CE-144	L.T. 2. E-01		04/15		4
					RA-226	1.69+-0.52E 00		04/15		4
					TH-228	9.86+-0.99E-01		04/15		4
43742	11018 88-20-003-FT		03/08 1010		H-3	L.T. 1. E 02	PCI/LITER *	04/07		5
43743	88-00-001-FG		03/08 1126		BE-7	L.T. 4. E-01		03/21		4
					K-40	2.37+-0.24E 01		03/21		4
					MN-54	L.T. 4. E-02		03/21		4
					CO-58	L.T. 4. E-02		03/21		4
					FE-59	L.T. 1. E-01		03/21		4
					CO-60	L.T. 4. E-02		03/21		4
					ZN-65	L.T. 9. E-02		03/21		4
					ZR-95	L.T. 5. E-02		03/21		4
					RU-103	L.T. 4. E-02		03/21		4
					RU-106	L.T. 3. E-01		03/21		4
					I-131	L.T. 1. E-01		03/21		4
					CS-134	L.T. 5. E-02		03/21		

TELEDYNE BROWN ENGINEERING ENVIRONMENTAL SERVICES

REPORT OF ANALYSIS

WORK ORDER NUMBER	CUSTOMER P.O. NUMBER	DATE RECEIVED	DELIVERY DATE
4-0353	030225/030600829	03/09/94	04/11/94

ANN MARIE HOLBROW
MCLAREN/HART
16755 VON KARMAN AVE
IRVINE CA 92714

S O I L

TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE	START TIME	STOP DATE	STOP TIME	NUCLIDE	ACTIVITY (PCI/GM DRY)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE	MID-COUNT TIME TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
43739	10118 BB-20-010-MG		03/08	1340			RU-103	L.T. 3. E-02		03/21			4
							RU-106	L.T. 3. E-01		03/21			4
							I-131	L.T. 9. E-02		03/21			4
							CS-134	L.T. 4. E-02		03/21			4
							CS-137	L.T. 4. E-02		03/21			4
							BA-140	L.T. 6. E-02		03/21			4
							CE-141	L.T. 6. E-02		03/21			4
							CE-144	L.T. 2. E-01		03/21			4
							RA-226	1.07+-0.48E 00		03/21			4
							TH-228	9.80+-0.98E-01		03/21			4
43740	10118MS BB-20-010-MG		/				BE-7	L.T. 5. E-01		04/14			4
							K-40	2.34+-0.23E 01		04/14			4
							MN-54	L.T. 4. E-02		04/14			4
							CO-58	L.T. 5. E-02		04/14			4
							FE-59	L.T. 1. E-01		04/14			4
							CO-60	L.T. 4. E-02		04/14			4
							ZN-65	L.T. 1. E-01		04/14			4
							ZR-95	L.T. 6. E-02		04/14			4
							RU-103	L.T. 7. E-02		04/14			4
							RU-106	L.T. 4. E-01		04/14			4
							I-131	L.T. 9. E-01		04/14			4
							CS-134	L.T. 5. E-02		04/14			4
							CS-137	7.46+-0.75E-01		04/14			4
							BA-140	L.T. 3. E-01		04/14			4
							CE-141	L.T. 1. E-01		04/14			4
							CE-144	L.T. 2. E-01		04/14			4
							RA-226	1.14+-0.60E 00		04/14			4
							TH-228	9.39+-0.94E-01		04/14			4

TELEDYNE BROWN ENGINEERING ENVIRONMENTAL SERVICES

REPORT OF ANALYSIS

WORK ORDER NUMBER	CUSTOMER P.O. NUMBER	DATE RECEIVED	DELIVERY DATE
4-0353	030225/030600829	03/09/94	04/11/94

ANN MARIE HOLBROW
MCLAREN/HART
16755 VON KARMAN AVE
IRVINE CA 92714

S O I L

TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE TIME	STOP DATE TIME	NUCLIDE	ACTIVITY (PCI/LITER)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
43735	10115 BB-20-010-ST		03/08 1340		H-3	L.T. 1. E 02		04/07		5
43736	10116 BB-20-010-SS		03/08 1340		SR-90	L.T. 1. E-01	PCI/GM DRY *	04/01		3
43737	10116DUP BB-20-010-SS		03/08 1340		SR-90	L.T. 6. E-02	PCI/GM DRY *	03/30		3
43738	10117 BB-20-010-SG		03/08 1340		BE-7	L.T. 3. E-01	PCI/GM DRY *	03/21		4
					K-40	2.27+-0.23E 01	PCI/GM DRY *	03/21		4
					MN-54	L.T. 4. E-02	PCI/GM DRY *	03/21		4
					CO-58	L.T. 4. E-02	PCI/GM DRY *	03/21		4
					FE-59	L.T. 1. E-01	PCI/GM DRY *	03/21		4
					CO-60	L.T. 4. E-02	PCI/GM DRY *	03/21		4
					ZN-65	L.T. 9. E-02	PCI/GM DRY *	03/21		4
					ZR-95	L.T. 4. E-02	PCI/GM DRY *	03/21		4
					RU-103	L.T. 4. E-02	PCI/GM DRY *	03/21		4
					RU-106	L.T. 3. E-01	PCI/GM DRY *	03/21		4
					I-131	L.T. 1. E-01	PCI/GM DRY *	03/21		4
					CS-134	L.T. 4. E-02	PCI/GM DRY *	03/21		4
					CS-137	L.T. 5. E-02	PCI/GM DRY *	03/21		4
					BA-140	L.T. 8. E-02	PCI/GM DRY *	03/21		4
					CE-141	L.T. 7. E-02	PCI/GM DRY *	03/21		4
					CE-144	L.T. 2. E-01	PCI/GM DRY *	03/21		4
					RA-226	1.46+-0.60E 00	PCI/GM DRY *	03/21		4
					TH-228	9.71+-0.97E-01	PCI/GM DRY *	03/21		4
43739	10118 BB-20-010-MG		03/08 1340		BE-7	L.T. 3. E-01	PCI/GM DRY *	03/21		4
					K-40	2.42+-0.24E 01	PCI/GM DRY *	03/21		4
					MN-54	L.T. 3. E-02	PCI/GM DRY *	03/21		4
					CO-58	L.T. 3. E-02	PCI/GM DRY *	03/21		4
					FE-59	L.T. 8. E-02	PCI/GM DRY *	03/21		4
					CO-60	L.T. 3. E-02	PCI/GM DRY *	03/21		4
					ZN-65	L.T. 8. E-02	PCI/GM DRY *	03/21		4
					ZR-95	L.T. 4. E-02	PCI/GM DRY *	03/21		4

TELEDYNE BROWN ENGINEER[illegible]NVIRONMENTAL SERVICES

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WORK ORDER NUMBER	CUSTOMER P.O. NUMBER	DATE RECEIVED	DELIVERY DATE
4-0353	030225/030600829	03/09/94	04/11/94

ANN MARIE HOLBROW
MCLAREN/HART
16755 VON KARMAN AVE
IRVINE CA 92714

S O I L

TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE	START TIME	STOP DATE	STOP TIME	NUCLIDE	ACTIVITY (PCI/GM DRY)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE	MID-COUNT TIME TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
43741	10118MSD BB-20-010-MG		/				BE-7	L.T. 5. E-01		04/15			4
							K-40	2.50+-0.25E 01		04/15			4
							MN-54	L.T. 4. E-02		04/15			4
							CO-58	L.T. 5. E-02		04/15			4
							FE-59	L.T. 1. E-01		04/15			4
							CO-60	L.T. 4. E-02		04/15			4
							ZN-65	L.T. 1. E-01		04/15			4
							ZR-95	L.T. 6. E-02		04/15			4
							RU-103	L.T. 7. E-02		04/15			4
							RU-106	L.T. 4. E-01		04/15			4
							I-131	L.T. 9. E-01		04/15			4
							CS-134	L.T. 5. E-02		04/15			4
							CS-137	8.22+-0.82E-01		04/15			4
							BA-140	L.T. 2. E-01		04/15			4
							CE-141	L.T. 1. E-01		04/15			4
							CE-144	L.T. 2. E-01		04/15			4
							RA-226	1.69+-0.52E 00		04/15			4
							TH-228	9.86+-0.99E-01		04/15			4
43742	11018 BB-20-003-FT		03/08	1010			H-3	L.T. 1. E 02	PCI/LITER *	04/07			5
43743	BB-00-001-FG 11021		03/08	1126			BE-7	L.T. 4. E-01		03/21			4
							K-40	2.37+-0.24E 01		03/21			4
							MN-54	L.T. 4. E-02		03/21			4
							CO-58	L.T. 4. E-02		03/21			4
							FE-59	L.T. 1. E-01		03/21			4
							CO-60	L.T. 4. E-02		03/21			4
							ZN-65	L.T. 9. E-02		03/21			4
							ZR-95	L.T. 5. E-02		03/21			4
							RU-103	L.T. 4. E-02		03/21			4
							RU-106	L.T. 3. E-01		03/21			4
							I-131	L.T. 1. E-01		03/21			4
							CS-134	L.T. 5. E-02		03/21			4

The customer's identification for Teledyne #43743 has been corrected. J. Martin 4-21-94

TELEDYNE BROWN ENGINEERING ENVIRONMENTAL SERVICES

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WORK ORDER NUMBER	CUSTOMER P.O. NUMBER	DATE RECEIVED	DELIVERY DATE	
4-0472	030225/030600829	03/21/94	04/23/94	

ANN MARIE HOLBROW
MCLAREN/HART
16755 VON KARMAN AVE
IRVINE CA 92714

S O I L

TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE	START TIME	STOP DATE	STOP TIME	NUCLIDE	ACTIVITY (PCI/GM DRY)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE	MID-COUNT TIME TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
45074	10632 BG-14-003-MG		03/15				BE-7	L.T. 7. E-01		04/27			4
							K-40	1.97+-0.20E 01		04/27			4
							MN-54	L.T. 5. E-02		04/27			4
							CO-58	L.T. 6. E-02		04/27			4
							FE-59	L.T. 2. E-01		04/27			4
							CO-60	L.T. 4. E-02		04/27			4
							ZN-65	L.T. 1. E-01		04/27			4
							ZR-95	L.T. 7. E-02		04/27			4
							RU-103	L.T. 9. E-02		04/27			4
							RU-106	L.T. 5. E-01		04/27			4
							I-131	L.T. 2. E 00		04/27			4
							CS-134	L.T. 6. E-02		04/27			4
							CS-137	8.46+-3.38E-02		04/27			4
							BA-140	L.T. 6. E-01		04/27			4
							CE-141	L.T. 2. E-01		04/27			4
							CE-144	L.T. 4. E-01		04/27			4
							RA-226	3.31+-0.92E 00		04/27			4
							TH-228	1.39+-0.14E 00		04/27			4
45075	10632MS BG-14-003-MG		/				BE-7	L.T. 7. E-01		05/12			4
							K-40	2.14+-0.21E 01		05/12			4
							MN-54	L.T. 4. E-02		05/12			4
							CO-58	L.T. 6. E-02		05/12			4
							FE-59	L.T. 2. E-01		05/12			4
							CO-60	L.T. 4. E-02		05/12			4
							ZN-65	L.T. 1. E-01		05/12			4
							ZR-95	L.T. 8. E-02		05/12			4
							RU-103	L.T. 9. E-02		05/12			4
							RU-106	L.T. 4. E-01		05/12			4
							I-131	L.T. 5. E 00		05/12			4
							CS-134	L.T. 5. E-02		05/12			4
							CS-137	5.72+-0.57E-01		05/12			4
							BA-140	L.T. 8. E-01		05/12			4

TELEDYNE BROWN ENGINEERING ENVIRONMENTAL SERVICES

REPORT OF ANALYSIS

WORK ORDER NUMBER	CUSTOMER P.O. NUMBER	DATE RECEIVED	DELIVERY DATE
4-0472	030225/030600829	03/21/94	04/23/94

ANN MARIE HOLBROW
MCLAREN/HART
16755 VON KARMAN AVE
IRVINE CA 92714

S O I L

TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION		STA NUM	COLLECTION-DATE START DATE	START TIME	STOP DATE	STOP TIME	NUCLIDE	ACTIVITY (PCI/GM DRY)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE	MID-COUNT TIME TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
45075	10632MS	BG-14-003-MG		/				CE-141	L.T. 2. E-01		05/12			4
								CE-144	L.T. 3. E-01		05/12			4
								RA-226	2.08+-0.64E 00		05/12			4
								TH-228	1.41+-0.14E 00		05/12			4
45076	10632MSD	BG-14-003-MG		/				BE-7	L.T. 7. E-01		05/13			4
								K-40	2.07+-0.21E 01		05/13			4
								MN-54	L.T. 4. E-02		05/13			4
								CO-58	L.T. 6. E-02		05/13			4
								FE-59	L.T. 2. E-01		05/13			4
								CO-60	L.T. 4. E-02		05/13			4
								ZN-65	L.T. 1. E-01		05/13			4
								ZR-95	L.T. 8. E-02		05/13			4
								RU-103	L.T. 1. E-01		05/13			4
								RU-106	L.T. 4. E-01		05/13			4
								I-131	L.T. 6. E 00		05/13			4
								CS-134	L.T. 5. E-02		05/13			4
								CS-137	7.61+-0.76E-01		05/13			4
								BA-140	L.T. 8. E-01		05/13			4
								CE-141	L.T. 2. E-01		05/13			4
								CE-144	L.T. 3. E-01		05/13			4
								RA-226	1.56+-0.64E 00		05/13			4
								TH-228	1.42+-0.14E 00		05/13			4
45077	10633	BG-14-004-ST		03/15				H-3	5.2 +-3.2 E 02	PCI/LITER *	05/26			5
45078	10634	BG-14-004-SS		03/15				SR-90	L.T. 7. E-02		04/28			3
45079	10634DUP	BG-14-004-SS		03/15				SR-90	9.3 +-5.1 E-02		04/30			3

TELEDYNE BROWN ENGINEER ENVIRONMENTAL SERVICES

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WORK ORDER NUMBER	CUSTOMER P.O. NUMBER	DATE RECEIVED	DELIVERY DATE
4-0354	030225/030600829	03/11/94	04/13/94

ANN MARIE HOLBROW
MCLAREN/HART
16755 VON KARMAN AVE
IRVINE CA 92714

S O I L

TELEDYNE SAMPLE NUMBER		CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE	START TIME	STOP DATE	STOP TIME	NUCLIDE	ACTIVITY (PCI/GM DRY)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE	MID-COUNT TIME TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
44030	10200	BB-17-B002-SP		03/09	1355			PU-238	L.T. 1. E-02		04/05			6
								PU-239	L.T. 1. E-02		04/05			6
44031	10201	BB-17-B002-SG		03/09	1355			BE-7	L.T. 5. E-01		04/09			4
								K-40	2.28+-0.23E 01		04/09			4
								MN-54	L.T. 4. E-02		04/09			4
								CO-58	L.T. 5. E-02		04/09			4
								FE-59	L.T. 1. E-01		04/09			4
								CO-60	L.T. 4. E-02		04/09			4
								ZN-65	L.T. 9. E-02		04/09			4
								ZR-95	L.T. 6. E-02		04/09			4
								RU-103	L.T. 6. E-02		04/09			4
								RU-106	L.T. 4. E-01		04/09			4
								I-131	L.T. 5. E-01		04/09			4
								CS-134	L.T. 5. E-02		04/09			4
								CS-137	1.30+-0.40E-01		04/09			4
								BA-140	L.T. 2. E-01		04/09			4
								CE-141	L.T. 1. E-01		04/09			4
								CE-144	L.T. 3. E-01		04/09			4
								RA-226	2.04+-0.62E 00		04/09			4
								TH-228	1.16+-0.12E 00		04/09			4

Activity added to spiked samples

TI#	Isotope	Activity
43937	H-3	1.4 E 03 pCi/l
43938	H-3	1.4 E 03 pCi/l
43994	Cs-137	5.6 E-01 pCi/g
43995	Cs-137	5.6 E-01 pCi/g
44000	Pu-239	3.3 E-01 pCi/g
44001	Pu-239	3.3 E-01 pCi/g

The exponent for the H-3 added to Teledyne #43937 and 43938 has been corrected.

DMartin 7-20-94

TELEDYNE
BROWN ENGINEERING
Environmental Services

50 VAN BUREN AVENUE
P.O. BOX 1235
WESTWOOD, NEW JERSEY 07675-1235
(201) 664-7070 FAX (201) 664-5586

July 20, 1994

Ms. Ann Marie Holbrow
ChemRisk
A Division of McLaren/Hart
16755 Von Karman Avenue
Irvine, CA 92714

Reference: W.O. 4-0514

Dear Ms. Holbrow:

Activity added to spike samples:

TELEDYNE #	ISOTOPE	ACTIVITY
44663	H-3	7.0 E 03 pCi/l
44664	H-3	7.0 E 03 pCi/l
44729	H-3	3.5 E 03 pCi/l
44730	H-3	3.5 E 03 pCi/l
44670	Pu-239	0.33 pCi/g
44671	Pu-239	0.33 pCi/g
44692	Sr-90	3.8 pCi/g
44693	Sr-90	3.8 pCi/g
44752	Sr-90	3.8 pCi/g
44753	Sr-90	3.8 pCi/g
44675	Cs-137 (a)	0.70 pCi/g
44676	Cs-137 (a)	0.70 pCi/g

(a) The sample had 0.074 pCi/g of Cs-137 activity before the spike was added.

Sincerely,

J. David Martin

J. David Martin, Ph.D.
Manager, Environmental Analysis

JDM:cs

TELEDYNE
BROWN ENGINEERING
Environmental Services
50 VAN BUREN AVENUE
P.O. BOX 1235
WESTWOOD, NEW JERSEY 07675-1235
(201) 664-7070 FAX (201) 664-5586

July 20, 1994

Ms. Ann Marie Holbrow
ChemRisk
A Division of McLaren/Hart
16755 Von Karman Avenue
Irvine, CA 92714

Reference: W.O. 4-0409

Dear Ms. Holbrow:

Activity added to spike samples:

TELEDYNE #	ISOTOPE	ACTIVITY
44212	H-3	3.5 E 03 pCi/l
44213	H-3	3.5 E 03 pCi/l
44177	Pu-239	0.33 pCi/g
44178	Pu-239	0.33 pCi/g
44169	Cs-137 (a)	0.62 pCi/g
44170	Cs-137 (a)	0.62 pCi/g

(a) The sample had 0.17 pCi/g of Cs-137 activity before the spike was added.

Sincerely,

J. David Martin

J. David Martin, Ph.D.
Manager, Environmental Analysis

JDM:cs

TELEDYNE
BROWN ENGINEERING
Environmental Services
50 VAN BUREN AVENUE
P.O. BOX 1235
WESTWOOD, NEW JERSEY 07675-1235
(201) 664-7070 FAX (201) 664-5586

July 26, 1994

Ms. Ann Marie Holbrow
ChemRisk
A Division of McLaren/Hart
16755 Von Karman Avenue
Irvine, CA 92714

Reference: W.O. 4-0409

Dear Ms. Holbrow:

Activity added to spike samples:

TELEDYNE #	ISOTOPE	ACTIVITY
44212	H-3	3.5 E 03 pCi/l
44213	H-3	3.5 E 03 pCi/l
44177	Pu-239	0.66 pCi/g (b)
44178	Pu-239	0.66 pCi/g (b)
44169	Cs-137 (a)	0.62 pCi/g
44170	Cs-137 (a)	0.62 pCi/g

(a) The sample had 0.17 pCi/g of Cs-137 activity before the spike was added.

(b) The incorrect activity of 0.33 pCi/g was listed in the letter dated July 20, 1994.

Sincerely,

J. David Martin

J. David Martin, Ph.D.
Manager, Environmental Analysis

JDM:cm

SPIKE

Gamma Scan

TELEDYNE BROWN ENGINEERING ENVIRONMENTAL SERVICES

RUN DATE 05/12/94

REPORT OF ANALYSIS

WORK ORDER NUMBER	CUSTOMER P.O. NUMBER	DATE RECEIVED	DELIVERY DATE
4-0409	030225/030600829	03/14/94	04/16/94

ANN MARIE HOLBROW
MCLAREN/HART
16755 VON KARMAN AVE
IRVINE CA 92714

S O I L

TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION		STA NUM	COLLECTION-DATE START DATE TIME	STOP DATE TIME	NUCLIDE	ACTIVITY (PCI/GM DRY)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
44167	10336	BG-02-007-SG		03/10 1610		CS-137	L.T. 6. E-02		04/09		4
						BA-140	L.T. 3. E-01		04/09		4
						CE-141	L.T. 1. E-01		04/09		4
						CE-144	L.T. 3. E-01		04/09		4
						RA-226	2.44+-0.69E 00		04/09		4
						TH-228	1.37+-0.14E 00		04/09		4
44168	10348	BG-02-017-MG		03/10 1622		BE-7	L.T. 5. E-01		04/09		4
						K-40	2.26+-0.23E 01		04/09		4
						MN-54	L.T. 5. E-02		04/09		4
						CO-58	L.T. 5. E-02		04/09		4
						FE-59	L.T. 1. E-01		04/09		4
						CO-60	L.T. 5. E-02		04/09		4
						ZN-65	L.T. 1. E-01		04/09		4
						ZR-95	L.T. 6. E-02		04/09		4
						RU-103	L.T. 7. E-02		04/09		4
						RU-106	L.T. 4. E-01		04/09		4
						I-131	L.T. 5. E-01		04/09		4
						CS-134	L.T. 5. E-02		04/09		4
						CS-137	1.68+-0.42E-01		04/09		4
						BA-140	L.T. 2. E-01		04/09		4
						CE-141	L.T. 1. E-01		04/09		4
						CE-144	L.T. 3. E-01		04/09		4
						RA-226	1.94+-0.63E 00		04/09		4
						TH-228	1.23+-0.12E 00		04/09		4
44169	10348MS	BG-02-017-MG		/		BE-7	L.T. 5. E-01		04/14		4
						K-40	2.21+-0.22E 01		04/14		4
						MN-54	L.T. 4. E-02		04/14		4
						CO-58	L.T. 5. E-02		04/14		4
						FE-59	L.T. 1. E-01		04/14		4
						CO-60	L.T. 4. E-02		04/14		4
						ZN-65	L.T. 1. E-01		04/14		4

TELEDYNE BROWN ENGINEERING ENVIRONMENTAL SERVICES

RUN DATE 05/12/94

REPORT OF ANALYSIS

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WORK ORDER NUMBER	CUSTOMER P.O. NUMBER	DATE RECEIVED	DELIVERY DATE
4-0409	030225/030600829	03/14/94	04/16/94

ANN MARIE HOLBROW
MCLAREN/HART
16755 VON KARMAN AVE
IRVINE CA 92714

S O I L

TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE TIME	STOP DATE TIME	NUCLIDE	ACTIVITY (PCI/GM DRY)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
44169	10348MS BG-02-017-MG		/		ZR-95	L.T. 7. E-02		04/14		4
					RU-103	L.T. 7. E-02		04/14		4
					RU-106	L.T. 3. E-01		04/14		4
					I-131	L.T. 7. E-01		04/14		4
					CS-134	L.T. 4. E-02		04/14		4
					CS-137	8.77+-0.88E-01		04/14		4
					BA-140	L.T. 2. E-01		04/14		4
					CE-141	L.T. 1. E-01		04/14		4
					CE-144	L.T. 3. E-01		04/14		4
					RA-226	2.36+-0.60E 00		04/14		4
					TH-228	1.57+-0.16E 00		04/14		4
44170	10348MSD BG-02-017-MG		/		BE-7	L.T. 7. E-01		04/13		4
					K-40	2.06+-0.21E 01		04/13		4
					MN-54	L.T. 5. E-02		04/13		4
					CO-58	L.T. 6. E-02		04/13		4
					FE-59	L.T. 2. E-01		04/13		4
					CO-60	L.T. 5. E-02		04/13		4
					ZN-65	L.T. 1. E-01		04/13		4
					ZR-95	L.T. 7. E-02		04/13		4
					RU-103	L.T. 9. E-02		04/13		4
					RU-106	L.T. 4. E-01		04/13		4
					I-131	L.T. 9. E-01		04/13		4
					CS-134	L.T. 6. E-02		04/13		4
					CS-137	8.66+-0.87E-01		04/13		4
					BA-140	L.T. 3. E-01		04/13		4
					CE-141	L.T. 2. E-01		04/13		4
					CE-144	L.T. 4. E-01		04/13		4
					RA-226	2.25+-0.85E 00		04/13		4
					TH-228	1.24+-0.12E 00		04/13		4

TELEDYNE BROWN ENGINEERING ENVIRONMENTAL SERVICES

RUN DATE 05/25/94

REPORT OF ANALYSIS

WORK ORDER NUMBER	CUSTOMER P.O. NUMBER	DATE RECEIVED	DELIVERY DATE
4-0514	030225/030600829	03/15/94	04/17/94

ANN MARIE HOLBROW
MCLAREN/HART
16755 VON KARMAN AVE
IRVINE CA 92714

S O I L

TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE TIME	COLLECTION-DATE STOP DATE TIME	NUCLIDE	ACTIVITY (PCI/GM DRY)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
44673 10565	BG-12-004-SG		03/14 1225		BE-7	L.T. 3. E-01		04/26		4
					K-40	1.79+-0.32E 00		04/26		4
					MN-54	L.T. 2. E-02		04/26		4
					CO-58	L.T. 3. E-02		04/26		4
					FE-59	L.T. 9. E-02		04/26		4
					CO-60	L.T. 2. E-02		04/26		4
					ZN-65	L.T. 5. E-02		04/26		4
					ZR-95	L.T. 4. E-02		04/26		4
					RU-103	L.T. 5. E-02		04/26		4
					RU-106	L.T. 2. E-01		04/26		4
					I-131	L.T. 1. E 00		04/26		4
					CS-134	L.T. 2. E-02		04/26		4
					CS-137	9.71+-2.02E-02		04/26		4
					BA-140	L.T. 2. E-01		04/26		4
					CE-141	L.T. 8. E-02		04/26		4
					CE-144	L.T. 2. E-01		04/26		4
					RA-226	L.T. 5. E-01		04/26		4
					TH-228	1.16+-0.29E-01		04/26		4
44674 10566	BG-12-004-MG		03/14 1225		BE-7	L.T. 4. E-01		04/26		4
					K-40	1.91+-0.29E 00		04/26		4
					MN-54	L.T. 3. E-02		04/26		4
					CO-58	L.T. 3. E-02		04/26		4
					FE-59	L.T. 9. E-02		04/26		4
					CO-60	L.T. 3. E-02		04/26		4
					ZN-65	L.T. 5. E-02		04/26		4
					ZR-95	L.T. 3. E-02		04/26		4
					RU-103	L.T. 5. E-02		04/26		4
					RU-106	L.T. 2. E-01		04/26		4
					I-131	L.T. 1. E 00		04/26		4
					CS-134	L.T. 3. E-02		04/26		4
					CS-137	7.41+-2.32E-02		04/26		4
					BA-140	L.T. 2. E-01		04/26		4

TELEDYNE BROWN ENGINEERING ENVIRONMENTAL SERVICES

REPORT OF ANALYSIS

WORK ORDER NUMBER	CUSTOMER P.O. NUMBER	DATE RECEIVED	DELIVERY DATE
4-0514	030225/030600829	03/15/94	04/17/94

ANN MARIE HOLBROW
MCLAREN/HART
16755 VON KARMAN AVE
IRVINE CA 92714

S O I L

TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE TIME	COLLECTION-DATE STOP DATE TIME	NUCLIDE	ACTIVITY (PCI/GM DRY)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
44674	10566 BG-12-004-MG		03/14 1225		CE-141	L.T. 7. E-02		04/26		4
					CE-144	L.T. 1. E-01		04/26		4
					RA-226	L.T. 4. E-01		04/26		4
					TH-228	L.T. 4. E-02		04/26		4
44675	10566MS BG-12-004-MG		/		BE-7	L.T. 5. E-01		05/12		4
					K-40	1.67+-0.33E 00		05/12		4
					MN-54	L.T. 3. E-02		05/12		4
					CO-58	L.T. 3. E-02		05/12		4
					FE-59	L.T. 1. E-01		05/12		4
					CO-60	L.T. 3. E-02		05/12		4
					ZN-65	L.T. 6. E-02		05/12		4
					ZR-95	L.T. 5. E-02		05/12		4
					RU-103	L.T. 7. E-02		05/12		4
					RU-106	L.T. 3. E-01		05/12		4
					I-131	L.T. 4. E 00		05/12		4
					CS-134	L.T. 2. E-02		05/12		4
					CS-137	9.43+-0.94E-01		05/12		4
					BA-140	L.T. 4. E-01		05/12		4
					CE-141	L.T. 1. E-01		05/12		4
					CE-144	L.T. 2. E-01		05/12		4
					RA-226	L.T. 5. E-01		05/12		4
					TH-228	1.21+-0.31E-01				
44676	10566MSD BG-12-004-MG		/		BE-7	L.T. 6. E-01		05/13		4
					K-40	1.52+-0.26E 00		05/13		4
					MN-54	L.T. 3. E-02		05/13		4
					CO-58	L.T. 4. E-02		05/13		4
					FE-59	L.T. 1. E-01		05/13		4
					CO-60	L.T. 3. E-02		05/13		4
					ZN-65	L.T. 7. E-02		05/13		4
					ZR-95	L.T. 5. E-02		05/13		4
					RU-103	L.T. 8. E-02		05/13		4

TELEDYNE BROWN ENGINEERING ENVIRONMENTAL SERVICES

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WOPK ORDER NUMBER	CUSTOMER P.O. NUMBER	DATE RECEIVED	DELIVERY DATE
4-0514	030225/030600829	03/15/94	04/17/94

ANN MARIE HOLBROW
MCLAREN/HART
16755 VON KARMAN AVE
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S O I L

TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE TIME	STOP DATE TIME	NUCLIDE	ACTIVITY (PCI/GM DRY)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
44676	10566MSD BG-12-004-MG		/		RU-106	L.T. 3. E-01		05/13		4
					1-131	L.T. 5. E 00		05/13		4
					CS-134	L.T. 3. E-02		05/13		4
					CS-137	9.49+-0.95E-01		05/13		4
					BA-140	L.T. 7. E-01		05/13		4
					CE-141	L.T. 1. E-01		05/13		4
					CE-144	L.T. 2. E-01		05/13		4
					RA-226	L.T. 5. E-01		05/13		4
					TH-228	1.21+-0.45E-01		05/13		4
					H-3	1.2 +-0.6 E 03	PCI/LITER *	05/22		5
44677	10567 BG-12-005-ST		03/14 1245		SR-90	L.T. 5. E-02		04/16		3
44678	10568 BG-12-005-SS		03/14 1245							
44679	10569 BG-12-005-SP		03/14 1245		PU-238	L.T. 7. E-03		05/02		6
					U-234	L.T. 2. E-02		05/02		6
					TH-230	3.6 +-2.1 E-02		05/06		6
					PU-239	L.T. 7. E-03		05/02		6
					U-235	L.T. 8. E-03		05/02		6
					U-238	2.3 +-1.5 E-02		05/02		6
					TH-232	2.4 +-1.8 E-02		05/06		6
					TH-228	L.T. 6. E-02		05/06		6
44680	10571 BG-12-005-SG		03/14 1245		BE-7	L.T. 3. E-01		04/26		4
					K-40	1.69+-0.26E 00		04/26		4
					MN-54	L.T. 2. E-02		04/26		4
					CO-58	L.T. 3. E-02		04/26		4
					FE-59	L.T. 8. E-02		04/26		4
					CO-60	L.T. 2. E-02		04/26		4
					ZN-65	L.T. 5. E-02		04/26		4
					ZR-95	L.T. 3. E-02		04/26		4
					RU-103	L.T. 5. E-02		04/26		4
					RU-106	L.T. 2. E-01		04/26		4

TELEDYNE BROWN ENGINEERING ENVIRONMENTAL SERVICES

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WORK ORDER NUMBER	CUSTOMER P.O. NUMBER	DATE RECEIVED	DELIVERY DATE
4-0354	030225/030600829	03/11/94	04/13/94

ANN MARIE HOLBROW
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IRVINE CA 92714

S O I L

TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE	START TIME	STOP DATE	STOP TIME	NUCLIDE	ACTIVITY (PCI/GM DRY)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE	MID-COUNT TIME TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
43993	10191 BB-17-009A-MT MG		03/09				BE-7	L.T. 5. E-01		05/02			4
							K-40	2.31+-0.23E 01		05/02			4
							MN-54	L.T. 3. E-02		05/02			4
							CO-58	L.T. 5. E-02		05/02			4
							FE-59	L.T. 1. E-01		05/02			4
							CO-60	L.T. 3. E-02		05/02			4
							ZN-65	L.T. 9. E-02		05/02			4
							ZR-95	L.T. 6. E-02		05/02			4
							RU-103	L.T. 7. E-02		05/02			4
							RU-106	L.T. 3. E-01		05/02			4
							I-131	L.T. 3. E 00		05/02			4
							CS-134	L.T. 4. E-02		05/02			4
							CS-137	1.99+-0.25E-01		05/02			4
							BA-140	L.T. 5. E-01		05/02			4
							CE-141	L.T. 1. E-01		05/02			4
							CE-144	L.T. 2. E-01		05/02			4
							RA-226	2.68+-0.48E 00		05/02			4
							TH-228	1.14+-0.11E 00		05/02			4
43994	10191MS BB-17-009A-~~MT~~ MG		03/09				BE-7	L.T. 7. E-01		05/03			4
							K-40	2.25+-0.22E 01		05/03			4
							MN-54	L.T. 5. E-02		05/03			4
							CO-58	L.T. 6. E-02		05/03			4
							FE-59	L.T. 2. E-01		05/03			4
							CO-60	L.T. 4. E-02		05/03			4
							ZN-65	L.T. 1. E-01		05/03			4
							ZR-95	L.T. 9. E-02		05/03			4
							RU-103	L.T. 1. E-01		05/03			4
							RU-106	L.T. 4. E-01		05/03			4
							I-131	L.T. 5. E 00		05/03			4
							CS-134	L.T. 5. E-02		05/03			4
							CS-137	7.15+-0.72E-01		05/03			4
							BA-140	L.T. 9. E-01		05/03			

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ANN MARIE HOLBROW
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16755 VON KARMAN AVE
IRVINE CA 92714

