Removal Site Evaluation Report L-Area Rubble Pile (131-3L) Gas Cylinder Disposal Facility (131-2L)

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DISCLAIMER

United States Department of Energy
Savannah River Site

REMOVAL SITE EVALUATION REPORT

FOR THE L-AREA RUBBLE PILE (131-3L)

AND THE GAS CYLINDER DISPOSAL FACILITY (131-2L) (U)

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Revision 1
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LIST OF APPENDICES

1.0 INTRODUCTION

This Removal Site Evaluation Report (RSER) is prepared in accordance with Sections 300.410 and 300.415 of the National Contingency Plan and Section XIV of the Savannah River Site (SRS) Federal Facility Agreement (FFA). The purpose of this investigation is to report information concerning conditions at the L-Area Rubble Pile (LRP) (131-3L) and the L-Area Gas Cylinder Disposal Facility (LGCDF) (131-2L) sufficient to assess the threat posed to human health and the environment. This investigation also assesses the need for additional Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) actions. The scope of this investigation included a review of files, limited sampling efforts, and visits to the area.

An investigation of the LRP (131-3L) indicates the presence of semivolatile organic compounds (SVOCs), volatile organic compounds (VOCs), metals, and asbestos. Potential contaminants in the waste piles could migrate into the secondary media (soils and groundwater), and the presence of some of the contaminants in the piles poses an exposure threat to site workers. The Department of Energy (DOE), United States Environmental Protection Agency (EPA) and South Carolina Department of Health and Environmental Control (SCDHEC) discussed the need for a removal action at the Resource Conservation and Recovery Act (RCRA) Facility Investigation/Remedial Investigation (RFI/RI) work plan scoping meetings on the waste unit, and agreed that the presence of the waste piles limits the access to secondary media for sampling, and the removal of the piles would support future characterization of the waste unit. In addition, the DOE, EPA and SCDHEC agreed that the proposed removal action for the LRP (131-3L) would be documented in the RFI/RI work plan.

The LGCDF (131-2L) consists of a backfilled pit containing approximately 28 gas cylinders. The gas cylinders were supposed to have been vented prior to burial; however, there is a potential that a number of the cylinders are still pressurized. The presence of the gas cylinders poses a potential threat to worker safety during the characterization of the secondary source material beneath the LGCDF (131-2L) and removal of the primary source material. The presence of the cylinders also poses a potential threat to future maintenance and characterization workers within the area of the L-Area Burning/Rubble Pit (LBRP) (131-L).

A time critical removal action is planned for the LRP (131-3L) and the LGCDF (131-2L) to resolve potential threats to site workers and the environment. The removal action will also facilitate future characterizations of both waste units.

2.0 UNIT DESCRIPTION, OPERATIONAL HISTORY, AND WASTE CHARACTERISTICS

2.1 Location

The SRS is approximately 40 km (25 mi) southeast of Augusta, Georgia, and 32 km (20 mi) south of Aiken, South Carolina. The LRP (131-3L) and LGCDF (131-2L) are located in the south central L-Area portion of the SRS, approximately 10 km (6.5 mi) from the closest site boundary (Appendix A, Figure A-1).

The LRP (131-3L) is approximately 460 m (1,500 ft) north-northwest of the intersection of Road 7 and Road 7-1 (Appendix B, Figure B-1). It has approximate SRS coordinates of N48780/E49220; this is equivalent to north latitude 33.2139638°, longitude 81.6319722° (Figure B-2). All compass directions in this report are in reference to SRS (Plant) north, which is 36°22' west of true north.

The LGCDF (131-2L) is approximately 370 m (1,200 ft) north-northwest of the intersection of Road 7 and Road 7-1 within the fence line of the LBRP (131-L) (Figure B-1). It has approximate SRS coordinates of N48459/E49040; this is equivalent to north latitude 33.2129602°, longitude 81.631822° (Figure B-2).

To reach the LRP (131-3L) and LGCDF (131-2L), follow South Carolina Route 125 southeast to the SRS entrance. At this point, follow the signs for SRS Road C to the Jackson Barricade Gate House. To travel past the barricade, it is necessary to have an SRS badge or be escorted. After passing through the security check point, continue south

on Road C to Road 7; travel west on Road 7 to the intersection of Road 6.4.2 and turn west on Road 6.4.2. The LGCDF (131-2L) is located approximately 1/4 mile down this road; the LRP-2 monitoring well is a landmark visible from the road. The facility is just behind and adjacent to the LBRP (131-L). The LRP (131-3L) is approximately 120 m (400 ft) north of the LGCDF (131-2L) on the far side of an above ground steam line. An unnamed dirt access road for the steam line can be used to reach the south side of the LRP (131-3L).

2.2 Site Description

The LRP (131-3L) is approximately 152 m (500 ft) long by 37 m (120 ft) wide. It is delineated by post-mounted orange balls. The unit consists of several rubble piles, randomly scattered throughout the area. Because there is no visible evidence of excavation, wastes are not thought to be buried at the unit. However, individual piles may have been leveled or reworked with heavy machinery. Assorted cans, bottles, incandescent and fluorescent light bulbs, railroad ties, electrical wiring, and scrap metal are visible on the surface. The unit is overgrown with brush and trees, suggesting that it has been inactive for many years.

The LGCDF (131-2L) is located adjacent to the LBRP (131-L) and within its fence. The depth of the pit containing the gas cylinders is unknown. A rounded mound of dirt and deteriorated asphalt, approximately 1 m (3 ft) high, covers the pit. This area is approximately 4.3 by 8.2 m (14 by 27 ft). The area immediately adjacent to the mound is level and overgrown with weeds and pine trees.

Three confirmed or suspected Carolina bays exist within a 2,743 m (9,000 ft) radius of the LRP (131-3L)/LGCDF (131-2L) (Westinghouse Savannah River Company [WSRC], 1992). These bays may contain water and include wetlands. Because these potential wetlands are sufficiently removed from the LRP (131-3L)/LGCDF (131-2L), they should not be affected by the waste units. In addition, the habitat in the vicinity of the LRP (131-3L)/LGCDF (131-2L) generally does not meet the needs of most Threatened or Endangered Species (TES) plants found at SRS. No apparent habitat for TES animal species, with the exception of the loggerhead shrike, was noted in the TES surveys (Bumpus and Garner, 1994; Jarvis et al., 1993). No National Historic Landmarks or archaeological sites have been identified within or adjacent to the units (WSRC, 1997a).

2.3 Operational History and Waste Characteristics

The specific disposal history at the LRP (131-3L) is not documented. Based on the sizes and shapes of the rubble piles, disposal practices at the LRP (131-3L) seem to have consisted of dumping truckloads of waste on the land surface. Because there is no visible evidence of excavation, wastes are not thought to be buried at the unit. Piles of assorted unlabelled cans and bottles (most empty and some partially full), incandescent and fluorescent light bulbs, railroad ties, electrical wiring, and scrap metal are visible at the surface. Asbestos has been detected in waste samples from the LRP (131-3L) (Bechtel Savannah River Incorporated [BSRI], 1997).

The first date of waste receipt at the LGCDF (131-2L) is unknown; the last date of waste receipt was 1977. Twenty-eight partially full gas cylinders were placed in the ground, possibly anchored in concrete; the tops were removed (by gunfire), and the gas was vented to the atmosphere (WSRC, 1993). The following table outlines the original contents of the gas cylinders; as evidenced by this information, some of the gases are hazardous or acutely hazardous per SCDHEC regulation R.61-79.261.33:

Gas Type	Number of Cylinders	Gas Type	Number of Cylinders
Hydrogen fluoride*	2	Fluorine**	2
Hydrogen bromide	2	Bromine pentafluoride	1
Chlorine trifluoride	1	Ammonia	1
Hydrogen chloride	4	Bromine trifluoride	1
Chlorine	5	Nitrogen dioxide**	2
Hydrogen sulfide*	1	Sulfur dioxide	2
Acetylene, oxygen, water, argon	1	Unknown	3

Note: * Hazardous ** Acutely Hazardous (cylinder content information from WSRC, 1993)

The Site Evaluation Report for the Gas Cylinder Disposal Facility (131-2L) (U), (WSRC, 1993) indicates that after the cylinders were vented, they may have been covered with concrete, then backfilled with soil that was stabilized with an asphalt emulsion. However, a retired SRS supervisor, who supervised the transport and burial of the gas cylinders, has stated that no concrete was used at this unit. Also, a ground penetrating radar survey (conducted on 6/10/97 and 6/11/97), indicates that concrete is probably not present. Other than the potential for residue in the gas cylinders (or the presence of unvented cylinders), there are no records of hazardous waste or hazardous constituent disposal at this site.

3.0 SAMPLING/MONITORING DATA HISTORY

Existing data for the LRP (131-3L) include a 1991 soil gas survey (Pirkle and Masdea, 1991; WSRC, 1992) and 1996 soil sampling biased to target "worst case" areas identified by the soil gas survey. Details of the soil sampling field activities are provided in the *Technical Oversight of Sampling for the L-Area Burning Rubble Pit (131-L) and Rubble Pile (131-3L) (U)* (WSRC, 1996a). Suspect LRP (131-3L) materials were found to contain asbestos in April 1997. No groundwater monitoring wells are located adjacent to the LRP (131-3L).

Existing data for the LGCDF (131-2L) include groundwater information through the LBRP (131-L) monitoring wells. A soil gas survey of the LGCDF (131-2L) was conducted in February 1992, and a health protection radiological survey was conducted in January 1993 (WSRC, 1993).

3.1 Sampling Data

3.1.1 L-Area Rubble Pile (131-3L)

Between October 1990 and January 1991, a soil gas survey was conducted at the LRP (131-3L) to determine if hydrocarbons, selected chlorinated organics, and mobile mercury were present (Pirkle and Masdea, 1991; WSRC, 1992). A total of 121 locations were sampled. A sample grid with 100 locations and an overall spacing of 15 m (50 ft) was established in the known waste disposal area (Appendix C, Figure C-1). An additional 21 locations, extending northwest of the unit, were sampled on a 31 m (100 ft) grid spacing. Results of the analyses are presented in Appendix C, Tables C-1 and C-2.

Tetrachloroethylene (PCE), trichloroethylene (TCE), carbon tetrachloride, and an unknown halogen were detected at several soil gas sampling locations within the piles. The highest concentration of this unknown halogen was detected in conjunction with the highest detected amounts of PCE, TCE, and carbon tetrachloride. Benzene and ethylbenzene were also detected at several sampling locations. Detected concentrations of light hydrocarbons, including methane, were low. Mobile mercury was found at some sample locations in the LRP (131-3L) soils. The presence of O-xylene is attributable to naturally occurring pinene, which is typically found in pine forest soils (WSRC, 1997a). Summary maps of the data are included in Appendix C.

In conjunction with the Phase I Pre-Work Plan Characterization of the LBRP (131-L) in May and June 1996, soil sampling was conducted at the LRP (131-3L) to confirm past soil gas results, identify site-specific contaminants, and provide a more streamlined approach to site characterization and remediation. The sampling and analysis plan was biased to target "worst case" areas identified by the previous soil gas survey conducted in 1991 (Pirkle and Masdea, 1991; WSRC, 1992). Details of the field activities are provided in the *Technical Oversight of Sampling for the L-Area Burning Rubble Pit (131-L) and Rubble Pile (131-3L) (U)* (WSRC, 1996a).

The validated analytical data for the soil samples collected at the LBRP (131-L) can be found in the *Quality Control Summary Report for the L-Area Burning/Rubble Pit and Rubble Pile Phase 1 Project* (WSRC, 1996b). A summary of the detected analytes in soil samples collected at the LRP (131-3L) is included in Appendix D, Tables D-1 through D-3 (WSRC, 1996a).

An asbestos survey, including field sampling of suspect materials at the LRP (131-3L) was conducted in April 1997. Two asbestos bearing materials were identified in the rubble pile and in the road bed adjacent to the rubble pile. One material was cement paneling and the other was asphalt debris.

No groundwater monitoring wells are located downgradient of the LRP (131-3L), thus no groundwater monitoring data are available for this unit.

3.1.2 L-Area Gas Cylinder Disposal Facility (131-2L)

A soil gas survey was conducted in February 1992; two samples showed elevated carbon tetrachloride and one sample showed carbon tetrachloride at the EPA Maximum Contaminant Levels. Appendix E shows sampling locations and results (WSRC, 1993).

A health protection radiological survey conducted in January 1993 showed no evidence of radioactive contamination. A summary of reported data is presented in Appendix F (WSRC, 1993).

Four groundwater monitoring wells (LRP-1, 2, 3 and 4) are located adjacent to the LBRP (131-L) and the LGCDF (131-2L). These wells are screened in the water table. From available groundwater elevation data, it appears that LRP-2 is upgradient of the LGCDF (131-2L), and LRP-1 and LRP-3 are sidegradient wells (Appendix G, Figure G-1). However, data are insufficient to accurately determine groundwater flow direction in this area (WSRC, 1997a). No detailed groundwater monitoring has been conducted at the existing LRP wells since the first quarter of 1993.

3.2 Monitoring History

3.2.1 L-Area Rubble Pile (131-3L) Monitoring History

Appendix H, Table H-1 lists Constituents of Potential Concern (COPCs) and Contaminant Migration Constituents of Potential Concern (CMCOPCs) identified through screening of the LRP (131-3L) Phase I Pre-Work Plan Characterization samples of soil under the rubble piles. Appendix H, Figures H-1 and H-2 show the vertical distribution of COPC and CMCOPC suites, respectively, in the LRP (131-3L) Phase I borings. Included in the initial list of COPCs are 18 metals, seven SVOCs, no VOCs, one polychlorinated biphenyl (PCB), and nine radionuclides. Nineteen metals, eight SVOCs, one VOC, no PCBs, and five radionuclides were identified as soil CMCOPCs (Appendix H, Table H-1). The greatest number and highest concentrations of COPCs and CMCOPCs were detected in soil samples from the 0.3 to 1.2 m (1 to 4 ft) below land surface interval (Appendix H, Table H-2) (WSRC, 1997a).

The unit screening data (Appendix H, Tables H-3 through H-5) indicate that VOCs, SVOCs, and metals are present. Historical data and the CMCOPCs identified from screening the 1996 soil data indicate that a potential for groundwater contamination from the LRP (131-3L) exists.

Radionuclides present in the soil beneath the piles are naturally occurring, with the exception of cesium-137, which is not believed to be associated with the waste present at the unit. Cesium-137 is found in the soils at concentrations less than 1 picoCurie per gram (pCi/g) and is believed to be the result of atmospheric fallout from past worldwide nuclear testing.

No groundwater monitoring wells are located downgradient of the LRP (131-3L), thus no groundwater monitoring data are available for this unit.

3.2.2 L-Area Gas Cylinder Disposal Facility (131-2L) Monitoring History

The LRP wells, which surround the LBRP and thus also encompass the LGCDF (131-2L), have been sampled 10 times since 1991. Typically, the groundwater is analyzed for a minimal number of parameters based on previous sampling results. The two most recent detailed sampling events occurred during the first quarters of 1991 and 1993. During those sampling events, the LRP wells were monitored for a limited suite of VOCs, SVOCs, metals,

gross alpha, nonvolatile beta, tritium, and radionuclides. Appendix G, Table G-1 summarizes the sample results from 1984 through the first quarter of 1996. Elevated levels of metals, organic compounds, and acidity found in some samples may be from the LBRP (131-L) and are not believed to be attributable to the LGCDF (131-2L) (WSRC, 1993).

The gas cylinders, some of which contained hazardous materials, were reportedly vented prior to burial. Although the gas cylinders are believed to be empty, there is a possibility that they are pressurized and contain hazardous or acutely hazardous gases. This may be a safety hazard to onsite workers conducting drilling and sampling associated with future monitoring and characterization activities at the LBRP (131-L). Carbon tetrachloride was discovered in three soil gas samples; it is believed to be associated with the LBRP (131-L). There is no radioactivity at the site above background levels (WSRC, 1993).

4.0 GROUNDWATER PATHWAY

4.1 Hydrogeologic Setting

The SRS is located on the Upper Atlantic Coastal Plain, approximately 32 km (20 mi) southeast of the Fall Line, which separates the Piedmont and Coastal Plain provinces. It is located on the Aiken Plateau, a relatively flat area that slopes southeastward and is dissected by several tributaries of the Savannah River. The SRS is underlain by a 213 to 366 m (700 to 1,200 ft) thick, seaward-thickening wedge of Coastal Plain sediment composed of Tertiary unconsolidated sands, clayey sands, sandy clays, and lesser amounts of calcareous sediment. These layers are underlain by pre-Cretaceous igneous, metamorphic, and sedimentary rocks. Within the Coastal Plain sediments, the sandy strata are generally porous and permeable and locally form aquifers (Aadland et al., 1995; Fallaw and Price, 1995). Figures I-1 and I-2 of Appendix I illustrate the current lithostratigraphic and hydrostratigraphic nomenclature of SRS.

In conjunction with the *SRP Baseline Hydrogeologic Investigation* (Bledsoe, 1984; Professional Service Industries [PSI], 1985), two soil borings, P-15TA and LAW-1A, obtained in L-Area (Figure I-3) were advanced to the regional basement and to the Crouch Branch Aquifer (Peedee Formation), respectively. All key hydrostratigraphic units of the Orangeburg and Barnwell Groups were identified (Appendix I, Figures I-4 and I-5) and correlated between the borings.

It is unlikely that potential contaminants from LRP (131-3L) / LGCDF (131-2L) would migrate into aquifer units below the McQueen Branch Confining Unit. Contaminant migration into the Crouch Branch Aquifer is significantly attenuated by the Crouch Branch Confining Unit, as evidenced by a leakance of 2.25 E-06 per day (Aadland et al., 1995) and would inhibit contaminant migration across this confining unit (WSRC, 1997a).

4.2 Groundwater Targets

Groundwater targets are defined as receptors of water from drinking and agricultural water supply wells within 6.4 km (4.0 mi) of the LRP (131-3L) and LGCDF (131-2L) units. There are no drinking water or agricultural water supply wells within a 6.4 km (4 mi) radius of these units. L-Area process wells are located in a separate watershed from the LRP (131-3L) and LGCDF (131-2L) units (WSRC, 1997a).

4.3 Groundwater Conclusions

There are no drinking water or agricultural water supply wells within a 6.4 km (4 mi) radius of these units. Process wells are in a separate watershed from the LRP (131-3L) and LGCDF (131-2L). Therefore, there are no groundwater targets. However, there is a potential for contamination from the LRP (131-3L) to have impacted the groundwater.

5.0 SURFACE WATER PATHWAY

5.1 Hydrologic Setting

The LRP (131-3L) is located between the LGCDF (131-2L) and an unnamed intermittent tributary of Pen Branch, which is approximately 46 m (150 ft) north of the unit (Figure I-6). Approximately 122 m (400 ft) upstream of the LRP (131-3L) is a confluence of the north and south forks of the unnamed intermittent tributary (Figure I-6). The unnamed intermittent tributary drains west to Pen Branch; the stream bed is typically dry in the vicinity of the waste unit (WSRC, 1997a). Runoff from the dirt road immediately adjacent to and south of the LRP (131-3L) may flow into the piles. The LRP (131-3L) may contribute runoff directly to the main channel of the unnamed intermittent tributary.

The LBRP (131-L) and adjoining LGCDF (131-2L) are located within the Pen Branch watershed near the divide between the Pen Branch and Steel Creek watersheds (Figure I-7). Surface waters closest to LGCDF (131-2L) include Pen Branch (approximately 1,036 m [3,400 ft] to the west), an unnamed intermittent tributary of Pen Branch (approximately 168 m [550 ft] to the north), and L Lake (approximately 1,219 m [4,000 ft] to the southeast) (Figures I-7 and I-8).

The LGCDF (131-2L)/LBRP (131-L) is topographically higher than the LRP (131-3L). The land surface slopes towards the north from the LGCDF (131-2L) toward the LRP (131-3L) and the unnamed intermittent tributary of Pen Branch (Figure I-8). There are no apparent surface runoff paths from the LBRP (131-L)/LGCDF (131-2L), and it is unlikely that there has been significant overland flow from the LBRP (131-L)/LGCDF (131-2L) to the LRP (131-3L) because of the intervening vegetation and adjacent road. There is no evidence of standing water or "ponding" at either the LRP (131-3L) or the LGCDF (131-2L).

5.2 Surface Water Targets

Humans are unlikely to ingest contaminated surface water from the LGCDF (131-2L) or LRP (131-3L) because there are no surface water intakes within 3.2 km (2.0 mi) downstream. Furthermore, no agricultural products or livestock are raised on the SRS, and fishing is prohibited (WSRC, 1997a).

5.3 Surface Water Conclusions

There is a limited potential for impact to human or agricultural targets from LGCDF (131-2L) or LRP (131-3L). Pen Branch is a secondary surface water target for ecological receptors. Minor amounts of water may enter Pen Branch from the LRP (131-3L) runoff; therefore, there is some potential for impact to ecological receptors. The cylinders at the LGCDF (131-2L) were reportedly vented of gases prior to burial; therefore, it is unlikely that there are ecological impacts to surface waters from this facility.

6.0 SOIL EXPOSURE AND AIR PATHWAYS

6.1 Physical Conditions

Surface soil types in the vicinity of the LRP (131-3L)/LGCDF (131-2L) are shown in Appendix J, Figure J-1.

Soil adjacent to and under the LRP (131-3L) may have been contaminated through deposition during waste disposal activities or leaching of contaminants out of the rubble into the soil. The gas cylinders at the LGCDF (131-2L) are reportedly empty. The cylinders were covered with soil and the mounded area was stabilized with an asphalt cover. It is unlikely that the soils of this waste unit have been impacted by the unit.

6.2 Soil and Air Targets

Volatilization of potential LRP (131-3L) contaminants and wind suspension of potentially contaminated soils may result in airborne contamination. At the LRP, these releases are minimal due to the presence of vegetated surfaces

and access controls to contaminated areas. Volatile emissions and airborne dust will increase during removal activities; however, they can be minimized by engineering controls during the removal action.

Contact with contaminated soil creates exposure pathways for both human and ecological receptors. Current receptors include on-unit workers and both stationary and mobile ecological receptors.

The general public is not likely to have been exposed to contaminants in soil or air for three reasons: (1) long-term entry control procedures into the SRS have prohibited casual access to the site; (2) the distance to the closest SRS boundary is approximately 10.5 km (6.5 mi); and (3) there is no prevailing wind direction at SRS.

No TES have been identified in the vicinity of the LRP (131-3L) or LGCDF (131-2L) (WSRC, 1997a).

6.3 Soil Exposure and Air Pathway Conclusions

In the 1996 Phase I investigation, soil samples were collected from five LRP borings. All soil samples were analyzed for target analyte list (TAL) metals, target compound list (TCL) SVOCs, TCL VOCs, TCL pesticides/PCBs, dioxins/furans, and radioactive constituents. The data indicate that there may have been some impact to unit soils at levels that exceed human health, ecological, and/or leachability criteria.

At the LGCDF (131-2L), the cylinders are reportedly empty and buried. It is unlikely that the soils of this waste unit have been impacted by the unit, and the facility does not appear to pose a threat via the soil exposure pathway.

The general public is unlikely to have been exposed to any airborne hazardous constituents from either the LRP (131-3L) or the LGCDF (131-2L) facilities due to restricted access to SRS, the distance to SRS boundaries (10 km [6.5 mi]), and the lack of a prevailing wind direction at SRS. Dust generation during the planned removal activities can be mitigated with engineering controls.

7.0 SUMMARY AND CONCLUSIONS

The unit screening data indicate that VOCs, SVOCs, and metals are present at the LRP (131-3L). Pre-Work Plan Characterization data indicate a potential risk to human health and the environment. As a result of these discoveries and since the primary source material is exposed at the surface, removal of the exposed rubble will be conducted prior to implementation of the RFI/RI work plan. Removal of the primary source material will mitigate exposure to contamination by future site workers, and transfer of contamination to the environment. The removal will also simplify additional characterization of the waste unit by improving access to potential secondary source media (soils) that are present beneath the piles. RFI/RI characterization activities are scheduled by the FFA to begin at this unit on November 3, 1997; the removal action is time critical to allow field activities to proceed safely and on a timely basis and to remove primary (LRP [131-3L]) source materials.

All gas cylinders at the LGCDF (131-2L) are covered with soil and an asphalt cover. The gas cylinders are located within the same area of contamination as the LBRP (131-L) and, if not empty, pose a safety threat to workers performing maintenance and future characterization work in the area. RFI/RI characterization activities are scheduled to begin November 3, 1997. If gas remains in the cylinders, these may also be a potential primary source material. For these reasons, a time critical removal action is appropriate. This removal action is consistent with any future remedial actions.

8.0 TECHNICAL SPECIFICATIONS AND CRITERIA

This section describes the general technical specifications and procedures for the removal action at the LRP (131-3L) and LGCDF (131-2L).

8.1 Criteria for Removal

Brush and trees that limit access to the area and interfere with the proposed removal action at the LRP (131-3L) will be removed. All sanitary wastes (debris), potentially hazardous, and hazardous wastes will be sorted, sampled, and dispositioned according to prevailing regulatory requirements.

The objective of the removal action at the LGCDF (131-2L) is to remove and disposition all buried gas cylinders. The potential for unvented cylinders represents special safety concerns. The disposition of wastes will be performed according to prevailing regulatory requirements.

8.2 Removal Action

8.2.1 L-Area Rubble Pile (131-3L)

All removal activities will be performed following the guidance of a Site Specific Health and Safety Plan (SSHASP). An initial radiological survey of the LRP (131-3L) will be performed prior to any sampling or removal activities at the unit. Should radiological contamination be detected at any point in the removal activity, the requirements of WSRC Manual 5Q, *Radiological Control*, will apply (WSRC, 1997b).

Generally, the visible wastes at the waste unit can be subdivided into three broad categories: sanitary wastes, potentially hazardous wastes, and hazardous wastes. Known sanitary wastes include construction debris, scrap metal, empty metal cans, sanitary ware, wooden timbers, old office furniture, glass containers, etc. Known potentially hazardous wastes include full paint cans, miscellaneous electrical components, glass containers with residue, unlabeled full containers, etc. Known hazardous wastes include asbestos bearing materials, broken fluorescent light bulbs and tubes, creosote timbers, etc.

The materials within the piles will be sorted into the three broad waste categories. Obvious sanitary wastes will be sorted for disposal and recycling. Potentially hazardous waste will be sampled and tested to determine its waste status. Potentially hazardous wastes that are determined to be hazardous, and known hazardous wastes will be removed and disposed of according to SRS procedures. Radiologically contaminated materials are not expected at the waste unit. All waste unit debris will be surveyed for radionuclides as part of the sorting process. Radiologically contaminated materials (if identified) will be handled according to SRS procedures.

Site workers shall be trained to recognize potential asbestos bearing materials. The Site Health and Safety Officer will decide if an asbestos survey is required when suspect materials are found. The guidance of the SSHASP will be followed when asbestos suspect materials are encountered and when positive survey results are returned. Asbestos bearing materials will be dispositioned according to SRS procedures that are consistent with SCDHEC regulations.

A waste management plan will be developed to outline the requirements for the characterization, handling, packaging, certification, and transport of wastes generated as a result of this removal. All CERCLA waste disposal activities associated with the LRP (131-3L) will be in compliance with CERCLA Off-Site Rule requirements (Appendix L).

8.2.2 L-Area Gas Cylinder Disposal Facility (131-2L)

All removal activities will be performed following the guidance of an SSHASP. An initial radiological survey of the LGCDF (131-2L) will be performed prior to any removal activities and intermittently throughout the removal. Should radiological contamination be detected at any point in the removal activity, the requirements of WSRC Manual 5Q, *Radiological Control*, will apply (WSRC, 1997b).

Site workers shall be trained in the handling of pressurized vessels containing acutely hazardous gases, Occupational Safety and Health Administration Hazardous Waste Operations and Emergency Response Training, and the operation of equipment used in the safe venting or over-packing of pressurized gas cylinders. There is a potential to encounter pressurized cylinders during the removal action; therefore, the removal action activities will

8.2.2 L-Area Gas Cylinder Disposal Facility (131-2L)

All removal activities will be performed following the guidance of an SSHASP. An initial radiological survey of the LGCDF (131-2L) will be performed prior to any removal activities and intermittently throughout the removal. Should radiological contamination be detected at any point in the removal activity, the requirements of WSRC Manual 5Q, *Radiological Control*, will apply (WSRC, 1997b).

Site workers shall be trained in the handling of pressurized vessels containing acutely hazardous gases, Occupational Safety and Health Administration Hazardous Waste Operations and Emergency Response Training, and the operation of equipment used in the safe venting or over-packing of pressurized gas cylinders. There is a potential to encounter pressurized cylinders during the removal action; therefore, the removal action activities will be performed as if pressurized cylinders are present. Because the removal action includes special health and safety hazards, the Site Health and Safety Officer will control the removal action operations at the waste unit.

Brush and vegetation will be removed from the mounded area and the general vicinity to facilitate the removal action. The mound soils will be removed until the loose cylinders are exposed. Hand work will be required to minimize the disturbance of the cylinders. Recent ground penetrating radar surveys of the mound suggest that the cylinders may be on their sides. Exposed cylinders are to be surveyed for radiological contamination and leaking gases. If the cylinders are found to be leaking, all unneeded personnel in the area will be evacuated. The gases will be analyzed, and the leaking cylinders will be contained or vented as appropriate. Gases from pressurized non-leaking cylinders will be sampled, and a decision will be made to vent or recontainerize the gases. All venting and containerization decisions will be made consistent with prevailing regulatory requirements and the health and safety of the site workers (including personnel in the vicinity). All empty cylinders and cylinders vented during the removal action will be disposed of according to prevailing regulatory requirements. All cylinders determined to be non-hazardous will be recycled.

Soil samples will be taken below the cylinders (after the removal) for contamination confirmation purposes. These samples will be analyzed for a minimum of TCL and TAL analytes. However, the contents of the cylinders may require the addition of analytes. All asphaltic material will be segregated during the excavation process and disposal will be consistent with SRS procedures. Soil removed from the pit will be held within the LBRP (131-L) area of contamination; it will be returned to the pit after confirmation sampling and analysis (from soils below the cylinders) indicates that the soil is not contaminated. During the excavation and cylinder removal process, when removal operations are not ongoing, tarping will be used to eliminate the accumulation of rain water in the pit.

If the cylinders are found to be entombed in, covered by, or anchored with concrete, and their venting status is unknown, or the safe removal of the cylinders is in question, work will stop and site activities will be reevaluated (refer to the work flow diagram in Appendix K, Figure K-1). A revised removal and disposition plan will be developed based upon available information and discussions with the EPA and SCDHEC, and the removal action will resume. If a revised removal and disposition plan is required, the cylinders and the excavation associated with the cylinder removal will be managed with engineering controls to ensure that the site is maintained in a safe and stable manner.

A waste management plan has been developed to outline the requirements for the characterization, handling, packaging, certification, and transport of wastes generated as a result of this removal. All CERCLA waste disposal activities associated with the LGCDF (131-2L) will be in compliance with CERCLA Off-Site Rule requirements (Appendix L).

8.3 Post-Removal Actions

8.3.1 L-Area Rubble Pile (131-3L) Post-Removal Actions

Following excavation of rubble, sampling will be conducted at the LRP (131-3L) according to the RFI/RI work plan (WSRC, 1997a).

8.3.2 L-Area Gas Cylinder Disposal Facility (131-2L) Post-Removal Actions

At the LGCDF (131-2L), soil removed from the pit during the excavation of the cylinders will be used to backfill the hole. If additional soil is needed, it will be acquired from a clean borrow source on the SRS. No backfill will be placed before completion of sampling beneath the LGCDF (131-2L).

After backfilling at the LGCDF (131-2L), excavated areas will be returned to grade. Backfill will be nominally compacted by a minimum of two passes over the entire area by the tracks of earth-moving equipment or the equivalent. The disturbed areas will be seeded in accordance with U.S. Forest Service guidance for the SRS. Temporary erosion control will be provided until substantial growth is established. Drawings indicating the location and extent of excavation will be prepared by a licensed surveyor.

