FINAL DRAFT REPORT

ENVIRONMENTAL RESOURCES MANAGEMENT

Basic Remediation Company

Draft Remedial Alternatives Study for Soils and Sediments in the Upper and Lower Ponds at the BMI Complex

Henderson, Nevada

1 March 2000

Basic Remediation
COMPANY

Environmental Resources Management
1777 Botelho Drive, Suite 260
Walnut Creek, CA 94596

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I hereby certify that I am responsible for the services described in this document and for the preparation of this document. The services described in this document have been provided in a manner consistent with the current standards of the profession and to the best of my knowledge comply with all applicable federal, state and local statutes, regulations and ordinances.

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EXECUTIVE SUMMARY

On behalf of Basic Remediation Company (BRC), Environmental Resources Management (ERM) has prepared this Remedial Alternatives Study (RAS) report to present the analysis of alternatives for soil remediation in portions of the Basic Management, Inc., (BMI) Common Areas in Clark County, Nevada. This RAS report has been prepared in accordance with 1991 and 1996 Consent Agreements between the Henderson Industrial Site Steering Committee (HISSC) and the Nevada Division of Environmental Protection (NDEP) to assess site conditions and, as appropriate, develop an appropriate remedy for the subject site. Pursuant to a Liability Transfer and Assumption Agreement (December 1999), BRC has assumed the HISSC's Consent Agreement responsibilities regarding Common Areas soils.

This RAS focuses on the soils within portions of the BMI Common Areas, which are restricted to the Upper Ponds, Lower Ponds, Alpha Ditch, and Beta Ditch. For the purpose of this RAS, this area will be referred to hereinafter as "the Site". Figure 1-2 of the text presents the boundaries of the Site.

In fulfillment of Consent Agreement requirements, in 1993, HISSC conducted a Phase I investigation, which consisted of performing a thorough review of documents from public agencies and the individual companies operating currently or in the past at the BMI Complex. The specific focus of this file review was on waste disposal activities and areas of waste disposal associated with BMI Complex operations. Based on the Phase I results, NDEP identified items that required further assessment, including characterization of the distribution of compounds of potential concern (COPCs) in the Upper and Lower Ponds and associated conveyance ditches.

The Phase II ECI field investigation and subsequent supplemental investigations suggest that historical operations have impacted soil conditions. However, the shallow soils across many areas within the Site contain relatively low chemical concentrations that do not exceed human health risk-based screening levels and, as such, do not warrant further attention.

Of the compounds analyzed, some pesticides (4,4-DDD, 4,4-DDE, 4,4-DDT, alpha-BHC, and beta-BHC), metals (antimony, arsenic, barium, chromium, lead, manganese, and vanadium), and asbestos were detected at concentrations in excess of screening levels. These constituents and radionuclides, for which screening levels were not established, were identified as COPCs.

Detections greater than screening levels are primarily associated with samples collected from the 0 to 1-foot depth interval from the first seven rows of the Upper Ponds and the portion of the Beta Ditch south of the Upper Ponds. This areal pattern of screening level exceedances is consistent with historical waste disposal activities, as determined during the Phase I file review, and as observed in historical aerial photographs, in which the first seven rows of the Upper Ponds most commonly showed evidence of use. The aerial photograph review also indicated that as the discharge fluid was conveyed northward through the Upper Ponds, it would have been first and most frequently directed into the pond cells closest to the Beta Ditch. In general, the cells closest to the Beta Ditch exhibit the highest chemical concentrations; the chemical concentrations in soil tend to decrease proceeding outward from the Beta Ditch along a given row of ponds.

The physical evidence of "sediment" (e.g., evaporite), which is visible in portions of the Upper and Lower Ponds is also consistent with the assumed pond usage patterns. The surface material within the first seven rows of the Upper Ponds has a finer texture and a different coloration than the underlying native materials. Furthermore, the ponds with the presumed highest frequency of use (e.g., closest to the Beta Ditch) contain the thickest accumulations of this material.

The concentrations of COPCs in soil were compared to EPA Region IX Preliminary Remediation Goals (PRGs), to determine if concentrations of COPCs in Site soils warranted further attention in regard to human health. These PRGs are generic values developed as screening tools that are intended for use prior to conducting a health risk assessment using site-specific input parameters. A Site-specific, baseline human health risk assessment was subsequently conducted to quantify the potential risks posed by COPCs in Site soils and develop the Site-specific cleanup goals listed below, which assume unrestricted land uses and a residential receptor. These cleanup goals were used to identify remediation areas, and to estimate approximate volumes of impacted soils.

- Chemical COPC concentrations in Site soils are to have associated cumulative theoretical upper bound excess carcinogenic risk levels no greater than 10^{-6}. For COPCs present at background levels that represent a potential risk greater than 10^{-6} (e.g., arsenic), compound-specific cleanup levels will be established based on appropriate USEPA guidance and NDEP regulations;
- COPC concentrations in Site soils are to have an associated cumulative, target organ specific non-carcinogenic hazard index of 1 or less;
- Lead is not to be present at concentrations above USEPA's recommended screening level of 400 mg/kg for residential land use;
- Asbestos is not to be present at concentrations greater than 1 percent; and
- Radionuclide activities in Site soils are to have an associated risk no greater than the USEPA's acceptable level of 3×10^{-4} or the risk associated with background conditions. If a local background radionuclide risk level is used, it will be developed in accordance with USEPA guidance.

Using the risk assessment results in combination with health risk-based cleanup goals, areas requiring soil remediation were identified. Evaluation of COPC characteristics (e.g., occurrence and mobility in the subsurface) and Site conditions demonstrate that soil remediation is not required to provide protection to groundwater quality, under current conditions or in the future. Therefore, soil remediation is required for the protection of human health based on soil-related pathways, and is not required for the protection of groundwater quality or the Las Vegas Wash.

The RAS process also included risk assessments to evaluate whether known groundwater conditions underlying the Site pose a threat to human health via currently complete exposure pathways (i.e., volatilization from groundwater to air) or hypothetical incidental direct contact pathways. The findings of these risk assessments indicate that known groundwater conditions beneath the Site do not pose an unacceptable risk to human health under currently complete exposure pathways or future incidental direct contact pathways. The drinking water pathway was not included in the risk assessment because it is not a potential exposure pathway.

Remedial technologies were subsequently identified to achieve the remedial action objectives and Site-specific soil cleanup goals. Those remedial technologies that best addressed the soil conditions and mitigation of future exposures were combined to form remedial alternatives. The remedial alternatives developed for further consideration are as follows:

Alternative 1 - No action

Alternative 2 - Institutional controls / limited action

Alternative 3 - On-Site capping of soils

Alternative 4 - Excavation and disposal of soils at an on-site landfill (located within the Site [4A] or at the BMI Complex [4B])

Alternative 5 - Excavation and disposal of soils at an off-site landfill

These alternatives were evaluated to assess the relative performance of each alternative with respect to the following criteria: 1) Overall Protection of Human Health; 2) Effectiveness and Permanence; 3) Implementability; 4) Cost; and 5) NDEP and Community Acceptance.

Based on the evaluation of alternatives, Alternative 4B is presented as the preferred remedial alternative to eliminate the potential health risks posed by the presence of chemical constituents in Site soils. This alternative consists of the excavation and removal of impacted soils containing chemical concentrations in excess of the cleanup goals. The excavated soils will then be transported to, and placed in, a landfill to be constructed on BEC property. The landfill will be constructed to be protective of human health and the environment, and will be designed with sufficient capacity to serve as the disposal site for all additional soils and sediments derived from remediation activities associated with the closure of the TIMET Active Ponds (see discussion in Section 9.2). Based on the site characterization, limited remediation is required in the immediate vicinity of the TIMET irrigation wheel, operated 1985 through 1991 to dispose of magnesium chloride (a waste TIMET now recycles for sale as a commonly-used construction dust suppressant). The need to remove or amend the soils saturated with magnesium chloride is currently under evaluation. These soils will not be disposed in the proposed landfill, unless otherwise deemed contaminated under the criterion established for the site clean-up.

1.0 INTRODUCTION

On behalf of Basic Remediation Company (BRC), Environmental Resources Management (ERM) has prepared this Remedial Alternatives Study (RAS) report to present the analysis of alternatives for soil remediation in portions of the Basic Management, Inc., (BMI) Common Areas in Clark County, Nevada. This RAS report has been prepared in accordance with the 1996 Consent Agreement between the Henderson Industrial Site Steering Committee (HISSC) and the Nevada Division of Environmental Protection (NDEP) (dated 23 February 1996; hereinafter "1996 BMI Common Areas Consent Agreement") to develop an appropriate remedy for the subject site. Pursuant to a Liability Transfer and Assumption Agreement (December 1999), BRC has assumed the HISSC's Consent Agreement responsibilities regarding Common Areas soils.

This section describes the subject site, presents the project background and history, and summarizes the scope and purpose of the RAS process. The section concludes with a description of the scope and organization of the RAS report.

1.1 SITE LOCATION AND DESCRIPTION

The subject site is in close proximity to the BMI Industrial Complex, in Clark County, Nevada, approximately 13 miles south of Las Vegas. The Complex consists of several operational plants along Lake Mead Drive on the west side of Boulder Highway. Historically, the Industrial Complex operations were supported outside the immediate area of the operating plants. Most of these "Common Areas" (so called because their use was common to several operating companies) are associated with historical conveyance and/or disposal of operations effluent and cooling water by companies operating at the BMI Complex. The physical character, design, and operational history of these features are summarized in Section 3 of this RAS report. Figure 1-1 presents an aerial photograph of the BMI Complex, Common Areas, and surrounding area.

This RAS focuses on the soils within portions of the BMI Common Areas, which are restricted to the Upper Ponds, Lower Ponds, Alpha Ditch, and

Beta Ditch. For the purpose of this RAS, this area will be referred to hereinafter as "the Site". Figure 1-2 presents the boundaries of the Site.

It should be noted that a portion of the Upper Ponds that was also formerly used for waste effluent disposal is not included in the BMI Common Areas, as defined in the 1996 Consent Agreement. This area, which is denoted in Figure 1-2, will hereinafter be referred to as the "TIMET Active Ponds" because it is presently the location of lined ponds that are actively operated by Titanium Metals Corporation (TIMET) in accordance with applicable regulatory permits. This area is the subject of a separate Consent Agreement between TIMET and the NDEP (June 1996). These ponds are scheduled to cease operation and begin closure in 2002, and are included in this RAS for the purpose of preliminary sizing of the disposal area identified in the preferred remedial alternative.

Phase II characterization is underway to assess the remedial needs for the TIMET Active Ponds. The results of characterization performed to date are presented in Environmental Conditions Investigation Addendum (Tetra Tech EM, September 1999). Once characterization of the soils in the area has been completed and the Ponds have been closed, any soils identified as requiring remediation in the TIMET Active Ponds area will be remediated as described for Site soils in this RAS.

Available data have been reviewed and a risk assessment conducted to determine whether there are any downgradient or other impacts from the TIMET Active Ponds to the Site. The only potential pathway for impact was determined to be groundwater, which appears to contain chromium and radionuclides, both chemicals of potential concern (COPCs). The risk assessment results for groundwater impacts to receptors at the Site, which are presented in *Baseline Risk Assessment for the Upper and Lower Ponds Areas, BMI Common Areas, Henderson, Nevada* (NewFields, February 2000) (hereinafter "the Baseline Risk Assessment"), indicate that under known groundwater conditions and the risk characteristics of the COPCs, there are no adverse impacts to the Site, now or under future land uses.

The ownership and leasing history of the Site and the history of operations for the federal and state agencies and private industries located at the BMI Complex are summarized in *Phase I Environmental Conditions Assessment for the Basic Management, Inc., Industrial Complex - Clark County, Nevada* (Geraghty & Miller, April 1993; hereinafter, the "Phase I ECA Report"). Historical wastewater conveyance and disposal activities at the Site have been discontinued since December 1976 and the Site is vacant. The property owner is considering development of the Site, and future changes in land use are likely. Under the owner's current, potential development plan (see Figure 1-4), the Site may be used for a variety of purposes, including residential housing, parks, commercial development, light industrial development, golf courses, and streets.

The development plan has not been finalized or submitted for final approval to any agency, pending the conclusion of the RAS process and receipt of both community and agency comments on the RAS. The development plan is subject to change, and is presented in this RAS as an illustrative example of a feasible, multi-use development plan for the Site under current market conditions. As depicted in Figure 1-5, current land uses in the vicinity of the Site are mixed. Within the City of Henderson limits, the Site is zoned urban reserve. The portions of the Site outside city limits are zoned rural, open land and rural estate. The areas surrounding the Site are generally undeveloped, with some residential, municipal, industrial, light industrial, and commercial uses. Zoning in the immediate area is predominantly residential.

1.2 PROJECT HISTORY

HISSC and NDEP entered into a Consent Agreement dated 25 April 1991 (hereinafter "1991 Consent Agreement") that addressed a multi-phase approach to the assessment and if necessary, remediation, of environmental conditions at the Common Areas. The following three phases were identified in the Consent Agreement:

- Phase I - development of Phase I Environmental Conditions Assessment (ECA) reports for each "Individual Company Site" and the Common Areas;
- Phase II - if determined necessary by the NDEP, performance of an Environmental Conditions Investigation (ECI) to fill any data gaps identified in Phase I, and identification of appropriate remedial measures to address conditions identified in Phases I and II; and
- Phase III - if determined necessary by the NDEP, implementation of remedial measures, as identified in Phase II.

1.2.1 *Phase I Investigation*

Phase I was completed and the results were presented in the Phase I ECA Report. Following a review of the Phase I ECA Report, the NDEP identified the need for a Phase II ECI for portions of the Common Areas. In a Letter of Understanding (LOU) dated 15 August 1994, NDEP identified several study items that required additional study and investigation during this second phase. The second phase of investigation of these study items is summarized in Section 1.2.2.

Certain areas of the Common Areas were also identified that did not appear to have been impacted by historical operations, or had only "*de minimis*" impacts. Therefore, subsequent to the Phase I ECA Report, BMI initiated proceedings to have these unimpacted areas formally excluded from any further ECAs or other work under the 1991 Consent Agreement. Prior to issuing an NFA determination, NDEP required that BMI conduct an environmental assessment of these "Exclusion Areas" to confirm that conditions did not pose an unacceptable risk to human health or the environment. BMI developed an environmental screening program, which included aerial photograph review, records review, and soil sampling. The results of this program were provided in a report entitled *Environmental Characterization Report – BMI Exclusion Areas 3, 4A, 4B, 5/6 – Henderson, Nevada* (ERM, April 1997; hereinafter, "Exclusion Areas ECR").

1.2.2 *Phase II Investigation*

HISSC and the NDEP entered into the subsequent 1996 Consent Agreement that addressed this second phase of work at the Common Areas. The 1996 Consent Agreement incorporated by reference the project workplan (*Project Workplan - BMI Common Areas - Environmental Conditions Investigation - Henderson, Nevada* (ERM-West, February 1996); hereinafter, "Project Workplan") describing proposed ECI (Phase II) activities to characterize the LOU study items. This Project Workplan was approved by the NDEP in February 1996.

Phase II was completed and the results were presented in the *Draft Environmental Conditions Investigation Report - BMI Common Areas - Henderson, Nevada* (ERM-West, August 1996; hereinafter "ECIR"). NDEP provided initial comments on the ECIR in a letter dated 27 November 1996, to which ERM responded in a letter report dated 20 January 1997. Following comment resolution, the NDEP, in a letter dated 10 March 1997, accepted the soil characterization presented in the ECIR as complete.

The ECIR reported that pesticides (alpha-BHC, 4,4-DDD, 4,4-DDE, and 4,4-DDT), PCB 1260, and metals (arsenic and barium) are present in certain shallow soils in the Upper Ponds, Lower Ponds, Beta Ditch, and Alpha Ditch at concentrations higher than NDEP screening levels.[i] Radionuclides and asbestos were detected in several areas also containing elevated levels of other compounds of concern.

Based on the ECI results, the NDEP requested that HISSC conduct a RAS for the Site. To facilitate RAS completion, ERM, on behalf of the HISSC, submitted a RAS Workplan to the NDEP (15 August 1997). Following comment resolution, which primarily addressed inclusion of an evaluation of soil impacts to groundwater, NDEP approved the RAS Workplan in a letter dated 22 December 1998. As a condition of that approval, the NDEP required that the RAS include a "complete physical, chemical, radiological, and hydraulic characterization of the pond area."

This RAS report documents the procedures employed and results derived from the RAS process described in the following subsection.

1.3 REMEDIAL ALTERNATIVE STUDY PROCESS

The RAS characterizes the nature and extent of potential risks posed by: (1) chemical occurrence in Site soils, and (2) chemical concentrations in groundwater caused by Site soils, and evaluates potential remedial options, as necessary, to address these risks. The objective of the RAS is to gather sufficient information to support an informed risk management decision regarding the most appropriate remedy for the Site.

In accordance with the approved RAS Workplan, this RAS report includes the following components:

- A summary of the previous investigations;
- An identification of applicable regulatory requirements;

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[i] At the time the ECIR was prepared, the concentrations of compounds detected in site soils were compared to NDEP soil screening levels to determine compounds and areas of concern. These NDEP screening levels have since been superseded by NAC 445A.2272. The results of a subsequent screening level comparison are summarized in Section 4.2.2.3.

- A documentation of risk assessment methods and results;
- The development of cleanup objectives, including an explanation of the methods used to derive the objectives (i.e., review of applicable and relevant regulations, risk assessment methods/results, and future land use considerations);
- A preliminary identification of areas requiring remediation;
- A discussion of the remedial technologies and alternatives that were considered in the RAS, including development and comparison methods;
- An evaluation of the performance of each of the remedial alternatives with respect to defined evaluation criteria; and
- An identification of a recommended remedial alternative for the Site.

1.4 *DOCUMENT ORGANIZATION*

After this introductory section, this RAS report is organized into nine sections, as follows:

- *Section 2* - Summary of current Site conditions;
- *Sections 3 and 4* - Discussion of the Phase I and Phase II investigation scope and results, respectively;
- *Section 5* - Development of cleanup goals;
- *Section 6* – Description of interim remedial measures (IRMs) conducted at the Site to support expedited closure in certain areas;
- *Section 7* - Identification of appropriate remedial alternatives;
- *Section 8* - Screening of the candidate remedial alternatives;
- *Section 9* - Description of the preferred remedial alternative; and
- *Section 10* - References.

The main text is followed by tables, figures, and appendices.

2.0 *SITE CONDITIONS*

This section summarizes physical characteristics of the Site and vicinity, including significant Site features, topography, climate, subsurface stratigraphy, the character of shallow water-bearing zones, and chemical occurrence trends in soil and groundwater. This presentation is based on the results of previous Site-specific investigations and regional knowledge.

2.1 *SITE FEATURES*

The main Site features include:

- The natural and man-made "ditches" used during the period of active operation to convey operations effluent from the Industrial Complex to the evaporation ponds (Alpha Ditch, Beta Ditch, Western Ditch and Northwestern Ditch, see Figure 1-3); and
- The evaporation ponds (Upper and Lower Ponds, see Figure 1-3).

Due to limited historical records, it is not possible to ascertain precisely the volumes of effluent (or their chemical content) discharged to these features by each of the companies operating at the Industrial Complex. As summarized in the Phase I ECA report (Geraghty & Miller, 1993), effluent was conveyed to the Upper Ponds via the Beta Ditch, and the Lower Ponds were fed by the Western Ditch and Northwestern Ditch. The ditches vary in profile across the Site. Portions of the ditches are relatively shallow (typically less than 3 feet deep) with wide openings (at least 6 feet). In other areas, the ditches are more deeply incised (approximately 6 feet deep, in areas up to 15 feet deep); these portions are often heavily vegetated.

In general, the Upper and Lower Pond cells are distinct and well defined by berms (typically 4 to 6 feet tall). Most of the berms show little evidence of erosion. Within the Upper Ponds, the cells are relatively uniform in size and orientation, with a main berm defining the northern boundary, and smaller perpendicular berms defining the eastern and western sides of the cell. Effluent was directed from the Beta Ditch into a given row of Upper Pond cells, where it flowed parallel to the northern berm for that row and downgradient (in an easterly direction east of the Beta Ditch and westward, west of the Beta Ditch). Effluent would flow into an adjacent cell when the effluent reached a level such that it could flow around the side berms. Thus, incoming effluent was introduced most frequently to the ponds closest to the Beta Ditch. Based on an aerial photograph review, effluent was routinely directed to the first seven rows of ponds; the other ponds showed little evidence of use. The cells within the Lower Ponds are irregularly shaped; effluent flow patterns are less clear for these ponds, many of which showed routine use.

Surface soils across most of the Site are compacted, poorly sorted, non-plastic, light brown to red silty sand with varying amounts of gravel and cobbles. Within certain cells, this native soil has been covered with fine sediment that grades in color from greenish-gray to light yellowish-brown; in places, the ground surface is nearly white. As visible in a recent aerial photograph (Figure 1-1), this non-native material is primarily restricted to the first seven rows of Upper Ponds, east of the Beta Ditch, and to two Lower Ponds (PLE-09 and PLD-10).

Noteworthy features outside the Site boundaries, but cited elsewhere in this report include the Las Vegas Wash and the Evaporation/Percolation Ponds which are operated by the City of Henderson in association with their Water Reclamation Facility (WRF), known as the Birding Preserve. In addition, the northern and southern Rapid Infiltration Basins (RIBs) are used seasonally when excess discharge capacity is needed by the WRF.

In keeping with the desert climate discussed in Section 2.3, vegetation is sparse and consists predominantly of small shrubs. During the ECI field activities, varying amounts of trash (i.e., car chassis, toilet seats, wood debris, broken furniture, box springs, and paper debris) were observed throughout the Upper Ponds.

2.2 *TOPOGRAPHY*

The Site is in the Las Vegas Valley, which is bounded by the following mountain ranges:

- Sheep Mountains (to the north);
- McCullough and River Ranges (to the south);
- Frenchman and Sunrise Mountains (to the east); and

- Spring Mountains (to the west).

As seen in the topographic map provided as Figure 2-1, the ground surface at the Site slopes gradually to the north-northeast, toward the Las Vegas Wash at a rate of approximately 0.020 foot/foot. The topographic gradient gradually decreases (i.e., flattens) to the north across the Site. Ground surface elevations across the Site range from approximately 1,800 feet above mean sea level (msl) on the southern boundary to approximately 1,560 feet msl at the northern edge near the Las Vegas Wash.

2.3 *CLIMATE*

The Site is located in a natural desert area, where evapotranspiration rates are very high, influenced by high temperatures, high winds, and low humidity. As presented in the ECI report (ERM, 1996), pan evaporation data measured from 1985 through 1988 were as high as 17 inches/month, and the months with the highest evaporation (May through September) coincide with those months with the highest intensity rainfall. According to the Southern Nevada Water Authority's (SNWA) 1996 document entitled *Extent and Potential Use of the Shallow Aquifer and Wash Flow in Las Vegas Valley, Nevada*, annual potential evapotranspiration exceeds 86 inches.