S O I L

TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE	START TIME	STOP DATE	STOP TIME	NUCLIDE	ACTIVITY (PCI/GM DRY)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE	MID-COUNT TIME TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
43994	10191MS BB-17-009A-~~MT~~ MG		03/09				CE-141	L.T. 2. E-01		05/03			4
							CE-144	L.T. 3. E-01		05/03			4
							RA-226	1.92+-0.66E 00		05/03			4
							TH-228	1.11+-0.11E 00		05/03			4
43995	10191MSDBB-17-009A-~~MT~~ MG		03/09				BE-7	L.T. 9. E-01		05/03			4
							K-40	2.16+-0.22E 01		05/03			4
							MN-54	L.T. 6. E-02		05/03			4
							CO-58	L.T. 8. E-02		05/03			4
							FE-59	L.T. 3. E-01		05/03			4
							CO-60	L.T. 5. E-02		05/03			4
							ZN-65	L.T. 1. E-01		05/03			4
							ZR-95	L.T. 1. E-01		05/03			4
							RU-103	L.T. 1. E-01		05/03			4
							RU-106	L.T. 5. E-01		05/03			4
							I-131	L.T. 6. E 00		05/03			4
							CS-134	L.T. 7. E-02		05/03			4
							CS-137	7.64+-0.77E-01		05/03			4
							BA-140	L.T. 9. E-01		05/03			4
							CE-141	L.T. 3. E-01		05/03			4
							CE-144	L.T. 5. E-01		05/03			4
							RA-226	2.60+-0.89E 00		05/03			4
							TH-228	1.23+-0.12E 00		05/03			4
43996	10192 BB-17-009A-ST		03/09				H-3	L.T. 2. E 02	PCI/LITER *	05/02			5
43999	10173 BB-17-007B-MP		03/09	1401			PU-238	L.T. 8. E-03		04/05			6
							PU-239	L.T. 8. E-03		04/05			6

Isotopic Plutonium

TELEDYNE BROWN ENGINEERING ENVIRONMENTAL SERVICES

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WORK ORDER NUMBER	CUSTOMER P.O. NUMBER	DATE RECEIVED	DELIVERY DATE
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ANN MARIE HOLBROW
MCLAREN/HART
16755 VON KARMAN AVE
IRVINE CA 92714

S O I L

TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION		STA NUM	COLLECTION-DATE START DATE TIME	STOP DATE TIME	NUCLIDE	ACTIVITY (PCI/GM DRY)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
44176	10354	BG-02-085-MP		03/10 1632		PU-238	L.T. 2. E-02		04/14		6
						PU-239	L.T. 2. E-02		04/14		6
44177	10354MS	BG-02-085-MP		/		PU-238	L.T. 1. E-02		04/16		6
						PU-239	6.3 +-1.0 E-01		04/16		6
44178	10354MSD	BG-02-085-MP		/		PU-238	L.T. 1. E-02		04/16		6
						PU-239	5.8 +-0.9 E-01		04/16		6
44179	10302	88-19-005-SS		03/10 1136		SR-90	L.T. 8. E-02		04/14		3
44182	10303	88-19-005-SG		03/10 1136		BE-7	L.T. 3. E-01		04/15		4
						K-40	2.39+-0.24E 01		04/15		4
						MN-54	L.T. 3. E-02		04/15		4
						CO-58	L.T. 3. E-02		04/15		4
						FE-59	L.T. 1. E-01		04/15		4
						CO-60	L.T. 3. E-02		04/15		4
						ZN-65	L.T. 6. E-02		04/15		4
						ZR-95	L.T. 4. E-02		04/15		4
						RU-103	L.T. 4. E-02		04/15		4
						RU-106	L.T. 2. E-01		04/15		4
						I-131	L.T. 5. E-01		04/15		4
						CS-134	L.T. 3. E-02		04/15		4
						CS-137	5.61+-2.58E-02		04/15		4
						BA-140	L.T. 2. E-01		04/15		4
						CE-141	L.T. 8. E-02		04/15		4
						CE-144	L.T. 2. E-01		04/15		4
						RA-226	1.07+-0.40E 00		04/15		4
						TH-228	5.88+-0.59E-01				

TELEDYNE BROWN ENGINEERING ENVIRONMENTAL SERVICES

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ANN MARIE HOLBROW
MCLAREN/HART
16755 VON KARMAN AVE
IRVINE CA 92714

S O I L

TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE	START TIME	STOP DATE	STOP TIME	NUCLIDE	ACTIVITY (PCI/GM DRY)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE	MID-COUNT TIME TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
43994	10191MS BB-17-009A-MT		03/09				CE-141	L.T. 2. E-01		05/03			4
							CE-144	L.T. 3. E-01		05/03			4
							RA-226	1.92+-0.66E 00		05/03			4
							TH-228	1.11+-0.11E 00		05/03			4
43995	10191MSDBB-17-009A-MT		03/09				BE-7	L.T. 9. E-01		05/03			4
							K-40	2.16+-0.22E 01		05/03			4
							MN-54	L.T. 6. E-02		05/03			4
							CO-58	L.T. 8. E-02		05/03			4
							FE-59	L.T. 3. E-01		05/03			4
							CO-60	L.T. 5. E-02		05/03			4
							ZN-65	L.T. 1. E-01		05/03			4
							ZR-95	L.T. 1. E-01		05/03			4
							RU-103	L.T. 1. E-01		05/03			4
							RU-106	L.T. 5. E-01		05/03			4
							I-131	L.T. 6. E 00		05/03			4
							CS-134	L.T. 7. E-02		05/03			4
							CS-137	7.64+-0.77E-01		05/03			4
							BA-140	L.T. 9. E-01		05/03			4
							CE-141	L.T. 3. E-01		05/03			4
							CE-144	L.T. 5. E-01		05/03			4
							RA-226	2.60+-0.89E 00		05/03			4
							TH-228	1.23+-0.12E 00		05/03			4
43996	10192 BB-17-009A-ST		03/09				H-3	L.T. 2. E 02	PCI/LITER *	05/02			5
43999	10173 BB-17-007B-MP		03/09	1401			PU-238	L.T. 8. E-03		04/05			6
							PU-239	L.T. 8. E-03		04/05			6

TELEDYNE BROWN ENGINEERING ENVIRONMENTAL SERVICES

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4-0354	030225/030600829	03/11/94	04/13/94

ANN MARIE HOLBROW
MCLAREN/HART
16755 VON KARMAN AVE
IRVINE CA 92714

S O I L

TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE TIME	COLLECTION-DATE STOP DATE TIME	NUCLIDE	ACTIVITY (PCI/GM DRY)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
44000	10173MS BB-17-0078-MP		/		PU-238	NOT ANALYZED				6
					PU-239	3.5 +-0.6 E-01		04/05		6
44001	10173MSDBB-17-0078-MP		/		PU-238	NOT ANALYZED				6
					PU-239	3.1 +-0.6 E-01		04/05		6
44002	10174 BB-17-008-ST		03/09 1415		H-3	5.4 +-0.2 E 03	PCI/LITER *	05/02		5
44003	10175 BB-17-008-SP		03/09 1415		PU-238	L.T. 3. E-02		04/05		6
					PU-239	L.T. 3. E-02		04/05		6
44004	10176 BB-17-008-SG		03/09 1415		BE-7	L.T. 5. E-01		04/07		4
					K-40	2.17+-0.22E 01		04/07		4
					MN-54	L.T. 5. E-02		04/07		4
					CO-58	L.T. 5. E-02		04/07		4
					FE-59	L.T. 2. E-01		04/07		4
					CO-60	L.T. 5. E-02		04/07		4
					ZN-65	L.T. 1. E-01		04/07		4
					ZR-95	L.T. 7. E-02		04/07		4
					RU-103	L.T. 7. E-02		04/07		4
					RU-106	L.T. 4. E-01		04/07		4
					I-131	L.T. 5. E-01		04/07		4
					CS-134	L.T. 5. E-02		04/07		4
					CS-137	1.24+-0.47E-01		04/07		4
					BA-140	L.T. 2. E-01		04/07		4
					CE-141	L.T. 1. E-01		04/07		4
					CE-144	L.T. 3. E-01		04/07		4
					RA-226	2.12+-0.73E 00		04/07		4
					TH-228	1.18+-0.12E 00		04/07		4

TELEDYNE BROWN ENGINEERING ENVIRONMENTAL SERVICES

REPORT OF ANALYSIS

RUN DATE 05/25/94

WORK ORDER NUMBER	CUSTOMER P.O. NUMBER	DATE RECEIVED	DELIVERY DATE
4-0514	030225/030600829	03/15/94	04/17/94

ANN MARIE HOLBROW
MCLAREN/HART
16755 VON KARMAN AVE
IRVINE CA 92714

S O I L

TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE	START TIME	STOP DATE	STOP TIME	NUCLIDE	ACTIVITY (PCI/GM DRY)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE	MID-COUNT TIME TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
44668	10549 BG-12-001-SG		03/14	1200			ZN-65	L.T. 6. E-02		04/25			4
							ZR-95	L.T. 4. E-02		04/25			4
							RU-103	L.T. 5. E-02		04/25			4
							RU-106	L.T. 2. E-01		04/25			4
							I-131	L.T. 9. E-01		04/25			4
							CS-134	L.T. 3. E-02		04/25			4
							CS-137	L.T. 3. E-02		04/25			4
							BA-140	L.T. 2. E-01		04/25			4
							CE-141	L.T. 7. E-02		04/25			4
							CE-144	L.T. 2. E-01		04/25			4
							RA-226	L.T. 4. E-01		04/25			4
							TH-228	L.T. 5. E-02		04/25			4
44669	10550 BG-12-001-MP		03/14	1200			PU-238	L.T. 6. E-03		04/22			6
							PU-239	L.T. 6. E-03		04/22			6
44670	10550MS BG-12-001-MP		/				PU-239	3.2 +-0.4 E-01		04/22			6
44671	10550MSD BG-12-001-MP		/				PU-239	2.9 +-0.5 E-01		04/22			6
44672	10563 BG-12-004-SP		03/14	1225			PU-238	L.T. 8. E-03		04/23			6
							U-234	4.9 +-1.7 E-02		04/26			6
							TH-230	8.2 +-3.0 E-02		05/03			6
							PU-239	L.T. 1. E-02		04/23			6
							U-235	L.T. 6. E-03		04/26			6
							U-238	5.8 +-1.9 E-02		04/26			6
							TH-232	6.3 +-2.7 E-02		05/03			6
							TH-228	8.0 +-4.1 E-02		05/03			6

TELEDYNE BROWN ENGINEERING ENVIRONMENTAL SERVICES

REPORT OF ANALYSIS

RUN DATE 06/03/94

PAGE 8

WORK ORDER NUMBER	CUSTOMER P.O. NUMBER	DATE RECEIVED	DELIVERY DATE
4-0472	030225/030600829	03/21/94	04/23/94

ANN MARIE HOLBROW
MCLAREN/HART
16755 VON KARMAN AVE
IRVINE CA 92714

S O I L

TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE	START TIME	STOP DATE	STOP TIME	NUCLIDE	ACTIVITY (PCI/GM DRY)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE	MID-COUNT TIME TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
45065	11223 BG-00-004-FP		03/15	0905			PU-238	L.T. 2. E-02		05/09			6
							PU-239	L.T. 2. E-02		05/09			6
45066	10624 BG-14-002-SG		03/15				BE-7	L.T. 5. E-01		04/27			4
							K-40	2.03+-0.20E 01		04/27			4
							MN-54	L.T. 4. E-02		04/27			4
							CO-58	L.T. 5. E-02		04/27			4
							FE-59	L.T. 2. E-01		04/27			4
							CO-60	L.T. 4. E-02		04/27			4
							ZN-65	L.T. 1. E-01		04/27			4
							ZR-95	L.T. 7. E-02		04/27			4
							RU-103	L.T. 8. E-02		04/27			4
							RU-106	L.T. 4. E-01		04/27			4
							I-131	L.T. 2. E 00		04/27			4
							CS-134	L.T. 5. E-02		04/27			4
							CS-137	8.45+-4.26E-02		04/27			4
							BA-140	L.T. 4. E-01		04/27			4
							CE-141	L.T. 1. E-01		04/27			4
							CE-144	L.T. 3. E-01		04/27			4
							RA-226	2.19+-0.67E 00		04/27			4
							TH-228	1.51+-0.15E 00		04/27			4
45067	10626 BG-14-002-MP		03/15				PU-238	L.T. 1. E-02		05/09			6
							PU-239	L.T. 1. E-02		05/09			6
45068	10626MS BG-14-002-MP		/				PU-238	L.T. 9. E-03		05/09			6
							PU-239	3.1 +-0.6 E-01		05/09			6
45069	10626MSD BG-14-002-MP		/				PU-238	L.T. 7. E-03		05/09			6
							PU-239	3.2 +-0.5 E-01		05/09			6

TELEDYNE BROWN ENGINEER ENVIRONMENTAL SERVICES

REVISED 20/94
RUN DATE 05/04/94

REPORT OF ANALYSIS

WORK ORDER NUMBER	CUSTOMER P.O. NUMBER	DATE RECEIVED	DELIVERY DATE
4-0354	030225/030600829	03/11/94	04/13/94

ANN MARIE HOLBROW
MCLAREN/HART
16755 VON KARMAN AVE
IRVINE CA 92714

S O I L

TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE TIME	STOP DATE TIME	NUCLIDE	ACTIVITY (PCI/GM DRY)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
44030 10200	BB-17-B002-SP		03/09 1355		PU-238	L.T. 1. E-02		04/05		6
					PU-239	L.T. 1. E-02		04/05		6
44031 10201	BB-17-B002-SG		03/09 1355		BE-7	L.T. 5. E-01		04/09		4
					K-40	2.28+-0.23E 01		04/09		4
					MN-54	L.T. 4. E-02		04/09		4
					CO-58	L.T. 5. E-02		04/09		4
					FE-59	L.T. 1. E-01		04/09		4
					CO-60	L.T. 4. E-02		04/09		4
					ZN-65	L.T. 9. E-02		04/09		4
					ZR-95	L.T. 6. E-02		04/09		4
					RU-103	L.T. 6. E-02		04/09		4
					RU-106	L.T. 4. E-01		04/09		4
					I-131	L.T. 5. E-01		04/09		4
					CS-134	L.T. 5. E-02		04/09		4
					CS-137	1.30+-0.40E-01		04/09		4
					BA-140	L.T. 2. E-01		04/09		4
					CE-141	L.T. 1. E-01		04/09		4
					CE-144	L.T. 3. E-01		04/09		4
					RA-226	2.04+-0.62E 00		04/09		4
					TH-228	1.16+-0.12E 00		04/09		4

Activity added to spiked samples

TI#	Isotope	Activity
43937	H-3	1.4 E 03 pCi/l
43938	H-3	1.4 E 03 pCi/l
43994	Cs-137	5.6 E-01 pCi/g
43995	Cs-137	5.6 E-01 pCi/g
44000	Pu-239	3.3 E-01 pCi/g
44001	Pu-239	3.3 E-01 pCi/g

The exponent for the H-3 added to Teledyne #43937 and 43938 has been corrected.

DMartin 7-20-94

TELEDYNE
BROWN ENGINEERING
Environmental Services

50 VAN BUREN AVENUE
P.O. BOX 1235
WESTWOOD, NEW JERSEY 07675-1235
(201) 664-7070 FAX (201) 664-5586

July 20, 1994

Ms. Ann Marie Holbrow
ChemRisk
A Division of McLaren/Hart
16755 Von Karman Avenue
Irvine, CA 92714

Reference: W.O. 4-0514

Dear Ms. Holbrow:

Activity added to spike samples:

TELEDYNE #	ISOTOPE	ACTIVITY
44663	H-3	7.0 E 03 pCi/l
44664	H-3	7.0 E 03 pCi/l
44729	H-3	3.5 E 03 pCi/l
44730	H-3	3.5 E 03 pCi/l
44670	Pu-239	0.33 pCi/g
44671	Pu-239	0.33 pCi/g
44692	Sr-90	3.8 pCi/g
44693	Sr-90	3.8 pCi/g
44752	Sr-90	3.8 pCi/g
44753	Sr-90	3.8 pCi/g
44675	Cs-137 (a)	0.70 pCi/g
44676	Cs-137 (a)	0.70 pCi/g

(a) The sample had 0.074 pCi/g of Cs-137 activity before the spike was added.

Sincerely,

J. David Martin

J. David Martin, Ph.D.
Manager, Environmental Analysis

JDM:cs

TELEDYNE
BROWN ENGINEERING
Environmental Services

50 VAN BUREN AVENUE
P.O. BOX 1235
WESTWOOD, NEW JERSEY 07675-1235
(201) 664-7070 FAX (201) 664-5586

July 20, 1994

Ms. Ann Marie Holbrow
ChemRisk
A Division of McLaren/Hart
16755 Von Karman Avenue
Irvine, CA 92714

Reference: W.O. 4-0409

Dear Ms. Holbrow:

Activity added to spike samples:

TELEDYNE #	ISOTOPE	ACTIVITY
44212	H-3	3.5 E 03 pCi/l
44213	H-3	3.5 E 03 pCi/l
44177	Pu-239	0.33 pCi/g
44178	Pu-239	0.33 pCi/g
44169	Cs-137 (a)	0.62 pCi/g
44170	Cs-137 (a)	0.62 pCi/g

(a) The sample had 0.17 pCi/g of Cs-137 activity before the spike was added.

Sincerely,

J. David Martin

J. David Martin, Ph.D.
Manager, Environmental Analysis

JDM:cs

TELEDYNE
BROWN ENGINEERING
Environmental Services
50 VAN BUREN AVENUE
P.O. BOX 1235
WESTWOOD, NEW JERSEY 07675-1235
(201) 664-7070 FAX (201) 664-5586

July 26, 1994

Ms. Ann Marie Holbrow
ChemRisk
A Division of McLaren/Hart
16755 Von Karman Avenue
Irvine, CA 92714

Reference: W.O. 4-0409

Dear Ms. Holbrow:

Activity added to spike samples:

TELEDYNE #	ISOTOPE	ACTIVITY
44212	H-3	3.5 E 03 pCi/l
44213	H-3	3.5 E 03 pCi/l
44177	Pu-239	0.66 pCi/g (b)
44178	Pu-239	0.66 pCi/g (b)
44169	Cs-137 (a)	0.62 pCi/g
44170	Cs-137 (a)	0.62 pCi/g

(a) The sample had 0.17 pCi/g of Cs-137 activity before the spike was added.

(b) The incorrect activity of 0.33 pCi/g was listed in the letter dated July 20, 1994.

Sincerely,

J. David Martin

J. David Martin, Ph.D.
Manager, Environmental Analysis

JDM:cm

Strontium

TELEDYNE BROWN ENGINEERING ENVIRONMENTAL SERVICES

REPORT OF ANALYSIS

RUN DATE 04/20/94

PAGE 8

WORK ORDER NUMBER	CUSTOMER P.O. NUMBER	DATE RECEIVED	DELIVERY DATE
4-0353	030225/030600829	03/09/94	04/11/94

ANN MARIE HOLBROW
MCLAREN/HART
16755 VON KARMAN AVE
IRVINE CA 92714

S O I L

TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION		STA NUM	COLLECTION-DATE START DATE	TIME	STOP DATE	TIME	NUCLIDE	ACTIVITY (PCI/GM DRY)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE	TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
43729	10111	BB-20-008-MS		03/08	1316			SR-90	1.1 +-0.4 E-01		03/29			3
43730	10111MS	BB-20-008-MS		/				SR-90	3.9 +-0.2 E 00		04/07			3
43731	10111MSD	BB-20-008-MS		/				SR-90	3.9 +-0.2 E 00		04/07			3
43732	10112	BB-20-009-ST		03/08	1326			H-3	L.T. 1. E 02	PCI/LITER *	04/07			5
43733	10113	BB-20-009-SS		03/08	1326			SR-90	L.T. 6. E-02		03/30			3
43734	10114	BB-20-009-SG		03/08	1326			BE-7	L.T. 4. E-01		03/21			4
								K-40	2.53+-0.25E 01		03/21			4
								MN-54	L.T. 4. E-02		03/21			4
								CO-58	L.T. 4. E-02		03/21			4
								FE-59	L.T. 1. E-01		03/21			4
								CO-60	L.T. 4. E-02		03/21			4
								ZN-65	L.T. 1. E-01		03/21			4
								ZR-95	L.T. 5. E-02		03/21			4
								RU-103	L.T. 5. E-02		03/21			4
								RU-106	L.T. 3. E-01		03/21			4
								I-131	L.T. 1. E-01		03/21			4
								CS-134	L.T. 5. E-02		03/21			4
								CS-137	7.56+-3.64E-02		03/21			4
								BA-140	L.T. 7. E-02		03/21			4
								CE-141	L.T. 7. E-02		03/21			4
								CE-144	L.T. 2. E-01		03/21			4
								RA-226	1.54+-0.54E 00		03/21			4
								TH-228	1.41+-0.14E 00		03/21			4

TELEDYNE BROWN ENGINEERING ENVIRONMENTAL SERVICES

RUN DATE 05/25/94

REPORT OF ANALYSIS

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WORK ORDER NUMBER	CUSTOMER P.O. NUMBER	DATE RECEIVED	DELIVERY DATE
4-0514	030225/030600829	03/15/94	04/17/94

ANN MARIE HOLBROW
MCLAREN/HART
16755 VON KARMAN AVE
IRVINE CA 92714

S O I L

TELEDYNE SAMPLE NUMBER		CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE	TIME	STOP DATE	TIME	NUCLIDE	ACTIVITY (PCI/GM DRY)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE	TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
44748	10374	BG-05-017-SP		03/11				PU-238	L.T. 2. E-02		05/04			6
								U-234	5.6 +-0.7 E-01		05/04			6
								TH-230	4.1 +-0.7 E-01		05/09			6
								PU-239	L.T. 2. E-02		05/04			6
								U-235	2.1 +-1.3 E-02		05/04			6
								U-238	5.9 +-0.8 E-01		05/04			6
								TH-232	2.0 +-0.4 E-01		05/09			6
								TH-228	2.0 +-0.5 E-01		05/09			6
44749	10378	BG-05-050 ST		03/11	1057			H-3	L.T. 2. E 02	PCI/LITER *	05/24			5
44750	10379	BG-05-050-SS		03/11	1057			SR-90	6.9 +-4.6 E-02		04/21			3
44751	10383	BG-05-050-MS		03/11				SR-90	L.T. 2. E-01		04/25			3
44752	10383MS	BG-05-050-MS		/				SR-90	3.8 +-0.2 E 00		04/21			3
44753	10383MSD	BG-05-050-MS		/				SR-90	3.9 +-0.2 E 00		04/21			3
44754	10382	BG-05-050-SG		03/11				BE-7	L.T. 4. E-01		04/25			4
								K-40	2.20+-0.22E 01		04/25			4
								MN-54	L.T. 3. E-02		04/25			4
								CO-58	L.T. 4. E-02		04/25			4
								FE-59	L.T. 1. E-01		04/25			4
								CO-60	L.T. 3. E-02		04/25			4
								ZN-65	L.T. 7. E-02		04/25			4
								ZR-95	L.T. 5. E-02		04/25			4
								RU-103	L.T. 6. E-02		04/25			4
								RU-106	L.T. 2. E-01		04/25			4
								I-131	L.T. 1. E 00		04/25			4
								CS-134	L.T. 4. E-02		04/25			4
								CS-137	1.01+-0.22E-01		04/25			4
								BA-140	L.T. 3. E-01		04/25			4

TELEDYNE BROWN ENGINEERING ENVIRONMENTAL SERVICES

REPORT OF ANALYSIS

RUN DATE 06/03/94

WORK ORDER NUMBER	CUSTOMER P.O. NUMBER	DATE RECEIVED	DELIVERY DATE
4-0472	030225/030600829	03/21/94	04/23/94

ANN MARIE HOLBROW
MCLAREN/HART
16755 VON KARMAN AVE
IRVINE CA 92714

S O I L

TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION		STA NUM	COLLECTION-DATE START DATE	START TIME	STOP DATE	STOP TIME	NUCLIDE	ACTIVITY (PCI/GM DRY)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE	MID-COUNT TIME TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
45087	10619	BG-14-001-MS		03/15	1000			SR-90	L.T. 7. E-02		04/28			3
45088	10619MS	BG-14-001-MS		/				SR-90	4.0 +-0.3 E 00		05/02			3
45089	10619MSD	BG-14-001-MS		/				SR-90	4.0 +-0.2 E 00		04/30			3
45090	10620	BG-14-002-ST		03/15	1000			H-3	L.T. 1. E 02	PCI/LITER *	05/27			5
45091	10621	BG-14-002-SS		03/15	1000			SR-90	L.T. 9. E-02		04/30			3
45092	10622	BG-14-002-SP		03/15	1000			PU-238	L.T. 1. E-02		05/09			6
								U-234	3.1 +-0.4 E-01		05/12			6
								TH-230	3.8 +-0.5 E-01		05/18			6
								PU-239	L.T. 1. E-02		05/09			6
								U-235	1.8 +-1.0 E-02		05/12			6
								U-238	4.0 +-0.5 E-01		05/12			6
								TH-232	1.2 +-0.1 E 00		05/18			6
								TH-228	7.8 +-0.8 E-01		05/18			6
45114	11225	BG-00-004-FS		03/15	0841			SR-90	L.T. 9. E-02		04/30			3
45115	11226	BG-01-090-SS		03/15				SR-90	L.T. 1. E-01		04/30			3
45116	11227	BG-00-008-FT		03/15	0908			H-3	L.T. 2. E 02	PCI/LITER *	05/27			5
45117	11229	BG-14-001-SS		03/15	1000			SR-90	8.2 +-4.3 E-02		04/30			3
45490	10332	BG-02-007-ST		03/10	1610			H-3	L.T. 1. E 02	PCI/LITER *	05/27			5

TELEDYNE BROWN ENGINEERING ENVIRONMENTAL SERVICES

REPORT OF ANALYSIS

WORK ORDER NUMBER	CUSTOMER P.O. NUMBER	DATE RECEIVED	DELIVERY DATE
4-0514	030225/030600829	03/15/94	04/17/94

ANN MARIE HOLBROW
MCLAREN/HART
16755 VON KARMAN AVE
IRVINE CA 92714

S O I L

TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION		STA NUM	COLLECTION-DATE START DATE	TIME	STOP DATE	TIME	NUCLIDE	ACTIVITY (PCI/GM DRY)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE	TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
44689	10513	BG-11-010-SP		03/14	1310			TH-232	6.4 +-2.5 E-02		05/06			6
								TH-228	5.0 +-3.1 E-02		05/06			6
44690	10515	BG-11-010-SG		03/14	1310			BE-7	L.T. 4. E-01		04/26			4
								K-40	3.12+-0.49E 00		04/26			4
								MN-54	L.T. 3. E-02		04/26			4
								CO-58	L.T. 4. E-02		04/26			4
								FE-59	L.T. 1. E-01		04/26			4
								CO-60	L.T. 3. E-02		04/26			4
								ZN-65	L.T. 7. E-02		04/26			4
								ZR-95	L.T. 5. E-02		04/26			4
								RU-103	L.T. 6. E-02		04/26			4
								RU-106	L.T. 3. E-01		04/26			4
								I-131	L.T. 1. E 00		04/26			4
								CS-134	L.T. 3. E-02		04/26			4
								CS-137	1.58+-0.35E-01		04/26			4
								BA-140	L.T. 2. E-01		04/26			4
								CE-141	L.T. 1. E-01		04/26			4
								CE-144	L.T. 2. E-01		04/26			4
								RA-226	L.T. 7. E-01		04/26			4
								TH-228	1.24+-0.39E-01		04/26			4
44691	10516	BG-11-010-MS		03/14	1310			SR-90	9.9 +-5.8 E-02		04/20			3
44692	10516MS	BG-11-010-MS		/				SR-90	3.9 +-0.2 E 00		04/20			3
44693	10516MSD	BG-11-010-MS		/				SR-90	4.1 +-0.2 E 00		04/20			3
44694	10517	BG-11-075-ST		03/14	1205			H-3	L.T. 2. E 02	PCI/LITER *	05/23			5

TELEDYNE
BROWN ENGINEERING
Environmental Services
50 VAN BUREN AVENUE
P.O. BOX 1235
WESTWOOD, NEW JERSEY 07675-1235
(201) 664-7070 FAX (201) 664-5586

July 20, 1994

Ms. Ann Marie Holbrow
ChemRisk
A Division of McLaren/Hart
16755 Von Karman Avenue
Irvine, CA 92714

Reference: W.O. 4-0514

Dear Ms. Holbrow:

Activity added to spike samples:

TELEDYNE #	ISOTOPE	ACTIVITY
44663	H-3	7.0 E 03 pCi/l
44664	H-3	7.0 E 03 pCi/l
44729	H-3	3.5 E 03 pCi/l
44730	H-3	3.5 E 03 pCi/l
44670	Pu-239	0.33 pCi/g
44671	Pu-239	0.33 pCi/g
44692	Sr-90	3.8 pCi/g
44693	Sr-90	3.8 pCi/g
44752	Sr-90	3.8 pCi/g
44753	Sr-90	3.8 pCi/g
44675	Cs-137 (a)	0.70 pCi/g
44676	Cs-137 (a)	0.70 pCi/g

(a) The sample had 0.074 pCi/g of Cs-137 activity before the spike was added.

Sincerely,

J. David Martin

J. David Martin, Ph.D.
Manager, Environmental Analysis

JDM:cs

Tritium

TELEDYNE BROWN ENGINEERING ENVIRONMENTAL SERVICES

REPORT OF ANALYSIS

RUN DATE 05/25/94

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WORK ORDER NUMBER	CUSTOMER P.O. NUMBER	DATE RECEIVED	DELIVERY DATE
4-0514	030225/030600829	03/15/94	04/17/94

ANN MARIE HOLBROW
MCLAREN/HART
16755 VON KARMAN AVE
IRVINE CA 92714

S O I L

TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION		STA NUM	COLLECTION-DATE START DATE	TIME	STOP DATE	TIME	NUCLIDE	ACTIVITY (PCI/LITER)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE	TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
44728	10371	BG-05-027-MT		03/11	1045			H-3	L.T. 3. E 02		05/23			5
44729	10371MS	BG-05-027-MT		/				H-3	3.5 +-0.3 E 03		05/23			5
44730	10371MSD	BG-05-027-MT		/				H-3	3.7 +-0.3 E 03		05/23			5
44731	10367	BG-05-027-SS		03/11	1045			SR-90	1.0 +-0.4 E-01	PCI/GM DRY *	04/20			3
44732	10370	BG-05-027-SG		03/11	1045			BE-7	L.T. 4. E-01	PCI/GM DRY *	04/26			4
								K-40	2.07+-0.21E 01	PCI/GM DRY *	04/26			4
								MN-54	L.T. 3. E-02	PCI/GM DRY *	04/26			4
								CO-58	L.T. 4. E-02	PCI/GM DRY *	04/26			4
								FE-59	L.T. 1. E-01	PCI/GM DRY *	04/26			4
								CO-60	L.T. 3. E-02	PCI/GM DRY *	04/26			4
								ZN-65	L.T. 9. E-02	PCI/GM DRY *	04/26			4
								ZR-95	L.T. 6. E-02	PCI/GM DRY *	04/26			4
								RU-103	L.T. 6. E-02	PCI/GM DRY *	04/26			4
								RU-106	L.T. 3. E-01	PCI/GM DRY *	04/26			4
								I-131	L.T. 1. E 00	PCI/GM DRY *	04/26			4
								CS-134	L.T. 3. E-02	PCI/GM DRY *	04/26			4
								CS-137	9.91+-2.14E-02	PCI/GM DRY *	04/26			4
								BA-140	L.T. 3. E-01	PCI/GM DRY *	04/26			4
								CE-141	L.T. 1. E-01	PCI/GM DRY *	04/26			4
								CE-144	L.T. 2. E-01	PCI/GM DRY *	04/26			4
								RA-226	2.74+-0.46E 00	PCI/GM DRY *	04/26			4
								TH-228	8.02+-0.80E-01	PCI/GM DRY *	04/26			4
44733	10368	BG-05-027-SP		03/11	1045			PU-238	L.T. 1. E-02	PCI/GM DRY *	05/02			6
								U-234	6.0 +-0.8 E-01	PCI/GM DRY *	05/02			6
								TH-230	3.4 +-0.6 E-01	PCI/GM DRY *	05/09			6
								PU-239	L.T. 1. E-02	PCI/GM DRY *	05/02			6
								U-235	2.1 +-1.3 E-02	PCI/GM DRY *	05/02			6
								U-238	6.3 +-0.8 E-01	PCI/GM DRY *	05/02			6

TELEDYNE BROWN ENGINEERING ENVIRONMENTAL SERVICES

REPORT OF ANALYSIS

RUN DATE 05/25/94

WORK ORDER NUMBER	CUSTOMER P.O. NUMBER	DATE RECEIVED	DELIVERY DATE
4-0514	030225/030600829	03/15/94	04/17/94

ANN MARIE HOLBROW
MCLAREN/HART
16755 VON KARMAN AVE
IRVINE CA 92714

S O I L

TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION		STA NUM	COLLECTION-DATE START DATE	START TIME	STOP DATE	STOP TIME	NUCLIDE	ACTIVITY (PCI/GM DRY)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE	TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
44661	10538	BG-11-031-SG		03/14	1250			CS-134	L.T. 3. E-02		04/25			4
								CS-137	5.87+-2.34E-02		04/25			4
								BA-140	L.T. 3. E-01		04/25			4
								CE-141	L.T. 1. E-01		04/25			4
								CE-144	L.T. 2. E-01		04/25			4
								RA-226	L.T. 6. E-01		04/25			4
								TH-228	1.81+-0.45E-01		04/25			4
44662	10539	BG-11-031-MT		03/14	1250			H-3	L.T. 7. E 02	PCI/LITER *	05/25			5
44663	10539MS	BG-11-031-MT		03/14	1250			H-3	7.9 +-0.6 E 03	PCI/LITER *	05/22			5
44664	10539MSD	BG-11-031-MT		03/14	1250			H-3	8.4 +-0.6 E 03	PCI/LITER *	05/22			5
44665	10545	BG-12-001-ST		03/14	1200			H-3	7.2 +-3.4 E 02	PCI/LITER *	05/22			5
44666	10546	BG-12-001-SS		03/14	1200			SR-90	L.T. 8. E-02		04/16			3
44667	10547	BG-12-001-SP		03/14	1200			PU-238	L.T. 6. E-03		04/22			6
								U-234	8.9 +-7.8 E-03		04/26			6
								TH-230	2.2 +-1.7 E-02		05/06			6
								PU-238	L.T. 6. E-03		04/22			6
								U-235	L.T. 6. E-03		04/26			6
								U-238	3.3 +-1.4 E-02		04/26			6
								TH-232	2.4 +-1.5 E-02		05/06			6
								TH-228	L.T. 4. E-02		05/06			6
44668	10549	BG-12-001-SG		03/14	1200			BE-7	L.T. 3. E-01		04/25			4
								K-40	1.72+-0.26E 00		04/25			4
								MN-54	L.T. 3. E-02		04/25			4
								CO-58	L.T. 3. E-02		04/25			4
								FE-59	L.T. 9. E-02		04/25			4
								CO-60	L.T. 2. E-02		04/25			4