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APPENDIX A

General Location Map

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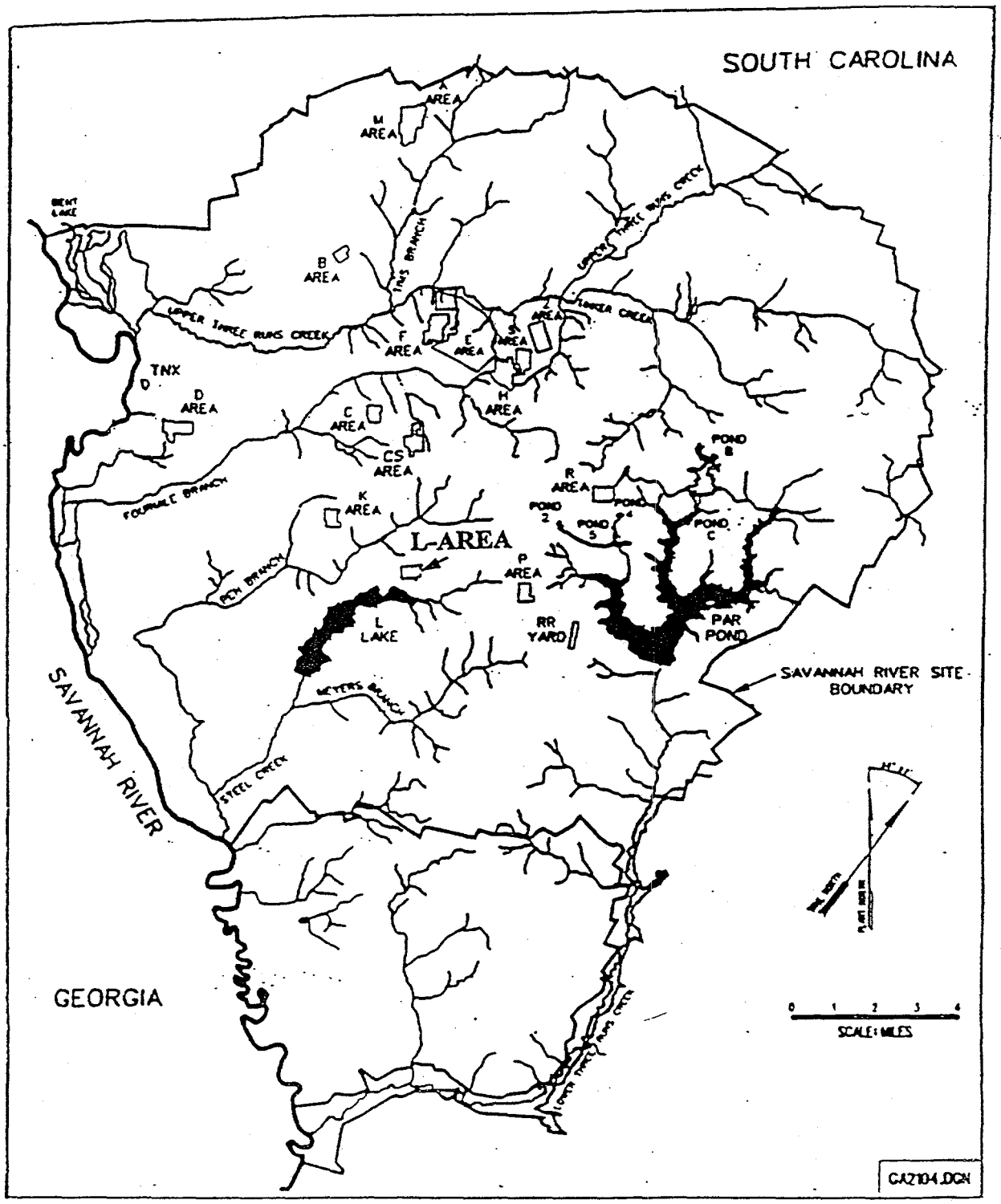
Figure A-1. Location of L-Area at the Savannah River Site



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APPENDIX B

Site-Specific Maps of the L-Area Rubble Pile (131-3L) and L-Area Gas Cylinder Disposal Facility (131-2L)

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Figure B-1. Locations of the LBRP (131-L) and LRP (131-3L) in L-Area

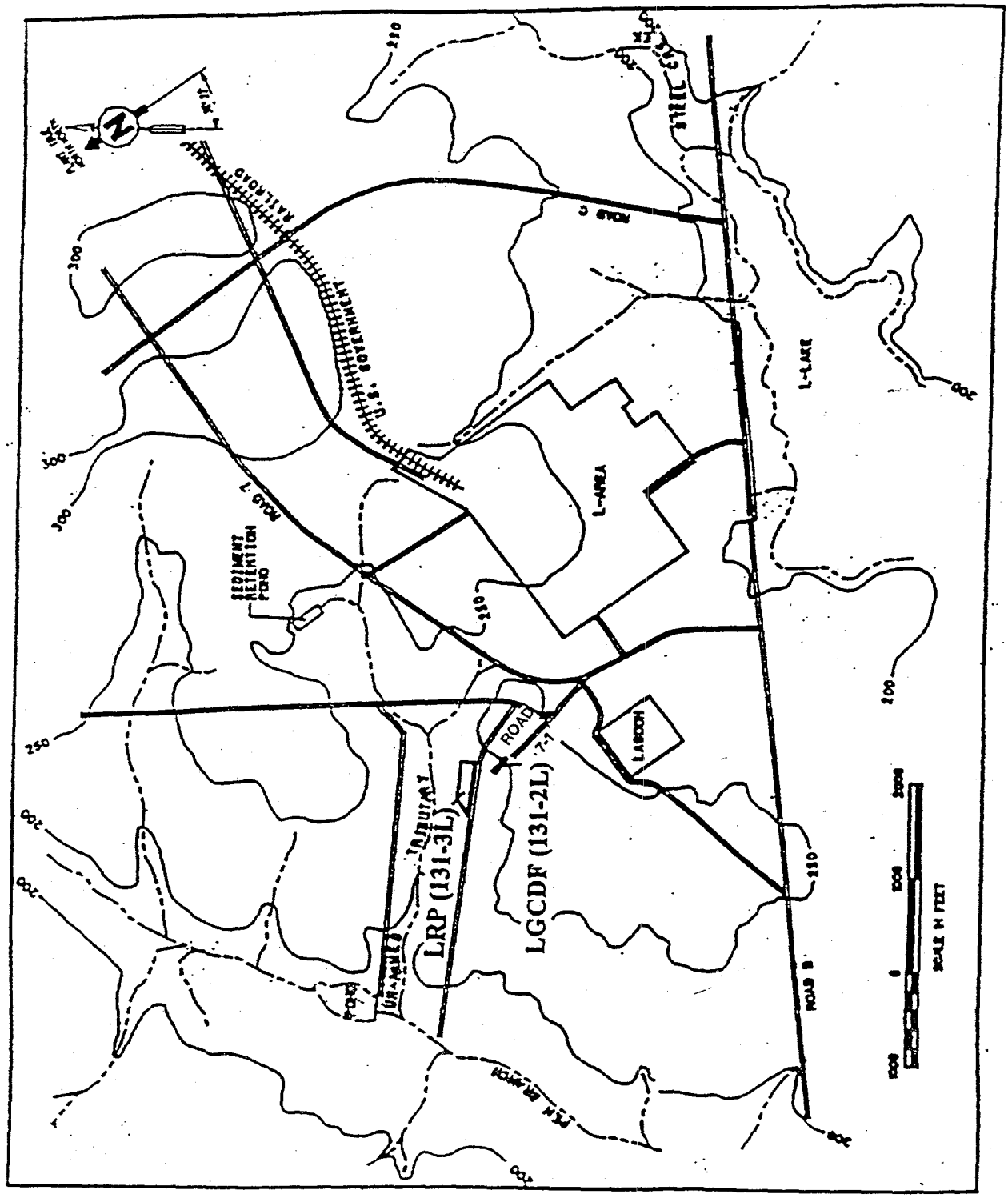
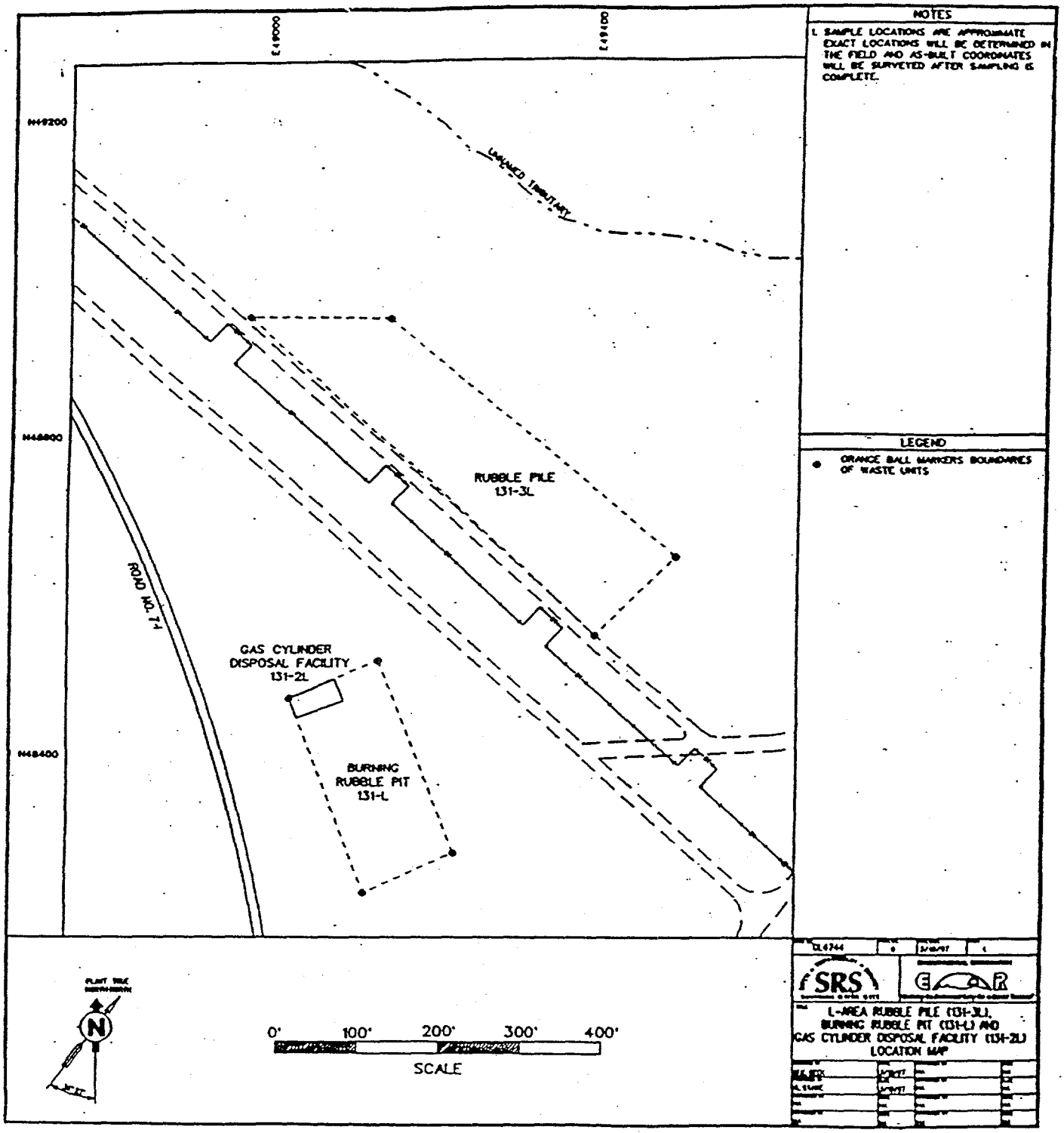


Figure B-2. Location of LGCDF (131-2L) in Relation to LBRP (131-L) and LRP (131-3L)



APPENDIX C

L-Area Rubble Pile (131-3L) Soil Gas Survey

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Figure C-1. L-Area Rubble Pit (131-3L) Soil Gas Survey Locations (1991)

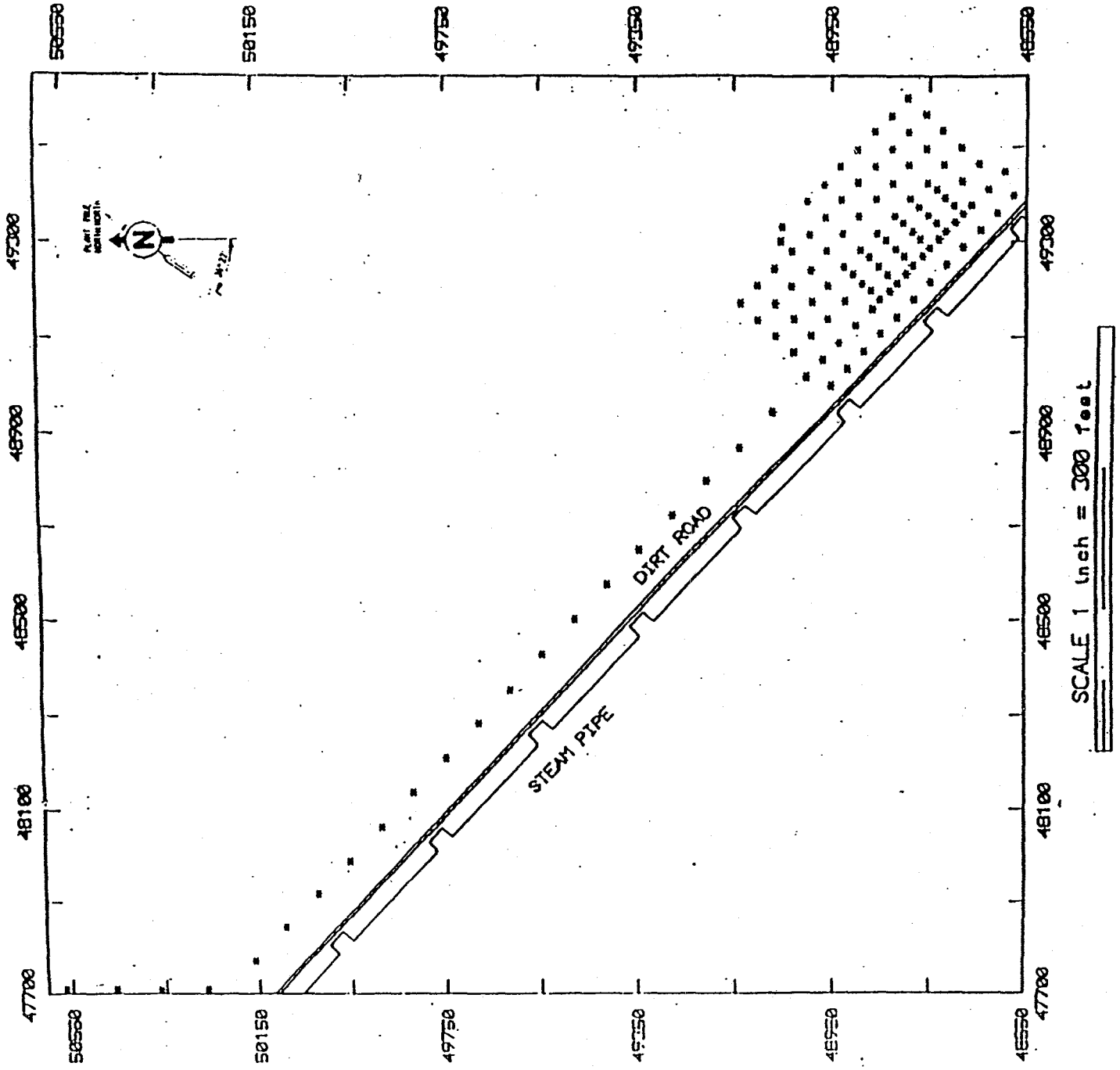

Figure C-2. L-Area Rubble Pit (131-3L) Sample Location Map (South Area)

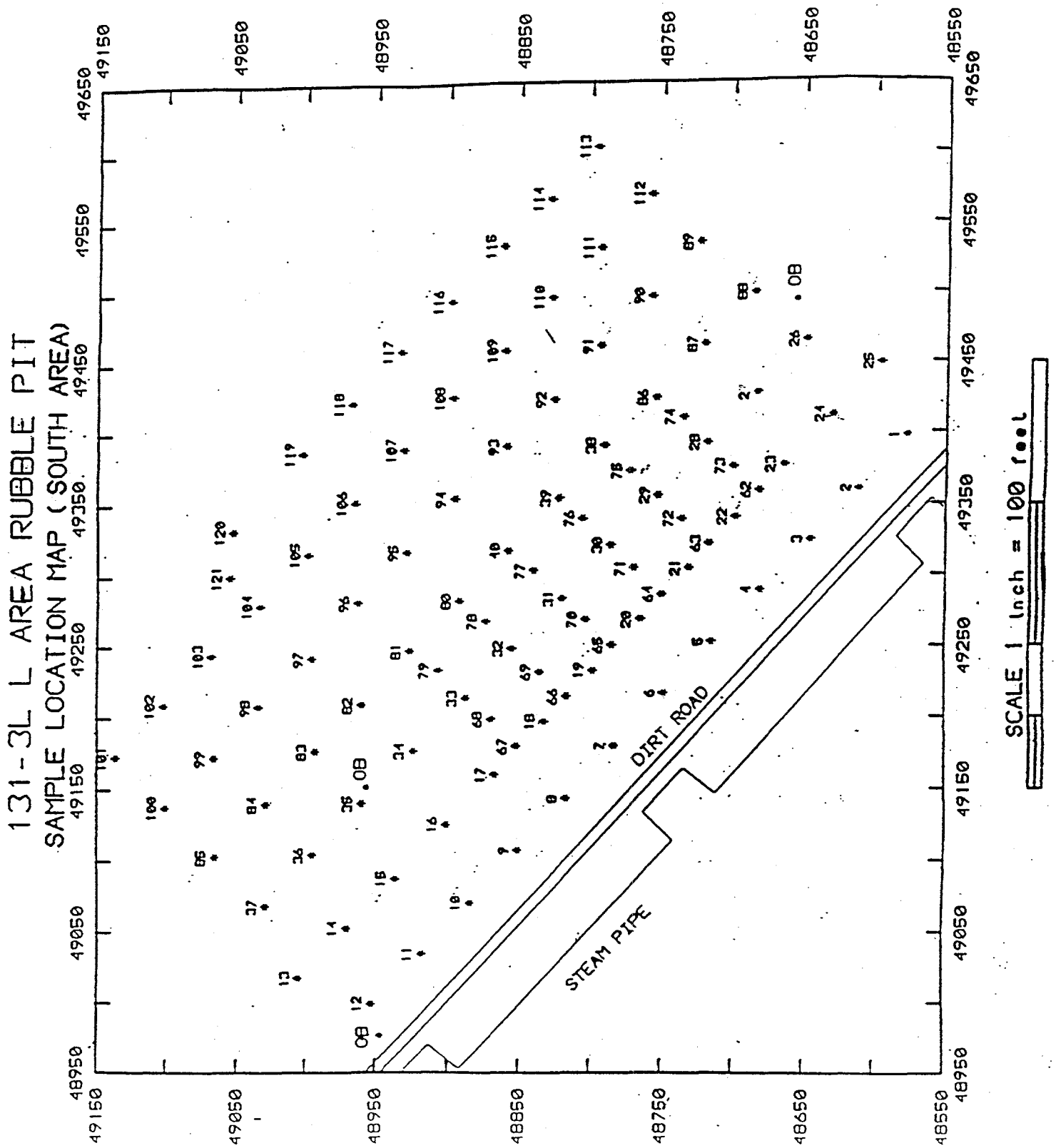

Figure C-3. Sample Location Map (North Area)

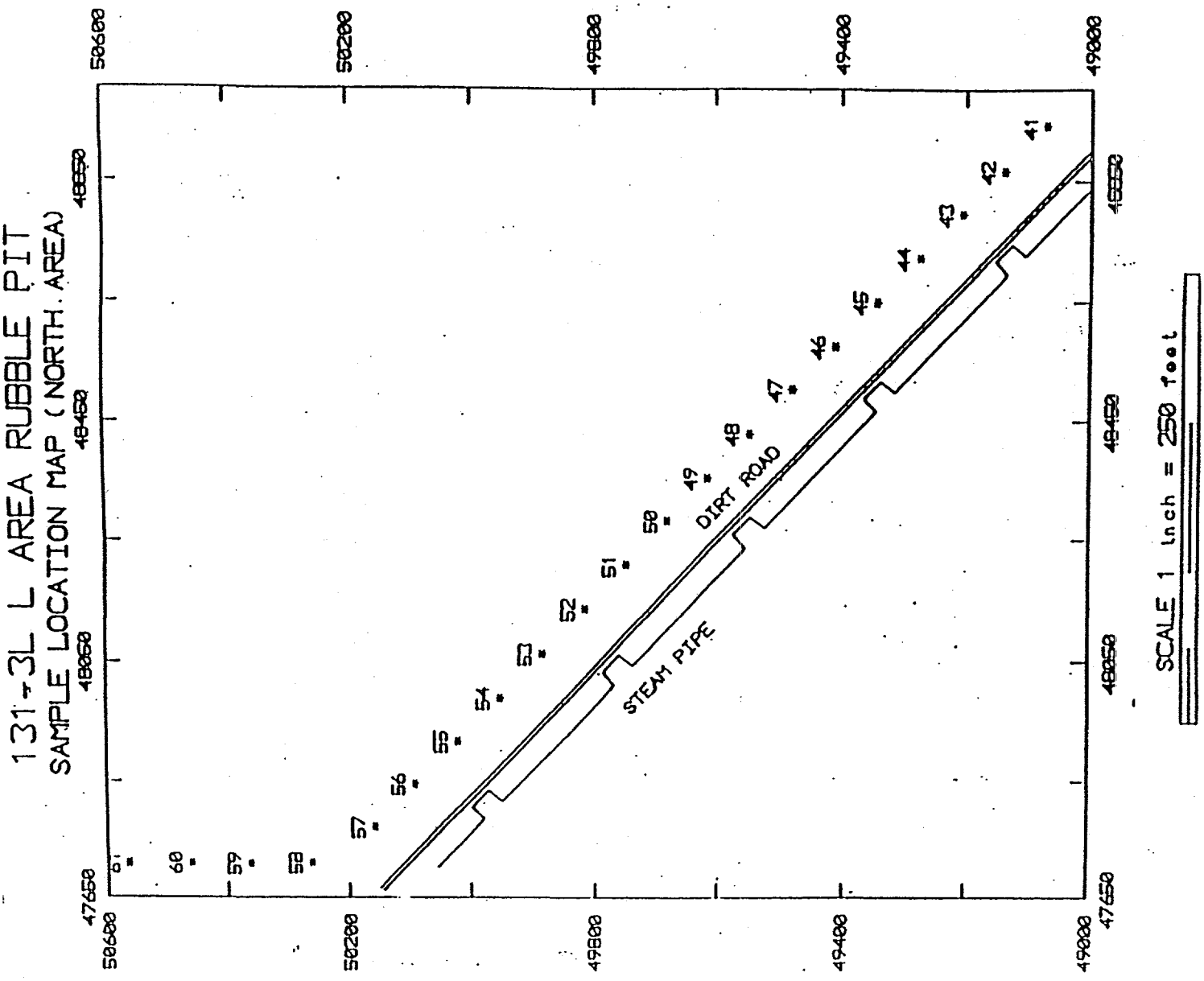

Figure C-4. L-Area Rubble Pit (131-3L) Tetrachloroethylene Concentration

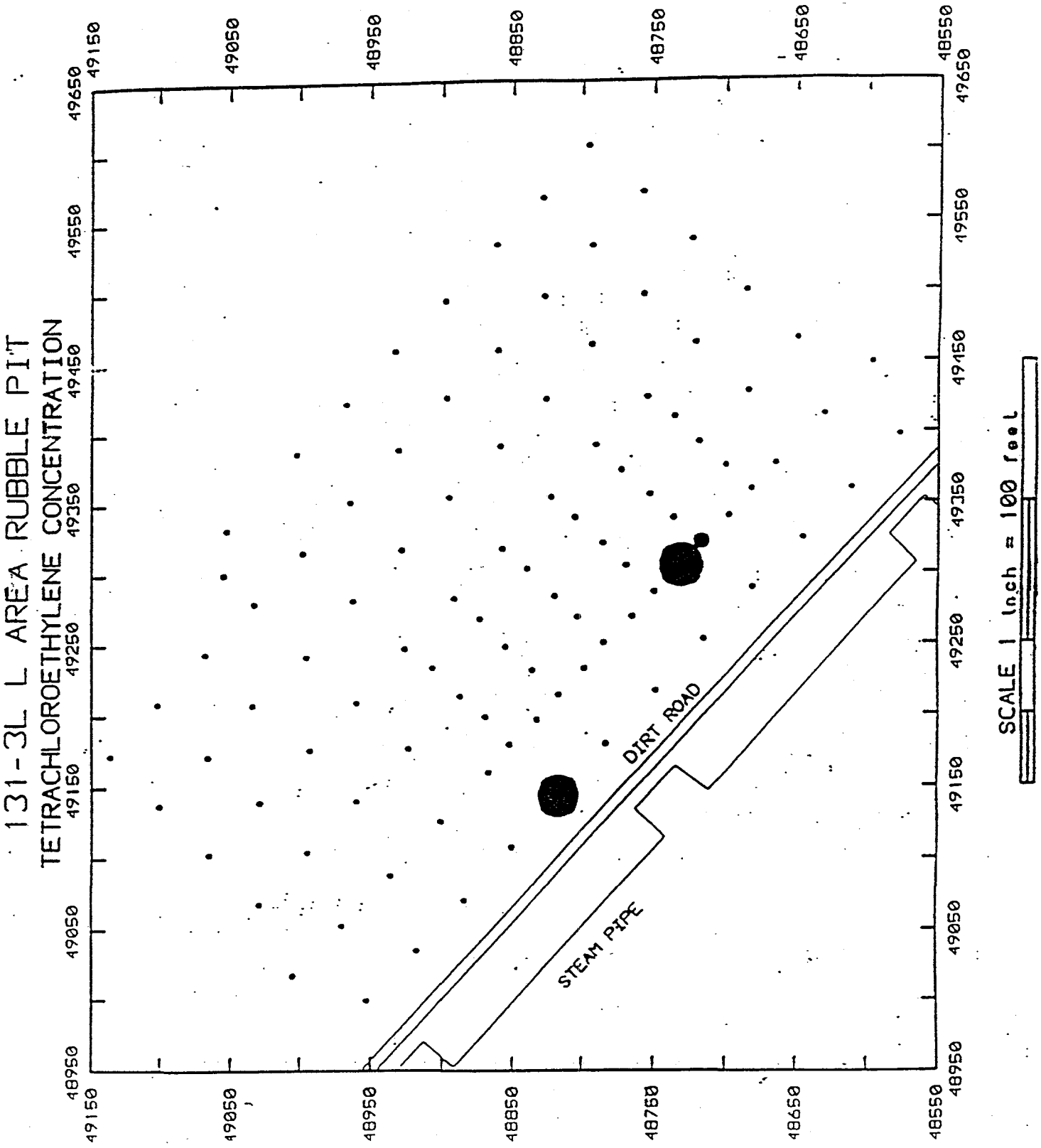

Figure C-5. L-Area Rubble Pit (131-3L) Tetrachloroethylene Concentration (PPBV)

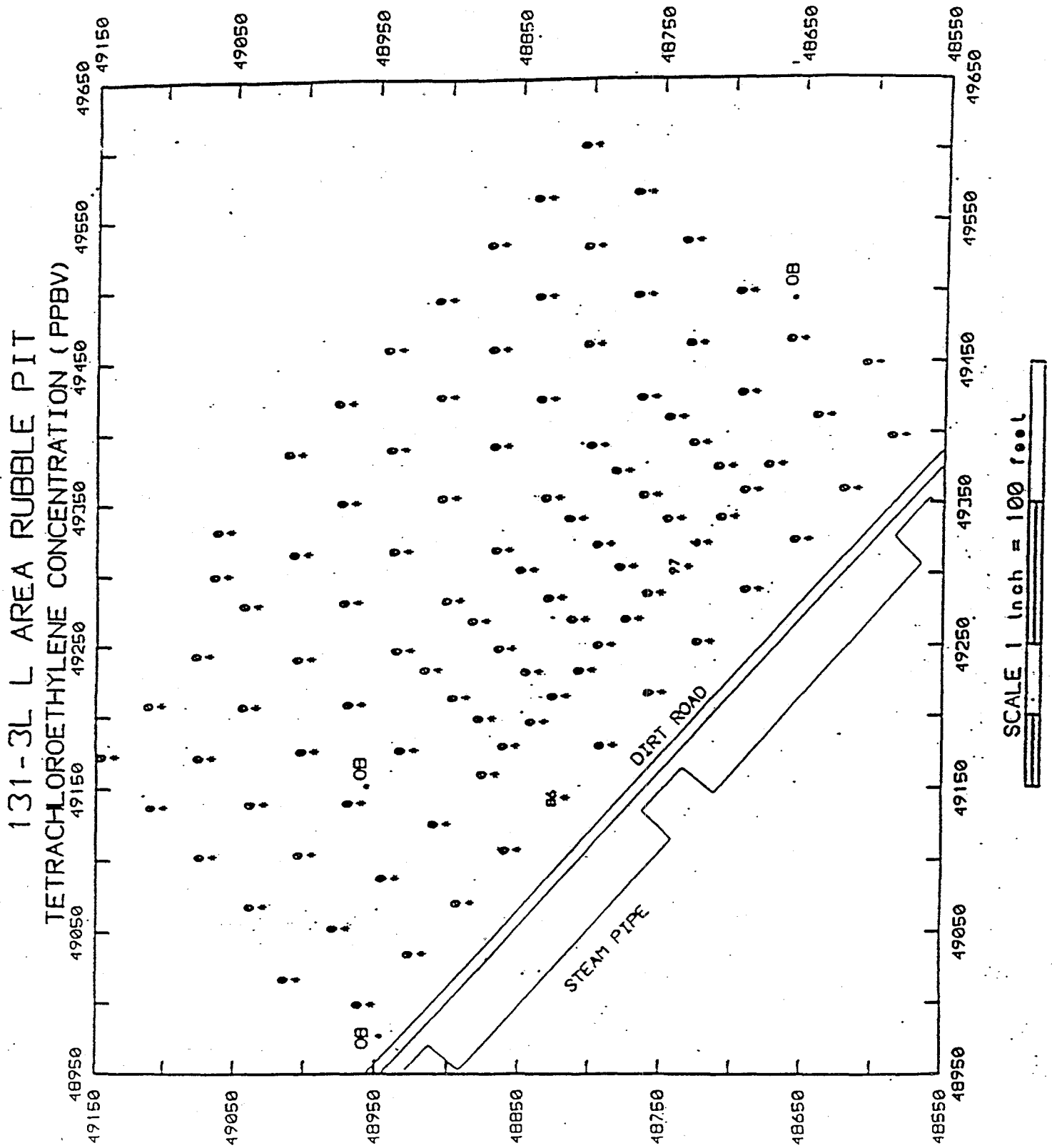

Figure C-6. L-Area Rubble Pit (131-3L) Trichloroethylene Concentration

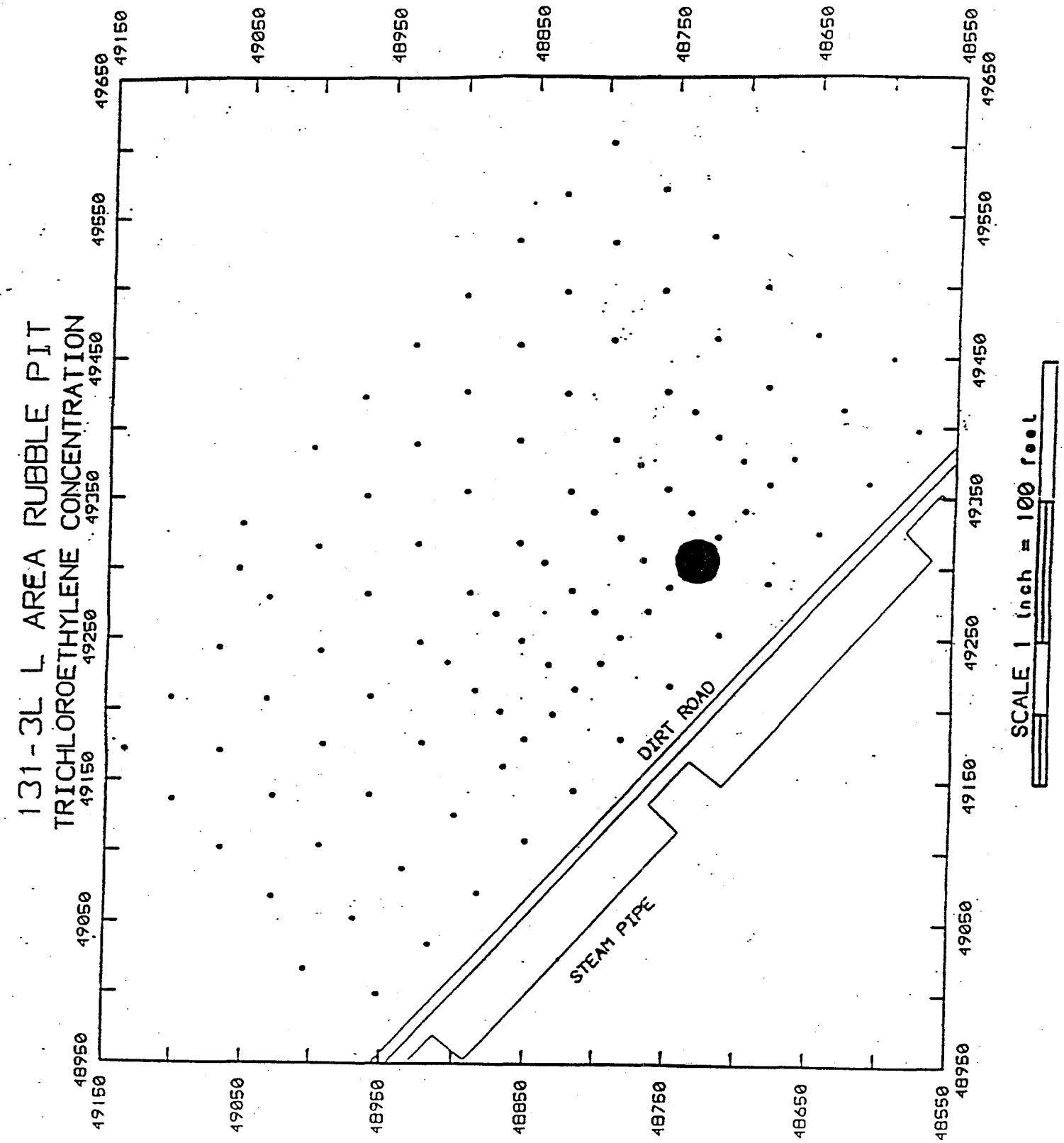

Figure C-7. L-Area Rubble Pit (131-3L) Trichloroethylene Concentration (PPBV)

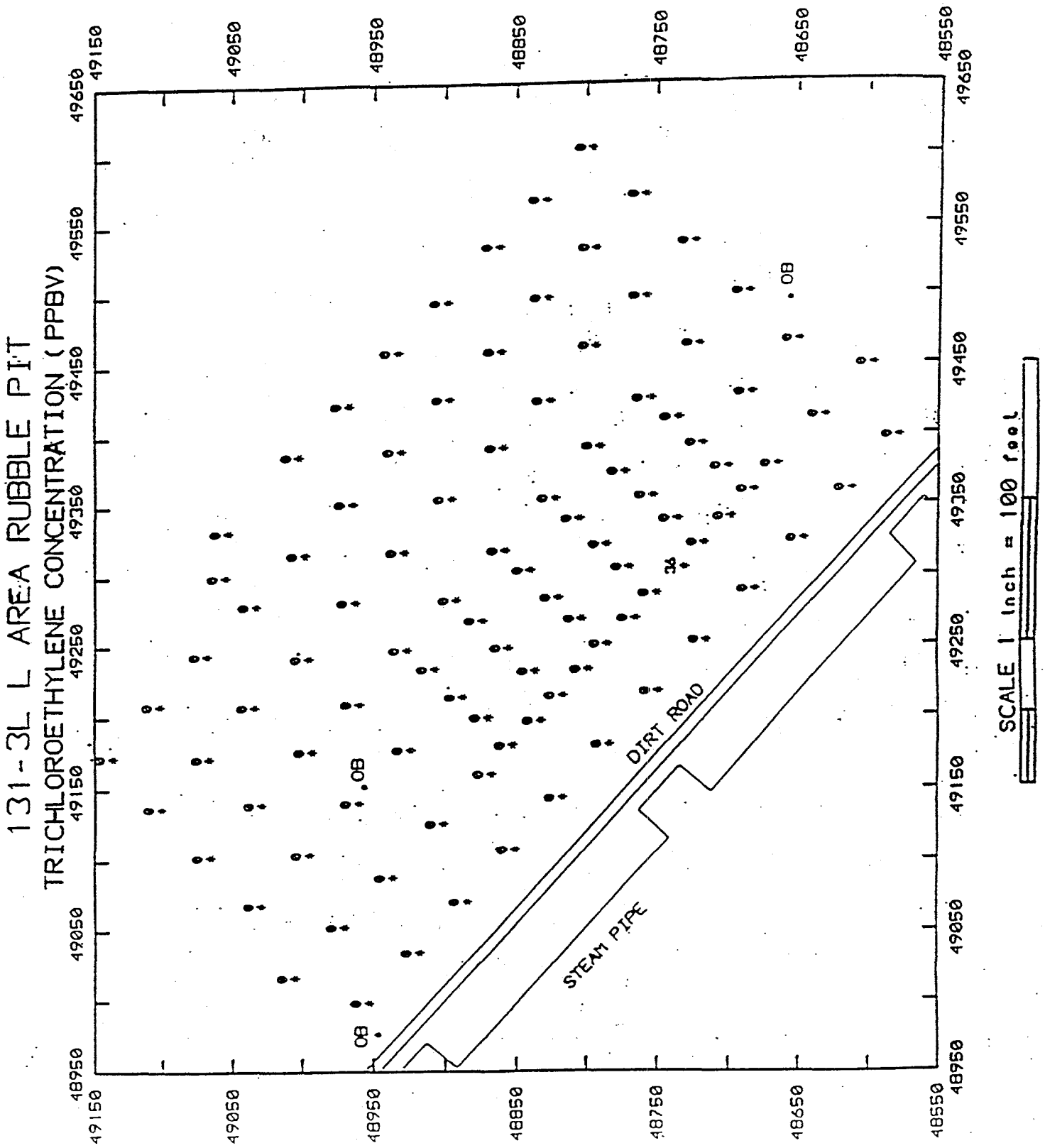

Figure C-8. L-Area Rubble Pit (131-3L) Carbon Tetrachloride Concentration

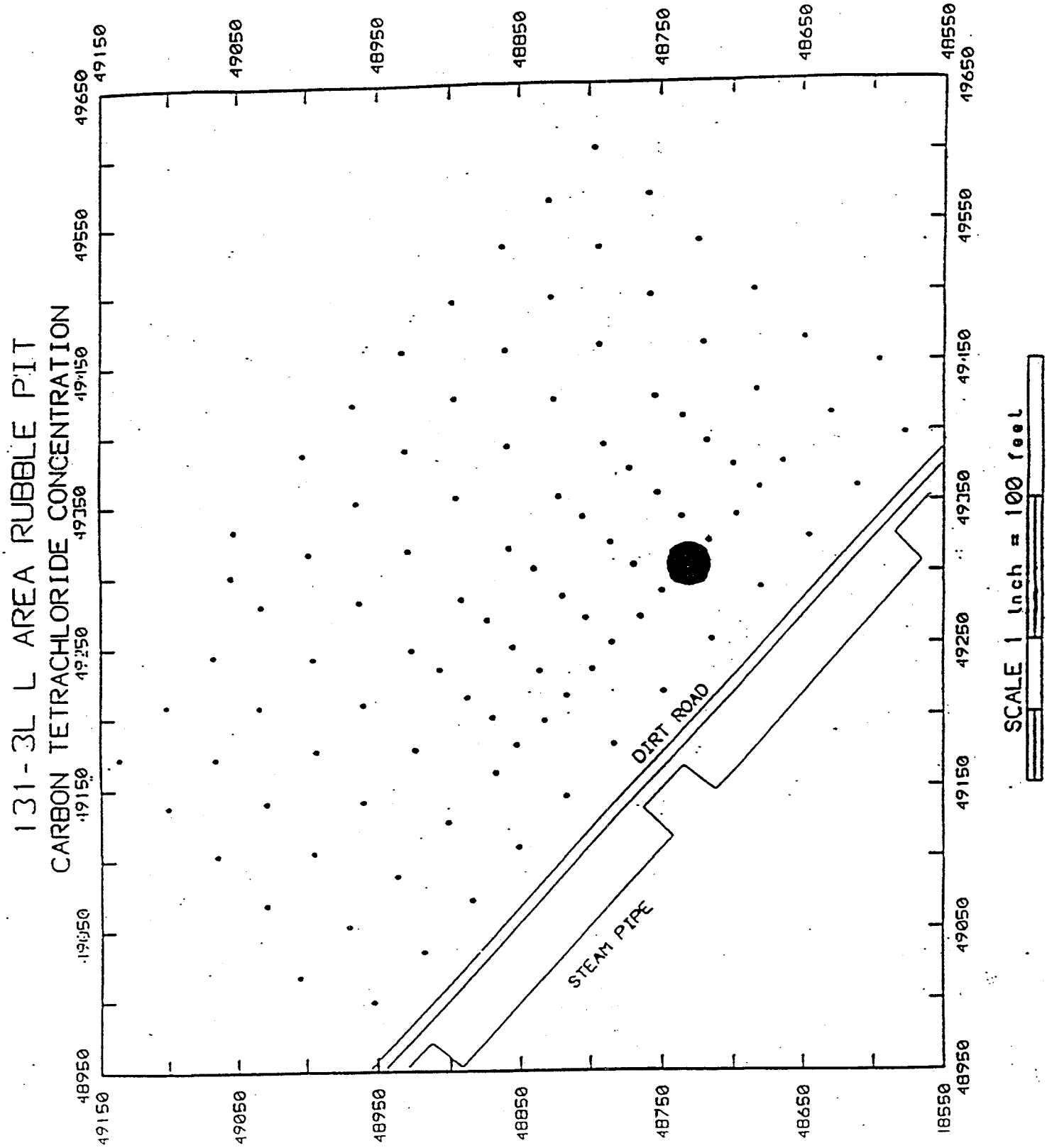

Figure C-9. L-Area Rubble Pit (131-3L) Carbon Tetrachloride Concentration (PPBV)