Rainfall is typically light; the average annual rainfall is 4.17 inches (SNWA, 1996). In the winter, low-intensity rains fall over broad areas; in the spring and fall, thunderstorms provide short periods of high intensity rainfall, which causes high runoff conditions (Weston, 1993).

The low annual precipitation rate and the high rate of evapotranspiration indicate that rainfall does not serve as a groundwater recharge source in this area. Surface water tends to evaporate (or run off, as during high intensity rains) instead of migrating vertically through the soil column.

2.4 *SUBSURFACE STRATIGRAPHY*

The subsurface geology in the Las Vegas Valley consists of unconsolidated Quaternary alluvial fan deposits that are primarily silts and clays and poorly sorted sands and gravels with low transmissivities (SNWA, 1996). These deposits are underlain by the Tertiary Muddy Creek Formation, which consists of clays, silts, and sands. Section 4.2 summarizes the stratigraphic data specific to the Site.

2.5 *HYDROGEOLOGY*

The aquifer system within the Las Vegas Valley is complex, and consists of coarse-grained sands and gravels interbedded with finer-grained fill deposits (Geraghty & Miller, 1993). Based on investigations conducted in the Site vicinity, these regional conditions appear to be representative of subsurface conditions at the Site as well. Four regional aquifers have been identified in the Las Vegas Valley:

- A shallow, unconfined, alluvial aquifer;
- The shallow Muddy Creek artesian aquifer (between 200 and 450 feet below ground surface [bgs]);
- The middle Muddy Creek artesian aquifer (~ [illegible]), and
- The lower Muddy Creek artesian aquifer (~700 feet bgs) (Kerr-McGee, 1985).

The hydrogeologic characteristics of these aquifers are summarized below.

2.5.1 *Surficial Alluvium*

This aquifer is within the Quaternary alluvial fan and valley fill deposits overlying the Muddy Creek Formation. The groundwater is primarily unconfined, but the presence of caliche or other low permeability lenses may locally cause artesian conditions (Geraghty & Miller, 1993). Regionally, this aquifer is believed to have been fed by upward leakage from the underlying, artesian Muddy Creek aquifer, and to have been recharged by increased human activity in the Valley (SNWA, 1996). Over time, pumping from within the Muddy Creek aquifer increased with the growing Las Vegas population, and the upward leakage into the alluvial aquifer has decreased. A 280-foot decrease in hydraulic head has been observed since 1907; however, an upward vertical gradient is still present regionally in the eastern portion of the aquifer (SNWA, 1996) (e.g., beneath the Site). In the Site vicinity, recharge of the shallow alluvial aquifer has been interpreted to result from infiltration due to irrigation and other artificial sources, such as the City of Henderson's southern Rapid Infiltration Basins (RIBs) located just south of the Upper Ponds (Figure 1-3).

Regionally, groundwater in the shallow alluvium is of low quality, and is high in total dissolved solids (TDS), as well as chloride and sulfate. The elevated TDS concentrations are attributed to (1) irrigation, which leaches fertilizers and soluble salts from shallow soils, and (2) evapotranspiration, which concentrates salts in the residual water (SNWA, 1996).

2.5.2 *Muddy Creek Aquifer*

The shallow Muddy Creek aquifer is typically present from 200 to 450 feet bgs, and is separated from the underlying middle aquifer by a persistent blue clay layer (Geraghty and Miller, 1980).

The middle aquifer is highly productive and is historically the primary source of groundwater in the valley. The lower aquifer is present in portions of the valley at depths greater than 700 feet.

Recharge of the Muddy Creek aquifers is believed to occur from the infiltration of precipitation and runoff from the surrounding mountains into the alluvium along the valley margins (Kerr-McGee, 1985).

2.6 *CHEMICAL OCCURRENCE*

The following constituents have been detected in soil and/or groundwater samples collected during the Phase II investigations conducted at the Site:

- Volatile organic compounds (VOCs);
- Semivolatile organic compounds (SVOCs);
- Pesticides;
- Polychlorinated biphenyls (PCBs) (soil only);
- Metals;
- Perchlorate;
- Radionuclides; and
- Asbestos (soil only).

The ranges of detections are presented in Section 4.2 (soil) and 4.3 (groundwater).

To determine the significance of chemical detections in soil, with respect to the potential threat to human health, BRC compared the chemical detections to the United States Environmental Protection Agency (USEPA) Region IX Preliminary Remediation Goals (PRGs) for residential uses. For areas in which PRGs were exceeded, a health risk assessment was conducted to evaluate the potential risk posed to human health under current and/or future anticipated land uses of the Site (NewFields, 2000). An evaluation, including modeling, was also performed to assess the potential impacts of COPCs in Site soils on groundwater and surface water quality (NewFields, 2000). To determine the potential threat to human health due to exposures to groundwater under current and/or reasonable future exposure scenarios (volatilization and incidental direct contact), a human health risk assessment was performed (NewFields, 2000).

The results of these evaluations are summarized in Section 5. The RAS will specifically address those areas in which potentially unacceptable risk levels have been identified through risk assessment (i.e., soils in the first seven rows of the Upper Ponds, selected Lower Ponds, and portions of the Beta Ditch).

3.0 *SUMMARY OF PHASE I INVESTIGATION*

This section summarizes the scope and results of the first phase of investigation of the BMI Common Areas. A detailed discussion of the Phase I investigation, including the operational history of the Industrial Complex and waste disposal practices is provided in the Phase I ECA Report (Geraghty & Miller, April 1993).

3.1 *SCOPE OF INVESTIGATION*

As noted in Section 1.2, this phase of work was conducted in fulfillment of the 1991 Consent Agreement between the HISSC and NDEP. The scope consisted of performing a thorough review of documents from public agencies and the individual companies currently or previously operating at the BMI Complex. The specific focus of this file review was on waste disposal activities and areas of waste disposal associated with Complex operations.

3.2 *OPERATIONAL HISTORY OF THE BMI COMPLEX*

The BMI Industrial Complex was constructed under the direction of the U.S. Government in the early 1940s. The plant was operated from 1942 to 1945 by Basic Magnesium (Basic) for the production of magnesium to support the war effort. In the magnesium production process, calcined magnesite, coal, and peat were heated in electric furnaces in an atmosphere of chlorine gas. Anhydrous magnesium chloride was formed in the process. From this, after being transferred to electrolytic cells, molten magnesium was separated from chlorine, then collected, refined, and cast into bars or other products.

After determining that magnesium production was no longer required, the U.S. Government leased portions of the property to several chemical producers, including Stauffer Chemical Company (Stauffer) and Western Electrochemical Company (WECCO – predecessor to Kerr-McGee Chemical Corporation). In 1948, the property was sold to the State of Nevada through the Colorado River Commission (CRC), who owned and operated the plant until 1952. Additional companies that operated on the property during this period included the United States Lime Corporation

(U.S. Lime) and TIMET, as well as a number of other private companies. Site operations during this period included the manufacture of chlorine and caustic soda (Stauffer), perchlorate production (WECCO), manufacture of organic chemicals (Montrose), production of ferro manganese alloys (Combined Metals Reduction Company) and titanium metal ingots (TIMET), and lime manufacture (U.S. Lime).

In December 1951, the five principal companies operating at the Complex (WECCO, Stauffer, U.S. Lime, TIMET, and Combined Metals Reduction Company) formed BMI. Beginning in June 1952, in separate conveyances from the CRC, each of the five companies purchased the facility it was operating. BMI managed the properties, utilities and facilities shared by all the users, including common disposal areas (e.g., the former BMI landfill and the Upper and Lower Ponds). Complex operations continued as noted above, with the addition of the manufacture of pesticides and organic chemical products (Stauffer), production of sodium hypochlorite (Jones Chemicals, Inc.), and production of commercial and domestic water heaters (State Industries, Inc.).

Subsequent to the Phase I ECA, in response to an USEPA inquiry, Kerr-McGee initiated research regarding the production and use of perchlorate-containing chemicals at the Complex. The results of this research, which are presented in a 11 January 1999 letter to the U.S. Department of the Navy, indicate that from November 1953 until March 1962, the U.S. Navy owned nearly 300 acres at the Complex, on which it constructed a plant for production of perchlorate products. The plant was operated under Navy direction by WECCO and its successor American Potash.

3.3 *EFFLUENT CONVEYANCE AND DISPOSAL HISTORY*

As described in the Phase I ECA report, Complex operations (U.S. Government and private industry) have generated a variety of waste by-products, most of which were disposed of in the former BMI Landfill or the Upper and Lower Ponds. Waste acid and caustic liquors were disposed of during Basic operations within the trade effluent disposal ponds from 1942 to 1945. These ponds did not have sufficient capacity to contain the volume of waste produced by Complex operations. Therefore, the Upper and Lower Ponds were constructed to fill this need. From the early-1940s until 1976, process effluent was conveyed from the BMI Complex to the Upper and Lower Ponds via several conveyance ditches: the Alpha Ditch, Beta Ditch, Northwestern Ditch, and Western Ditch, the locations of which are shown on Figure 1-3. The Phase I ECA report documents the known history of use of these features by each of the companies operating at the Complex.

After terminating the use of the trade effluent disposal ponds, the two westernmost ponds were converted to solid waste disposal areas. Solid waste disposal within the landfill continued until February 1980, when the landfill was closed and capped. The Phase I ECA report documents known volumes and types of wastes disposed of within the landfill.

4.0 SUMMARY OF PHASE II INVESTIGATION

This section summarizes the scope and results of the field investigations that have been conducted during the second phase of investigation for the Site (1996 through 1999).

4.1 SCOPE OF INVESTIGATION

ERM conducted the field component of the ECI in accordance with the ECI Project Workplan (ERM-West, February 1996) to characterize the nature and extent of chemicals in Site soils. The ECI was completed and the results were presented in the ECIR (ERM-West, August 1996). These activities represent the main phase of the field investigative activities conducted within the Site; however, several smaller field investigations were subsequently conducted to augment the 1996 body of data (soil and groundwater). These supplemental soil sampling events are as follows:

- In a limited area, noteworthy chemical concentrations were detected in the deeper samples collected during the ECI (4 to 5 feet bgs). In November 1998, on behalf of the HISSC, ERM collected soil samples from two deeper intervals (9 to 10 feet bgs and 14 to 15 feet bgs) in Ponds PUB-09, PUB-10, and PUE-07.
- In November 1998, on behalf of HISSC, to provide information regarding the mobility of compounds of concern, two surface soil locations (PUB-09 and BDB-12) were analyzed for pesticides and radionuclides using the TCLP sample preparation method.
- Additional soil sampling conducted for HISSC in December 1998 to better delineate the extent of soil requiring remediation within the Mohawk Area (locations PUA-01, PUA-03, and PUD-02). Figure 1-3 shows the location of the Mohawk Area.
- Additional soil sampling conducted for BRC in May 1999 to further characterize the nature and extent of chemical occurrence in shallow soils within the Mohawk Area (locations PUB-01, PUB-02, PUB-03, PUC-02, PUD-01, PUE-01, and PUF-01);

- A supplemental sampling event conducted for BRC in May 1999 to evaluate the occurrence of antimony, manganese and thallium in shallow soils in the Sunset North (See Figure 1-3 for the location of the Sunset North Area) and Mohawk Areas (Note: These three constituents were not included in the 1996 sampling and analysis programs).
- Additional soil sampling conducted on behalf of BRC in June 1999 for leachate testing in the Sunset North and Mohawk Areas (locations PLE-09, PUA-01, PUA-03, PUB-03, PUC-02, and PUD-02).
- A supplemental sampling event conducted on behalf of BRC in July 1999 to evaluate the occurrence of perchlorate in shallow soils in the Sunset North Area, and to evaluate the lateral extent of other chemical constituents in soils in the vicinity of former pond cell PLE-09 (most notably, lead).
- Additional at-depth sampling conducted in October 1999, on behalf of BRC, at depths up to 50 feet bgs in areas identified in the ECI to contain elevated chemical detections in the 5-foot depth interval, which did not exhibit vertical closure in the previous at-depth sampling (maximum depth 15 feet bgs)(locations PUB-10, PUC-07, and PUE-07).
- Additional surface soil samples collected in October 1999 for BRC to assess the extent of elevated arsenic occurrence in the Upper Ponds, collect data in the "fringe" areas adjacent to those cells already identified as requiring remediation, and collect data from representative soil berms within the Upper Ponds.

Figure 4-4 presents the locations at which soil samples were collected during all Phase II sampling events for the Site.

In addition, groundwater quality data were collected during the following monitoring programs implemented by the HISSC:

- The RIB monitoring program (9 wells, covering the period from November 1992 through November 1997);
- The Upper Ponds monitoring program (14 wells, 10 of which were dry, conducted in October and December 1998);
- The Landfill Monitoring Program (11 wells, conducted for four quarters from April 1998 through March 1999); and

- A single monitoring event conducted in the vicinity of the Pittman Lateral in December 1998 (data from two upgradient wells presumed to reflect ambient conditions [BRW and H-11] included for comparison).

4.2 *SOIL CONDITIONS IN BMI PONDS AND DITCHES*

This section summarizes the results of the Phase II investigations regarding Site stratigraphy and chemical occurrence patterns in soils.

4.2.1 Subsurface Stratigraphy

The geology in the Site vicinity consists of unconsolidated Quaternary alluvial fan deposits, which are underlain by the Tertiary Muddy Creek Formation. Figure 4-3 provides a generalized stratigraphic column representing the subsurface stratigraphy across the Site. This stratigraphic characterization, which is discussed below, is based on review of boring logs that reported lithologic data to depths up to 305 feet bgs. Information summarized below regarding deeper lithologic and hydraulic units is based on regional knowledge derived from other sources.

4.2.1.1 Alluvial Fan Deposits

The alluvial fan deposits are primarily composed of poorly sorted sand, gravel, and cobble-sized detritus with lesser amounts of silt and clay-sized detritus derived from the adjacent mountain ranges. These sediments are locally cemented by caliche, especially near the contact with the underlying Muddy Creek Formation. Using stratigraphic information collected during the installation of the borings and monitoring wells across the Site, an isopach map presenting the thickness of the alluvial deposits has been generated and is presented as Figure 4-5. In general, the thickness of the alluvium decreases across the Site toward the north. Measured thicknesses range from 76 feet (boring location DM-9B; see Figure 4-5) to 20 feet (well location PG-215; see Figure 4-5). The unit thickness also varies in association with the presence of north-south trending paleo-channels carved into the surface of the underlying Muddy Creek Formation. The presence of these channels corresponds to those portions of the Site with the thickest amounts of alluvium (Figure 4-5) and topographically low areas of the Muddy Creek surface (Figure 4-6).

4.2.1.2 *Muddy Creek Formation*

The upper portion of the Muddy Creek Formation is characterized by clays, silts, and fine sands, with occasional, discontinuous stringers of sand and gravel. The thickness of the Muddy Creek Formation in the Site vicinity is unknown; a deep salt exploration well, drilled by Stauffer at the Complex, contained 2,158 feet of Muddy Creek sediments (Desert Research Institute, 1990). Figure 4-6, which presents the subsurface topography of the top of the Muddy Creek, depicts the inferred locations (blue linear features with arrows) of the numerous paleo-channels that eroded into the surface of the Muddy Creek Formation during subsequent depositional events.

4.2.1.3 *Stratigraphic Cross Sections*

The stratigraphic relationships summarized above are presented in graphical format in cross sections generated as depicted in Figure 4-6 in downgradient (A-A′ and B-B′, Figures 4-7 and 4-8, respectively) and cross-gradient directions (C-C′ and D-D′, Figures 4-9 and 4-10, respectively).

4.2.2 *Chemical Occurrence in Site Soils*

This subsection presents the investigation results used to define the nature and extent of chemical occurrence in Site soils, lists the criteria used to ascertain which detections warranted further attention in the RAS process, and describes the chemical trends in Site soils.

4.2.2.1 *Soil Investigations*

The results of the Phase II soil sampling events are presented in Tables 4-1 through –10.

4.2.2.2 *Screening Criteria*

While the ECI report revealed varying concentrations of COPCs at different locations, some of these occurrences may have been from activities or conditions other than historic activities and waste disposal practices at the Site. Such activities and practices could include, for example, naturally occurring background concentrations and operation of nearby facilities (such as sewage treatment facilities) or residences in the vicinity of the Site. To identify noteworthy detections, the COPC detections in Site soils were initially compared to the following screening criteria:

- USEPA Region IX residential PRGs for VOCs, SVOCs, pesticides, PCBs and metals;
- Background concentrations for arsenic and background activities for radionuclides;
- The Toxic Substances Control Act (TSCA) "walk-away" clean-up level for PCBs in soil in residential areas [40 Code of Federal Regulations (CFR) Part 761.61 (a) (4) (i) (A)]; and
- The National Emission Standard for Asbestos [part of the National Emissions Standards for Hazardous Air Pollutants (NESHAPs) (40 CFR Part 61, Subpart M)].

4.2.2.3 Preliminary Screening of Data

As discussed below, the shallow soils in many areas of the Site contain relatively low chemical concentrations that do not exceed screening levels and, as such, do not warrant further attention. Of the compounds analyzed, some metals (antimony, arsenic, barium, chromium, lead, manganese, and vanadium), pesticides (4,4-DDD, 4,4-DDE, 4,4-DDT, alpha-BHC, and beta-BHC), and asbestos were detected at concentrations in excess of screening levels. The results of the screening level evaluations are summarized below for each class of compounds.

Metals

As presented in Table 4-1, antimony, arsenic, barium, chromium, lead, manganese, and vanadium were detected in Site soils at concentrations greater than PRGs or background concentrations (arsenic). These detections were primarily associated with samples collected from the southernmost seven rows of the Upper Ponds and in the northeast/southwest trending transect of the Beta Ditch south of the Upper Ponds. Most of the detections greater than PRGs or background concentrations were associated with the 0- to 1-foot depth interval. Elevated metal detections were significantly less common in the 4 to 5 feet bgs samples. These deeper detections were associated with four Upper Pond cells near the Beta Ditch (PUB-09 and -10, PUC-07, and PUE-07) and three locations within the Beta Ditch (BDB-09, -12, and -13). At-depth samples collected from three of these locations confirmed that metal concentrations in general continue to decrease with depth; with the exception of one manganese detection, metal detections did not exceed their respective PRGs (or background, in the case of arsenic) at depths greater than 15 feet bgs.

Pesticides

As presented in Table 4-2, alpha-BHC, beta-BHC, 4,4-DDD, 4,4-DDE, and 4,4-DDT were detected at concentrations greater than PRGs; these detections were primarily associated with samples collected from the southernmost seven rows of the Upper Ponds and in the Beta Ditch. Most of the detections greater than PRGs were associated with the 0- to 1-foot depth interval. As with metals, pesticide detections higher than PRGs were significantly less common in the samples from 4 to 5 feet bgs. These deeper detections were limited in areal extent; they were associated with four Upper Pond cells near the Beta Ditch (PUB-09 and -10, PUC-07, and PUE-07) and two locations within the Beta Ditch (BDB-09 and BDB-13). Deeper samples collected at depths up to 50 feet bgs from these locations confirmed that pesticide concentrations continue to decrease with depth; pesticides were detected at levels below the PRGs in all of the samples collected from depths greater than 15 feet.

Polychlorinated Biphenyls

PCBs were not generally detected in Site soils (Table 4-2). Only one detection (Alpha Ditch location) exceeded the TSCA standard (1 mg/kg).

Asbestos

As shown in Table 4-3, asbestos was primarily reported at concentrations exceeding the NESHAPs standard (1 percent) in samples from 0 to 1 foot bgs collected from the first seven rows of the Upper Ponds, and the portion of the Beta Ditch south of the Upper Ponds (BDB-09 through BDB-12). Asbestos was detected at concentrations exceeding the NESHAPs standard in only five samples collected from the 4-to 5-foot depth interval: four samples from rows PUB, PUC, and PUE of the Upper Ponds, and one sample collected from the Beta Ditch (BDB-09).

Perchlorate

As seen in Table 4-4, perchlorate was detected in soils throughout the Site. All but one of the detections (830 mg/kg at PLJ-02) were lower than the

PRG; this detection was associated with the Sunset North Area, as discussed in Section 6.2.

Radionuclides

Radionuclides were routinely detected in the soil samples (Table 4-5). Radionuclide detections in certain shallow soil samples are higher than the range of background detections established by TIMET. These areas of elevated radionuclide occurrence are also associated with detections of metals, pesticides, and/or asbestos in excess of screening levels.

Volatile Organic Compounds

As presented in Table 4-6, VOCs were detected sporadically within the shallow soils in the Upper Ponds. Many of the detections were common laboratory or sampling contaminants and are not considered representative of actual Site conditions. VOCs not disregarded as laboratory contaminants were detected in fewer than 12 percent of the samples for which they were analyzed. The detections are relatively low compared to detections of other COPCs and, with the exception of one location (BDB-02, just downstream of the facilities, outside the Upper Ponds area), are below human health risk screening criteria (PRGs).

Semivolatile Organic Compounds

As presented in Table 4-7, most SVOCs were sporadically detected, if at all, and only hexachlorobenzene was detected routinely at concentrations greater than PRGs. These detections were restricted to shallow soils in the first seven rows of the Upper Ponds and the Beta Ditch, and did not drive the risk calculations.

Leachate Testing

Leachate testing has been performed on samples collected from the Site, during the various phases of investigation. These results are presented in Tables 4-8 through 4-10. During the ECI, 72 soil samples were analyzed for leachable metals using the Toxicity Characteristic Leaching Procedure (TCLP). TCLP analyses were performed for arsenic, barium, chromium, lead, and mercury. Of these metals, only chromium was detected in leachate (maximum detection of 3.1 milligrams per liter [mg/L], associated with a total measured chromium concentration of 1,710 mg/kg). Subsequent to the ECI, in November 1998, two samples (locations BDB-12 and PUB-09, which were associated with elevated concentrations of these COPCs) were analyzed for leachable concentrations of pesticides and radionuclides. Even though the applicability of this test method to assess radionuclide mobility has not been established, these two samples were also analyzed for leachable concentrations of radionuclides. Uranium isotopes were detected in the leachate; however, the detected concentrations for the other COPCs were negligible.

The suitability of the various available leachate test methodologies is discussed in the *Soil/Groundwater Nexus Evaluation Report - BMI Common Areas - Henderson, Nevada* (ERM, February 2000; hereinafter "Soil/Groundwater Nexus Evaluation Report"). As noted in that report, because the Site soils are neutral to basic and the soils are not acid-generating, use of deionized water for leachate testing (in place of the acetic acid extraction solution employed in the TCLP) was considered an appropriate modification of the standard TCLP testing methodology. With NDEP approval, additional leachate testing was performed in July 1999 using deionized water as an extraction solution with the TCLP method. Two samples collected from the Mohawk Area were analyzed in this way for leachable radionuclide concentrations, and 21 samples from Sunset North and Mohawk Areas were analyzed for leachable perchlorate concentrations. The leachable radionuclide concentrations were comparable to or lower than those detected in the previous leachate analyses for most isotopes. The leachate testing results confirmed the assumption that perchlorate is highly soluble; leachable concentrations were detected in nearly all of the samples analyzed.