TELEDYNE BROWN ENGINEERING ENVIRONMENTAL SERVICES

REPORT OF ANALYSIS

RUN DATE 06/03/94

WORK ORDER NUMBER	CUSTOMER P.O. NUMBER	DATE RECEIVED	DELIVERY DATE
4-0472	030225/030600829	03/21/94	04/23/94

ANN MARIE HOLBROW
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S O I L

TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE	START TIME	STOP DATE	STOP TIME	NUCLIDE	ACTIVITY (PCI/GM DRY)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE	MID-COUNT TIME TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
45058	10643DUP BG-14-005-SG		03/15	1026			CS-134	L.T. 4. E-02		04/28			4
							CS-137	L.T. 3. E-02		04/28			4
							BA-140	L.T. 3. E-01		04/28			4
							CE-141	L.T. 1. E-01		04/28			4
							CE-144	L.T. 2. E-01		04/28			4
							RA-226	1.25+-0.43E 00		04/28			4
							TH-228	8.61+-0.86E-01		04/28			4
45059	10644 BG-14-005-MT		03/15	1026			H-3	1.3 +-0.6 E 03	PCI/LITER *	05/26			5
45060	10644MS BG-14-005-MT		/				H-3	1.6 +-0.1 E 04	PCI/LITER *	05/26			5
45061	10644MSD BG-14-005-MT		/				H-3	1.5 +-0.1 E 04	PCI/LITER *	05/26			5
45063	11213 BG-00-005-FG		03/15	0841			BE-7	L.T. 4. E-01		04/27			4
							K-40	2.28+-0.23E 01		04/27			4
							MN-54	L.T. 3. E-02		04/27			4
							CO-58	L.T. 4. E-02		04/27			4
							FE-59	L.T. 1. E-01		04/27			4
							CO-60	L.T. 3. E-02		04/27			4
							ZN-65	L.T. 7. E-02		04/27			4
							ZR-95	L.T. 5. E-02		04/27			4
							RU-103	L.T. 6. E-02		04/27			4
							RU-106	L.T. 3. E-01		04/27			4
							I-131	L.T. 1. E 00		04/27			4
							CS-134	L.T. 4. E-02		04/27			4
							CS-137	2.09+-0.30E-01		04/27			4
							BA-140	L.T. 3. E-01		04/27			4
							CE-141	L.T. 1. E-01		04/27			4
							CE-144	L.T. 2. E-01		04/27			4
							RA-226	2.15+-0.42E 00		04/27			4
							TH-228	1.92+-0.19E 00		04/27			4

TELEDYNE BROWN ENGINEERING ENVIRONMENTAL SERVICES

REPORT OF ANALYSIS

RUN DATE 04/06/94

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4-0185	030225/030600829	03/08/94	03/18/94	

ANN MARIE HOLBROW
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16755 VON KARMAN AVE
IRVINE CA 92714

S O I L

TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION		STA NUM	COLLECTION-DATE START DATE	START TIME	STOP DATE	STOP TIME	NUCLIDE	ACTIVITY (PCI/LITER)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE	MID-COUNT TIME TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
43219	10051MS	BB-02-045-MT		03/07	1133			H-3	3.1 +-0.3 E 03		03/30			5
43220	10052	BB-02-060-ST		03/07	1134			H-3	L.T. 2. E 02		03/28			5
43221	10053	BB-02-075-ST		03/07	1140			H-3	L.T. 2. E 02		03/28			5
43222	10055	BB-02-078-ST		03/07	1139			H-3	L.T. 2. E 02		03/28			5
43262	10062DUP	SM-03-012-ST		03/07	1422			H-3	L.T. 2. E 02		03/30			5
43263	10030MSD	BB-06-092-MT		/				H-3	3.3 +-0.3 E 03		03/30			5
43264	10058DUP	BB-12-023-ST		03/07	1313			H-3	L.T. 2. E 02		03/27			5
43265	10051MSD	BB-02-045-MT		/				H-3	2.9 +-0.2 E 03		03/30			5
43368	10030	BB-06-092-MT		03/07	0918			H-3	L.T. 1. E 02		03/30			5
43369	10051	BB-02-045-MT		03/07	1133			H-3	2.3 +-1.4 E 02		03/30			5

H-3 activity added to prepare matrix spikes

TI#	H-3 pCi/l
43202	2.7 +- 0.3 E 03
43263	2.7 +- 0.3 E 03
43219	2.7 +- 0.3 E 03
43265	2.7 +- 0.3 E 03

TELEDYNE BROWN ENGINEERING ENVIRONMENTAL SERVICES

REPORT OF ANALYSIS

RUN DATE 04/06/94

	WORK ORDER NUMBER	CUSTOMER P.O. NUMBER	DATE RECEIVED	DELIVERY DATE	PAGE 2
ANN MARIE HOLBROW	4-0185	030225/030600829	03/08/94	03/18/94	

MCLAREN/HART
16755 VON KARMAN AVE
IRVINE CA 92714

S O I L

TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION		STA NUM	COLLECTION-DATE START DATE TIME	STOP DATE TIME	NUCLIDE	ACTIVITY (PCI/LITER)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
43187	10027	BB-14-004-ST		03/04 1625		H-3	L.T. 2. E 02		03/20		5
43188	10062	SM-03-012-ST		03/07 1422		H-3	L.T. 1. E 02		03/30		5
43190	10064	SM-03-015-ST		03/07 1420		H-3	L.T. 1. E 02		03/21		5
43191	10065	SM-03-009-ST		03/07 1423		H-3	L.T. 1. E 02		03/21		5
43192	10066	SM-03-001-ST		03/07 1425		H-3	L.T. 1. E 02		03/21		5
43193	10067	SM-03-014-ST		03/07 1430		H-3	L.T. 1. E 02		03/21		5
43194	10047	BB-05-003-ST		03/07 1050		H-3	L.T. 1. E 02		03/30		5
43195	10043	BB-05-089-ST		03/07 1052		H-3	L.T. 1. E 02		03/21		5
43196	10042	BB-05-089FDT		03/07 1052		H-3	L.T. 1. E 02		03/21		5
43197	10048	BB-05-006-ST		03/07 1102		H-3	L.T. 1. E 02		03/21		5
43198	10044	BB-05-057-ST		03/07 1112		H-3	L.T. 1. E 02		03/21		5
43199	10046	BB-05-077-ST		03/07 1110		H-3	L.T. 1. E 02		03/21		5
43200	10028	BB-06-007-ST		03/07 0910		H-3	L.T. 1. E 02		03/21		5
43201	10029	BB-06-092-ST		03/07 0918		H-3	L.T. 1. E 02		03/21		5
43202	10030MS	BB-06-092-MT		/		H-3	3.0 +-0.2 E 03		03/30		5

TELEDYNE BROWN ENGINEERING ENVIRONMENTAL SERVICES

REPORT OF ANALYSIS

RUN DATE 04/20/94

WORK ORDER NUMBER	CUSTOMER P.O. NUMBER	DATE RECEIVED	DELIVERY DATE	PAGE 1
4-0353	030225/030600829	03/09/94	04/11/94	

ANN MARIE HOLBROW
MCLAREN/HART
16755 VON KARMAN AVE
IRVINE CA 92714

SOIL

TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION		STA NUM	COLLECTION-DATE START DATE	START TIME	STOP DATE	STOP TIME	NUCLIDE	ACTIVITY (PCI/LITER)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE	MID-COUNT TIME TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
43677	11043	BB-00-002-PT		03/08				H-3	1.7 +-0.2 E 03		04/03			5
43678	11042	BB-00-001-PT		03/08				H-3	L.T. 2. E 02		04/03			5
43684	11045	BB-00-004-PT		03/08				H-3	L.T. 2. E 02		04/03			5
43685	11044	BB-00-003-PT		03/08				H-3	1.7 +-0.2 E 03		04/04			5
43689	10068	BB-03-025-ST		03/08	1358			H-3	L.T. 2. E 02		04/04			5
43690	10071	BB-03-079-ST		03/08	1405			H-3	L.T. 1. E 02		04/04			5
43691	10072	BB-03-017-ST		03/08	1407			H-3	L.T. 2. E 02		04/04			5
43692	10074	BB-03-005-ST		03/08	1410			H-3	L.T. 2. E 02		04/04			5
43693	10078	BB-03-003-ST		03/08	1423			H-3	L.T. 2. E 02		04/04			5
43694	10081	BB-03-026-ST		03/08	1428			H-3	L.T. 1. E 02		04/07			5
43695	10081DUP	BB-03-026-ST		03/08	1428			H-3	L.T. 1. E 02		04/07			5
43696	11019	BB-03-026-MT		03/08	1359			H-3	L.T. 1. E 02		04/08			5
43697	11019MS	BB-03-026-MT		/				H-3	1.5 +-0.1 E 04		04/08			5
43698	11019MSD	BB-03-026-MT		/				H-3	1.7 +-0.1 E 04		04/08			5
43699	10070	BB-03-096-ST		03/08	1400			H-3	L.T. 1. E 02		04/06			5

TELEDYNE BROWN ENGINEERING ENVIRONMENTAL SERVICES

REPORT OF ANALYSIS

WORK ORDER NUMBER	CUSTOMER P.O. NUMBER	DATE RECEIVED	DELIVERY DATE
4-0409	030225/030600829	03/14/94	04/16/94

ANN MARIE HOLBROW
MCLAREN/HART
16755 VON KARMAN AVE
IRVINE CA 92714

S O I L

TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION		STA NUM	COLLECTION-DATE START DATE TIME	STOP DATE TIME	NUCLIDE	ACTIVITY (PCI/GM DRY)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
44206	10292	BB-15-009-SP		03/10 1025		PU-238	L.T. 9. E-03		04/09		6
						PU-239	L.T. 9. E-03		04/09		6
44207	11191	BB-15-010-SP		03/10 1030		PU-238	L.T. 9. E-03		04/09		6
						PU-239	L.T. 9. E-03		04/09		6
44208	11029	BB-00-002-FP		03/10 1025		PU-238	L.T. 8. E-03		04/09		6
						PU-239	L.T. 1. E-02		04/09		6
44210	10282	BB-15-001-ST		03/10 0945		H-3	L.T. 2. E 02	PCI/LITER *	05/08		5
44211	10283	BB-15-001-MT		03/10 0945		H-3	L.T. 3. E 02	PCI/LITER *	05/09		5
44212	10283MS	BB-15-001-MT		/		H-3	3.3 +-0.3 E 03	PCI/LITER *	05/09		5
44213	10283MSD	BB-15-001-MT		/		H-3	3.8 +-0.3 E 03	PCI/LITER *	05/09		5
44214	10284	BB-15-002-ST		03/10 0935		H-3	L.T. 2. E 02	PCI/LITER *	05/09		5
44215	10285	BB-15-003-ST		03/10 0915		H-3	L.T. 2. E 02	PCI/LITER *	05/09		5
44216	10286	BB-15-004-ST		03/10 0910		H-3	L.T. 2. E 02	PCI/LITER *	05/09		5
44217	10287	BB-15-005-ST		03/10 0910		H-3	L.T. 2. E 02	PCI/LITER *	05/09		5
44218	11190	BB-15-001-SP		03/10 0945		PU-238	L.T. 1. E-02		04/10		6
						PU-239	L.T. 1. E-02		04/10		6

TELEDYNE BROWN ENGINEERING ENVIRONMENTAL SERVICES

REPORT OF ANALYSIS

RUN DATE 05/04/94

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WORK ORDER NUMBER	CUSTOMER P.O. NUMBER	DATE RECEIVED	DELIVERY DATE
4-0354	030225/030600829	03/11/94	04/13/94

ANN MARIE HOLBROW
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IRVINE CA 92714

S O I L

TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE	TIME	STOP DATE	TIME	NUCLIDE	ACTIVITY (PCI/LITER)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE	TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
43933 10157	BB-17-006A-ST		03/09	1600			H-3	1.9 +-0.9 E 02		05/01			5
43934 10158	BB-17-006A-SP		03/09	1600			PU-238	L.T. 1. E-02	PCI/GM DRY *	03/29			6
							PU-239	L.T. 1. E-02	PCI/GM DRY *	03/29			6
43935 10159	BB-17-006A-SG		03/09	1600			BE-7	L.T. 4. E-01	PCI/GM DRY *	04/01			4
							K-40	2.22+-0.22E 01	PCI/GM DRY *	04/01			4
							MN-54	L.T. 4. E-02	PCI/GM DRY *	04/01			4
							CO-58	L.T. 4. E-02	PCI/GM DRY *	04/01			4
							FE-59	L.T. 1. E-01	PCI/GM DRY *	04/01			4
							CO-60	L.T. 4. E-02	PCI/GM DRY *	04/01			4
							ZN-65	L.T. 9. E-02	PCI/GM DRY *	04/01			4
							ZR-95	L.T. 5. E-02	PCI/GM DRY *	04/01			4
							RU-103	L.T. 5. E-02	PCI/GM DRY *	04/01			4
							RU-106	L.T. 3. E-01	PCI/GM DRY *	04/01			4
							I-131	L.T. 2. E-01	PCI/GM DRY *	04/01			4
							CS-134	L.T. 5. E-02	PCI/GM DRY *	04/01			4
							CS-137	1.64+-0.35E-01	PCI/GM DRY *	04/01			4
							BA-140	L.T. 1. E-01	PCI/GM DRY *	04/01			4
							CE-141	L.T. 8. E-02	PCI/GM DRY *	04/01			4
							CE-144	L.T. 2. E-01	PCI/GM DRY *	04/01			4
							RA-226	2.37+-0.51E 00	PCI/GM DRY *	04/01			4
							TH-228	1.36+-0.14E 00	PCI/GM DRY *	04/01			4
43936 10160	BB-17-006A-MT		03/09	1600			H-3	L.T. 1. E 02		05/01			5
43937 10160MS	BB-17-006A-MT		/				H-3	1.4 +-0.1 E 03		05/01			5
43938 10160MSD	BB-17-006A-MT		/				H-3	1.7 +-0.2 E 03		05/01			5

REVISED [illegible]0/94
RUN DATE 05/04/94

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TELEDYNE BROWN ENGINEER[illegible]NVIRONMENTAL SERVICES

REPORT OF ANALYSIS

WORK ORDER NUMBER	CUSTOMER P.O. NUMBER	DATE RECEIVED	DELIVERY DATE
4-0354	030225/030600829	03/11/94	04/13/94

ANN MARIE HOLBROW
MCLAREN/HART
16755 VON KARMAN AVE
IRVINE CA 92714

S O I L

TELEDYNE SAMPLE NUMBER		CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE	TIME	STOP DATE	TIME	NUCLIDE	ACTIVITY (PCI/GM DRY)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE	TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
44030	10200	BB-17-B002-SP		03/09	1355			PU-238	L.T. 1. E-02		04/05			6
								PU-239	L.T. 1. E-02		04/05			6
44031	10201	BB-17-B002-SG		03/09	1355			BE-7	L.T. 5. E-01		04/09			4
								K-40	2.28+-0.23E 01		04/09			4
								MN-54	L.T. 4. E-02		04/09			4
								CO-58	L.T. 5. E-02		04/09			4
								FE-59	L.T. 1. E-01		04/09			4
								CO-60	L.T. 4. E-02		04/09			4
								ZN-65	L.T. 9. E-02		04/09			4
								ZR-95	L.T. 6. E-02		04/09			4
								RU-103	L.T. 6. E-02		04/09			4
								RU-106	L.T. 4. E-01		04/09			4
								I-131	L.T. 5. E-01		04/09			4
								CS-134	L.T. 5. E-02		04/09			4
								CS-137	1.30+-0.40E-01		04/09			4
								BA-140	L.T. 2. E-01		04/09			4
								CE-141	L.T. 1. E-01		04/09			4
								CE-144	L.T. 3. E-01		04/09			4
								RA-226	2.04+-0.62E 00		04/09			4
								TH-228	1.16+-0.12E 00		04/09			4

Activity added to spiked samples

TI#	Isotope	Activity
43937	H-3	1.4 E 03 pCi/l
43938	H-3	1.4 E 03 pCi/l
43994	Cs-137	5.6 E-01 pCi/g
43995	Cs-137	5.6 E-01 pCi/g
44000	Pu-239	3.3 E-01 pCi/g
44001	Pu-239	3.3 E-01 pCi/g

The exponent for the H-3 added to Teledyne #43937 and 43938 has been corrected.

DMartin 7-20-94

TELEDYNE
BROWN ENGINEERING
Environmental Services
50 VAN BUREN AVENUE
P.O. BOX 1235
WESTWOOD, NEW JERSEY 07675-1235
(201) 664-7070 FAX (201) 664-5586

July 20, 1994

Ms. Ann Marie Holbrow
ChemRisk
A Division of McLaren/Hart
16755 Von Karman Avenue
Irvine, CA 92714

Reference: W.O. 4-0514

Dear Ms. Holbrow:

Activity added to spike samples:

TELEDYNE #	ISOTOPE	ACTIVITY
44663	H-3	7.0 E 03 pCi/l
44664	H-3	7.0 E 03 pCi/l
44729	H-3	3.5 E 03 pCi/l
44730	H-3	3.5 E 03 pCi/l
44670	Pu-239	0.33 pCi/g
44671	Pu-239	0.33 pCi/g
44692	Sr-90	3.8 pCi/g
44693	Sr-90	3.8 pCi/g
44752	Sr-90	3.8 pCi/g
44753	Sr-90	3.8 pCi/g
44675	Cs-137 (a)	0.70 pCi/g
44676	Cs-137 (a)	0.70 pCi/g

(a) The sample had 0.074 pCi/g of Cs-137 activity before the spike was added.

Sincerely,

J. David Martin

J. David Martin, Ph.D.
Manager, Environmental Analysis

JDM:cs

TELEDYNE
BROWN ENGINEERING
Environmental Services
50 VAN BUREN AVENUE
P.O. BOX 1235
WESTWOOD, NEW JERSEY 07675-1235
(201) 664-7070 FAX (201) 664-5586

July 20, 1994

Ms. Ann Marie Holbrow
ChemRisk
A Division of McLaren/Hart
16755 Von Karman Avenue
Irvine, CA 92714

Reference: W.O. 4-0409

Dear Ms. Holbrow:

Activity added to spike samples:

TELEDYNE #	ISOTOPE	ACTIVITY
44212	H-3	3.5 E 03 pCi/l
44213	H-3	3.5 E 03 pCi/l
44177	Pu-239	0.33 pCi/g
44178	Pu-239	0.33 pCi/g
44169	Cs-137 (a)	0.62 pCi/g
44170	Cs-137 (a)	0.62 pCi/g

(a) The sample had 0.17 pCi/g of Cs-137 activity before the spike was added.

Sincerely,

J. David Martin

J. David Martin, Ph.D.
Manager, Environmental Analysis

JDM:cs

TELEDYNE
BROWN ENGINEERING
Environmental Services
50 VAN BUREN AVENUE
P.O. BOX 1235
WESTWOOD, NEW JERSEY 07675-1235
(201) 664-7070 FAX (201) 664-5586

July 26, 1994

Ms. Ann Marie Holbrow
ChemRisk
A Division of McLaren/Hart
16755 Von Karman Avenue
Irvine, CA 92714

Reference: W.O. 4-0409

Dear Ms. Holbrow:

Activity added to spike samples:

TELEDYNE #	ISOTOPE	ACTIVITY
44212	H-3	3.5 E 03 pCi/l
44213	H-3	3.5 E 03 pCi/l
44177	Pu-239	0.66 pCi/g (b)
44178	Pu-239	0.66 pCi/g (b)
44169	Cs-137 (a)	0.62 pCi/g
44170	Cs-137 (a)	0.62 pCi/g

(a) The sample had 0.17 pCi/g of Cs-137 activity before the spike was added.

(b) The incorrect activity of 0.33 pCi/g was listed in the letter dated July 20, 1994.

Sincerely,

J. David Martin

J. David Martin, Ph.D.
Manager, Environmental Analysis

JDM:cm

Gamma Scan

TELEDYNE BROWN ENGINEERING ENVIRONMENTAL SERVICES

RUN DATE 05/12/94

REPORT OF ANALYSIS

PAGE 12

WORK ORDER NUMBER	CUSTOMER P.O. NUMBER	DATE RECEIVED	DELIVERY DATE
4-0409	030225/030600829	03/14/94	04/16/94

ANN MARIE HOLBROW
MCLAREN/HART
16755 VON KARMAN AVE
IRVINE CA 92714

W A T E R

TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE TIME	STOP DATE TIME	NUCLIDE	ACTIVITY (PCI/LITER)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
44181	10304 BB-19-005-RS		03/10 1150		SR-90	L.T. 1. E 00		04/08		3
44185	10307 BB-19-006-RG		03/10 1050		BE-7	L.T. 5. E 01		04/19		4
					K-40	L.T. 5. E 01		04/19		4
					MN-54	L.T. 4. E 00		04/19		4
					CO-58	L.T. 5. E 00		04/19		4
					FE-59	L.T. 1. E 01		04/19		4
					CO-60	L.T. 4. E 00		04/19		4
					ZN-65	L.T. 7. E 00		04/19		4
					ZR-95	L.T. 5. E 00		04/19		4
					RU-103	L.T. 7. E 00		04/19		4
					RU-106	L.T. 3. E 01		04/19		4
					I-131	L.T. 1. E 02		04/19		4
					CS-134	L.T. 4. E 00		04/19		4
					CS-137	L.T. 4. E 00		04/19		4
					BA-140	L.T. 4. E 01		04/19		4
					CE-141	L.T. 1. E 01		04/19		4
					CE-144	L.T. 3. E 01		04/19		4
					RA-226	L.T. 8. E 01		04/19		4
					TH-228	L.T. 7. E 00		04/19		4
44192	11189 BB-19-005-RS		03/10 1050		SR-90	L.T. 1. E 00		04/08		3
44193	11192 BB-19-006-RG		03/10 1050		BE-7	L.T. 3. E 01		03/29		4
					K-40	L.T. 8. E 01		03/29		4
					MN-54	L.T. 3. E 00		03/29		4
					CO-58	L.T. 3. E 00		03/29		4
					FE-59	L.T. 7. E 00		03/29		4
					CO-60	L.T. 3. E 00		03/29		4
					ZN-65	L.T. 6. E 00		03/29		4
					ZR-95	L.T. 3. E 00		03/29		4
					RU-103	L.T. 4. E 00		03/29		4
					RU-106	L.T. 3. E 01		03/29		4

TELEDYNE BROWN ENGINEERING ENVIRONMENTAL SERVICES

RUN DATE 05/04/94

REPORT OF ANALYSIS

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WORK ORDER NUMBER	CUSTOMER P.O. NUMBER	DATE RECEIVED	DELIVERY DATE
4-0354	030225/030600829	03/11/94	04/13/94

ANN MARIE HOLBROW
MCLAREN/HART
16755 VON KARMAN AVE
IRVINE CA 92714

W A T E R

TELEDYNE SAMPLE NUMBER		CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE TIME	STOP DATE TIME	NUCLIDE	ACTIVITY (PCI/LITER)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
43920	10147	BB-17-005-RP		03/09 0755		PU-238	L.T. 2. E-01		03/31		6
						PU-239	L.T. 2. E-01		03/31		6
43985	10181	BB-17-008A-RG		03/09 0755		BE-7	L.T. 3. E 01		04/04		4
						K-40	L.T. 5. E 01		04/04		4
						MN-54	L.T. 3. E 00		04/04		4
						CO-58	L.T. 4. E 00		04/04		4
						FE-59	L.T. 1. E 01		04/04		4
						CO-60	L.T. 3. E 00		04/04		4
						ZN-65	L.T. 7. E 00		04/04		4
						ZR-95	L.T. 5. E 00		04/04		4
						RU-103	L.T. 5. E 00		04/04		4
						RU-106	L.T. 3. E 01		04/04		4
						I-131	L.T. 3. E 01		04/04		4
						CS-134	L.T. 3. E 00		04/04		4
						CS-137	L.T. 3. E 00		04/04		4
						BA-140	L.T. 1. E 01		04/04		4
						CE-141	L.T. 9. E 00		04/04		4
						CE-144	L.T. 2. E 01		04/04		4
						RA-226	L.T. 6. E 01		04/04		4
						TH-228	L.T. 6. E 00		04/04		4
44025	10198	BB-17-B001-RT		03/09 1120		H-3	L.T. 2. E 02		05/03		5

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J Guenther

SEND 1 COPIES TO MC480S ANN MARIE HOLBROW

2 - GAS LAB. 3 - RADIO CHEMISTRY LAB. 4 - GELI[I] GAMMA SPEC LAB. 5 - TRITIUM GAS/L.S. LAB. 6 - ALPHA SPEC LAB.

RUN DATE 04/19/94

PAGE 1

TELEDYNE BROWN ENGINEERING ENVIRONMENTAL SERVICES

REPORT OF ANALYSIS

WORK ORDER NUMBER	CUSTOMER P.O. NUMBER	DATE RECEIVED	DELIVERY DATE
4-0638	030225/030600829	03/16/94	04/18/94

ANN MARIE HOLBROW
MCLAREN/HART
16755 VON KARMAN AVE
IRVINE CA 92714

W A T E R

TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION		STA NUM	COLLECTION-DATE START DATE TIME	STOP DATE TIME	NUCLIDE	ACTIVITY (PCI/LITER)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
45715	11040	BB-20-001-RS		03/08 0854		SR-90	L.T. 1. E 00		04/15		3
45716	11039	BB-20-002-RG		03/08 0854		BE-7	L.T. 5. E 01		04/13		4
						K-40	L.T. 1. E 02		04/13		4
						MN-54	L.T. 4. E 00		04/13		4
						CO-58	L.T. 5. E 01		04/13		4
						FE-59	L.T. 1. E 00		04/13		4
						CO-60	L.T. 4. E 00		04/13		4
						ZN-65	L.T. 9. E 00		04/13		4
						ZR-95	L.T. 5. E 00		04/13		4
						RU-103	L.T. 7. E 01		04/13		4
						RU-106	L.T. 4. E 01		04/13		4
						I-131	L.T. 9. E 01		04/13		4
						CS-134	L.T. 4. E 00		04/13		4
						CS-137	L.T. 4. E 00		04/13		4
						BA-140	L.T. 3. E 01		04/13		4
						CE-141	L.T. 1. E 01		04/13		4
						CE-144	L.T. 3. E 01		04/13		4
						RA-226	L.T. 8. E 01		04/13		4
						TH-228	L.T. 7. E 00		04/13		4
45717	11032	BB-20-002-WA			03/08 1400	GR-A	L.T. 6. E 00		04/09		3
						GR-B	1.5 +-0.3 E 01		04/09		3
45718	11126	BB-20-002-WT			03/08 1400	H-3	L.T. 2. E 02		04/14		5

APPROVED BY J. GUENTHER 04/19/94

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TELEDYNE BROWN ENGINEERING ENVIRONMENTAL SERVICES

REPORT OF ANALYSIS

WORK ORDER NUMBER	CUSTOMER P.O. NUMBER	DATE RECEIVED	DELIVERY DATE
4-0353	030225/030600829	03/09/94	04/11/94

ANN MARIE HOLBROW
MCLAREN/HART
16755 VON KARMAN AVE
IRVINE CA 92714

W A T E R

TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE	START TIME	STOP DATE	STOP TIME	NUCLIDE	ACTIVITY (PCI/LITER)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE	MID-COUNT TIME TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
43708	10090 BB-20-002-RG		03/08	0854			RA-226	L.T. 6. E 01		03/11			4
							TH-228	L.T. 5. E 00		03/11			4
43722	10104 BB-20-006-RT		03/08	0854			H-3	L.T. 2. E 02		04/14			5

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2 - GAS LAB. 3 - RADIO CHEMISTRY LAB. 4 - GE(LI) GAMMA SPEC LAB. 5 - TRITIUM GAS/L.S. LAB. 6 - ALPHA SPEC LAB.

Activity added to spiked samples

TI#	Isotope	Activity
43697	H-3	1.4 E 04 pCi/l
43698	H-3	1.4 E 04 pCi/l
43730	Sr-90	3.8 pCi/g
43731	Sr-90	3.8 pCi/g
43740	Cs-137	0.64 pCi/g
43741	Cs-137	0.64 pCi/g

TELEDYNE BROWN ENGINEERING ENVIRONMENTAL SERVICES

RUN DATE 05/12/94

REPORT OF ANALYSIS

WORK ORDER NUMBER	CUSTOMER P.O. NUMBER	DATE RECEIVED	DELIVERY DATE
4-0409	030225/030600829	03/14/94	04/16/94

ANN MARIE HOLBROW
MCLAREN/HART
16755 VON KARMAN AVE
IRVINE CA 92714

W A T E R

TELEDYNE SAMPLE NUMBER		CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE TIME	STOP DATE TIME	NUCLIDE	ACTIVITY (PCI/LITER)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
44193	11192	8B-19-006-RG		03/10 1050		I-131	L.T. 2. E 01		03/29		4
						CS-134	L.T. 3. E 00		03/29		4
						CS-137	L.T. 3. E 00		03/29		4
						BA-140	L.T. 8. E 00		03/29		4
						CE-141	L.T. 6. E 00		03/29		4
						CE-144	L.T. 2. E 01		03/29		4
						RA-226	L.T. 6. E 01		03/29		4
						TH-228	L.T. 6. E 00		03/29		4
44203	10289	8B-15-006-RP		03/10 0755		PU-238	L.T. 4. E-01		04/09		6
						PU-239	L.T. 4. E-01		04/09		6
44209	11188	8B-15-006-RP		03/10 0755		PU-238	L.T. 2. E-01		04/09		6
						PU-239	L.T. 2. E-01		04/09		6

LAST PAGE OF REPORT

J Guenther
APPROVED BY J. GUENTHER 05/12/94

SEND 1 COPIES TO MC480S ANN MARIE HOLBROW

2 - GAS LAB. 3 - RADIO CHEMISTRY LAB. 4 - GE(LI) GAMMA SPEC LAB. 5 - TRITIUM GAS/L.S. LAB. 6 - ALPHA SPEC LAB.

TELEDYNE BROWN ENGINEERING ENVIRONMENTAL SERVICES

REPORT OF ANALYSIS

WORK ORDER NUMBER	CUSTOMER P.O. NUMBER	DATE RECEIVED	DELIVERY DATE
4-0514	030225/030600829	03/15/94	04/17/94

ANN MARIE HOLBROW
MCLAREN/HART
16755 VON KARMAN AVE
IRVINE CA 92714

WATER

TELEDYNE SAMPLE NUMBER		CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE	START TIME	STOP DATE	STOP TIME	NUCLIDE	ACTIVITY (PCI/LITER)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE	TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
44700	11203	BG-09-005-RG		03/11	1313			BE-7	L.T. 4. E 01		04/29			4
								K-40	L.T. 6. E 01		04/29			4
								MN-54	L.T. 3. E 00		04/29			4
								CO-58	L.T. 4. E 00		04/29			4
								FE-59	L.T. 1. E 01		04/29			4
								CO-60	L.T. 3. E 00		04/29			4
								ZN-65	L.T. 6. E 00		04/29			4
								ZR-95	L.T. 4. E 00		04/29			4
								RU-103	L.T. 6. E 00		04/29			4
								RU-106	L.T. 3. E 01		04/29			4
								I-131	L.T. 2. E 02		04/29			4
								CS-134	L.T. 3. E 00		04/29			4
								CS-137	L.T. 3. E 00		04/29			4
								BA-140	L.T. 3. E 01		04/29			4
								CE-141	L.T. 1. E 01		04/29			4
								CE-144	L.T. 2. E 01		04/29			4
								RA-226	L.T. 5. E 01		04/29			4
								TH-228	L.T. 5. E 00		04/29			4
44711	11202	BG-09-096-RS		03/11	1313			SR-90	L.T. 1. E 00		04/21			3
44717	10449	BG-09-057-RP		03/11	1313			PU-238	L.T. 3. E-01		04/19			6
								PU-239	L.T. 3. E-01		04/19			6
44736	10436	BG-09-096-RS		03/11	1313			SR-90	L.T. 1. E 00		04/21			3
44742	10443	BG-09-005-RG		03/11	1313			BE-7	L.T. 5. E 01		04/29			4
								K-40	L.T. 5. E 01		04/29			4
								MN-54	L.T. 3. E 00		04/29			4
								CO-58	L.T. 4. E 00		04/29			4
								FE-59	L.T. 1. E 01		04/29			4
								CO-60	L.T. 3. E 00		04/29			4
								ZN-65	L.T. 6. E 00		04/29			4

TELEDYNE BROWN ENGINEERING ENVIRONMENTAL SERVICES

REPORT OF ANALYSIS

RUN DATE 05/25/94

WORK ORDER NUMBER	CUSTOMER P.O. NUMBER	DATE RECEIVED	DELIVERY DATE	PAGE 35
4-0514	030225/030600829	03/15/94	04/17/94	

ANN MARIE HOLBROW
MCLAREN/HART
16755 VON KARMAN AVE
IRVINE CA 92714

W A T E R

TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE TIME	STOP DATE TIME	NUCLIDE	ACTIVITY (PCI/LITER)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
44742	10443 BG-09-005-RG		03/11 1313		ZR-95	L.T. 4. E 00		04/29		4
					RU-103	L.T. 6. E 00		04/29		4
					RU-106	L.T. 3. E 01		04/29		4
					I-131	L.T. 2. E 02		04/29		4
					CS-134	L.T. 3. E 00		04/29		4
					CS-137	L.T. 3. E 00		04/29		4
					BA-140	L.T. 5. E 01		04/29		4
					CE-141	L.T. 1. E 01		04/29		4
					CE-144	L.T. 2. E 01		04/29		4
					RA-226	L.T. 6. E 01		04/29		4
					TH-228	L.T. 6. E 00		04/29		4

LAST PAGE OF REPORT

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2 - GAS LAB. 3 - RADIO CHEMISTRY LAB. 4 - GE(LI) GAMMA SPEC LAB. 5 - TRITIUM GAS/L.S. LAB. 6 - ALPHA SPEC LAB.