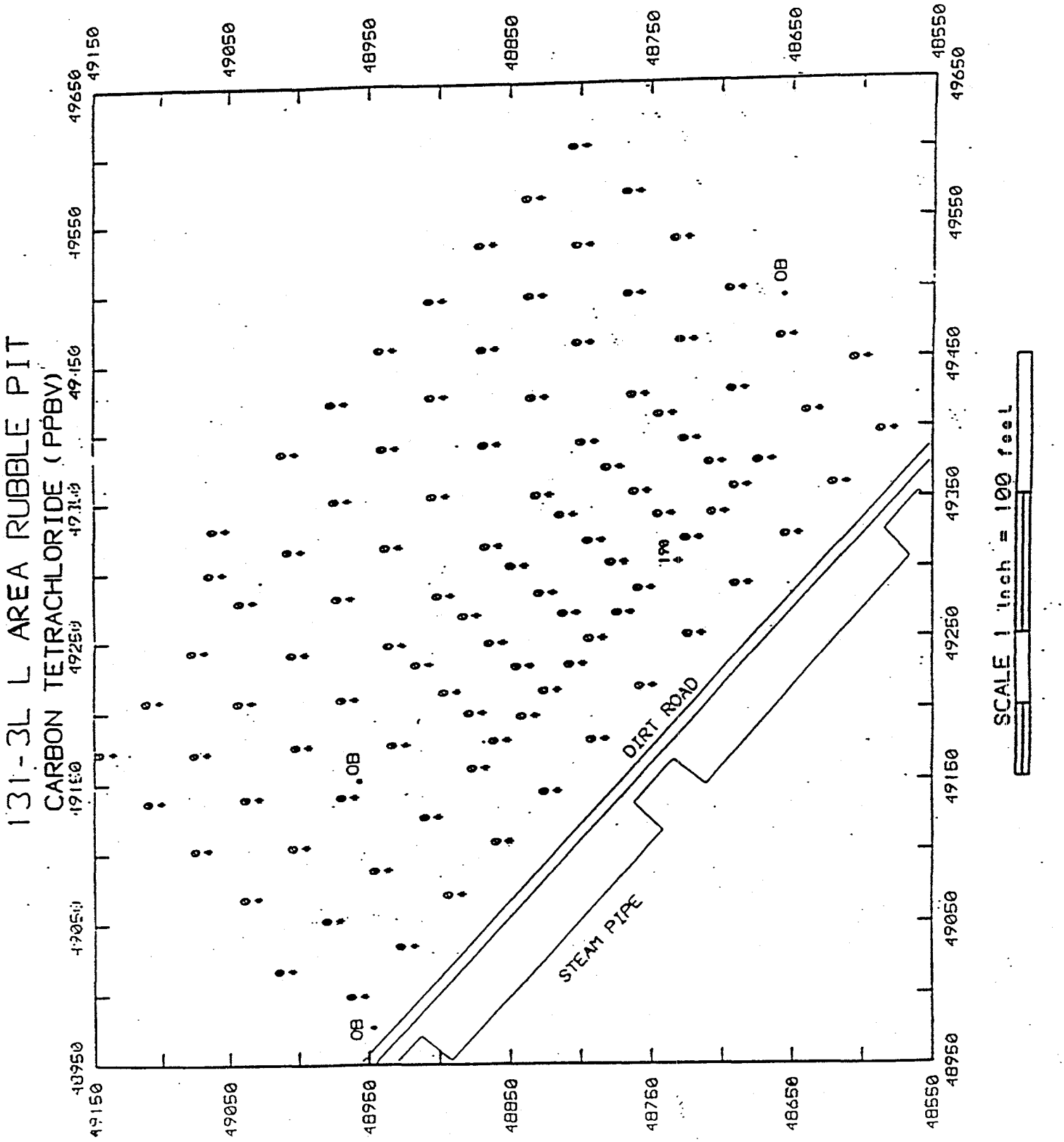

Figure C-10. L-Area Rubble Pit (131-3L) Unknown Compound Distribution

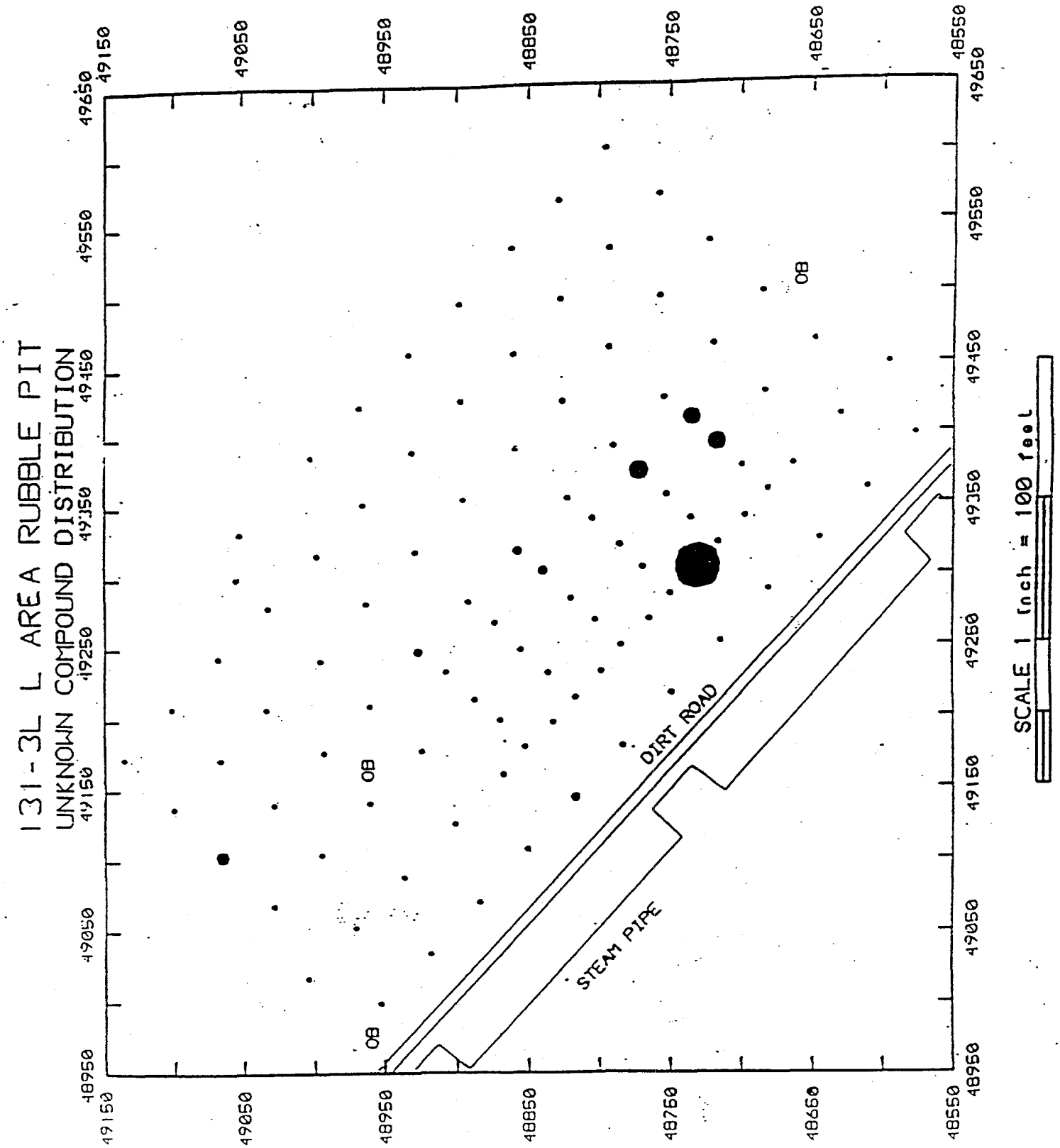

Figure C-11. L-Area Rubble Pit (131-3L) o-Xylene Concentration

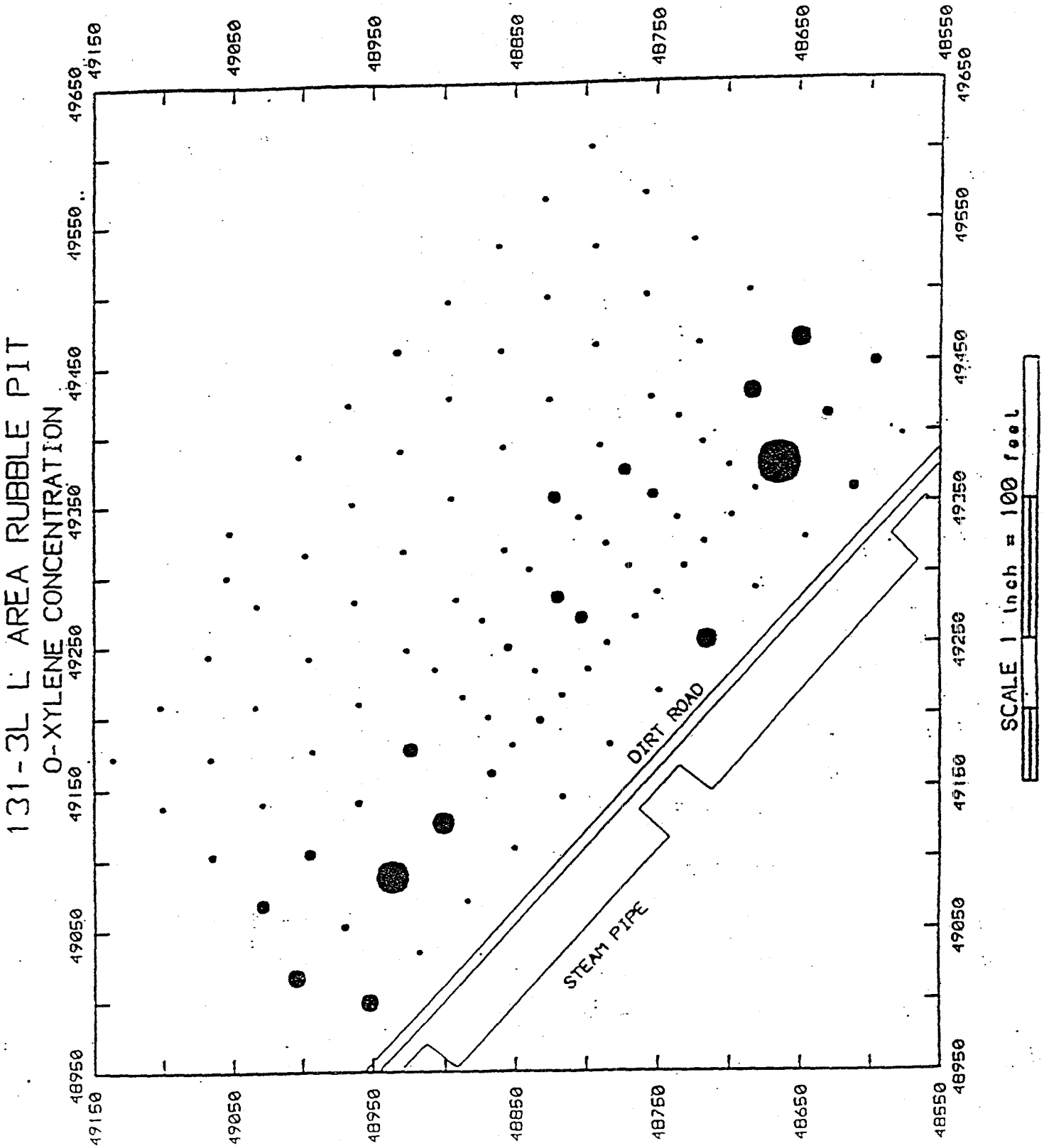

Figure C-12. L-Area Rubble Pit (131-3L) o-Xylene Concentration (PPMV)

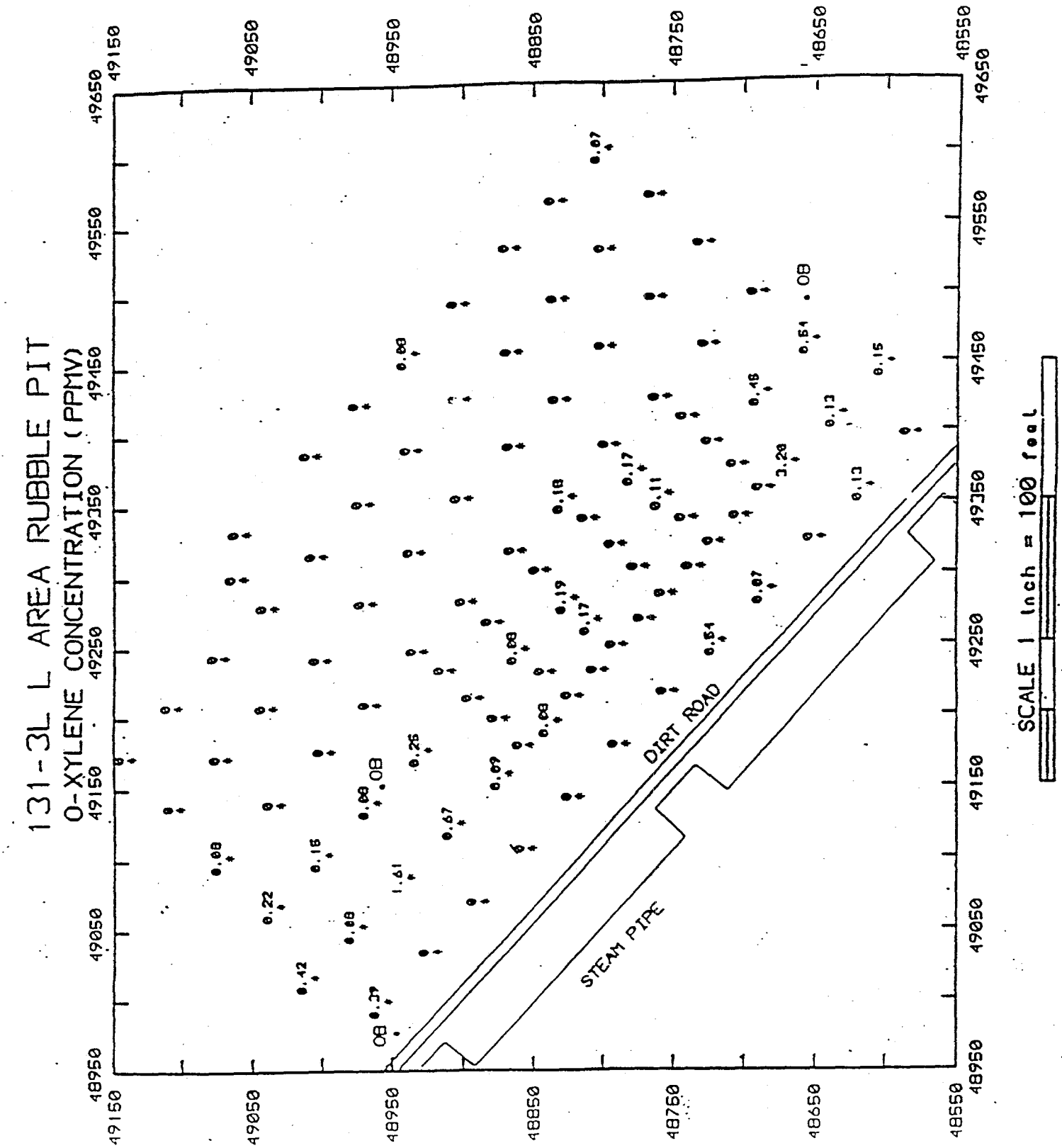

Figure C-13. L-Area Rubble Pit (131-3L) Methane Concentration

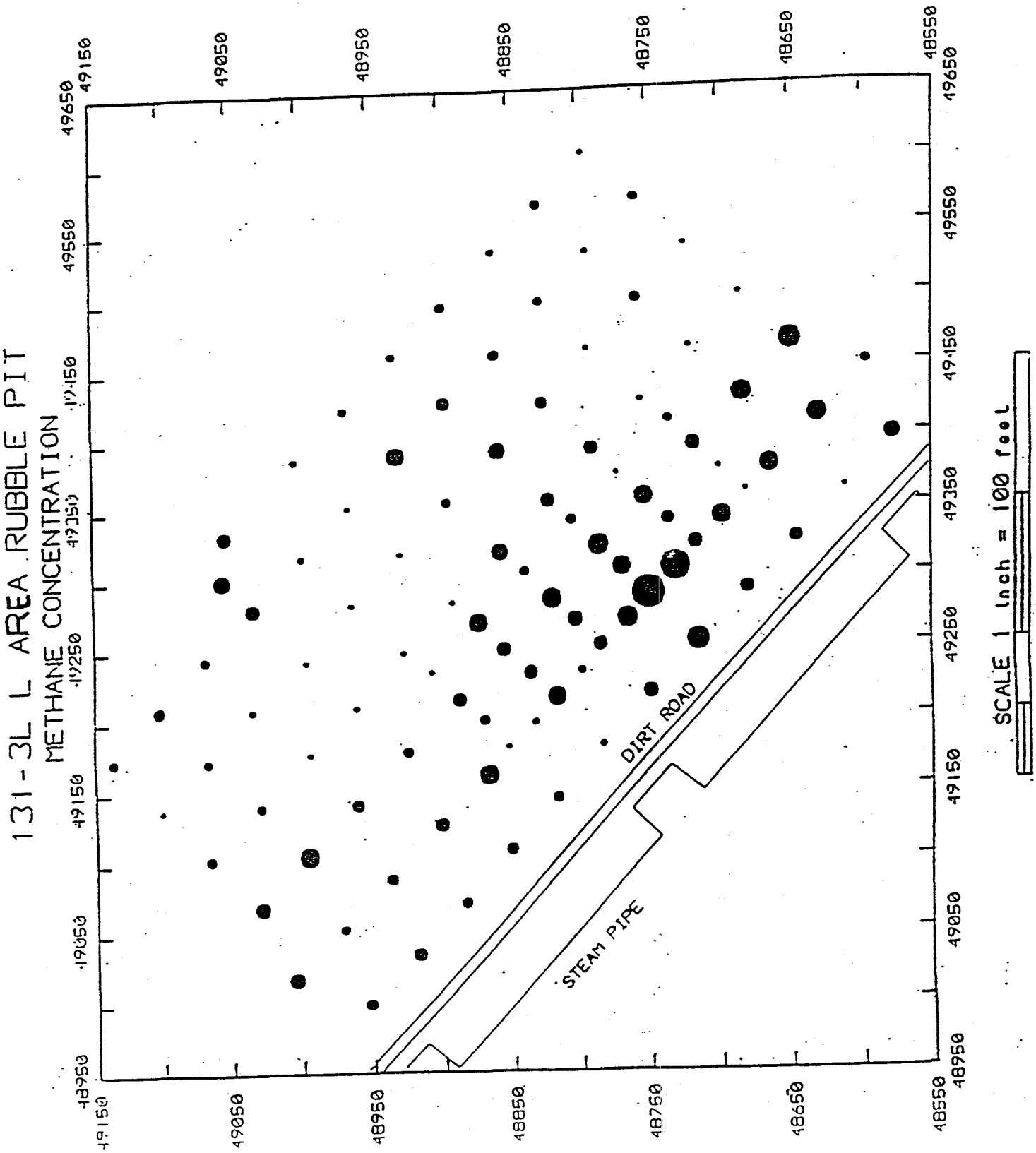

Figure C-14. L-Area Rubble Pit (131-3L) Methane Concentration (PPBV)

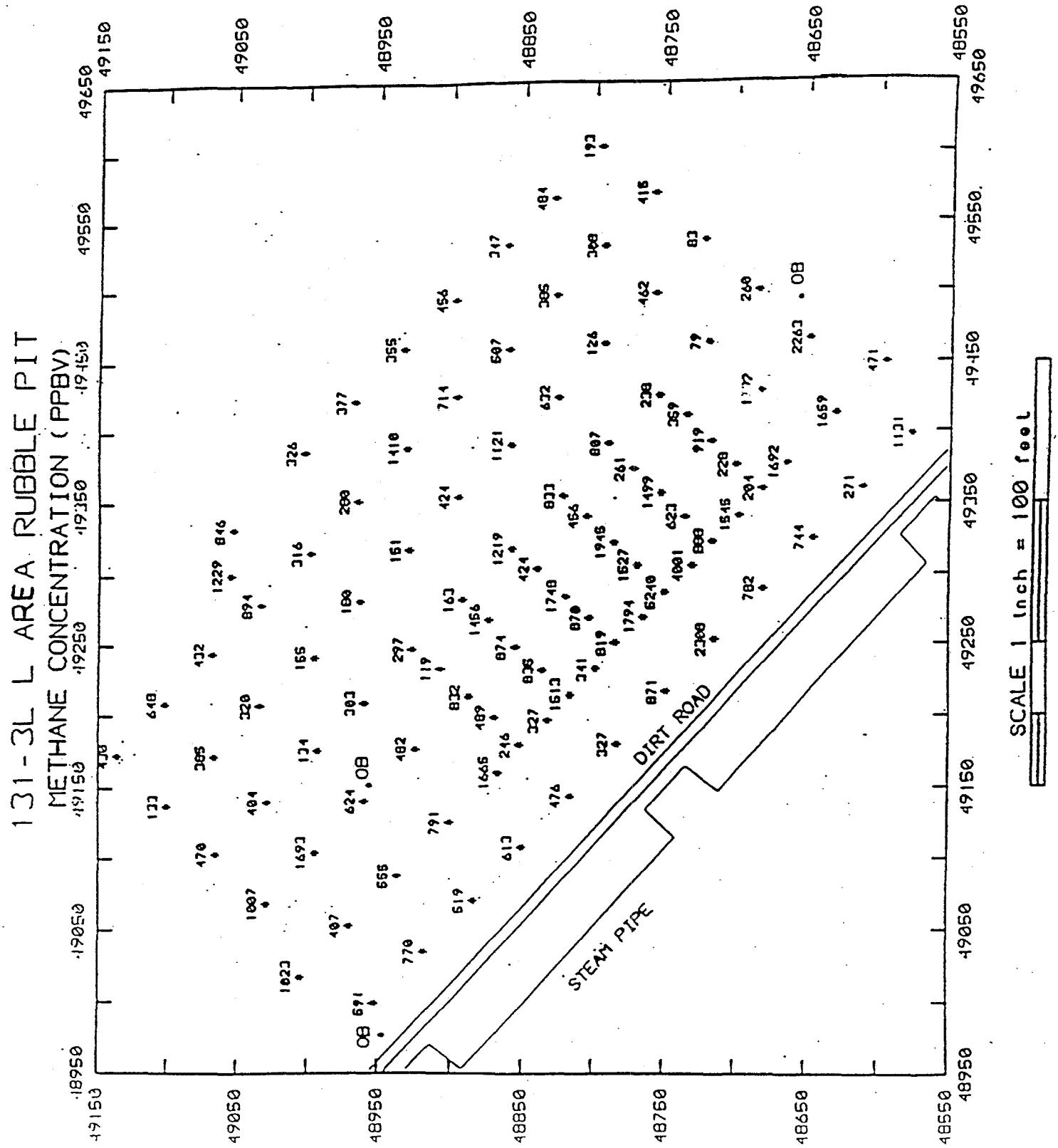

Figure C-15. L-Area Rubble Pit (131-3L) Mercury Concentration

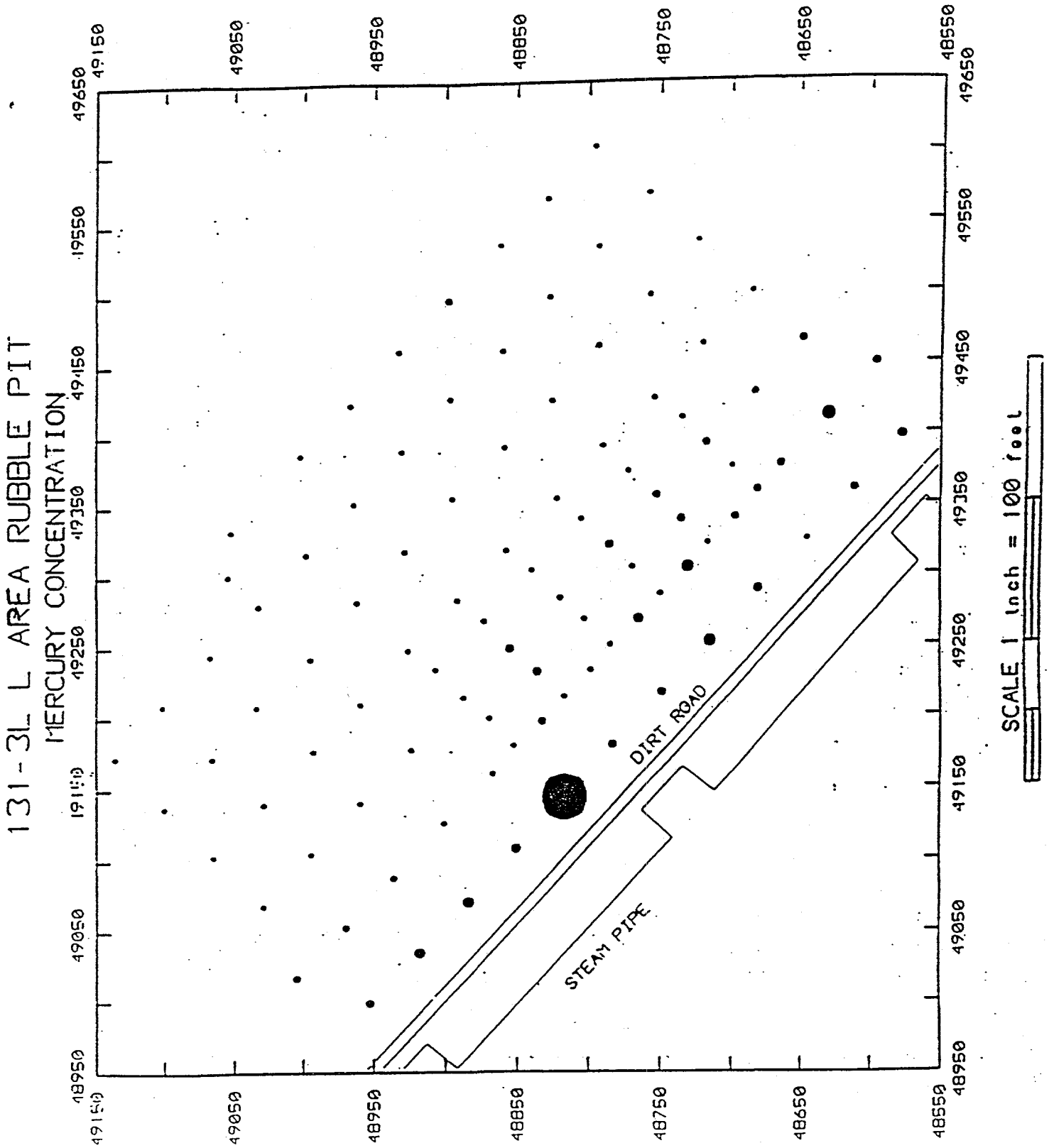

Table C-1. LRP (131-3L), 1991 Soil Gas Survey Results - VOCs

----- SOIL GAS CONCENTRATIONS (PPMV) -----

SAMPLE #		* VINYL CHLORIDE	* METHYLENE CHLORIDE	TRANS 1,2 DICHLORO ETHYLENE	CHLOROFORM	CARBON TETRA CHLORIDE	BENZENE	TRICHLORO ETHYLENE	TOLUENE	TETRA CHLORO ETHYLENE	ETHYL BENZENE	M&P XYLENE	O XYLENE	SAMPLE #	
131-3L	1	<1.0	<2.0	<.1	<.005	<.005	<.07	<.005	<.07	<.005	<.07	<.07	<.07	131-3L	1
131-3L	2	<1.0	<2.0	<.1	<.005	<.005	<.07	<.005	<.07	<.005	<.07	<.07	0.13	131-3L	2
131-3L	3	<1.0	<2.0	<.1	<.005	<.005	<.07	<.005	<.07	<.005	<.07	<.07	<.07	131-3L	3
131-3L	3A	<1.0	<2.0	<.1	<.005	<.005	<.07	<.005	<.07	<.005	<.07	<.07	0.10	131-3L	3A
131-3L	4	<1.0	<2.0	<.1	<.005	<.005	<.07	<.005	<.07	<.005	<.07	<.07	0.07	131-3L	4
131-3L	5	<1.0	<2.0	<.1	<.005	<.005	<.07	<.005	<.07	<.005	0.16	<.07	0.54	131-3L	5
131-3L	6	<1.0	<2.0	<.1	<.005	<.005	<.07	<.005	<.07	<.005	<.07	<.07	<.[illegible]	131-3L	6
131-3L	7	<1.0	<2.0	<.1	<.005	<.005	<.07	<.005	<.07	<.005	<.07	<.07	<.07	131-3L	7
131-3L	8	<1.0	<2.0	<.1	<.005	<.005	<.07	<.005	<.07	0.086	<.07	<.07	<.07	131-3L	8
131-3L	9	<1.0	<2.0	<.1	<.005	<.005	<.07	<.005	<.07	<.005	<.07	<.07	<.07	131-3L	9
131-3L	10	<1.0	<2.0	<.1	<.005	<.005	<.07	<.005	<.07	<.005	<.07	<.07	<.07	131-3L	10
131-3L	11	<1.0	<2.0	<.1	<.005	<.005	<.07	<.005	<.07	<.005	<.07	<.07	<.07	131-3L	11
131-3L	12	<1.0	<2.0	<.1	<.005	<.005	<.07	<.005	<.07	<.005	<.07	<.07	0.39	131-3L	12
131-3L	13	<1.0	<2.0	<.1	<.005	<.005	<.07	<.005	<.07	<.005	<.07	<.07	0.42	131-3L	13
131-3L	13A	<1.0	<2.0	<.1	<.005	<.005	<.07	<.005	<.07	<.005	<.07	<.07	0.27	131-3L	13A
131-3L	14	<1.0	<2.0	<.1	<.005	<.005	<.07	<.005	<.07	<.005	<.07	<.07	0.08	131-3L	14
131-3L	15	<1.0	<2.0	<.1	<.005	<.005	<.07	<.005	<.07	<.005	<.07	<.07	1.61	131-3L	15
131-3L	16	<1.0	<2.0	<.1	<.005	<.005	<.07	<.005	<.07	<.005	<.07	<.07	0.67	131-3L	16
131-3L	17	<1.0	<2.0	<.1	<.005	<.005	<.07	<.005	<.07	<.005	<.07	<.07	0.09	131-3L	17
131-3L	18	<1.0	<2.0	<.1	<.005	<.005	<.07	<.005	<.07	<.005	<.07	<.07	0.08	131-3L	18
131-3L	19	<1.0	<2.0	<.1	<.005	<.005	<.07	<.005	<.07	<.005	<.07	<.07	<.07	131-3L	19
131-3L	20	<1.0	<2.0	<.1	<.005	<.005	<.07	<.005	<.07	<.005	<.07	<.07	<.07	131-3L	20
131-3L	21	<1.0	<2.0	<.1	<.005	0.190	<.07	0.036	<.07	0.097	<.07	<.07	<.07	131-3L	21
131-3L	22	<1.0	<2.0	<.1	<.005	<.005	<.07	<.005	<.07	<.005	<.07	<.07	<.07	131-3L	22
131-3L	23	<1.0	<2.0	<.1	<.005	<.005	<.07	<.005	<.07	<.005	<.07	<.07	3.20	131-3L	23
131-3L	23A	<1.0	<2.0	<.1	<.005	<.005	<.07	<.005	<.07	<.005	<.07	<.07	0.16	131-3L	23A
131-3L	24	<1.0	<2.0	<.1	<.005	<.005	<.07	<.005	<.07	<.005	<.07	<.07	0.13	131-3L	24
131-3L	25	<1.0	<2.0	<.1	<.005	<.005	<.07	<.005	<.07	<.005	<.07	<.07	0.15	131-3L	25
131-3L	26	<1.0	<2.0	<.1	<.005	<.005	<.07	<.005	<.07	<.005	<.07	<.07	0.54	131-3L	26
131-3L	27	<1.0	<2.0	<.1	<.005	<.005	<.07	<.005	<.07	<.005	<.07	<.07	0.45	131-3L	27
131-3L	28	<1.0	<2.0	<.1	<.005	<.005	<.07	<.005	<.07	<.005	<.07	<.07	<.07	131-3L	28

Table C-1. LRP (131-3L), 1991 Soil Gas Survey Results - VOCs (Continued)