Summary of Results

Detections greater than screening levels are primarily associated with samples collected from the 0- to 1-foot depth interval from the first seven rows of the Upper Ponds and the portion of the Beta Ditch south and within the Upper Ponds. As previously noted, the presence of these COPCs may represent ambient conditions at some Site locations. In particular, metals and radionuclides are naturally occurring constituents of soil.

The areal pattern of screening level exceedances is consistent with historical waste disposal activities, as summarized in the Phase I ECA, and as observed in historical aerial photographs, in which the first seven rows of the Upper Ponds most commonly showed evidence of use. The aerial photograph review also indicated that as the discharge fluid was conveyed northward through the Upper Ponds, it would have been first and most frequently directed into the pond cells closest to the Beta Ditch. In general, the cells closest to the Beta Ditch exhibit the highest chemical concentrations; the chemical concentrations in soil tend to decrease proceeding outward from the Beta Ditch along a given row.

The physical evidence of "sediment" (e.g., evaporate), which is visible in portions of the Upper and Lower Ponds (see Figure 1-1) is also consistent with the assumed pond usage patterns. The surface material within the first seven rows of the Upper Ponds has a finer texture and a different coloration than the underlying native materials. Furthermore, the ponds with the presumed highest frequency of use (e.g., closest to the Beta Ditch) contain the thickest accumulations of this material.

Once deposited in the ponds, metals and pesticides, which have low solubilities, would tend not to migrate vertically within the soil column, preferring instead to remain adsorbed to surface soils. Asbestos does not adsorb to sediments, but its fibrous nature tends to inhibit vertical migration through soil pores. These theoretical behaviors are consistent with the observed detections of these COPCs as follows:

- Chemical detections greater than the screening levels are the most prevalent in samples collected from 0 to 1 foot bgs. Also, in the locations where deeper soil samples contain chemical concentrations in excess of screening levels, these concentrations are significantly lower than in the associated 0 to 1 foot bgs sample, and reduce to concentrations less than the screening levels at approximately 15 feet bgs.

- Leachate testing did not detect soluble metals or pesticides at significant concentrations. The TCLP process, which uses an acidic extraction solution, typically provides a conservative projection of the leachability of chemical constituents in a given soil sample. If chemical constituents were being leached from Site soils, rainwater, which has a more neutral pH, would be the most likely extractant solution. Leachate derived under these conditions would typically contain lower chemical concentrations than with an acidic solution. As discussed in Section 2.3, rainfall is not a significant recharge source for groundwater in the Site vicinity. The lack of a significant, ongoing leachate solution and the limited chemical detections in the laboratory leachate testing indicate that the chemical constituents are not likely to desorb from the impacted Site soils under normal conditions and/or to migrate to groundwater in dissolved phase.

4.3 GROUNDWATER CONDITIONS

Groundwater conditions at the Site are described in detail in the Soil/Groundwater Nexus Evaluation Report (ERM, 2000). Groundwater was included to determine the possible impacts of COPC concentrations in soils upon groundwater quality and to evaluate risks from exposure pathways related to groundwater, as these concerns relate to soil remedial alternative selection. As presented in that report, based on the groundwater data and modeling results summarized therein, groundwater beneath the Site (1) is not currently impacted by Site soils; (2) will not be impacted by future land use scenarios; and (3) does not pose a threat to future land uses at the Site. NDEP is addressing potential groundwater impacts from other sources in the vicinity of the Site under separate investigations.

5.0 DEVELOPMENT OF CLEANUP GOALS

As discussed in Sections 4.2 and 4.3, the nature and extent of COPCs in Site soils and groundwater have been evaluated. The concentrations of COPCs in soil were compared to EPA Region IX Preliminary Remediation Goals (PRGs), to determine if concentrations of COPCs in Site soils warranted further attention in regard to potential human health risk. These PRGs are generic values developed as screening tools that are intended for use prior to conducting a health risk assessment using site-specific input parameters. Human health risk assessments (HRAs) were subsequently performed to assess the potential health risks posed by chemicals in Site soils and groundwater under likely exposure scenarios associated with potential future land uses. For areas where potential health risks were determined to exceed acceptable levels, remedial action objectives (RAOs) were developed to address the potential land-use-specific health risks and serve as the performance objectives for Site remediation. For areas where health risks were determined to be within acceptable levels, no RAO was developed.

This section summarizes the results of the HRAs and the RAO development process applied to address Site conditions, followed by a discussion of the specific application of the RAO, including an evaluation of the need for remediation.

5.1 EVALUATION OF RISKS POSED BY CHEMICALS IN SITE SOIL AND GROUNDWATER

The following steps were performed to evaluate the potential risks posed by chemicals in Site soils under current and future conditions and in groundwater under non-drinking water scenarios:

1) Identify and evaluate applicable regulatory requirements;
2) Identify anticipated future uses of the Site and potential exposure scenarios associated with those uses; and
3) Conduct a baseline Health Risk Assessment (HRA) to evaluate the potential health risks posed by Site soils and underlying groundwater under a No Action scenario or anticipated future land uses.

The following subsections discuss how applicable requirements are identified and selected, describe the future land uses identified for the Site, and present a summary of the baseline HRA

5.1.1 *Identification and Selection of Applicable Requirements*

Applicable requirements are those remedial standards, standards of control, or other environmental protection criteria or limitations that are promulgated under federal or state law that specifically address hazardous substances, pollutants, contaminants, remedial actions, locations, or other circumstances at the Site.

In general, applicable requirements are divided into three categories: chemical-specific, action-specific, and location-specific.

- Chemical-specific requirements are numerical standards that indicate the concentrations of certain compounds that are permitted in air, soil, groundwater, surface water, and sediments.
- Action-specific requirements generally set performance, design, or other similar action-specific controls or restrictions on activities related to the management of hazardous substances.
- Location-specific requirements are restrictions placed on activities solely because they are conducted in specific locations (e.g., restrictions imposed on activities conducted in floodplains).

Chemical-specific corrective action requirements have not been promulgated for the majority of the COPCs detected in soils at the Site. However, Nevada's corrective action regulations (Nevada Administrative Code 445A.226 - 445A.22755) identify a number of possible sources of soil "action levels" that, if exceeded, could be the basis for corrective action. Whether corrective action may be required depends upon the NDEP's consideration of a variety of Site conditions identified in the regulations. If the NDEP determines that corrective action is required, a site owner or operator is authorized to conduct a site-specific HRA to determine more appropriate remediation standards or to establish that corrective action is not necessary.

This RAS report addresses asbestos remedial action goals by applying the National Emission Standard for Asbestos, part of NESHAPs (40 CFR Part 61, Subpart M). Subpart M addresses closure requirements for certain inactive asbestos waste disposal sites (40 CFR §61.151). This proposed use of Subpart M of NESHAPs is consistent with the majority of USEPA Records of Decision involving sites where asbestos-contaminated soil is at issue. Under NESHAPs, soil at disposal sites containing more than 1 percent asbestos must be properly closed. The proper closure requirements for such soils vary with site conditions and the proposed future use(s) of the property. Also, dust suppression and/or monitoring measures may be required during any future remediation or construction activities. The remedial alternatives presented in this RAS report are designed to achieve consistency with these NESHAPs closure requirements.

Action-specific requirements are not discussed in this section. For each remedial alternative presented in Section 7, action-specific requirements are identified and evaluated. No location-specific requirements have been identified for the Site.

5.1.2 Land Use Summary

As discussed in Section 1, the Site is vacant; however, the property owner is considering redevelopment, and changes in land use may occur in the future. Under the owner's current, potential development plan (Figure 1-4), the Site may be used for a variety of purposes as part of a master planned development. The possible future uses for the Site include residential housing, parks, schools, commercial development, light industrial development, golf courses, and streets.

As shown on Figure 1-4, the location of the southernmost golf course coincides with the locations where the highest concentrations of COPCs have been detected in soil. The planned future land uses are a primary component of the RAS, and Site remediation will be integrated with development. For this RAS, all areas at the Site are targeted to be remediated assuming they will be developed for residential use. If areas of the Site are remediated assuming land use other than residential, institutional controls will be implemented, as necessary, for these areas.

5.1.3 Health Risk Assessment for Soil

A baseline HRA was conducted for soils at the Site (Newfields, 2000). This assessment consisted of a quantitative human health risk assessment and evaluated a number of potential relevant future land uses for the Site. The risk assessment generally followed the basic procedures outlined in the USEPA's *Risk Assessment Guidance for Superfund: Volume 1-Human*

Health Evaluation Manual (USEPA, 1989). Nevada Administrative Code, Chapter NAC 445A, was also used in the preparation of the baseline HRA. The results of the baseline HRA are included in the Baseline Risk Assessment.

The baseline HRA included four primary steps: (1) data evaluation, (2) exposure assessment, (3) toxicity assessment, and (4) risk characterization. The data evaluation included a *Data Useability Study* (Newfields, February 2000) and used the soil screening criteria presented in Section 4 of this RAS to determine potential areas and COPCs. Following the identification of potential areas and COPCs, the exposure assessment step identified potential receptors under potential relevant land uses. The exposure assessment step also identified ways in which these receptors could come into contact with chemicals at a site and quantified the amount of chemicals taken in by the potential receptors. Toxicity values (i.e., reference dosages and cancer slope factors) were then determined for each of the chemicals of potential concern from the USEPA's Integrated Risk Information System (IRIS) and Health Risk Assessment Summary Tables (HEAST) during the toxicity assessment step. In the risk characterization step, the estimated rate at which a person incidentally intakes a chemical of potential concern was compared with the toxicity of that chemical to estimate the potential risks to human health posed by the exposure to the chemical.

The potential risk to human health associated with the presence of COPCs in Site soils was evaluated for five different exposure scenarios in the baseline HRA. Based on the future land uses discussed in the previous subsection, the five potential exposure scenarios included: (1) on-site residential adult (2) on-site residential child, (3) commercial/industrial worker, (4) construction worker, and (5) golf course maintenance worker. The results of the risk assessment indicate that the concentration of chemicals in portions of Site soils pose potentially unacceptable health risks under each of the potential future land uses.

5.1.4 *Health Risk Assessment for Groundwater Impacts on Surface Uses*

Direct ingestion of groundwater as a drinking water source was not considered in the HRA as an appropriate exposure scenario because all drinking water in the area comes from remote locations, including Lake Mead. However, the HRA evaluated the risks associated with groundwater under two scenarios, using the highest concentrations of COPCs detected in groundwater sampling as the exposure concentration:

1) Direct exposure of construction workers to groundwater; and

2) Emission of volatile components in groundwater upward through the soil column, where inhabitants in overlying homes could become exposed if the vapors collected in enclosed spaces.

For direct exposure risks, the risks associated with the highest concentrations of COPCs (e.g., chromium) detected in the well samples downgradient of the TIMET Active Ponds area were assumed to be the exposure point concentrations that a construction worker would be exposed to if he/she were in direct contact with the groundwater five times (based on EPA guidance) over a six month construction duration. Construction worker exposures to groundwater include incidental ingestion and dermal contact with the water, and inhalation of volatiles while the groundwater is exposed. Indirect exposures to future on-site residents were evaluated using standard models for predicting indoor air concentrations, based on the highest concentrations of COPCs as a result of volatilization from underlying groundwater through the soil column into a home (e.g., radon generation from radium-226 and radium-228 concentrations in groundwater). Residents were assumed to be exposed to indoor air concentrations of COPCs for 350 days/year over a 30-year exposure period.

Using actual groundwater monitoring data collected over the past 7 years, NewFields performed fate and transport modeling and risk assessments for these scenarios. The resultant theoretical, upper-bound risks were found to be negligible. The risk assessment methodologies and results are presented in the Baseline Risk Assessment.

Based on the groundwater data and modeling results summarized above, this report concludes that known groundwater conditions beneath the Site do not pose an adverse human health risk for current or future land uses on the Site.

5.2 *DEVELOPMENT OF REMEDIAL ACTION OBJECTIVES*

Based on the results of the health risks assessments presented in Section 5.1, soils within the Site were determined to present an unacceptable health risk under future exposure scenarios. Therefore, RAOs were developed for Site soils.

The first RAO, which integrates human health protection and land use considerations, is to prevent exposure (i.e., incidental ingestion, dermal contact, inhalation of fugitive dust, and inhalation of COPCs) to soil having a cumulative noncarcinogenic target hazard index and/or cumulative carcinogenic risk level in excess of defined cancer risk levels or noncancer hazard indices or relevant regulatory concentrations, including the NESHAPs standard for asbestos. This RAO assures that post-remediation conditions will be protective of human health for an unrestricted land use development scenario. Site-specific cancer risk levels or noncancer hazard indices and regulatory cleanup goals applied to the Site soils are provided in Section 5.3.1.

A second RAO is that soils remaining at the Site following remediation must not have the potential to adversely impact air quality, surface water, groundwater, or ecological receptors. Potential impacts to air quality are evaluated in the baseline HRA. As discussed in Section 5.3.3, current conditions do not pose a threat to surface water or groundwater quality, and the need for additional remediation beyond that identified in the human HRA is not warranted.

5.3 *SOIL REMEDIATION*

This section identifies the soil cleanup goals established for the Site for protection of human health, identifies those portions of the Site requiring remediation based on comparison to those goals, and provides support for the conclusion that this remediation approach is also protective of groundwater quality.

5.3.1 *Cleanup Goals*

The Site-specific cleanup goals, which assume unrestricted land uses and a resident child receptor, are as follows:

- Chemical COPC concentrations in Site soils are to have associated cumulative theoretical upper bound excess carcinogenic risk levels no greater than 10^{-6}. For COPCs present at background levels that represent a potential risk greater than 10^{-6} (e.g., arsenic), compound-specific cleanup goals will be established in accordance with USEPA guidance and NDEP regulations;
- COPC concentrations in Site soils are to have an associated cumulative, target organ specific noncarcinogenic hazard index of 1 or less;

- Lead is not to be present at concentrations above USEPA's recommended screening level of 400 mg/kg for residential land use;
- Asbestos is not to be present at concentrations greater than 1 percent, (the NESHAPs standard); and
- Radionuclide activities are to have an associated risk no greater than the USEPA's acceptable level of 3×10^{-4} or the risk associated with background conditions. If a local background radionuclide level is used, it will be developed in accordance with USEPA guidance.

Adequacy of cleanup will be confirmed based on confirmation sampling results and post-remediation risk assessment that will be conducted in accordance with USEPA methods following the cleanup. The scope of the confirmation sampling program and methodology used in the post-remediation risk assessment are currently being developed and will be presented in the Corrective Action Plan, which will be approved by NDEP prior to implementation.

5.3.2 *Areas Requiring Remediation*

Using the cleanup goals defined in Section 5.3.1 and the results of the baseline risk assessment, the areas requiring remediation to achieve the Site cleanup goals were determined. Figure 5-1 identifies the portions of the Site requiring remediation due to exceedances of one or more of the cleanup goals listed in Section 5.3.1. Table 5-1 identifies the specific goal(s) driving remediation at a given location.

Following remediation, confirmation sampling will be performed and a Post Remediation Risk Assessment will be completed to ensure that final site conditions are adequately characterized and that all soils at the Site have been adequately remediated, such that the remaining concentrations of chemicals in Site soils do not pose an unacceptable health risk.

5.3.3 *Evaluation of Potential Impacts of Soils on Groundwater Quality*

At many properties, chemical occurrence in soil and groundwater is interrelated. That is, at some sites, chemical concentrations in soils could migrate vertically downward through the soil column and could potentially adversely impact groundwater conditions and/or the beneficial uses of the groundwater. The likelihood of this migration is affected by site-specific factors, including:

- The characteristics of the chemicals present on site and their areal and vertical distribution in site soils;
- The climate at the site (precipitation, evaporation, and transpiration);
- The existence of transport mechanisms and pathways;
- The physical and mineralogical characteristics of subsurface soil lithologies;
- The depth to groundwater; and
- Groundwater flow patterns.

As discussed in the Soil/Groundwater Nexus Evaluation Report, soil conditions do not pose a threat to groundwater conditions beneath the Site, currently or in the future after development. A driving hydraulic head is not present at the Site. The low average rainfall (approximately 4 inches per year) and the high evapotranspiration rate (86 inches per year) (SNWA, 1996) effectively preclude percolation of rain water to significant depths within the soil column. Furthermore, most of the chemicals present at elevated concentrations in Site soils tend to be relatively immobile in the environment. This presumption is supported by (1) the fact that chemical concentrations in Site soil attenuate rapidly with depth based on extensive sampling evidence, and (2) leachate testing results, where significant chemical concentrations are not generally observed.

Remediation (e.g., physical removal) of soils at the Site for protection of human health will reduce the residual chemicals in soils to levels that would be even less likely to affect groundwater quality. The potential for future over-watering of lawns or other landscaping after development to mobilize the trace levels of chemicals remaining in Site soils was evaluated, and the threat to groundwater quality was found to be negligible (ERM 2000).

5.3.4 *Evaluation of Potential Impacts of Soils on Surface Water Quality*

As discussed in Section 5.3.3, there are no impacts from Site soils on groundwater. Therefore, there is no potential for Site soils to impact surface water in the Las Vegas Wash, which is located downgradient of the Upper Ponds.

6.0 INTERIM REMEDIAL MEASURES

To expedite closure, BRC performed interim remedial measures (IRMs) at two areas of the Site (the Mohawk Area and Sunset North Area) at which risk assessment indicated that COPC concentrations could pose a potentially unacceptable risk to human health (ERM, June 1999). This section presents a summary of each of the IRMs conducted a the Site.

6.1 MOHAWK AREA

The results of the Phase II sampling events indicated that certain metals and pesticides are present in shallow soils (0 to 1 foot bgs) in the ponds portion of the Mohawk Area at concentrations greater than health-based screening criteria (USEPA Region IX PRGs). Based on these results, a risk assessment was prepared by NewFields to more accurately evaluate the potential risks to human health under current and future land uses, such that the need for remediation could be evaluated.

The risk assessment indicated that the concentrations of COPCs from 0 to 1 foot bgs at locations within the Upper Ponds portion of the Mohawk Area, if not remediated, could present potential noncarcinogenic health hazards in excess of acceptable levels defined by the USEPA. These elevated hazard levels are due to elevated concentrations of four inorganic compounds: antimony, arsenic, manganese, and thallium. In addition to the hazards associated with the chemicals described above, the concentrations of asbestos at one pond exceeded the one percent NESHAPs standard for asbestos. Ultimately, the NDEP and BRC concluded that remediation was warranted for 10 of the Mohawk Area ponds to prevent future exposures.

To expedite closure,, BRC performed an IRM at the Mohawk Area. This IRM was performed following the procedures specified in the NDEP-approved Mohawk Area IRM Workplan (ERM, June 1999). The depth and lateral extent of excavation was based on evidence of contamination (e.g., visual inspection and confirmation sampling results) and ranged up to 1 foot bgs. The excavated soils were transported to a secured location within the Upper Ponds outside the Mohawk Area boundaries (e.g., within the area addressed by this RAS) and treated to prevent generation of wind-blown dusts and runoff. These IRM activities, including confirmation sampling results are documented in the Mohawk Area Closure Report that is currently being prepared. The final remediation of these soils will be addressed as part of this RAS.

6.2 SUNSET NORTH AREA

Characterization of COPCs in soils in the northwestern corner of the Sunset North Area has identified potentially unacceptable health risks associated with current conditions within former pond cells PLE-08, PLE-09 and PLD-10 (due to elevated lead and/or asbestos concentrations) (ERM August 1999). As noted in Section 4.2.2.3, perchlorate was detected at one location at a concentration greater than the PRG. However, this location is within designated wetlands and restricted from residential development, and remediation is not necessary for protection of human health or the environment.

To eliminate the potential health risks, and to expedite closure of this portion of the Sunset North Area, BRC expanded the scope of the Mohawk Area IRM to include excavation and removal of shallow soils from former ponds PLE-09 and PLD-10. During remediation of PLD-10 sediments, a significant portion of the PLD-10 cell was found to contain unconsolidated material up to approximately 10 feet above the grade of the former pond surface. Soil samples collected within this fill indicate that the asbestos, pesticide and metals concentrations detected at certain locations may pose an unacceptable risk to human health. Remediation of this material is being performed in addition to the thin layer of surficial material sampled during the ECI.

This IRM is being performed following the procedures specified in the Mohawk Area IRM Workplan, except as noted below. The depth and lateral extent of excavation will be based on evidence of contamination (e.g., visual inspection and sampling results). In areas outside the fill limits, excavation depths are expected to range up to 1 foot bgs, similar to the scraping activities conducted as part of the Mohawk Area IRM. Within the fill area, excavation to original grade is being performed.

The excavated surface and fill material is being transported to a secured location within the Upper Ponds outside the Mohawk Area boundaries (e.g., within the area addressed by this RAS) and treated to prevent generation of wind-blown dusts and runoff. These IRM activities, including confirmation sampling results, will be documented in the

Sunset North Area Closure Report that will be prepared at the conclusion of the IRM. The final remediation of these soils is addressed as part of this RAS report.

The Lower Ponds are downgradient of groundwater known to contain elevated concentrations of COPCs from sources in addition to historical waste disposal operations in the Upper and Lower Ponds. Groundwater conditions in this area, including the Lower Ponds area, are being addressed under separate investigations under NDEP oversight.

7.0 IDENTIFICATION OF REMEDIAL ALTERNATIVES

The primary objective of this section is to identify potential remedial technologies to address Site soils. The initial step in the identification of remedial technologies is the development of general response actions (GRAs) for remediation of identified volumes and areas of affected soil. Following the development of GRAs, applicable remedial technologies within each GRA category are identified and described.

7.1 GENERAL RESPONSE ACTIONS

GRAs are broadly defined as general types of actions that can reduce or eliminate the adverse impact of chemicals on human health and the environment. Appropriate GRAs for the Site have been identified as those actions that satisfy the RAOs (except for the No Action alternative) presented in Section 5.0. The GRAs developed for the Site include:

- No Action;
- Institutional controls/limited action;
- Containment;
- Recycling;
- Treatment; and
- Removal/Disposal.

Each GRA is described below. Specific technologies applicable to each GRA are described in the subsequent portions of this section.

7.1.1 No Action

For the No Action response, no measures would be taken to contain, treat, or remove impacted soils. No steps would be taken to protect the public from potential exposure. Evaluation of this response action will be used as a baseline against which to compare the other GRAs.

7.1.2 Institutional Controls/Limited Action

The institutional controls/limited action response consists of minimal-cost actions that could be rapidly implemented with only minor construction and site disturbances. Institutional controls/limited action responses are used to limit exposure to impacted soil. These actions may include the installation of fences and warning signs. Other measures may include dust suppression and deed notification or deed restriction. The institutional controls/limited action responses have been grouped into one general response action because they are generally conducted simultaneously and represent a similar level of effort.