TELEDYNE BROWN ENGINEERING ENVIRONMENTAL SERVICES

REPORT OF ANALYSIS

WORK ORDER NUMBER	CUSTCMER P.O. NUMBER	DATE RECEIVED	DELIVERY DATE
4-0472	030225/030600829	03/21/94	04/23/94

ANN MARIE HOLBROW
MCLAREN/HART
16755 VON KARMAN AVE
IRVINE CA 92714

W A T E R

TELEDYNE SAMPLE NUMBER		CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE	START TIME	STOP DATE	STOP TIME	NUCLIDE	ACTIVITY (PCI/LITER)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE	MID-COUNT TIME TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
45035	10586	BG-01-090-RS		03/15	0816			SR-90	L.T. 1. E 00		04/08			3
45041	10593	BG-01-087-RG		03/15	0916			BE-7	L.T. 4. E 01		03/30			4
								K-40	L.T. 6. E 01		03/30			4
								MN-54	L.T. 3. E 00		03/30			4
								CO-58	L.T. 4. E 00		03/30			4
								FE-59	L.T. 9. E 00		03/30			4
								CO-60	L.T. 3. E 00		03/30			4
								ZN-65	L.T. 7. E 00		03/30			4
								ZR-95	L.T. 4. E 00		03/30			4
								RU-103	L.T. 4. E 00		03/30			4
								RU-106	L.T. 3. E 01		03/30			4
								I-131	L.T. 1. E 01		03/30			4
								CS-134	L.T. 4. E 00		03/30			4
								CS-137	L.T. 4. E 00		03/30			4
								BA-140	L.T. 8. E 00		03/30			4
								CE-141	L.T. 9. E 00		03/30			4
								CE-144	L.T. 3. E 01		03/30			4
								RA-226	L.T. 8. E 01		03/30			4
								TH-228	L.T. 7. E 00		03/30			4
45046	10600	BG-01-016-RP		03/15	0816			PU-238	L.T. 1. E-01		05/06			6
								PU-239	L.T. 1. E-01		05/06			6
45062	11212	BG-01-090-RS		03/15	0816			SR-90	L.T. 1. E 00		04/08			3
45064	11214	BG-01-087-RG		03/15	0816			BE-7	L.T. 3. E 01		04/04			4
								K-40	L.T. 5. E 01		04/04			4
								MN-54	L.T. 3. E 00		04/04			4
								CO-58	L.T. 3. E 00		04/04			4
								FE-59	L.T. 7. E 00		04/04			4
								CO-60	L.T. 3. E 00		04/04			4
								ZN-65	L.T. 6. E 00		04/04			4

TELEDYNE BROWN ENGINEERING ENVIRONMENTAL SERVICES

REPORT OF ANALYSIS

WORK ORDER NUMBER	CUSTOMER P.O. NUMBER	DATE RECEIVED	DELIVERY DATE
4-0472	030225/030600829	03/21/94	04/23/94

ANN MARIE HOLBROW
MCLAREN/HART
16755 VON KARMAN AVE
IRVINE CA 92714

W A T E R

TELEDYNE SAMPLE NUMBER		CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE TIME	COLLECTION-DATE STOP DATE TIME	NUCLIDE	ACTIVITY (PCI/LITER)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
45064	11214	BG-01-087-RG		03/15 0816		ZR-95	L.T. 3. E 00		04/04		4
						RU-103	L.T. 4. E 00		04/04		4
						RU-106	L.T. 2. E 01		04/04		4
						I-131	L.T. 2. E 01		04/04		4
						CS-134	L.T. 3. E 00		04/04		4
						CS-137	L.T. 3. E 00		04/04		4
						BA-140	L.T. 1. E 01		04/04		4
						CE-141	L.T. 8. E 00		04/04		4
						CE-144	L.T. 2. E 01		04/04		4
						RA-226	L.T. 6. E 01		04/04		4
						TH-228	L.T. 6. E 00		04/04		4
45086	10618	BG-14-001-RT		03/15 0940		H-3	L.T. 1. E 02		05/27		5
45103	11236	BB-04-001-RA		03/15 1057		GR-A	L.T. 1. E 00		04/09		3
						GR-B	L.T. 3. E 00		04/09		3
45104	11237	BB-04-001-RG		03/15 1057		BE-7	L.T. 4. E 01		04/04		4
						K-40	L.T. 1. E 02		04/04		4
						MN-54	L.T. 4. E 00		04/04		4
						CO-58	L.T. 4. E 00		04/04		4
						FE-59	L.T. 1. E 01		04/04		4
						CO-60	L.T. 4. E 00		04/04		4
						ZN-65	L.T. 9. E 00		04/04		4
						ZR-95	L.T. 5. E 00		04/04		4
						RU-103	L.T. 5. E 00		04/04		4
						RU-106	L.T. 4. E 01		04/04		4
						I-131	L.T. 2. E 01		04/04		4
						CS-134	L.T. 4. E 00		04/04		4
						CS-137	L.T. 4. E 00		04/04		4
						BA-140	L.T. 1. E 01		04/04		4
						CE-141	L.T. 8. E 00		04/04		4
						CE-144	L.T. 2. E 01		04/04		4

TELEDYNE BROWN ENGINEERING ENVIRONMENTAL SERVICES

REPORT OF ANALYSIS RUN DATE 06/03/94

WORK ORDER NUMBER	CUSTOMER P.O. NUMBER	DATE RECEIVED	DELIVERY DATE	PAGE 17
4-0472	030225/030600829	03/21/94	04/23/94	

ANN MARIE HOLBROW
MCLAREN/HART
16755 VON KARMAN AVE
IRVINE CA 92714

W A T E R

TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE	START TIME	STOP DATE	STOP TIME	NUCLIDE	ACTIVITY (PCI/LITER)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE	MID-COUNT TIME TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
45104	11237 BB-04-001-RG		03/15	1057			RA-226	L.T. 7. E 01		04/04			4
							TH-228	L.T. 6. E 00		04/04			4
45113	11224 BG-01-016-RP		03/15	0816			PU-238	L.T. 2. E-01		05/06			6
							PU-239	L.T. 2. E-01		05/06			6
45118	11230 BB-04-001-RT		03/15	1057			H-3	L.T. 1. E 02		05/27			5
45119	11231 BB-04-001-RS		03/15	1057			SR-90	L.T. 2. E 00		05/06			3
45122	11233 BB-04-001-RP		03/15	1057			PU-238	L.T. 1. E-01		05/10			6
							PU-239	L.T. 1. E-01		05/10			6
45489	10331 BG-02-076-RT		03/10	1558			H-3	L.T. 2. E 02		05/27			5

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Activity added to spiked samples

TI#	Isotope	Activity
45060	H-3	1.4 E 04 pCi/l
45061	H-3	1.4 E 04 pCi/l
45068	Pu-239	0.33 pCi/g
45069	Pu-239	0.33 "
45075	Cs-137	0.58 "
45076	Cs-137	0.58 "
45088	Sr-90	3.8 "
45089	Sr-90	3.8 "

Gross Alpha/Beta Scan

TELEDYNE BROWN ENGINEERING ENVIRONMENTAL SERVICES

REPORT OF ANALYSIS

RUN DATE 06/03/94

WORK ORDER NUMBER	CUSTOMER P.O. NUMBER	DATE RECEIVED	DELIVERY DATE	PAGE 16
4-0472	030225/030600829	03/21/94	04/23/94	

ANN MARIE HOLBROW
MCLAREN/HART
16755 VON KARMAN AVE
IRVINE CA 92714

W A T E R

TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION		STA NUM	COLLECTION-DATE START DATE TIME	STOP DATE TIME	NUCLIDE	ACTIVITY (PCI/LITER)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
45064	11214	BG-01-087-RG		03/15 0816		ZR-95	L.T. 3. E 00		04/04		4
						RU-103	L.T. 4. E 00		04/04		4
						RU-106	L.T. 2. E 01		04/04		4
						I-131	L.T. 2. E 01		04/04		4
						CS-134	L.T. 3. E 00		04/04		4
						CS-137	L.T. 3. E 00		04/04		4
						BA-140	L.T. 1. E 01		04/04		4
						CE-141	L.T. 8. E 00		04/04		4
						CE-144	L.T. 2. E 01		04/04		4
						RA-226	L.T. 6. E 01		04/04		4
						TH-228	L.T. 6. E 00		04/04		4
45086	10618	BG-14-001-RT		03/15 0940		H-3	L.T. 1. E 02		05/27		5
45103	11236	BB-04-001-RA		03/15 1057		GR-A	L.T. 1. E 00		04/09		3
						GR-B	L.T. 3. E 00		04/09		3
45104	11237	BB-04-001-RG		03/15 1057		BE-7	L.T. 4. E 01		04/04		4
						K-40	L.T. 1. E 02		04/04		4
						MN-54	L.T. 4. E 00		04/04		4
						CO-58	L.T. 4. E 00		04/04		4
						FE-59	L.T. 1. E 01		04/04		4
						CO-60	L.T. 4. E 00		04/04		4
						ZN-65	L.T. 9. E 00		04/04		4
						ZR-95	L.T. 5. E 00		04/04		4
						RU-103	L.T. 5. E 00		04/04		4
						RU-106	L.T. 4. E 01		04/04		4
						I-131	L.T. 2. E 01		04/04		4
						CS-134	L.T. 4. E 00		04/04		4
						CS-137	L.T. 4. E 00		04/04		4
						BA-140	L.T. 1. E 01		04/04		4
						CE-141	L.T. 8. E 00		04/04		4
						CE-144	L.T. 2. E 01		04/04		4

Isotopic Plutonium

TELEDYNE BROWN ENGINEERING ENVIRONMENTAL SERVICES   RUN DATE 05/12/94

REPORT OF ANALYSIS   PAGE 13

WORK ORDER NUMBER	CUSTOMER P.O. NUMBER	DATE RECEIVED	DELIVERY DATE
4-0409	030225/030600829	03/14/94	04/16/94

ANN MARIE HOLBROW
MCLAREN/HART
16755 VON KARMAN AVE
IRVINE CA 92714

W A T E R

TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION		STA NUM	COLLECTION-DATE START DATE TIME	COLLECTION-DATE STOP DATE TIME	NUCLIDE	ACTIVITY (PCI/LITER)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
44193	11192	BB-19-006-RG		03/10 1050		I-131	L.T. 2. E 01		03/29		4
						CS-134	L.T. 3. E 00		03/29		4
						CS-137	L.T. 3. E 00		03/29		4
						BA-140	L.T. 8. E 00		03/29		4
						CE-141	L.T. 6. E 00		03/29		4
						CE-144	L.T. 2. E 01		03/29		4
						RA-226	L.T. 6. E 01		03/29		4
						TH-228	L.T. 6. E 00		03/29		4
44203	10289	BB-15-006-RP		03/10 0755		PU-238	L.T. 4. E-01		04/09		6
						PU-239	L.T. 4. E-01		04/09		6
44209	11188	BB-15-006-RP		03/10 0755		PU-238	L.T. 2. E-01		04/09		6
						PU-239	L.T. 2. E-01		04/09		6

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TELEDYNE BROWN ENGINEERING ENVIRONMENTAL SERVICES

RUN DATE 05/04/94

PAGE 32

REPORT OF ANALYSIS

WORK ORDER NUMBER	CUSTOMER P.O. NUMBER	DATE RECEIVED	DELIVERY DATE
4-0354	030225/030600829	03/11/94	04/13/94

ANN MARIE HOLBROW
MCLAREN/HART
16755 VON KARMAN AVE
IRVINE CA 92714

W A T E R

TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE TIME	STOP DATE TIME	NUCLIDE	ACTIVITY (PCI/LITER)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
43920	10147 BB-17-005-RP		03/09 0755		PU-238	L.T. 2. E-01		03/31		6
					PU-239	L.T. 2. E-01		03/31		6
43985	10181 BB-17-008A-RG		03/09 0755		BE-7	L.T. 3. E 01		04/04		4
					K-40	L.T. 5. E 01		04/04		4
					MN-54	L.T. 3. E 00		04/04		4
					CO-58	L.T. 4. E 00		04/04		4
					FE-59	L.T. 1. E 01		04/04		4
					CO-60	L.T. 3. E 00		04/04		4
					ZN-65	L.T. 7. E 00		04/04		4
					ZR-95	L.T. 5. E 00		04/04		4
					RU-103	L.T. 5. E 00		04/04		4
					RU-106	L.T. 3. E 01		04/04		4
					I-131	L.T. 3. E 01		04/04		4
					CS-134	L.T. 3. E 00		04/04		4
					CS-137	L.T. 3. E 00		04/04		4
					BA-140	L.T. 1. E 01		04/04		4
					CE-141	L.T. 9. E 00		04/04		4
					CE-144	L.T. 2. E 01		04/04		4
					RA-226	L.T. 6. E 01		04/04		4
					TH-228	L.T. 6. E 00		04/04		4
44025	10198 BB-17-B001-RT		03/09 1120		H-3	L.T. 2. E 02		05/03		5

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TELEDYNE BROWN ENGINEERING ENVIRONMENTAL SERVICES

RUN DATE 05/25/94

REPORT OF ANALYSIS

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WORK ORDER NUMBER	CUSTOMER P.O. NUMBER	DATE RECEIVED	DELIVERY DATE
4-0514	030225/030600829	03/15/94	04/17/94

ANN MARIE HOLBROW
MCLAREN/HART
16755 VON KARMAN AVE
IRVINE CA 92714

W A T E R

TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION		STA NUM	COLLECTION-DATE START DATE TIME	COLLECTION-DATE STOP DATE TIME	NUCLIDE	ACTIVITY (PCI/LITER)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
44700	11203	BG-09-005-RG		03/11 1313		BE-7	L.T. 4. E 01		04/29		4
						K-40	L.T. 6. E 01		04/29		4
						MN-54	L.T. 3. E 00		04/29		4
						CO-58	L.T. 4. E 00		04/29		4
						FE-59	L.T. 1. E 01		04/29		4
						CO-60	L.T. 3. E 00		04/29		4
						ZN-65	L.T. 6. E 00		04/29		4
						ZR-95	L.T. 4. E 00		04/29		4
						RU-103	L.T. 6. E 00		04/29		4
						RU-106	L.T. 3. E 01		04/29		4
						I-131	L.T. 2. E 02		04/29		4
						CS-134	L.T. 3. E 00		04/29		4
						CS-137	L.T. 3. E 00		04/29		4
						BA-140	L.T. 3. E 01		04/29		4
						CE-141	L.T. 1. E 01		04/29		4
						CE-144	L.T. 2. E 01		04/29		4
						RA-226	L.T. 5. E 01		04/29		4
						TH-228	L.T. 5. E 00		04/29		4
44711	11202	BG-09-096-RS		03/11 1313		SR-90	L.T. 1. E 00		04/21		3
44717	10449	BG-09-057-RP		03/11 1313		PU-238	L.T. 3. E-01		04/19		6
						PU-239	L.T. 3. E-01		04/19		6
44736	10436	BG-09-096-RS		03/11 1313		SR-90	L.T. 1. E 00		04/21		3
44742	10443	BG-09-005-RG		03/11 1313		BE-7	L.T. 5. E 01		04/29		4
						K-40	L.T. 5. E 01		04/29		4
						MN-54	L.T. 3. E 00		04/29		4
						CO-58	L.T. 4. E 00		04/29		4
						FE-59	L.T. 1. E 01		04/29		4
						CO-60	L.T. 3. E 00		04/29		4
						ZN-65	L.T. 6. E 00		04/29		4

TELEDYNE BROWN ENGINEERING ENVIRONMENTAL SERVICES

RUN DATE 06/03/94

REPORT OF ANALYSIS

PAGE 15

WORK ORDER NUMBER	CUSTOMER P.O. NUMBER	DATE RECEIVED	DELIVERY DATE
4-0472	030225/030600829	03/21/94	04/23/94

ANN MARIE HOLBROW
MCLAREN/HART
16755 VON KARMAN AVE
IRVINE CA 92714

W A T E R

TELEDYNE SAMPLE NUMBER		CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE TIME	STOP DATE TIME	NUCLIDE	ACTIVITY (PCI/LITER)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
45035	10586	BG-01-090-RS		03/15 0816		SR-90	L.T. 1. E 00		04/08		3
45041	10593	BG-01-087-RG		03/15 0916		BE-7	L.T. 4. E 01		03/30		4
						K-40	L.T. 6. E 01		03/30		4
						MN-54	L.T. 3. E 00		03/30		4
						CO-58	L.T. 4. E 00		03/30		4
						FE-59	L.T. 9. E 00		03/30		4
						CO-60	L.T. 3. E 00		03/30		4
						ZN-65	L.T. 7. E 00		03/30		4
						ZR-95	L.T. 4. E 00		03/30		4
						RU-103	L.T. 4. E 00		03/30		4
						RU-106	L.T. 3. E 01		03/30		4
						I-131	L.T. 1. E 01		03/30		4
						CS-134	L.T. 4. E 00		03/30		4
						CS-137	L.T. 4. E 00		03/30		4
						BA-140	L.T. 8. E 00		03/30		4
						CE-141	L.T. 9. E 00		03/30		4
						CE-144	L.T. 3. E 01		03/30		4
						RA-226	L.T. 8. E 01		03/30		4
						TH-228	L.T. 7. E 00		03/30		4
45046	10600	BG-01-016-RP		03/15 0816		PU-238	L.T. 1. E-01		05/06		6
						PU-239	L.T. 1. E-01		05/06		6
45062	11212	BG-01-090-RS		03/15 0816		SR-90	L.T. 1. E 00		04/08		3
45064	11214	BG-01-087-RG		03/15 0816		BE-7	L.T. 3. E 01		04/04		4
						K-40	L.T. 5. E 01		04/04		4
						MN-54	L.T. 3. E 00		04/04		4
						CO-58	L.T. 3. E 00		04/04		4
						FE-59	L.T. 7. E 00		04/04		4
						CO-60	L.T. 3. E 00		04/04		4
						ZN-65	L.T. 6. E 00		04/04		4

TELEDYNE BROWN ENGINEERING ENVIRONMENTAL SERVICES

REPORT OF ANALYSIS

RUN DATE 06/03/94

WORK ORDER NUMBER	CUSTOMER P.O. NUMBER	DATE RECEIVED	DELIVERY DATE
4-0472	030225/030600829	03/21/94	04/23/94

ANN MARIE HOLBROW
MCLAREN/HART
16755 VON KARMAN AVE
IRVINE CA 92714

W A T E R

TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE	START TIME	STOP DATE	STOP TIME	NUCLIDE	ACTIVITY (PCI/LITER)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE	MID-COUNT TIME TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
45104	11237 BB-04-001-RG		03/15	1057			RA-226	L.T. 7. E 01		04/04			4
							TH-228	L.T. 6. E 00		04/04			4
45113	11224 BG-01-016-RP		03/15	0816			PU-238	L.T. 2. E-01		05/06			6
							PU-239	L.T. 2. E-01		05/06			6
45118	11230 BB-04-001-RT		03/15	1057			H-3	L.T. 1. E 02		05/27			5
45119	11231 BB-04-001-RS		03/15	1057			SR-90	L.T. 2. E 00		05/06			3
45122	11233 BB-04-001-RP		03/15	1057			PU-238	L.T. 1. E-01		05/10			6
							PU-239	L.T. 1. E-01		05/10			6
45489	10331 BG-02-076-RT		03/10	1558			H-3	L.T. 2. E 02		05/27			5

LAST PAGE OF REPORT

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APPROVED BY J. GUENTHER 06/03/94

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2 - GAS LAB. 3 - RADIO CHEMISTRY LAB. 4 - GE(LI) GAMMA SPEC LAB. 5 - TRITIUM GAS/L.S. LAB. 6 - ALPHA SPEC LAB.

Activity added to spiked samples

TI#	Isotope	Activity
45060	H-3	1.4 E 04 pCi/l
45061	H-3	1.4 E 04 pCi/l
45068	Pu-239	0.33 pCi/g
45069	Pu-239	0.33 "
45075	Cs-137	0.58 "
45076	Cs-137	0.58 "
45088	Sr-90	3.8 "
45089	Sr-90	3.8 "

Strontium

TELEDYNE BROWN ENGINEERING ENVIRONMENTAL SERVICES

REPORT OF ANALYSIS

WORK ORDER NUMBER	CUSTOMER P.O. NUMBER	DATE RECEIVED	DELIVERY DATE
4-0409	030225/030600829	03/14/94	04/16/94

ANN MARIE HOLBROW
MCLAREN/HART
16755 VON KARMAN AVE
IRVINE CA 92714

WATER

TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE TIME	STOP DATE TIME	NUCLIDE	ACTIVITY (PCI/LITER)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
44181	10304 BB-19-005-RS		03/10 1150		SR-90	L.T. 1. E 00		04/08		3
44185	10307 BB-19-006-RG		03/10 1050		BE-7	L.T. 5. E 01		04/19		4
					K-40	L.T. 5. E 01		04/19		4
					MN-54	L.T. 4. E 00		04/19		4
					CO-58	L.T. 5. E 00		04/19		4
					FE-59	L.T. 1. E 01		04/19		4
					CO-60	L.T. 4. E 00		04/19		4
					ZN-65	L.T. 7. E 00		04/19		4
					ZR-95	L.T. 5. E 00		04/19		4
					RU-103	L.T. 7. E 00		04/19		4
					RU-106	L.T. 3. E 01		04/19		4
					I-131	L.T. 1. E 02		04/19		4
					CS-134	L.T. 4. E 00		04/19		4
					CS-137	L.T. 4. E 00		04/19		4
					BA-140	L.T. 4. E 01		04/19		4
					CE-141	L.T. 1. E 01		04/19		4
					CE-144	L.T. 3. E 01		04/19		4
					RA-226	L.T. 8. E 01		04/19		4
					TH-228	L.T. 7. E 00		04/19		4
44192	11189 BB-19-005-RS		03/10 1050		SR-90	L.T. 1. E 00		04/08		3
44193	11192 BB-19-006-RG		03/10 1050		BE-7	L.T. 3. E 01		03/29		4
					K-40	L.T. 8. E 01		03/29		4
					MN-54	L.T. 3. E 00		03/29		4
					CO-58	L.T. 3. E 00		03/29		4
					FE-59	L.T. 7. E 00		03/29		4
					CO-60	L.T. 3. E 00		03/29		4
					ZN-65	L.T. 6. E 00		03/29		4
					ZR-95	L.T. 3. E 00		03/29		4
					RU-103	L.T. 4. E 00		03/29		4
					RU-106	L.T. 3. E 01		03/29		4

TELEDYNE BROWN ENGINEERING ENVIRONMENTAL SERVICES

REPORT OF ANALYSIS

RUN DATE 04/19/94

WORK ORDER NUMBER	CUSTOMER P.O. NUMBER	DATE RECEIVED	DELIVERY DATE	PAGE 1
4-0638	030225/030600829	03/16/94	04/18/94	

ANN MARIE HOLBROW
MCLAREN/HART
16755 VON KARMAN AVE
IRVINE CA 92714

W A T E R

TELEDYNE SAMPLE NUMBER		CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE	TIME	STOP DATE	TIME	NUCLIDE	ACTIVITY (PCI/LITER)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE	TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
45715	11040	BB-20-001-RS		03/08	0854			SR-90	L.T. 1. E 00		04/15			3
45716	11039	BB-20-002-RG		03/08	0854			BE-7	L.T. 5. E 01		04/13			4
								K-40	L.T. 1. E 02		04/13			4
								MN-54	L.T. 4. E 00		04/13			4
								CO-58	L.T. 5. E 00		04/13			4
								FE-59	L.T. 1. E 01		04/13			4
								CO-60	L.T. 4. E 00		04/13			4
								ZN-65	L.T. 9. E 00		04/13			4
								ZR-95	L.T. 5. E 00		04/13			4
								RU-103	L.T. 7. E 00		04/13			4
								RU-106	L.T. 4. E 01		04/13			4
								I-131	L.T. 9. E 01		04/13			4
								CS-134	L.T. 4. E 00		04/13			4
								CS-137	L.T. 4. E 00		04/13			4
								BA-140	L.T. 3. E 01		04/13			4
								CE-141	L.T. 1. E 01		04/13			4
								CE-144	L.T. 3. E 01		04/13			4
								RA-226	L.T. 8. E 01		04/13			4
								TH-228	L.T. 7. E 00		04/13			4
45717	11032	BB-20-002-WA		03/08	1400			GR-A	L.T. 6. E 00		04/09			3
								GR-B	1.5 +-0.3 E 01		04/09			3
45718	11126	BB-20-002-WT		03/08	1400			H-3	L.T. 2. E 02		04/14			5

LAST PAGE OF REPORT

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2 - GAS LAB. 3 - RADIO CHEMISTRY LAB. 4 - GE(LI) GAMMA SPEC LAB. 5 - TRITIUM GAS/L.S. LAB. 6 - ALPHA SPEC LAB.

TELEDYNE BROWN ENGINEERING ENVIRONMENTAL SERVICES

RUN DATE 04/20/94

REPORT OF ANALYSIS

WORK ORDER NUMBER	CUSTOMER P.O. NUMBER	DATE RECEIVED	DELIVERY DATE
4-0353	030225/030600829	03/09/94	04/11/94

ANN MARIE HOLBROW
MCLAREN/HART
16755 VON KARMAN AVE
IRVINE CA 92714

W A T E R

TELEDYNE SAMPLE NUMBER		CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE	TIME	STOP DATE	TIME	NUCLIDE	ACTIVITY (PCI/LITER)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE	TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
43681	11091	BG-00-002-PP		03/08				PU-238	L.T. 2. E-01		03/23			6
								PU-239	2.6 +-0.7 E 00		03/23			6
43682	11110	BG-00-002-PS		03/08				SR-90	L.T. 1. E 00		03/29			3
43683	11111	BG-00-002-PS		03/08				SR-90	L.T. 3. E 00		03/31			3
43686	11065	BB-00-002-PA		03/08				GR-A	4.1 +-0.5 E 01		04/06			3
								GR-B	9.6 +-0.5 E 01		04/06			3
43687	11057	BG BB-00-002-PT		03/08				H-3	1.8 +-0.2 E 03		04/04			5
43688	11090	BG-00-002-PP		03/08				PU-238	L.T. 2. E-01		03/23			6
								PU-239	2.5 +-0.7 E 00		03/23			6
43704	10086	BB-20-001-RS		03/08	0854			SR-90	L.T. 2. E 00		03/29			3
43708	10090	BB-20-002-RG		03/08	0854			BE-7	L.T. 3. E 01		03/11			4
								K-40	L.T. 8. E 01		03/11			4
								MN-54	L.T. 3. E 00		03/11			4
								CO-58	L.T. 3. E 00		03/11			4
								FE-59	L.T. 6. E 00		03/11			4
								CO-60	L.T. 3. E 00		03/11			4
								ZN-65	L.T. 7. E 00		03/11			4
								ZR-95	L.T. 3. E 00		03/11			4
								RU-103	L.T. 3. E 00		03/11			4
								RU-106	L.T. 3. F 01		03/11			4
								I-131	L.T. 4. E 00		03/11			4
								CS-134	L.T. 3. E 00		03/11			4
								CS-137	L.T. 3. E 00		03/11			4
								BA-140	L.T. 4. E 00		03/11			4
								CE-141	L.T. 5. E 00		03/11			4
								CE-144	L.T. 2. E 01		03/11			4

TELEDYNE BROWN ENGINEERING ENVIRONMENTAL SERVICES

RUN DATE 05/25/94

REPORT OF ANALYSIS

WORK ORDER NUMBER	CUSTOMER P.O. NUMBER	DATE RECEIVED	DELIVERY DATE
4-0514	030225/030600829	03/15/94	04/17/94

ANN MARIE HOLBROW
MCLAREN/HART
16755 VON KARMAN AVE
IRVINE CA 92714

W A T E R

TELEDYNE SAMPLE NUMBER		CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE	TIME	STOP DATE	TIME	NUCLIDE	ACTIVITY (PCI/LITER)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE	TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
44700	11203	BG-09-005-RG		03/11	1313			BE-7	L.T. 4. E 01		04/29			4
								K-40	L.T. 6. E 01		04/29			4
								MN-54	L.T. 3. E 00		04/29			4
								CO-58	L.T. 4. E 00		04/29			4
								FE-59	L.T. 1. E 01		04/29			4
								CO-60	L.T. 3. E 00		04/29			4
								ZN-65	L.T. 6. E 00		04/29			4
								ZR-95	L.T. 4. E 00		04/29			4
								RU-103	L.T. 6. E 00		04/29			4
								RU-106	L.T. 3. E 01		04/29			4
								I-131	L.T. 2. E 02		04/29			4
								CS-134	L.T. 3. E 00		04/29			4
								CS-137	L.T. 3. E 00		04/29			4
								BA-140	L.T. 3. E 01		04/29			4
								CE-141	L.T. 1. E 01		04/29			4
								CE-144	L.T. 2. E 01		04/29			4
								RA-226	L.T. 5. E 01		04/29			4
								TH-228	L.T. 5. E 00		04/29			4
44711	11202	BG-09-096-RS		03/11	1313			SR-90	L.T. 1. E 00		04/21			3
44717	10449	BG-09-057-RP		03/11	1313			PU-238	L.T. 3. E-01		04/19			6
								PU-239	L.T. 3. E-01		04/19			6
44736	10436	BG-09-096-RS		03/11	1313			SR-90	L.T. 1. E 00		04/21			3
44742	10443	BG-09-005-RG		03/11	1313			BE-7	L.T. 5. E 01		04/29			4
								K-40	L.T. 5. E 01		04/29			4
								MN-54	L.T. 3. E 00		04/29			4
								CO-58	L.T. 4. E 00		04/29			4
								FE-59	L.T. 1. E 01		04/29			4
								CO-60	L.T. 3. E 00		04/29			4
								ZN-65	L.T. 6. E 00		04/29			4

TELEDYNE BROWN ENGINEERING ENVIRONMENTAL SERVICES

REPORT OF ANALYSIS

RUN DATE 06/03/94

WORK ORDER NUMBER	CUSTCMER P.O. NUMBER	DATE RECEIVED	DELIVERY DATE	PAGE 15
4-0472	030225/030600829	03/21/94	04/23/94	

ANN MARIE HOLBROW
MCLAREN/HART
16755 VON KARMAN AVE
IRVINE CA 92714

W A T E R

TELEUYNE SAMPLE NUMBER		CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE	START TIME	STOP DATE	STOP TIME	NUCLIDE	ACTIVITY (PCI/LITER)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE	MID-COUNT TIME TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
45035	10586	BG-01-090-RS		03/15	0816			SR-90	L.T. 1. E 00		04/08			3
45041	10593	BG-01-087-RG		03/15	0916			BE-7	L.T. 4. E 01		03/30			4
								K-40	L.T. 6. E 01		03/30			4
								MN-54	L.T. 3. E 00		03/30			4
								CO-58	L.T. 4. E 00		03/30			4
								FE-59	L.T. 9. E 00		03/30			4
								CO-60	L.T. 3. E 00		03/30			4
								ZN-65	L.T. 7. E 00		03/30			4
								ZR-95	L.T. 4. E 00		03/30			4
								RU-103	L.T. 4. E 00		03/30			4
								RU-106	L.T. 3. E 01		03/30			4
								I-131	L.T. 1. E 01		03/30			4
								CS-134	L.T. 4. E 00		03/30			4
								CS-137	L.T. 4. E 00		03/30			4
								BA-140	L.T. 8. E 00		03/30			4
								CE-141	L.T. 9. E 00		03/30			4
								CE-144	L.T. 3. E 01		03/30			4
								RA-226	L.T. 8. E 01		03/30			4
								TH-228	L.T. 7. E 00		03/30			4
45046	10600	BG-01-016-RP		03/15	0816			PU-238	L.T. 1. E-01		05/06			6
								PU-239	L.T. 1. E-01		05/06			6
45062	11212	BG-01-090-RS		03/15	0816			SR-90	L.T. 1. E 00		04/08			3
45064	11214	BG-01-087-RG		03/15	0816			BE-7	L.T. 3. E 01		04/04			4
								K-40	L.T. 5. E 01		04/04			4
								MN-54	L.T. 3. E 00		04/04			4
								CO-58	L.T. 3. E 00		04/04			4
								FE-59	L.T. 7. E 00		04/04			4
								CO-60	L.T. 3. E 00		04/04			4
								ZN-65	L.T. 6. E 00		04/04			4

TELEDYNE BROWN ENGINEERING ENVIRONMENTAL SERVICES

REPORT OF ANALYSIS

RUN DATE 06/03/94

WORK ORDER NUMBER	CUSTOMER P.O. NUMBER	DATE RECEIVED	DELIVERY DATE	PAGE 17
4-0472	030225/030600829	03/21/94	04/23/94	

ANN MARIE HOLBROW
MCLAREN/HART
16755 VON KARMAN AVE
IRVINE CA 92714

W A T E R

TELEDYNE SAMPLE NUMBER		CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE	TIME	STOP DATE	TIME	NUCLIDE	ACTIVITY (PCI/LITER)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE	TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
45104	11237	BB-04-001-RG		03/15	1057			RA-226	L.T. 7. E 01		04/04			4
								TH-228	L.T. 6. E 00		04/04			4
45113	11224	BG-01-016-RP		03/15	0816			PU-238	L.T. 2. E-01		05/06			6
								PU-239	L.T. 2. E-01		05/06			6
45118	11230	BB-04-001-RT		03/15	1057			H-3	L.T. 1. E 02		05/27			5
45119	11231	BB-04-001-RS		03/15	1057			SR-90	L.T. 2. E 00		05/06			3
45122	11233	BB-04-001-RP		03/15	1057			PU-238	L.T. 1. E-01		05/10			6
								PU-239	L.T. 1. E-01		05/10			6
45489	10331	BG-02-076-RT		03/10	1558			H-3	L.T. 2. E 02		05/27			5

LAST PAGE OF REPORT

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APPROVED BY J. GUENTHER 06/03/94

SEND 1 COPIES TO MC480S ANN MARIE HOLBROW

2 - GAS LAB. 3 - RADIO CHEMISTRY LAB. 4 - GE(LI) GAMMA SPEC LAB. 5 - TRITIUM GAS/L.S. LAB. 6 - ALPHA SPEC LAB.