----- SOIL GAS CONCENTRATIONS (PPMV) -----

SAMPLE #	* VINYL CHLORIDE	* METHYLENE CHLORIDE	TRANS 1,2 DICHLORO ETHYLENE	CHLOROFORM	CARBON TETRA CHLORIDE	BENZENE	TRICHLORO ETHYLENE	TOLUENE	TETRA CHLORO ETHYLENE	ETHYL BENZENE	M&P XYLENE	O XYLENE	SAMPLE #
131-3L 29	<1.0	<2.0	<.1	<.005	<.005	<.07	<.005	<.07	<.005	<.07	<.07	0.11	131-3L 29
131-3L 30	<1.0	<2.0	<.1	<.005	<.005	<.07	<.005	<.07	<.005	<.07	<.07	<.07	131-3L 30
131-3L 31	<1.0	<2.0	<.1	<.005	<.005	<.07	<.005	<.07	<.005	<.07	<.07	0.19	131-3L 31
131-3L 32	<1.0	<2.0	<.1	<.005	<.005	<.07	<.005	<.07	<.005	<.07	<.07	0.08	131-3L 32
131-3L 33	<1.0	<2.0	<.1	<.005	<.005	<.07	<.005	<.07	<.005	<.07	<.07	<.07	131-3L 33
131-3L 33A	<1.0	<2.0	<.1	<.005	<.005	<.07	<.005	<.07	<.005	<.07	<.07	<.07	131-3L 33A
131-3L 34	<1.0	<2.0	<.1	<.005	<.005	<.07	<.005	<.07	<.005	<.07	<.07	0.25	131-3L 34
131-3L 35	<1.0	<2.0	<.1	<.005	<.005	<.07	<.005	<.07	<.005	<.07	<.07	0.08	131-3L 35
131-3L 36	<1.0	<2.0	<.1	<.005	<.005	<.07	<.005	<.07	<.005	<.07	<.07	0.15	131-3L 36
131-3L 37	<1.0	<2.0	<.1	<.005	<.005	<.07	<.005	<.07	<.005	<.07	<.07	0.22	131-3L 37
131-3L 38	<1.0	<2.0	<.1	<.005	<.005	<.07	<.005	<.07	<.005	<.07	<.07	<.07	131-3L 38
131-3L 39	<1.0	<2.0	<.1	<.005	<.005	<.07	<.005	<.07	<.005	<.07	<.07	0.18	131-3L 39
131-3L 40	<1.0	<2.0	<.1	<.005	<.005	<.07	<.005	<.07	<.005	<.07	<.07	<.07	131-3L 40
131-3L 41	<1.0	<2.0	<.1	<.005	<.005	<.07	<.005	<.07	<.005	<.07	<.07	<.07	131-3L 41
131-3L 42	<1.0	<2.0	<.1	<.005	<.005	<.07	<.005	<.07	<.005	<.07	<.07	<.07	131-3L 42
131-3L 43	<1.0	<2.0	<.1	<.005	<.005	<.07	<.005	<.07	<.005	<.07	<.07	0.07	131-3L 43
131-3L 43A	<1.0	<2.0	<.1	<.005	<.005	<.07	<.005	<.07	<.005	<.07	<.07	<.07	131-3L 43A
131-3L 44	<1.0	<2.0	<.1	<.005	<.005	<.07	<.005	<.07	<.005	<.07	<.07	0.08	131-3L 44
131-3L 45	<1.0	<2.0	<.1	<.005	<.005	<.07	<.005	<.07	<.005	<.07	<.07	<.07	131-3L 45
131-3L 46	<1.0	<2.0	<.1	<.005	<.005	<.07	<.005	<.07	<.005	<.07	<.07	<.07	131-3L 46
131-3L 47	<1.0	<2.0	<.1	<.005	<.005	<.07	<.005	<.07	<.005	<.07	<.07	<.07	131-3L 47
131-3L 48	<1.0	<2.0	<.1	<.005	<.005	<.07	<.005	<.07	<.005	<.07	<.07	<.07	131-3L 48
131-3L 49	<1.0	<2.0	<.1	<.005	<.005	<.07	<.005	<.07	<.005	<.07	<.07	0.27	131-3L 49
131-3L 50	<1.0	<2.0	<.1	<.005	<.005	<.07	<.005	<.07	<.005	<.07	<.07	0.25	131-3L 50
131-3L 51	<1.0	<2.0	<.1	<.005	<.005	<.07	<.005	<.07	<.005	<.07	<.07	0.23	131-3L 51
131-3L 52	<1.0	<2.0	<.1	<.005	<.005	<.07	<.005	<.07	<.005	<.07	<.07	0.08	131-3L 52
131-3L 53	<1.0	<2.0	<.1	<.005	<.005	<.07	<.005	<.07	<.005	<.07	<.07	0.11	131-3L 53
131-3L 53A	<1.0	<2.0	<.1	<.005	<.005	<.07	<.005	<.07	<.005	<.07	<.07	<.07	131-3L 53A
131-3L 54	<1.0	<2.0	<.1	<.005	<.005	<.07	<.005	<.07	<.005	<.07	<.07	<.07	131-3L 54
131-3L 55	<1.0	<2.0	<.1	<.005	<.005	<.07	<.005	<.07	<.005	<.07	<.07	<.07	131-3L 55
131-3L 56	<1.0	<2.0	<.1	<.005	<.005	<.07	<.005	<.07	<.005	<.07	<.07	<.07	131-3L 56

Table C-1. LRP (131-3L), 1991 Soil Gas Survey Results - VOCs (Continued)

----- SOIL GAS CONCENTRATIONS (PPMV) -----

SAMPLE #	VINYL CHLORIDE	METHYLENE CHLORIDE	TRANS 1,2 DICHLORO ETHYLENE	CHLOROFORM	CARBON TETRA CHLORIDE	BENZENE	TRICHLORO ETHYLENE	TOLUENE	TETRA CHLORO ETHYLENE	ETHYL BENZENE	M&P XYLENE	O XYLENE	SAMPLE #
131-3L 57	<1.0	<2.0	<.1	<.005	<.005	<.07	<.005	<.07	<.005	<.07	<.07	<.07	131-3L 57
131-3L 58	<1.0	<2.0	<.1	<.005	<.005	<.07	<.005	<.07	<.005	<.07	<.07	<.07	131-3L 58
131-3L 59	<1.0	<2.0	<.1	<.005	<.005	<.07	<.005	<.07	<.005	<.07	<.07	<.07	131-3L 59
131-3L 60	<1.0	<2.0	<.1	<.005	<.005	<.07	<.005	<.07	<.005	<.07	<.07	<.07	131-3L 60
131-3L 61	<1.0	<2.0	<.1	<.005	<.005	<.07	<.005	<.07	<.005	<.07	<.07	<.07	131-3L 61
131-3L 62	<1.0	<2.0	<.02	<.005	<.005	<.07	<.005	<.07	<.005	<.07	<.07	<.07	131-3L 62
131-3L 63	<1.0	<2.0	<.02	<.005	<.005	<.07	<.005	<.07	0.006	<.07	<.07	<.07	131-3L 63
131-3L 63A	<1.0	<2.0	<.02	<.005	<.005	<.07	<.005	<.07	0.006	<.07	<.07	<.07	131-3L 63A
131-3L 64	<1.0	<2.0	<.02	<.005	<.005	<.07	<.005	<.07	<.005	<.07	<.07	<.07	131-3L 64
131-3L 65	<1.0	<2.0	<.02	<.005	<.005	<.07	<.005	<.07	<.005	<.07	<.07	<.07	131-3L 65
131-3L 66	<1.0	<2.0	<.02	<.005	<.005	<.07	<.005	<.07	<.005	<.07	<.07	<.07	131-3L 66
131-3L 67	<1.0	<2.0	<.02	<.005	<.005	<.07	<.005	<.07	<.005	<.07	<.07	<.07	131-3L 67
131-3L 68	<1.0	<2.0	<.02	<.005	<.005	<.07	<.005	<.07	<.005	<.07	<.07	<.07	131-3L 68
131-3L 69	<1.0	<2.0	<.02	<.005	<.005	0.86	<.005	<.07	<.005	<.07	<.07	<.07	131-3L 69
131-3L 70	<1.0	<2.0	<.02	<.005	<.005	<.07	<.005	<.07	<.005	<.07	<.07	0.17	131-3L 70
131-3L 71	<1.0	<2.0	<.02	<.005	<.005	<.07	<.005	<.07	<.005	<.07	<.07	<.07	131-3L 71
131-3L 72	<1.0	<2.0	<.02	<.005	<.005	<.07	<.005	<.07	<.005	<.07	<.07	<.07	131-3L 72
131-3L 73	<1.0	<2.0	<.02	<.005	<.005	<.07	<.005	<.07	<.005	<.07	<.07	<.07	131-3L 73
131-3L 73A	<1.0	<2.0	<.02	<.005	<.005	<.07	<.005	<.07	<.005	<.07	<.07	<.07	131-3L 73A
131-3L 74	<1.0	<2.0	<.02	<.005	<.005	<.07	<.005	<.07	<.005	<.07	<.07	<.07	131-3L 74
131-3L 75	<1.0	<2.0	<.02	<.005	<.005	<.07	<.005	<.07	<.005	<.07	<.07	0.17	131-3L 75
131-3L 76	<1.0	<2.0	<.02	<.005	<.005	<.07	<.005	<.07	<.005	<.07	<.07	<.07	131-3L 76
131-3L 77	<1.0	<2.0	<.02	<.005	<.005	<.07	<.005	<.07	<.005	<.07	<.07	<.07	131-3L 77
131-3L 78	<1.0	<2.0	<.02	<.005	<.005	<.07	<.005	<.07	<.005	<.07	<.07	<.07	131-3L 78
131-3L 79	<1.0	<2.0	<.02	<.005	<.005	<.07	<.005	<.07	<.005	<.07	<.07	<.07	131-3L 79
131-3L 80	<1.0	<2.0	<.02	<.005	<.005	<.07	<.005	<.07	<.005	<.07	<.07	<.07	131-3L 80
131-3L 81	<1.0	<2.0	<.02	<.005	<.005	<.07	<.005	<.07	<.005	<.07	<.07	<.07	131-3L 81
131-3L 82	<1.0	<2.0	<.02	<.005	<.005	<.07	<.005	<.07	<.005	<.07	<.07	<.07	131-3L 82
131-3L 83	<1.0	<2.0	<.02	<.005	<.005	<.07	<.005	<.07	<.005	<.07	<.07	<.07	131-3L 83
131-3L 83A	<1.0	<2.0	<.02	<.005	<.005	<.07	<.005	<.07	<.005	<.07	<.07	<.07	131-3L 83A
131-3L 84	<1.0	<2.0	<.02	<.005	<.005	<.07	<.005	<.07	<.005	<.07	<.07	<.07	131-3L 84

Table C-1. LRP (131-3L), 1991 Soil Gas Survey Results - VOCs (Continued)

----- SOIL GAS CONCENTRATIONS (PPMV) -----

SAMPLE #	* VINYL CHLORIDE	* METHYLENE CHLORIDE	TRANS 1,2 DICHLORO ETHYLENE	CHLOROFORM	CARBON TETRA CHLORIDE	BENZENE	TRICHLORO ETHYLENE	TOLUENE	TETRA CHLORO ETHYLENE	ETHYL BENZENE	M&P XYLENE	O XYLENE	SAMPLE #
131-3L 85	<1.0	<2.0	<.02	<.005	<.005	<.07	<.005	<.07	<.005	<.07	<.07	0.08	131-3L 85
131-3L 86	<1.0	<2.0	<.02	<.005	<.005	<.07	<.005	<.07	<.005	<.07	<.07	<.07	131-3L 86
131-3L 87	<1.0	<2.0	<.02	<.005	<.005	<.07	<.005	<.07	<.005	<.07	<.07	<.07	131-3L 87
131-3L 88	<1.0	<2.0	<.02	<.005	<.005	<.07	<.005	<.07	<.005	<.07	<.07	<.07	131-3L 88
131-3L 89	<1.0	<2.0	<.02	<.005	<.005	<.07	<.005	<.07	<.005	<.07	<.07	<.07	131-3L 89
131-3L 90	<1.0	<2.0	<.02	<.005	<.005	<.07	<.005	<.07	<.005	<.07	<.07	<.07	131-3L 90
131-3L 91	<1.0	<2.0	<.02	<.005	<.005	<.07	<.005	<.07	<.005	<.07	<.07	<.07	131-3L 91
131-3L 92	<1.0	<2.0	<.02	<.005	<.005	<.07	<.005	<.07	<.005	<.07	<.07	<.07	131-3L 92
131-3L 93	<1.0	<2.0	<.02	<.005	<.005	<.07	<.005	<.07	<.005	<.07	<.07	<.07	131-3L 93
131-3L 93A	<1.0	<2.0	<.02	<.005	<.005	<.07	<.005	<.07	<.005	<.07	<.07	<.07	131-3L 93A
131-3L 94	<1.0	<2.0	<.02	<.005	<.005	<.07	<.005	<.07	<.005	<.07	<.07	<.07	131-3L 94
131-3L 95	<1.0	<2.0	<.02	<.005	<.005	<.07	<.005	<.07	<.005	<.07	<.07	<.07	131-3L 95
131-3L 96	<1.0	<2.0	<.02	<.005	<.005	<.07	<.005	<.07	<.005	<.07	<.07	<.07	131-3L 96
131-3L 97	<1.0	<2.0	<.02	<.005	<.005	<.07	<.005	<.07	<.005	<.07	<.07	<.07	131-3L 97
131-3L 98	<1.0	<2.0	<.02	<.005	<.005	<.07	<.005	<.07	<.005	<.07	<.07	<.07	131-3L 98
131-3L 99	<1.0	<2.0	<.02	<.005	<.005	<.07	<.005	<.07	<.005	<.07	<.07	<.07	131-3L 99
131-3L 100	<1.0	<2.0	<.02	<.005	<.005	<.07	<.005	<.07	<.005	<.07	<.07	<.07	131-3L 100
131-3L 101	<1.0	<2.0	<.02	<.005	<.005	<.07	<.005	<.07	<.005	<.07	<.07	<.07	131-3L 101
131-3L 102	<1.0	<2.0	<.02	<.005	<.005	<.07	<.005	<.07	<.005	<.07	<.07	<.07	131-3L 102
131-3L 103	<1.0	<2.0	<.02	<.005	<.005	<.07	<.005	<.07	<.005	<.07	<.07	<.07	131-3L 103
131-3L 103A	<1.0	<2.0	<.02	<.005	<.005	<.07	<.005	<.07	<.005	<.07	<.07	<.07	131-3L 103A
131-3L 104	<1.0	<2.0	<.02	<.005	<.005	<.07	<.005	<.07	<.005	<.07	<.07	<.07	131-3L 104
131-3L 105	<1.0	<2.0	<.02	<.005	<.005	<.07	<.005	<.07	<.005	<.07	<.07	<.07	131-3L 105
131-3L 106	<1.0	<2.0	<.02	<.005	<.005	<.07	<.005	<.07	<.005	<.07	<.07	<.07	131-3L 106
131-3L 107	<1.0	<2.0	<.02	<.005	<.005	<.07	<.005	<.07	<.005	<.07	<.07	<.07	131-3L 107
131-3L 108	<1.0	<2.0	<.02	<.005	<.005	<.07	<.005	<.07	<.005	<.07	<.07	<.07	131-3L 108
131-3L 109	<1.0	<2.0	<.02	<.005	<.005	<.07	<.005	<.07	<.005	<.07	<.07	<.07	131-3L 109
131-3L 110	<1.0	<2.0	<.02	<.005	<.005	<.07	<.005	<.07	<.005	<.07	<.07	<.07	131-3L 110
131-3L 111	<1.0	<2.0	<.02	<.005	<.005	<.07	<.005	<.07	<.005	<.07	<.07	<.07	131-3L 111
131-3L 112	<1.0	<2.0	<.02	<.005	<.005	<.07	<.005	<.07	<.005	<.07	<.07	<.07	131-3L 112
131-3L 113	<1.0	<2.0	<.02	<.005	<.005	<.07	<.005	<.07	<.005	<.07	<.07	0.07	131-3L 113

Table C-1. LRP (131-3L), 1991 Soil Gas Survey Results - VOCs (Continued)

----- SOIL GAS CONCENTRATIONS (PPMV) -----

SAMPLE #	* VINYL CHLORIDE	* METHYLENE CHLORIDE	TRANS 1,2 DICHLORO ETHYLENE	CHLOROFORM	CARBON TETRA CHLORIDE	BENZENE	TRICHLORO ETHYLENE	TOLUENE	TETRA CHLORO ETHYLENE	ETHYL BENZENE	M&P XYLENE	O XYLENE	SAMPLE #
131-3L 113A	<1.0	<2.0	<.02	<.005	<.005	<.07	<.005	<.07	<.005	<.07	<.07	0.08	131-3L 113A
131-3L 114	<1.0	<2.0	<.02	<.005	<.005	<.07	<.005	<.07	<.005	<.07	<.07	<.07	131-3L 114
131-3L 115	<1.0	<2.0	<.02	<.005	<.005	<.07	<.005	<.07	<.005	<.07	<.07	<.07	131-3L 115
131-3L 116	<1.0	<2.0	<.02	<.005	<.005	<.07	<.005	<.07	<.005	<.07	<.07	<.07	131-3L 116
131-3L 117	<1.0	<2.0	<.02	<.005	<.005	<.07	<.005	<.07	<.005	<.07	<.07	0.08	131-3L 117
131-3L 118	<1.0	<2.0	<.02	<.005	<.005	<.07	<.005	<.07	<.005	<.07	<.07	<.07	131-3L 118
131-3L 119	<1.0	<2.0	<.02	<.005	<.005	<.07	<.005	<.07	<.005	<.07	<.07	<.07	131-3L 119
131-3L 120	<1.0	<2.0	<.02	<.005	<.005	<.07	<.005	<.07	<.005	<.07	<.07	<.07	131-3L 120
131-3L 121	<1.0	<2.0	<.02	<.005	<.005	<.07	<.005	<.07	<.005	<.07	<.07	<.07	131-3L 121
131-3L SB1	<1.0	<2.0	<.1	<.005	<.005	<.07	<.005	<.07	<.005	<.07	<.07	<.07	131-3L SB1
131-3L SB2	<1.0	<2.0	<.1	<.005	<.005	<.07	<.005	<.07	<.005	<.07	<.07	<.07	131-3L SB2
131-3L SB3	<1.0	<2.0	<.1	<.005	<.005	<.07	<.005	<.07	<.005	<.07	<.07	<.07	131-3L SB3
131-3L SB4	<1.0	<2.0	<.1	<.005	<.005	<.07	<.005	<.07	<.005	<.07	<.07	<.07	131-3L SB4
131-3L SB5	<1.0	<2.0	<.1	<.005	<.005	<.07	<.005	<.07	<.005	<.07	<.07	<.07	131-3L SB5
131-3L SB6	<1.0	<2.0	<.1	<.005	<.005	<.07	<.005	<.07	<.005	<.07	<.07	<.07	131-3L SB6
131-3L SB7	<1.0	<2.0	<.1	<.005	<.005	<.07	<.005	<.07	<.005	<.07	<.07	<.07	131-3L SB7
131-3L SB8	<1.0	<2.0	<.1	<.005	<.005	<.07	<.005	<.07	<.005	<.07	<.07	<.07	131-3L SB8
131-3L SB9	<1.0	<2.0	<.1	<.005	<.005	<.07	<.005	<.07	<.005	<.07	<.07	<.07	131-3L SB9
131-3L SB10	<1.0	<2.0	<.02	<.005	<.005	<.07	<.005	<.07	<.005	<.07	<.07	<.07	131-3L SB10
131-3L SB11	<1.0	<2.0	<.02	<.005	<.005	<.07	<.005	<.07	<.005	<.07	<.07	<.07	131-3L SB11
131-3L SB12	<1.0	<2.0	<.02	<.005	<.005	<.07	<.005	<.07	<.005	<.07	<.07	<.07	131-3L SB12
131-3L SB13	<1.0	<2.0	<.02	<.005	<.005	<.07	<.005	<.07	<.005	<.07	<.07	<.07	131-3L SB13
131-3L SB14	<1.0	<2.0	<.02	<.005	<.005	<.07	<.005	<.07	<.005	<.07	<.07	<.07	131-3L SB14
131-3L SB15	<1.0	<2.0	<.02	<.005	<.005	<.07	<.005	<.07	<.005	<.07	<.07	<.07	131-3L SB15
131-3L SB16	<1.0	<2.0	<.02	<.005	<.005	<.07	<.005	<.07	<.005	<.07	<.07	<.07	131-3L SB16

Table C-2. LRP (131-3L), 1991 Soil Gas Survey Results for Light Hydrocarbons and Mercury

SAMPLE #		METHANE PPBV	ETHANE PPBV	PROPANE PPBV	I-BUTANE PPBV	N-BUTANE PPBV	ETHYLENE PPBV	PROPYLENE PPBV	MERCURY PPB/VT	SAMPLE #	
131-3L	1	1113	<5	5	<5	<5	10	<5	7	131-3L	1
131-3L	2	271	26	10	<5	<5	17	15	4	131-3L	2
131-3L	3	744	36	19	<5	<5	30	25	<1	131-3L	3
131-3L	3A	429	40	15	<5	<5	29	24	6	131-3L	3A
131-3L	4	782	11	5	<5	<5	9	<5	5	131-3L	4
131-3L	5	2308	48	20	<5	<5	35	31	16	131-3L	5
131-3L	6	871	21	<5	<5	<5	15	<5	4	131-3L	6
131-3L	7	327	21	10	<5	<5	16	12	4	131-3L	7
131-3L	8	476	9	<5	<5	<5	7	7	533	131-3L	8
131-3L	9	613	<5	<5	<5	<5	<5	<5	6	131-3L	9
131-3L	10	519	21	12	<5	<5	16	10	10	131-3L	10
131-3L	11	770	21	9	<5	<5	16	13	11	131-3L	11
131-3L	12	591	13	5	<5	<5	11	10	4	131-3L	12
131-3L	13	1023	23	9	<5	<5	16	16	2	131-3L	13
131-3L	13A	394	20	9	<5	<5	17	19	5	131-3L	13A
131-3L	14	407	20	8	<5	<5	16	15	1	131-3L	14
131-3L	15	555	23	13	<5	<5	18	19	1	131-3L	15
131-3L	16	791	24	12	<5	<5	22	23	<1	131-3L	16
131-3L	17	1665	20	14	<5	<5	18	14	<1	131-3L	17
131-3L	18	327	25	10	<5	<5	20	24	2	131-3L	18
131-3L	19	341	37	15	5	<5	28	30	<1	131-3L	19
131-3L	20	1794	22	9	6	<5	22	18	6	131-3L	20
131-3L	21	4001	142	98	15	44	71	69	16	131-3L	21
131-3L	22	1545	32	17	<5	<5	28	34	2	131-3L	22
131-3L	23	1692	55	26	<5	<5	42	47	3	131-3L	23
131-3L	23A	373	15	10	<5	<5	15	15	3	131-3L	23A
131-3L	24	1659	49	21	<5	<5	49	40	26	131-3L	24
131-3L	25	471	20	12	<5	<5	20	20	3	131-3L	25
131-3L	26	2263	86	34	<5	<5	70	66	2	131-3L	26
131-3L	27	1792	20	<5	<5	<5	16	<5	1	131-3L	27
131-3L	28	919	51	24	<5	<5	37	45	2	131-3L	28
131-3L	29	1499	78	28	<5	<5	54	61	2	131-3L	29
131-3L	30	1945	77	29	<5	<5	53	51	3	131-3L	30
131-3L	31	1748	73	30	<5	<5	66	70	<1	131-3L	31
131-3L	32	874	26	9	<5	<5	17	20	3	131-3L	32
131-3L	33	832	20	8	<5	<5	14	15	<1	131-3L	33
131-3L	33A	766	12	<5	<5	<5	6	<5	<1	131-3L	33A
131-3L	34	482	27	14	<5	<5	20	22	<1	131-3L	34
131-3L	35	624	10	11	<5	<5	8	<5	<1	131-3L	35
131-3L	36	1693	56	20	<5	<5	48	39	<1	131-3L	36
131-3L	37	1007	9	<5	<5	<5	6	<5	<1	131-3L	37
131-3L	38	807	62	27	<5	<5	47	49	<1	131-3L	38
131-3L	39	833	22	19	<5	<5	17	17	<1	131-3L	39
131-3L	40	1219	20	10	<5	<5	18	19	<1	131-3L	40
131-3L	41	871	5	<5	<5	<5	5	<5	<1	131-3L	41
131-3L	42	1070	15	8	<5	<5	12	12	<1	131-3L	42
131-3L	43	1767	20	10	<5	<5	15	12	2	131-3L	43
131-3L	43A	1528	14	7	<5	<5	10	<5	<1	131-3L	43A
131-3L	44	2674	56	21	<5	<5	32	29	<1	131-3L	44
131-3L	45	1471	17	10	<5	<5	13	14	<1	131-3L	45
131-3L	46	315	24	10	<5	<5	13	13	<1	131-3L	46
131-3L	47	776	8	<5	<5	<5	7	<5	<1	131-3L	47

Table C-2. LRP (131-3L), 1991 Soil Gas Survey Results for Light Hydrocarbons and Mercury (Continued)

SAMPLE #	METHANE PPBV	ETHANE PPBV	PROPANE PPBV	I-BUTANE PPBV	N-BUTANE PPBV	ETHYLENE PPBV	PROPYLENE PPBV	MERCURY PPB/UT	SAMPLE #
131-3L 48	868	25	9	<5	<5	15	15	8	131-3L 48
131-3L 49	338	15	7	<5	<5	13	<5	1	131-3L 49
131-3L 50	582	19	9	<5	<5	16	13	<1	131-3L 50
131-3L 51	415	17	7	<5	<5	14	10	<1	131-3L 51
131-3L 52	1470	15	6	<5	<5	11	<5	<1	131-3L 52
131-3L 53	395	13	7	<5	<5	14	<5	<1	131-3L 53
131-3L 53A	995	15	9	<5	<5	14	<5	<1	131-3L 53A
131-3L 54	705	7	<5	<5	<5	<5	<5	<1	131-3L 54
131-3L 55	825	11	7	<5	<5	8	<5	<1	131-3L 55
131-3L 56	684	9	<5	<5	<5	6	<5	<1	131-3L 56
131-3L 57	715	<5	<5	<5	<5	<5	<5	<1	131-3L 57
131-3L 58	844	12	<5	<5	<5	9	<5	7	131-3L 58
131-3L 59	895	10	<5	<5	<5	9	<5	10	131-3L 59
131-3L 60	1598	60	23	<5	<5	53	44	6	131-3L 60
131-3L 61	938	11	5	<5	<5	10	<5	8	131-3L 61
131-3L 62	204	33	14	<5	<5	29	36	3	131-3L 62
131-3L 63	888	38	16	<5	<5	24	25	<1	131-3L 63
131-3L 63A	456	31	13	<5	<5	22	27	67	131-3L 63A
131-3L 64	5240	342	134	6	26	185	213	<1	131-3L 64
131-3L 65	819	67	30	<5	5	47	56	<1	131-3L 65
131-3L 66	1513	192	77	<5	15	137	156	<1	131-3L 66
131-3L 67	246	17	8	<5	<5	12	17	<1	131-3L 67
131-3L 68	489	21	10	<5	<5	18	21	<1	131-3L 68
131-3L 69	835	30	12	<5	<5	37	33	4	131-3L 69
131-3L 70	870	86	36	<5	<5	88	89	<1	131-3L 70
131-3L 71	1527	150	66	<5	11	107	125	<1	131-3L 71
131-3L 72	623	23	13	<5	<5	20	28	4	131-3L 72
131-3L 73	228	24	9	<5	<5	19	28	<1	131-3L 73
131-3L 73A	471	38	18	<5	21	36	39	<1	131-3L 73A
131-3L 74	359	17	13	<5	14	12	14	<1	131-3L 74
131-3L 75	261	12	11	<5	<5	10	7	<1	131-3L 75
131-3L 76	456	27	14	<5	11	20	29	<1	131-3L 76
131-3L 77	424	30	13	<5	12	23	19	<1	131-3L 77
131-3L 78	1456	10	5	<5	<5	5	<5	<1	131-3L 78
131-3L 79	119	5	5	<5	<5	<5	<5	<1	131-3L 79
131-3L 80	163	8	7	<5	<5	<5	<5	<1	131-3L 80
131-3L 81	297	19	11	<5	15	11	18	<1	131-3L 81
131-3L 82	303	15	6	<5	<5	7	11	<1	131-3L 82
131-3L 83	134	6	<5	<5	<5	<5	5	<1	131-3L 83
131-3L 83A	847	62	24	<5	20	40	55	<1	131-3L 83A
131-3L 84	404	30	12	<5	6	18	23	<1	131-3L 84
131-3L 85	470	26	19	<5	5	16	21	<1	131-3L 85
131-3L 86	238	8	<5	<5	<5	<5	6	<1	131-3L 86
131-3L 87	79	10	<5	<5	<5	<5	<5	<1	131-3L 87
131-3L 88	260	18	13	<5	<5	9	17	<1	131-3L 88
131-3L 89	83	6	<5	<5	<5	<5	<5	<1	131-3L 89
131-3L 90	462	17	6	<5	7	12	15	<1	131-3L 90
131-3L 91	126	13	5	<5	<5	<5	5	<1	131-3L 91
131-3L 92	632	36	14	<5	13	22	28	<1	131-3L 92
131-3L 93	1121	32	13	<5	<5	21	29	<1	131-3L 93
131-3L 93A	530	33	17	<5	14	23	38	<1	131-3L 93A
131-3L 94	424	25	9	<5	12	18	26	<1	131-3L 94

Table C-2. LRP (131-3L), 1991 Soil Gas Survey Results for Light Hydrocarbons and Mercury (Continued)

SAMPLE #	METHANE PPBV	ETHANE PPBV	PROPANE PPBV	I-BUTANE PPBV	N-BUTANE PPBV	ETHYLENE PPBV	PROPYLENE PPBV	MERCURY PPB/UT	SAMPLE #
131-3L 95	151	13	6	<5	<5	21	13	<1	131-3L 95
131-3L 96	180	22	8	<5	9	23	19	<1	131-3L 96
131-3L 97	155	14	8	<5	7	24	19	<1	131-3L 97
131-3L 98	320	16	6	<5	<5	8	6	<1	131-3L 98
131-3L 99	385	22	11	<5	<5	38	26	<1	131-3L 99
131-3L 100	133	14	9	<5	<5	29	19	<1	131-3L 100
131-3L 101	430	20	10	<5	15	40	25	<1	131-3L 101
131-3L 102	648	22	12	<5	<5	46	28	<1	131-3L 102
131-3L 103	432	16	38	<5	<5	299	16	<1	131-3L 103
131-3L 103A	597	19	8	<5	<5	13	17	<1	131-3L 103A
131-3L 104	894	13	6	<5	<5	8	10	<1	131-3L 104
131-3L 105	316	12	<5	<5	<5	5	6	<1	131-3L 105
131-3L 106	280	15	6	<5	<5	7	13	<1	131-3L 106
131-3L 107	1410	97	35	<5	37	63	75	<1	131-3L 107
131-3L 108	714	17	8	<5	<5	15	16	<1	131-3L 108
131-3L 109	507	19	8	<5	<5	11	5	<1	131-3L 109
131-3L 110	385	15	7	<5	<5	8	11	<1	131-3L 110
131-3L 111	308	11	6	<5	<5	8	10	<1	131-3L 111
131-3L 112	415	17	11	<5	<5	10	14	<1	131-3L 112
131-3L 113	193	7	<5	<5	<5	<5	<5	<1	131-3L 113
131-3L 113A	233	25	9	<5	7	13	17	<1	131-3L 113A
131-3L 114	484	27	8	<5	<5	14	16	<1	131-3L 114
131-3L 115	347	20	8	<5	7	11	15	<1	131-3L 115
131-3L 116	456	18	8	18	<5	12	14	1	131-3L 116
131-3L 117	355	18	7	<5	<5	9	15	<1	131-3L 117
131-3L 118	377	18	6	<5	<5	10	14	<1	131-3L 118
131-3L 119	326	13	<5	<5	<5	7	11	<1	131-3L 119
131-3L 120	846	9	<5	<5	<5	6	7	<1	131-3L 120
131-3L 121	1229	10	5	<5	<5	8	10	<1	131-3L 121
131-3L SB1	2577	<5	<5	<5	<5	<5	<5	NA	131-3L SB1
131-3L SB2	2507	<5	<5	<5	<5	<5	<5	NA	131-3L SB2
131-3L SB4	2474	<5	<5	<5	<5	<5	<5	NA	131-3L SB4
131-3L SB5	2430	5	<5	<5	<5	<5	<5	NA	131-3L SB5
131-3L SB7	2496	<5	<5	<5	<5	<5	<5	NA	131-3L SB7
131-3L SB8	2436	<5	<5	<5	<5	<5	<5	NA	131-3L SB8
131-3L SB9	2452	<5	<5	<5	<5	<5	<5	NA	131-3L SB9
131-3L SB10	1729	6	<5	<5	<5	<5	<5	NA	131-3L SB10
131-3L SB11	1748	6	<5	<5	<5	<5	<5	NA	131-3L SB11
131-3L SB12	1761	7	<5	<5	<5	<5	<5	NA	131-3L SB12
131-3L SB13	1748	7	<5	<5	<5	<5	<5	NA	131-3L SB13
131-3L SB14	1701	6	8	<5	<5	17	5	NA	131-3L SB14
131-3L SB15	1727	5	<5	<5	<5	<5	<5	NA	131-3L SB15
131-3L SB16	1689	5	<5	<5	<5	<5	<5	NA	131-3L SB16

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APPENDIX D

L-Area Rubble Pile (131-3L) Soil Sample Summary Results

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Table D-1. LRP (131-3L) Soils 0 to 0.3 m (0 to 1 ft)

Analysis	Units	Detects/ Samples	Min. Detect	Max. Detect	Mean Result	HH Criteria	>HH Criteria	Eco RBC	>Eco RBC	2 Times BKGD	>BKGD	Soil COPC
Aluminum	mg/kg	5/ 5	2670	15600	7980	7800	>RBC*.1	10.5	>ECO RBC	8200	>BKG	•
Antimony	mg/kg	2/ 5	1.4	6.9	1.77	3.1	>RBC*.1	0.682	>ECO RBC	0.48	>BKG	•
Arsenic	mg/kg	3/ 5	1.2	11.7	4.36	0.43	>RBC	0.687	>ECO RBC	2.5	>BKG	•
Barium	mg/kg	5/ 5	11.3	6160	1300	550	>RBC*.1	63.8	>ECO RBC	55.4	>BKG	•
Beryllium	mg/kg	5/ 5	0.0492	0.286	0.15	0.15	>RBC	8.25		0.308		
Cadmium	mg/kg	5/ 5	0.0886	23.7	6.83	3.9	>RBC*.1	0.1	>ECO RBC	0.162	>BKG	•
Calcium	mg/kg	5/ 5	60.6	9540	2230	1000000			NONE	384	>BKG	•
Chromium	mg/kg	5/ 5	2.6	75.6	24.1	39	>RBC*.1	10	>ECO RBC	8	>BKG	•
Cobalt	mg/kg	5/ 5	0.423	17.2	4.24	470		112		1.69	>BKG	
Copper	mg/kg	5/ 5	1.6	1130	251	310	>RBC*.1	85.4	>ECO RBC	4.4	>BKG	•
Cyanide	mg/kg	2/ 5	0.308	0.857	0.257	160		859			>BKG	
Iron	mg/kg	5/ 5	1920	42100	14800	2300	>RBC*.1	213	>ECO RBC	5540	>BKG	•
Lead	mg/kg	5/ 5	4.1	7830	1600	400	>RBC	10	>ECO RBC	11.6	>BKG	•
Magnesium	mg/kg	5/ 5	58.8	5480	1210	1000000			NONE	216	>BKG	•
Manganese	mg/kg	5/ 5	36.4	1230	309	180	>RBC*.1	1100	>ECO RBC	222	>BKG	•
Mercury	mg/kg	5/ 5	0.02	29.4	6.45	0.78	>RBC*.1	3.99	>ECO RBC	0.0286	>BKG	•
Nickel	mg/kg	5/ 5	0.733	63.4	15	160		500		2.94	>BKG	
Potassium	mg/kg	5/ 5	55.9	734	229	393273			NONE	165	>BKG	•
Silver	mg/kg	2/ 5	0.596	4.6	1.07	39		3.95	>ECO RBC		>BKG	•
Sodium	mg/kg	5/ 5	16.1	409	106		NONE		NONE	38.2	>BKG	•
Vanadium	mg/kg	5/ 5	4.6	56.3	22.6	55	>RBC*.1	2.63	>ECO RBC	13.2	>BKG	•
Zinc	mg/kg	5/ 5	1.9	2850	786	2300	>RBC*.1	228	>ECO RBC	6.4	>BKG	•
2-Methylnaphthalene	ug/kg	1/ 5	87	87	24.2		NONE	136000			>BKG	•
Benzo(a)anthracene	ug/kg	1/ 5	44.8	44.8	17	880		5450			>BKG	
Benzo(a)pyrene	ug/kg	1/ 5	44.3	44.3	18.5	88		5450			>BKG	
Benzo(b)fluoranthene	ug/kg	1/ 5	53.4	53.4	19.9	880		5450			>BKG	
Benzo(g,h,i)perylene	ug/kg	1/ 5	56.7	56.7	17.7		NONE	5450			>BKG	•
Benzo(k)fluoranthene	ug/kg	1/ 5	61.5	61.5	21.1	8800		5450			>BKG	
Benzoic acid	ug/kg	5/ 5	68.7	2270	636	31000000		21800			>BKG	
Bis(2-ethylhexyl) phthalate	ug/kg	1/ 5	71.9	71.9	23.2	46000		10000			>BKG	
Chrysene	ug/kg	1/ 5	66.6	66.6	20.9	88000		2600000			>BKG	
Fluoranthene	ug/kg	2/ 5	54.1	98.1	36.1	310000		72000			>BKG	
Indeno(1,2,3-c,d)pyrene	ug/kg	1/ 5	38.6	38.6	14.9	880		5450			>BKG	
Naphthalene	ug/kg	1/ 5	65.3	65.3	20.7	310000		40900			>BKG	
Phenanthrene	ug/kg	2/ 5	41	112	35.1		NONE	5450			>BKG	•
Pyrene	ug/kg	2/ 5	57.5	88.2	35.4	230000		409000			>BKG	
Tetrachloroethene	ug/kg	3/ 5	1.75	4.34	1.96	12000		7640			>BKG	

Table D-1. LRP (131-3L) Soils 0 to 0.3 m (0 to 1 ft) (Continued)

Analysis	Units	Detects/ Samples	Min. Detect	Max. Detect	Mean Result	HH Criteria	>HH Criteria	Eco RBC	>Eco RBC	2 Times BKGD	>BKGD	Soil COPC
Toluene	ug/kg	1/ 5	3.16	3.16	1.21	1600000		142000			>BKG	
Xylenes (total)	ug/kg	1/ 5	1.02	1.02	0.816	16000000		625000			>BKG	
Aroclor 1260	ug/kg	2/ 5	43	263	64.5	83	>RBC	278			>BKG	•
alpha-Chlordane	ug/kg	1/ 5	14.3	14.3	3.09	490		4250			>BKG	
gamma-Chlordane	ug/kg	2/ 5	3.27	12.3	3.29	490		10000			>BKG	
Actinium-228	pC/g	5/ 5	0.84	2.13	1.14	0.0169	>RBA	2320		1.75	>BKG	•
Americium-241	pC/g	1/ 1	1.02	1.02	1.02	0.0807	>RBA	588			>BKG	•
Cesium-137	pC/g	5/ 5	0.11	0.58	0.284	0.0266	>RBA	17400		0.17	>BKG	•
Europium-155	pC/g	3/ 5	0.25	0.29	0.196	0.914		33800		0.44		
Gross Alpha	pC/g	5/ 5	7.79	20.4	14.6		NONE		NONE	23		
Lead-212	pC/g	5/ 5	0.92	2.1	1.31	0.185	>RBA	10900		1.97	>BKG	•
Non-volatile Beta	pC/g	3/ 5	11.15	17.15	8.33		NONE		NONE	11.6	>BKG	•
Potassium-40	pC/g	5/ 5	0.7	2.81	1.47	0.0909	>RBA	4810		2.22	>BKG	•
Radium-226	pC/g	1/ 1	1.83	1.83	1.83	0.00824	>RBA	201000		2.1		
Thorium-228	pC/g	1/ 1	2.16	2.16	2.16	0.00896	>RBA	19300		1.56	>BKG	•
Thorium-232	pC/g	1/ 1	2.33	2.33	2.33	0.807	>RBA	812		1.1	>BKG	•

[1] The mean result was calculated using 1/2 the MDL for chemical results below the detection limit and the full reported value for radiological nondetects.
[2] The background criteria was calculated using 1/2 the MDL for chemical results below the detection limit and 1/2 the MDA for radiological nondetects.