7.1.3 Containment

Containment response actions are intended to minimize or eliminate potential exposure to chemicals in soils. They also are intended to prevent the migration of chemicals in soils to the environment by reducing or eliminating infiltration of surface water and reducing dust migration. The purpose of containment is not to reduce the actual toxicity or volume of impacted soils, but to reduce potential chemical constituent migration and prevent the potential for direct human contact with impacted soils. Containment of impacted soils can be accomplished by placing a physical barrier around, beneath, and/or over the Site to prevent or minimize the horizontal and/or vertical mobility of chemical constituents in soils.

7.1.4 Recycling

Recycling response actions typically treat or change the form of impacted soils such that they can be reused as raw materials for the manufacture of various construction materials. During the production of these materials, the solubility and mobility of chemicals in soil is reduced. Recycling response actions include excavation of impacted soils and on-site or off-site recycling. Recycling options include production of asphalt concrete, asphalt emulsion-treated road base, Portland cement concrete, or low permeability liner material. Off-site recycling opportunities may include use of impacted soils for Portland cement production (cement kilns), bituminous road base production, or asphalt concrete production.

7.1.5 Treatment

Soil treatment response actions actively remove or alter forms of chemical constituents in soils with the goal of reducing the solubility (and thus the mobility) or concentrations of chemicals in soil. Soil treatment actions are grouped into two distinct categories:

- **In Situ Treatment.** Affected soil would be treated in place (without excavation).
- **Ex-Situ Treatment.** Affected soils would be excavated and subsequently treated.

7.1.6 *Removal/Disposal*

The removal/disposal response action consists of excavation of impacted soils and transport off site for disposal at an appropriately permitted waste management facility.

7.2 *IDENTIFICATION OF APPLICABLE REMEDIAL TECHNOLOGIES*

Each of the GRAs can be implemented using a variety of remedial technologies. A variety of sources, including USEPA publications and databases, textbooks, bench-scale test data, vendor information, and professional experience have been used to identify applicable technologies for remediating soils at the Site. Specifically, these technologies were identified as applicable for soils impacted with metals, pesticides, perchlorate, radionuclides, and asbestos.

The following text summarizes the preliminary screening results for each GRA. Table 7-1 summarizes the screening of remedial technologies.

7.2.1 *No Action*

There is no technology associated with the No Action GRA. Inclusion of this GRA is used to establish a baseline for comparison against other technologies.

7.2.2 *Institutional Controls/Limited Action*

Various limited actions including access restrictions, deed restrictions/notifications, dust control measures, and monitoring were evaluated. Each of these actions was retained for further evaluation.

7.2.3 *Containment*

Various containment technologies such as capping, vertical and horizontal barriers, and in-place encapsulation were evaluated. Capping was retained for further analysis. The capping process options are generally expected to perform similarly; therefore, a comparison of the different types of caps presented in Table 7-1 is not necessary to evaluate the viability of this technology. The use of alternate capping technologies will not significantly alter the comparison of the capping alternatives presented later in this report.

Due to the large area requiring remediation, vertical and horizontal barriers and in-place encapsulation were not considered technically implementable and were not retained.

7.2.4 *Recycling*

Both on-site and off-site recycling technologies were evaluated. Based on the large volume of soil requiring remediation, limited options are available for recycling Site soils (i.e., it may be difficult to find a use for the large amount of recycled material that would be generated). Potential recycling options identified for soils include the manufacture of asphalt-based construction materials (asphalt concrete pavement or emulsion-treated base material) or Portland cement concrete manufacture.

To better evaluate the suitability of impacted soils for recycling, ERM collected soil samples from each former pond in the first seven rows (A through G) of the Upper Ponds. These soil samples were analyzed for grain size and plasticity. The results of these analyses indicate that the impacted surface soils at the Site consist of very fine grained soils that are not plastic. These fine grained soils would be screened out as unsuitable fines for the production of construction materials. Therefore, these soils are not suitable for the potential recycling options identified.

The underlying native soils in the Upper Ponds are coarser grained and may be suitable for use in the manufacture of construction materials; however, the majority of the contamination at the Site is associated with the unsuitable surface soils. Therefore, recycling is not considered feasible for the majority of impacted soils at the Site. Based on these results, the recycling options were not retained for further analysis.

7.2.5 Treatment

Various in situ and ex situ treatment technologies were evaluated including biological, chemical, and physical process options. Due to the variability in the types of contamination (metals, pesticides, perchlorate, radionuclides, and asbestos) and the large areal distribution of the impacted soils, in situ treatment technologies were not considered implementable and were thus not retained. For ex situ treatment, stabilization/solidification and soil washing were identified as two potentially applicable technologies.

For stabilization/solidification, the treated soils would still require either containment and/or off-site disposal (i.e., exposure to the treated soils would still have to be prevented). Therefore, use of stabilization/solidification would be redundant and more expensive than off-site disposal or containment alone. Therefore, this technology was not retained for further analysis.

Soil washing was also not retained for further analysis. The effectiveness of soil washing for Site soils would likely be minimal. Soil washing is ideally suited for addressing coarser-grained soils with a single type of contaminant. Based on the fine-grained soils at the Site, soil washing will be difficult to perform effectively. Furthermore, based on the numerous chemicals of concern present (metals, pesticides, perchlorate, radionuclides, and asbestos), it would be extremely difficult to remove all the chemicals since each type of chemical requires a different solution or process to remove the type of chemical. Finally, the large volume of soil requiring treatment would generate a large of volume of contaminated water that would still require treatment and/or disposal.

7.2.6 Disposal

Two disposal options were identified during the initial review of technologies: on-site disposal or off-site landfill disposal. Both of these options were considered viable options for Site soils, and were retained for further evaluation.

7.3 DEVELOPMENT AND DETAILED DESCRIPTIONS OF REMEDIAL ALTERNATIVES

ERM developed five remedial alternatives for Site soils based on the screening of remedial technologies presented above. This subsection presents a detailed description of each remedial alternative retained for further evaluation.

7.3.1 Alternative 1 - No Action

Alternative 1, the No Action alternative, was retained for evaluation to serve as a baseline against which other alternatives may be compared. Under the No Action alternative, no remedial actions of any kind would be implemented at the Site.

7.3.2 Alternative 2 - Institutional Controls/Limited Action

Alternative 2 consists of the institutional controls/limited action GRA. As described previously, this alternative consists of minimal-cost actions that can be implemented with only minor construction and Site disturbances.

Under this alternative, institutional controls such as the installation of fences and warning signs would be used to limit exposure to impacted soil. Deed notification and deed restrictions would also be placed on the Site. Dust suppression measures would be implemented as part of this alternative.

The dust control measures would consist of periodically spraying a binding agent on soils to prevent generation of wind-blown dusts. Application of a binding agent is the most permanent method of dust control evaluated for the Site. For cost-estimating purposes in the RAS, ERM assumed that the binding agent would be applied at a frequency of once every 6 months to 2 years; if this alternative were to be implemented, the required frequency would be adjusted to reflect actual conditions. The use of other dust control measures (water spray, revegetation, wind barriers, plastic sheeting) was considered impractical due to the large Site area, maintenance requirements, and the relative permanence desired for the Site.

Application of a binding agent to prevent wind blown-dust would meet the requirements of 40 CFR §61.151 for containment of asbestos-containing soils. Prior to implementing dust suppression measures, the Site would have to be graded to provide a level surface for application of the binding agent. Regular inspections of the Site would occur to monitor the effectiveness of the dust suppression measures. Initial and periodic (annual) monitoring of fence line particulate concentrations would also be performed.

Figure 7-1 shows the area of the Site that would require dust suppression, institutional controls, and deed notifications/restrictions. This area was defined by identifying all areas containing chemical concentrations exceeding the cleanup goals presented in Section 5.0.

7.3.3 *Alternative 3 - On-Site Capping of Soils*

Alternative 3 combines the institutional controls and containment GRAs. Under this alternative, all Site soils requiring mitigation of exposure (i.e., exceeding the cleanup goals presented in Section 5.0) would be capped in-place. These portions of the Site would also have deed restrictions and/or notifications placed on them.

For evaluation purposes in the RAS, the cap was assumed to consist of a compacted soil cover ranging from an average thickness of 2 to 5 feet. A 2-foot-thick, compacted soil cover meets the requirements of 40 CFR §61.151 for capping asbestos-containing soils. For redevelopment purposes, a 5-foot-thick, compacted soil cover may be required. A soil cap of either thickness would provide a significant barrier to exposure to impacted soils at the Site. Depending upon the potential future use of the land, other cover materials such as asphalt pavement or liners could be employed. A drainage system would be installed as part of this alternative to collect rainwater and limit infiltration into the impacted soils. Periodic cap monitoring would be included as part of this alternative.

Under this alternative, development of the Site is an integral feature of the remediation approach. Institutional controls, including deed restrictions/notifications, would be implemented for this area to avoid accidental exposures by Site inhabitants and/or workers to impacted soils beneath the cap. In the event that planned improvements make it necessary to breach the cap at some time in the future, these institutional controls would specify that the work would be conducted or overseen by properly trained professionals. Likewise, human health risks during the initial construction phase would be mitigated by engineered controls, including oversight by properly trained professionals.

Figure 7-2 presents the areas that would require capping under Alternative 3. Under this alternative, approximately 200 acres of land would require capping to mitigate potential exposure pathways.

7.3.4 *Alternative 4 - Excavation of Soils and On-Site Landfill Disposal*

Under Alternative 4, all soils exceeding Site cleanup goals would be excavated and disposed of in an on-site landfill. The exact location for the landfill is discussed at the end of this subsection.

The depth of excavation will be determined based on: 1) the results of samples collected during previous field investigations; and 2) the results of field confirmation sampling. The volume of soil excavated from the Mohawk and Sunset North Areas is estimated to be approximately 100,000 cubic yards. Based on measurements collected at the Site, the volume of sediment requiring excavation is estimated to be 300,000 cubic yards. For evaluation purposes, the depth of impacted soils requiring excavation beneath the sediments is assumed to range from 6 to 18 inches. Therefore, the total volume of soil and sediment requiring excavation and disposal is estimated to range from 600,000 to 900,000 cubic yards, under this alternative. The actual depth of soil impacts varies across the Site from less than 1 foot to depths greater than 10 feet bgs; actual excavation depths would be consistent with this range of depths. Following excavation, soil samples would be collected to confirm that the remaining concentrations of compounds in the soils are below Site cleanup goals. The Site would then be graded to meet development requirements.

Two potential locations for the on-site landfill have been identified. Each of these locations is discussed below.

7.3.4.1 *Alternative 4A – Site Landfill*

Figure 7-3 presents the areas requiring excavation under Alternative 4A and shows the proposed location for a landfill within the Site. The exact location may change based on the final development of the Site. Following placement of impacted soils in the landfill, the Site would be developed in accordance with the development plan. However, modifications to the development plan may be required to account for the presence and monitoring requirements for the landfill to prevent exposure to impacted soils within the landfill. Institutional controls, including deed restrictions/notifications, may be implemented for this area to avoid accidental exposures by Site inhabitants and/or workers to impacted soils within the landfill. In the event that planned improvements make it necessary to breach the landfill at some time in the future, these institutional controls would specify that the work would be conducted or overseen by properly trained professionals. Likewise, human health risks during the initial construction phase would be mitigated by engineered controls, including oversight by properly trained professionals.

7.3.4.2 *Alternative 4B - BMI Complex Landfill*

Figure 7-4 presents the areas requiring excavation under Alternative 4B and Figure 7-5 shows the proposed location for a landfill within the BMI Complex. Under this alternative, soils would be transported from the Site to the landfill using a conveyor system. The proposed location for this conveyor system is shown in Figure 7-5. Alternatively, soils could be transported to the landfill via trucks.

Under this alternative, the Site could be developed in accordance with the current development plan, without the need for institutional controls within the Site. Future exposures to the soils within the landfill would be eliminated by access controls to the BMI Complex.

7.3.5 *Alternative 5 - Excavation of Soils and Off-Site Landfill Disposal*

Under this alternative, all soils exceeding Site cleanup goals would be excavated and disposed of in an off-site landfill. The depth of excavation would be determined based on the results of samples collected during previous investigations and confirmation sampling in the field. The volume of soil excavated from the Mohawk and Sunset North Areas is estimated to be approximately 100,000 cubic yards. Based on measurements collected at the Site, the volume of sediment requiring excavation is estimated to be 300,000 cubic yards. For evaluation purposes, the depth of impacted soils requiring excavation beneath the sediments is assumed to range from 6 to 18 inches. Therefore, the total volume of soil and sediment requiring excavation and disposal is estimated to range from 600,000 to 900,000 cubic yards, under this alternative. The actual depth of soil impacts varies across the Site from less than 1 foot to depths greater than 10 feet bgs; actual excavation depths would be consistent with this range of depths. Following excavation, soil samples would be collected to confirm that the remaining concentrations of compounds in the soils are below the cleanup goals. The Site would then be graded to meet development requirements.

Following excavation, excavated soils would be transported via trucks to an existing landfill. The nearest landfill that may be able to accept Site soils is the APEX Landfill in northern unincorporated Clark County, Nevada.

Figure 7-6 presents the areas that would require excavation under Alternative 5.

8.0 SCREENING OF REMEDIAL ALTERNATIVES

ERM conducted a detailed analysis of remedial alternatives to assess the relative performance of each alternative. This section describes the criteria used to evaluate and compare the alternatives and summarizes the analysis of the alternatives. The criteria presented below are intended to be consistent with the federal statutory evaluation criteria defined in the National Contingency Plan (NCP) for conducting feasibility studies under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA).

8.1 EVALUATION CRITERIA

The five evaluation criteria discussed below are:

- Overall Protection of Human Health and the Environment;
- Effectiveness and Permanence;
- Implementability;
- Cost; and
- State and Community Acceptance.

8.1.1 Overall Protection of Human Health and the Environment

This criterion assesses whether each alternative provides adequate protection of human health. It evaluates through each exposure pathway the degree to which risks posed by chemical occurrence are being eliminated, reduced, or controlled through treatment, engineering, or institutional controls. An alternative that is not sufficiently protective of human health may be eliminated by this criterion.

RAOs must typically address protection of the environment as well as human health. As discussed in Section 5, current conditions do not pose a threat to surface water or groundwater, and the need for additional remediation beyond that identified in the human HRA (which also addresses air quality) is not warranted. However, the process of remediation (and implementation of other land uses) will alter the physical Site conditions and, as such, could change the potential impacts to the environment. Therefore, where appropriate, the RAS:

1) Evaluates whether implementation of a given alternative has the potential to increase the threat to surface water, groundwater and/or air quality (beyond current conditions); and

2) Incorporates engineering controls to minimize adverse effects upon surface water, groundwater and/or air quality.

8.1.2 *Effectiveness and Permanence*

The effectiveness and permanence criterion measures the reliability of the alternative, including any uncertainties that may be associated with the alternative. It also assesses the permanence of the proposed alternative. This criterion includes an evaluation of the magnitude of residual risk posed by the presence of untreated waste or treatment residuals and an assessment of the reliability of the proposed equipment and process. Finally, it evaluates the adequacy of institutional actions or containment measures and assesses the potential need to replace technical components of the alternative.

8.1.3 *Implementability*

The implementability criterion measures the ease or difficulty of conducting the proposed remedial action. Included in this criterion are the technical feasibility of the project, the reliability of the technology, the ease of undertaking additional remedial actions, and the ability to monitor the effectiveness of the remediation. It also measures the administrative feasibility of implementing the proposed alternative, including the time required to obtain proper permits and approvals. Additionally, this criterion assesses the availability of the required equipment, materials and services, as well as site-specific constraints such as availability of treatment areas. This criterion favors proven technologies that are widely available and simple to implement or construct and operate.

8.1.4 *Cost*

The cost criterion assesses the financial burden associated with implementing the alternative. The factors that are addressed include capital costs, both direct and indirect, and operation and maintenance

(O&M) costs. Direct capital costs include construction costs or expenditures for labor, materials, equipment, and subcontractors associated with the remedial action. Due to the uncertainty associated with remedial actions, a 10 percent contingency has been applied to the sum of direct and indirect capital costs. Indirect capital costs include costs associated with engineering, legal, permitting, construction management, and other services necessary to carry out the remedial action. O&M costs include operational labor and maintenance materials associated with the extended operation, maintenance, and reporting for each alternative. Costs are provided as present worth costs. A maximum performance period of 100 years is assumed for each alternative. A discount rate of 7 percent was used for annual costs.

8.1.5 *State and Community Acceptance*

Evaluation of State acceptance considers the technical and administrative issues and concerns that the State may have regarding each of the alternatives. The evaluation of community acceptance considers the community's apparent preferences among alternatives or concerns about specific alternatives.

8.2 *EVALUATION OF REMEDIAL ALTERNATIVES*

The following subsections present a comparative evaluation of each of the five remedial alternatives with respect to each criterion. Table 8-1 presents this evaluation in tabular form.

8.2.1 *Overall Protection of Human Health and the Environment*

Of the five remedial alternatives, only Alternative 1 does not satisfy the RAOs. All of the other alternatives satisfy the RAOs by either:
1) excavation of all soil containing chemical constituents at concentrations that exceed the cleanup goals; and/or 2) mitigation of exposure pathways to the impacted soils. In addition, each of the other alternatives provides protection of the environment (surface water, groundwater, and air quality).

Alternative 2 achieves the RAO through institution of access restrictions (fencing) and dust control measures. The access restrictions and dust control measures provide a barrier to exposure to impacted soils. A monitoring/maintenance program would have to be instituted to ensure the reliability of these controls. No disturbance of impacted soils is anticipated because the Site would be left undeveloped under this alternative. Under this alternative, dust control measures will be implemented to prevent the generation of fugitive dust, which could otherwise have posed a threat to air quality. The binding agent application creates a relatively impermeable surface that will further serve to reduce the possibility of (1) off-site sediment transport by the overland flow of surface water and/or (2) the downward percolation of surface water through Site soils. Furthermore, Site grading will incorporate features such as engineered slopes and drainage patterns to minimize surface water ponding.

Alternative 3 achieves the RAO through capping of all impacted soils at the Site. The capped area will then be redeveloped, although the current development plan will likely require modification to limit the future use of the capped areas. This future development would likely require construction and maintenance activities within the cap and impacted soils, which could increase the risk to human health. Therefore, this alternative incorporates long-term monitoring and training to prevent exposure to the impacted soils. This alternative is also protective of the environment.

Alternative 4A achieves the RAO through excavation and disposal of impacted soils in an on-site landfill within the Site. The Site would then be restored for development at a higher land use. Due to the smaller area of the landfill versus the cap, the redevelopment would be less restricted under Alternative 4A than Alternative 3. This future development would still likely require construction and maintenance activities within the landfill and impacted soils, which could increase the risk to human health. Therefore, this alternative incorporates long-term monitoring and training to prevent exposure to the impacted soils. This alternative is also protective of the environment.

Alternative 4B achieves the RAO through excavation and disposal of impacted soils in an on-site landfill within the BMI Complex. The Site would then be restored for development at a higher land use. Because all soils are removed from the Site, the Site can be developed without the need for institutional controls within the developed area.

Alternative 5 achieves the RAO through excavation and off-site disposal of impacted soils. Although Alternative 5 removes all impacted soils from the Site, it may actually increase the possibility of community exposure to impacted soils during the off-site transportation activities. At 20 cubic yards per truck load, it is estimated that this alternative would require approximately 50,000 truck trips through the community, to and from the Site (a distance of 30 miles in each direction). This increased level of traffic in the area also represents an increase in human health risk due to a probable increase in traffic accidents.

Based on United States Department of Transportation Statistics (USDOT, 1998), 50 injury accidents and 2.6 fatal accidents occur for every 100 million vehicle miles traveled. Based on 3 million vehicles miles anticipated under this alternative (50,000 trips at 60 miles per trip), 1.5 injury accidents and 0.08 fatal accidents would occur as a result of the remediation under Alternative 5. Therefore, the risk of fatality posed by transportation of soils off-site under Alternative 5 is greater than the excess cancer risk posed by Site soils if no remediation were to be performed and the Site were to be developed for residential use.

As discussed in Section 4.0, current conditions do not pose a threat to surface water and groundwater quality; the removal of impacted soils from the Site under Alternatives 4A, 4B, and 5 further reduces the potential threat.

8.2.2 *Effectiveness and Permanence*

Alternative 1 does not provide long-term effectiveness or permanence as no remedial actions would be taken. All of the remaining Alternatives provide long-term effectiveness and permanence.

Alternative 2 does not provide a permanent barrier (cap) to impacted soils; however, dust control measures and access restrictions would be effective in preventing human exposure to Site chemicals. To alleviate potential concerns regarding the reliability of the access restrictions and dust control measures, a significant monitoring and maintenance program would have to be instituted.

Alternatives 3 and 4 are effective and permanent because they provide a permanent barrier to exposure to contaminated soils. Future construction and/or maintenance activities under Alternative 3 and 4A have the potential to disturb the impacted soils. Therefore, Alternatives 3 and 4A would require the implementation of a long-term monitoring and training program. Under Alternative 4B, the potential for future activities to require the disturbance of impacted soils is minimal.

Alternative 5 is effective and permanent because all contaminated soils are removed from the Site.

8.2.3 *Implementability*

The required products and services necessary to implement these alternatives are readily available. Alternative 1 is most easily implemented because it requires no action at the Site. The remaining alternatives are all readily implementable, but vary in their complexity.

Alternative 2 is implementable. Implementation of this alternative would require institution of dust control measures to prevent exposure to off-site receptors during grading activities. A long-term fence inspection and maintenance program would have to be developed as part of this alternative.

Alternatives 3 and 4 are implementable. Implementation of these alternatives would require institution of dust control measures to prevent exposure to off-site receptors during soil excavation, transportation, and capping activities. In addition, under Alternatives 4A and 4B, a permit to construct the new landfill will have to be prepared. A training program and long-term inspection, maintenance, and monitoring program would have to be developed as part of Alternatives 3 and 4.

The concerns regarding the increased community exposure to soils and traffic hazards as part of Alternative 5 are a difficulty associated with implementation of this alternative. An extensive transportation plan would have to be created for Alternative 5. As with Alternatives 3 and 4, implementation of this alternative will require institution of dust control measures to prevent exposure to off-site receptors during soil excavation and transportation.

8.2.4 *Cost*

Appendix A presents a breakdown of the costs for each alternative. All costs are provided as present worth costs. Due to the uncertainty associated with the remedial actions, a 10 percent contingency has been applied to the sum of direct and indirect capital costs. In accordance with the NCP, a discount rate of 7 percent was used for annual costs.

- Alternative 1 has no cost, since no action is taken.