Activity added to spiked samples

TI#	Isotope	Activity
45060	H-3	1.4 E 04 pCi/l
45061	H-3	1.4 E 04 pCi/l
45068	Pu-239	0.33 pCi/g
45069	Pu-239	0.33 "
45075	Cs-137	0.58 "
45076	Cs-137	0.58 "
45088	Sr-90	3.8 "
45089	Sr-90	3.8 "

Tritium

TELEDYNE BROWN ENGINEERING ENVIRONMENTAL SERVICES

REPORT OF ANALYSIS

WORK ORDER NUMBER	CUSTOMER P.O. NUMBER	DATE RECEIVED	DELIVERY DATE
4-0514	030225/030600829	03/15/94	04/17/94

ANN MARIE HOLBROW
MCLAREN/HART
16755 VON KARMAN AVE
IRVINE CA 92714

W A T E R

TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE TIME	STOP DATE TIME	NUCLIDE	ACTIVITY (PCI/LITER)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
44620	10477 BG-10-001-RT		03/14 0900		H-3	L.T. 1. E 02		05/21		5
44682	11215 FB-00-001-WT		03/14 1315		H-3	L.T. 2. E 02		05/23		5
44683	11216-17 FB-00-001-WS		03/14 1315		SR-90	L.T. 2. E 00		04/23		3
44684	11218-19 FB-00-001-WG		03/14 1315		BE-7	L.T. 4. E 01		04/29		4
					K-40	L.T. 5. E 01		04/29		4
					MN-54	L.T. 3. E 00		04/29		4
					CO-58	L.T. 3. E 00		04/29		4
					FE-59	L.T. 1. E 01		04/29		4
					CO-60	L.T. 3. E 00		04/29		4
					ZN-65	L.T. 7. E 00		04/29		4
					ZR-95	L.T. 4. E 00		04/29		4
					RU-103	L.T. 6. E 00		04/29		4
					RU-106	L.T. 3. E 01		04/29		4
					I-131	L.T. 2. E 02		04/29		4
					CS-134	L.T. 3. E 00		04/29		4
					CS-137	L.T. 3. E 00		04/29		4
					BA-140	L.T. 4. E 01		04/29		4
					CE-141	L.T. 1. E 01		04/29		4
					CE-144	L.T. 3. E 01		04/29		4
					RA-226	L.T. 7. E 01		04/29		4
					TH-228	L.T. 6. E 00		04/29		4
44697	11220-21 FB-00-001-WP		03/14 1315		PU-238	L.T. 6. E-01		04/18		6
					PU-239	L.T. 6. E-01		04/18		6
44698	11222 FB-00-001-WA		03/14 1315		GR-A	L.T. 1. E 00		05/19		3
					GR-B	5.0 +-2.3 E 00		05/19		3

TELEDYNE BROWN ENGINEERING ENVIRONMENTAL SERVICES

RUN DATE 06/03/94

REPORT OF ANALYSIS

PAGE 16

WORK ORDER NUMBER	CUSTOMER P.O. NUMBER	DATE RECEIVED	DELIVERY DATE
4-0472	030225/030600829	03/21/94	04/23/94

ANN MARIE HOLBROW
MCLAREN/HART
16755 VON KARMAN AVE
IRVINE CA 92714

W A T E R

TELEDYNE SAMPLE NUMBER		CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE TIME	STOP DATE TIME	NUCLIDE	ACTIVITY (PCI/LITER)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
45064	11214	BG-01-087-RG		03/15 0816		ZR-95	L.T. 3. E 00		04/04		4
						RU-103	L.T. 4. E 00		04/04		4
						RU-106	L.T. 2. E 01		04/04		4
						I-131	L.T. 2. E 01		04/04		4
						CS-134	L.T. 3. E 00		04/04		4
						CS-137	L.T. 3. E 00		04/04		4
						BA-140	L.T. 1. E 01		04/04		4
						CE-141	L.T. 8. E 00		04/04		4
						CE-144	L.T. 2. E 01		04/04		4
						RA-226	L.T. 6. E 01		04/04		4
						TH-228	L.T. 6. E 00		04/04		4
45086	10618	BG-14-001-RT		03/15 0940		H-3	L.T. 1. E 02		05/27		5
45103	11236	BB-04-001-RA		03/15 1057		GR-A	L.T. 1. E 00		04/09		3
						GR-B	L.T. 3. E 00		04/09		3
45104	11237	BB-04-001-RG		03/15 1057		BE-7	L.T. 4. E 01		04/04		4
						K-40	L.T. 1. E 02		04/04		4
						MN-54	L.T. 4. E 00		04/04		4
						CO-58	L.T. 4. E 00		04/04		4
						FE-59	L.T. 1. E 01		04/04		4
						CO-60	L.T. 4. E 00		04/04		4
						ZN-65	L.T. 9. E 00		04/04		4
						ZR-95	L.T. 5. E 00		04/04		4
						RU-103	L.T. 5. E 00		04/04		4
						RU-106	L.T. 4. E 01		04/04		4
						I-131	L.T. 2. E 01		04/04		4
						CS-134	L.T. 4. E 00		04/04		4
						CS-137	L.T. 4. E 00		04/04		4
						BA-140	L.T. 1. E 01		04/04		4
						CE-141	L.T. 8. E 00		04/04		4
						CE-144	L.T. 2. E 01		04/04		4

TELEDYNE BROWN ENGINEERING ENVIRONMENTAL SERVICES

RUN DATE 06/03/94

REPORT OF ANALYSIS

WORK ORDER NUMBER	CUSTOMER P.O. NUMBER	DATE RECEIVED	DELIVERY DATE
4-0472	030225/030600829	03/21/94	04/23/94

ANN MARIE HOLBROW
MCLAREN/HART
16755 VON KARMAN AVE
IRVINE CA 92714

W A T E R

TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE	START TIME	STOP DATE	STOP TIME	NUCLIDE	ACTIVITY (PCI/LITER)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE	MID-COUNT TIME TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
45104	11237 BB-04-001-RG		03/15	1057			RA-226	L.T. 7. E 01		04/04			4
							TH-228	L.T. 6. E 00		04/04			4
45113	11224 BG-01-016-RP		03/15	0816			PU-238	L.T. 2. E-01		05/06			6
							PU-239	L.T. 2. E-01		05/06			6
45118	11230 BB-04-001-RT		03/15	1057			H-3	L.T. 1. E 02		05/27			5
45119	11231 BB-04-001-RS		03/15	1057			SR-90	L.T. 2. E 00		05/06			3
45122	11233 BB-04-001-RP		03/15	1057			PU-238	L.T. 1. E-01		05/10			6
							PU-239	L.T. 1. E-01		05/10			6
45489	10331 BG-02-076-RT		03/10	1558			H-3	L.T. 2. E 02		05/27			5

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2 - GAS LAB. 3 - RADIO CHEMISTRY LAB. 4 - GE(LI) GAMMA SPEC LAB. 5 - TRITIUM GAS/L.S. LAB. 6 - ALPHA SPEC LAB.

Activity added to spiked samples

TI#	Isotope	Activity
45060	H-3	1.4 E 04 pCi/l
45061	H-3	1.4 E 04 pCi/l
45068	Pu-239	0.33 pCi/g
45069	Pu-239	0.33 "
45075	Cs-137	0.58 "
45076	Cs-137	0.58 "
45088	Sr-90	3.8 "
45089	Sr-90	3.8 "

TELEDYNE BROWN ENGINEERING ENVIRONMENTAL SERVICES

REPORT OF ANALYSIS

RUN DATE 04/06/94

WORK ORDER NUMBER	CUSTOMER P.O. NUMBER	DATE RECEIVED	DELIVERY DATE	PAGE 5
4-0185	030225/030600829	03/08/94	03/18/94	

ANN MARIE HOLBROW
MCLAREN/HART
16755 VON KARMAN AVE
IRVINE CA 92714

W A T E R

TELEDYNE SAMPLE NUMBER		CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE	START TIME	STOP DATE	STOP TIME	NUCLIDE	ACTIVITY (PCI/LITER)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE	MID-COUNT TIME TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
43170	10003	8B-04-021-RT		03/04	1445			H-3	L.T. 1. E 02		03/20			5
43181	11001	8B-04-001-WT		03/04	1440			H-3	L.T. 2. E 02		03/21			5
43182	11002	8B-04-001-WA		03/04	1450			GR-A	L.T. 4. E 00		03/14			3
								GR-B	1.2 +-0.4 E 01		03/14			3
43189	10063	SM-03-012-RT		03/07	1420			H-3	L.T. 2. E 02		03/21			5
43211	10036	8B-13-024-RT		03/07	1000			H-3	L.T. 2. E 02		03/27			5

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TELEDYNE BROWN ENGINEERING ENVIRONMENTAL SERVICES

REPORT OF ANALYSIS

RUN DATE 05/04/94

WORK ORDER NUMBER	CUSTOMER P.O. NUMBER	DATE RECEIVED	DELIVERY DATE
4-0354	030225/030600829	03/11/94	04/13/94

ANN MARIE HOLBROW
MCLAREN/HART
16755 VON KARMAN AVE
IRVINE CA 92714

W A T E R

TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE TIME	STOP DATE TIME	NUCLIDE	ACTIVITY (PCI/LITER)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
43920	10147 BB-17-005-RP		03/09 0755		PU-238	L.T. 2. E-01		03/31		6
					PU-239	L.T. 2. E-01		03/31		6
43985	10181 BB-17-008A-RG		03/09 0755		BE-7	L.T. 3. E 01		04/04		4
					K-40	L.T. 5. E 01		04/04		4
					MN-54	L.T. 3. E 00		04/04		4
					CO-58	L.T. 4. E 00		04/04		4
					FE-59	L.T. 1. E 01		04/04		4
					CO-60	L.T. 3. E 00		04/04		4
					ZN-65	L.T. 7. E 00		04/04		4
					ZR-95	L.T. 5. E 00		04/04		4
					RU-103	L.T. 5. E 00		04/04		4
					RU-106	L.T. 3. E 01		04/04		4
					I-131	L.T. 3. E 01		04/04		4
					CS-134	L.T. 3. E 00		04/04		4
					CS-137	L.T. 3. E 00		04/04		4
					BA-140	L.T. 1. E 01		04/04		4
					CE-141	L.T. 9. E 00		04/04		4
					CE-144	L.T. 2. E 01		04/04		4
					RA-226	L.T. 6. E 01		04/04		4
					TH-228	L.T. 6. E 00		04/04		4
44025	10198 BB-17-B001-RT		03/09 1120		H-3	L.T. 2. E 02		05/03		5

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TELEDYNE BROWN ENGINEERING ENVIRONMENTAL SERVICES

REPORT OF ANALYSIS

WORK ORDER NUMBER	CUSTOMER P.O. NUMBER	DATE RECEIVED	DELIVERY DATE
4-0353	030225/030600829	03/09/94	04/11/94

ANN MARIE HOLBROW
MCLAREN/HART
16755 VON KARMAN AVE
IRVINE CA 92714

W A T E R

TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE TIME	COLLECTION-DATE STOP DATE TIME	NUCLIDE	ACTIVITY (PCI/LITER)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
43708	10090 BB-20-002-RG		03/08 0854		RA-226	L.T. 6. E 01		03/11		4
					TH-228	L.T. 5. E 00		03/11		4
43722	10104 BB-20-006-RT		03/08 0854		H-3	L.T. 2. E 02		04/14		5

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Activity added to spiked samples

TI#	Isotope	Activity
43697	H-3	1.4 E 04 pCi/l
43698	H-3	1.4 E 04 pCi/l
43730	Sr-90	3.8 pCi/g
43731	Sr-90	3.8 pCi/g
43740	Cs-137	0.64 pCi/g
43741	Cs-137	0.64 pCi/g

Gamma Scan

TELEDYNE BROWN ENGINEERING ENVIRONMENTAL SERVICES

REPORT OF ANALYSIS

WORK ORDER NUMBER	CUSTOMER P.O. NUMBER	DATE RECEIVED	DELIVERY DATE
4-0353	030225/030600829	03/09/94	04/11/94

ANN MARIE HOLBROW
MCLAREN/HART
16755 VON KARMAN AVE
IRVINE CA 92714

S O I L

TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE TIME	STOP DATE TIME	NUCLIDE	ACTIVITY (PCI/GM DRY)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
43741	10118MSD BB-20-010-MG		/		BE-7	L.T. 5. E-01		04/15		4
					K-40	2.50+-0.25E 01		04/15		4
					MN-54	L.T. 4. E-02		04/15		4
					CO-58	L.T. 5. E-02		04/15		4
					FE-59	L.T. 1. E-01		04/15		4
					CO-60	L.T. 4. E-02		04/15		4
					ZN-65	L.T. 1. E-01		04/15		4
					ZR-95	L.T. 6. E-02		04/15		4
					RU-103	L.T. 7. E-02		04/15		4
					RU-106	L.T. 4. E-01		04/15		4
					I-131	L.T. 9. E-01		04/15		4
					CS-134	L.T. 5. E-02		04/15		4
					CS-137	8.22+-0.82E-01		04/15		4
					BA-140	L.T. 2. E-01		04/15		4
					CE-141	L.T. 1. E-01		04/15		4
					CE-144	L.T. 2. E-01		04/15		4
					RA-226	1.69+-0.52E 00		04/15		4
					TH-228	9.86+-0.99E-01		04/15		5
43742	11018 BB-20-003-FT		03/08 1010		H-3	L.T. 1. E 02	PCI/LITER *	04/07		4
43743	BB-00-001-FG		03/08 1126		BE-7	L.T. 4. E-01		03/21		4
					K-40	2.37+-0.24E 01		03/21		4
					MN-54	L.T. 4. E-02		03/21		4
					CO-58	L.T. 4. E-02		03/21		4
					FE-59	L.T. 1. E-01		03/21		4
					CO-60	L.T. 4. E-02		03/21		4
					ZN-65	L.T. 9. E-02		03/21		4
					ZR-95	L.T. 5. E-02		03/21		4
					RU-103	L.T. 4. E-02		03/21		4
					RU-106	L.T. 3. E-01		03/21		4
					I-131	L.T. 1. E-01		03/21		4
					CS-134	L.T. 5. E-02		03/21		4

BB-20-005

TELEDYNE BROWN ENGINEER NVIRONMENTAL SERVICES

REPORT OF ANALYSIS

WORK ORDER NUMBER	CUSTOMER P.O. NUMBER	DATE RECEIVED	DELIVERY DATE
4-0353	030225/030600829	03/09/94	04/11/94

ANN MARIE HOLBROW
MCLAREN/HART
16755 VON KARMAN AVE 92714
IRVINE CA

S O I L

TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE TIME	STOP DATE TIME	NUCLIDE	ACTIVITY (PCI/GM DRY)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
43743	BB-00-001-FG 11021		03/08 1126		CS-137	L.T. 4. E-02		03/21		4
					BA-140	L.T. 7. E-02		03/21		4
					CE-141	L.T. 7. E-02		03/21		4
					CE-144	L.T. 2. E-01		03/21		4
					RA-226	1.92+-0.54E 00		03/21		4
					TH-228	9.63+-0.96E-01		03/21		4
43796 11138	BB-03-081-ST		03/08 1421		H-3	L.T. 1. E 02	PCI/LITER *	04/08		5
43797 10076	BB-03-029-ST		03/08 1415		H-3	L.T. 1. E 02	PCI/LITER *	04/08		5

TELEDYNE BROWN ENGINEERING ENVIRONMENTAL SERVICES

REPORT OF ANALYSIS

RUN DATE 05/04/94

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WORK ORDER NUMBER	CUSTOMER P.O. NUMBER	DATE RECEIVED	DELIVERY DATE
4-0354	030225/030600829	03/11/94	04/13/94

ANN MARIE HOLBROW
MCLAREN/HART
16755 VON KARMAN AVE 92714
IRVINE CA

S O I L

TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE TIME	STOP DATE TIME	NUCLIDE	ACTIVITY (PCI/GM DRY)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
43974 11139	BB-17-010-SG		03/09 1650		BA-140	L.T. 2. E-01		04/02		4
					CE-141	L.T. 1. E-01		04/02		4
					CE-144	L.T. 4. E-01		04/02		4
					RA-226	1.55+-0.86E 00		04/02		4
					TH-228	1.44+-0.14E 00		04/02		4
43975 11025	BB-00-002-FG		03/09 1100		BE-7	L.T. 4. E-01		04/02		4
					K-40	2.41+-0.24E 01		04/02		4
					MN-54	L.T. 4. E-02		04/02		4
					CO-58	L.T. 4. E-02		04/02		4
					FE-59	L.T. 1. E-01		04/02		4
					CO-60	L.T. 4. E-02		04/02		4
					ZN-65	L.T. 1. E-01		04/02		4
					ZR-95	L.T. 5. E-02		04/02		4
					RU-103	L.T. 5. E-02		04/02		4
					RU-106	L.T. 3. E-01		04/02		4
					I-131	L.T. 3. E-01		04/02		4
					CS-134	L.T. 5. E-02		04/02		4
					CS-137	7.64+-3.15E-02		04/02		4
					BA-140	L.T. 1. E-01		04/02		4
					CE-141	L.T. 9. E-02		04/02		4
					CE-144	L.T. 3. E-01		04/02		4
					RA-226	1.42+-0.57E 00		04/02		4
					TH-228	7.55+-0.76E-01		04/02		4
					PU-238	L.T. 8. E-03		04/14		6
					PU-239	L.T. 1. E-02		04/14		6
43976 10193	BB-17-009B-SP		03/09 1420							
43977 10194	BB-17-009B-SG		03/09 1420		BE-7	L.T. 4. E-01		04/02		4
					K-40	2.36+-0.24E 01		04/02		4
					MN-54	L.T. 4. E-02		04/02		4
					CO-58	L.T. 4. E-02		04/02		4
					FE-59	L.T. 1. E-01		04/02		4

TELEDYNE BROWN ENGINEERING ENVIRONMENTAL SERVICES

RUN DATE 05/25/94

REPORT OF ANALYSIS

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WORK ORDER NUMBER	CUSTOMER P.O. NUMBER	DATE RECEIVED	DELIVERY DATE
4-0514	030225/030600829	03/15/94	04/17/94

ANN MARIE HOLBROW
MCLAREN/HART
16755 VON KARMAN AVE
IRVINE CA 92714

S O I L

TELEDYNE SAMPLE NUMBER		CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE	TIME	STOP DATE	TIME	NUCLIDE	ACTIVITY (PCI/GM DRY)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE	TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
44707	10460	BG-09-003-SG		03/11	1430			BE-7	L.T. 5. E-01		04/26			4
								K-40	5.81+-0.64E 00		04/26			4
								MN-54	L.T. 4. E-02		04/26			4
								CO-58	L.T. 5. E-02		04/26			4
								FE-59	L.T. 2. E-01		04/26			4
								CO-60	L.T. 4. E-02		04/26			4
								ZN-65	L.T. 8. E-02		04/26			4
								ZR-95	L.T. 6. E-02		04/26			4
								RU-103	L.T. 8. E-02		04/26			4
								RU-106	L.T. 3. E-01		04/26			4
								I-131	L.T. 2. E 00		04/26			4
								CS-134	L.T. 4. E-02		04/26			4
								CS-137	L.T. 5. E-02		04/26			4
								BA-140	L.T. 6. E-01		04/26			4
								CE-141	L.T. 2. E-01		04/26			4
								CE-144	L.T. 3. E-01		04/26			4
								RA-226	L.T. 8. E-01		04/26			4
								TH-228	5.87+-0.76E-01		04/26			4
44708	11035	BG-00-003-FP		03/11	1430			PU-238	L.T. 6. E-03		04/22			6
								PU-239	L.T. 6. E-03		04/22			6
44709	11032	BG-00-002-SS		03/11	1430			SR-90	8.8 +-4.5 E-02		04/20			3
44710	11030	BG-00-003-FG		03/11	1053			BE-7	L.T. 5. E-01		04/26			4
								K-40	2.11+-0.21E 01		04/26			4
								MN-54	L.T. 4. E-02		04/26			4
								CO-58	L.T. 5. E-02		04/26			4
								FE-59	L.T. 2. E-01		04/26			4
								CO-60	L.T. 4. E-02		04/26			4
								ZN-65	L.T. 1. E-01		04/26			4
								ZR-95	L.T. 7. E-02		04/26			4
								RU-103	L.T. 8. E-02		04/26			4

TELEDYNE BROWN ENGINEERING ENVIRONMENTAL SERVICES

RUN DATE 05/25/94

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REPORT OF ANALYSIS

WORK ORDER NUMBER	CUSTOMER P.O. NUMBER	DATE RECEIVED	DELIVERY DATE
4-0514	030225/030600829	03/15/94	04/17/94

ANN MARIE HOLBROW
MCLAREN/HART
16755 VON KARMAN AVE 92714
IRVINE CA

S O I L

TELEDYNE SAMPLE NUMBER	STA NUM	CUSTOMER'S IDENTIFICATION	COLLECTION-DATE START DATE TIME	COLLECTION-DATE STOP DATE TIME	NUCLIDE	ACTIVITY (PCI/GM DRY)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
44710	11030	BG-00-003-FG	03/11 1053		RU-106	L.T. 3. E-01		04/26		4
					I-131	L.T. 2. E 00		04/26		4
					CS-134	L.T. 4. E-02		04/26		4
					CS-137	1.00+-0.35E-01		04/26		4
					BA-140	L.T. 5. E-01		04/26		4
					CE-141	L.T. 1. E-01		04/26		4
					CE-144	L.T. 3. E-01		04/26		4
					RA-226	1.52+-0.62E 00		04/26		4
					TH-228	8.44+-0.84E-01		04/26		4
44712	10444	BG-09-057-ST	03/11 1404		H-3	L.T. 2. E 02	PCI/LITER *	05/23		5
44713	10445	BG-09-057-SS	03/11 1404		SR-90	1.1 +-0.5 E-01		04/26		3
44714	10446	BG-09-057-SP	03/11 1404		PU-238	L.T. 8. E-03		05/02		6
					U-234	1.2 +-0.3 E-01		05/02		6
					TH-230	1.9 +-0.4 E-01		05/07		6
					PU-239	L.T. 8. E-03		05/02		6
					U-235	L.T. 7. E-03		05/02		6
					U-238	1.2 +-0.3 E-01		05/02		6
					TH-232	1.7 +-0.4 E-01		05/07		6
					TH-228	1.4 +-0.4 E-01		05/07		6
44715	10448	BG-09-057-SG	03/11 1404		BE-7	L.T. 5. E-01		04/26		4
					K-40	5.81+-0.65E 00		04/26		4
					MN-54	L.T. 4. E-02		04/26		4
					CO-58	L.T. 5. E-02		04/26		4
					FE-59	L.T. 1. E-01		04/26		4
					CO-60	L.T. 3. E-02		04/26		4
					ZN-65	L.T. 8. E-02		04/26		4
					ZR-95	L.T. 6. E-02		04/26		4
					RU-103	L.T. 7. E-02		04/26		4
					RU-106	L.T. 3. E-01		04/26		4

TELEDYNE BROWN ENGINEERING ENVIRONMENTAL SERVICES

RUN DATE 05/25/94

REPORT OF ANALYSIS

WORK ORDER NUMBER	CUSTOMER P.O. NUMBER	DATE RECEIVED	DELIVERY DATE
4-0514	030225/030600829	03/15/94	04/17/94

ANN MARIE HOLBROW
MCLAREN/HART
16755 VON KARMAN AVE 92714
IRVINE CA

S O I L

TELEDYNE SAMPLE NUMBER		CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE TIME	COLLECTION-DATE STOP DATE TIME	NUCLIDE	ACTIVITY (PCI/GM DRY)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
44624	10482	BG-10-004-SG		03/14 0945		CS-137	2.15+-0.39E-01		04/25		4
						BA-140	L.T. 4. E-01		04/25		4
						CE-141	L.T. 1. E-01		04/25		4
						CE-144	L.T. 2. E-01		04/25		4
						RA-226	L.T. 6. E-01		04/25		4
						TH-228	4.02+-0.54E-01		04/25		4
44625	11036	BG-00-004-FG		03/14 0945		BE-7	L.T. 5. E-01		04/25		4
						K-40	6.33+-0.63E 00		04/25		4
						MN-54	L.T. 4. E-02		04/25		4
						CO-58	L.T. 4. E-02		04/25		4
						FE-59	L.T. 1. E-01		04/25		4
						CO-60	L.T. 3. E-02		04/25		4
						ZN-65	L.T. 9. E-02		04/25		4
						ZR-95	L.T. 6. E-02		04/25		4
						RU-103	L.T. 7. E-02		04/25		4
						RU-106	L.T. 4. E-01		04/25		4
						I-131	L.T. 1. E 00		04/25		4
						CS-134	L.T. 4. E-02		04/25		4
						CS-137	3.06+-0.41E-01		04/25		4
						BA-140	L.T. 3. E-01		04/25		4
						CE-141	L.T. 1. E-01		04/25		4
						CE-144	L.T. 2. E-01		04/25		4
						RA-226	L.T. 7. E-01		04/25		4
						TH-228	L.T. 7. E-02		04/25		4
44626	10485	BG-10-003-ST		03/14 1010		H-3	L.T. 1. E 02	PCI/LITER *	05/21		5
44627	10486	BG-10-003-SS		03/14 1010		SR-90	L.T. 9. E-02		04/16		3

TELEDYNE BROWN ENGINEERING ENVIRONMENTAL SERVICES

REPORT OF ANALYSIS

WORK ORDER NUMBER	CUSTOMER P.O. NUMBER	DATE RECEIVED	DELIVERY DATE
4-0472	030225/030600829	03/21/94	04/23/94

ANN MARIE HOLBROW
MCLAREN/HART
16755 VON KARMAN AVE
IRVINE CA 92714

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TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION		STA NUM	COLLECTION-DATE START DATE TIME	STOP DATE TIME	NUCLIDE	ACTIVITY (PCI/GM DRY)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
45058	10643DUP	BG-14-005-SG		03/15 1026		CS-134	L.T. 4. E-02		04/28		4
						CS-137	L.T. 3. E-02		04/28		4
						BA-140	L.T. 3. E-01		04/28		4
						CE-141	L.T. 1. E-01		04/28		4
						CE-144	L.T. 2. E-01		04/28		4
						RA-226	1.25+-0.43E 00		04/28		4
						TH-228	8.61+-0.86E-01		04/28		4
45059	10644	BG-14-005-MT		03/15 1026		H-3	1.3 +-0.6 E 03	PCI/LITER *	05/26		5
45060	10644MS	BG-14-005-MT		/		H-3	1.6 +-0.1 E 04	PCI/LITER *	05/26		5
45061	10644MSD	BG-14-005-MT		/		H-3	1.5 +-0.1 E 04	PCI/LITER *	05/26		5
45063	11213	BG-00-005-FG		03/15 0841		BE-7	L.T. 4. E-01		04/27		4
						K-40	2.28+-0.23E 01		04/27		4
						MN-54	L.T. 3. E-02		04/27		4
						CO-58	L.T. 4. E-02		04/27		4
						FE-59	L.T. 1. E-01		04/27		4
						CO-60	L.T. 3. E-02		04/27		4
						ZN-65	L.T. 7. E-02		04/27		4
						ZR-95	L.T. 5. E-02		04/27		4
						RU-103	L.T. 6. E-02		04/27		4
						RU-106	L.T. 3. E-01		04/27		4
						I-131	L.T. 1. E 00		04/27		4
						CS-134	L.T. 4. E-02		04/27		4
						CS-137	2.09+-0.30E-01		04/27		4
						BA-140	L.T. 3. E-01		04/27		4
						CE-141	L.T. 1. E-01		04/27		4
						CE-144	L.T. 2. E-01		04/27		4
						RA-226	2.15+-0.42E 00		04/27		4
						TH-228	1.92+-0.19E 00		04/27		4

Isotopic Plutonium

TELEDYNE BROWN ENGINEERING ENVIRONMENTAL SERVICES

RUN DATE 05/04/94

REPORT OF ANALYSIS

WORK ORDER NUMBER	CUSTOMER P.O. NUMBER	DATE RECEIVED	DELIVERY DATE
4-0354	030225/030600829	03/11/94	04/13/94

ANN MARIE HOLBROW
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16755 VON KARMAN AVE 92714
IRVINE CA

S O I L

TELEDYNE SAMPLE NUMBER		CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE TIME	STOP DATE TIME	NUCLIDE	ACTIVITY (PCI/GM DRY)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
44016	10204	BB-17-B003-SG		03/09 1600		BE-7	L.T. 5. E-01		04/07		4
						K-40	2.13+-0.21E 01		04/07		4
						MN-54	L.T. 4. E-02		04/07		4
						CO-59	L.T. 5. E-02		04/07		4
						FE-59	L.T. 1. E-01		04/07		4
						CO-60	L.T. 4. E-02		04/07		4
						ZN-65	L.T. 1. E-01		04/07		4
						ZR-95	L.T. 6. E-02		04/07		4
						RU-103	L.T. 7. E-02		04/07		4
						RU-106	L.T. 4. E-01		04/07		4
						I-131	L.T. 4. E-01		04/07		4
						CS-134	L.T. 5. E-02		04/07		4
						CS-137	L.T. 5. E-02		04/07		4
						BA-140	L.T. 2. E-01		04/07		4
						CE-141	L.T. 1. E-01		04/07		4
						CE-144	L.T. 3. E-01		04/07		4
						RA-226	2.38+-0.66E 00		04/07		4
						TH-228	1.28+-0.13E 00		04/07		4
				03/09 1600		PU-238	L.T. 9. E-03		04/05		6
						PU-239	L.T. 9. E-03		04/05		6
44017	11145	BB-00-001-FP		03/09 1610		H-3	L.T. 2. E 02	PCI/LITER *	05/03		5
44018	11183	BB-17-B003-ST		03/09 1610		PU-238	L.T. 1. E-02		04/05		6
44020	11185	BB-17-B003-SP				PU-239	L.T. 1. E-02		04/05		6
44021	11187	BB-17-B003-SG		03/09 1610		BE-7	L.T. 5. E-01		04/07		4
						K-40	1.92+-0.19E 01		04/07		4
						MN-54	L.T. 5. E-02		04/07		4
						CO-58	L.T. 6. E-02		04/07		4
						FE-59	L.T. 1. E-01		04/07		4
						CO-60	L.T. 4. E-02		04/07		4

TELEDYNE BROWN ENGINEERING ENVIRONMENTAL SERVICES

RUN DATE 05/12/94

REPORT OF ANALYSIS

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WORK ORDER NUMBER	CUSTOMER P.O. NUMBER	DATE RECEIVED	DELIVERY DATE
4-0409	030225/030600829	03/14/94	04/16/94

ANN MARIE HOLBROW
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16755 VON KARMAN AVE 92714
IRVINE CA

S O I L

TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION		STA NUM	COLLECTION-DATE START DATE TIME	STOP DATE TIME	NUCLIDE	ACTIVITY (PCI/GM DRY)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
44206	10292	BB-15-009-SP		03/10 1025		PU-238	L.T. 9. E-03		04/09		6
						PU-239	L.T. 9. E-03		04/09		6
44207	11191	BB-15-010-SP		03/10 1030		PU-238	L.T. 9. E-03		04/09		6
						PU-239	L.T. 9. E-03		04/09		6
44208	11029	BB-00-002-FP		03/10 1025		PU-238	L.T. 8. E-03		04/09		6
						PU-239	L.T. 1. E-02		04/09		6
44210	10282	BB-15-001-ST		03/10 0945		H-3	L.T. 2. E 02	PCI/LITER *	05/08		5
44211	10283	BB-15-001-MT		03/10 0945		H-3	L.T. 3. E 02	PCI/LITER *	05/09		5
44212	10283MS	BB-15-001-MT		/		H-3	3.3 +-0.3 E 03	PCI/LITER *	05/09		5
44213	10283MSD	BB-15-001-MT		/		H-3	3.8 +-0.3 E 03	PCI/LITER *	05/09		5
44214	10284	BB-15-002-ST		03/10 0935		H-3	L.T. 2. E 02	PCI/LITER *	05/09		5
44215	10285	BB-15-003-ST		03/10 0915		H-3	L.T. 2. E 02	PCI/LITER *	05/09		5
44216	10286	BB-15-004-ST		03/10 0910		H-3	L.T. 2. E 02	PCI/LITER *	05/09		5
44217	10287	BB-15-005-ST		03/10 0910		H-3	L.T. 2. E 02	PCI/LITER *	05/09		5
44218	11190	BB-15-001-SP		03/10 0945		PU-238	L.T. 1. E-02		04/10		6
						PU-239	L.T. 1. E-02		04/10		6

TELEDYNE BROWN ENGINEERING ENVIRONMENTAL SERVICES

RUN DATE 05/25/94

REPORT OF ANALYSIS

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WORK ORDER NUMBER: 4-0514

CUSTOMER P.O. NUMBER: 030225/030600829

DATE RECEIVED: 03/15/94

DELIVERY DATE: 04/17/94

ANN MARIE HOLBROW
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16755 VON KARMAN AVE
IRVINE CA 92714

S O I L

TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION		STA NUM	COLLECTION-DATE START DATE TIME	STOP DATE TIME	NUCLIDE	ACTIVITY (PCI/GM DRY)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
44707	10460	BG-09-003-SG		03/11 1430		BE-7	L.T. 5. E-01		04/26		4
						K-40	5.81+-0.64E 00		04/26		4
						MN-54	L.T. 4. E-02		04/26		4
						CO-58	L.T. 5. E-02		04/26		4
						FE-59	L.T. 2. E-01		04/26		4
						CO-60	L.T. 4. E-02		04/26		4
						ZN-65	L.T. 8. E-02		04/26		4
						ZR-95	L.T. 6. E-02		04/26		4
						RU-103	L.T. 8. E-02		04/26		4
						RU-106	L.T. 3. E-01		04/26		4
						I-131	L.T. 2. E 00		04/26		4
						CS-134	L.T. 4. E-02		04/26		4
						CS-137	L.T. 5. E-02		04/26		4
						BA-140	L.T. 6. E-01		04/26		4
						CE-141	L.T. 2. E-01		04/26		4
						CE-144	L.T. 3. E-01		04/26		4
						RA-226	L.T. 8. E-01		04/26		4
						TH-228	5.87+-0.76E-01		04/26		4
44708	11035	BG-00-003-FP		03/11 1430		PU-238	L.T. 6. E-03		04/22		6
						PU-239	L.T. 6. E-03		04/22		6
44709	11032	BG-00-002-SS		03/11 1430		SR-90	8.8 +-4.5 E-02		04/20		3
44710	11030	BG-00-003-FG		03/11 1053		BE-7	L.T. 5. E-01		04/26		4
						K-40	2.11+-0.21E 01		04/26		4
						MN-54	L.T. 4. E-02		04/26		4
						CO-58	L.T. 5. E-02		04/26		4
						FE-59	L.T. 2. E-01		04/26		4
						CO-60	L.T. 4. E-02		04/26		4
						ZN-65	L.T. 1. E-01		04/26		4
						ZR-95	L.T. 7. E-02		04/26		4
						RU-103	L.T. 8. E-02		04/26		4

TELEDYNE BROWN ENGINEERING ENVIRONMENTAL SERVICES

REPORT OF ANALYSIS

WORK ORDER NUMBER	CUSTOMER P.O. NUMBER	DATE RECEIVED	DELIVERY DATE
4-0472	030225/030600829	03/21/94	04/23/94

ANN MARIE HOLBROW
MCLAREN/HART
16755 VON KARMAN AVE
IRVINE CA 92714

S O I L

TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION		STA NUM	COLLECTION-DATE START DATE	TIME	STOP DATE	TIME	NUCLIDE	ACTIVITY (PCI/GM DRY)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE	TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
45065	11223	BG-00-004-FP		03/15	0905			PU-238	L.T. 2. E-02		05/09			6
								PU-239	L.T. 2. E-02		05/09			6
45066	10624	BG-14-002-SG		03/15				BE-7	L.T. 5. E-01		04/27			4
								K-40	2.03+-0.20E 01		04/27			4
								MN-54	L.T. 4. E-02		04/27			4
								CO-58	L.T. 5. E-02		04/27			4
								FE-59	L.T. 2. E-01		04/27			4
								CO-60	L.T. 4. E-02		04/27			4
								ZN-65	L.T. 1. E-01		04/27			4
								ZR-95	L.T. 7. E-02		04/27			4
								RU-103	L.T. 8. E-02		04/27			4
								RU-106	L.T. 4. E-01		04/27			4
								I-131	L.T. 2. E 00		04/27			4
								CS-134	L.T. 5. E-02		04/27			4
								CS-137	8.45+-4.26E-02		04/27			4
								BA-140	L.T. 4. E-01		04/27			4
								CE-141	L.T. 1. E-01		04/27			4
								CE-144	L.T. 3. E-01		04/27			4
								RA-226	2.19+-0.67E 00		04/27			4
								TH-228	1.51+-0.15E 00		04/27			4
								PU-238	L.T. 1. E-02		05/09			6
								PU-239	L.T. 1. E-02		05/09			6
45067	10626	BG-14-002-MP		03/15				PU-238	L.T. 9. E-03		05/09			6
								PU-239	3.1 +-0.6 E-01		05/09			6
45068	10626MS	BG-14-002-MP		/				PU-238	L.T. 7. E-03		05/09			6
								PU-239	3.2 +-0.5 E-01		05/09			6
45069	10626MSD	BG-14-002-MP		/										