Table D-2. LRP (131-3L) Soils 0 to 1.2 m (0 to 4 ft)

Analysis	Units	Detects/ Samples	Min. Detect	Max. Detect	Mean Result	HH Criteria	>HH Criteria	Eco RBC	>Eco RBC	2 Times BKGD	>BKGD	Soil COPC
Aluminum	mg/kg	10/ 10	2670	22600	10900	7800	>RBC*.1	10.5	>ECO RBC	18100	>BKG	•
Antimony	mg/kg	6/ 10	0.44	6.9	1.58	3.1	>RBC*.1	0.682	>ECO RBC	0.728	>BKG	•
Arsenic	mg/kg	8/ 10	1.2	11.7	4.4	0.43	>RBC	0.687	>ECO RBC	4.36	>BKG	•
Barium	mg/kg	10/ 10	11.3	6160	730	550	>RBC*.1	63.8	>ECO RBC	63.2	>BKG	•
Beryllium	mg/kg	10/ 10	0.0492	0.286	0.134	0.15	>RBC	8.25		0.406		
Cadmium	mg/kg	10/ 10	0.0886	23.7	4.13	3.9	>RBC*.1	0.1	>ECO RBC	0.394	>BKG	•
Calcium	mg/kg	10/ 10	60.6	9540	1440	1000000			NONE	428	>BKG	•
Chromium	mg/kg	10/ 10	2.6	75.6	22.2	39	>RBC*.1	10	>ECO RBC	16.5	>BKG	•
Cobalt	mg/kg	10/ 10	0.423	17.2	2.73	470		112		2.18	>BKG	
Copper	mg/kg	10/ 10	1.6	1130	178	310	>RBC*.1	85.4	>ECO RBC	6.4	>BKG	•
Cyanide	mg/kg	4/ 10	0.106	0.857	0.169	160		859		0.103	>BKG	
Iron	mg/kg	10/ 10	1920	42100	17800	2300	>RBC*.1	213	>ECO RBC	15200	>BKG	•
Lead	mg/kg	10/ 10	4.1	7830	1590	400	>RBC	10	>ECO RBC	12.6	>BKG	•
Magnesium	mg/kg	10/ 10	58.8	5480	735	1000000			NONE	320	>BKG	•
Manganese	mg/kg	10/ 10	13.3	1230	184	180	>RBC*.1	1100	>ECO RBC	159	>BKG	•
Mercury	mg/kg	10/ 10	0.02	29.4	3.4	0.78	>RBC*.1	3.99	>ECO RBC	0.0404	>BKG	•
Nickel	mg/kg	10/ 10	0.733	63.4	10.7	160		500		4.86	>BKG	
Potassium	mg/kg	10/ 10	55.9	734	184	393273			NONE	252	>BKG	•
Silver	mg/kg	3/ 10	0.596	4.6	0.691	39		3.95	>ECO RBC		>BKG	•
Sodium	mg/kg	10/ 10	16.1	409	73.8		NONE		NONE	42.4	>BKG	•
Vanadium	mg/kg	10/ 10	4.6	66.3	31.9	55	>RBC*.1	2.63	>ECO RBC	35.4	>BKG	•
Zinc	mg/kg	10/ 10	1.9	2850	476	2300	>RBC*.1	228	>ECO RBC	7.9	>BKG	•
2-Methylnaphthalene	ug/kg	2/ 10	87	707	86.2		NONE	136000			>BKG	•
Acenapthene	ug/kg	1/ 10	2090	2090	216	470000		955000			>BKG	
Acenapthylene	ug/kg	1/ 10	95.7	95.7	16.8		NONE	955000			>BKG	•
Anthracene	ug/kg	1/ 10	4490	4490	456	2300000		5450000			>BKG	
Benzo(a)anthracene	ug/kg	1/ 9	44.8	44.8	13.9	880		5450			>BKG	
Benzo(a)pyrene	ug/kg	1/ 9	44.3	44.3	15.6	88		5450			>BKG	
Benzo(b)fluoranthene	ug/kg	1/ 9	53.4	53.4	16.2	880		5450			>BKG	
Benzo(g,h,i)perylene	ug/kg	2/ 10	56.7	5260	538		NONE	5450			>BKG	•
Benzo(k)fluoranthene	ug/kg	1/ 9	61.5	61.5	16.6	8800		5450			>BKG	
Benzoic acid	ug/kg	8/ 10	41.2	2270	361	31000000		21800			>BKG	
Bis(2-ethylhexyl) phthalate	ug/kg	2/ 10	71.9	107	26.7	46000		10000			>BKG	
Chrysene	ug/kg	1/ 9	66.6	66.6	15.8	88000		2600000			>BKG	
Dibenzo(a,h)anthracene	ug/kg	1/ 10	1760	1760	184	88	>RBC	2620			>BKG	•
Dibenzofuran	ug/kg	1/ 10	1230	1230	130	31000		600	>ECO RBC		>BKG	•
Fluoranthene	ug/kg	2/ 9	54.1	98.1	24.3	310000		72000			>BKG	

Table D-2. LRP (131-3L) Soils 0 to 1.2 m (0 to 4 ft) (Continued)

Analysis	Units	Detects/ Samples	Min. Detect	Max. Detect	Mean Result	HH Criteria	>HH Criteria	Eco RBC	>Eco RBC	2 Times BKGD	>BKGD	Soil COPC
Fluorene	ug/kg	1/ 10	2470	2470	254	310000		682000			>BKG	
Indeno(1,2,3-c,d)pyrene	ug/kg	2/ 10	38.6	4630	474	880	>RBC	5450			>BKG	•
Naphthalene	ug/kg	2/ 10	65.3	1360	150	310000		40900			>BKG	
Phenanthrene	ug/kg	2/ 9	41	112	22.8		NONE	5450			>BKG	•
Pyrene	ug/kg	2/ 9	57.5	88.2	24.4	230000		409000			>BKG	
2-Butanone (MEK)	ug/kg	1/ 10	1.56	1.56	1.42	4700000		22100000			>BKG	
Styrene	ug/kg	2/ 10	1.57	2.85	1.23	1600000		8090000		2	>BKG	
Tetrachloroethene	ug/kg	5/ 10	1.63	7.33	2.05	12000		7640			>BKG	
Toluene	ug/kg	2/ 10	1.03	3.16	0.999	1600000		142000			>BKG	
Xylenes (total)	ug/kg	1/ 10	1.02	1.02	0.791	16000000		625000			>BKG	
Aroclor 1260	ug/kg	2/ 10	43	263	35	83	>RBC	278			>BKG	•
alpha-Chlordane	ug/kg	1/ 10	14.3	14.3	1.69	490		4250			>BKG	
gamma-Chlordane	ug/kg	2/ 10	3.27	12.3	1.79	490		10000			>BKG	
p,p'-DDT	ug/kg	1/ 9	4.46	4.46	0.984	1900		14.8			>BKG	
Actinium-228	pC/g	10/ 10	0.84	2.13	1.15	0.0169	>RBA	2320		2.16		
Americium-241	pC/g	1/ 2	1.02	1.02	0.945	0.0807	>RBA	588			>BKG	•
Cesium-137	pC/g	6/ 10	0.11	0.58	0.167	0.0266	>RBA	17400		0.09	>BKG	•
Europium-155	pC/g	8/ 10	0.25	0.43	0.262	0.914		33800		0.466		
Gross Alpha	pC/g	10/ 10	7.79	25.69	15.2		NONE		NONE	33		
Lead-212	pC/g	10/ 10	0.18	2.1	1.24	0.185	>RBA	10900		2.18		
Non-volatile Beta	pC/g	7/ 10	9.29	18.99	9.32		NONE		NONE	16.5	>BKG	•
Potassium-40	pC/g	10/ 10	0.7	2.81	1.3	0.0909	>RBA	4810		2.24	>BKG	•
Radium-226	pC/g	2/ 2	1.48	1.83	1.66	0.00824	>RBA	201000		2.06		
Thorium-228	pC/g	2/ 2	1.35	2.16	1.76	0.00896	>RBA	19300		2.16		
Thorium-232	pC/g	2/ 2	1.61	2.33	1.97	0.807	>RBA	812		1.63	>BKG	•
Thorium-234	pC/g	2/ 10	1.27	3.06	1.29	1.37	>RBA	45600			>BKG	•

[1] The mean result was calculated using 1/2 the MDL for chemical results below the detection limit and the full reported value for radiological nondetects.

[2] The background criteria was calculated using 1/2 the MDL for chemical results below the detection limit and 1/2 the MDA for radiological nondetects.

Table D-3. LRP (131-3L) Soils All Depths

Analysis	Units	Detects/ Samples	Min. Detect	Max. Detect	Mean Result	GW SSL	>GW SSL	2 Times BKGD	>BKGD	GW SSL COPC	GW SSL*20	>SSL*20	SSL*20 COPC
Aluminum	mg/kg	15/ 15	2670	22600	10300	5550	>GW SSL	21000	>BKG	•	111000		
Antimony	mg/kg	8/ 15	0.44	6.9	1.17	0.3	>GW SSL	1.14	>BKG	•	6	>SSL*20	•
Arsenic	mg/kg	13/ 15	1.2	11.7	4.23	1	>GW SSL	7.36	>BKG	•	20		
Barium	mg/kg	15/ 15	4.2	6160	499	82	>GW SSL	36	>BKG	•	1640	>SSL*20	•
Beryllium	mg/kg	14/ 15	0.0492	0.286	0.116	3		0.242	>BKG		60		
Cadmium	mg/kg	15/ 15	0.0886	23.7	3.05	0.4	>GW SSL	0.548	>BKG	•	8	>SSL*20	•
Calcium	mg/kg	15/ 15	45.6	9540	1050		NONE	266	>BKG	•		NONE	•
Chromium	mg/kg	15/ 15	2.6	75.6	20.7	2	>GW SSL	29	>BKG	•	40	>SSL*20	•
Cobalt	mg/kg	15/ 15	0.172	17.2	1.93	13.2	>GW SSL	1.55	>BKG	•	264		
Copper	mg/kg	15/ 15	1.6	1130	125	45.8	>GW SSL	8.62	>BKG	•	916	>SSL*20	•
Cyanide	mg/kg	7/ 15	0.106	0.857	0.148	2		0.202	>BKG		40		
Iron	mg/kg	15/ 15	1920	42100	18700	66.1	>GW SSL	30800	>BKG	•	1322	>SSL*20	•
Lead	mg/kg	15/ 15	4.1	7830	1070	400	>GW SSL	13.6	>BKG	•	8000		
Magnesium	mg/kg	15/ 15	58.8	5480	535		NONE	250	>BKG	•		NONE	•
Manganese	mg/kg	15/ 15	8.9	1230	129	0.904	>GW SSL	87.4	>BKG	•	18.08	>SSL*20	•
Mercury	mg/kg	15/ 15	0.02	29.4	2.32	0.0205	>GW SSL	0.0292	>BKG	•	0.41	>SSL*20	•
Nickel	mg/kg	15/ 15	0.733	63.4	7.74	7	>GW SSL	4.04	>BKG	•	140		
Potassium	mg/kg	15/ 15	48.8	734	147		NONE	191	>BKG	•		NONE	•
Silver	mg/kg	4/ 15	0.3	4.6	0.493	2	>GW SSL		>BKG	•	40		
Sodium	mg/kg	15/ 15	16	409	56.5		NONE	39	>BKG	•		NONE	•
Vanadium	mg/kg	15/ 15	4.6	68.1	37.6	300		71.8			6000		
Zinc	mg/kg	15/ 15	1.9	2850	327	620	>GW SSL	7.3	>BKG	•	12400		
2-Methylnaphthalene	ug/kg	2/ 15	87	707	60.3		NONE		>BKG	•		NONE	•
Acenapthene	ug/kg	2/ 15	39.8	2090	148	29000			>BKG		580000		
Acenapthylene	ug/kg	1/ 15	95.7	95.7	13.8		NONE		>BKG	•		NONE	•
Anthracene	ug/kg	2/ 15	91.9	4490	312	590000			>BKG		11800000		
Benzo(a)anthracene	ug/kg	2/ 14	44.8	164	23.5	80	>GW SSL		>BKG	•	1600		
Benzo(a)pyrene	ug/kg	2/ 14	44.3	146	23.9	400			>BKG		8000		
Benzo(b)fluoranthene	ug/kg	2/ 14	53.4	152	24.5	200			>BKG		4000		
Benzo(g,h,i)perylene	ug/kg	3/ 15	56.7	5260	368	1970	>GW SSL		>BKG	•	39400		
Benzo(k)fluoranthene	ug/kg	2/ 14	61.5	125	22.8	2000			>BKG		40000		
Benzoic acid	ug/kg	9/ 15	41.2	2270	249	20000			>BKG		400000		
Bis(2-ethylhexyl) phthalate	ug/kg	2/ 15	71.9	107	21.5	180000			>BKG		3600000		
Chrysene	ug/kg	2/ 14	66.6	169	25	8000			>BKG		160000		
Dibenzo(a,h)anthracene	ug/kg	2/ 15	37.4	1760	127	80	>GW SSL		>BKG	•	1600	>SSL*20	•
Dibenzofuran	ug/kg	1/ 15	1230	1230	89.5	985	>GW SSL		>BKG	•	19700		
Fluoranthene	ug/kg	3/ 14	54.1	387	46	210000			>BKG		4200000		
Fluorene	ug/kg	2/ 15	58.2	2470	175	28000			>BKG		560000		

Table D-3. LRP (131-3L) Soils All Depths (Continued)

Analysis	Units	Detects/ Samples	Min. Detect	Max. Detect	Mean Result	GW SSL	>GW SSL	2 Times BKGD	>BKGD	GW SSL COPC	GW SSL*20	>SSL*20	SSL*20 COPC
Indeno(1,2,3-c,d)pyrene	ug/kg	3/ 15	38.6	4630	325	700	>GW SSL		>BKG	•	14000		
Naphthalene	ug/kg	3/ 15	44.2	1360	106	4000			>BKG		80000		
Phenanthrene	ug/kg	3/ 14	41	359	42.5		NONE		>BKG	•		NONE	•
Pyrene	ug/kg	3/ 14	57.5	288	39.2	210000			>BKG		4200000		
2-Butanone (MEK)	ug/kg	1/ 15	1.56	1.56	1.42	38.4			>BKG		768		
Styrene	ug/kg	3/ 15	1.57	2.85	1.23	200		2.1	>BKG		4000		
Tetrachloroethene	ug/kg	6/ 15	1.63	7.33	1.74	3	>GW SSL		>BKG	•	60		
Toluene	ug/kg	4/ 15	1.03	3.16	0.984	600			>BKG		12000		
Xylenes (total)	ug/kg	1/ 15	1.02	1.02	0.782	10000			>BKG		200000		
Aroclor 1260	ug/kg	2/ 15	43	263	25.2	1000			>BKG		20000		
alpha-Chlordane	ug/kg	1/ 15	14.3	14.3	1.22	500			>BKG		10000		
gamma-Chlordane	ug/kg	2/ 15	3.27	12.3	1.29	500			>BKG		10000		
p,p'-DDT	ug/kg	1/ 14	4.46	4.46	0.829	2000			>BKG		40000		
Actinium-228	pC/g	15/ 15	0.65	2.13	1.11	13.2		2.24			264		
Americium-241	pC/g	2/ 4	0.38	1.02	0.673	0.276	>GW SSL		>BKG	•	5.52		
Cesium-137	pC/g	7/ 15	0.05	0.58	0.117	0.423	>GW SSL	0.047	>BKG	•	8.46		
Europium-152	pC/g	1/ 15	0.73	0.73	0.125	5.4			>BKG		108		
Europium-155	pC/g	10/ 15	0.25	0.44	0.247	18.8		0.462			376		
Gross Alpha	pC/g	15/ 15	7.79	25.69	16		NONE	41.6				NONE	
Lead-212	pC/g	15/ 15	0.18	2.1	1.29	0.716	>GW SSL	2.5			14.32		
Non-volatile Beta	pC/g	10/ 15	7.63	18.99	8.79		NONE	19.1				NONE	
Potassium-40	pC/g	15/ 15	0.66	2.81	1.2	0.0578	>GW SSL	2	>BKG	•	1.156	>SSL*20	•
Radium-226	pC/g	4/ 4	0.98	1.83	1.32	0.0805	>GW SSL	2.2			1.61	>SSL*20	
Thorium-228	pC/g	3/ 4	1.12	2.16	1.25	2.43		2.48			48.6		
Thorium-232	pC/g	3/ 4	1.35	2.33	1.44	4.64		2.22	>BKG		92.8		
Thorium-234	pC/g	2/ 15	1.27	3.06	0.711	7.9			>BKG		158		
Zirconium-95	pC/g	1/ 15	0.16	0.16	0.0267	7.26			>BKG		145.2		

[1] The mean result was calculated using 1/2 the MDL for chemical results below the detection limit and the full reported value for radiological nondetects

[2] The background criteria was calculated using 1/2 the MDL for chemical results below the detection limit and 1/2 the MDA for radiological nondetects.

APPENDIX E

L-Area Gas Cylinder Disposal Facility Soil Gas Survey

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Figure E-1. Soil Gas Sampling Locations

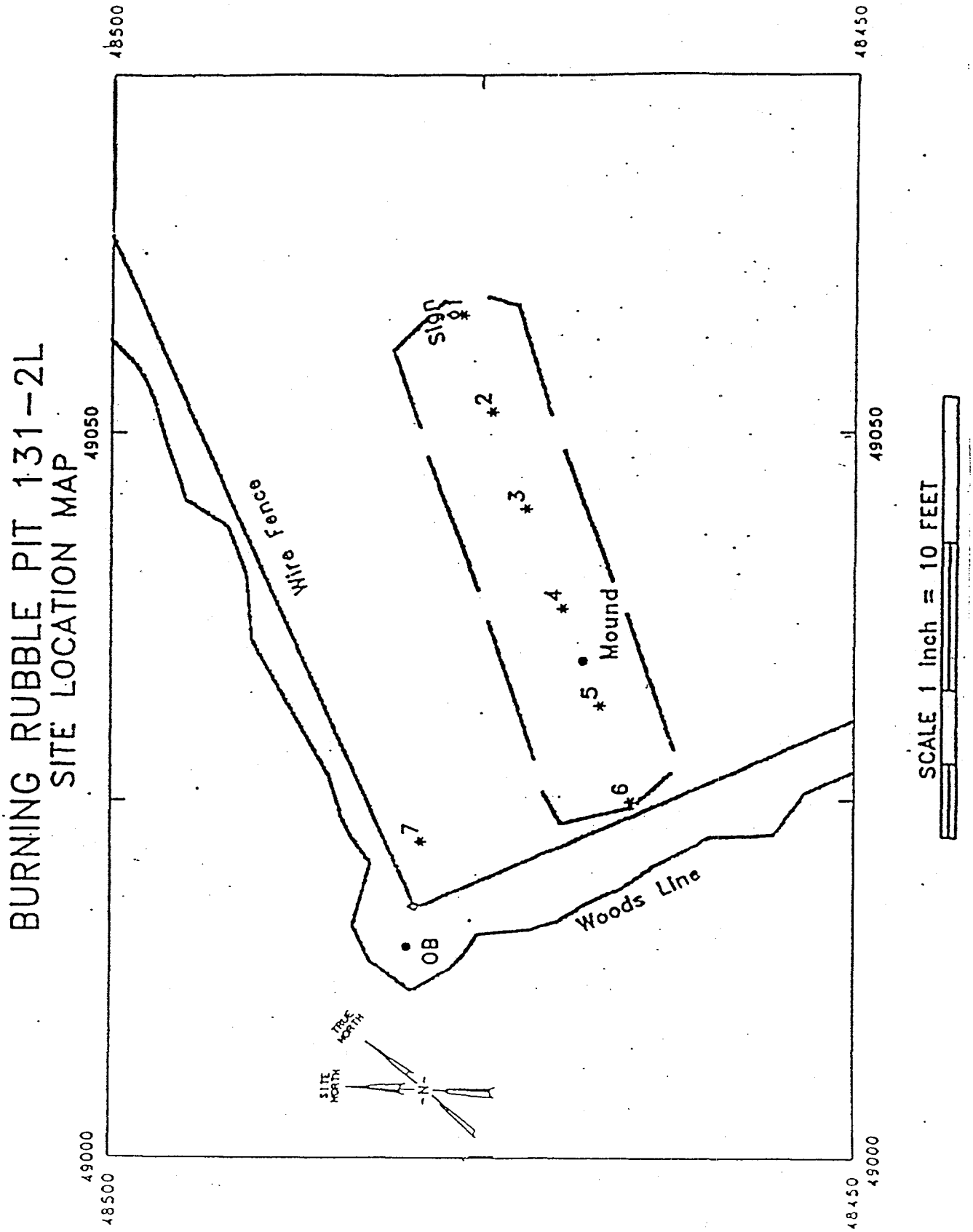

Table E-1. L-Area Gas Cylinder Disposal Facility Soil Gas Concentrations (PPMV)

26-Feb-92

MICROSEEPS

----- SAVANNAH RIVER SITE -----
-----131-2L "L" AREA CYLINDER DISPOSAL -----
----- SOIL GAS CONCENTRATIONS (PPMV) -----

SAMPLE NAME	PENTANE	HEXANE	HEPTANE	BENZENE	OCTANE	TOLUENE	NONANE	ETHYL BENZENE	M&P-XYLENE	O-XYLENE	DECANE
131-2L-1	<.07	<.07	<.07	<.07	0.17	<.07	<.07	<.07	<.07	<.07	<.07
131-2L-2	<.07	<.07	<.07	<.07	<.07	<.07	<.07	<.07	<.07	<.07	<.07
131-2L-3	<.07	<.07	<.07	<.07	<.07	<.07	<.07	<.07	<.07	<.07	<.07
131-2L-4	<.07	<.07	<.07	<.07	<.07	<.07	<.07	<.07	<.07	<.07	<.07
131-2L-5	<.07	<.07	<.07	<.07	<.07	<.07	<.07	<.07	<.07	<.07	<.07
131-2L-6	<.07	<.07	<.07	<.07	1.01	<.07	<.07	<.07	<.07	<.07	<.07
131-2L-7	<.07	<.07	<.07	<.07	<.07	<.07	<.07	<.07	<.07	<.07	<.07
131-2L=SB1	<.07	<.07	<.07	<.07	<.07	<.07	<.07	<.07	<.07	<.07	<.07

Table E-1. L-Area Gas Cylinder Disposal Facility Soil Gas Concentrations (PPMV) (Continued)

MICROSEEPS

26-Feb-92

----- SAVANNAH RIVER SITE -----
-----131-2L "L" AREA CYLINDER DISPOSAL -----
----- SOIL GAS CONCENTRATIONS (PPMV) -----

SAMPLE NAME	VINYL CHLORIDE	METHYLENE CHLORIDE	TRANS 1,2 DICHLORO ETHYLENE	CHLORO FORM	111 TRI CHLORO ETHANE	CARBON TETRA CHLORIDE	TRI CHLORO ETHYLENE	TETRA CHLORO ETHYLENE	FILE #
131-2L-1	<3	<2	<.02	<.005	<.005	<.005	<.005	<.005	W17 41
131-2L-2	<3	<2	<.02	<.005	<.005	<.005	<.005	<.005	W17 41
131-2L-3	<3	<2	<.02	<.005	<.005	0.005	<.005	<.005	W17 41
131-2L-4	<3	<2	<.02	<.005	<.005	<.005	<.005	<.005	W17 41
131-2L-5	<3	<2	<.02	<.005	<.005	<.005	<.005	<.005	W17 41
131-2L-6	<3	<2	<.02	<.005	<.005	0.015	<.005	<.005	W17 41
131-2L-7	<3	<2	<.02	<.005	<.005	0.017	<.005	<.005	W17 41
131-2L-SB1	<3	<2	<.02	<.005	<.005	<.005	<.005	<.005	W17 40

Table E-1. L-Area Gas Cylinder Disposal Facility Soil Gas Concentrations (PPMV) (Continued)

01-Apr-92

----- SAVANNAH RIVER SITE -----
-----131-2L "L" AREA CYLINDER DISPOSAL -----
----- SOIL GAS CONCENTRATIONS -----

SAMPLE #	METHANE PPBV	ETHANE PPBV	PROPANE PPBV	I-BUTANE PPBV	N-BUTANE PPBV	ETHYLENE PPBV	PROPYLENE PPBV	SAMPLE #
131-2L-1	3816	103	35	<5	<5	63	61	131-2L-1
131-2L-2	1564	7	<5	<5	<5	<5	<5	131-2L-2
131-2L-3	1677	20	6	<5	<5	12	9	131-2L-3
131-2L-4	1014	13	5	<5	<5	6	<5	131-2L-4
131-2L-5	623	13	<5	<5	<5	7	<5	131-2L-5
131-2L-6	603	34	12	<5	<5	24	36	131-2L-6
131-2L-7	265	23	10	<5	<5	17	19	131-2L-7
131-2L*SB1	1731	9	<5	<5	<5	<5	<5	131-2L*SB1

APPENDIX F

L-Area Gas Cylinder Disposal Facility (131-2L) Radiation Survey Summary

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Figure F-1. Radiation Survey Logsheet

Radiation Survey Logsheet

922157

Procedure RWP/SRWP No.	Date	Time	Time Spent on Job
SQ1.2 - 499	1-22-93	1400hrs	3 days
Job Location	**Building**	**Level**	**Room**
131-1L Burning/Rubble Pit/131-2L Disposal Gas Cylinders	—	—	—

Instruments

- ☐ Alpha Survey
  - MTE No. _____ Calibration Due Date _____
  - Meter Model No. _____ Detector Model No. _____
- ☑ Beta-Gamma Survey
  - MTE No. 6-387 Calibration Due Date 2/18/93
  - Meter Model No. Ludl-12 Detector Model No. 110-C
- ☐ Beta-Gamma Dose Rate Instrument
  - MTE No. _____ Calibration Due Date _____
  - Model No. _____
- ☐ Neutron Dose Rate Instrument
  - MTE No. _____ Calibration Due Date _____
  - Model No. _____
- ☐ Teletector
  - MTE No. _____ Calibration Due Date _____
  - Model No. _____
- ☐ Tritium Survey
  - MTE No. _____ Calibration Due Date _____
  - Model No. _____
- ☑ Instrument Check Source No. FSS-1
- ☑ Alpha Scaler
  - HP No. 6552 Calibration Due Date 7-5-93
  - Model No. 1000
- ☐ (Beta-Gamma) or Tritium Scaler (Circle one)
  - HP No 6551 Calibration Due Date 3-2-93
  - Model No 1000
- ☑ Other Bicron Micro Rem
  - MTE No. 7650 Calibration Due Date 3-2-93
  - Meter Model No. — Detector Model No. —

Air Sampler/Monitoring System

- ☐ Low Volume Filter Air Sampler
  - Serial or MTE No. _____
  - Calibration Due Date _____
- ☑ Impactor
  - Serial or MTE No. 20956
  - Calibration Due Date 4-14-93
- ☐ High Volume Air Monitor
  - ☐ Portable Alpha CAM
    - Serial or MTE No. _____
    - Calibration Due Date _____
  - ☐ Fixed Alpha CAM System
    - Serial or MTE No. _____
    - Calibration Due Date _____
- ☐ Low Volume Air Monitor
  - ☐ Portable Beta-Gamma CAM
    - Serial or MTE No. _____
    - Calibration Due Date _____
  - ☐ Fixed Alpha CAM (Filter)
    - Serial or MTE No. _____
    - Calibration Due Date _____
  - ☐ Fixed Beta-Gamma CAM
    - Serial or MTE No. _____
    - Calibration Due Date _____
- ☐ Kanne Tritium Air Monitor
  - Serial or MTE No. _____
  - Calibration Due Date _____
- ☐ Other _____
  - Serial or MTE No. _____
  - Calibration Due Date _____

Protective Clothing/Respiratory Protection Equipment

☐ Plastic Suit	☐ 6 ML	☐ 9 ML	☐ 12 ML	
☐ Coveralls	☐ Cotton		☐ Tyvek	
☐ Gloves	☐ Cotton		☐ Rubber	
☐ Cloth Boots				
☐ Shoe Covers	☐ Plastic		☐ Rubber	
☐ Lab Coat				
☐ Hood	N/A			
☐ Cap				

- ☐ Full Face Resp.
- ☐ Fresh Air Hood
- ☐ Acid Suit
- ☐ Acid Apron
- ☐ Safety Glasses
- ☐ Hard Hat
- ☐ Other _____

Respiratory Protection Requirements

- ☐ Whole Body Count cards current
- ☐ Respirator Fit cards verified. N/A
- ☐ Correct respirators worn.
- ☐ Respirators surveyed after use.
- ☐ Breathing air system properly identified
- ☐ Vortex/Orifice in use on high pressure system.
- ☐ Surveyed air hose ends. N/A ____

Inspector Name (Print) JM Breedlove

Initials JMB

Figure F-1. Radiation Survey Logsheet (Continued)

Radiation Survey Logsheet

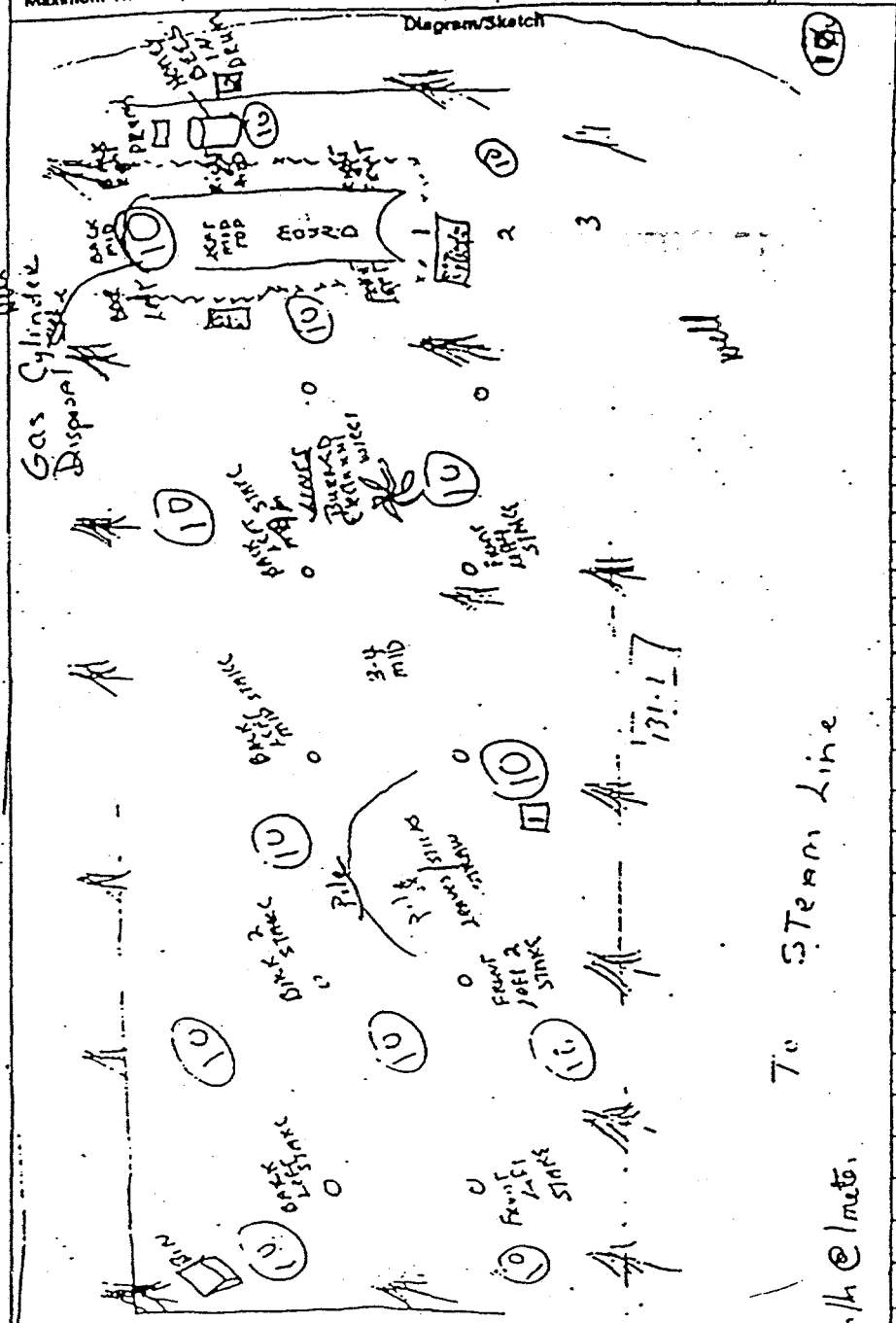
Survey No. [illegible] FORMATION ONLY

Page 2 of 26

Maximum Exposure Dose Rate Established N/A

Maximum Transferable Contamination Level <10 dpm/100 cm², <800 dpm pCi/g [3]

Diagram/Sketch



Inspector Initials [illegible]

Transferable Contamination (d/m/100 cm²)		
	alpha	beta-gamma or H-3
1		
2		
3		
4		
5	N	
6		A
7		
8		
9		
10		

Transferable Contamination (d/m/0.1 m²)		
	alpha	beta-gamma or H-3
A		
B		
C		
D		
E	N	
F		A
G		
H		
I		
J		

Air Activity μCi/cc (Indicate Contaminant)	
[1]	[illegible]
[2]	[illegible]
[3]	[illegible]
[4]	
[5]	

Type Dosimetry Worn	Estimated Total Exposure
TLD	—

Legend	
(β/γ)	Denotes beta-gamma/gamma dose rate in mrad/hr/mR/hr
(N)	Denotes neutron dose rate in mrem/hr
•	Denotes fixed contamination
[#]	Denotes location of air sample for Pu, EU, FP, HTO, or H-3 in μCi/cc

Figure F-1. Radiation Survey Logsheet (Continued)

Radiation Survey Logsheet

Survey Description/Additional Information/Comments

Survey No. 93157

Page 3 of 26

Surveyed 131-2L Gas Cylinder Disposal site for characterization per EPD request. Included 131-L Burial Rubble Pit as 131-2L was located within 131-L.