- The total present worth cost for Alternative 2 is estimated to range between $3,286,000 to $7,492,000.
- The total present worth cost for Alternative 3 is estimated to range between $7,021,000 to $13,806,000.
- The total present worth cost for Alternative 4A is estimated to range between $13,033,000 to $17,966,000.
- The total present worth cost for Alternative 4B is estimated to range between $16,195,000 to $21,129,000.
- Alternative 5 has a capital cost estimated to range between $22,833,000 to $33,838,000. No operation and maintenance costs are associated with Alternative 5.

8.2.5 State and Community Acceptance

Community acceptance will ultimately be based on input received during the NDEP review process and public comment period for this Draft RAS.

During meetings between BRC and NDEP, BRC has presented each of the remedial alternatives presented in this RAS in order to solicit NDEP's input on the development and selection of a remedial strategy for Site soils. NDEP has stated its support for Alternative 4B as the preferred method for the remediation of Site soils.

In order to begin assessing public response to these remedial alternatives, BRC established a Restoration Advisory Committee (RAC), which began meeting in October 1999 and has met the first Wednesday of every month since. The RAC consists of about twenty community leaders, adjoining property and business owners, and environmental activists. The RAC's mission is to provide input and feedback to the remediation of the Site. The results of the Preliminary RAS (submitted to NDEP 30 April 1999) and subsequent sampling events have been presented to the RAC. An open public meeting and a public review and comment period will be provided to gather additional public opinion of the preferred alternative. The final version of this RAS will include comments obtained during this open public review period.

The evaluation of each of the remedial alternatives against this criterion will be revised in the Final RAS following State and community input on this Final Draft RAS.

8.3 *PREFERRED REMEDIAL ALTERNATIVE*

Based on the evaluation of alternatives presented in the previous subsections, Alternative 4B is being presented as the preferred remedial alternative to eliminate the potential health risks posed by the presence of chemical constituents in Site soils. As described in Section 7.0, this alternative consists of the excavation and removal of impacted soils containing chemical concentrations in excess of the cleanup goals. The excavated soils will then be transported to, and placed in, a landfill to be constructed within the BMI Complex. The attributes of the on-site landfill in the BMI Complex are also listed in Section 8.2.5.

The reasons this alternative is preferred include:

- The ability to restore all of the property in the Site area, without restriction of land use, and without concern due to proximity of the impacted soils;
- The elimination of all impacted soils from potential public contact;
- The high level of protection provided to the environment (air, surface water, groundwater) by removal of potential sources;
- The cost savings and reduction of risks/liabilities associated with constructing an on-site, BRC-owned and operated disposal facility versus the closest off-site facility owned by others;
- The use of a conveyor belt for transportation, minimizes the transportation risks to the community; and
- Preliminary comments received from the RAC support the selection of Alternative 4B and the siting of the new BRC landfill.

Alternative 1 was not selected because it does not achieve the RAOs. Alternative 2 was rejected because it does not allow for redevelopment of the portion of the Site with soils containing chemicals at concentrations exceeding the cleanup goals. Alternative 2 also does not provide a barrier as permanent as that provided by the other alternatives for preventing future exposures to the impacted soils.

Alternatives 3 and 4A were not retained because impacted soils would remain present beneath a portion of the Site following development. Future activities in these areas may have the potential to disturb the cap, allowing contact with impacted soils.

Alternative 5 was not retained due to the concerns regarding transportation of soils through the community and to risk management. Under Alternative 5, soils would have to be transported through the community to an existing landfill nearly 30 miles away.

Under Alternative 4B, the potential for future exposure to impacted soils is minimized and the redevelopment of the Site would not have to consider the remaining impacted soils. Furthermore, Alternative 4B eliminates all impacted soils from potential public contact by placing them within a landfill in the BMI Complex. Also, the soils can likely be transported to the new landfill without having to transport soils on public streets and highways through the use of a conveyor system. However, even if truck transport is used under Alternative 4B, the distance of travel, less than three miles at most, and therefore risk of accident and exposure, is much less than with Alternative 5.

9.0 DESCRIPTION OF PREFERRED REMEDIAL ALTERNATIVE

As described in Section 8.0, Alternative 4B is being presented as the preferred remedial alternative for the Site. This alternative consists of the excavation and removal of impacted soils containing chemical concentrations in excess of the cleanup goals. The excavated soils will then be transported to, and placed in, a landfill to be constructed within the BMI Industrial Complex. A brief chronological description of the components of this remedial alternative is provided below.

9.1 WORK AREA PREPARATION

Prior to performing soil excavation, access routes to the excavation areas and the landfill will be created. As necessary, portions of the soil berms present between ponds will be removed to facilitate the ingress/egress of equipment and transportation of excavated soils throughout the Site and to the landfill. In addition, all underground pipes, electrical conductors, fuel, water and sewer lines in the remediation areas will be identified, and as appropriate, de-energized, locked out, or blinded off.

Currently, a fence line around the perimeter of the Upper Ponds appears to effectively preclude unauthorized access. ERM/BRC expect that it may be necessary to breach this fence during the course of remedial activities. Therefore, as part of the remedial activities, the perimeter fence line will be rerouted, as necessary, to prevent unauthorized entry to the Site and human contact with impacted soils. A monitoring program has been implemented to identify and repair breaches in the perimeter fence line. This program, which would include any new fence installed as part of remedial activities, would continue until after completion of final remediation.

9.2 LANDFILL CONSTRUCTION

The following subsections briefly summarize the location, construction, and monitoring of the proposed landfill. The *Remedial Action Plan (RAP), Permit Application for Corrective Action Management Unit (CAMU), Henderson, Nevada* (Parsons, January 2000) presents a more detailed description of the design and construction of the proposed landfill.

As presented in the RAP, the landfill is designed to contain approximately 2,000,000 cubic yards of impacted soils. This volume is over 2 times the highest estimated volume of soil anticipated to require excavation at the Site. However, this landfill has been designed with the expectation that soils from the TIMET Active Ponds will also be placed within this landfill, once closure and remediation of this area is performed.

Preliminary volume estimates, based on the results of investigations conducted in the TIMET Active Ponds area, indicate that approximately 1,000,000 cubic yards of soil and sediment from the TIMET Active Ponds may require remediation. Refined estimates of the volume of soils requiring remediation from the TIMET Active Ponds will be determined as a result of ongoing sampling and characterization, and will be documented in the forthcoming Corrective Action Plan (CAP) to be prepared for the TIMET Active Ponds. However, based on (1) the types of COPCs detected (*Draft Environmental Conditions Investigation Addendum, Titanium Metals Corporation Facility, Henderson, Nevada,* Tetra-Tech EM, September 1999), (2) the volume of soils anticipated to require remediation, and (3) the proximity to the remainder of the Upper Ponds, soils in the TIMET Active Ponds are expected to have similar cleanup goals and disposal costs as soils from the Site. Therefore, disposal of soils from the TIMET Active Ponds in the same on-site landfill as Site soils is proposed herein as the preferred remedy. Furthermore, based on the COPCs at the TIMET Active Ponds, co-disposal of soils from the Site and TIMET Active Ponds is compatible with regard to the conveyance method, landfill design, maintenance, and monitoring discussed below.

9.2.1 *Location*

The landfill and conveyor system will be constructed at the location shown in Figure 7-5. As shown, the proposed landfill will be located within a 113-acre area northwest of the active plants within the BMI Complex. The former BMI landfill occupies approximately 66 acres of this area. The footprint of the proposed landfill, approximately 52-plus acres, has been designed not to encroach upon the former BMI landfill. The conveyor will be constructed from the proposed landfill location, and run east, beneath Boulder Highway (through an existing culvert), to a soil staging area within the Site.

9.2.2 *Liner and Leachate Collection System*

A double liner and leachate collection system will be constructed at the base of the landfill. Although leachate generation is not anticipated (see Parsons Engineering Science, January 2000 report), the liner and leachate collection system will be designed to prevent infiltrating surface water or incidental leachate from accumulating at the base of the waste material and migrating into soil and groundwater beneath the landfill. All liner and leachate collection components will be constructed of materials having appropriate strength and chemical compatibility.

9.2.3 *Final Cover*

The final cover layer of the landfill will be designed to minimize infiltration of precipitation into wastes soils in the landfill, promote good surface drainage, resist erosion, protect human health and the environment, minimize long-term maintenance, improve aesthetics, and be consistent with final land use. The methods, procedures, and processes used to install the final cover system will be consistent with standard industry practices. Detailed design documents, construction specifications, and schedules will be developed and submitted prior to final closure.

9.2.4 *Monitoring*

A program will be implemented to monitor the performance of the landfill. This program will consist of monitoring the final cover system and the leachate collection system. The monitoring of the final cover system will detect any surface water entering the waste materials that would cause the generation of leachate. Monitoring of the leachate collection system will further ensure that leachate is not being generated and infiltrating through the landfill.

9.3 *SOIL EXCAVATION*

The areas requiring excavation were determined based on the results of the soil sampling performed at the Site and the remedial goals presented in Section 5.0. The areas requiring excavation are shown in Figure 7-6. Comparison to the aerial photograph presented in Figure 1-1 demonstrates that the areas requiring excavation generally exhibit visual evidence of contamination (e.g., discoloration). Therefore, the initial excavation within each pond cell requiring remediation will continue until the surface soils exhibit no visual evidence of contamination. However, regardless of visual appearance, a minimum of 6 inches of soil will be excavated from each pond requiring remediation. Following the initial excavation, confirmation soil samples will be collected and analyzed to ensure that remaining soils do not contain elevated levels of COPCs that may pose an unacceptable risk to human health. Confirmation sampling and analysis are discussed below.

The contractor will use construction equipment (e.g., scrapers, dozers, excavators, etc.), as appropriate, to remove the surface soil containing elevated concentrations of COPCs.

All soil in the vicinity of construction work will be adequately wetted prior to and during excavation activities. The soil excavation activities will be conducted under a continuous water spray to mitigate airborne dust. Air monitoring will be conducted at the Site perimeter at both upwind and downwind locations during excavation activities to ensure that off-site dust transport is controlled.

9.4 CONFIRMATION SAMPLING

As soon as practical following excavation within a given pond cell, soil samples will be collected to confirm that the residual chemical concentrations within that pond cell do not pose an unacceptable health risk. The required frequency for collecting confirmation samples and the chemicals to be analyzed for will be determined as part of the CAP to be prepared for the Site. Data quality objectives for the confirmation sampling will be submitted for NDEP approval prior to confirmation sampling. After receipt, the analytical results will be subjected to a data usability for risk assessment evaluation (which includes both quality assurance/quality control review as well as an evaluation of data adequacy in regard to uncertainties associated with COPC selection and exposure level estimation). Subsequently, a post-remediation deterministic risk assessment will be conducted; if risk assessment results indicate that final Site conditions are protective of human health and the environment, then remediation will be determined to be complete. If not, a higher tier risk assessment may be conducted. If a higher tier risk assessment indicates the need for additional remediation, then additional soils will be excavated such that final conditions at the Site are protective of human health and the environment.

9.5 *SOIL TRANSPORTATION AND MANAGEMENT*

Following excavation at each pond cell, soils will be loaded onto trucks and transported directly to the soil staging area. The soil staging area will be located as shown in Figure 7-5. At the soil staging area, excavated soils will be dumped from the trucks and placed onto the conveyer system. The conveyor system will transport the soils from the soil staging area to the landfill.

9.6 *REPORTING*

At the conclusion of the project, a remedial action completion report will be prepared documenting completion of the remediation and the procedures followed. This report will include copies of applicable daily logs, field notes, site maps, photographs, analytical results, and/or trucking records. This report will also present the results of all confirmation samples collected at the site and document the risk assessment results indicating that the cleanup goals have been achieved.

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Tables

TABLE 4-1
Inorganic Compound Detections in Soil Samples
BMI Common Areas
Henderson, Nevada

SITE	DATE	DEPTH (ft bgs)	Aluminum (mg/kg)	Antimony (mg/kg)	Arsenic (mg/kg)	Barium (mg/kg)	Cadmium (mg/kg)	Chromium (mg/kg)	Chromium VI (mg/kg)	Cobalt (mg/kg)	Copper (mg/kg)	Lead (mg/kg)	Manganese (mg/kg)	Mercury (mg/kg)	Molybdenum (mg/kg)	Nickel (mg/kg)	Selenium (mg/kg)	Silver (mg/kg)	Thallium (mg/kg)	Vanadium (mg/kg)
PRG (mg/kg)			76,000	31	22*	5,400	37	210	30	4,700	2,900	400	1,800	6.1	–	1,600	390	390	–	550
ADB-01	04/18/96	1	na	na	<6.0	240 B	<2.0	32	na	na	na	21	na	<0.089	na	na	<6.0	<2.0	na	93 B
ADB-01	04/18/96	5	na	na	6.4 B	220 B	2.1 B	36	na	na	na	19	na	<0.098	na	na	<6.2	<2.1	na	65 B
ADB-02	04/18/96	1	na	na	<6.1	210 B	<2.0	17 B	na	na	na	21	na	<0.089	na	na	6.8 B	2.9 B	na	56 B
ADB-02	04/18/96	5	na	na	<6.4	200 B	<2.1	17 B	na	na	na	6 B	na	<0.11	na	na	<6.4	<2.1	na	41 B
ADB-03	04/18/96	1	na	na	<6.2	250 B	<2.1	15 B	na	na	na	9.8	na	<0.11	na	na	<6.2	2.6 B	na	51 B
ADB-03	04/18/96	5	na	na	7.6 B	250 B	<2.1	15 B	na	na	na	9.2	na	<0.11	na	na	<6.3	<2.1	na	53 B
ADB-04	04/18/96	1	na	na	7.9 B	240 B	<2.2	17 B	na	na	na	9.5	na	<0.10	na	na	<6.5	3.8 B	na	48 B
ADB-04	04/18/96	5	na	na	<6.5	440	<2.2	16 B	na	na	na	11	na	<0.11	na	na	<6.5	<2.2	na	52 B
ADB-05	04/19/96	1	na	na	<5.8	160 B	<1.9	9.8 B	na	na	na	6.1	na	<0.10	na	na	<5.8	<1.9	na	41 B
ADB-06	04/18/96	1	na	na	<6.7	240 B	<2.2	55	na	na	na	13	na	<0.11	na	na	<6.7	<2.2	na	47 B
ADB-06	04/18/96	5	na	na	<6.3	210 B	<2.1	16 B	na	na	na	16	na	<0.092	na	na	<6.3	<2.1	na	50 B
ADB-07	04/19/96	1	na	na	<6.3	330 B	<2.1	48	na	na	na	42	na	0.17	na	na	<6.3	<2.1	na	77 B
ADB-07	04/19/96	5	na	na	<6.1	170 B	<2.0	21	na	na	na	14	na	<0.10	na	na	<6.1	<2.0	na	54 B
ADB-08	04/09/96	1	na	na	7.1	220 J	0.56 B	19.6	na	na	na	19.5 J	na	<0.11	na	na	<0.64	<0.21	na	39.7 J
ADB-08	04/09/96	5	na	na	8.6	166 J	0.54 B	10.3	na	na	na	9.2 J	na	<0.11	na	na	<0.67	<0.22	na	39.1 J
ADB-10	03/21/96	1	na	na	8	270	0.78 B	61	na	na	na	21	na	<0.1	na	na	0.78 B	<2.1	na	80
ADB-10	03/21/96	5	na	na	4.6	270	0.49 B	16	na	na	na	12	na	<0.11	na	na	<1.1	<2.2	na	53
ADB-11	03/21/96	1	na	na	3.4	260	0.41 B	12	na	na	na	10	na	<0.098	na	na	0.94 B	<2	na	44
ADB-11	03/21/96	5	na	na	3.8	300	0.46 B	16	na	na	na	11	na	<0.1	na	na	1	<2.1	na	45
ADB-12	03/22/96	1	na	na	3.6	180	0.57 B	13	na	na	na	9.8	na	<0.095	na	na	<1	<2.1	na	43
ADB-12	03/22/96	4.5	na	na	4.2	280	0.54 B	13	na	na	na	9.2	na	<0.1	na	na	<1.1	<2.2	na	38
ADB-13	04/11/96	1	na	na	<22	210 B	<11	13 B	na	na	na	9.8	na	<0.1	na	na	<11	<22	na	35 B
ADB-13	04/11/96	5	na	na	13 B	170 B	<11	14 B	na	na	na	8.7	na	<0.12	na	na	<11	<23	na	28 B
[illegible]	04/11/96	1	na	na	<20	160 B	<10	12 B	na	na	na	48	na	<0.098	na	na	<10	<20	na	35 B
[illegible]	04/11/96	5	na	na	<21	150 B	<10	14 B	na	na	na	7.3	na	<0.09	na	na	<10	<21	na	35 B
ADB-15	04/11/96	1	na	na	<20	170 B	<10	12 B	na	na	na	34	na	<0.097	na	na	<10	<20	na	36 B
ADB-15	04/11/96	5	na	na	<21	170 B	<10	13 B	na	na	na	7.5	na	<0.099	na	na	<10	<21	na	35 B
BDB-09	04/09/96	1	na	na	**61.3**	**8,510** J	<0.24	**817**	na	na	na	**2600** J	na	1.1	na	na	<7.2	4	na	**1,680** J
BDB-09	04/09/96	5	na	na	**77.5**	1,490 J	<0.22	**498**	na	na	na	386 J	na	0.2	na	na	<3.3	3.4	na	**698** J
BDB-10	04/09/96	1	na	na	10.8	649 J	<0.21	**241**	na	na	na	200 J	na	0.31	na	na	<0.62	1.3 B	na	**553** J
BDB-10	04/09/96	5	na	na	4.8	205 J	0.35 B	11.7	na	na	na	8.9 J	na	<0.11	na	na	<0.66	<0.22	na	53.2 J
BDB-11	04/09/96	1	na	na	**104**	**17,600** J	<0.23	**1500**	na	na	na	**3920** J	na	1.9	na	na	<3.5	17.2	na	**2,950** J
BDB-11	04/09/96	5	na	na	6.2	242 J	0.92 B	30.1	na	na	na	12 J	na	0.14	na	na	<0.62	<0.21	na	77.3 J
BDB-12	04/09/96	1	na	na	**31.6** J	2,490 J	<0.21	**314** J	na	na	na	**609** J	na	1.1	na	na	<3.1	1.5 B	na	**1,330** J
BDB-12	04/09/96	5	na	na	**219**	**8,560** J	2.8	**805**	na	na	na	340 J	na	0.86	na	na	<3.2	6.6	na	**755** J
BDB-13	04/18/96	1	na	na	**31** J	**7,600** J	<2.0	**220**	na	na	na	**990** J	na	1.3	na	na	<6.1	56	na	**810**
BDB-13	04/18/96	5	na	na	**94** J	3,300 J	<2.1	**970** J	na	na	na	**720**	na	0.47 J	na	na	<6.3	7.7 B	na	540 J
BDB-14	04/04/96	1	na	na	3.5	434	<0.2	13.2	na	na	na	21.8	na	<0.1	na	na	<0.61	<0.2	na	29.9
BDB-14	04/04/96	5	na	na	3.5	345	0.29 B	8.4	na	na	na	9.2	na	<0.1	na	na	<0.64	<0.21	na	22.9
BDB-15	04/04/96	1	na	na	10	921	0.31 B	19.2	na	na	na	99.5	na	<0.09	na	na	<0.62	<0.21	na	52
BDB-15	04/04/96	5	na	na	2.6	264	<0.21	8.4	na	na	na	8.9	na	<0.1	na	na	<0.62	<0.21	na	24.4
BDB-16	04/05/96	1	na	na	6.8	370	0.24 B	35	na	na	na	42	na	<0.09	na	na	<0.6	<0.2	na	96
BDB-16	04/05/96	5	na	na	3.1	320	0.33 B	12	na	na	na	11	na	<0.1	na	na	<0.62	<0.21	na	34
BDB-17	04/05/96	1	na	na	10	410	<0.21	**220**	na	na	na	95	na	<0.099	na	na	<0.62	<0.21	na	440
BDB-17	04/05/96	5	na	na	14	270	0.26 B	13	na	na	na	11	na	<0.091	na	na	<0.61	<0.20	na	29
BDB-18	04/05/96	1	na	na	5	270	0.26 B	10	na	na	na	9.1	na	<0.092	na	na	<0.60	<0.20	na	32
BDB-18	04/05/96	5	na	na	3.7	330	0.22 B	150	na	na	na	18	na	<0.11	na	na	<0.64	<0.21	na	340
BDB-19	03/25/96	1	na	na	**39**	830	0.82 B	26	na	na	na	**480**	na	<0.10	na	na	<0.59	<0.20	na	41
BDB-19	10/13/1999	1	na	<0.5	na	na	na	na	na	na	na	na	1,100	na	na	na	na	na	<0.5	na
BDB-19	03/25/96	5	na	na	6.3	340	0.48 B	12	na	na	na	43	na	<0.10	na	na	0.66 B	<0.20	na	33
BDB-20	04/08/96	1	na	na	12	720	0.5 B	30	na	na	na	92	na	<0.10	na	na	<0.66	<0.22	na	66
BDB-20	04/08/96	5	na	na	3.8	230 J	0.49 B	10	na	na	na	8.5 J	na	<0.11	na	na	<0.64	<0.21	na	46 J
BDB-21	04/09/96	1	na	na	3.4	268 J	0.36 B	10.4	na	na	na	10.1 J	na	<0.11	na	na	<1.06	<2.13	na	33.7 J
[illegible]	04/09/96	5	na	na	5.5	248 J	0.33 B	11.5	na	na	na	10 J	na	<0.12	na	na	<1.13	<2.13	na	39.3 J
[illegible]	04/17/96	1	na	na	7.8 B	270 B	<10	18 B	na	na	na	23	na	<0.09	na	na	<10	<21	na	53 B

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BMI Common Areas
Henderson, Nevada