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TELEDYNE BROWN ENGINEERING ENVIRONMENTAL SERVICES

RUN DATE 05/04/94

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REPORT OF ANALYSIS

WORK ORDER NUMBER	CUSTOMER P.O. NUMBER	DATE RECEIVED	DELIVERY DATE
4-0354	030225/030600829	03/11/94	04/13/94

ANN MARIE HOLBROW
MCLAREN/HART
16755 VON KARMAN AVE
IRVINE CA 92714

S O I L

TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION		STA NUM	COLLECTION-DATE START DATE	TIME	STOP DATE	TIME	NUCLIDE	ACTIVITY (PCI/LITER)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE	TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
43904	10276	BB-16-B004-ST		03/09	1410			H-3	L.T. 1. E 02		04/30			5
43905	10277	BB-16-B004-SS		03/09	1410			SR-90	L.T. 1. E-01	PCI/GM DRY *	04/01			3
43906	11027	BB-00-001-FS		03/09	1037			SR-90	1.9 +-0.3 E-01	PCI/GM DRY *	04/04			3
43907	10234	BB-16-008-ST		03/09	1014			H-3	L.T. 1. E 02		04/30			5
43908	10235	BB-16-008-SS		03/09	1014			SR-90	1.5 +-0.9 E-01	PCI/GM DRY *	04/04			3
43909	10236	BB-16-008-SG		03/09	1014			BE-7	L.T. 4. E-01	PCI/GM DRY *	03/31			4
								K-40	2.39+-0.24E 01	PCI/GM DRY *	03/31			4
								MN-54	L.T. 3. E-02	PCI/GM DRY *	03/31			4
								CO-58	L.T. 4. E-02	PCI/GM DRY *	03/31			4
								FE-59	L.T. 1. E-01	PCI/GM DRY *	03/31			4
								CO-60	L.T. 4. E-02	PCI/GM DRY *	03/31			4
								ZN-65	L.T. 1. E-01	PCI/GM DRY *	03/31			4
								ZR-95	L.T. 4. E-02	PCI/GM DRY *	03/31			4
								RU-103	L.T. 4. E-02	PCI/GM DRY *	03/31			4
								RU-106	L.T. 3. E-01	PCI/GM DRY *	03/31			4
								I-131	L.T. 2. E-01	PCI/GM DRY *	03/31			4
								CS-134	L.T. 4. E-02	PCI/GM DRY *	03/31			4
								CS-137	L.T. 4. E-02	PCI/GM DRY *	03/31			4
								BA-140	L.T. 1. E-01	PCI/GM DRY *	03/31			4
								CE-141	L.T. 6. E-02	PCI/GM DRY *	03/31			4
								CE-144	L.T. 2. E-01	PCI/GM DRY *	03/31			4
								RA-226	1.50+-0.51E 00	PCI/GM DRY *	03/31			4
								TH-228	8.80+-0.88E-01	PCI/GM DRY *	03/31			4

TELEDYNE BROWN ENGINEERING ENVIRONMENTAL SERVICES

REPORT OF ANALYSIS

RUN DATE 05/25/94

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WORK ORDER NUMBER	CUSTOMER P.O. NUMBER	DATE RECEIVED	DELIVERY DATE
4-0514	030225/030600829	03/15/94	04/17/94

ANN MARIE HOLBROW
MCLAREN/HART
16755 VON KARMAN AVE
IRVINE CA 92714

S O I L

TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE TIME	STOP DATE TIME	NUCLIDE	ACTIVITY (PCI/GM DRY)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
44702	10454DUP BG-09-013-SG		03/11 1420		BE-7	L.T. 7. E-01		04/27		4
					K-40	4.62+-0.59E 00		04/27		4
					MN-54	L.T. 4. E-02		04/27		4
					CO-58	L.T. 6. E-02		04/27		4
					FE-59	L.T. 2. E-01		04/27		4
					CO-60	L.T. 4. E-02		04/27		4
					ZN-65	L.T. 1. E-01		04/27		4
					ZR-95	L.T. 7. E-02		04/27		4
					RU-103	L.T. 9. E-02		04/27		4
					RU-106	L.T. 4. E-01		04/27		4
					I-131	L.T. 2. E 00		04/27		4
					CS-134	L.T. 5. E-02		04/27		4
					CS-137	8.83+-4.21E-02		04/27		4
					BA-140	L.T. 5. E-01		04/27		4
					CE-141	L.T. 1. E-01		04/27		4
					CE-144	L.T. 2. E-01		04/27		4
					RA-226	L.T. 7. E-01		04/27		4
					TH-228	3.09+-0.62E-01		04/27		4
					SR-90	1.4 +-0.6 E-01		04/16		3
44703	11034 BG-00-003-FS		03/11 1420		H-3	L.T. 2. E 02	PCI/LITER *	05/23		5
44704	10456 BG-09-003-ST		03/11 1430		SR-90	1.3 +-0.5 E-01		04/20		3
44705	10457 BG-09-003-SS		03/11 1430							
44706	10458 BG-09-003-SP		03/11 1430		PU-238	L.T. 8. E-03		05/02		6
					U-234	1.0 +-0.3 E-01		05/02		6
					TH-230	2.3 +-0.7 E-01		05/09		6
					PU-239	L.T. 8. E-03		05/02		6
					U-235	L.T. 7. E-03		05/02		6
					U-238	3.9 +-2.8 E-02		05/02		6
					TH-232	2.6 +-0.7 E-01		05/09		6
					TH-228	2.0 +-0.8 E-01		05/09		6

TELEDYNE BROWN ENGINEERING ENVIRONMENTAL SERVICES

REPORT OF ANALYSIS

WORK ORDER NUMBER	CUSTOMER P.O. NUMBER	DATE RECEIVED	DELIVERY DATE
4-0514	030225/030600829	03/15/94	04/17/94

ANN MARIE HOLBROW
MCLAREN/HART
16755 VON KARMAN AVE
IRVINE CA 92714

S O I L

TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE TIME	STOP DATE TIME	NUCLIDE	ACTIVITY (PCI/GM DRY)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
44707 10460	BG-09-003-SG		03/11 1430		BE-7	L.T. 5. E-01		04/26		4
					K-40	5.81+-0.64E 00		04/26		4
					MN-54	L.T. 4. E-02		04/26		4
					CO-58	L.T. 5. E-02		04/26		4
					FE-59	L.T. 2. E-01		04/26		4
					CO-60	L.T. 4. E-02		04/26		4
					ZN-65	L.T. 8. E-02		04/26		4
					ZR-95	L.T. 6. E-02		04/26		4
					RU-103	L.T. 8. E-02		04/26		4
					RU-106	L.T. 3. E-01		04/26		4
					I-131	L.T. 2. E 00		04/26		4
					CS-134	L.T. 4. E-02		04/26		4
					CS-137	L.T. 5. E-02		04/26		4
					BA-140	L.T. 6. E-01		04/26		4
					CE-141	L.T. 2. E-01		04/26		4
					CE-144	L.T. 3. E-01		04/26		4
					RA-226	L.T. 8. E-01		04/26		4
					TH-228	5.87+-0.76E-01		04/26		4
44708 11035	BG-00-003-FP		03/11 1430		PU-238	L.T. 6. E-03		04/22		6
					PU-239	L.T. 6. E-03		04/22		6
44709 11032	BG-00-002-~~SS~~ FS		03/11 1430		SR-90	8.8 +-4.5 E-02		04/20		3
44710 11030	BG-00-003-FG		03/11 1053		BE-7	L.T. 5. E-01		04/26		4
					K-40	2.11+-0.21E 01		04/26		4
					MN-54	L.T. 4. E-02		04/26		4
					CO-58	L.T. 5. E-02		04/26		4
					FE-59	L.T. 2. E-01		04/26		4
					CO-60	L.T. 4. E-02		04/26		4
					ZN-65	L.T. 1. E-01		04/26		4
					ZR-95	L.T. 7. E-02		04/26		4
					RU-103	L.T. 8. E-02		04/26		4

TELEDYNE BROWN ENGINEERING ENVIRONMENTAL SERVICES

REPORT OF ANALYSIS

RUN DATE 06/03/94

WORK ORDER NUMBER	CUSTOMER P.O. NUMBER	DATE RECEIVED	DELIVERY DATE
4-0472	030225/030600829	03/21/94	04/23/94

ANN MARIE HOLBROW
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S O I L

TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION		STA NUM	COLLECTION-DATE START DATE TIME	STOP DATE TIME	NUCLIDE	ACTIVITY (PCI/GM DRY)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
45087	10619	BG-14-001-MS		03/15 1000		SR-90	L.T. 7. E-02		04/28		3
45088	10619MS	BG-14-001-MS		/		SR-90	4.0 +-0.3 E 00		05/02		3
45089	10619MSD	BG-14-001-MS		/		SR-90	4.0 +-0.2 E 00		04/30		3
45090	10620	BG-14-002-ST		03/15 1000		H-3	L.T. 1. E 02	PCI/LITER *	05/27		5
45091	10621	BG-14-002-SS		03/15 1000		SR-90	L.T. 9. E-02		04/30		3
45092	10622	BG-14-002-SP		03/15 1000		PU-238	L.T. 1. E-02		05/09		6
						U-234	3.1 +-0.4 E-01		05/12		6
						TH-230	3.8 +-0.5 E-01		05/18		6
						PU-239	L.T. 1. E-02		05/09		6
						U-235	1.8 +-1.0 E-02		05/12		6
						U-238	4.0 +-0.5 E-01		05/12		6
						TH-232	1.2 +-0.1 E 00		05/18		6
						TH-228	7.8 +-0.8 E-01		05/18		6
45114	11225	BG-00-004-FS		03/15 0841		SR-90	L.T. 9. E-02		04/30		3
45115	11226	BG-01-090-SS		03/15		SR-90	L.T. 1. E-01		04/30		3
45116	11227	BG-00-008-FT		03/15 0908		H-3	L.T. 2. E 02	PCI/LITER *	05/27		5
45117	11229	BG-14-001-SS		03/15 1000		SR-90	8.2 +-4.3 E-02		04/30		3
45490	10332	BG-02-007-ST		03/10 1610		H-3	L.T. 1. E 02	PCI/LITER *	05/27		5

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TELEDYNE BROWN ENGINEERING ENVIRONMENTAL SERVICES

REPORT OF ANALYSIS

RUN DATE 05/04/94

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WORK ORDER NUMBER	CUSTOMER P.O. NUMBER	DATE RECEIVED	DELIVERY DATE
4-0354	030225/030600829	03/11/94	04/13/94

ANN MARIE HOLBROW
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IRVINE CA 92714

S O I L

TELEDYNE SAMPLE NUMBER	STA NUM	CUSTOMER'S IDENTIFICATION	COLLECTION-DATE START DATE TIME	STOP DATE TIME	NUCLIDE	ACTIVITY (PCI/LITER)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
44005	10177	BB-17-008A-ST	03/09 1415		H-3	3.0 +-1.1 E 02		05/02		5
44006	10178	BB-17-008A-SP	03/09 1415		PU-238	L.T. 2. E-02	PCI/GM DRY *	04/05		6
					PU-239	L.T. 2. E-02	PCI/GM DRY *	04/05		6
44007	10179	BB-17-008A-SG	03/09 1415		BE-7	L.T. 5. E-01	PCI/GM DRY *	04/07		4
					K-40	2.19+-0.22E 01	PCI/GM DRY *	04/07		4
					MN-54	L.T. 5. E-02	PCI/GM DRY *	04/07		4
					CO-58	L.T. 5. E-02	PCI/GM DRY *	04/07		4
					FE-59	L.T. 2. E-01	PCI/GM DRY *	04/07		4
					CO-60	L.T. 5. E-02	PCI/GM DRY *	04/07		4
					ZN-65	L.T. 2. E-01	PCI/GM DRY *	04/07		4
					ZR-95	L.T. 6. E-02	PCI/GM DRY *	04/07		4
					RU-103	L.T. 6. E-02	PCI/GM DRY *	04/07		4
					RU-106	L.T. 4. E-01	PCI/GM DRY *	04/07		4
					I-131	L.T. 5. E-01	PCI/GM DRY *	04/07		4
					CS-134	L.T. 5. E-02	PCI/GM DRY *	04/07		4
					CS-137	2.49+-0.47E-01	PCI/GM DRY *	04/07		4
					BA-140	L.T. 2. E-01	PCI/GM DRY *	04/07		4
					CE-141	L.T. 1. E-01	PCI/GM DRY *	04/07		4
					CE-144	L.T. 3. E-01	PCI/GM DRY *	04/07		4
					RA-226	2.06+-0.64E 00	PCI/GM DRY *	04/07		4
					TH-228	1.37+-0.14E 00	PCI/GM DRY *	04/07		4
44008	11022	BB-00-004-FT	03/09 1415		H-3	5.1 +-1.1 E 02		05/02		5
44009	10182	BB-17-008B-ST	03/09 1415		H-3	L.T. 1. E 02		05/02		5
44010	10183	BB-17-008B-SP	03/09 1415		PU-238	L.T. 4. E-02	PCI/GM DRY *	04/05		6
					PU-239	L.T. 5. E-02	PCI/GM DRY *	04/05		6

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TELEDYNE BROWN ENGINEERING ENVIRONMENTAL SERVICES

REPORT OF ANALYSIS

WORK ORDER NUMBER	CUSTOMER P.O. NUMBER	DATE RECEIVED	DELIVERY DATE
4-0354	030225/030600829	03/11/94	04/13/94

ANN MARIE HOLBROW
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IRVINE CA 92714

S O I L

TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION		STA NUM	COLLECTION-DATE START DATE	START TIME	STOP DATE	STOP TIME	NUCLIDE	ACTIVITY (PCI/GM DRY)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE	MID-COUNT TIME TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
43980	10228	BB-16-006-SG		03/09	1100			CF-144	L.T. 2. E-01		04/02			4
								RA-226	1.06+-0.42E 00		04/02			4
								TH-228	7.49+-0.75E-01		04/02			4
								H-3	2.3 +-1.0 E 02	PCI/LITER *	05/02			5
43981	10230	BB-16-007-ST		03/09	1037			SR-90	1.1 +-0.5 E-01		04/08			3
43982	10231	BB-16-007-SS		03/09	1037			BE-7	L.T. 4. E-01		04/02			4
43983	10232	BB-16-007-SG		03/09	1037			K-40	2.31+-0.23E 01		04/02			4
								MN-54	L.T. 4. E-02		04/02			4
								CO-58	L.T. 4. E-02		04/02			4
								FE-59	L.T. 1. E-01		04/02			4
								CO-60	L.T. 4. E-02		04/02			4
								ZN-65	L.T. 1. E-01		04/02			4
								ZR-95	L.T. 6. E-02		04/02			4
								RU-103	L.T. 5. E-02		04/02			4
								RU-106	L.T. 3. E-01		04/02			4
								I-131	L.T. 3. E-01		04/02			4
								CS-134	L.T. 4. E-02		04/02			4
								CS-137	L.T. 4. E-02		04/02			4
								BA-140	L.T. 1. E-01		04/02			4
								CE-141	L.T. 9. E-02		04/02			4
								CE-144	L.T. 3. E-01		04/02			4
								RA-226	1.65+-0.62E 00		04/02			4
								TH-228	7.91+-0.79E-01		04/02			4
43984	11026	BB-00-005-FT		03/09	1037			H-3	2.1 +-1.0 E 02	PCI/LITER *	05/02			5

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TELEDYNE BROWN ENGINEERING ENVIRONMENTAL SERVICES

REPORT OF ANALYSIS

WORK ORDER NUMBER	CUSTOMER P.O. NUMBER	DATE RECEIVED	DELIVERY DATE
4-0514	030225/030600829	03/15/94	04/17/94

ANN MARIE HOLBROW
MCLAREN/HART
16755 VON KARMAN AVE
IRVINE CA 92714

S O I L

TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION		STA NUM	COLLECTION-DATE START DATE	START TIME	STOP DATE	STOP TIME	NUCLIDE	ACTIVITY (PCI/GM DRY)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE	MID-COUNT TIME TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
44715	10448	BG-09-057-SG		03/11	1404			I-131	L.T. 2. E 00		04/26			4
								CS-134	L.T. 4. E-02		04/26			4
								CS-137	L.T. 6. E-02		04/26			4
								BA-140	L.T. 5. E-01		04/26			4
								CE-141	L.T. 2. E-01		04/26			4
								CE-144	L.T. 4. E-01		04/26			4
								RA-226	L.T. 1. E 00		04/26			4
								TH-228	3.85+-0.55E-01		04/26			4
44716	11031	BG-00-006-FT		03/11	1404			H-3	L.T. 2. E 02	PCI/LITER *	05/23			5
44719	10458	BG-09-013-ST		03/11	1420			H-3	L.T. 2. E 02	PCI/LITER *	05/23			5
44720	10451	BG-09-013-SS		03/11	1420			SR-90	1.2 +-0.5 E-01		04/20			3
44721	10452	BG-09-013-SP		03/11	1420			PU-238	L.T. 8. E-03		05/02			6
								U-234	1.3 +-0.3 E-01		05/02			6
								TH-230	2.3 +-0.4 E-01		05/07			6
								PU-239	L.T. 8. E-03		05/02			6
								U-235	L.T. 7. E-03		05/02			6
								U-238	1.3 +-0.3 E-01		05/02			6
								TH-232	2.0 +-0.4 E-01		05/07			6
								TH-228	2.1 +-0.5 E-01		05/07			6
44722	10360	BG-05-074-ST		03/11	1037			H-3	L.T. 5. E 02	PCI/LITER *	05/23			5
44723	10360DUP	BG-05-074-ST		03/11	1037			H-3	L.T. 5. E 02	PCI/LITER *	05/23			5
44724	10361	BG-05-074-SS		03/11	1037			SR-90	8.4 +-4.0 E-02		04/20			3

TELEDYNE BROWN ENGINEERING ENVIRONMENTAL SERVICES

REPORT OF ANALYSIS

WORK ORDER NUMBER	CUSTOMER P.O. NUMBER	DATE RECEIVED	DELIVERY DATE
4-0514	030225/030600829	03/15/94	04/17/94

ANN MARIE HOLBROW
MCLAREN/HART
16755 VON KARMAN AVE
IRVINE CA 92714

S O I L

TELEDYNE SAMPLE NUMBER		CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE	TIME	STOP DATE	TIME	NUCLIDE	ACTIVITY (PCI/LITER)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE	TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
44652	11038	BG-00-007-FT		03/14	1215			H-3	L.T. 1. E 02		05/22			5
44653	10529	BG-11-011-ST		03/14	1230			H-3	L.T. 1. E 02		05/22			5
44654	10530	BG-11-011-SS		03/14	1230			SR-90	L.T. 1. E-01	PCI/GM DRY *	04/18			3
44655	10531	BG-11-011-SP		03/14	1230			PU-238	L.T. 6. E-03	PCI/GM DRY *	04/20			6
								U-234	5.1 +-1.8 E-02	PCI/GM DRY *	04/26			6
								TH-230	3.1 +-2.2 E-02	PCI/GM DRY *	05/04			6
								PU-239	L.T. 6. E-03	PCI/GM DRY *	04/20			6
								U-235	L.T. 6. E-03	PCI/GM DRY *	04/26			6
								U-238	5.3 +-1.8 E-02	PCI/GM DRY *	04/26			6
								TH-232	2.6 +-2.3 E-02	PCI/GM DRY *	05/04			6
								TH-228	L.T. 8. E-02	PCI/GM DRY *	05/04			6
44656	10533	BG-11-011-SG		03/14	1230			BE-7	L.T. 4. E-01	PCI/GM DRY *	04/25			4
								K-40	2.85+-0.35E 00	PCI/GM DRY *	04/25			4
								MN-54	L.T. 3. E-02	PCI/GM DRY *	04/25			4
								CO-58	L.T. 3. E-02	PCI/GM DRY *	04/25			4
								FE-59	L.T. 8. E-02	PCI/GM DRY *	04/25			4
								CO-60	L.T. 3. E-02	PCI/GM DRY *	04/25			4
								ZN-65	L.T. 6. E-02	PCI/GM DRY *	04/25			4
								ZR-95	L.T. 4. E-02	PCI/GM DRY *	04/25			4
								RU-103	L.T. 5. E-02	PCI/GM DRY *	04/25			4
								RU-106	L.T. 2. E-01	PCI/GM DRY *	04/25			4
								I-131	L.T. 9. E-01	PCI/GM DRY *	04/25			4
								CS-134	L.T. 3. E-02	PCI/GM DRY *	04/25			4
								CS-137	1.09+-0.29E-01	PCI/GM DRY *	04/25			4
								BA-140	L.T. 2. E-01	PCI/GM DRY *	04/25			4
								CE-141	L.T. 8. E-02	PCI/GM DRY *	04/25			4
								CE-144	L.T. 2. E-01	PCI/GM DRY *	04/25			4
								RA-226	L.T. 5. E-01	PCI/GM DRY *	04/25			4
								TH-228	9.04+-2.40E-02	PCI/GM DRY *	04/25			4

TELEDYNE BROWN ENGINEERING ENVIRONMENTAL SERVICES

REPORT OF ANALYSIS

RUN DATE 06/03/94

WORK ORDER NUMBER	CUSTOMER P.O. NUMBER	DATE RECEIVED	DELIVERY DATE
4-0472	030225/030600829	03/21/94	04/23/94

ANN MARIE HOLBROW
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IRVINE CA 92714

S O I L

TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION		STA NUM	COLLECTION-DATE START DATE	START TIME	STOP DATE	STOP TIME	NUCLIDE	ACTIVITY (PCI/GM DRY)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE	MID-COUNT TIME TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
45087	10619	BG-14-001-MS		03/15	1000			SR-90	L.T. 7. E-02		04/28			3
45088	10619MS	BG-14-001-MS		/				SR-90	4.0 +-0.3 E 00		05/02			3
45089	10619MSD	BG-14-001-MS		/				SR-90	4.0 +-0.2 E 00		04/30			3
45090	10620	BG-14-002-ST		03/15	1000			H-3	L.T. 1. E 02	PCI/LITER *	05/27			5
45091	10621	BG-14-002-SS		03/15	1000			SR-90	L.T. 9. E-02		04/30			3
45092	10622	BG-14-002-SP		03/15	1000			PU-238	L.T. 1. E-02		05/09			6
								U-234	3.1 +-0.4 E-01		05/12			6
								TH-230	3.8 +-0.5 E-01		05/18			6
								PU-239	L.T. 1. E-02		05/09			6
								U-235	1.8 +-1.0 E-02		05/12			6
								U-238	4.0 +-0.5 E-01		05/12			6
								TH-232	1.2 +-0.1 E 00		05/18			6
								TH-228	7.8 +-0.8 E-01		05/18			6
45114	11225	BG-00-004-FS		03/15	0841			SR-90	L.T. 9. E-02		04/30			3
45115	11226	BG-01-090-SS		03/15				SR-90	L.T. 1. E-01		04/30			3
45116	11227	BG-00-008-FT		03/15	0908			H-3	L.T. 2. E 02	PCI/LITER *	05/27			5
45117	11229	BG-14-001-SS		03/15	1000			SR-90	8.2 +-4.3 E-02		04/30			3
45490	10332	BG-02-007-ST		03/10	1610			H-3	L.T. 1. E 02	PCI/LITER *	05/27			5

TELEDYNE BROWN ENGINEERING ENVIRONMENTAL SERVICES

REPORT OF ANALYSIS

RUN DATE 04/06/94

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WORK ORDER NUMBER	CUSTOMER P.O. NUMBER	DATE RECEIVED	DELIVERY DATE
4-0185	030225/030600829	03/08/94	03/18/94

ANN MARIE HOLBROW
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IRVINE CA 92714

S O I L

TELEDYNE SAMPLE NUMBER		CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE	START TIME	STOP DATE	STOP TIME	NUCLIDE	ACTIVITY (PCI/LITER)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE	MID-COUNT TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
43187	10027	BB-14-004-ST		03/04	1625			H-3	L.T. 2. E 02		03/20			5
43188	10062	SM-03-012-ST		03/07	1422			H-3	L.T. 1. E 02		03/30			5
43190	10064	SM-03-015-ST		03/07	1420			H-3	L.T. 1. E 02		03/21			5
43191	10065	SM-03-009-ST		03/07	1423			H-3	L.T. 1. E 02		03/21			5
43192	10066	SM-03-001-ST		03/07	1425			H-3	L.T. 1. E 02		03/21			5
43193	10067	SM-03-014-ST		03/07	1430			H-3	L.T. 1. E 02		03/21			5
43194	10047	BB-05-003-ST		03/07	1050			H-3	L.T. 1. E 02		03/30			5
43195	10043	BB-05-089-ST		03/07	1052			H-3	L.T. 1. E 02		03/21			5
43196	10042	BB-05-089FDT		03/07	1052			H-3	L.T. 1. E 02		03/21			5
43197	10048	BB-05-006-ST		03/07	1102			H-3	L.T. 1. E 02		03/21			5
43198	10044	BB-05-057-ST		03/07	1112			H-3	L.T. 1. E 02		03/21			5
43199	10046	BB-05-077-ST		03/07	1110			H-3	L.T. 1. E 02		03/21			5
43200	10028	BB-06-007-ST		03/07	0910			H-3	L.T. 1. E 02		03/21			5
43201	10029	BB-06-092-ST		03/07	0918			H-3	L.T. 1. E 02		03/21			5
43202	10030MS	BB-06-092-MT		/				H-3	3.0 +-0.2 E 03		03/30			5

FIELD BLANK

TELEDYNE BROWN ENGINEERING ENVIRONMENTAL SERVICES

RUN DATE 05/25/94

REPORT OF ANALYSIS

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WORK ORDER NUMBER	CUSTOMER P.O. NUMBER	DATE RECEIVED	DELIVERY DATE
4-0514	030225/030600829	03/15/94	04/17/94

ANN MARIE HOLBROW
MCLAREN/HART
16755 VON KARMAN AVE
IRVINE CA 92714

W A T E R

TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE TIME	STOP DATE TIME	NUCLIDE	ACTIVITY (PCI/LITER)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
44620	10477 BG-10-001-RT		03/14 0900		H-3	L.T. 1. E 02		05/21		5
44682	11215 FB-00-001-WT		03/14 1315		H-3	L.T. 2. E 02		05/23		5
44683	11216-17 FB-00-001-WS		03/14 1315		SR-90	L.T. 2. E 00		04/23		3
44684	11218-19 FB-00-001-WG		03/14 1315		BE-7	L.T. 4. E 01		04/29		4
					K-40	L.T. 5. E 01		04/29		4
					MN-54	L.T. 3. E 00		04/29		4
					CO-58	L.T. 3. E 00		04/29		4
					FE-59	L.T. 1. E 01		04/29		4
					CO-60	L.T. 3. E 00		04/29		4
					ZN-65	L.T. 7. E 00		04/29		4
					ZR-95	L.T. 4. E 00		04/29		4
					RU-103	L.T. 6. E 00		04/29		4
					RU-106	L.T. 3. E 01		04/29		4
					I-131	L.T. 2. E 02		04/29		4
					CS-134	L.T. 3. E 00		04/29		4
					CS-137	L.T. 3. E 00		04/29		4
					BA-140	L.T. 4. E 01		04/29		4
					CE-141	L.T. 1. E 01		04/29		4
					CE-144	L.T. 3. E 01		04/29		4
					RA-226	L.T. 7. E 01		04/29		4
					TH-228	L.T. 6. E 00		04/29		4
44697	11220-21 FB-00-001-WP		03/14 1315		PU-238	L.T. 6. E-01		04/18		6
					PU-239	L.T. 6. E-01		04/18		6
44698	11222 FB-00-C01-WA		03/14 1315		GR-A	L.T. 1. E 00		05/19		3
					GR-B	5.0 +-2.3 E 00		05/19		3

TELEDYNE BROWN ENGINEERING ENVIRONMENTAL SERVICES

RUN DATE 04/20/94

REPORT OF ANALYSIS

PAGE 1

WORK ORDER NUMBER	CUSTOMER P.O. NUMBER	DATE RECEIVED	DELIVERY DATE
4-0353	030225/030600R29	03/09/94	04/11/94

ANN MARIE HOLBROW
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16755 VON KARMAN AVE
IRVINE CA 92714

S O I L

TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION		STA NUM	COLLECTION-DATE START DATE	START TIME	STOP DATE	STOP TIME	NUCLIDE	ACTIVITY (PCI/LITER)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE	MID-COUNT TIME TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
43677	11043	BB-00-002-[redacted]		03/08				H-3	1.7 +-0.2 E 03		04/03			5
43678	11042	BB-00-001-[redacted]		03/08				H-3	L.T. 2. E 02		04/03			5
43684	11045	BB-00-004-[redacted]T		03/08				H-3	L.T. 2. E 02		04/03			5
43685	11044	BB-00-003-[redacted]T		03/08				H-3	1.7 +-0.2 E 03		04/04			5
43689	10068	BB-03-025-ST		03/08	1358			H-3	L.T. 2. E 02		04/04			5
43690	10071	BB-03-079-ST		03/08	1405			H-3	L.T. 1. E 02		04/04			5
43691	10072	BB-03-017-ST		03/08	1407			H-3	L.T. 2. E 02		04/04			5
43692	10074	BB-03-005-ST		03/08	1410			H-3	L.T. 2. E 02		04/04			5
43693	10078	BB-03-003-ST		03/08	1423			H-3	L.T. 2. E 02		04/04			5
43694	10081	BB-03-026-ST		03/08	1428			H-3	L.T. 1. E 02		04/07			5
43695	10081DUP	BB-03-026-ST		03/08	1428			H-3	L.T. 1. E 02		04/07			5
43696	11019	BB-03-026-MT		03/08	1359			H-3	L.T. 1. E 02		04/08			5
43697	11019MS	BB-03-026-MT		/				H-3	1.5 +-0.1 E 04		04/08			5
43698	11019MSD	BB-03-026-MT		/				H-3	1.7 +-0.1 E 04		04/08			5
43699	10070	BB-03-096-ST		03/08	1400			H-3	L.T. 1. E 02		04/06			5

TELEDYNE BROWN ENGINEERING ENVIRONMENTAL SERVICES

REPORT OF ANALYSIS

RUN DATE 06/02/94

PAGE 1

WORK ORDER NUMBER	CUSTOMER P.O. NUMBER	DATE RECEIVED	DELIVERY DATE
4-0595	030225/030600829	04/01/94	05/04/94

ANN MARIE HOLBROW
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16755 VON KARMAN AVE
IRVINE CA 92714

S O I L

TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION		STA NUM	COLLECTION-DATE START DATE	START TIME	STOP DATE	STOP TIME	NUCLIDE	ACTIVITY (PCI/LITER)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE	MID-COUNT TIME TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
46247	11046	BB-00-005-PT		03/09	1200			H-3	1.2 +-0.1 E 03		05/28			5
46248	11047	BB-00-006-PT		03/09	1200			H-3	L.T. 1. E 02		05/28			5
46249	11048	BB-00-007-PT		03/09	1200			H-3	1.5 +-0.2 E 03		05/28			5
46250	11182	BB-17-010-ST		03/09	1650			H-3	L.T. 1. E 02		05/28			5

LAST PAGE OF REPORT

APPROVED BY J. GUENTHER 06/02/94

SEND 1 COPIES TO MC480S ANN MARIE HOLBROW

2 - GAS LAB. 3 - RADIO CHEMISTRY LAB. 4 - GE(LI) GAMMA SPEC LAB. 5 - TRITIUM GAS/L.S. LAB. 6 - ALPHA SPEC LAB.