No radiological conditions found in area. Fifty-five gallon drum located in rear of Burial Rubble Pit was found to contain a whole hive of honey bees! EPD was notified of this hazard.

Inspector Name (Print)	Inspector Signature	Date
J M Breedlove	J M Breedlove	1/22/93
Reviewed By (Signature)		Date
D. Wall		1-25-93

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APPENDIX G

Groundwater Sampling at the L-Area Gas Cylinder Disposal Facility

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Figure G-1. Potentiometric Surface of Unconfined Aquifer in LRP Well Series (1Q95) at LGCDF (131-2L)

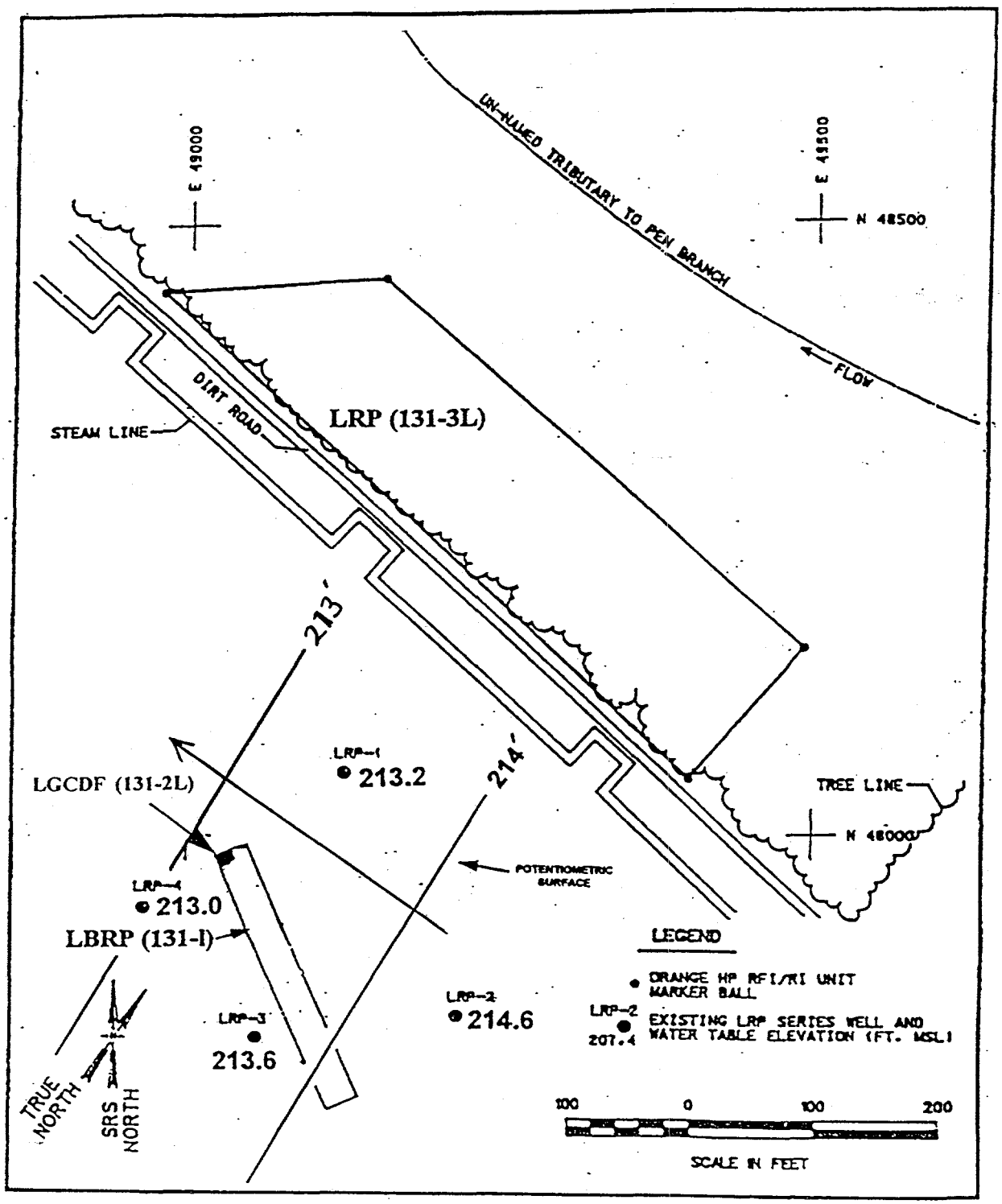

Table G-1. Groundwater Constituents Exceeding EPA MCLs in LRP Well Series (1984 through 1Q96)

Constituent	Number of Exceedences			
	LRP-01	LRP-02	LRP-03	LRP-04
Aluminum	1	0	1	0
Iron	1	1	2	0
Lead	0	13	1	0
Manganese	1	1	1	1
Nitrate	1	0	0	0
Tetrachloroethylene	0	0	5	0
Trichloroethylene	0	0	1	0
pH	12	11	11	10

APPENDIX H

L-Area Rubble Pile (131-3L) Potential Contaminants and Their Distribution

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Figure H-1. Vertical Distribution of COPC Suites in LRP (131-3L) ESC Phase I Soil Borings

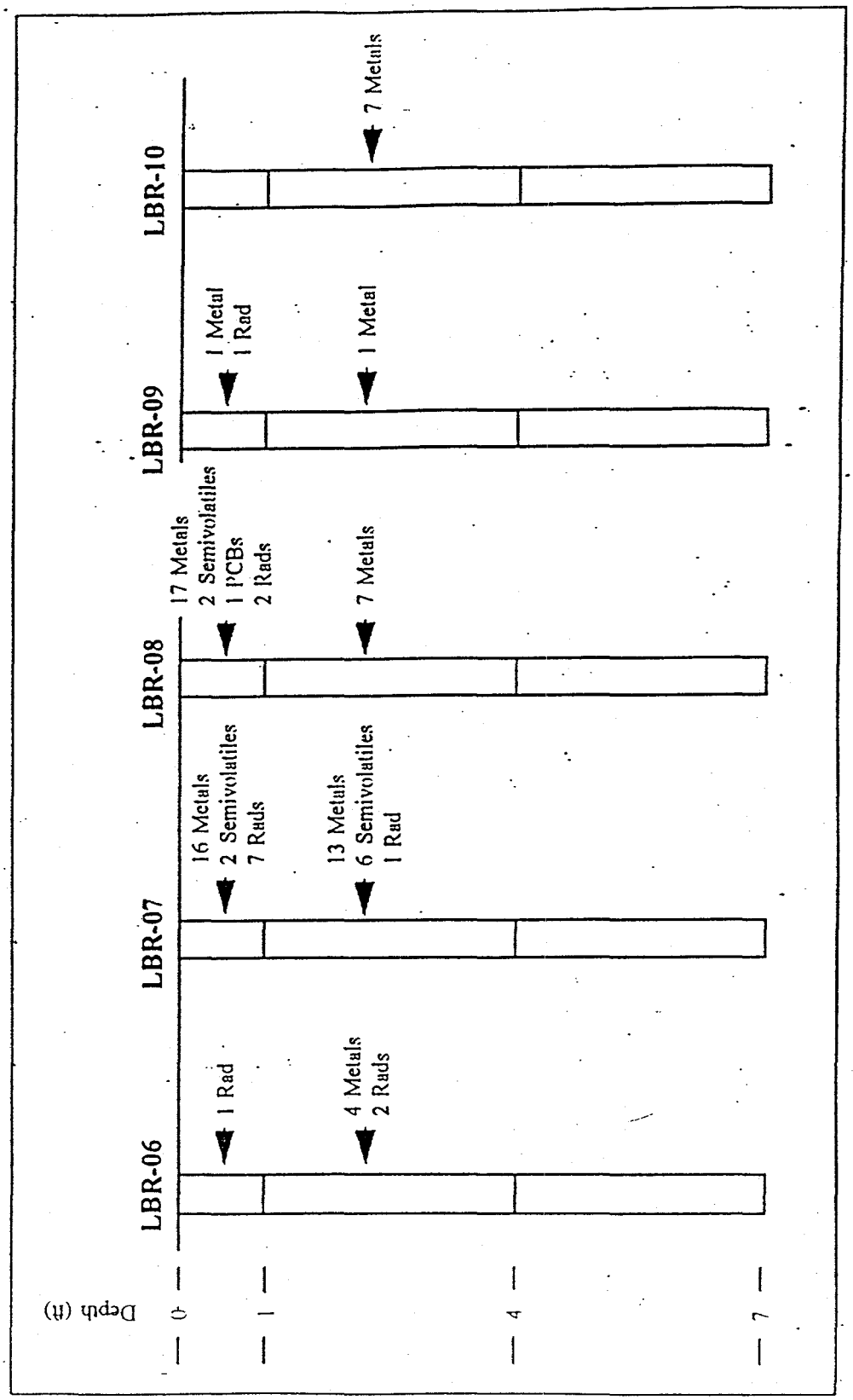

Figure H-2. Vertical Distribution of CMCOPC Suites in LRP (131-3L) ESC Phase I Soil Borings

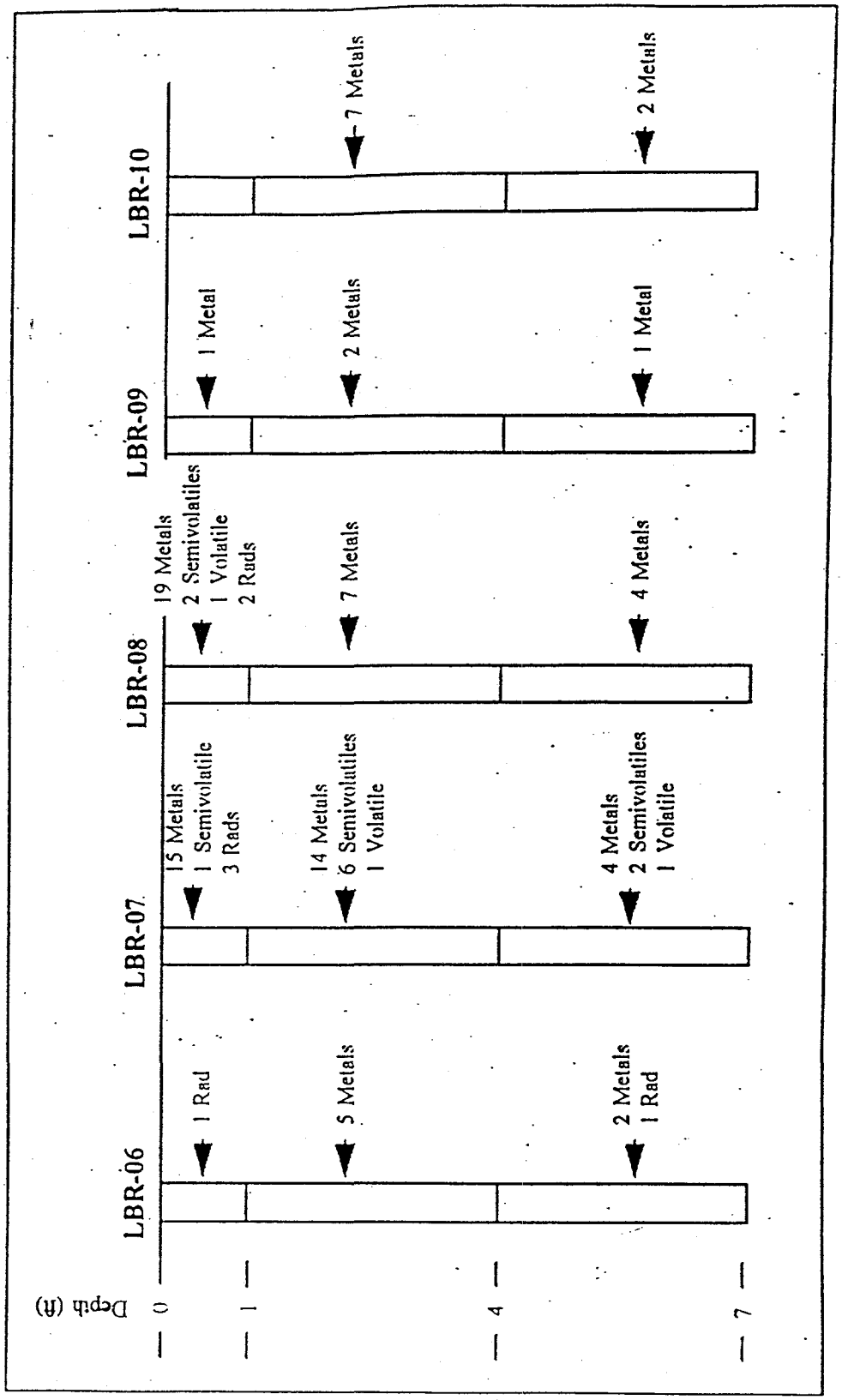

Table H-1. COPCs and CMCOPCs Identified from 1996 LRP (131-3L) Characterization

COPCs from Soil Samples	CMCOPCs from Soil Samples
Metals	Metals
Aluminum	Aluminum
Antimony	Antimony
Arsenic	Arsenic
Barium	Barium
Cadmium	Cadmium
Calcium[1]	Calcium[4]
Chromium	Chromium
Copper	Cobalt
Iron	Copper
Lead	Iron
Magnesium[1]	Lead
Manganese	Magnesium[4]
Mercury	Manganese
Potassium[1]	Mercury
Silver[5]	Nickel
Sodium[3]	Potassium[4]
Vanadium	Silver[5]
Zinc	Sodium[4]
Semivolatile Organic Compounds	Zinc
2-Methylnaphthalene[2,5]	Semivolatile Organic Compounds
Acenapthylene[2,5]	2-Methylnaphthalene[4,5]
Benzo(g,h,i)perylene[2,5]	Acenapthylene[4,5]
Dibenzo(a,h)anthracene[5]	Benzo(a)anthracene[5]
Dibenzofuran[5]	Benzo(g,h,i)perylene[5]
Indeno(1,2,3-c,d)pyrene[5]	Dibenzo(a,h)anthracene[5]
Phenanthrene[2,5]	Dibenzofuran[5]
Pesticides/PCBs	Indeno(1,2,3-c,d)pyrene[5]
Aroclor 1260[5]	Phenanthrene[4,5]
Radionuclides	Volatile Organic Compounds
Actinium-228[7]	Tetrachloroethene[5]
Americium-241[5]	Radionuclides
Cesium-134	Americium-241[5]
Lead-212[7]	Cesium-137
Nonvolatile beta[3]	Lead-212[7]
Potassium-40[7]	Non-volatile beta[4]
Thorium-228[7]	Potassium-40[7]
Thorium-232[7]	
Thorium-234[6]	

Notes:

1 - No ecological criteria, did not exceed human health criteria
2 - No human health criteria, did not exceed ecological criteria
3 - No ecological or human health criteria
4 - No SSL
5 - Background was non-detect
6 - False positive
7 - Naturally occurring radionuclide

Table H-2. COPCs and CMCOPCs Detected in LRP (131-3L) Soils by Sample Interval (1996)

Analyte	Units	Depth (ft)	LBR-06	LBR-07	LBR-08	LBR-09	LBR-10
Aluminum	mg/kg	0- 1	2870 E	14900*BHEG	15600*BHEG	2670 E	3850 E
		1- 4	17900 HEG	9400 HEG	9020 HEG	9850 HEG	22600*BHEG
		4- 7	10400 G	9330 G	8640 G	6740 G	11200 G
Antimony	mg/kg	0- 1		1.4*BEG	6.9*BHEG		
		1- 4		4.8*BHEG	0.44 G	0.484 G	1.1*BEG
		4- 7	0.662 G			0.469 G	
Arsenic	mg/kg	0- 1		7.8*BHEG	11.7*BHEG		1.2 HEG
		1- 4	5.2*BHEG	5.1*BHEG	3.5 HEG	2.7 HEG	5.7*BHEG
		4- 7	4.5 G	2.6 G	4.9 G	2.1 G	5.3 G
Barium	mg/kg	0- 1	11.3	285*BEG	6160*BHEG	21.3	20.9
		1- 4	17.3	508*BEG	228*BEG	19.4	27.6
		4- 7	4.2	55.6 B	119*BG	7.4	6.1
Cadmium	mg/kg	0- 1	0.0886	10.1*BHEG	23.7*BHEG	0.139 E	0.142 E
		1- 4	0.821*BEG	3.7*BEG	1.1*BEG	0.504*BEG	0.994*BEG
		4- 7	1.1*BG	0.795*BG	1.1*BG	0.496 G	0.931*BG
Calcium	mg/kg	0- 1	60.6 egq	1210*Begq	9540*Begq	216 egq	138 egq
		1- 4	109 egq	2120*Begq	605*Begq	144 egq	283 egq
		4- 7	52.1 gq	534*Bgq	539*Bgq	45.6 gq	83.4 gq
Chromium	mg/kg	0- 1	2.6 G	35.6*BEG	75.6*BHEG	2.7 G	4.1 G
		1- 4	21.7*BEG	25*BEG	16.8*BEG	12.7 EG	25.4*BEG
		4- 7	21.4 G	13.2 G	21.9 G	9.3 G	21.8 G
Cobalt	mg/kg	0- 1	0.554	2.2 B	17.2*BG	0.423	0.832
		1- 4	0.671	2.7 B	1.3	0.431	0.972
		4- 7	0.206	0.757	0.394	0.172	0.206
Copper	mg/kg	0- 1	1.6	116*BEG	1130*BHEG	4.2	2.3
		1- 4	5.3	476*BHEG	32.9 B	3.4	6.4
		4- 7	5.7	53.6*BG	21.9 B	3.2	6.1
Iron	mg/kg	0- 1	1920 EGQ	24100*BHEG	42100*BHEG	2200 EGQ	3450 HEGQ
		1- 4	23500*BHEG	22500*BHEG	15900*BHEG	14000 HEGQ	27900*BHEG
		4- 7	27100 GQ	11300 GQ	23700 GQ	13000 GQ	27500 GQ
Lead	mg/kg	0- 1	4.1	141*BE	7830*BHEG	15.8*BE	6
		1- 4	7	7810*BHEG	53.7*BE	5.7	8.5
		4- 7	6.7	51.1 B	39 B	8.1	6.9
Magnesium	mg/kg	0- 1	58.8 egq	336*Begq	5480*Begq	71.1 egq	102 egq
		1- 4	228 egq	409*Begq	231 egq	150 egq	286 egq
		4- 7	116 gq	181 gq	186 gq	72.9 gq	118 gq
Manganese	mg/kg	0- 1	36.4 GQ	136 GQ	1230*BHEG	63 GQ	80.7 GQ
		1- 4	13.3 G	149 GQ	84 GQ	21.7 GQ	24.5 GQ
		4- 7	8.9 G	31.4 GQ	28.2 GQ	13.6 G	9.2 G
Mercury	mg/kg	0- 1	0.02	2.74*BHGQ	29.4*BHEG	0.048*BG	0.02
		1- 4	0.062*BG	1.09*BHGQ	0.466*BGQ	0.055*BG	0.056*BG
		4- 7	0.047*BG	0.168*BG	0.533*BGQ	0.03*BG	0.04*BG
Nickel	mg/kg	0- 1	1	8.8*BG	63.4*BG	0.733	1.1
		1- 4	2.9	18.4*BG	4.8	1.8	3.9
		4- 7	1.2	3.1	2.4	1.1	1.4
Potassium	mg/kg	0- 1	63.1 egq	214*Begq	734*Begq	55.9 egq	79.7 egq
		1- 4	162 egq	168 egq	107 egq	98.9 egq	155 egq
		4- 7	65.7 gq	122 gq	73.5 gq	48.8 gq	52 gq
Silver	mg/kg	0- 1		0.596 b	4.6*bEG		
		1- 4		1.4 b			
		4- 7		0.3 b			
Sodium	mg/kg	0- 1	20.8 hegq	67.8*Bheg	409*Bheg	17.2 hegq	16.1 hegq
		1- 4	31.5 hegq	101*Bheg	29.8 hegq	17.2 hegq	28 hegq
		4- 7	22.7 gq	28.2 gq	26.4 gq	16 gq	16.3 gq
Vanadium	mg/kg	0- 1	4.6 E	56.3*BHE	38.3*BE	5.3 E	8.5 E
		1- 4	54.3*BE	23.6 E	29.1 E	32.6 E	66.3*BHE
		4- 7	63.5	25.7	55.7	31.4	68.1
Zinc	mg/kg	0- 1	3.9	1070*BEG	2850*BHEG	3.4	3.4
		1- 4	4	654*BEG	163 B	2.6	5.3
		4- 7	2.5	82.7 B	57.3 B	2.2	2.3
2-Methylnaphthalene	ug/kg	0- 1			87*bhgq		
		1- 4		707*bheq			
		4- 7					

Table H-2. COPCs and CMCOPCs Detected in LRP (131-3L) Soils by Sample Interval (1996) (Continued)

Analyte	Units	Depth (ft)	LBR-06	LBR-07	LBR-08	LB	LBR-10
Acenapthylene	ug/kg	0- 1					
		1- 4		95.7*bhgq			
		4- 7					
Benzo(a)anthracene	ug/kg	0- 1		44.8 b			
		1- 4					
		4- 7		164*bG			
Benzo(g,h,i)perylene	ug/kg	0- 1		56.7*bh			
		1- 4		5260*bhG			
		4- 7		110 b			
Dibenzo(a,h)anthracene	ug/kg	0- 1					
		1- 4		1760*bHGQ			
		4- 7		37.4 b			
Dibenzofuran	ug/kg	0- 1					
		1- 4		1230*bEG			
		4- 7					
Indeno(1,2,3-c,d)pyrene	ug/kg	0- 1		38.6 b			
		1- 4		4630*bHG			
		4- 7		96.1 b			
Phenanthrene	ug/kg	0- 1		41*bhgq	112*bhgq		
		1- 4					
		4- 7		359*bgq			
Tetrachloroethene	ug/kg	0- 1		1.75 b	4.34*bG	2.52 b	
		1- 4		7.33*bG	1.63 b		
		4- 7		3.31*bG			
Aroclor 1260	ug/kg	0- 1		43 b	263*bH		
		1- 4					
		4- 7					
Actinium-228	pC/g	0- 1	0.84 H	2.13*BH	0.88 H	0.93 H	0.9 H
		1- 4	1.34 H	1.19 H	0.9 H	1.06 H	1.32 H
		4- 7	1.24	0.9	0.86	0.65	1.51
Americium-241	pC/g	0- 1		1.02*bHG			
		1- 4					
		4- 7	0.38*bG				
Cesium-137	pC/g	0- 1	0.13 H	0.2*BH	0.58*BHG	0.4*BH	0.11 H
		1- 4		0.24*BH			
		4- 7		0.05 B			
Lead-212	pC/g	0- 1	0.93 HG	2.1*BHG	1.05 HG	1.56 HG	0.92 HG
		1- 4	1.71 HG	1.3 HG	0.83 HG	0.18	1.85 HG
		4- 7	2.06 G	0.95 G	1.31 G	0.72 G	1.91 G
Non-volatile Beta	pC/g	0- 1	17.15*Bbeg	15.19*Bbeg	11.15 begq		
		1- 4	18.99*Bbeg	14.13 begq	9.69 begq		9.29 begq
		4- 7	16.35 gq	10.55 gq			7.63 gq
Potassium-40	pC/g	0- 1	0.82 HG	2 HGQ	2.81*BHGQ	1.04 HG	0.7 HG
		1- 4	1.55 HGQ	0.9 HG	0.9 HG	1.28 HGQ	0.97 HG
		4- 7	1.2 GQ	0.82 G	0.66 G	0.75 G	1.54 GQ
Thorium-228	pC/g	0- 1		2.16*BH			
		1- 4				1.35 H	
		4- 7	1.12				
Thorium-232	pC/g	0- 1		2.33*BH			
		1- 4				1.61 H	
		4- 7	1.35				
Thorium-234	pC/g	0- 1					
		1- 4	3.06*bH			1.27 b	
		4- 7					

Results from 0-1 ft were screened against the background criteria for 0-1 ft, ecological and human health RBCs, and groundwater SSLs. Results from 0-4 ft were screened against the same criteria except that the background criteria for 0-4 ft was used. Results from > 4 ft were screened against the background criteria for all depths and the groundwater SSLs only.

blank - Not Analyzed
- Not Detected
* - COPC
B - Above 2 x Average Background
b - No Background Criteria
E - Exceeded Ecological Criteria
c - No Ecological Criteria
G - Exceeded Groundwater SSL
g - No Groundwater SSL
Q - Exceeded Groundwater SSL * 20
H - Exceeded Human Health Criteria
h - No Human Health Criteria
q - No Groundwater SSL * 20

Table H-3. Summary of Screening Hazards and Risks: L-Area BRP/RP (131-L/131-3L)

LRP (131-3L)				
Chemical combined exposure				
Noncancer-based Screening Ind	9	0.4	9	0.4
	(Hg, Fe, Ba)		(Hg, Fe, Ba)	
Cancer-based Screening Index:	3E-05	4E-06	5E-05	5E-06
	(As, Aroclor-1260)		(As, Dibenzo(a,h)anthracene)	
Radiological combined exposure				
Cancer-based Screening Index:	4E-04	1E-04	5E-05	2E-05
	(Ac-228, Th-228)		(Cs-137, K-40)	

Table H-4. Screening Quotients and Indexes for Surface Soil (0 to 1 ft bls) in the LRP (131-3L) ESC Phase I Borings

	Maximum				Residential Screening Quotients								Industrial Screening Quotients				
					Chemicals				Radionuclides				Chemicals				Radionucl
	Detected	Residential				% of		% of		% of	Industrial			% of		% of	
Chemical/Radionuclide[a,b]	Result	RBC or PRG			NonCa-based	Total	Ca-based	Total	Ca-based	Total	RBC or PRG		NonCa-based	Total	Ca-based	Total	Ca-based
INORGANICS (mg/kg)																	
Aluminum	15,600	78,000	N		2.00E-01	2.2%	--	--			1,000,000	N	1.56E-02	4.3%	--	--	
Antimony	6.9	31	N		2.23E-01	2.4%	--	--			820	N	8.41E-03	2.3%	--	--	
Arsenic	11.7	0.43	C	c	--	--	2.72E-05	87.6%			3.8	C	--	--	3.08E-06	87.7%	
Barium	6,160	5,500	N		1.12E+00	12.1%	--	--			140,000	N	4.40E-02	12.0%	--	--	
Cadmium	23.7	39	N		6.08E-01	6.6%	--	--			1,000	N	2.37E-02	6.5%	--	--	
Chromium	75.6	390	N	d	1.94E-01	2.1%	--	--			10,000	N	7.56E-03	2.1%	--	--	
Cobalt	17.2	4,700	N		3.66E-03	0.0%	--	--			120,000	N	1.43E-04	0.0%	--	--	
Copper	1,130	3,100	N		3.65E-01	3.9%	--	--			82,000	N	1.38E-02	3.8%	--	--	
Cyanide	0.857	1,600	N	e	5.36E-04	0.0%	--	--			41,000	N	2.09E-05	0.0%	--	--	
Iron	42,100	23,000	N		1.83E+00	19.7%	--	--			610,000	N	6.90E-02	18.9%	--	--	
Lead	7,830	400	--	f	--	--	--	--			400	--	--	--	--	--	
Manganese	1,230	1,800	N		6.83E-01	7.4%	--	--			47,000	N	2.62E-02	7.1%	--	--	
Mercury	29.4	7.8	N	g	3.77E+00	40.6%	--	--			200	N	1.47E-01	40.2%	--	--	
Nickel	63.4	1,600	N		3.96E-02	0.4%	--	--			41,000	N	1.55E-03	0.4%	--	--	
Silver	4.6	390	N		1.18E-02	0.1%	--	--			10,000	N	4.60E-04	0.1%	--	--	
Vanadium	56	550	N		1.02E-01	1.1%	--	--			14,000	N	4.02E-03	1.1%	--	--	
Zinc	2,850	23,000	N		1.24E-01	1.3%	--	--			610,000	N	4.67E-03	1.3%	--	--	
ORGANICS (mg/kg)																	
2-Methylnaphthalene	9.E-02	2,300	N	h	3.78E-05	0.0%	--	--			61,000	N	1.43E-06	0.0%	--	--	
alpha-Chlordane	1.E-05	0.49	C	i	--	--	2.92E-11	0.0%			4.4	C	--	--	3.25E-12	0.0%	
Aroclor 1260	3.E-01	0.083	C	j	--	--	3.17E-06	10.2%			0.74	C	--	--	3.55E-07	10.1%	
Benzo(a)anthracene	4.E-02	0.88	C		--	--	5.09E-08	0.2%			7.8	C	--	--	5.74E-09	0.2%	
Benzo(a)pyrene	4.E-02	0.088	C		--	--	5.03E-07	1.6%			0.78	C	--	--	5.68E-08	1.6%	
Benzo(b)fluoranthene	5.E-02	0.88	C		--	--	6.07E-08	0.2%			7.8	C	--	--	6.85E-09	0.2%	
Benzo(g,h,i)perylene	6.E-02	2,300	N	h	2.47E-05	0.0%	--	--			61,000	N	9.30E-07	0.0%	--	--	
Benzo(k)fluoranthene	6.E-02	8.8	C		--	--	6.99E-09	0.0%			78	C	--	--	7.88E-10	0.0%	
Benzoic acid	2.E+00	310,000	N		7.32E-06	0.0%	--	--			1,000,000	N	2.27E-06	0.0%	--	--	
Bis(2-ethylhexyl) phthalate	7.E-02	46	C		--	--	1.56E-09	0.0%			410	C	--	--	1.75E-10	0.0%	
Chrysene	7.E-02	88	C		--	--	7.57E-10	0.0%			780	C	--	--	8.54E-11	0.0%	
Fluoranthene	1.E-01	3,100	N		3.16E-05	0.0%	--	--			82,000	N	1.20E-06	0.0%	--	--	
gamma-Chlordane	1.E-02	0.49	C	i	--	--	2.51E-08	0.1%			4.4	C	--	--	2.80E-09	0.1%	
Indeno(1,2,3-c,d)pyrene	4.E-02	0.88	C		--	--	4.39E-08	0.1%			7.8	C	--	--	4.95E-09	0.1%	
Naphthalene	7.E-05	3,100	N		2.11E-08	0.0%	--	--			82,000	N	7.96E-10	0.0%	--	--	
Phenanthrene	1.E-04	2,300	N	h	4.87E-08	0.0%	--	--			61,000	N	1.84E-09	0.0%	--	--	
Pyrene	9.E-02	2,300	N		3.83E-05	0.0%	--	--			61,000	N	1.45E-06	0.0%	--	--	

Table H-4. Screening Quotients and Indexes for Surface Soil (0 to 1 ft bls) in the LRP (131-3L) ESC Phase I Borings (Continued)

	Maximum			Residential Screening Quotients								Industrial Screening Quotients				
	Detected	Residential		Chemicals				Radionuclides		Industrial		Chemicals				Radionucl
					% of		% of		% of				% of		% of	
Chemical/Radionuclide [a,b]	Result	RBC or PRG		NonCa-based	Total	Ca-based	Total	Ca-based	Total	RBC or PRG		NonCa-based	Total	Ca-based	Total	Ca-based
Tetrachloroethene	4.E-03	12	C	--	--	3.62E-10	0.0%			110	C	--	--	3.95E-11	0.0%	
Toluene	3.E-03	16,000	N	1.98E-07	0.0%	--	--			410,000	N	7.71E-09	0.0%	--	--	
Xylenes	1.E-03	160,000	N	6.38E-09	0.0%	--	--			1,000,000	N	1.02E-09	0.0%	--	--	
RADIONUCLIDES (pCi/g)																
Actinium-228	2.13	0.017	C					1.26E-04	29.2%	0.058	C					3.70E-05
Americium-241	1.02	2.42	C					4.22E-07	0.1%	9.55	C					1.07E-07
Cesium-137	0.58	0.03	C k					2.18E-05	5.1%	0.0833	C					6.96E-06
Lead-212	2.10	0.185	C					1.13E-05	2.6%	0.595	C					3.53E-06
Potassium-40	2.81	0.091	C					3.09E-05	7.2%	0.308	C					9.12E-06
Thorium-228	2.16	0.01	C k					2.41E-04	55.9%	0.0297	C					7.27E-05
Thorium-232	2.33	24.20	C					9.63E-08	0.0%	216	C					1.08E-08
Chemical hazards combined exposure																
Noncancer-based Screening Index:				9E+00	100%							4E-01	100%			
Cancer-based Screening Index:						3E-05	100%							4E-06	100%	
Radiological hazards combined exposure																
Cancer-based Screening Index:								4E-04	100%							1E-04

-- Not applicable
N - RBC based on noncarcinogenic effects
C - RBC or PRG based on carcinogenic effects
[a] - Calcium, magnesium, potassium, and sodium were deleted from this data set because they are considered essential nutrients (EPA 1995)
[b] - Beryllium, europium-155, and radium-226 were deleted from this data set because the maximum detect was less than 2x mean background concentrations
[c] - RBCs are provided for arsenic based on both noncarcinogenic effects and on carcinogenic effects. For this evaluation, the more conservative of the two has been used.
[d] - The RBC for hexavalent chromium has been used in this evaluation rather than the RBC for trivalent chromium.
[e] - The RBC for free cyanide was used in this evaluation
[f] - A RBC is not provided for lead. The 400 ppm value corresponds to the residential screening value provided EPA 1994
[g] - The most protective RBC provided for mercury, based on methyl mercury, has been used in this evaluation.
[h] - The RBC for pyrene was used as a surrogate for evaluating this compound
[i] - The RBC for chlordane was used for this chlordane isomer
[j] - The RBC for polychlorinated biphenyls (PCBs) was used for evaluating this congener
[k] - PRG is based on parent isotope plus progeny in secular decay

Table H-5. Screening Quotients and Indexes for Subsurface Soil (0 to 4 ft bls) in the LRP (131-3L) ESC Phase I Borings