SITE	DATE	DEPTH (ft bgs)	Aluminum (mg/kg)	Antimony (mg/kg)	Arsenic (mg/kg)	Barium (mg/kg)	Cadmium (mg/kg)	Chromium (mg/kg)	Chromium VI (mg/kg)	Cobalt (mg/kg)	Copper (mg/kg)	Lead (mg/kg)	Manganese (mg/kg)	Mercury (mg/kg)	Molybdenum (mg/kg)	Nickel (mg/kg)	Selenium (mg/kg)	Silver (mg/kg)	Thallium (mg/kg)	Vanadium (mg/kg)
PRG (mg/kg)			**76,000**	**31**	**22***	**5,400**	**37**	**210**	**30**	**4,700**	**2,900**	**400**	**1,800**	**6.1**	**--**	**1,600**	**390**	**390**	**--**	**550**
BDB-22	04/17/96	5	na	na	<21	190 B	<11	9.1 B	na	na	na	7.7	na	<0.11	na	na	<11	<21	na	34 B
BDB-23	04/17/96	1	na	na	9.5 B	200 B	<11	23	na	na	na	31	na	<0.11	na	na	<11	<23	na	42 B
BDB-23	04/17/96	5	na	na	7.1 B	270 B	<12	15 B	na	na	na	16	na	<0.12	na	na	<12	<24	na	42 B
BDB-24	04/17/96	1	na	na	7.9 B	390 B	<10	12 B	na	na	na	11	na	<0.086	na	na	<10	<20	na	48 B
BDB-24	04/17/96	5	na	na	16 B	150 B	<11	13 B	na	na	na	5.6 B	na	<0.094	na	na	<11	<22	na	34 B
BDB-25	04/11/96	1	na	na	<22	290 B	<11	14 B	na	na	na	14	na	<0.093	na	na	<11	<22	na	43 B
BDB-25	04/11/96	5	na	na	<22	260 B	<11	8.9 B	na	na	na	7.8	na	<0.11	na	na	<11	<22	na	29 B
BDB-26	04/11/96	1	na	na	<22	120 B	<11	14 B	na	na	na	11	na	<0.098	na	na	<11	<22	na	32 B
BDB-26	04/11/96	5	na	na	8.6 B	140 B	<11	7.2 B	na	na	na	7.2	na	<0.094	na	na	<11	<23	na	30 B
NDB-04	04/15/96	1	na	na	<20	210 B	<10	61	na	na	na	25	na	<0.1	na	na	<10	<20	na	47 B
NDB-04	04/15/96	5	na	na	15 B	170 B	<11	11 B	na	na	na	5.5 B	na	<0.1	na	na	<11	<23	na	34 B
PLC-01	04/09/96	1	na	na	4.1	249 J	0.34 B	12.9	na	na	na	14.3 J	na	<0.1	na	na	<1.02	<2.05	na	34.3 J
PLC-01	04/09/96	5	na	na	4.2	249 J	0.42 B	10.4	na	na	na	9.6 J	na	<0.11	na	na	<1.07	<2.15	na	33.1 J
PLE-01	04/10/96	1	na	na	<20	290 B	<10	16 B	na	na	na	35	na	<0.1	na	na	<10	<20	na	49 B
PLE-01	04/10/96	5	na	na	<22	290 B	<11	14 B	na	na	na	11	na	<0.1	na	na	<11	<22	na	41 B
PLE-09	04/11/96	1	na	na	<20	270 B	2.8 B	62	na	na	na	**710**	na	<0.099	na	na	<10	<20	na	70 B
PLE-09	04/11/96	5	na	na	<21	130 B	<10	11 B	na	na	na	8.2	na	<0.1	na	na	<10	<21	na	32 B
PLG-01	04/10/96	1	na	na	12 B	180 B	<11	16 B	na	na	na	16	na	<0.1	na	na	<11	<21	na	45 B
PLG-01	04/10/96	5	na	na	<25	160 B	<13	20 B	na	na	na	12	na	<0.12	na	na	<25	<25	na	39 B
PLG-05	04/16/96	1	na	na	5	11 B	0.24 B	1.5 B	na	na	na	2.5	na	<0.12	na	na	<1.2	<2.4	na	6.7 B
PLG-05	04/16/96	5	na	na	2.8	11 B	0.23 B	1.2 B	na	na	na	0.65 B	na	<0.11	na	na	<1.2	<2.3	na	3.2 B
PLH-01	04/10/96	1	na	na	11 B	180 B	<12	12 B	na	na	na	16	na	<0.12	na	na	<12	<25	na	44 B
P[illegible]H-01	04/10/96	5	na	na	<22	130 B	<11	8.7 B	na	na	na	7.4	na	<0.11	na	na	<11	<22	na	37 B
[illegible]4	04/16/96	1	na	na	5.2	13 B	0.28 B	1.5 B	na	na	na	1.6	na	<0.12	na	na	0.76 B	<2.4	na	5.3 B
[illegible]-04	04/16/96	5	na	na	0.65 B	9 B	0.24 B	2.9	na	na	na	0.76	na	<0.093	na	na	<1.1	<2.2	na	3.1 B
PLI-03	04/18/96	1	na	na	19 B	130 B	<13	17 B	na	na	na	27	na	<0.11	na	na	<13	<25	na	65 B
PLI-03	04/18/96	5	na	na	11 B	260 B	<11	11 B	na	na	na	19	na	<0.12	na	na	<11	<22	na	38 B
PLJ-01	04/18/96	1	na	na	**28**	170 B	<12	13 B	na	na	na	86	na	<0.12	na	na	<12	<24	na	69 B
PLJ-02	04/18/96	1	na	na	**37** B	74 B	<21	11 B	na	na	na	110	na	<0.21	na	na	<21	<42	na	57 B
PUA-01	12/18/1998	1	12,000	**72**	**220**	**7,100**	<2.5	**510**	**48**	77	120	**700**	**15,000**	0.33	16	120	<1	4	26	**750**
PUA-03	12/18/1998	1	9,100	**150**	**80**	**5,800**	8	**3,100**	17	180	480	**3,700**	**8,700**	1	23	130	<1	<5	49	**7,100**
PUA-05	04/04/96	1	na	na	3.7	779	<0.2	**826**	na	na	na	**482**	na	0.66	na	na	<0.61	7.5	na	**1,870**
PUA-05	04/04/96	5	na	na	3.4	475	<0.21	21.3	na	na	na	11.6	na	<0.1	na	na	<0.63	<0.21	na	94.3
PUA-07	04/04/96	1	na	na	10.5 J	2,670 J	<0.2 R	**3,070**	na	na	na	**1670**	na	0.88 J	na	na	<3 UJ	29.4 J	na	**7,770** J
PUA-07	04/04/96	5	na	na	4.9	460	<0.2	165	na	na	na	95.1	na	<0.1	na	na	<0.6	1.2 B	na	490
PUA-07-N-S	10/19/1999	**	na	1	6.3	505	na	21	na	na	na	43	600	na	na	na	na	na	<0.51	51
PUA-07-N-D	10/19/1999	**	na	0.53	4.8	350	na	190	na	na	na	51	220	na	na	na	na	na	0.57	190
PUA-07-E-S	10/19/1999	**	na	<0.514	4	420	na	16	na	na	na	11	440	na	na	na	na	na	<0.514	36
PUA-07-E-D	10/19/1999	**	na	<0.509	4.3	400	na	110	na	na	na	67	200	na	na	na	na	na	<0.509	220
PUA-09	04/03/96	1	na	na	**218**	**16,800**	8.7	**3,200**	na	na	na	**5130**	na	1.6	na	na	3.2 B	9.5 B	na	**6,370**
PUA-09	04/03/96	5	na	na	5.9	428	<0.20	135	na	na	na	92.9	na	<0.10	na	na	<0.61	<0.20	na	169
PUA-10	04/03/96	1	na	na	**94.2**	**12,300**	<1.0	**1,170**	na	na	na	**4,640**	na	1.5	na	na	<3.1	34	na	**4,170**
PUA-10	04/03/96	5	na	na	5.8 J	336 J	<0.20	15.5 J	na	na	na	49.9 J	na	<0.10	na	na	<0.61	<0.20	na	42.1 J
PUA-11	04/04/96	1	na	na	**400**	**16,600**	3.1	**968**	na	na	na	**9,810**	na	1.4	na	na	3.4 B	8.9	na	**2,380**
PUA-11	04/04/96	5	na	na	2.8	306	0.38 B	14.2	na	na	na	12.3	na	<0.09	na	na	<0.63	<0.21	na	28.4
PUA-14	04/05/96	1	na	na	3.8	270	0.34 B	13	na	na	na	14	na	<0.097	na	na	<0.61	<0.20	na	41
PUA-14	04/05/96	5	na	na	4	210	0.48 B	9.8	na	na	na	9.2	na	<0.10	na	na	<0.63	<0.21	na	37
PUB-01	5/13/1999	1	na	**40**	**36**	3,600	na	**840**	na	na	na	**480**	570	na	na	na	na	na	4.5	**2,600**
PUB-02	03/26/96	1	na	na	11	830	0.8 B	100	na	na	na	82	na	<0.093	na	na	0.72 B	0.47 B	na	190
PUB-02	5/13/1999	1	na	**62**	**32**	**7,400**	na	**850**	na	na	na	**1,500**	1,300	na	na	na	na	na	9.5	**3,300**
PUB-02	03/26/96	5	na	na	7.2	650	1.7	15	na	na	na	13	na	<0.11	na	na	<0.62	<0.21	na	49
PUB-03	5/13/1999	1	na	**130**	**38**	**7,000**	na	**2,100**	na	na	na	**4,000**	**3,600**	na	na	na	na	na	10	**6,500**
P[illegible]04	03/26/96	1	na	na	11	940	0.49 B	130	na	na	na	130	na	<0.1	na	na	<0.6	<0.2	na	200
[illegible]4	03/26/96	5	na	na	4.4	450	0.52 B	20	na	na	na	13	na	<0.1	na	na	<0.63	<0.21	na	39

TABLE 4-1
Inorganic Compound Detections in Soil Samples
BMI Common Areas
Henderson, Nevada

SITE	DATE	DEPTH (ft bgs)	Aluminum (mg/kg)	Antimony (mg/kg)	Arsenic (mg/kg)	Barium (mg/kg)	Cadmium (mg/kg)	Chromium (mg/kg)	Chromium VI (mg/kg)	Cobalt (mg/kg)	Copper (mg/kg)	Lead (mg/kg)	Manganese (mg/kg)	Mercury (mg/kg)	Molybdenum (mg/kg)	Nickel (mg/kg)	Selenium (mg/kg)	Silver (mg/kg)	Thallium (mg/kg)	Vanadium (mg/kg)
PRG (mg/kg)			76,000	31	22*	5,400	37	210	30	4,700	2,900	400	1,800	6.1	–	1,600	390	390	–	550
PUB-05	10/13/1999	1	na	9.8	22	1,600	na	320	na	na	na	na	650	na	na	na	na	na	13	380
PUB-06	04/03/96	1	na	na	112	7,870	<0.98	1,050	na	na	na	2,100	na	0.34	na	na	<2.9	3.6 B	na	1,590
PUB-06	04/03/96	5	na	na	6.7	850	<0.20	20	na	na	na	61.5	na	<0.09	na	na	<0.60	<0.20	na	56.6
PUB-08	04/03/96	1	na	na	280	18,100	<1.2	3,830	na	na	na	15,400	na	2.4	na	na	5.9 B	42.9	na	7,760
PUB-08	04/03/96	5	na	na	21.7	2,700	<0.20	126	na	na	na	364	na	<0.10	na	na	0.85 B	1.4 B	na	276
PUB-09	04/03/96	1	na	na	119	16,600	<1.0	1,700	na	na	na	9,290	na	1.9	na	na	<12.2	29.2	na	4,590
PUB-09	04/03/96	5	na	na	57.6	6,300	<2.0	432	na	na	na	983	na	0.21	na	na	<6.1	6 B	na	727
PUB-09	11/17/1998	10	8,500	120	130	na	na	570	29 JI	68	220	1,700	6,900	na	29	58	<1	<5	180	1,100
PUB-09	11/17/1998	15	8,500	14	22	na	na	70	2.3 JI	30	38	270	2,500	na	5.1	36	<1	<1	<5	170
PUB-10	04/03/96	1	na	na	193	17,600	<1.1	2,420	na	na	na	11,200	na	1.5	na	na	5.6	30.2	na	5,200
PUB-10	10/19/1999	1	na	490	na	na	na	na	na	na	na	na	24,000	na	na	na	na	na	110	na
PUB-10	04/03/96	5	na	na	211	15,200	<1.0	2,080	na	na	na	8,320	na	1.3	na	na	<3.0	30.6	na	4,100
PUB-10	10/19/1999	5	na	<0.522	na	na	na	na	na	na	na	na	440	na	na	na	na	na	<0.522	na
PUB-10	11/17/1998	10	12,000	290	140	na	na	1,200	3.7 JI	230	370	3,800	25,000	na	110	140	<1	7.6	330	2,700
PUB-10	10/19/1999	10	na	6.2	na	na	na	na	na	na	na	na	3,500	na	na	na	na	na	2.1	na
PUB-10	11/17/1998	15	12,000	260	170	na	na	1,100	3.8 JI	190	340	3,900	24,000	na	91	120	<1	5.8	290	2,300
PUB-10	10/19/1999	15	na	<0.542	4	380	na	14	na	na	na	15.0	410	na	na	na	na	na	<0.542	36
PUB-10	10/19/1999	20	na	<0.53	4.4	240	na	12	na	na	na	8.5	380	na	na	na	na	na	<0.53	32
PUB-10	10/19/1999	25	na	<0.545	5.4	210	na	15	na	na	na	9.2	300	na	na	na	na	na	<0.545	33
PUB-10	10/19/1999	30	na	<0.536	5	260	na	13	na	na	na	9.9	300	na	na	na	na	na	<0.536	34
PUB-10	10/19/1999	40	na	<0.53	4.3	240	na	12	na	na	na	11	360	na	na	na	na	na	<0.53	32
P[illegible]9	10/19/1999	40D	na	<0.527	4.3	340	na	12	na	na	na	9.8	330	na	na	na	na	na	<0.527	29
[illegible]	10/19/1999	50	na	<0.527	4.9	220	na	12	na	na	na	8.9	400	na	na	na	na	na	<0.527	33
PUB-10-N-S	10/19/1999	**	na	5.6	14	1,300	na	61	na	na	na	120	1400	na	na	na	na	na	0.81	160
PUB-10-N-D	10/19/1999	**	na	<0.522	2.9	270	na	24	na	na	na	8.2	1300	na	na	na	na	na	1.1	75
PUB-10-E-S	10/19/1999	**	na	1.1	5.2	530	na	25	na	na	na	46	710	na	na	na	na	na	<0.516	76
PUB-10-E-D	10/19/1999	**	na	4.2	6.5	410	na	49	na	na	na	24	4100	na	na	na	na	na	1.4	110
PUC-01	03/26/96	1	na	na	25	1,900	<0.2	470	na	na	na	240	na	<0.1	na	na	1.1	0.91 B	na	1,300
PUC-01	03/26/96	5	na	na	4.5	410	0.51 B	19	na	na	na	8.7	na	<0.11	na	na	<0.64	<0.21	na	44
PUC-02	5/13/1999	1	na	7.2	15	1,800	na	700	na	na	na	470	1,300	na	na	na	na	na	0.83	1,000
PUC-03	03/26/96	1	na	na	45	8,600	<0.20	440	na	na	na	970	na	0.15	na	na	0.66 B	3.9	na	1,300
PUC-03	03/26/96	5	na	na	15	1,800	<0.21	310	na	na	na	180	na	0.14	na	na	0.88 B	0.96 B	na	420
PUC-05	04/03/96	1	na	na	16.7	7,210	<1.0	1,850	na	na	na	2230	na	1.6	na	na	<15.2	38.9	na	3,550
PUC-05	04/03/96	5	na	na	5.8	497	<0.20	68	na	na	na	204	na	<0.09	na	na	<0.59	<0.20	na	136
PUC-07	04/03/96	1	na	na	158	17,000	<0.97	2,230	na	na	na	8780	na	1.7	na	na	<2.9	22.8	na	4,750
PUC-07	10/20/1999	1	na	390	na	na	na	na	na	na	na	na	18,000	na	na	na	na	na	32	na
PUC-07	04/03/96	5	na	na	53.1	8,260	<0.99	544	na	na	na	1030	na	0.33	na	na	<3.0	3.4 B	na	1,270
PUC-07	10/20/1999	5	na	1.1	na	na	na	na	na	na	na	na	1,800	na	na	na	na	na	3.3	na
PUC-07	10/20/1999	10	na	2.2	5	340	na	13	na	na	na	8.5	2,700	na	na	na	na	na	<0.531	70
PUC-07	10/20/1999	15	na	1.3	4.7	260	na	15	na	na	na	12.0	1,400	na	na	na	na	na	<0.545	57
PUC-07	10/20/1999	20	na	0.94	4.8	330	na	13	na	na	na	23.0	890	na	na	na	na	na	<0.538	40
PUC-07	10/20/1999	25	na	1.1	5.0	440	na	13	na	na	na	11.0	700	na	na	na	na	na	<0.53	39
PUC-07	10/20/1999	30	na	0.63	5.2	340	na	14	na	na	na	9.1	510	na	na	na	na	na	<0.535	34
PUC-07	10/20/1999	40	na	1.8	39.0	51	na	43	na	na	na	4.8	3,300	na	na	na	na	na	<0.909	52
PUC-07	10/20/1999	45	na	0.89	21.0	260	na	26	na	na	na	4.5	860	na	na	na	na	na	<0.784	68
PUC-07	10/20/1999	50	na	<0.72	14.0	85	na	20	na	na	na	<3.6	300	na	na	na	na	na	<0.72	55
PUC-07-N-S	10/19/1999	**	na	1.2	5.4	600	na	27	na	na	na	41	580	na	na	na	na	na	<0.511	64
PUC-07-N-D	10/19/1999	**	na	2.4	5.3	540	na	35	na	na	na	24	4,200	na	na	na	na	na	1.5	150
PUC-07-E-S	10/19/1999	**	na	3.3	10	1,000	na	71	na	na	na	150	1100	na	na	na	na	na	<0.512	180
PUC-07-E-D	10/19/1999	**	na	4.9	8	820	na	130	na	na	na	51	3,900	na	na	na	na	na	9.6	140
PUC-08	04/02/96	1	na	na	75.7	10,600	<2.0	1,610	na	na	na	3,280	na	0.91	na	na	<6.1	5.5 B	na	2,840
[illegible]3	04/02/96	5	na	na	12.6 B	1,400	<2.1	78	na	na	na	88.6	na	0.13	na	na	<6.3	<2.1	na	176
[illegible]1	5/13/1999	1	na	13	24	2,400	na	1,400	na	na	na	950	7,500	na	na	na	na	na	6.9	2,200

TABLE 4-1
Inorganic Compound Detections in Soil Samples
BMI Common Areas
Henderson, Nevada

SITE	DATE	DEPTH (ft bgs)	Aluminum (mg/kg)	Antimony (mg/kg)	Arsenic (mg/kg)	Barium (mg/kg)	Cadmium (mg/kg)	Chromium (mg/kg)	Chromium VI (mg/kg)	Cobalt (mg/kg)	Copper (mg/kg)	Lead (mg/kg)	Manganese (mg/kg)	Mercury (mg/kg)	Molybdenum (mg/kg)	Nickel (mg/kg)	Selenium (mg/kg)	Silver (mg/kg)	Thallium (mg/kg)	Vanadium (mg/kg)
PRG (mg/kg)			**76,000**	**31**	**22***	**5,400**	**37**	**210**	**30**	**4,700**	**2,900**	**400**	**1,800**	**6.1**	**–**	**1,600**	**390**	**390**	**–**	**550**
PUD-02	12/18/1998	1	6,700	**35**	**47**	**6,500**	2.5	**1,200**	24	66	90	**850**	**3,700**	0.36	8	77	<1	<5	10	**2,300**
PUD-06	04/02/96	1	na	na	**29**	**8,400**	3.1 B	**2,380**	na	na	na	**2,690**	na	3.4	na	na	<6.2	<2.1	na	**3,930**
PUD-06	04/02/96	5	na	na	<5.9	283 B	<2.0	17.6 B	na	na	na	14.1	na	<0.10	na	na	<5.9	<2.0	na	45.9 B
PUD-06-N-S	10/20/1999	**	na	1.4	7.3	600	na	61	na	na	na	81	1,000	na	na	na	na	na	<0.507	**140**
PUD-06-N-D	10/20/1999	**	na	<0.504	5.7	370	na	150	na	na	na	24	1,000	na	na	na	na	na	2.9	160
PUD-06-E-S	10/20/1999	**	na	<0.502	4.3	440	na	35	na	na	na	35	580	na	na	na	na	na	<0.502	81
PUD-06-E-D	10/20/1999	**	na	0.56	4.1	490	na	83	na	na	na	47	880	na	na	na	na	na	1	130
PUD-08	04/02/96	1	na	na	15.9 B	4,230	<2.1	**1,720**	na	na	na	**2,950**	na	3.1	na	na	<6.4	16.8 B	na	**3,100**
PUD-08	04/02/96	5	na	na	<6.0	990	<2.0	49.4	na	na	na	92.2	na	<0.10	na	na	<6.0	<2.0	na	132
PUD-09	04/02/96	1	na	na	**55.5**	**18,900**	<2.1	**2,420**	na	na	na	**6,150**	na	2.5	na	na	<6.3	20.8 B	na	**2,320**
PUD-09	04/02/96	5	na	na	12.8 B	1,860	<2.0	74.1	na	na	na	182	na	0.12	na	na	<6.0	<2.0	na	158
PUE-01	03/28/96	1	na	na	11.6 B	1,070	<2.0	**405**	na	na	na	197	na	<0.1	na	na	<5.9	2	na	**563**
PUE-01	5/13/1999	1	na	5	13	1,500	na	170	na	na	na	310	990	na	na	na	na	na	<0.5	330
PUE-01	03/28/96	5	na	na	7 B	518	<2.1	34	na	na	na	20.3	na	<0.1	na	na	6.2	2.1	na	53.6 B
PUE-02	10/12/1999	1	na	8.9 Jl	15 Jl	2,600	na	**1,100**	na	na	na	**630**	1,800	na	na	na	na	na	2.7	**1,300**
PUE-03	04/01/96	1	na	na	12.9 BJ	2,220 J	<2.0	**641**	na	na	na	**495**	na	<0.10	na	na	<6.1	2.7 B	na	**883**
PUE-03	10/12/1999	1	na	7	na	na	na	na	na	na	na	na	**4,000**	na	na	na	na	na	1	na
PUE-03	04/01/96	5	na	na	<6.2	539	<2.1	16.9 B	na	na	na	9.5	na	<0.11	na	na	<6.2	<2.1	na	44.5 B
PUE-05	04/01/96	1	na	na	14.7 B	**12,100**	<2.1	**2,040**	na	na	na	**3,070**	na	1.7	na	na	<6.3	22.4	na	**2,060**
PUE-05	04/01/96	5	na	na	<6.2	388 B	<2.1	**368**	na	na	na	28.7	na	<0.11	na	na	<6.2	<2.1	na	165
PUE-06	04/01/96	1	na	na	**27.5**	**14,100**	<2.2	**2,020**	na	na	na	**3,940**	na	4.4	na	na	<6.5	30.1	na	**2,200**
[illegible]	04/01/96	5	na	na	<6.3	575	<2.1	60.9	na	na	na	41.1	na	<0.11	na	na	<6.3	<2.1	na	139
[illegible]	04/02/96	1	na	na	**233**	**14,900**	4.9 B	**1,990**	na	na	na	**1,740**	na	1.8	na	na	<6.5	14.5 B	na	**2,740**
PUE-07	10/20/1999	1	na	**240**	na	na	na	na	na	na	na	na	**16,000**	na	na	na	na	na	44	na
PUE-07	04/02/96	5	na	na	**62.2**	**10,900**	<2.1	**1,290**	na	na	na	**1,920**	na	1.3	na	na	<6.3	5.2 B	na	**936**
PUE-07	10/20/1999	5	na	0.51	na	na	na	na	na	na	na	na	570	na	na	na	na	na	<0.536	na
PUE-07	10/20/1999	10	na	1.5	na	na	na	na	na	na	na	na	540	na	na	na	na	na	<0.526	na
PUE-07	11/17/1998	15	7,900	**40**	**65**	na	na	200	15 Jl	31	74	**760**	**2,700**	na	11	32	<1	<1	16	330
PUE-07	10/20/1999	15	na	<0.525	4.0	590	na	9	na	na	na	6.4	350	na	na	na	na	na	<0.525	30
PUE-07	10/20/1999	20	na	<0.537	4.9	360	na	11	na	na	na	8.9	370	na	na	na	na	na	<0.537	41
PUE-07	10/20/1999	25	na	<0.533	6.5	340	na	12	na	na	na	10.0	380	na	na	na	na	na	<0.533	39
PUE-07	10/20/1999	30	na	<0.53	4.0	250	na	12	na	na	na	7.2	350	na	na	na	na	na	<0.53	32
PUE-07	10/20/1999	35	na	<0.536	5.3	350	na	14	na	na	na	10.0	360	na	na	na	na	na	<0.536	32
PUE-07	10/20/1999	40	na	<0.539	6.7	550	na	32	na	na	na	11.0	330	na	na	na	na	na	<0.539	46
PUE-07	10/20/1999	45	na	<0.536	5.3	510	na	12	na	na	na	8.3	300	na	na	na	na	na	<0.536	31
PUE-07	10/20/1999	50	na	1.3	6.1	390	na	9.8	na	na	na	13.0	340	na	na	na	na	na	<0.525	30
PUE-07-N-S	10/20/1999	**	na	3.3	7.5	1,100	na	48	na	na	na	110	950	na	na	na	na	na	<0.512	110
PUE-07-N-D	10/20/1999	**	na	2.6	8.5	520	na	40	na	na	na	59	660	na	na	na	na	na	1	100
PUE-07-E-S	10/20/1999	**	na	1.9	6.5	850	na	38	na	na	na	73	690	na	na	na	na	na	<0.509	86
PUE-07-E-D	10/20/1999	**	na	1.5	4.1	380	na	22	na	na	na	14	1200	na	na	na	na	na	0.69	98
PUF-01	03/25/96	1	na	na	7.5	750	<0.20	130	na	na	na	120	na	<0.10	na	na	<0.60	0.51 B	na	240
PUF-01	5/13/1999	1	na	55	16	1,600	na	95	na	na	na	280	**3,000**	na	na	na	na	na	0.82	200
PUF-01	03/25/96	5	na	na	5	520	0.63 B	42	na	na	na	18	na	<0.10	na	na	0.83 B	<0.21	na	110
PUF-02	10/12/1999	1	na	0.63	2.8	420	na	82	na	na	na	100	250	na	na	na	na	na	<0.513	150
PUF-03	03/28/96	1	na	na	6.4 B	1,000	<2	**460**	na	na	na	333	na	<0.1	na	na	<6.1	3 B	na	**1,420**
PUF-03	10/12/1999	1	na	2.2	na	na	na	na	na	na	na	na	**2,600**	na	na	na	na	na	0.51	na
PUF-03	03/28/96	5	na	na	6.5	516	<2.2	193	na	na	na	28.7	na	<0.11	na	na	<6.5	2.2	na	294
PUF-05	04/04/96	1	na	na	7.3	4,080	<0.21	**2020**	na	na	na	**1,040**	na	2.7	na	na	<3.2	28.4	na	**2,940**
PUF-05	04/04/96	5	na	na	2.9	365	0.27 B	11.1	na	na	na	9.9	na	<0.11	na	na	<0.64	<0.21	na	25.8
PUF-07	04/05/96	1	na	na	**42**	3,700	<0.22	**680**	na	na	na	**410**	na	0.43	na	na	4.7	6	na	**1,700**
PUF-07	04/05/96	5	na	na	6.8 J	350 J	0.31 B	16 J	na	na	na	14 J	na	<0.088	na	na	<0.62	<0.21	na	52 J
PUF-10	04/08/96	1	na	na	2.4 J	250 J	0.26 B	14 J	na	na	na	11 J	na	<0.10	na	na	<0.60	<0.20	na	49 J
[illegible]	10/27/1999	1	na	3.4	na	na	na	na	na	na	na	na	750	na	na	na	na	na	<0.509	na
PUF-10	04/08/96	5	na	na	2.7	240	<0.21	9.3	na	na	na	9.6	na	<0.11	na	na	<0.63	<0.21	na	42