TELEDYNE BROWN ENGINEERING ENVIRONMENTAL SERVICES

RUN DATE 04/20/94

REPORT OF ANALYSIS

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WORK ORDER NUMBER	CUSTOMER P.O. NUMBER	DATE RECEIVED	DELIVERY DATE
4-0353	030225/030600829	03/09/94	04/11/94

ANN MARIE HOLBROW
MCLAREN/HART
16755 VON KARMAN AVE
IRVINE CA 92714

W A T E R

TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION		STA NUM	COLLECTION-DATE START DATE	TIME	STOP DATE	TIME	NUCLIDE	ACTIVITY (PCI/LITER)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE	TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
43668	11056	BG-00-001-PT		03/08				H-3	1.7 +-0.1 E 03		04/03			5
43669	11073	BG-00-001-PG		03/08				BE-7	L.T. 6. E 01		03/11			4
								K-40	L.T. 1. E 02		03/11			4
								MN-54	L.T. 7. E 00		03/11			4
								CO-58	L.T. 8. E 00		03/11			4
								FE-59	L.T. 2. E 01		03/11			4
								CO-60	3.39+-0.34E 02		03/11			4
								ZN-65	L.T. 2. E 01		03/11			4
								ZR-95	L.T. 7. E 00		03/11			4
								RU-103	L.T. 8. E 00		03/11			4
								RU-106	L.T. 7. E 01		03/11			4
								I-131	L.T. 1. E 01		03/11			4
								CS-134	L.T. 8. E 00		03/11			4
								CS-137	2.61+-0.26E 02		03/11			4
								BA-140	L.T. 1. E 01		03/11			4
								CE-141	L.T. 1. E 01		03/11			4
								CE-144	L.T. 6. E 01		03/11			4
								RA-226	L.T. 1. E 02		03/11			4
								TH-228	L.T. 1. E 01		03/11			4
								CO-57	1.94+-0.19E 02		03/11			4
43670	11072	BG-00-001-PG		03/08				BE-7	L.T. 5. E 01		03/11			4
								K-40	L.T. 9. E 01		03/11			4
								MN-54	L.T. 6. E 00		03/11			4
								CO-58	L.T. 5. E 00		03/11			4
								FE-59	L.T. 1. E 01		03/11			4
								CO-60	3.86+-0.39E 02		03/11			4
								ZN-65	L.T. 1. E 01		03/11			4
								ZR-95	L.T. 6. E 00		03/11			4
								RU-103	L.T. 6. E 00		03/11			4
								RU-106	L.T. 6. E 01		03/11			4
								I-131	L.T. 8. E 00		03/11			4

TELEDYNE BROWN ENGINEERING ENVIRONMENTAL SERVICES

REPORT OF ANALYSIS

RUN DATE 04/20/94

WORK ORDER NUMBER	CUSTOMER P.O. NUMBER	DATE RECEIVED	DELIVERY DATE
4-0353	030225/030600829	03/09/94	04/11/94

ANN MARIE HOLBROW
MCLAREN/HART
16755 VON KARMAN AVE
IRVINE CA 92714

W A T E R

TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION		STA NUM	COLLECTION-DATE START DATE	TIME	STOP DATE	TIME	NUCLIDE	ACTIVITY (PCI/LITER)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE	TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
43670	11072	BG-00-001-~~BG~~		03/08				CS-134	L.T. 6. E 00		03/11			4
								CS-137	2.91+-0.29E 02		03/11			4
								BA-140	L.T. 9. E 00		03/11			4
								CE-141	L.T. 9. E 00		03/11			4
								CE-144	L.T. 5. E 01		03/11			4
								RA-226	L.T. 1. E 02		03/11			4
								TH-228	L.T. 9. E 00		03/11			4
								CO-57	2.09+-0.21E 02		03/11			4
43671	11089	BG-00-001-~~PP~~		03/08				PU-238	L.T. 2. E-01		03/23			6
								PU-239	3.3 +-0.8 E 00		03/23			6
43672	11088	BG-00-001-~~PP~~		03/08				PU-238	L.T. 2. E-01		03/23			6
								PU-239	2.9 +-0.7 E 00		03/23			6
43673	11009	BG-00-001-~~PS~~		03/08				SR-90	L.T. 1. E 00		04/06			3
43674	11009DUP	BG-00-001-~~PS~~		03/08				SR-90	L.T. 4. E 00		04/08			3
43675	11108	BG-00-001-~~PS~~		03/08				SR-90	L.T. 2. E 00		03/31			3
43676	11064	BG-00-001-~~PA~~		03/08				GR-A	4.1 +-0.5 E 01		04/06			3
								GR-B	1.0 +-0.1 E 02		04/06			3
43679	11075	BG-00-002-~~PG~~		03/08				BE-7	L.T. 7. E 01		03/11			4
								K-40	L.T. 9. E 01		03/11			4
								MN-54	L.T. 7. E 00		03/11			4
								CO-58	L.T. 8. E 00		03/11			4
								FE-59	L.T. 2. E 01		03/11			4
								CO-60	3.70+-0.37E 02		03/11			4
								ZN-65	L.T. 2. E 01		03/11			4
								ZR-95	L.T. 8. E 00		03/11			4
								RU-103	L.T. 8. E 00		03/11			4

TELEDYNE BROWN ENGINEERING ENVIRONMENTAL SERVICES

RUN DATE 04/20/94

REPORT OF ANALYSIS

WORK ORDER NUMBER	CUSTOMER P.O. NUMBER	DATE RECEIVED	DELIVERY DATE
4-0353	030225/030600829	03/09/94	04/11/94

ANN MARIE HOLBROW
MCLAREN/HART
16755 VON KARMAN AVE
IRVINE CA 92714

W A T E R

TELEDYNE SAMPLE NUMBER		CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE	START TIME	STOP DATE	STOP TIME	NUCLIDE	ACTIVITY (PCI/LITER)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE	MID-COUNT TIME TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
43679	11075	BG-00-002-~~PG~~		03/08				RU-106	L.T. 8. E 01		03/11			4
								I-131	L.T. 1. E 01		03/11			4
								CS-134	L.T. 8. E 00		03/11			4
								CS-137	2.64+-0.26E 02		03/11			4
								BA-140	L.T. 1. E 01		03/11			4
								CE-141	L.T. 1. E 01		03/11			4
								CE-144	L.T. 6. E 01		03/11			4
								RA-226	L.T. 1. E 02		03/11			4
								TH-228	L.T. 1. E 01		03/11			4
								CO-57	2.28+-0.23E 02		03/11			4
43680	11074	BG-00-002-~~P8~~		03/08				BE-7	L.T. 5. E 01		03/11			4
								K-40	L.T. 8. E 01		03/11			4
								MN-54	L.T. 6. E 00		03/11			4
								CO-58	L.T. 6. E 00		03/11			4
								FE-59	L.T. 1. E 01		03/11			4
								CO-60	3.76+-0.38E 02		03/11			4
								ZN-65	L.T. 1. E 01		03/11			4
								ZR-95	L.T. 6. E 00		03/11			4
								RU-103	L.T. 6. E 00		03/11			4
								RU-106	L.T. 6. E 01		03/11			4
								I-131	L.T. 8. E 00		03/11			4
								CS-134	L.T. 7. E 00		03/11			4
								CS-137	2.80+-0.28E 02		03/11			4
								BA-140	L.T. 1. E 01		03/11			4
								CE-141	L.T. 1. E 01		03/11			4
								CE-144	L.T. 5. E 01		03/11			4
								RA-226	L.T. 1. E 02		03/11			4
								TH-228	L.T. 1. E 01		03/11			4
								CO-57	2.10+-0.21E 02		03/11			4

TELEDYNE BROWN ENGINEERING ENVIRONMENTAL SERVICES

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4-0353	030225/030600829	03/09/94	04/11/94	

ANN MARIE HOLBROW
MCLAREN/HART
16755 VON KARMAN AVE
IRVINE CA 92714

WATER

TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION		STA NUM	COLLECTION-DATE START DATE	START TIME	STOP DATE	STOP TIME	NUCLIDE	ACTIVITY (PCI/LITER)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE	MID-COUNT TIME TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
43681	11091	BG-00-002-		03/08				PU-238	L.T. 2. E-01		03/23			6
								PU-239	2.6 +-0.7 E 00		03/23			6
43682	11110	BG-00-002-		03/08				SR-90	L.T. 1. E 00		03/29			3
43683	11111	BG-00-002-		03/08				SR-90	L.T. 3. E 00		03/31			3
43686	11065	BB-00-002-		03/08				GR-A	4.1 +-0.5 E 01		04/06			3
								GR-B	9.6 +-0.5 E 01		04/06			3
43687	11057	BG ~~BB~~-00-002-		03/08				H-3	1.8 +-0.2 E 03		04/04			5
43688	11090	BG-00-002-		03/08				PU-238	L.T. 2. E-01		03/23			6
								PU-239	2.5 +-0.7 E 00		03/23			6
43704	10086	BB-20-001-RS		03/08	0854			SR-90	L.T. 2. E 00		03/29			3
43708	10090	BB-20-002-RG		03/08	0854			BE-7	L.T. 3. E 01		03/11			4
								K-40	L.T. 8. E 01		03/11			4
								MN-54	L.T. 3. E 00		03/11			4
								CO-58	L.T. 3. E 00		03/11			4
								FE-59	L.T. 6. E 00		03/11			4
								CO-60	L.T. 3. E 00		03/11			4
								ZN-65	L.T. 7. E 00		03/11			4
								ZR-95	L.T. 3. E 00		03/11			4
								RU-103	L.T. 3. E 00		03/11			4
								RU-106	L.T. 3. E 01		03/11			4
								I-131	L.T. 4. E 00		03/11			4
								CS-134	L.T. 3. E 00		03/11			4
								CS-137	L.T. 3. E 00		03/11			4
								BA-140	L.T. 4. E 00		03/11			4
								CE-141	L.T. 5. E 00		03/11			4
								CE-144	L.T. 2. E 01		03/11			4

TELEDYNE BROWN ENGINEERING ENVIRONMENTAL SERVICES

RUN DATE 04/14/94

REPORT OF ANALYSIS

PAGE 1

WORK ORDER NUMBER	CUSTOMER P.O. NUMBER	DATE RECEIVED	DELIVERY DATE
4-0459	030225/030600829	03/21/94	04/23/94

ANN MARIE HOLBROW
MCLAREN/HART
16755 VON KARMAN AVE
IRVINE CA 92714

W A T E R

TELEDYNE SAMPLE NUMBER		CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE	TIME	STOP DATE	TIME	NUCLIDE	ACTIVITY (PCI/LITER)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE	TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
45094	11248	WD2-WT		03/15	1219			H-3	L.T. 2. E 02		03/26			5
45095	11249	WD2-WS		03/15	1219			SR-90	L.T. 1. E 00		03/30			3
45097	11251	WD2-WP		03/15	1219			PU-238	L.T. 6. E-01		04/10			6
								PU-239	L.T. 8. E-01		04/10			6
45099	11253	WD2-WG		03/15	1219			BE-7	L.T. 8. E 01		03/26			4
								K-40	L.T. 1. E 02		03/26			4
								MN-54	L.T. 8. E 00		03/26			4
								CO-58	L.T. 9. E 00		03/26			4
								FE-59	L.T. 2. E 01		03/26			4
								CO-60	L.T. 1. E 01		03/26			4
								ZN-65	L.T. 2. E 01		03/26			4
								ZR-95	L.T. 9. E 00		03/26			4
								RU-103	L.T. 1. E 01		03/26			4
								RU-106	L.T. 8. E 01		03/26			4
								I-131	L.T. 2. E 01		03/26			4
								CS-134	L.T. 9. E 00		03/26			4
								CS-137	L.T. 1. E 01		03/26			4
								BA-140	L.T. 2. E 01		03/26			4
								CE-141	L.T. 2. E 01		03/26			4
								CE-144	L.T. 6. E 01		03/26			4
								RA-226	L.T. 2. E 02		03/26			4
								TH-228	L.T. 2. E 01		03/26			4
45102	11255	WD2-WA		03/15	1219			GR-A	L.T. 2. E 01		03/28			3
								GR-B	1.3 +-0.7 E 01		03/28			3

TELEDYNE BROWN ENGINEERING ENVIRONMENTAL SERVICES

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REPORT OF ANALYSIS

PAGE 2

WORK ORDER NUMBER	CUSTOMER P.O. NUMBER	DATE RECEIVED	DELIVERY DATE
4-0459	030225/030600829	03/21/94	04/23/94

ANN MARIE HOLBROW
MCLAREN/HART
16755 VON KARMAN AVE
IRVINE CA 92714

W A T E R

TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE	START TIME	STOP DATE	STOP TIME	NUCLIDE	ACTIVITY (PCI/LITER)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE	MID-COUNT TIME TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
45106	11239 WDI-WT		03/15	1050			H-3	L.T. 2. E 02		03/26			5
45107	11240 WDI-WA		03/15	1150			GR-A	L.T. 2. E 01		03/28			3
							GR-B	4.0 +-0.9 E 01		03/28			3
45108	11241 WDI-WS		03/15	1150			SR-90	L.T. 9. E-01		03/30			3
45110	11243 WDI-WP		03/15	1150			PU-238	L.T. 2. E-01		04/10			6
							PU-239	L.T. 2. E-01		04/10			6
45112	11245 WDI-WG		03/15	1150			BE-7	L.T. 1. E 02		03/26			4
							K-40	L.T. 3. E 02		03/26			4
							MN-54	L.T. 1. E 01		03/26			4
							CO-58	L.T. 1. E 01		03/26			4
							FE-59	L.T. 2. E 01		03/26			4
							CO-60	L.T. 1. E 01		03/26			4
							ZN-65	L.T. 2. E 01		03/26			4
							ZR-95	L.T. 1. E 01		03/26			4
							RU-103	L.T. 1. E 01		03/26			4
							RU-106	L.T. 9. E 01		03/26			4
							I-131	L.T. 3. E 01		03/26			4
							CS-134	L.T. 1. E 01		03/26			4
							CS-137	L.T. 1. E 01		03/26			4
							BA-140	L.T. 2. E 01		03/26			4
							CE-141	L.T. 2. E 01		03/26			4
							CE-144	L.T. 6. E 01		03/26			4
							RA-226	L.T. 2. E 02		03/26			4
							TH-228	L.T. 2. E 01		03/26			4

J Guenther

LAST PAGE OF REPORT

APPROVED BY J. GUENTHER 04/14/94

SEND 1 COPIES TO MC480S ANN MARIE HOLBROW

2 - GAS LAB. 3 - RADIO CHEMISTRY LAB. 4 - GEILII GAMMA SPEC LAB. 5 - TRITIUM GAS/L.S. LAB. 6 - ALPHA SPEC LAB.

Appendix E

Data Comment Letters from Teledyne Isotopes Laboratory and Brandeis-Bardin Consultant

TELEDYNE
BROWN ENGINEERING
Environmental Services
50 VAN BUREN AVENUE
P.O. BOX 1235
WESTWOOD, NEW JERSEY 07675-1235
(201) 664-7070 FAX (201) 664-5586

September 7, 1994

Mr Eric Smith
McLaren/Hart
FAX: 714-756-8460

Attached are the data sheets for the four Sr-90 results of which you inquired. A brief discussion is provided in the letter to help decipher our reporting.

TI# 43673:
The first count gave result of 2.2 +-1.6. When we get a positive result we count it approximately two days later to check for the radioactive decay of Y-90. That gave L.T. 4. We then "remilked" which means we reprocessed it to separate Sr from Y and then recounted to try to improve the detection limit. That time the two counts did not show radioactive decay. Thus we reported a L.T. 1.

TI# 43675:
The first count gave result of 2.2 +-1.0. The activity was close to our detection limit so when we counted it two days later we got L.T. 2. which we reported.

TI# 43682:
The first count gave result of L.T. 1. so we did not perform additional counts.

TI# 43683:
The first count gave result of 2.3 +-1.3. Upon recount we got L.T. 3. and reported that.

So you can see that we measured a result close to the spiked value on the first count of three out of four samples but did not report them because the second counts were below our detection limit.

Sincerely,

J. David Martin

J. David Martin
Manager, Environmental Analysis

RADIOCHEMICAL WORK SHEET

SAMPLE NUMBER	NUCLIDE
4 3 6 7 3	Y - 9 0

CUSTOMER McLaren Hart COLLECTION DATE 3/8
MOUNTING DATE 3-28-94 SAMPLE TYPE WO
VOLUME ____ UNITS ____ ALIQUOT 300mls

SCAVENGE DATE 3-22-94 TIME 1315
MILKING DATE 3-28-94 TIME 0930
ANALYST AwA / DCT INGROWTH FACTOR .779

YIELD 100.0 NUCLIDE ^{90}Y
YIELD 71.5 NUCLIDE ^{89}Sr
DECAY FACTOR (MILK TO COUNT) .774 .462

ASH WT. ____ gms
WET WT. ____ gms
$\frac{\text{ASH WT.}}{\text{WET WT.}}$ (100) = ____ %

COUNTING Date	COUNTING Time	COUNTER	N (Counts)	Δt (min)	N/Δt (cpm)	Bkg. (cpm)	A (cpm)	E (eff.)	
3/29	0830	X29	71	100	.71	.41	.30	.47	2.2 ± 1.6 E 00 k=1.06
3/31	0830	X29	58	100	.58	~~.17~~ .41	~~.41~~ .17	.47	LT. 4. E 00 k=1.01

Decay Factor	INTERVAL Colln to Ct	INTERVAL Ct to Ct

$\frac{.17}{.597} = .28$
– pooo –

ACTIVITY OR MDL

	.					.			E		

UNITS A CALC. BY KC DATE 4/1/94
ENTERED ____ CHECKED BY ____ DATE ____

-Remilk-

RADIOCHEMICAL WORK SHEET

SAMPLE NUMBER				
4	3	6	7	3

NUCLIDE						
Y	-	9	0			

CUSTOMER McLaren Hart COLLECTION DATE 3/8
MOUNTING DATE 4-5-94 SAMPLE TYPE WO
VOLUME ______ UNITS ______ ALIQUOT 300mls

SCAVENGE DATE 3-28-94 TIME 0930
MILKING DATE 4-5-94 TIME 0940
ANALYST DCT INGROWTH FACTOR .874

YIELD 91.9 NUCLIDE Y^{90}
YIELD 60.1 NUCLIDE Sr^{89}
DECAY FACTOR (MILK TO COUNT) .775 .462

ASH WT. ______ gms
WET WT. ______ gms
$\frac{\text{ASH WT.}}{\text{WET WT.}}$ (100) = ______ %

COUNTING Date	Time	COUNTER	N (Counts)	Δt (min)	$\frac{N}{\Delta t}$ (cpm)	Bkg. (cpm)	A (cpm)	E (eff.)	L, T, 1, E00 — pc
4/6	0830	E3	36	100	.360	.14	.22	.30	~~2.9 ± 1.9 E 00~~ k=1.17
4/8	0830	E3	39	100	.390	.14	.25	.30	~~5.4 ± 3.2 E 00~~ k=2.18

not decaying jtm 4-11

Decay Factor	INTERVAL Colln to Ct	Ct to Ct

$\frac{.25}{.597} = .42$ — pass —

ACTIVITY OR MDL												
L	.	T	,		1	.			E		0	0

UNITS A CALC. BY KC DATE 4/8/94
ENTERED 4/11 CHECKED BY jtm DATE 4-11

RADIOCHEMICAL WORK SHEET

SAMPLE NUMBER	NUCLIDE
4 3 6 7 5	Y - 9 0

CUSTOMER McLaren Hart COLLECTION DATE 3/8
MOUNTING DATE 3-28-94 SAMPLE TYPE WO
VOLUME ______ UNITS ______ ALIQUOT 500mls

SCAVENGE DATE 3-22-94 TIME 1315
MILKING DATE 3-28-94 TIME 0930
ANALYST AWA | DCJ INGROWTH FACTOR .779

YIELD 100.0 NUCLIDE Y^{90}
YIELD 67.6 NUCLIDE Sr^{89}
DECAY FACTOR .774
(MILK TO COUNT) .462

ASH WT. ______ gms
WET WT. ______ gms
$\frac{\text{ASH WT.}}{\text{WET WT.}}$ (100) = ______ %

COUNTING Date	Time	COUNTER	N (Counts)	Δt (min)	$\frac{N}{\Delta t}$ (cpm)	Bkg. (cpm)	A (cpm)	E (eff.)	
3/29	0830	X2C	85	100	~~.65~~ .85	.38	.47	.48	~~2.2±1.0 E 00~~ k=1.62
3/31	0830	X2C	56	100	.56	.38	.18	.48	LT. 2. E 00 k=1.04

$\frac{.18}{.1597} = .130$ — pass —

Decay Factor	INTERVAL Colln to Ct	Ct to Ct

ACTIVITY OR MDL

L . T . 2 . E 0 0

UNITS A CALC. BY KC DATE 4/1/94
ENTERED 4/4 CHECKED BY Jm DATE 4-4

FORM TNL-3A Revised 3/15/91

RADIOCHEMICAL WORK SHEET

SAMPLE NUMBER				
4	3	6	8	2

NUCLIDE						
Y	-	9	0			

CUSTOMER McLaren Hart COLLECTION DATE 3/8
MOUNTING DATE 3-28-94 SAMPLE TYPE WO
VOLUME ______ UNITS ______ ALIQUOT 500mls

SCAVENGE DATE 3-22-94 TIME 1315
MILKING DATE 3-28-94 TIME 0930
ANALYST AKA | DCT INGROWTH FACTOR .779

YIELD 100.0 NUCLIDE ^{90}Y ASH WT. ______ gms
YIELD 70.4 NUCLIDE Sr^{89} WET WT. ______ gms
DECAY FACTOR (MILK TO COUNT) .774 $\frac{\text{ASH WT.}}{\text{WET WT.}}$ (100) = ______ %

COUNTING Date	COUNTING Time	COUNTER	N (Counts)	Δt (min)	N/Δt (cpm)	Bkg. (cpm)	A (cpm)	E (eff.)	
3/29	0830	X2d	65	100	.65	.46	.19	.48	LT. 1. E 00
									k= .60

Decay Factor	INTERVAL Colln to Ct	INTERVAL Ct to Ct

ACTIVITY OR MDL

L	.	T	.		1	.			E		0	0

UNITS A CALC. BY ka DATE 3/30/94
ENTERED ______ CHECKED BY Jm DATE 3-30

FORM IWL-3A Revised 3/15/81

RADIOCHEMICAL WORK SHEET

SAMPLE NUMBER				
4	3	6	8	3

NUCLIDE						
Y	-	9	0			

CUSTOMER McLaren Hart COLLECTION DATE 3/8
MOUNTING DATE 3-28-94 SAMPLE TYPE WO
VOLUME ______ UNITS ______ ALIQUOT 500 mls

SCAVENGE DATE 3-22-94 TIME 1315
MILKING DATE 3-28-94 TIME 0930
ANALYST AWA/DCJ INGROWTH FACTOR .779

YIELD 99.4 NUCLIDE Y^{90}
YIELD 58.7 NUCLIDE Sr^{89}
DECAY FACTOR (MILK TO COUNT) .774 .462

ASH WT. ______ gms
WET WT. ______ gms
$\frac{\text{ASH WT.}}{\text{WET WT.}}$ (100) = ______ %

COUNTING Date	COUNTING Time	COUNTER	N (Counts)	Δt (min.)	N/Δt (cpm)	Bkg. (cpm)	A (cpm)	E (eff.)	
3/29	0836	X39	87	100	.87	.47	.40	.45	2.3 ± 1.3 E 00
									k = 1.48
3/31	0830	X39	66	100	.66	.47	.19	.45	L.T. 3. E 00
									k = 1.18

Decay Factor	INTERVAL Colln to Ct	INTERVAL Ct to Ct

$\frac{.19}{.597} = .32$ — pass —

ACTIVITY OR MDL													
L	.	T	.		3	.			E		0	0

UNITS A CALC. BY KO DATE 4/1/94
ENTERED 4/4 CHECKED BY [signature] DATE 4-4

FORM IWL-3A Revised 3/15/81

TELEDYNE
BROWN ENGINEERING
Environmental Services
50 VAN BUREN AVENUE
P.O. BOX 1235
WESTWOOD, NEW JERSEY 07675-1235
(201) 664-7070 FAX (201) 664-5586

September 23, 1994

Mr. Eric Smith
McLaren/Hart
16755 Von Karman Avenue
Irvine, California 92714

Dear Mr. Smith:

We did not initially report the isotopes listed below for four samples since the isotopes are not ones expected to be found (or requested to be analyzed for) in field samples but instead can be used for detector calibrations.

Our convention is to report the greater of 10% or two standard deviations of the counting statistics for gamma ray spectroscopy. All of the measurements listed below had two standard deviations (which are also listed) of less than 10%. Results are in pCi/l.

Nuclide	TI# 43669	TI# 43670	TI# 43679	TI# 43680
Y-88	606+-20	661+-13	650+-21	680+-18
Cd-109	7970+-240	9530+-250	9700+-310	8510+-170
Sn-113	219+-8	240+-6	232+-8	236+-7
Ce-139	167+-7	207+-7	199+-8	200+-6
Hg-203	169+-7	186+-7	185+-8	188+-7

Sincerely,

J. David Martin

J. David Martin
Manager, Environmental Analysis

JOEL I. CEHN
CERTIFIED HEALTH PHYSICIST
1036 HUBERT ROAD
OAKLAND, CA 94610

(510) 208-1571

August 26, 1994

Mr. Dennis Dineen
McLaren/Hart
16755 Von Karman Ave.
Irvine, CA 92714

Dear Dennis;

I have some changes in results for one Brandeis QC sample. These are shown on the attached table. This table was prepared by Joe Stinson to summarize some of the laboratory quality control data. In case you are including this table in your report, I wanted you to have the corrected copy.

The correction was a result of a calculational error at the lab. Prior to gamma spec. analysis, water samples (2 only) were supposed to be evaporated from 1000 ml to 500 ml. The goal was to decrease the detection limit by a factor of 2. However, in the lab the evaporation wasn't done, but the factor of 2 was still applied (for sample BBG-00-002PG). This resulted in isotopic concentrations for that sample being reported too low, by a factor of 2.

Yours truly,

Joel

cc: Niel Mukherjee, Rockwell
Joe Stinson, SC&A
Mike McWilliams, SC&A

TELEDYNE
BROWN ENGINEERING
Environmental Services

80 VAN BUREN AVENUE
P.O. BOX 1235
WESTWOOD, NEW JERSEY 07675-1235
(201) 664-7070 FAX (201) 664-5586

To: Mr. Eric Smith
McLaren/Hart
FAX: 714-756-8460

Sequence for Counting Some Tritium Samples

Count Date	TI#	Water Volume (ml)	Soil Mass Wet (g)	Soil Mass Dry (g)
05-22-94	62	2		
	64	1		
	63	1		
	44665	2	314	300
	44677	1	186	177
	82	10		
	87	10		
	94	10		
05-26-94	42	10		
	47	9		
	51	5		
	45054	3	321	315
	59	1		
	60	1		
	61	1		
	45070	1	260	253
	45077	2	356	350
	83	10		
	86	10		
	90	10		

The five samples for which the entire five digit TI# is expressed are the ones requested by the customer for us to provide the samples counted before and after. The counting sequence seems to be unimportant. However, the volume of sample available and counted seems to be. After the water, removable by the procedure, was separated, the soil was further dried (and recorded in the event that later the results needed to be expressed on a dry mass basis). That mass is given in the right-hand column. The volume of water extracted is not known exactly but is close to the volume counted.

Sincerely,

J. David Martin

J. David Martin
Manager, Environmental Analysis

TELEDYNE
BROWN ENGINEERING
Environmental Services

50 VAN BUREN AVENUE
P.O. BOX 1235
WESTWOOD, NEW JERSEY 07675-1235
(201) 664-7070 FAX (201) 664-5586

September 14,1994

Mr. Eric Smith
McLaren/Hart
16755 Von Karman Avenue
Irvine, California 92714

Dear Mr. Smith:

Upon review of the tritium data for this project we noticed that in a few cases we reported a relatively high tritium activity (also with a large counting error) for samples for which we extracted a relatively small quantity of water. For those samples we counted 1 or 2 ml of water. We now suspect that those results do not reflect the actual tritium activity and thus we retract those results. The phenomenon for causing this apparent activity is not known. An equivalent volume of water removed from a water sample does not exhibit this effect. The samples for which we are retracting the tritium results are identified by our numbering system as:

TI# 44665, 44677, 45054, 45070, and 45077.

If you have any questions please contact me.

Sincerely,

J. David Martin

J. David Martin
Manager, Environmental Analysis

TELEDYNE
BROWN ENGINEERING
Environmental Services

[illegible] VAN BUREN AVENUE
P.O. BOX [illegible]
WESTWOOD, NEW JERSEY [illegible]-1235
(201) [illegible]-7070 FAX (201) [illegible]

October 21, 1994

Mr. Eric Smith
McLaren/Hart
FAX: 714-756-8460

TI#	Water Extracted (ml)	Water Counted (ml)
44657	2.3	1.0
44722 & 44723	14.1	2.0 each TI#

TI# 44722 & 44723 were two aliquots from the same sample. There remains 10 ml of sample which could be counted to improve the reliability.

Sincerely,

J David Martin

J. David Martin
Manager, Environmental Analysis

APPENDIX F
GRAPHICAL EVALUATION
OF RESULTS

Appendix F

Graphical Evaluation of Results

APPENDIX F

GRAPHICAL EVALUATION OF RESULTS

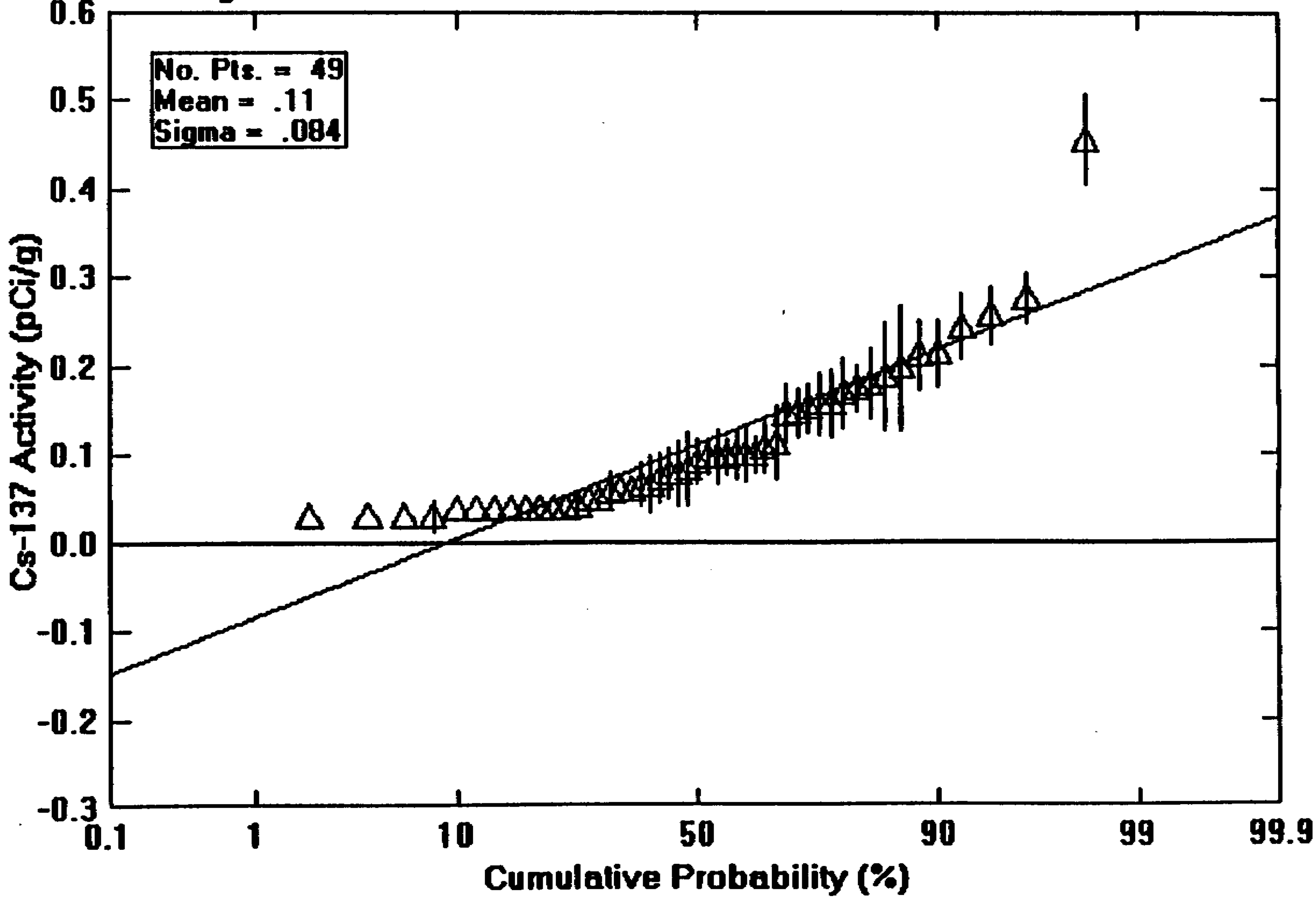
Figures 1 to 4 illustrate the distribution of 1992 plus 1994 data for cesium-137 at Building 59 Watershed and at the background areas. The distributions have been linearized on a cumulative probability plot. Note that the range of the Building 59 Watershed cesium-137 is similar to the Wildwood park ravine cesium-137 (compare Figure 3 to Figure 4). Both Building 59 Watershed and Wildwood park ravine cesium-137 are statistically distinguishable from the other aggregate backgrounds.

Figures 6 to 8 illustrate the distribution of 1992 plus 1994 data for strontium-90 at the Radioactive Materials Disposal Facility (RMDF) Watershed and at the background areas. Note that removing the "Wildwood Park" background dataset from the aggregate background does not significantly change the mean or the standard deviation (compare Figures 6 to Figure 7). Even though the slope (standard deviation) of the RMDF Watershed data is larger than the background data of the aggregate background, the large error bars in the individual measurements overlap, suggesting comparable data.

Figures 5 and 9 compare the range of 1994, Cs-137 and strontium-90 data collected from background areas (including and excluding Wildwood), and sampled areas (McLaren/Hart, EPA, DHS, and BBI). All cesium-137 data is comparable with overlapping 2-sigma ranges. All measurements are significantly less than the proposed EPA soil cleanup standards for radiation site cleanup. This cleanup standard is based on a dosage rate of 50 mrens/year for residential area. Most strontium-90 data is comparable with overlapping 2-sigma ranges. Note that the EPA and BBI measurements were all "less than detect" at around 0.7 pCi/gm, far in excess of other measured data, and far in excess of differences between sampled areas and background areas. All measurements were significantly less than the proposed EPA soil cleanup standards for radiation site cleanup.