	Maximum	Residential			Screening Quotients						Industrial		Screening Quotients					
	Detected				Chemicals				Radionuclides				Chemicals				Radionuclides	
						% of		% of		% of				% of		% of		% of
Chemical/Radionuclide [a,b]	Result	RBC/PRG			NonCa-based	Total	Ca-based	Total	Ca-based	Total	RBC/PRG		NonCa-based	Total	Ca-based	Total	Ca-based	Total
INORGANICS (mg/kg)																		
Aluminum	22,600	78,000	N		2.90E-01	3.1%	--	--			1,000,000	N	2.26E-02	6.0%	--	--		
Antimony	6.9	31	N		2.23E-01	2.4%	--	--			820	N	8.41E-03	2.3%	--	--		
Arsenic	12	0.43	C	c	--	--	2.72E-05	57.2%			3.8	C	--	--	3.08E-06	57.3%		
Barium	6,160	5,500	N		1.12E+00	11.9%	--	--			140,000	N	4.40E-02	11.8%	--	--		
Cadmium	24	39	N		6.08E-01	6.5%	--	--			1,000	N	2.37E-02	6.3%	--	--		
Chromium	75.6	390	N	d	1.94E-01	2.1%	--	--			10,000	N	7.56E-03	2.0%	--	--		
Cobalt	17.2	4,700	N		3.66E-03	0.0%	--	--			120,000	N	1.43E-04	0.0%	--	--		
Copper	1,130	3,100	N		3.65E-01	3.9%	--	--			82,000	N	1.38E-02	3.7%	--	--		
Cyanide	0.857	1,600	N	e	5.36E-04	0.0%	--	--			41,000	N	2.09E-05	0.0%	--	--		
Iron	42,100	23,000	N		1.83E+00	19.5%	--	--			610,000	N	6.90E-02	18.5%	--	--		
Lead	7,830	400	--	f	--	--	--	--			400	--	--	--	--	--		
Manganese	1,230	1,800	N		6.83E-01	7.3%	--	--			47,000	N	2.62E-02	7.0%	--	--		
Mercury	29.4	7.8	N	g	3.77E+00	40.2%	--	--			200	N	1.47E-01	39.3%	--	--		
Nickel	63.4	1,600	N		3.96E-02	0.4%	--	--			41,000	N	1.55E-03	0.4%	--	--		
Silver	4.6	390	N		1.18E-02	0.1%	--	--			10,000	N	4.60E-04	0.1%	--	--		
Vanadium	66	550	N		1.21E-01	1.3%	--	--			14,000	N	4.74E-03	1.3%	--	--		
Zinc	2,850	23,000	N		1.24E-01	1.3%	--	--			610,000	N	4.67E-03	1.2%	--	--		
ORGANICS (mg/kg)																		
2-Methylnaphthalene	3.99E-02	2,300	N	h	1.73E-05	0.0%	--	--			61,000	N	6.54E-07	0.0%	--	--		
Acenaphthene	1.67E-02	4,700	N		3.55E-06	0.0%	--	--			120,000	N	1.39E-07	0.0%	--	--		
Acenapthylene	9.71E-01	2,300	N	h	4.22E-04	0.0%	--	--			61,000	N	1.59E-05	0.0%	--	--		
alpha-Chlordane	4.35E-02	0.49	C	i	--	--	8.88E-08	0.2%			4.4	C	--	--	9.89E-09	0.2%		
Anthracene	1.74E-01	23,000	N		7.57E-06	0.0%	--	--			610,000	N	2.85E-07	0.0%	--	--		
Aroclor 1260	5.26E-03	0.083	C	j	--	--	6.34E-08	0.1%			0.74	C	--	--	7.11E-09	0.1%		
Benzo(a)anthracene	7.94E-02	0.88	C		--	--	9.02E-08	0.2%			7.8	C	--	--	1.02E-08	0.2%		
Benzo(a)pyrene	3.62E-01	0.088	C		--	--	4.11E-06	8.7%			0.78	C	--	--	4.64E-07	8.6%		
Benzo(b)fluoranthene	3.13E-02	0.88	C		--	--	3.56E-08	0.1%			7.8	C	--	--	4.01E-09	0.1%		
Benzo(g,h,i)perylene	9.68E-05	2,300	N	h	4.21E-08	0.0%	--	--			61,000	N	1.59E-09	0.0%	--	--		
Benzo(k)fluoranthene	1.01E+00	8.8	C		--	--	1.15E-07	0.2%			78	C	--	--	1.29E-08	0.2%		
Benzoic acid	9.28E-01	310,000	N		2.99E-06	0.0%	--	--			1,000,000	N	9.28E-07	0.0%	--	--		
Bis(2-ethylhexyl) phthalate	1.97E+00	46	C		--	--	4.28E-08	0.1%			410	C	--	--	4.80E-09	0.1%		
Chrysene	2.61E-01	88	C		--	--	2.97E-09	0.0%			780	C	--	--	3.35E-10	0.0%		
Dibenzo(a,h)anthracene	1.22E+00	0.088	C		--	--	1.39E-05	29.2%			0.78	C	--	--	1.56E-06	29.1%		
Dibenzofuran	5.98E-02	310	N		1.93E-04	0.0%	--	--			8,200	N	7.29E-06	0.0%	--	--		
Fluoranthene	2.98E-04	3,100	N		9.61E-08	0.0%	--	--			82,000	N	3.63E-09	0.0%	--	--		
Fluorene	1.06E+00	3,100	N		3.42E-04	0.0%	--	--			82,000	N	1.29E-05	0.0%	--	--		

Table H-5. Screening Quotients and Indexes for Subsurface Soil (0 to 4 ft bls) in the LRP (131-3L) ESC Phase I Borings (Continued)

Chemical/Radionuclide[a,b]	Maximum Detected Result	Residential RBC/PRG		Residential Screening Quotients – Chemicals NonCa-based	% of Total	Ca-based	% of Total	Radionuclides Ca-based	% of Total	Industrial RBC/PRG		Industrial Screening Quotients – Chemicals NonCa-based	% of Total	Ca-based	% of Total	Radionuclides Ca-based	% of Total
gamma-Chlordane	5.56E-01	0.49	C [i]	--	--	1.13E-06	2.4%			4.4	C	--	--	1.26E-07	2.4%		
Indeno(1,2,3-c,d)pyrene	6.67E-01	0.88	C	--	--	7.58E-07	1.6%			7.8	C	--	--	8.55E-08	1.6%		
Methyl ethyl ketone	8.60E-05	47,000	N	1.83E-09	0.0%	--	--			1,000,000	N	8.60E-11	0.0%	--	--		
Naphthalene	2.08E-01	3,100	N	6.71E-05	0.0%	--	--			82,000	N	54E-06	0.0%	--	--		
p,p'-DDT	9.82E-06	1.9	C	--	--	5.17E-12	0.0%			17	C	--	--	5.78E-13	0.0%		
Phenanthrene	1.09E-05	2,300	N [h]	4.74E-09	0.0%	--	--			61,000	N	1.79E-10	0.0%	--	--		
Pyrene	9.29E-06	2,300	N	4.04E-09	0.0%	--	--			61,000	N	1.52E-10	0.0%	--	--		
Styrene	2.33E+00	16,000	N	1.46E-04	0.0%	--	--			410,000	N	5.68E-06	0.0%	--	--		
Tetrachloroethene	1.59E-01	12	C	--	--	1.33E-08	0.0%			110	C	--	--	1.45E-09	0.0%		
Toluene	6.15E-06	16,000	N	3.84E-10	0.0%	--	--			410,000	N	1.50E-11	0.0%	--	--		
Xylenes	1.00E+00	160,000	N	6.25E-06	0.0%	--	--			1,000,000	N	1.00E-06	0.0%	--	--		
RADIONUCLIDES (pCi/g)																	
Americium-241	1.02	2.4197	C					4.22E-07	0.8%	9.55						1.07E-07	0.7%
Cesium-137	0.58	0.0266	C [k]					2.18E-05	40.8%	0.08						6.96E-06	42.8%
Potassium-40	2.81	0.0909	C					3.09E-05	57.8%	0.31						9.12E-06	56.1%
Thorium-232	2.33	24.1967	C					9.63E-08	0.2%	216.00						1.08E-08	0.1%
Thorium-234	3.06	15.8730	C					1.93E-07	0.4%	45.00						6.80E-08	0.4%
Chemical hazards combined exposure																	
Noncancer-based Screening Index:				9E+00	100%							4E-01	100%				
Cancer-based Screening Index:						5E-05	100%							5E-06	100%		
Radiological hazards combined exposure																	
Cancer-based Screening Index:								5E-05	100%							2E-05	100%

-- - Not applicable
N - RBC based on noncarcinogenic effects
C - RBC or PRG based on carcinogenic effects
[a] - Calcium, magnesium, potassium, and sodium were deleted from this data set because they are considered essential nutrients (EPA 1995)
[b] - Beryllium, actinium-228, europium-155, lead-212, radium-226, and thorium-228 were deleted from this data set because the maximum detect was less than 2x mean background concentrations
[c] - RBCs are provided for arsenic based on both noncarcinogenic effects and on carcinogenic effects. For this evaluation, the more conservative of the two has been used.
[d] - The RBC for hexavalent chromium has been used in this evaluation rather than the RBC for trivalent chromium.
[e] - The RBC for free cyanide was used in this evaluation
[f] - A RBC is not provided for lead. The 400 ppm value corresponds to the residential screening value provided EPA 1994
[g] - The most protective RBC provided for mercury, based on methyl mercury, has been used in this evaluation.
[h] - The RBC for pyrene was used as a surrogate for evaluating this compound
[i] - The RBC for chlordane was used for this chlordane isomer
[j] - The RBC for polychlorinated biphenyls (PCBs) was used for evaluating this congener
[k] - PRG is based on parent isotope plus progeny in secular decay

APPENDIX I

L-Area Rubble Pile (131-3L) and L-Area Gas Cylinder Disposal Facility

Hydrologic Setting Data

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Figure I-1. Lithostratigraphic Nomenclature Used at the Savannah River Site

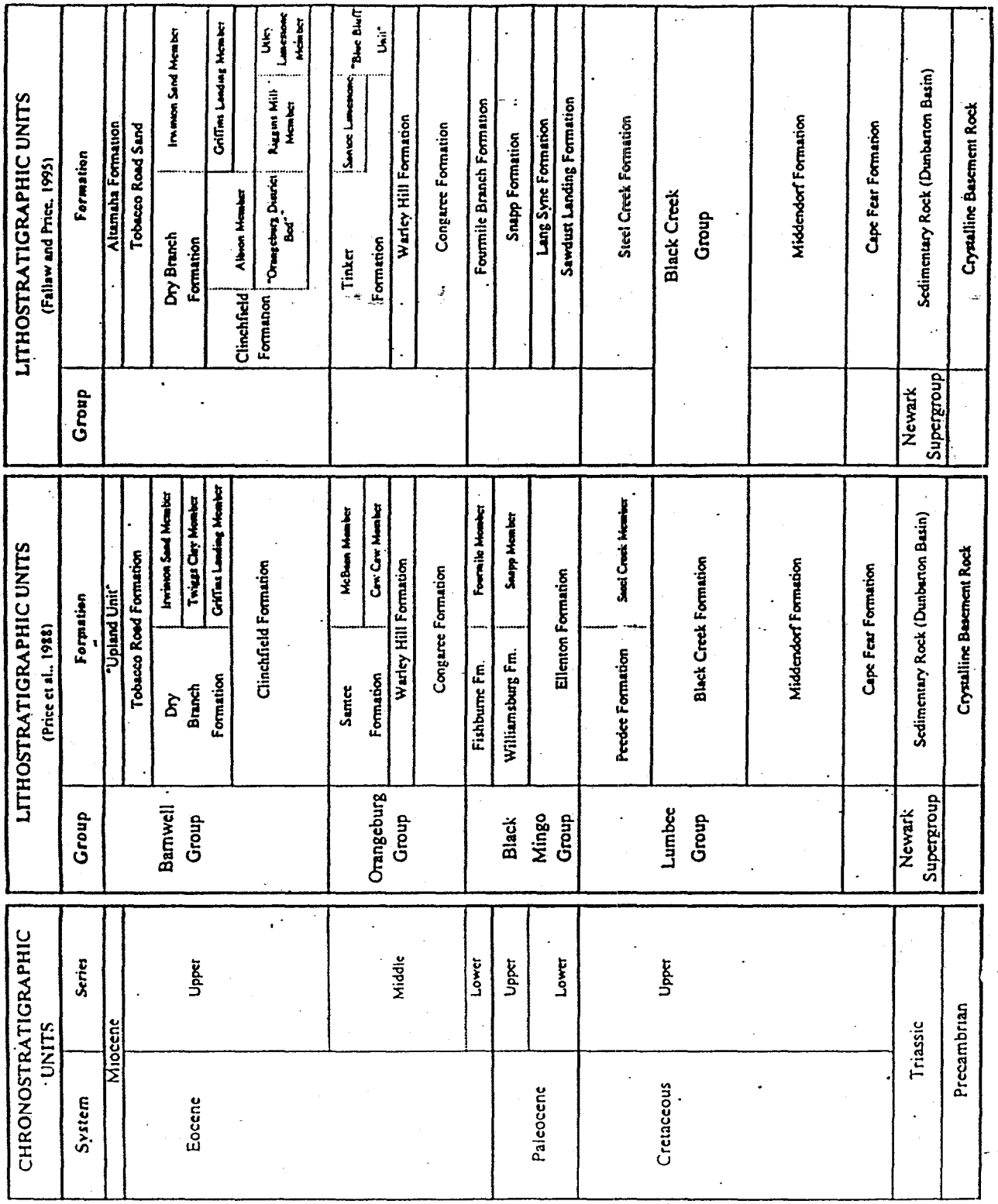


Figure I-2. Generalized Correlation Between Stratigraphic and Hydrostratigraphic Units at Savannah River Site

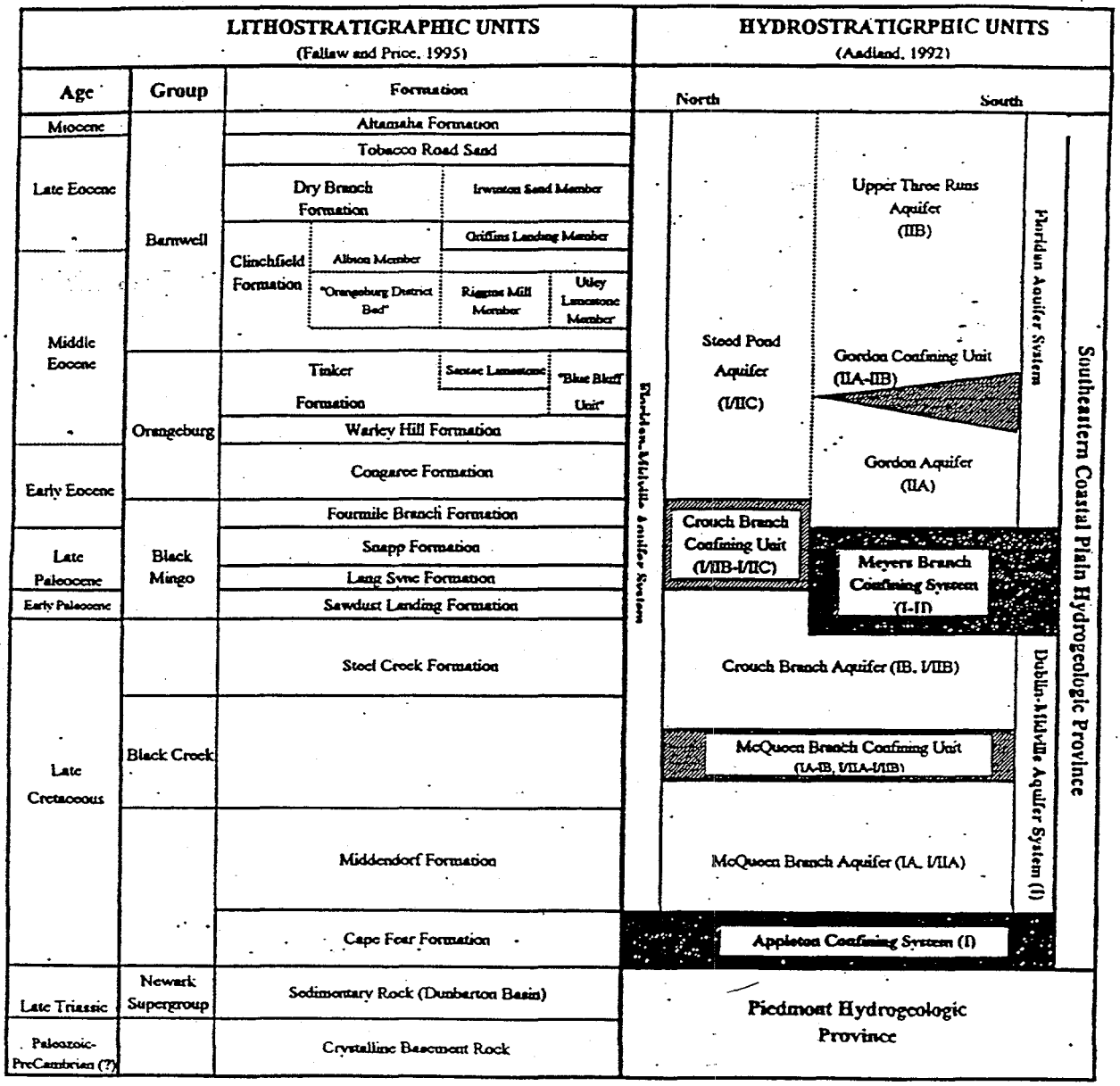


Figure I-3. Location of Monitoring Wells in L-Area Relative to LBRP (131-L)

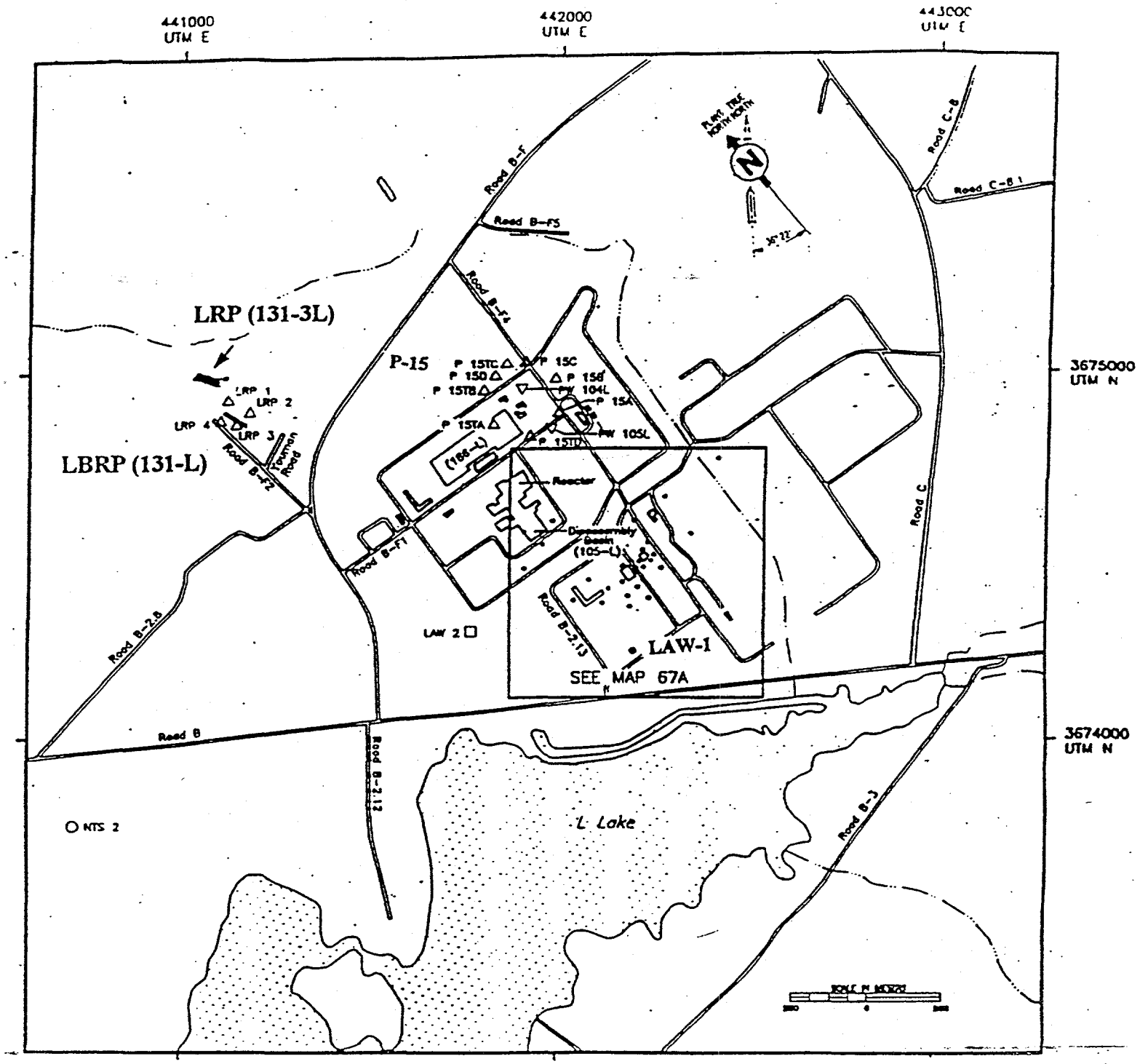


Figure I-4. Schematic of P-15 Well Cluster

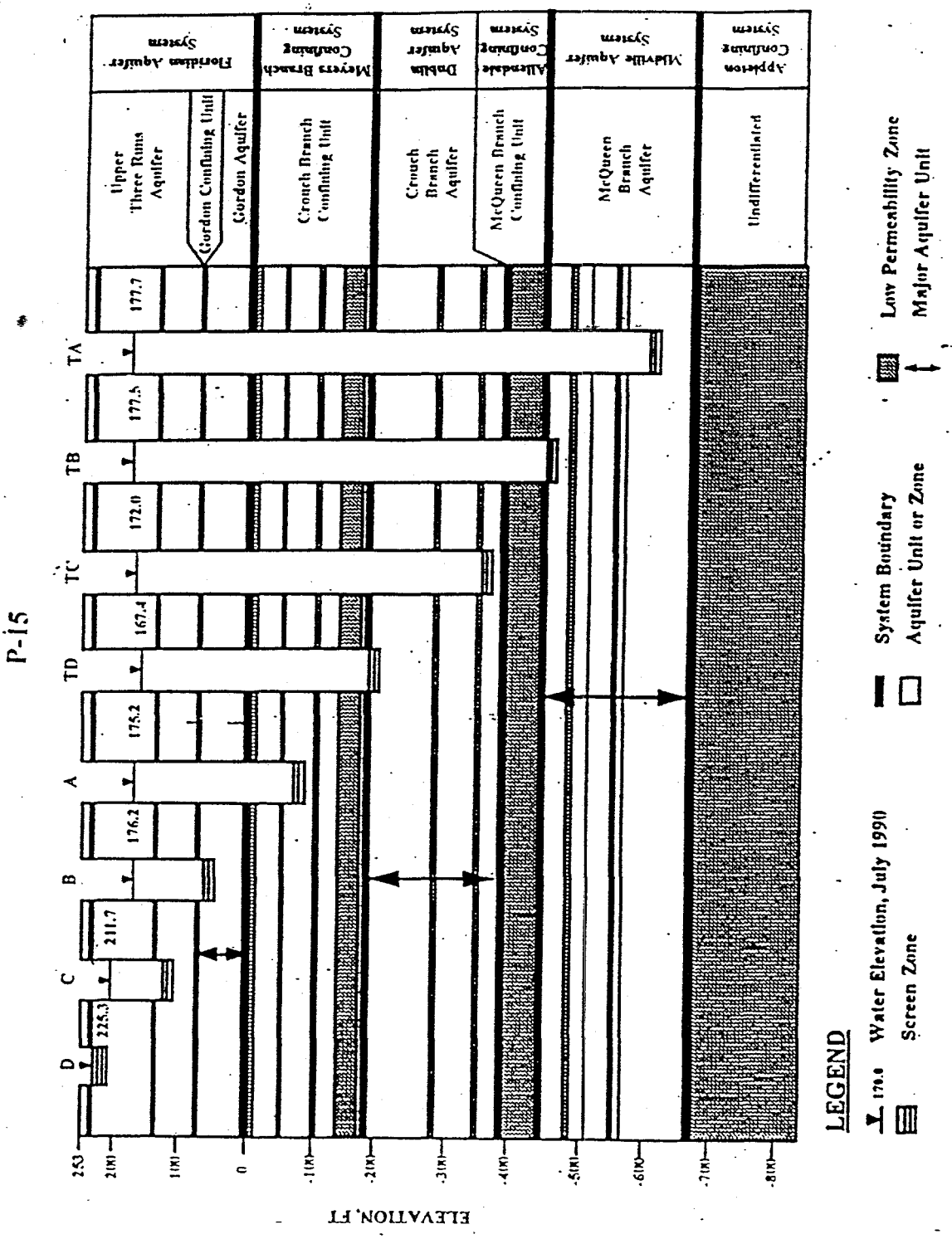


Figure I-5. Schematic of LAW-1 Well Series with March 1990 Groundwater Elevations

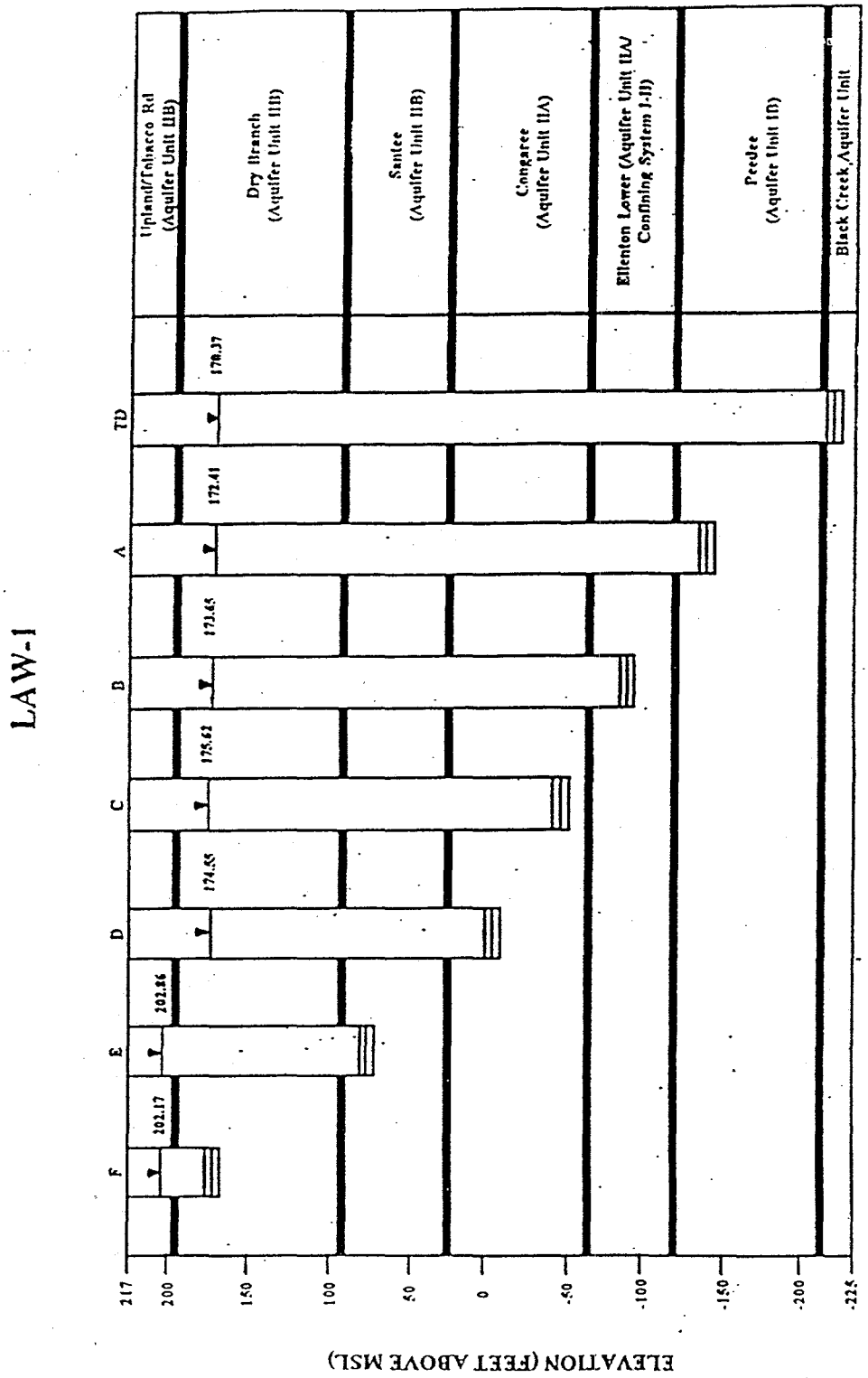


Figure I-6. Locations of the LBRP (131-L) and LRP (131-3L) in L-Area

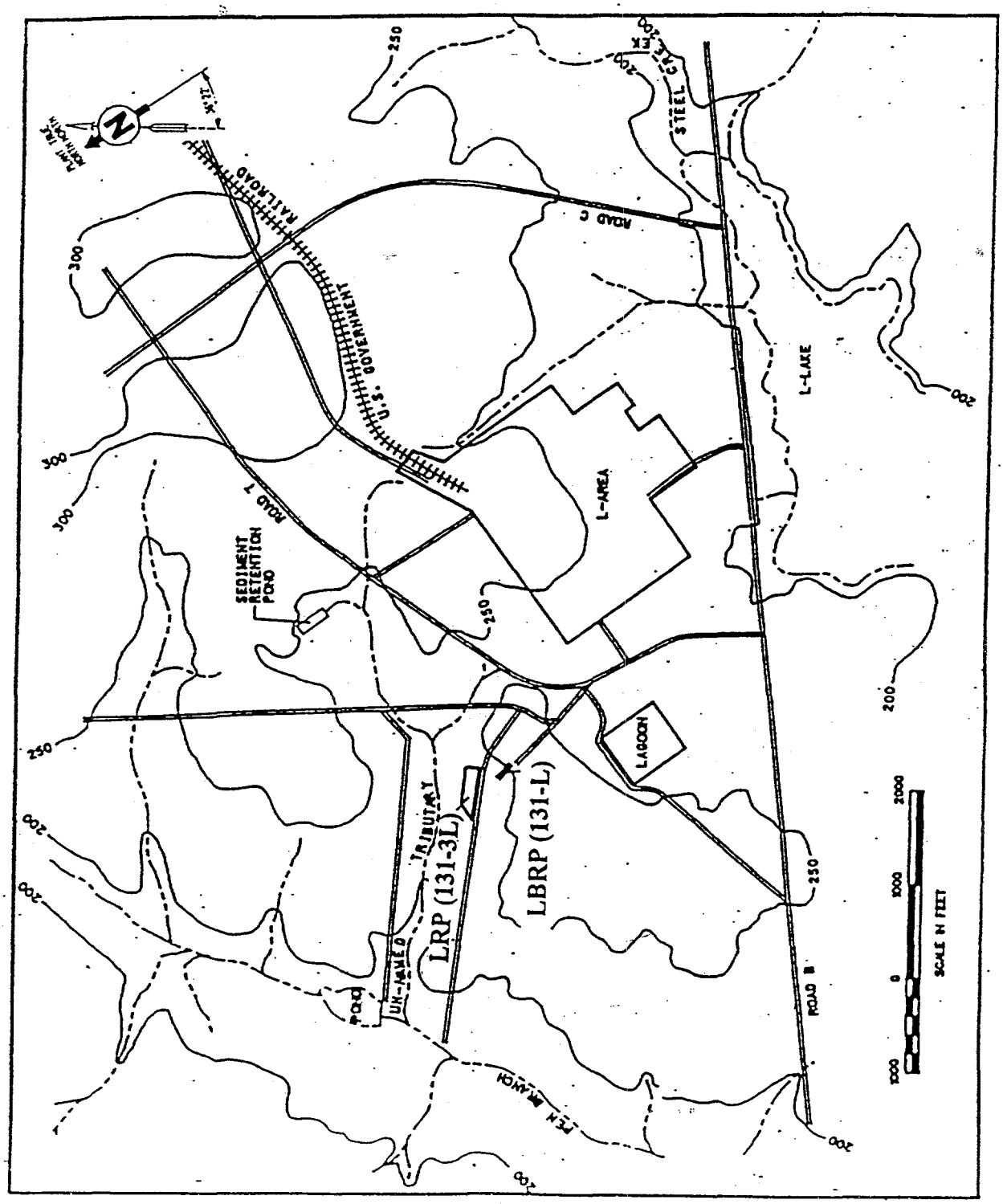


Figure I-7. Watershed Boundaries for the Savannah River Site

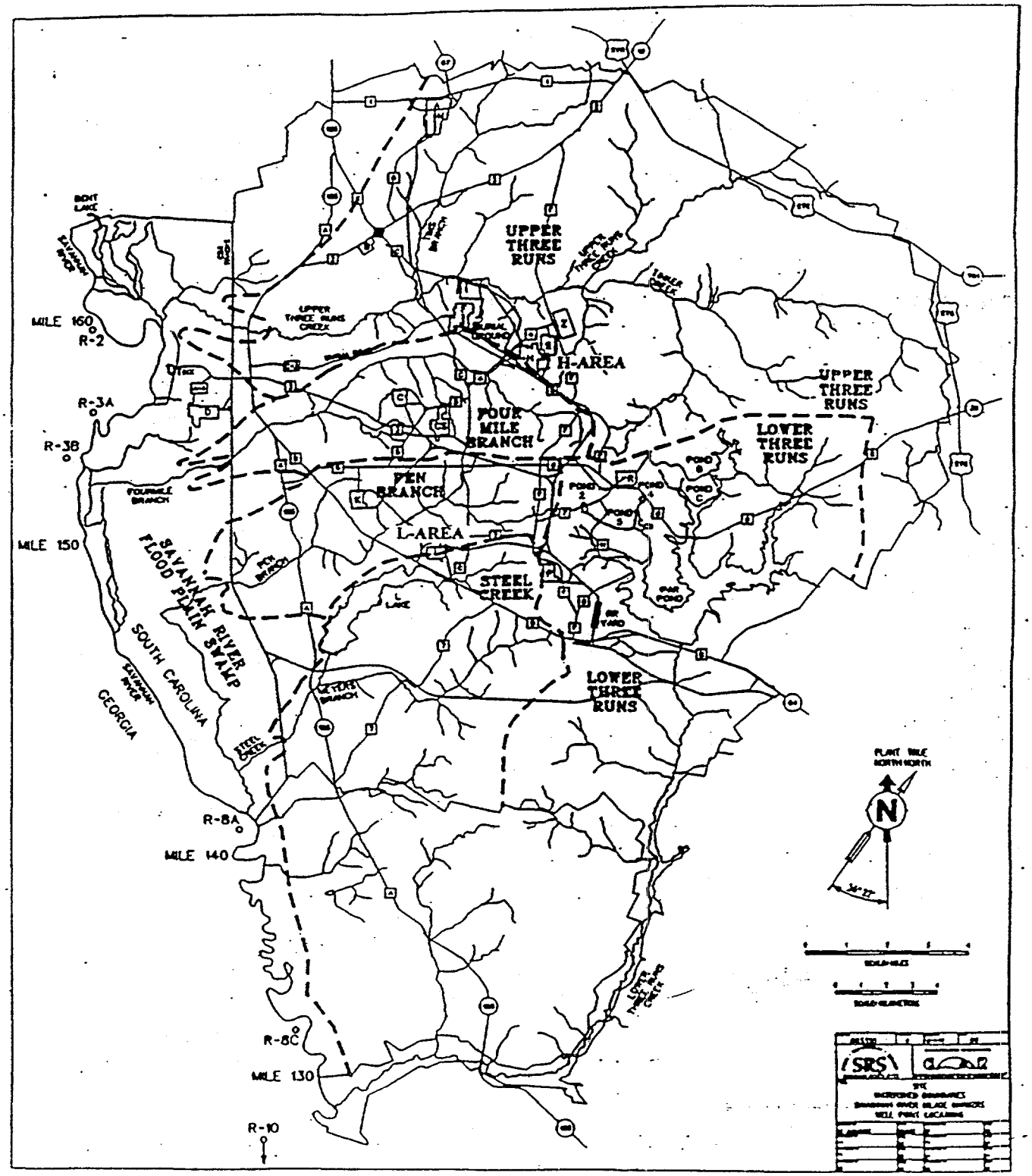
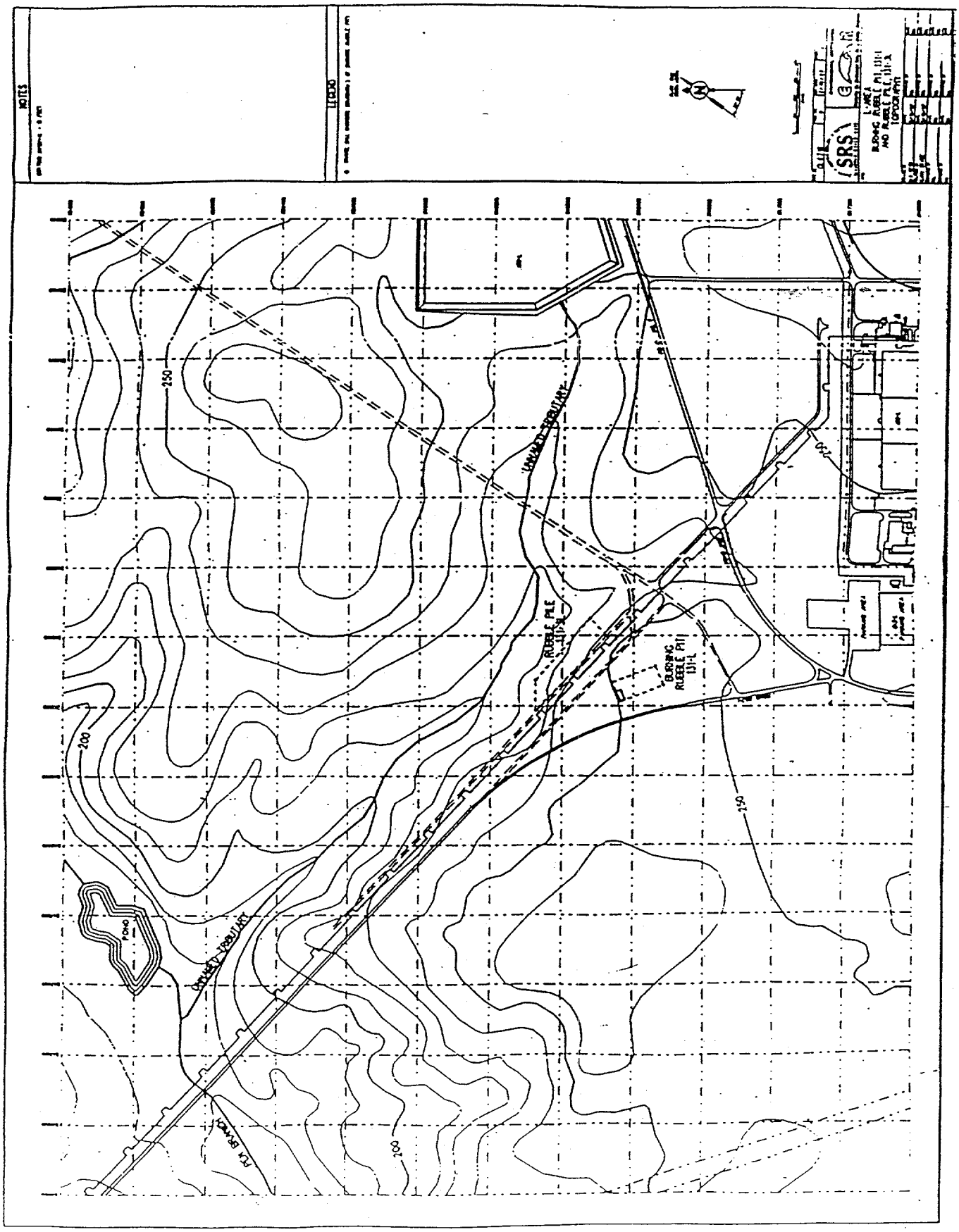