TABLE 4-1
Inorganic Compound Detections in Soil Samples
BMI Common Areas
Henderson, Nevada

SITE	DATE	DEPTH (ft bgs)	Aluminum (mg/kg)	Antimony (mg/kg)	Arsenic (mg/kg)	Barium (mg/kg)	Cadmium (mg/kg)	Chromium (mg/kg)	Chromium VI (mg/kg)	Cobalt (mg/kg)	Copper (mg/kg)	Lead (mg/kg)	Manganese (mg/kg)	Mercury (mg/kg)	Molybdenum (mg/kg)	Nickel (mg/kg)	Selenium (mg/kg)	Silver (mg/kg)	Thallium (mg/kg)	Vanadium (mg/kg)
PRG (mg/kg)			76,000	31	22*	5,400	37	210	30	4,700	2,900	400	1,800	6.1	–	1,600	390	390	–	550
PUF-10	04/19/96	1	na	na	<6.0	360 B	<2.0	340	na	na	na	30	na	<0.10	na	na	<5.8	<2.0	na	990
PUG-01	10/12/1999	1	na	0.68	6.3	510	na	17	na	na	na	30	510	na	na	na	na	na	<0.511	42
PUG-02	10/12/1999	1	na	2	9.1	890	na	240	na	na	na	470	830	na	na	na	na	na	<0.513	390
PUG-03	10/12/1999	1	na	1	6	570	na	180	na	na	na	300	700	na	na	na	na	na	<0.513	390
PUG-04	04/04/96	1	na	na	5.8	755	<0.2	623	na	na	na	868	na	0.09	na	na	<0.61	1.8 B	na	708
PUG-04	10/12/1999	1	na	0.82	na	na	na	na	na	na	na	na	1,400	na	na	na	na	na	<0.51	na
PUG-04	04/04/96	5	na	na	3.5	318	0.25 B	10.1	na	na	na	10	na	<0.09	na	na	<0.62	<0.21	na	29.7
PUG-05	10/12/1999	1	na	0.78	4.8	550	na	480	na	na	na	510	2,500	na	na	na	na	na	<0.511	610
PUG-06	04/04/96	1	na	na	12.6	1,450	<0.21	1710	na	na	na	3,270	na	0.86	na	na	<3.2	11.5	na	2,780
PUG-06	10/12/1999	1	na	4.3	na	na	na	na	na	na	na	na	28,000	na	na	na	na	na	2.2	na
PUG-06	04/04/96	5	na	na	2.3	276	0.35 B	9.4	na	na	na	6.7	na	<0.12	na	na	<0.7	<0.23	na	40.3
PUG-07	04/04/96	1	na	na	35.3	7,010	<0.21	745	na	na	na	1,390	na	1.2	na	na	<6.3	20.8	na	2,910
PUG-07	04/04/96	5	na	na	3	316	<0.21	14.1	na	na	na	13.3	na	<0.1	na	na	<0.63	<0.21	na	31.5
PUG-08	04/05/96	1	na	na	47	5,300	<0.26	860	na	na	na	3,000.0	na	1.2	na	na	9	11	na	2800
PUG-08	04/05/96	5	na	na	5.7	280	0.46 B	22	na	na	na	12	na	<0.095	na	na	<0.62	<0.21	na	32
PUG-09	10/27/1999	1	na	1 J1	65	420	na	360	na	na	na	42	600	na	na	na	na	na	<0.507	790
PUH-01	10/26/1999	1	na	na	11	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
PUH-02	03/25/96	1	na	na	5.7	600	0.33 B	18	na	na	na	47	na	<0.10	na	na	<0.60	<0.20	na	38
PUH-02	10/12/1999	1	na	0.66	na	na	na	na	na	na	na	na	680	na	na	na	na	na	<0.509	na
PUH-02	03/25/96	5	na	na	5.2	550	0.44 B	10	na	na	na	13	na	<0.10	na	na	<0.62	<0.21	na	23
PUH-03	10/12/1999	1	na	0.93	6.7	640	na	28	na	na	na	72	840	na	na	na	na	na	<0.509	64
PU[illegible]	10/12/1999	1	na	<0.5	4.6	400	na	17	na	na	na	na	550	na	na	na	na	na	<0.5	38
P[illegible]	10/12/1999	1	na	<0.5	5.7	420	na	16	na	na	na	na	620	na	na	na	na	na	<0.5	37
PUH-06	10/12/1999	1	na	7.1	25	2,100	na	53	na	na	na	na	2,300	na	na	na	na	na	1.7	190
PUH-07	10/27/1999	1	na	1.2	6.4	620	na	180	na	na	na	31	600	na	na	na	na	na	<0.508	510
PUH-08	04/05/96	1	na	na	62	1,400	<0.20	320	na	na	na	410	na	<0.097	na	na	<0.60	0.97 B	na	1,000
PUH-08	04/05/96	5	na	na	3.1	310	0.27 B	12	na	na	na	11	na	<0.088	na	na	<0.63	<0.21	na	35
PUH-09	10/27/1999	1	na	<0.506	3.2	300	na	190	na	na	na	12	650	na	na	na	na	na	<0.506	550
PUH-11	04/08/96	1	na	na	2.8	280	0.37 B	12	na	na	na	11	na	<0.10	na	na	<0.59	<0.20	na	44
PUH-11	10/27/1999	1	na	<0.512	na	na	na	na	na	na	na	na	690	na	na	na	na	na	<0.512	na
PUH-11	04/08/96	5	na	na	3.7	210	0.42 B	14	na	na	na	8	na	<0.10	na	na	<0.62	<0.21	na	51
PUI-01	10/26/1999	1	na	na	9.1	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
PUI-02	10/26/1999	1	na	na	9.5	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
PUI-03	10/26/1999	1	na	na	13	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
PUI-04	10/26/1999	1	na	na	11	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
PUI-05	10/26/1999	1	na	na	6	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
PUI-06	10/12/1999	1	na	<0.5	3.7	290	na	13	na	na	na	na	400	na	na	na	na	na	<0.5	30
PUI-07	10/12/1999	1	na	0.58	6.1	440	na	17	na	na	na	na	580	na	na	na	na	na	<0.5	40
PUI-08	10/27/1999	1	na	1.5	4.7	610	na	660	na	na	na	35	400	na	na	na	na	na	<0.51	2,100
PUI-09	10/27/1999	1	na	<0.507	6.1	400	na	110	na	na	na	32	590	na	na	na	na	na	<0.507	280
PUI-12	10/27/1999	1	na	<0.506	2.6	310	na	29	na	na	na	18	820	na	na	na	na	na	<0.506	98
PUI-13	10/26/1999	1	na	na	4	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
PUI-14	10/26/1999	1	na	na	3.5	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
PUJ-01	10/26/1999	1	na	na	7.1	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
PUJ-02	10/13/1999	1	na	<0.5	4.4	470	na	10	na	na	na	na	490	na	na	na	na	na	<0.5	24
PUJ-03	10/26/1999	1	na	na	7.3	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
PUJ-04	10/26/1999	1	na	na	17	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
PUJ-05	10/12/1999	1	na	<0.5	4.2	330	na	13	na	na	na	na	520	na	na	na	na	na	<0.5	32
PUJ-06	10/26/1999	1	na	na	13	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
PUJ-07	04/05/96	1	na	na	41	610	<0.20	360	na	na	na	110	na	0.22	na	na	<0.60	0.42 B	na	940
PUJ-07	10/27/1999	1	na	<0.516	na	na	na	na	na	na	na	na	320	na	na	na	na	na	<0.516	na
PUJ-07	04/05/96	5	na	na	18	310	0.31 B	11	na	na	na	9.8	na	<0.096	na	na	<0.63	<0.21	na	30
P[illegible]	10/26/1999	1	na	na	3.1	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
P[illegible]	03/22/96	1	na	na	3.2	190	0.42 B	15	na	na	na	18	na	<0.10	na	na	<0.61	<0.20	na	49
PUJ-14	10/13/1999	1	na	<0.5	na	na	na	na	na	na	na	na	520	na	na	na	na	na	<0.5	na

TABLE 4-1
Inorganic Compound Detections in Soil Samples
BMI Common Areas
Henderson, Nevada

SITE	DATE	DEPTH (ft bgs)	Aluminum (mg/kg)	Antimony (mg/kg)	Arsenic (mg/kg)	Barium (mg/kg)	Cadmium (mg/kg)	Chromium (mg/kg)	Chromium VI (mg/kg)	Cobalt (mg/kg)	Copper (mg/kg)	Lead (mg/kg)	Manganese (mg/kg)	Mercury (mg/kg)	Molybdenum (mg/kg)	Nickel (mg/kg)	Selenium (mg/kg)	Silver (mg/kg)	Thallium (mg/kg)	Vanadium (mg/kg)
PRG (mg/kg)			76,000	31	22*	5,400	37	210	30	4,700	2,900	400	1,800	6.1	–	1,600	390	390	–	550
PUJ-14	03/22/96	5	na	na	4	280	0.46 B	14	na	na	na	8.8	na	<0.11	na	na	0.77 B	<0.21	na	49
PUK-01	10/26/1999	1	na	na	6.4	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
PUK-02	03/25/96	1	na	na	3.6	420	0.31 B	13	na	na	na	23	na	<0.10	na	na	<0.59	<0.20	na	23
PUK-02	10/13/1999	1	na	<0.5	na	na	na	na	na	na	na	na	490	na	na	na	na	na	<0.5	na
PUK-02	03/25/96	5	na	na	3.1	260	0.46 B	6.3	na	na	na	7.4	na	<0.11	na	na	<0.66	<0.22	na	14
PUK-03	10/26/1999	1	na	na	12	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
PUK-04	10/26/1999	1	na	na	7.8	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
PUK-05	10/26/1999	1	na	na	15	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
PUK-06	10/26/1999	1	na	na	5.4	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
PUK-09	04/08/96	1	na	na	12	300	<0.20	**460**	na	na	na	13	na	<0.10	na	na	<0.61	<0.20	na	**1,200**
PUK-09	10/27/1999	1	na	<0.509	na	na	na	na	na	na	na	na	340	na	na	na	na	na	<0.509	na
PUK-09	04/08/96	5	na	na	6.6	300	0.29 B	12	na	na	na	11	na	<0.11	na	na	<0.62	<0.21	na	40
PUK-12	10/26/1999	1	na	na	3.2	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
PUK-13	10/26/1999	1	na	na	3.4	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
PUL-01	10/26/1999	1	na	na	8.7	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
PUL-02	10/26/1999	1	na	na	9.1	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
PUL-03	03/25/96	1	na	na	4.1	320	0.44 B	14	na	na	na	29	na	<0.10	na	na	0.87 B	<0.20	na	33
PUL-03	10/13/1999	1	na	<0.5	na	na	na	na	na	na	na	na	460	na	na	na	na	na	<0.5	na
PUL-03	03/25/96	5	na	na	5.6	530	0.5 B	16	na	na	na	50	na	<0.10	na	na	<0.60	<0.20	na	30
PUL-04	10/26/1999	1	na	na	4.9	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
PUL-09	03/22/96	1	na	na	3	260	0.41 B	19	na	na	na	16	na	<0.097	na	na	<0.60	<0.20	na	61
PUL-09	10/13/1999	1	na	<0.5	na	na	na	na	na	na	na	na	540	na	na	na	na	na	<0.5	na
PI[illegible]	03/22/96	5	na	na	4.8	250	0.49 B	16	na	na	na	9.7	na	<0.10	na	na	0.78 B	<0.21	na	56
P[illegible]	10/26/1999	1	na	na	3.8	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
PUL-11	10/26/1999	1	na	na	3.4	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
PUM-01	10/26/1999	1	na	na	9.4	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
PUM-02	10/26/1999	1	na	na	7.9	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
PUM-03	10/26/1999	1	na	na	5.6	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
PUM-04	10/26/1999	1	na	na	8.4	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
PUM-05	10/26/1999	1	na	na	5.7	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
PUM-06	03/22/96	1	na	na	14	560	0.48 B	130	na	na	na	93	na	<0.092	na	na	1.2	<0.20	na	100
PUM-06	03/22/96	5	na	na	3.2	300	0.4 B	15	na	na	na	12	na	<0.098	na	na	0.66 B	<0.20	na	47
PUM-09	10/26/1999	1	na	na	3	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
PUM-10	10/26/1999	1	na	na	2.9	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
PUM-11	10/26/1999	1	na	na	3.3	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
PUN-03	10/26/1999	1	na	na	5.4	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
PUN-04	10/26/1999	1	na	na	7.4	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
PUN-05	10/26/1999	1	na	na	16	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
PUN-06	10/26/1999	1	na	na	**40**	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
PUN-07	10/13/1999	1	na	<0.5	3.2	230	na	10	na	na	na	na	550	na	na	na	na	na	<0.5	34
PUN-08	10/26/1999	1	na	na	3.7	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
PUN-09	10/26/1999	1	na	na	3.4	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
PUO-03	03/25/96	1	na	na	3.6	310	0.35 B	14	na	na	na	23	na	<0.10	na	na	<0.61	<0.20	na	26
PUO-03	03/25/96	5	na	na	3.6	460	0.37 B	11	na	na	na	11	na	<0.10	na	na	0.71 B	<0.20	na	26
PUO-05	10/26/1999	1	na	na	9.3	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
PUO-06	10/26/1999	1	na	na	17	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
PUO-08	03/22/96	1	na	na	3.4	240	0.48 B	15	na	na	na	16	na	<0.091	na	na	1.2	<0.20	na	50
PUO-08	03/22/96	5	na	na	4.6	300	0.5 B	15	na	na	na	10	na	<0.097	na	na	1 B	<0.22	na	51
PUP-07	03/25/96	1	na	na	7.2	630	0.57 B	20	na	na	na	57	na	<0.10	na	na	<0.59	<0.20	na	51
PUP-07	03/25/96	5	na	na	3.3	330	0.36 B	11	na	na	na	16	na	<0.11	na	na	<0.63	<0.21	na	27
PUQ-02	04/08/96	1	na	na	3.4	250	0.37 B	17	na	na	na	14	na	<0.1	na	na	<0.99	<2	na	50
PUQ-02	04/08/96	5	na	na	4.6	260	0.42 B	12	na	na	na	9.5	na	<0.11	na	na	<1.1	<2.2	na	39
WDB-04	04/15/96	1	na	na	7.9 B	220 B	<10	23	na	na	na	17	na	<0.11	na	na	<10	<21	na	38 B
W[illegible]4	04/15/96	5	na	na	7.4 B	150 B	<11	9.1 B	na	na	na	7.1	na	<0.1	na	na	<11	<21	na	30 B
W[illegible]5	04/16/96	1	na	na	<20	220 B	<10	12 B	na	na	na	66	na	<0.09	na	na	<10	<20	na	41 B
WDB-05	04/16/96	5	na	na	<2.1	16 B	<1.1	3.6	na	na	na	3.4	na	<0.11	na	na	<1.1	<20	na	3.6 B

TABLE 4-1
Inorganic Compound Detections in Soil Samples
BMI Common Areas
Henderson, Nevada

SITE	DATE	DEPTH (ft bgs)	Aluminum (mg/kg)	Antimony (mg/kg)	Arsenic (mg/kg)	Barium (mg/kg)	Cadmium (mg/kg)	Chromium (mg/kg)	Chromium VI (mg/kg)	Cobalt (mg/kg)	Copper (mg/kg)	Lead (mg/kg)	Manganese (mg/kg)	Mercury (mg/kg)	Molybdenum (mg/kg)	Nickel (mg/kg)	Selenium (mg/kg)	Silver (mg/kg)	Thallium (mg/kg)	Vanadium (mg/kg)
PRG (mg/kg)			76,000	31	22*	5,400	37	210	30	4,700	2,900	400	1,800	6.1	--	1,600	390	390	--	550

Notes:
bgs = Below ground surface
mg/kg = milligrams per kilogram
PRG = USEPA Region IX Preliminary Remediation Goal for Residential Uses; detections higher than the PRG are presented in bolded font.
* = For arsenic, the site cleanup goal (as defined in Section 6.0) of 22 mg/kg has been used instead of the PRG.
** = Soil berm sample location.
na = Not analyzed
"<" = Less than; compound not detected above laboratory reporting limits
J1 = The batch matrix spike and/ or matrix spike duplicate were outside acceptance limits. The batch LCS was acceptable.
B = The spike recovery was beyond the range of acceptable limits for this sample.