FIGURE 1

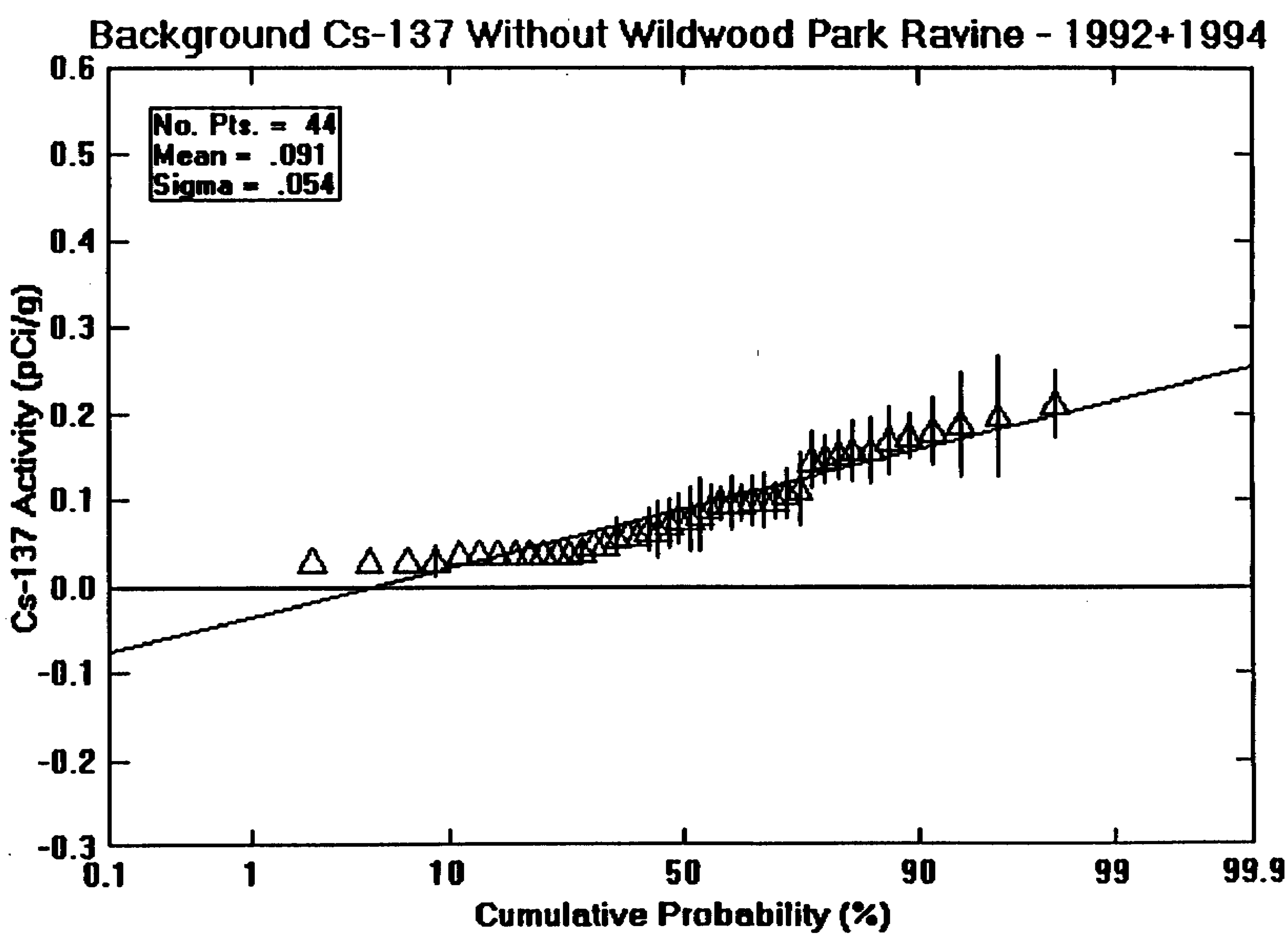
Background Cs-137 With Wildwood Park Ravine - 1992+1994



C:\EXCEL\DATA\BGCSYSWW.CSV

10-11-94

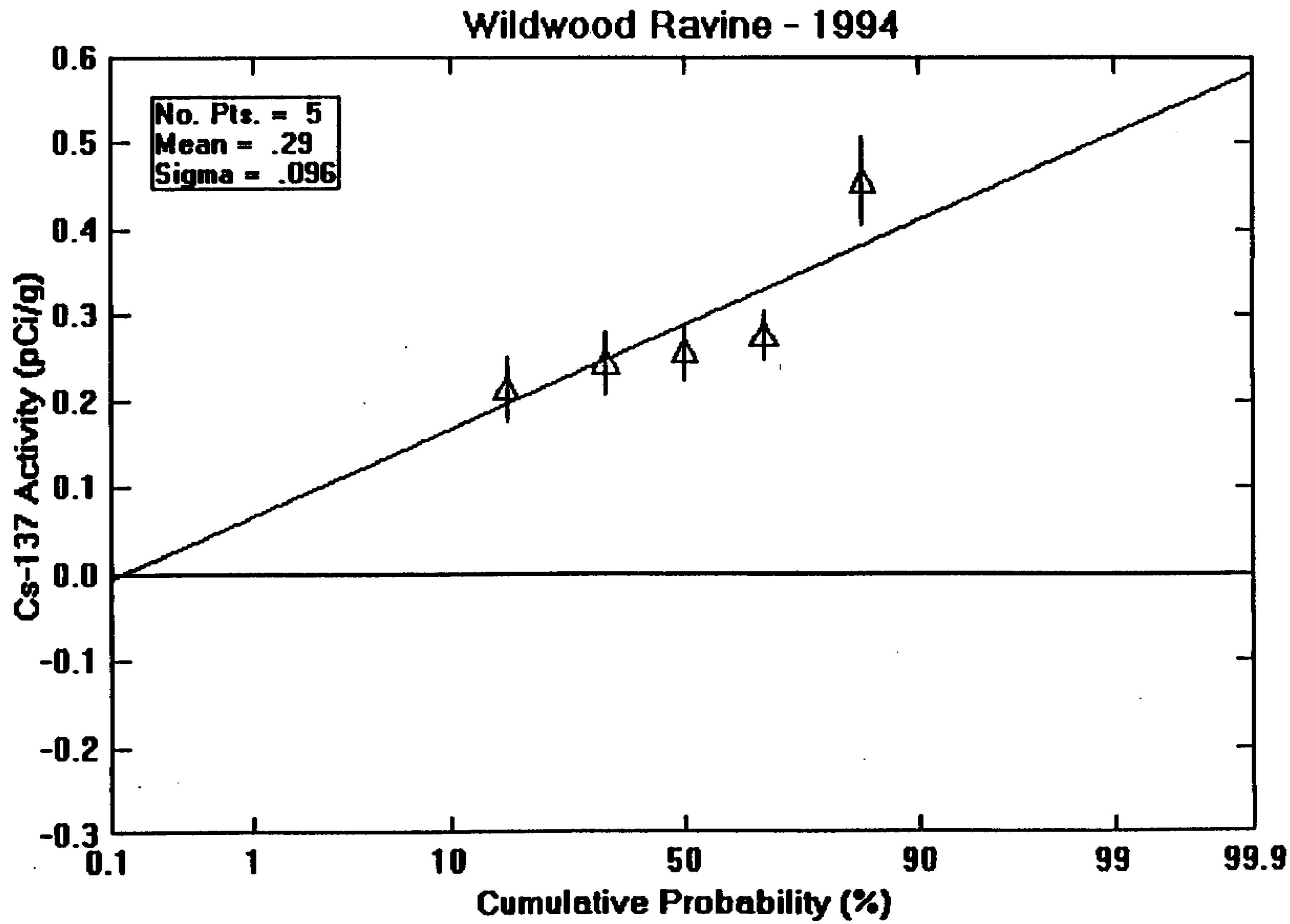
FIGURE 2



C:\EXCEL\DATA\BGCSNOWW.CSV

10-11-94

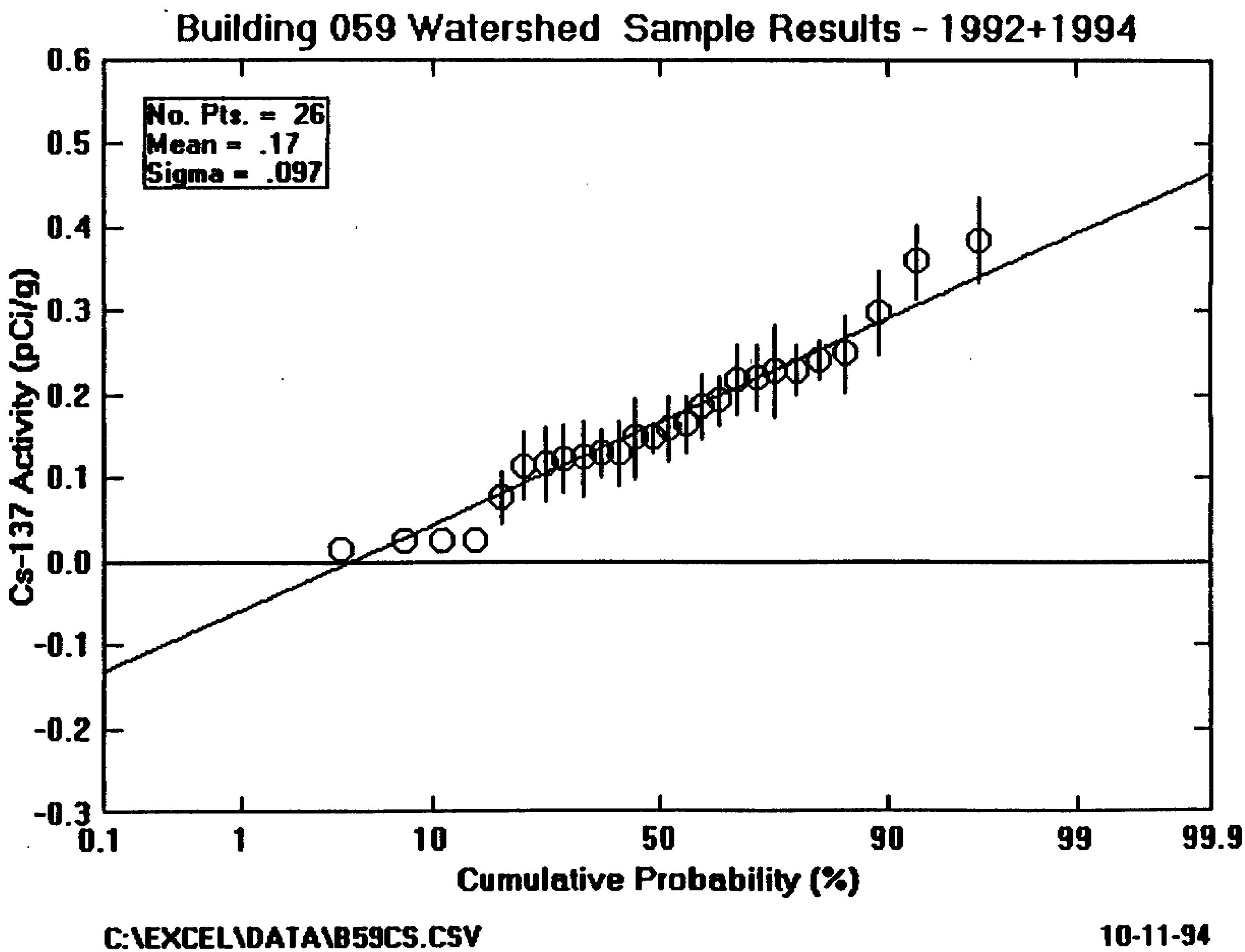
FIGURE 3



C:\EXCEL\DATA\WWRAVINE.CSV

10-11-94

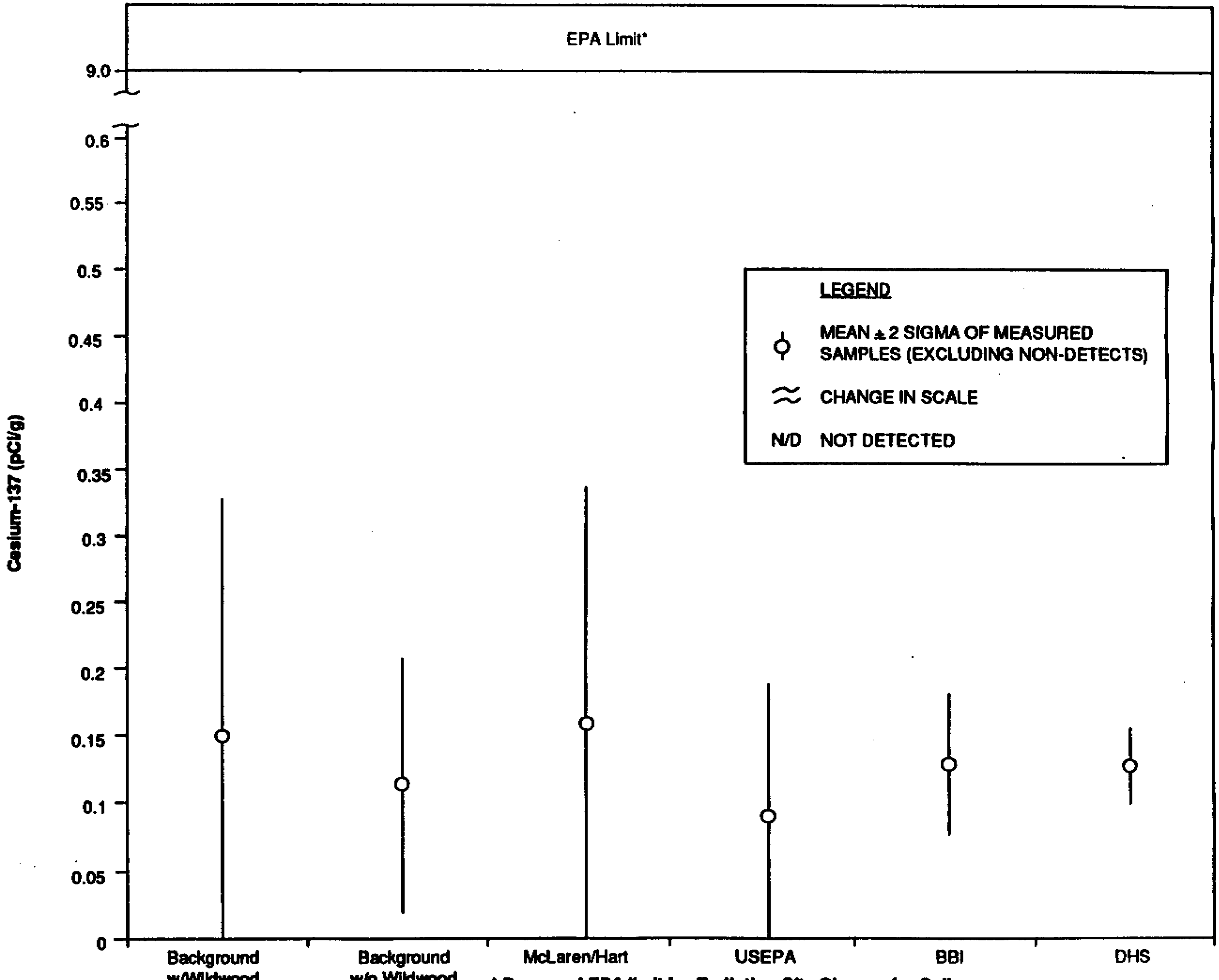
FIGURE 4


Building 059 Watershed Sample Results - 1992+1994
No. Pts. = 26
Mean = .17
Sigma = .097
Cs-137 Activity (pCi/g)
0.6
0.5
0.4
0.3
0.2
0.1
0.0
-0.1
-0.2
-0.3
0.1
1
10
50
90
99
99.9
Cumulative Probability (%)
C:\EXCEL\DATA\B59CS.CSV
10-11-94

10-Oct-94

1994 Multimedia Results - Cesium-137 in Soil

FIGURE 5



* Proposed EPA limit for Radiation Site Cleanup for Soil (40 CFR 196 and supporting documents)

E9411006

FIGURE 6

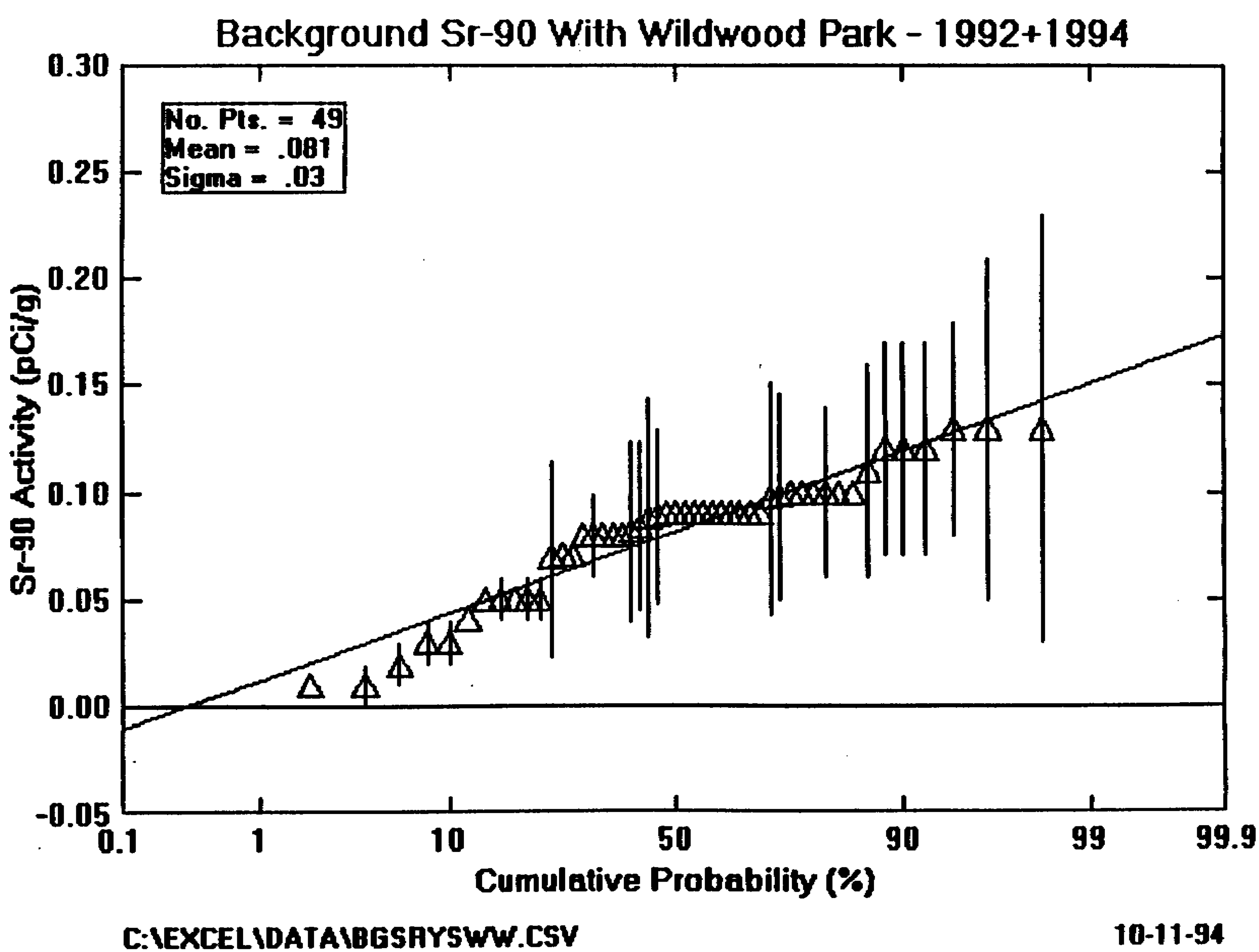
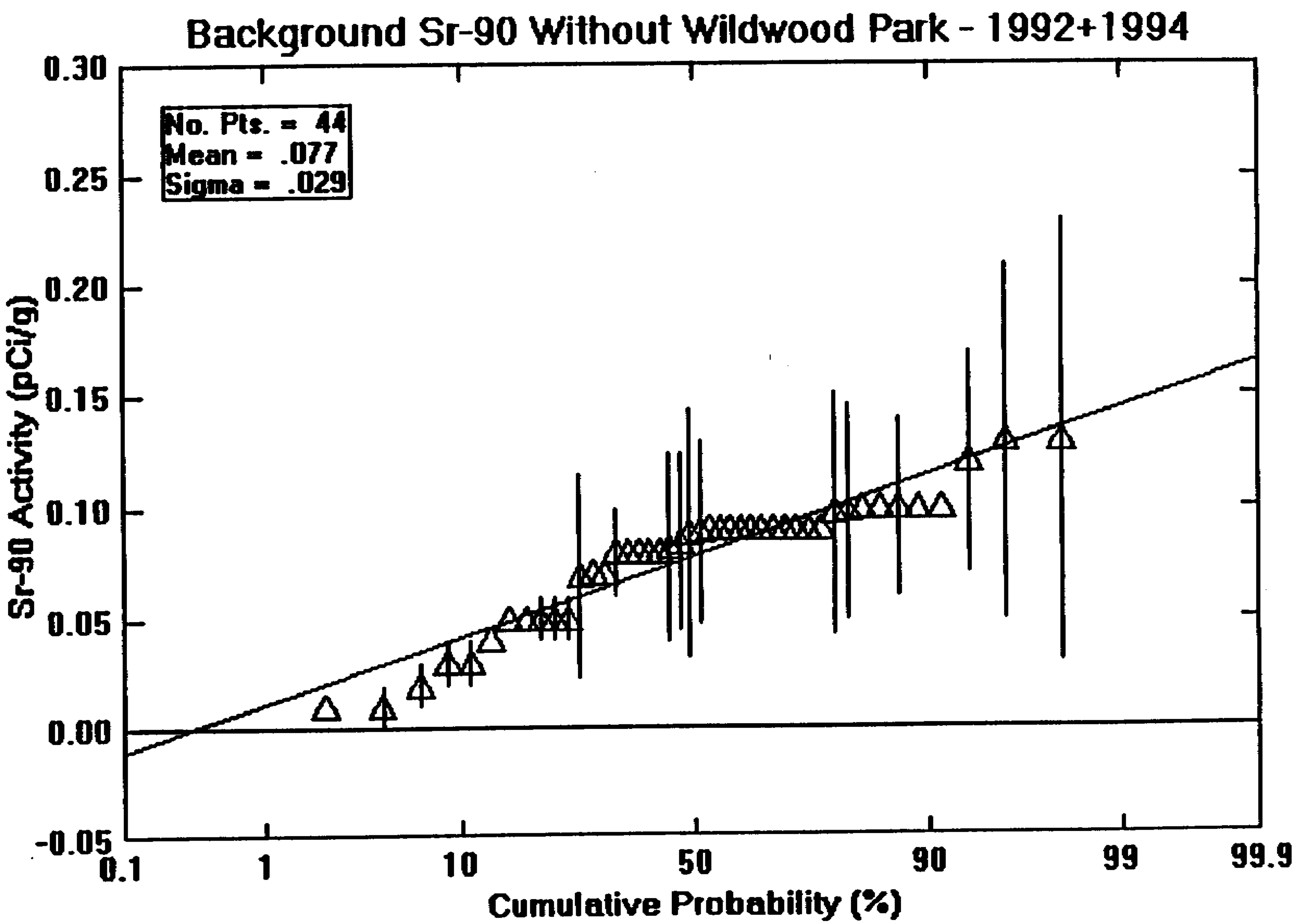

Background Sr-90 With Wildwood Park - 1992+1994
No. Pts. = 49
Mean = .081
Sigma = .03
Sr-90 Activity (pCi/g)
0.30
0.25
0.20
0.15
0.10
0.05
0.00
-0.05
0.1
1
10
50
90
99
99.9
Cumulative Probability (%)
C:\EXCEL\DATA\BGSRYSWW.CSV
10-11-94

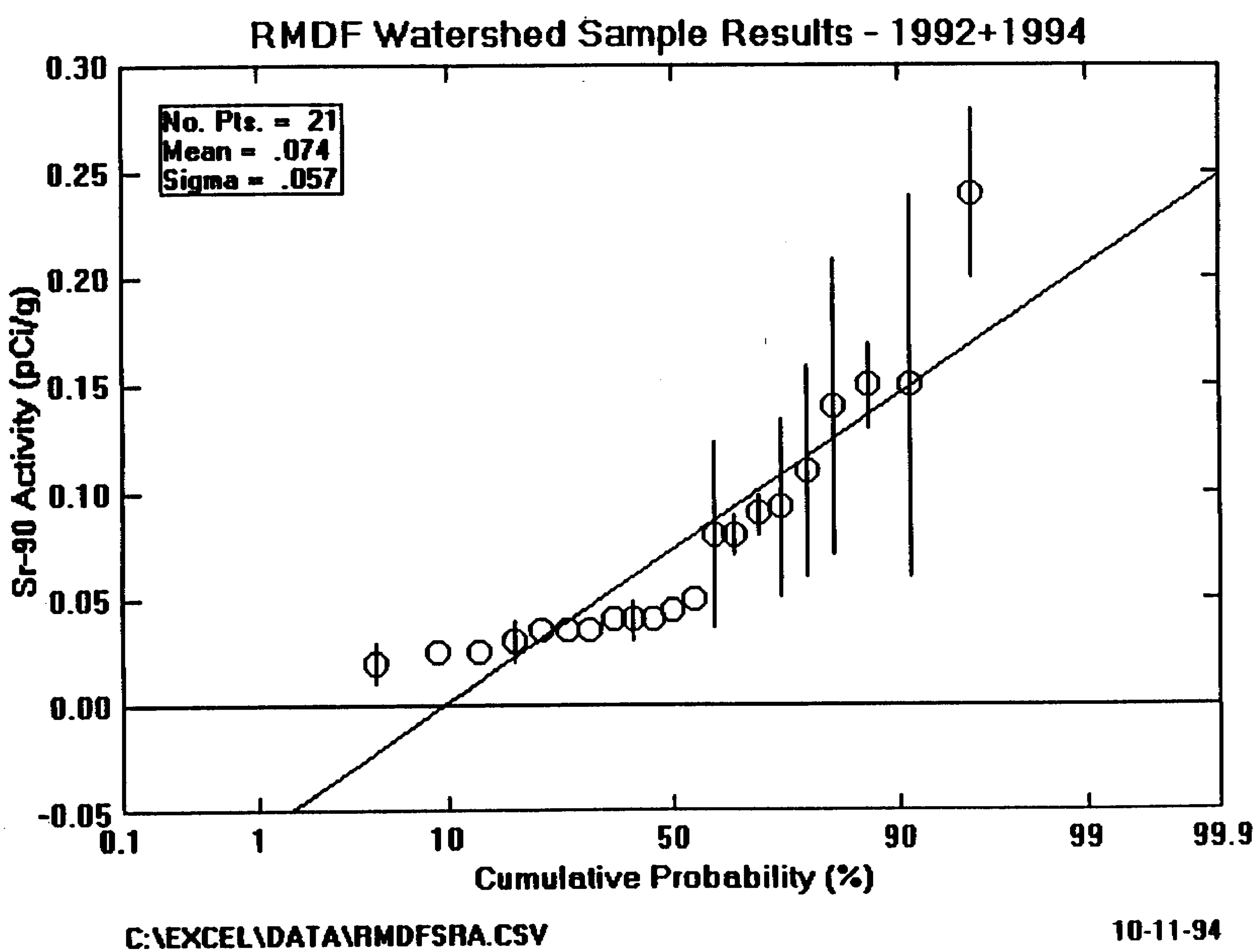
FIGURE 7



C:\EXCEL\DATA\BGSRNOWW.CSV

10-11-94

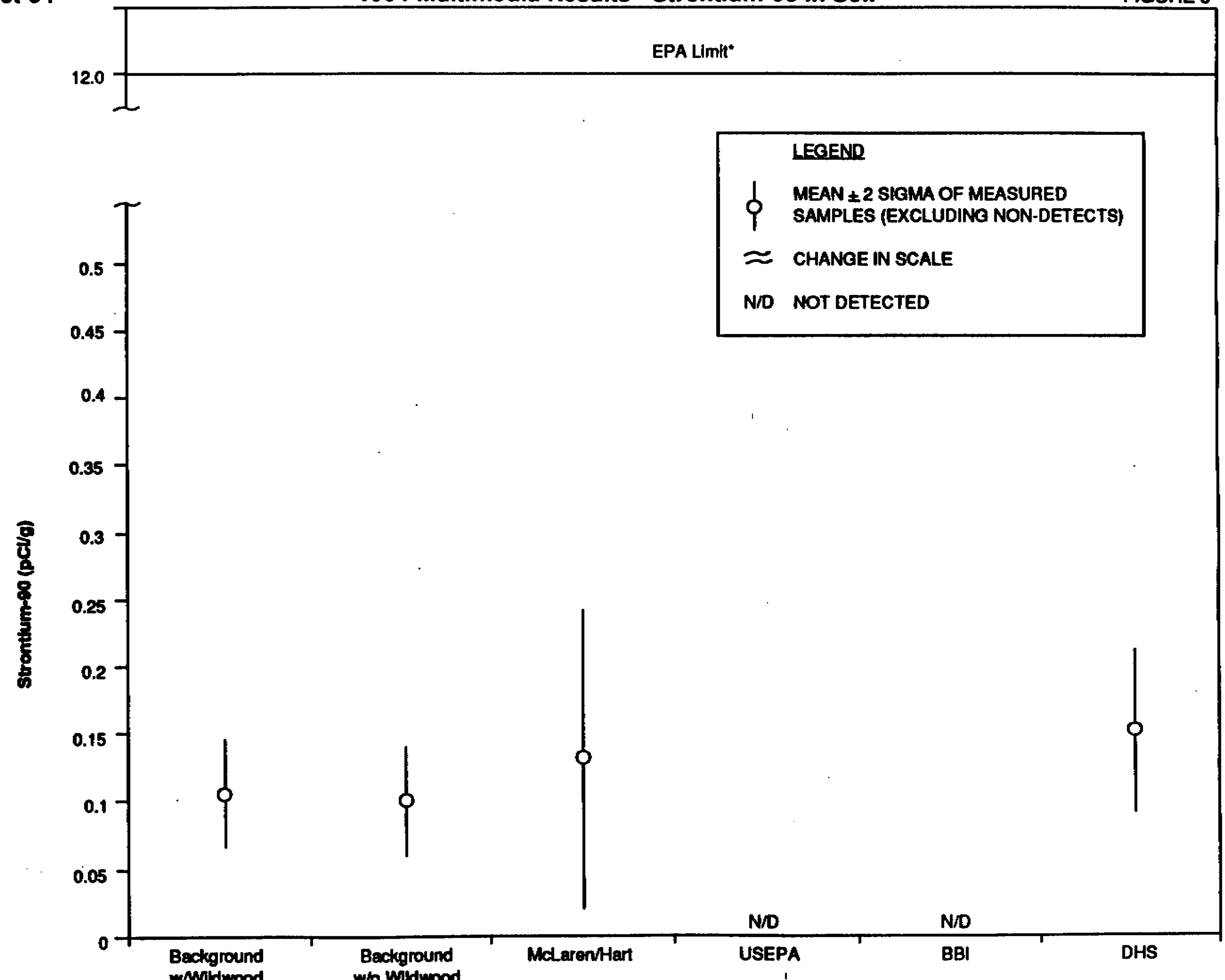
FIGURE 8


RMDF Watershed Sample Results - 1992+1994
No. Pts. = 21
Mean = .074
Sigma = .057
Sr-90 Activity (pCi/g)
0.30
0.25
0.20
0.15
0.10
0.05
0.00
-0.05
0.1
1
10
50
90
99
99.9
Cumulative Probability (%)
C:\EXCEL\DATA\RMDFSRA.CSV
10-11-94

10-Oct-9?

1994 Multimedia Results - Strontium-90 in Soil

FIGURE 9



* Proposed EPA limit for Radiation Site Cleanup for Soil (40 CFR 196 and supporting documents)

E9411005

APPENDIX G
RADIATION
SURVEY RESULTS

Appendix G

Radiation Survey Results

Table 6.1 Radiation Measurement Results

Survey Date	Sample Area	Sample Area Code	Block Number	Radiation Measurement (approximately 30 inches from the ground) μR/Hr
3/4/94	Campsite Area 2	04	21	18
		04	23	17
		04	26	18
		04	49	17
		04	62	17
		04	78	16
		04	79	16
		04	82	17
		04	84	17
		04	97	17
3/4/94	Old Well Campsite	14	04	17
		14	37	16
		14	79	15
		14	89	17
		14	94	17
3/7/94	House of The Book	06	07	16
		06	13	16
		06	17	16
		06	66	16
3/7/94	Avocado Grove	13	10	13
		13	11	14
		13	24	14
		13	37	14
		13	39	15
3/7/94	Picnic Area	05	03	15
		05	06	15
		05	57	15
		05	77	16
		05	89	16

Table 6.1 Radiation Measurement Results (continued)

Survey Date	Sample Area	Sample Area Code	Block Number	Radiation Measurement (approximately 30 inches from the ground) µR/Hr
3/7/94	Dormitory Area	02	45	15
		02	60	15
		02	71	16
		02	75	15
		02	78	15
3/7/94	Main House Orchard	12	03	15
		12	03	15
		12	06	15
		12	19	15
		12	20	15
		12	23	14
3/7/94	Former Rocketdyne Employee Shooting Range	03	01	15
		03	04	15
		03	09	15
		03	14	15
		03	15	15
3/8/94	Campsite Area 1	03	03	15
		03	05	15
		03	17	16
		03	25	16
		03	26	15
		03	29	16
		03	79	15
		03	81	15
		03	96	16
		03	97	16

Table 6.1 Radiation Measurement Results (continued)

Survey Date	Sample Area	Sample Area Code	Block Number	Radiation Measurement (approximately 30 inches from the ground) μR/Hr
3/8/94	Campsite 1 Drainage	20	01	17
		20	02	18
		20	03	20
		20	04	20
		20	05	20
		20	06	19
		20	07	18
3/9/94	Building 59 Watershed	17	04	18
		17	07	18
		17	08	18
		17	09	18
3/9/94	Radioactive Materials Disposal Facility Watershed	16	06	18
		16	07	18
		16	08	17
		16	09	18
		16	10	17
3/10/94	RD-51 Watershed	15	01	17
		15	02	16
		15	03	17
		15	04	17
		15	05	17
		15	08	16
		15	09	16
		15	10	16
3/10/94	Sodium Reactor Experiment Watershed	19	06	16
		19	07	16
		19	08	16
		19	09	17

Table 6.1 Radiation Measurement Results (continued)

Survey Date	Sample Area	Sample Area Code	Block Number	Radiation Measurement (approximately 30 inches from the ground) μR/Hr
3/10/94	Sodium Burn Pit Watershed	18	05	15
3/10/94	Santa Susana Park	02	76	12
3/11/94	Happy Camp	05	16	14
3/11/94	Wildwood Regional Park	09	05	12
3/14/94	Wildwood Regional Park Ravine	10	01	12
3/14/94	Tapia County Park	11	10	7
		11	11	7
		11	31	7
		11	36	7
		11	75	7
3/14/94	Tapia County Park Ravine	12	04	7

APPENDIX H
WRITTEN COMMENTS TO
DRAFT REPORT
NOV 18, 1994

Appendix H

Written Comments to Draft Report November 18, 1994

Joel I. Cehn, C.H.P. 1036 Hubert Road, Oakland, CA 94610

Radiation Physicist (510) 268-1571

December 8, 1994

Mr. Eric Smith
McLaren/Hart
16755 Von Karman Ave.
Irvine, CA 92714
via FAX

Dear Eric;

In response to your letter of November 18, 1994, attached are my comments on McLaren/Hart's November draft of the Soil and Water Sampling Report. These are in addition to my comments on an earlier draft, transmitted October 17.

Yours truly,

Joel I. Cehn

cc: Arthur Pinchev, Brandeis Bardin Institute
Helen Zukin, Simke Chodos Silberfield & Anteau
Dr. Neil Mukherjee, Rockwell/Rocketdyne

Comments on *Additional Soil & Water Sampling at the Brandeis-Bardin Institute and Santa Monica Mountains Conservancy*

Page 5-1 This section of the report describes the statistical analyses used on the data. You state that these analyses are not used on the tritium data. However, no method of analysis is described for these data. By leaving this out, it appears that no analysis was performed on this data set (see next comment.)

Page 8-3 You discuss the tritium data in this results section. A background cutoff of 600 pCi/L is used to separate elevated tritium results from background results. This is twice the detection limit of 300 pCi/L. Can you discuss the basis for using this?

Page 8-1 The footnote on this page refers to quality control results for mercury analyses. Where do these results appear? They are not in the QC requirements table (Table 3), nor in Figures 5 & 6 (QC results.) Were any QC samples actually submitted for mercury analysis?

Page 9-2 Pockets of mercury contamination still exist on BBI property, below the sodium burn pit. This is acknowledged in the Executive Summary but not in the body of the report. I believe this should be discussed here, under Issue 3.

Page 9-4 Regarding the Campsite Area 1 drainage investigation, please acknowledge the limitations of that work. There is a 1,200 ft. gap between the lowest soil sample at the top of the hill (BB-17) and the highest soil sample at the bottom (BB-20). This area was not explored. Thus, we cannot confirm that only one ravine is involved, nor how far down the hill the contamination extends. Recall that both tritium and cesium-137 were detected at the bottom of BB-17. Samples further down the hill could not be collected due to steep terrain, resulting in this 1,200 ft. gap.

Joel I. Cehn, CHP
December 8, 1994

California Environmental Protection Agency *State of California*
Pete Wilson, *Governor*
ICE OF ENVIRONMENTAL HEALTH HAZARD ASSESSMENT

December 6, 1994

McLaren-Hart Environmental Engineering Corp.
16755 Von Karman Avenue
Irvine, CA 92714

RE: Draft Additional Soil and Water Sampling at the Brandeis-Bardin Institute and Santa Monica Mountains Conservancy Report, Rockwell International Corporation - Rocketdyne Division

Dear Mr. Smith:

In general the document seemed well organized and understandable. However, I found the Chapter 4 discussion about "outside of acceptance limits" difficult to follow. In fairness this is a subject area wherein I have very limited knowledge. Nonetheless, it may be possible to provide more simplistic language and conceptualization for your less technical audience.

Thank you for the opportunity to review the document.

Sincerely,

RL Holtzer

Robert L. Holtzer, M.D.
Public Health Medical Officer III
Hazardous Waste Toxicology Section

cc: Arnold Robbins, USEPA

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