Figure I-8. L-Area Burning Rubble Pit (131-L) and Rubble Pile (131-3L) Topography



APPENDIX J

L-Area Rubble Pile (131-3L) and L-Area Gas Cylinder Disposal Facility

Physical Conditions Data

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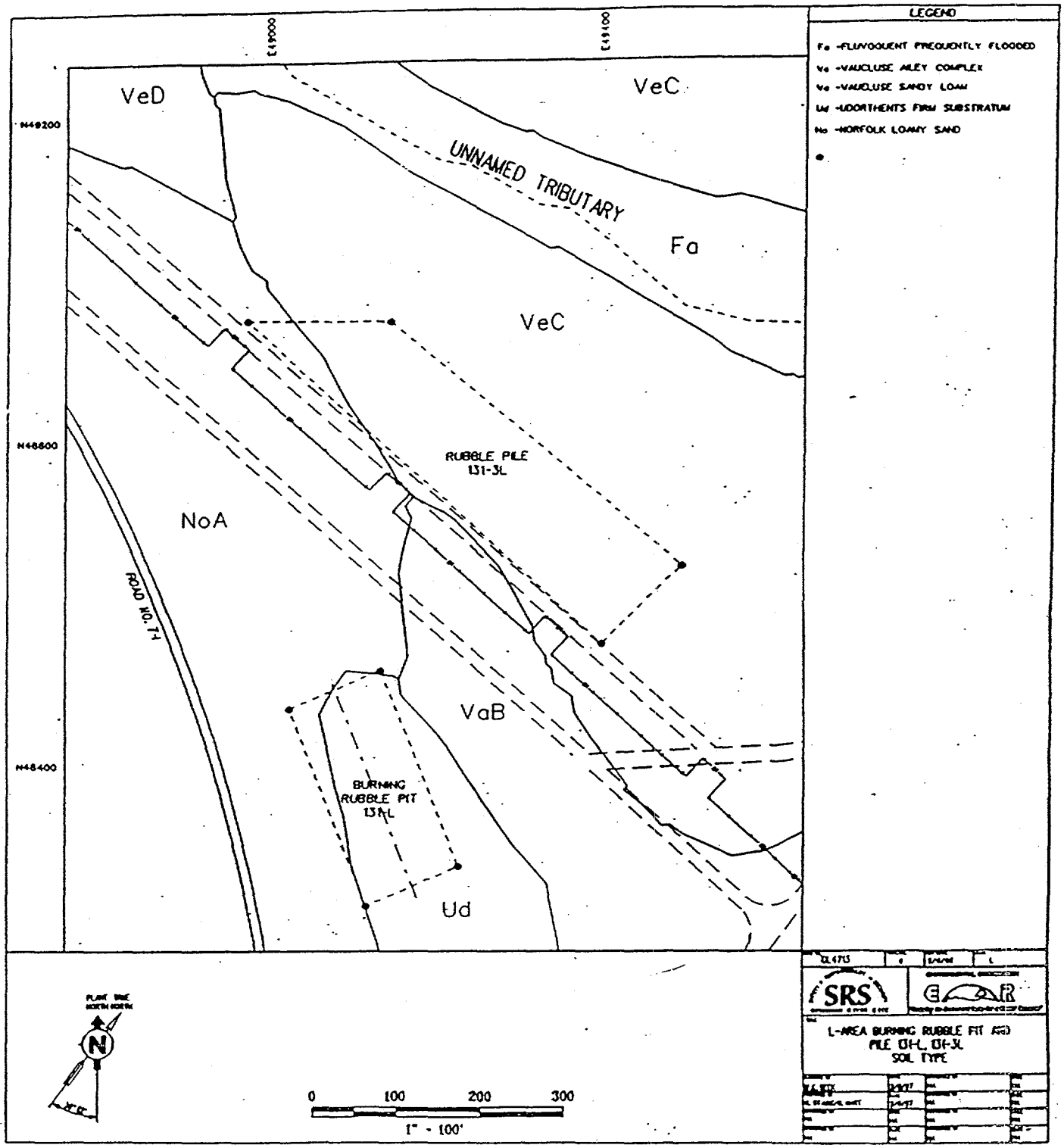
Figure J-1. Soil Series in the Vicinity of the LBRP/RP (131-L/131-3L)



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APPENDIX K

Work Flow Diagram for LGCDF (131-2L) Removal Activities

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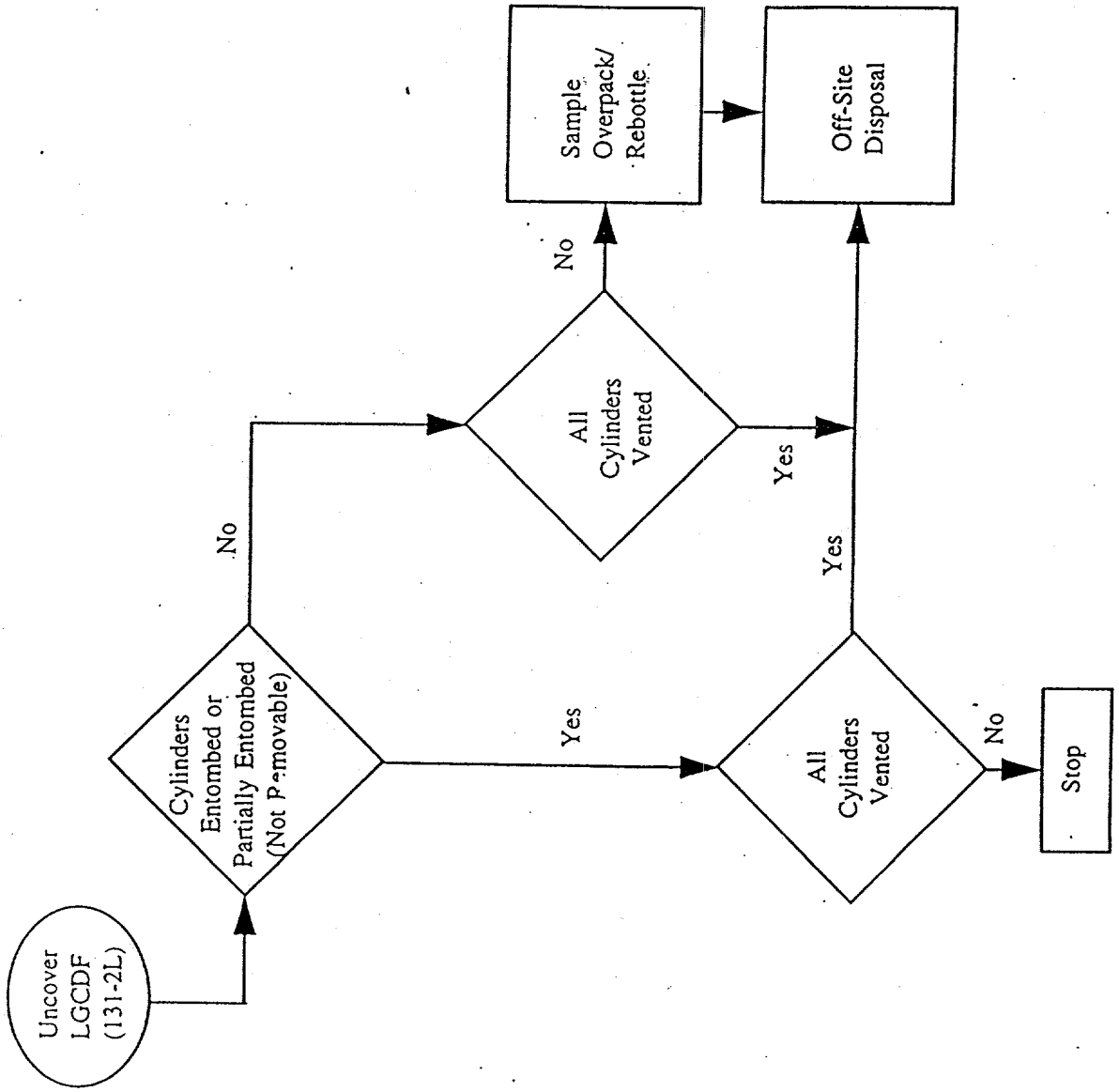
Figure K-1. Flow Diagram for LGCDF (131-2C) Removal Activities



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APPENDIX L

Waste Management Flowcharts and Off-site Rule Acceptability Determination for CERCLA Removal and Remedial Actions

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Figure L-1. Generalized Waste Management Flowchart

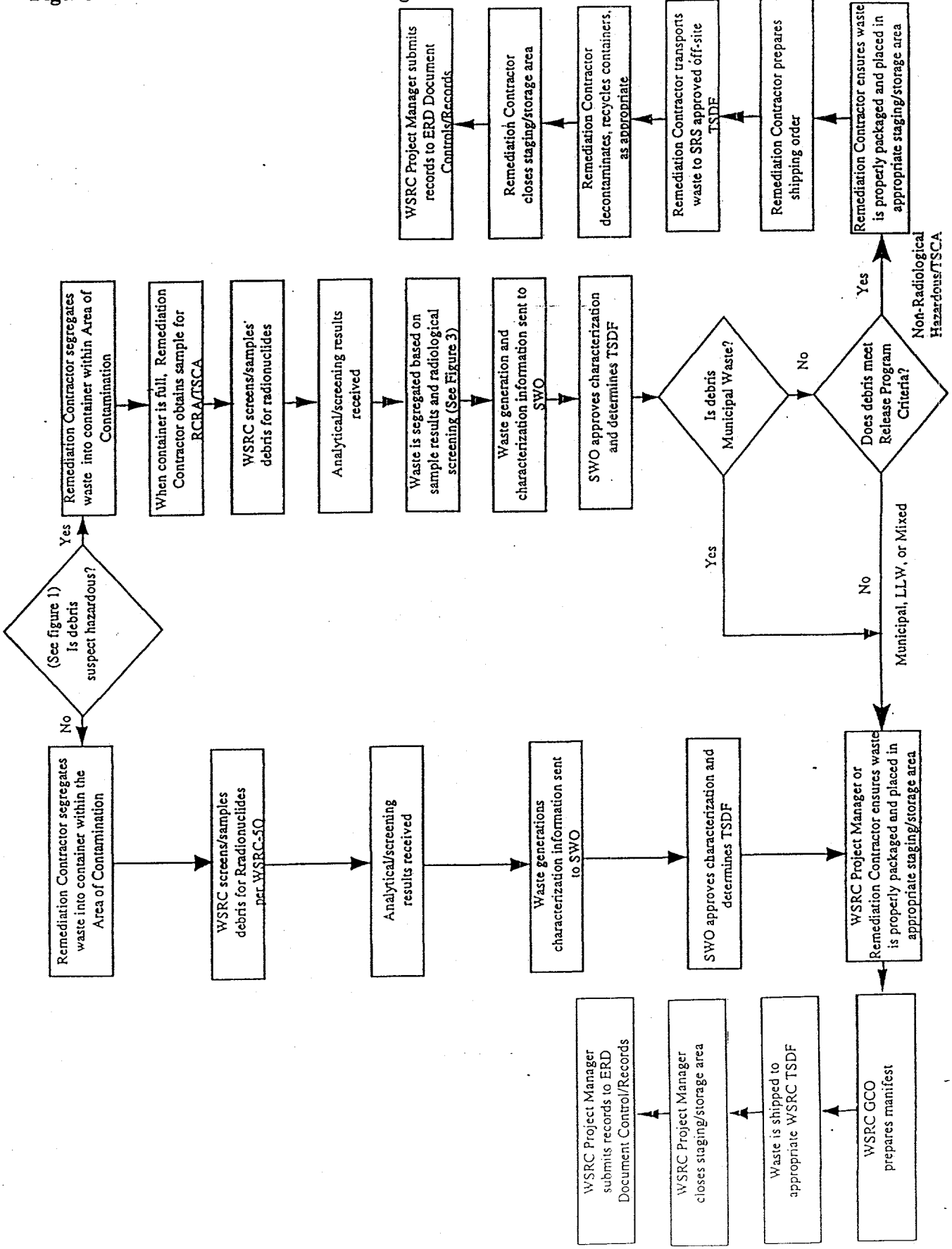

Figure L-2. Generalized Waste Certification Flowchart

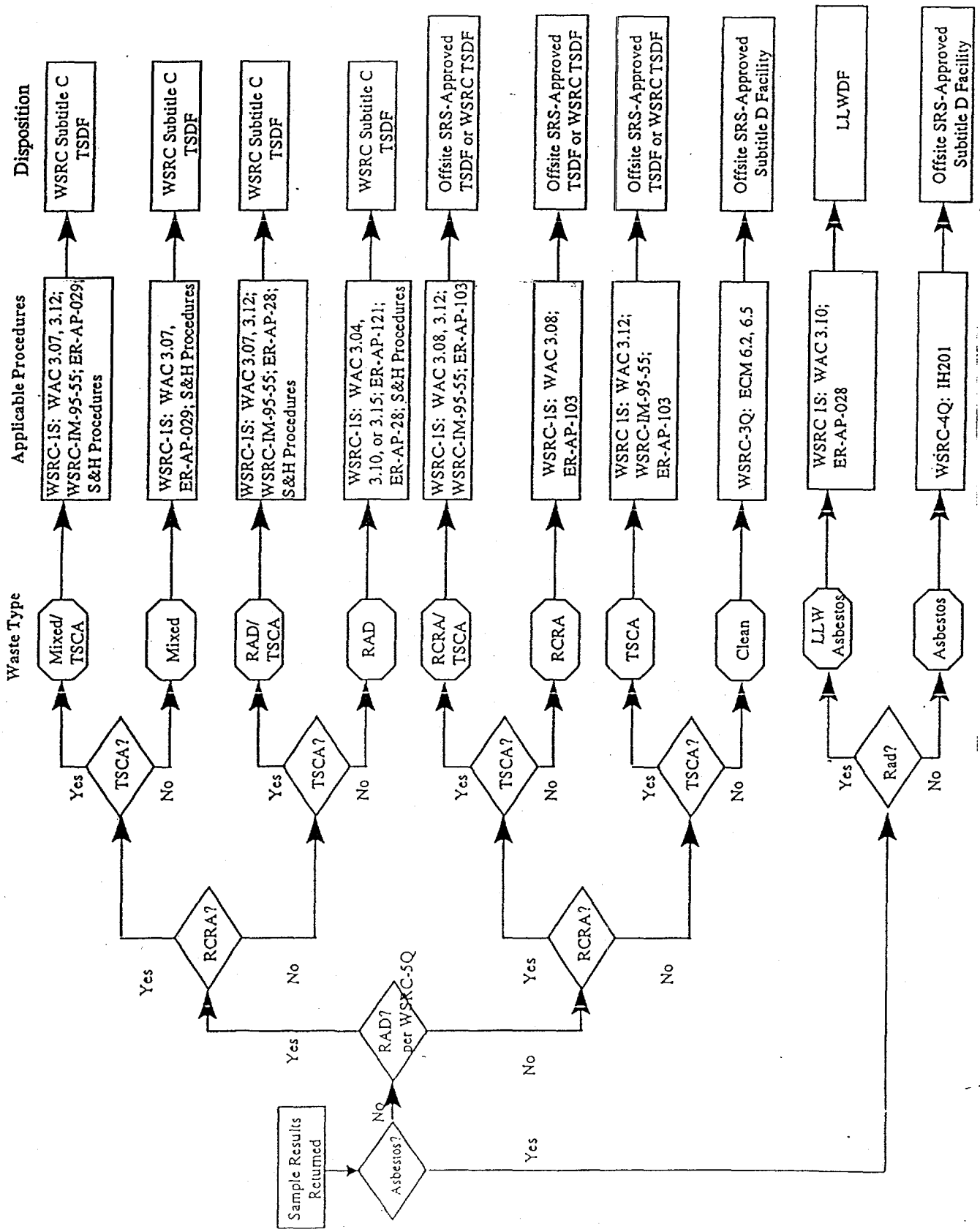

Figure L-3. Waste Management Flowchart for Closed Containers at LRP 131-3L

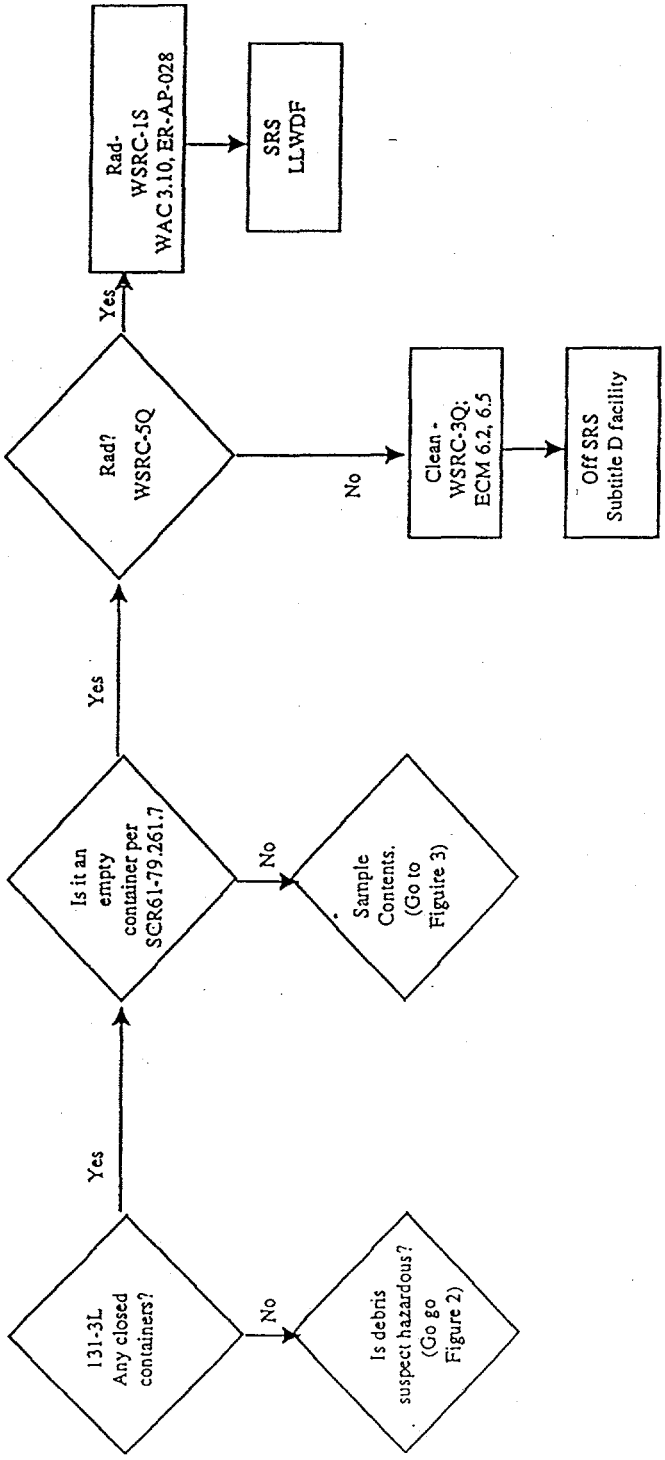

Figure L-4. Waste Management Flowchart for Closed Containers at GCDF 131-2L

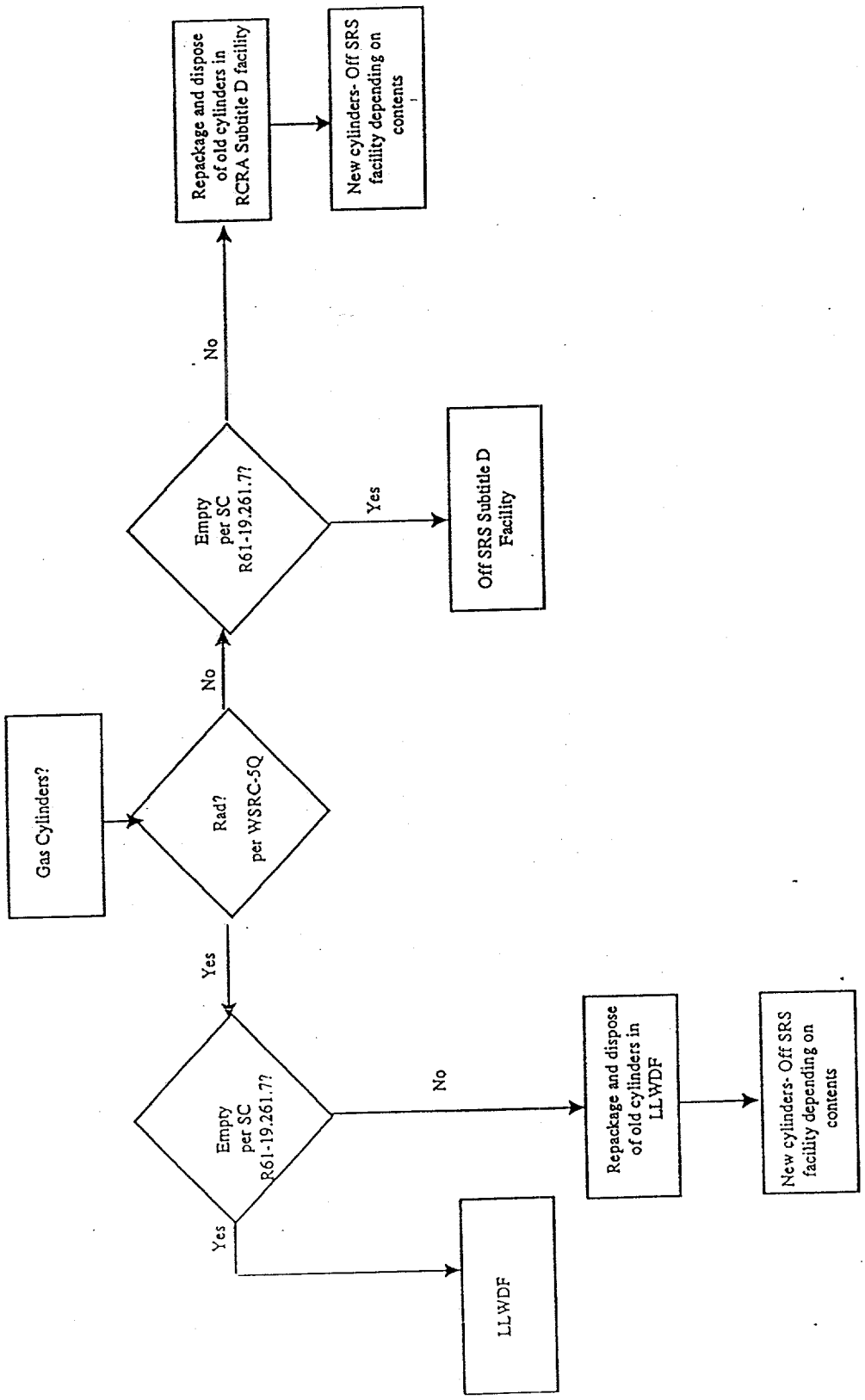

Table L-1. Waste Disposition Summary

Waste Type	Storage and Disposal Facility
Non-Radioactive/Non-Hazardous	Burma Road Landfill (Disposal)
Hazardous	SRS Building 745-1N (Storage) Emelle, AL (Disposal) or Deer Park, TX (Disposal) or Ensco, AR (Disposal)
Asbestos	Hickory Hill Landfill, Ridgeland, SC or Laidlaw, Pinewood, SC
Gas Cylinders (empty)	Hickory Hill Landfill, Ridgeland, SC
Low-level Radioactive Waste	Low Level Waste Disposal Facility (Disposal)
PCBs	SRS Building 741-1N (Storage)

SRS STORAGE FACILITIES: 741-1N, PCB STORAGE BUILDING

OFF-SITE RULE ACCEPTABILITY DETERMINATION FOR CERCLA REMOVAL AND REMEDIAL ACTIONS

1. Is waste being sent to a receiving unit that in **NOT** in the areal extent of contamination of the operable ~~unit~~ or in the very near proximity of the operable unit? (YES or NO) If **NO**, then off-site rule does not apply. If **YES**, then continue acceptability determination for receiving unit by answering question number 2 below.

2. Is the receiving unit ~~part of a~~ regulated under RCRA Subtitle C ~~Facility~~? (YES or NO) If **NO**, then answer question number 4 below. If **YES**, does the RCRA Subtitle C Facility have a land disposal unit? (YES or NO) If **NO**, then answer question number 3 below. If **YES**, then answer the following:

   Has the receiving unit released any hazardous waste, constituent or substance? (YES or NO) If **YES**, then receiving unit fails acceptability determination. If **NO**, then answer the following:

   Does the receiving unit meet the minimum technology requirements under RCRA Section 3004(O)? (YES or NO) If **NO**, then receiving unit fails acceptability determination. If **YES**, then answer the following:

   Are all Facility units that have released hazardous waste, constituents or substances being addressed through and in compliance with a legally binding agreement or order? (YES or NO) If **NO**, Facility fails acceptability determination. If **YES**, then Facility and receiving unit meet acceptability determination criteria and can receive CERCLA off-site waste.

3. Has the receiving unit released any hazardous waste, constituent or substance? (YES or NO) If **YES**, then receiving unit fails acceptability determination. If **NO**, then answer the following:

   Are all Facility units with environmentally significant releases of hazardous waste, constituents or substances being addressed through corrective action? (YES or NO) If **NO**, Facility fails acceptability determination. If **YES**, then Facility and receiving unit meet acceptability determination criteria and can receive CERCLA off-site waste.

4. Are all Facility units with environmentally significant releases of hazardous waste, constituents or substances being addressed through corrective action? (YES or NO) If **NO**, then Facility fails acceptability determination. If **YES**, then Facility and receiving unit meet acceptability determination criteria and can receive CERCLA off-site waste.

SRS STORAGE FACILITIES: 741-1N, PCB STORAGE BUILDING

The Off-Site Rule Acceptability Determination should be completed by the lead agency when waste are to be transported beyond the operable unit area of contamination. Ideally, the lead agency would submit the determination as part of the Record of Decision (ROD) for concurrence by the appropriate State and EPA. When exact waste disposition is not know at the time of the ROD, it may be more appropriate to submit the determination as an appendix to the Removal/Remedial Action Work Plan. The determination should be submitted to the appropriate Federal Facility Agreement Project Manager to facilitate EPA concurrence. EPA must concur with the determination prior to the occurrence of Off-Site waste transport.

SRS STORAGE FACILITIES: MIXED WASTE STORAGE BUILDINGS 643-43E, 643-29E OR 645-2N

OFF-SITE RULE ACCEPTABILITY DETERMINATION
FOR CERCLA REMOVAL AND REMEDIAL ACTIONS

1. Is waste being sent to a receiving unit that in **NOT** in the areal extent of contamination of the operable unit or in the very near proximity of the operable unit? (YES or NO) If **NO**, then off-site rule does not apply. If **YES**, then continue acceptability determination for receiving unit by answering question number 2 below.

2. Is the receiving unit part of a RCRA Subtitle C Facility? (YES or NO) If **NO**, then answer question number 4 below. If **YES**, does the RCRA Subtitle C Facility have a land disposal unit? (YES or NO) If **NO**, then answer question number 3 below. If **YES**, then answer the following:

   Has the receiving unit released any hazardous waste, constituent or substance? (YES or NO) If **YES**, then receiving unit fails acceptability determination. If **NO**, then answer the following:

   Does the receiving unit meet the minimum technology requirements under RCRA Section 3004(O)? (YES or NO) If **NO**, then receiving unit fails acceptability determination. If **YES**, then answer the following:

   Are all Facility units that have released hazardous waste, constituents or substances being addressed through and in compliance with a legally binding agreement or order? (YES or NO) If **NO**, Facility fails acceptability determination. If **YES**, then Facility and receiving unit meet acceptability determination criteria and can receive CERCLA off-site waste.

3. Has the receiving unit released any hazardous waste, constituent or substance? (YES or NO) If **YES**, then receiving unit fails acceptability determination. If **NO**, then answer the following:

   Are all Facility units with environmentally significant releases of hazardous waste, constituents or substances being addressed through corrective action? (YES or NO) If **NO**, Facility fails acceptability determination. If **YES**, then Facility and receiving unit meet acceptability determination criteria and can receive CERCLA off-site waste.

4. Are all Facility units with environmentally significant releases of hazardous waste, constituents or substances being addressed through corrective action? (YES or NO) If **NO**, then Facility fails acceptability determination. If **YES**, then Facility and receiving unit meet acceptability determination criteria and can receive CERCLA off-site waste.

SRS STORAGE FACILITIES: MIXED WASTE STORAGE BUILDINGS 643-43E, 643-29E OR 645-2N

OFF-SITE ACCEPTABILITY CERTIFICATION

Based on the above determination, the off-site receiving unit meets the requirements of CERCLA Section 121(d)(3) and the Off-Site Rule [58 FR 49200]. **NOTE:** If this off-site transport does not constitute the final disposition for the waste, prior to subsequent transport to another facility or receiving unit, a new off-site acceptability certification must be made.

Appropriate DOE approving authority signature.

Appropriate State approving authority signature.

Appropriate EPA Region IV approving authority signature.

SRS STORAGE FACILITIES: HAZARDOUS WASTE STORAGE BUILDINGS 645-N, OR 645-4N OR THE STORAGE PADS 1,2,3

OFF-SITE RULE ACCEPTABILITY DETERMINATION FOR CERCLA REMOVAL AND REMEDIAL ACTIONS

1. Is waste being sent to a receiving unit that in **NOT** in the areal extent of contamination of the operable unit or in the very near proximity of the operable unit? (YES or NO) If **NO**, then off-site rule does not apply. If **YES**, then continue acceptability determination for receiving unit by answering question number 2 below.

2. Is the receiving unit part of a RCRA Subtitle C Facility? (YES or NO) If **NO**, then answer question number 4 below. If **YES**, does the RCRA Subtitle C Facility have a land disposal unit? (YES or NO) If **NO**, then answer question number 3 below. If **YES**, then answer the following:

   Has the receiving unit released any hazardous waste, constituent or substance? (YES or NO) If **YES**, then receiving unit fails acceptability determination. If **NO**, then answer the following:

   Does the receiving unit meet the minimum technology requirements under RCRA Section 3004(O)? (YES or NO) If **NO**, then receiving unit fails acceptability determination. If **YES**, then answer the following:

   Are all Facility units that have released hazardous waste, constituents or substances being addressed through and in compliance with a legally binding agreement or order? (YES or NO) If **NO**, Facility fails acceptability determination. If **YES**, then Facility and receiving unit meet acceptability determination criteria and can receive CERCLA off-site waste.

3. Has the receiving unit released any hazardous waste, constituent or substance? (YES or NO) If **YES**, then receiving unit fails acceptability determination. If **NO**, then answer the following:

   Are all Facility units with environmentally significant releases of hazardous waste, constituents or substances being addressed through corrective action? (YES or NO) If **NO**, Facility fails acceptability determination. If **YES**, then Facility and receiving unit meet acceptability determination criteria and can receive CERCLA off-site waste.

4. Are all Facility units with environmentally significant releases of hazardous waste, constituents or substances being addressed through corrective action? (YES or NO) If **NO**, then Facility fails acceptability determination. If **YES**, then Facility and receiving unit meet acceptability determination criteria and can receive CERCLA off-site waste.

SRS STORAGE FACILITIES: HAZARDOUS WASTE STORAGE BUILDINGS 645-N, OR 645-4N OR THE STORAGE PADS 1,2,3

OFF-SITE ACCEPTABILITY CERTIFICATION

Based on the above determination, the off-site receiving unit meets the requirements of CERCLA Section 121(d)(3) and the Off-Site Rule [58 FR 49200]. **NOTE:** If this off-site transport does not constitute the final disposition for the waste, prior to subsequent transport to another facility or receiving unit, a new off-site acceptability certification must be made.

Appropriate DOE approving authority signature.

Appropriate State approving authority signature.

Appropriate EPA Region IV approving authority signature.

SRS DISPOSAL FACILITIES: LOW LEVEL WASTE DISPOSAL FACILITY

OFF-SITE RULE ACCEPTABILITY DETERMINATION FOR CERCLA REMOVAL AND REMEDIAL ACTIONS

1. Is waste being sent to a receiving unit that in **NOT** in the areal extent of contamination of the operable unit or in the very near proximity of the operable unit? (YES or NO) If **NO**, then off-site rule does not apply. If **YES**, then continue acceptability determination for receiving unit by answering question number 2 below.

2. Is the receiving ~~unit part of a~~ regulated under RCRA Subtitle C ~~Facility?~~ (YES or NO) If **NO**, then answer question number 4 below. If **YES**, ~~does~~ the RCRA Subtitle C Facility have a land disposal unit? (YES or NO) If **NO**, then answer question number 3 below. If **YES**, then answer the following:

   Has the receiving unit released any hazardous waste, constituent or substance? (YES or NO) If **YES**, then receiving unit fails acceptability determination. If **NO**, then answer the following:

   Does the receiving unit meet the minimum technology requirements under RCRA Section 3004(O)? (YES or NO) If **NO**, then receiving unit fails acceptability determination. If **YES**, then answer the following:

   Are all Facility units that have released hazardous waste, constituents or substances being addressed through and in compliance with a legally binding agreement or order? (YES or NO) If **NO**, Facility fails acceptability determination. If **YES**, then Facility and receiving unit meet acceptability determination criteria and can receive CERCLA off-site waste.

3. Has the receiving unit released any hazardous waste, constituent or substance? (YES or NO If **YES**, then receiving unit fails acceptability determination. If **NO**, then answer the following:

   Are all Facility units with environmentally significant releases of hazardous waste, constituents or substances being addressed through corrective action? (YES or NO) If **NO**, Facility fails acceptability determination. If **YES**, then Facility and receiving unit meet acceptability determination criteria and can receive CERCLA off-site waste.

4. Are all Facility units with environmentally significant releases of hazardous waste, ~~constituents or~~ substances being addressed through corrective action? (YES or NO) If **NO**, then Facility fails acceptability determination. If **YES**, then Facility and receiving unit meet acceptability determination criteria and can receive CERCLA off-site waste.

SRS DISPOSAL FACILITIES: LOW LEVEL WASTE DISPOSAL FACILITY

OFF-SITE ACCEPTABILITY CERTIFICATION

Based on the above determination, the off-site receiving unit meets the requirements of CERCLA Section 121(d)(3) and the Off-Site Rule [58 FR 49200]. **NOTE:** If this off-site transport does not constitute the final disposition for the waste, prior to subsequent transport to another facility or receiving unit, a new off-site acceptability certification must be made.

Appropriate DOE approving authority signature.

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Appropriate EPA Region IV approving authority signature.

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