TABLE 4-2
Pesticide Detections in Soil Samples
BMI Common Areas
Henderson, Nevada

SITE	DATE	DEPTH (ft)	Aldrin (mg/kg)	alpha-BHC (mg/kg)	beta-BHC (mg/kg)	D-BHC (mg/kg)	G-BHC (mg/kg)	alpha-Chlordane (mg/kg)	gamma-Chlordane (mg/kg)	4,4'-DDD (mg/kg)	4,4'-DDE (mg/kg)	4,4'-DDT (mg/kg)	Dieldrin (mg/kg)	Endosulfan I (mg/kg)	Endosulfan II (mg/kg)	Heptachlor Epoxide (mg/kg)	Heptachlor (mg/kg)	Methoxychlor (mg/kg)	Toxaphene (mg/kg)
PRG Residential (mg/kg)			**0.029**	**0.09**	**0.32**	**0.32**	**0.44**	**1.6**	**1.6**	**2.4**	**1.7**	**1.7**	**0.03**	**370**	**370**	**0.053**	**0.11**	**310**	**0.44**
ADB-01	4/18/1996	1	<0.0017	<0.0017	0.0013 J	0.0019 J	<0.0017	<0.0017	<0.0017 I	<0.0034	0.1	0.15	<0.0034	<0.0018 I	<0.0034	<0.0017	<0.0017	<0.017	<0.17
ADB-01	4/18/1996	5	<0.0018	<0.0018	0.00094 J	<0.0018	<0.0018	<0.0018	<0.0018	<0.0036	0.055	0.028	<0.0036	<0.0019 I	<0.0036	<0.0018	<0.0018	<0.018	<0.18
ADB-02	4/18/1996	1	<0.0017	<0.0017	0.0031	<0.0017	<0.0017	<0.0017	<0.0017 I	<0.0033	0.12	0.16	<0.0033	<0.0017 I	<0.0033	<0.0017	<0.0017	<0.017	<0.17
ADB-02	4/18/1996	5	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0036	0.0034 J	0.0015 J	<0.0036	<0.0017 I	<0.0036	<0.0019	<0.0019	<0.019	<0.19
ADB-03	4/18/1996	1	<0.0018	<0.0018	<0.0018	<0.0018	<0.0018	<0.0018	<0.0018	<0.0034	0.0012 J	0.0021 J	<0.0034	<0.0018	<0.0034	<0.0018	<0.0018	<0.018	<0.18
ADB-03	4/18/1996	5	<0.0018	<0.0018	<0.0018	<0.0018	<0.0018	<0.0018	<0.0018	<0.0036	0.0059	0.0074	<0.0036	<0.0019 I	<0.0036	<0.0018	<0.0018	<0.018	<0.18
ADB-04	4/18/1996	1	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0036	0.0078	0.0056	<0.0036	<0.0019 I	<0.0036	<0.0019	<0.0019	<0.019	<0.19
ADB-04	4/18/1996	5	<0.0018	<0.0018	<0.0018	<0.0018	<0.0018	<0.0018	<0.0018	<0.0036	0.0027 J	0.0024 J	<0.0036	<0.0018 I	<0.0036	<0.0018	<0.0018	<0.018	<0.18
ADB-05	4/19/1996	1	<0.0017	<0.0017	<0.0017	<0.0017	<0.0017	<0.0017	<0.0017	<0.0033	0.012	0.027	<0.0033	<0.0017	<0.0033	<0.0017	<0.0017	<0.017	<0.17
ADB-06	4/18/1996	1	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0037	0.014	0.019	<0.0037	<0.0013 I	<0.0037	<0.0019	<0.0019	<0.019	<0.19
ADB-06	4/18/1996	5	<0.0018	<0.0018	<0.0018	<0.0018	<0.0018	<0.0018	<0.0018	<0.0035	0.0018 J	<0.0035	<0.0035	<0.0018	<0.0035	<0.0018	<0.0018	<0.018	<0.18
ADB-07	4/19/1996	1	<0.0018	0.0026	0.016	<0.0018	<0.0018	<0.0018 I	<0.0018 I	<0.0035	0.67	0.34 J	<0.0035	<0.0019 I	<0.0035	<0.0018	<0.0018	<0.018	<0.18
ADB-07	4/19/1996	5	<0.0018	<0.0018	<0.0018	<0.0018	<0.0018	<0.0018	<0.0018	<0.0034	<0.0034	<0.0034	<0.0034	<0.0018	<0.0034	<0.0018	<0.0018	<0.018	<0.18
ADB-08	4/9/1996	1	<0.0018	<0.0018	<0.0018	<0.0018	<0.0018	<0.0018	<0.0018	<0.0036	0.01	<0.0036	<0.0036	<0.0039 I	<0.0036	<0.0018	<0.0018	<0.018	<0.18
ADB-08	4/9/1996	5	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019 I	<0.0037	0.032	0.022	<0.0037	<0.0019 I	<0.0037	<0.0019	<0.0019	<0.019	<0.19
ADB-10	3/21/1996	1	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0036	<0.0036	<0.0036	<0.0036	<0.0019	<0.0036	<0.0019	<0.0019	<0.019	<0.19
ADB-10	3/21/1996	5	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0036	0.011	<0.0036	<0.0036	<0.0019	<0.0036	<0.0019	<0.0019	<0.019	<0.19
ADB-11	3/21/1996	1	<0.0017	<0.0017	<0.0017	<0.0017	<0.0017	<0.0017	<0.0017	<0.0036	<0.0033	<0.0033	<0.0033	<0.0017	<0.0033	<0.0017	<0.0017	<0.017	<0.17
ADB-11	3/21/1996	5	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0036	<0.0036	<0.0036	<0.0036	<0.0019	<0.0036	<0.0019	<0.0019	<0.019	<0.19
ADB-12	3/22/1996	1	<0.0017	<0.0017	<0.0017	<0.0017	<0.0017	<0.0017	<0.0017	<0.0033	<0.0033	<0.0033	<0.0033	<0.0017	<0.0033	<0.0017	<0.0017	<0.017	<0.17
ADB-12	3/22/1996	4.5	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0036	<0.0036	<0.0036	<0.0036	<0.0019	<0.0036	<0.0019	<0.0019	<0.019	<0.19
ADB-13	4/11/1996	1	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	0.0031 J	0.0012 J	0.007	<0.0036	<0.0019 I	<0.0036	<0.0019	<0.0019	<0.019	<0.19
ADB-13	4/11/1996	5	<0.0019	<0.0019	<0.0019	0.0022	<0.0019	<0.0019	<0.0019	<0.0038	0.0031 J	<0.0038	<0.0038	<0.0019 I	<0.0038	<0.0019	<0.0019	<0.019	<0.19
ADB-14	4/11/1996	1	<0.0017	<0.0017	0.013	<0.0017	<0.0017	<0.0017	<0.0017	0.015	0.047	<0.0034	<0.0034	<0.0017 I	<0.0034	<0.0017	<0.0017	<0.017	<0.17
ADB-14	4/11/1996	5	<0.0018	<0.0018	0.02	<0.0018	<0.0018	<0.0018	<0.0018	<0.0034	0.0017 J	<0.0034	<0.0034	<0.0018 I	<0.0034	<0.0018	<0.0018	<0.018	<0.18
ADB-15	4/11/1996	1	<0.0017	<0.0017	0.021	<0.0017	<0.0017	<0.0017	<0.0017	<0.0034	0.19	<0.0034	<0.0034	<0.0017 I	<0.0034	<0.0017	<0.0017	<0.017	<0.17
ADB-15	4/11/1996	5	<0.0018	<0.0018	0.0083	<0.0018	<0.0018	<0.0018	<0.0018	<0.0034	0.0058	<0.0034	<0.0034	<0.0018 I	<0.0034	<0.0018	<0.0018	<0.018	<0.18
BDB-09	4/9/1996	1	<0.2	**1.7**	<2.0	<2.0	<2.0	<2.0	<2.0	<3.9	**98**	**52**	<3.9	<3.9	<3.9	<2.0	<2.0	<20.0	<20
BDB-09	4/9/1996	5	<0.92	<2.8	<2.8	<2.8	<2.8	<2.8	<2.8 I	<5.4	**96**	**82**	<5.4	<5.4 I	<5.4	<2.8	<2.8	<28	**92**
BDB-10	4/9/1996	1	<0.044	<0.044	<0.044	<0.044	<0.044	<0.044	<0.044 I	<0.085	**32**	**4.1**	<0.085	<0.085 I	<0.085	<0.044	<0.044	<0.44	<4.4
BDB-10	4/9/1996	5	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019 I	<0.0036	0.0015 J	<0.0036	<0.0036	<0.0019 I	<0.0036	<0.0019	<0.0019	<0.019	<0.19
BDB-11	4/9/1996	1	<2.0	**0.98** J	<2.0	<2.0	<2.0	<2.0	<2.0 I	<3.8	**17**	**26**	<3.8	<3.8 I	<3.8	<2.0	<2.0	<20.0	<200
BDB-11	4/9/1996	5	<0.0018	0.0015 J	<0.0018	<0.0018	<0.0018	<0.0018	<0.0018 I	<0.0035	0.025	0.031	<0.0035	<0.0035 I	<0.0035	<0.0018	<0.0018	<0.018	<0.18
BDB-12	4/9/1996	1	<1.8	**1.6** J	<0.0018	<0.0018	<0.0018	<0.0018	<0.0018	**48**	**390**	**220**	<3.4	<3.4	<3.4	<1.8	<1.8	<1.8	<180
BDB-12	4/9/1996	5	<0.0018	<0.0018	0.008	<0.0018	<0.0018	<0.0018	<0.0018	<0.0036	0.044	0.021	<0.0036	<0.0018	<0.0036	<0.0018	<0.0018	<0.018	<0.18
BDB-13	4/18/1996	1	<0.0018	<0.018	<0.018	0.021 J	<0.018	<0.018	<0.018 I	0.76	**3.5**	**1.7**	<0.034	<1.7 I	<0.034	<0.034	<0.034 I	<0.18	<1.8
BDB-13	4/18/1996	5	<0.0018	<0.36	<0.36	<0.36	<0.36	<0.36	<0.36	0.78	**3.4**	1.1	<0.7	<2.6 I	<0.7	<0.36	<0.36	<3.6	<0.18
BDB-14	4/4/1996	1	<0.0017	<0.0017	<0.0017	<0.0017	<0.0017	<0.0017	<0.0017 I	<0.0033	0.059	0.0097	<0.0033	<0.043 I	<0.0033	<0.0017	<0.0017	<0.017	<0.17
BDB-14	4/4/1996	5	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0036	0.0015 J	<0.0036	<0.0036	<0.0012 I	<0.0036	<0.0019	<0.0019	<0.019	<0.19
BDB-15	4/4/1996	1	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	<0.033	0.12	<0.033	<0.033	<0.14 I	<0.033	<0.017	<0.017	<0.17	<1.7
BDB-15	4/4/1996	5	<0.0018	<0.0018	<0.0018	<0.0018	<0.0018	<0.0018	<0.0018	<0.0034	0.0014 J	<0.0034	<0.0034	<0.0029 I	<0.0034	<0.0018	<0.0018	<0.018	<0.18
BDB-16	4/5/1996	1	<0.0017	<0.0017	0.011	<0.0017	<0.0017	<0.0017	<0.0017	<0.0033	0.028	<0.0033	<0.0033	<0.016 I	<0.0033	<0.0017	<0.0017	<0.017	<0.17
BDB-16	4/5/1996	5	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0036	<0.0036	<0.0036	<0.0036	<0.0022 I	<0.0036	<0.0019	<0.0019	<0.019	<0.19
BDB-17	4/5/1996	1	<0.0017	<0.0017	0.012	<0.0017	<0.0017	<0.0017	<0.0017	<0.0033	0.015	<0.0033	<0.0033	<0.0081 I	<0.0033	<0.0017	<0.0017	<0.017	<0.17
BDB-17	4/5/1996	5	<0.0017	<0.0017	0.0057	<0.0017	<0.0017	<0.0017	<0.0017	<0.0033	<0.0033	<0.0033	<0.0033	<0.0032 I	<0.0033	<0.0017	<0.0017	<0.017	<0.17
BDB-18	4/5/1996	1	<0.0017	<0.0017	<0.0017	<0.0017	<0.0017	<0.0017	<0.0017	<0.0033	<0.0033	<0.0033	<0.0033	<0.0017	<0.0033	<0.0017	<0.0017	<0.017	<0.17

TABLE 4-2
Pesticide Detections in Soil Samples
BMI Common Areas
Henderson, Nevada

SITE	DATE	DEPTH (ft)	Aldrin (mg/kg)	alpha-BHC (mg/kg)	beta-BHC (mg/kg)	D-BHC (mg/kg)	G-BHC (mg/kg)	alpha-Chlordane (mg/kg)	gamma-Chlordane (mg/kg)	4,4'-DDD (mg/kg)	4,4'-DDE (mg/kg)	4,4'-DDT (mg/kg)	Dieldrin (mg/kg)	Endosulfan I (mg/kg)	Endosulfan II (mg/kg)	Heptachlor Epoxide (mg/kg)	Heptachlor (mg/kg)	Methoxychlor (mg/kg)	Toxaphene (mg/kg)
PRG Residential (mg/kg)			**0.029**	**0.09**	**0.32**	**0.32**	**0.44**	**1.6**	**1.6**	**2.4**	**1.7**	**1.7**	**0.03**	**370**	**370**	**0.053**	**0.11**	**310**	**0.44**
BDB-18	4/5/1996	5	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0036	<0.0036	<0.0036	<0.0036	<0.0019	<0.0036	<0.0019	<0.0019	<0.019	<0.19
BDB-19	3/25/1996	1	<0.0017	<0.0017	0.0052	<0.017	<0.017	<0.017	<0.017	<0.0033	0.0086	<0.0033	<0.0033	<0.003 I	<0.0033	<0.0017	<0.0017	<0.017	<0.17
BDB-19	3/25/1996	5	<0.0017	<0.0017	<0.0017	<0.0017	<0.0017	<0.0017	<0.0017	<0.0033	<0.0033	<0.0033	<0.0033	<0.0017	<0.0033	<0.0017	<0.0017	<0.017	<0.17
BDB-20	4/8/1996	1	<0.0075	<0.0075	0.012	<0.0075	<0.0075	<0.0075	<0.0075	<0.015	0.026	<0.015	<0.015	<0.016 I	<0.015	<0.0075	<0.0075	<0.075	<0.75
BDB-20	4/8/1996	5	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0036	<0.0036	<0.0036	<0.0036	<0.0019	<0.0036	<0.0019	<0.0019	<0.019	<0.19
BDB-21	4/9/1996	1	<0.0018	<0.0018	<0.0018	<0.0018	<0.0018	<0.0018	<0.0018	<0.0035	0.001 J	0.0012 J	<0.0035	<0.0018 I	<0.0035	<0.0018	<0.0018	<0.018	<0.18
BDB-21	4/9/1996	5	<0.002	<0.0018	<0.002	<0.0018	<0.0018	<0.0018	<0.0018	<0.0038	0.00091 J	0.0045	<0.0036	<0.0018 I	<0.0036	<0.0018	<0.0018	<0.018	<0.18
BDB-22	4/17/1996	1	<0.0018	0.0011 J	0.0066	0.015	<0.0018	<0.0018	<0.0018 I	<0.0034	0.027	0.013	0.0015 J	<0.0018 I	<0.0034	<0.0018	<0.0018	<0.018	<0.18
BDB-22	4/17/1996	5	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0036	<0.0036	<0.0036	<0.0036	<0.0019	<0.0036	<0.0019	<0.0019	<0.019	<0.19
BDB-23	4/17/1996	1	<0.0019	<0.0019	0.0028	<0.0019	<0.0019	<0.0019	<0.0019	<0.0038	0.0043	<0.0038	<0.0038	<0.0019	<0.0038	<0.0019	<0.0019	<0.019	<0.19
BDB-23	4/17/1996	5	<0.0019	<0.0019	0.0037	<0.0019	<0.0019	<0.0019	<0.0019	<0.0038	0.0018 J	<0.0038	<0.0038	<0.0019	<0.0038	<0.0019	<0.0019	<0.019	<0.19
BDB-24	4/17/1996	1	<0.0018	<0.0018	<0.0018	<0.0018	<0.0018	<0.0018	<0.0018	<0.0034	<0.0034	<0.0034	<0.0034	<0.0018	<0.0034	<0.0018	<0.0018	<0.018	<0.18
BDB-24	4/17/1996	5	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.0038	<0.0038	<0.0038	<0.0038	<0.002	<0.0038	<0.002	<0.002	<0.02	<0.2
BDB-25	4/11/1996	1	<0.0019	<0.0019	0.0074	<0.0019	<0.0019	<0.0019	<0.0019	<0.0037	0.0023 J	0.0097	<0.0037	<0.0019 I	<0.0037	<0.0019	<0.0019	<0.019	<0.19
BDB-25	4/11/1996	5	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0036	0.0034 J	0.0025 J	<0.0036	<0.0019 I	<0.0036	<0.0019	<0.0019	<0.019	<0.19
BDB-26	4/11/1996	1	<0.0019	<0.0019	0.004	0.0032	<0.0019	<0.0019	<0.0019	<0.0037	0.0011 J	0.01	<0.0037	<0.0019	<0.0037	<0.0019	<0.0019	<0.019	<0.19
BDB-26	4/11/1996	5	<0.0019	0.00069 J	0.00083 J	0.0016 J	<0.0019	<0.0019	<0.0019	<0.0037	0.00095 J	<0.0037	<0.0037	<0.0019	<0.0037	<0.0019	<0.0019	<0.019	<0.19
NDB-04	4/15/1996	1	<0.017	<0.017	0.096	<0.017	<0.017	<0.017	<0.017	<0.033	0.065	0.12	<0.0033	<0.017 I	<0.033	<0.017	<0.017 I	<0.17	<1.7
NDB-04	4/15/1996	5	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0038	<0.0038	<0.0038	<0.0038	<0.0019	<0.0038	<0.0019	<0.0019	<0.019	<0.19
PLC-01	4/9/1996	1	<0.0017	<0.0017	0.004	<0.0017	<0.0017	<0.0017	<0.0017	<0.0034	0.0052	<0.0034	<0.0034	<0.0017	<0.0034	<0.0017	<0.0017	<0.17	<0.17
PLC-01	4/9/1996	5	<0.0018	<0.0018	0.00075 J	<0.0018	<0.0018	<0.0018	<0.0018	<0.0035	0.0016 J	<0.0035	<0.0035	<0.0018 I	<0.0035	<0.0018	<0.0018	<0.018	<0.18
PLE-01	4/10/1996	1	<0.0017	<0.0017	0.0052	<0.0017	<0.0017	<0.0017	<0.0017	<0.0033	<0.0033	<0.0033	<0.0033	<0.0017	<0.0033	<0.0017	<0.0017	<0.17	<0.17
PLE-01	4/10/1996	5	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0036	<0.0036	<0.0036	<0.0036	<0.0019	<0.0036	<0.0019	<0.0019	<0.019	<0.19
PLE-09	4/11/1996	1	<0.0018	<0.0018	<0.0018	0.058	<0.0018	<0.0018	<0.0018 I	<0.0034	**4**	1.7	<0.0034	<0.0018	<0.0034	<0.0018	<0.0018	<0.018	<0.18
PLE-09	4/11/1996	5	<0.0018	0.0023	0.019	<0.0017	<0.0017	<0.0017	<0.0017	<0.0034	<0.0035	<0.0034	<0.0034	<0.0017	<0.0035	<0.0017	<0.0017	<0.17	<0.18
PLG-01	4/10/1996	1	<0.0019	0.0024	0.023	0.013	<0.0019	<0.0019	<0.0019	<0.0036	0.021	<0.0036	<0.0036	<0.0019	<0.0036	<0.0019	<0.0019	<0.019	<0.19
PLG-01	4/10/1996	5	<0.0022	<0.0022	0.0047	0.0032	<0.0022	<0.0022	<0.0022	<0.0043	0.0057	<0.0043	<0.0043	<0.0022 I	<0.0043	<0.0022	<0.0022	<0.022	<0.22
PLG-05	4/16/1996	1	<0.002	0.011	0.06	0.019	<0.002	<0.002	<0.002	0.015	0.47	<0.0039	<0.0039	<0.002 I	<0.0039	<0.002	<0.002	<0.02	<0.2
PLG-05	4/16/1996	5	<0.002	<0.002	0.019	0.0026	<0.002	<0.002	<0.002	<0.0038	<0.0038	<0.0038	<0.0038	<0.002	<0.0038	<0.002	<0.002	<0.02	<0.2
PLH-01	4/10/1996	1	<0.0022	0.0045	0.035	0.018	<0.0022	<0.0022	<0.0022	<0.0043	0.02	<0.0043	<0.0043	<0.0022 I	<0.0043 I	<0.0022	<0.0022	<0.022	<0.22
PLH-01	4/10/1996	5	<0.0018	<0.0018	<0.0018	<0.0018	<0.0018	<0.0018	<0.0018	<0.0035	0.002 J	<0.0035	<0.0035	<0.0018 I	<0.0035	<0.0018	<0.0018	<0.018	<0.18
PLH-04	4/16/1996	1	<0.002	0.0096	0.081	0.031	<0.002	<0.002	<0.002	<0.0038	0.23	<0.0038	<0.0038	<0.002 I	<0.0038 I	<0.002	<0.002	<0.02	<0.2
PLH-04	4/16/1996	5	<0.0019	<0.0019	0.0049	<0.0019	<0.0019	<0.0019	<0.0019	<0.0037	<0.0037	<0.0037	<0.0037	<0.0019	<0.0037	<0.0019	<0.0019	<0.019	<0.19
PLI-03	4/18/1996	1	<0.0021	0.01	<0.0021	0.059	<0.0021	<0.0021 I	<0.0021 I	<0.0042	0.035	<0.0042	<0.0042	<0.0021 I	<0.0042	<0.0021	<0.0021	<0.021	<0.21
PLI-03	4/18/1996	5	<0.0019	0.0015 J	<0.0019	0.0019	<0.0019	<0.0019	<0.0019	<0.0036	0.0041	<0.0036	<0.0036	<0.0019 I	<0.0036	<0.0019	<0.0019	<0.019	<0.19
PLJ-01	4/18/1996	1	<0.0021	0.011	0.027	0.058	<0.0021	<0.0021	<0.0021	<0.004	0.03	<0.004	<0.004	<0.0021 I	<0.004	<0.0021	<0.0021	<0.021	<0.21
PLJ-02	4/18/1996	1	<0.0036	0.058	0.07	**0.51**	<0.0036	<0.0036	<0.0036	<0.0069	0.047	<0.0069	<0.0069	<0.0036 I	<0.0069	<0.0036	<0.0036	<0.036	<0.36
PUA-01	12/18/1998	1	<0.05	<0.05	0.11	<0.05	<0.05	<0.05	<0.05	0.65	**4.3** E	**1.8**	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
PUA-03	12/18/1998	1	<0.55	<0.55	<0.55	<0.55	<0.55	<0.55	<0.55	<0.55	**16**	**3**	<0.55	<0.55	<0.55	<0.55	<0.55	<0.55	<0.55
PUA-05	4/4/1996	1	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.33	**2.5**	<0.33	<0.33	<0.76 I	<0.33	<0.17	<0.17	<1.7	<17
PUA-05	4/4/1996	5	<0.0017	<0.0017	<0.0017	<0.0017	<0.0017	<0.0017	<0.0017	<0.0033	0.0061	<0.0033	<0.0033	<0.0045 I	<0.0033	<0.0017	<0.0017	<0.017	<0.17
PUA-07	4/4/1996	1	<0.43	<0.43	<0.43	<0.43	<0.43	<0.43	<0.43 I	<0.83	**32**	<0.83	<0.83	<10 I	<0.83	<0.43	<0.43	<4.3	<43
PUA-07	4/4/1996	5	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.33	**1.9**	<0.33	<0.33	<0.69 I	<0.33	<0.17	<0.17	<1.7	<17
PUA-07-N-S	10/19/1999	*	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.05	0.008	<0.005	<0.005	<0.005	<0.005	<0.005	<0.02	<0.06
PUA-07-N-D	10/19/1999	*	<0.005	<0.005	0.03	<0.005	<0.005	0.009	<0.005	<0.005	0.16	0.02	<0.005	<0.005	<0.005	<0.005	<0.005	<0.02	<0.06
PUA-07-E-S	10/19/1999	*	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.0065	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.02	<0.06
PUA-07-E-D	10/19/1999	*	<0.005	<0.005	<0.005	<0.005	<0.005	0.01	<0.005	<0.005	0.12	0.023	<0.005	<0.005	<0.005	<0.005	<0.005	<0.02	<0.06
PUA-09	4/3/1996	1	<0.43	<2.1	<2.1	<2.1	<2.1	<2.1	**1.9**	<4.1	**55**	**7**	<4.1	<33	<4.1	<2.1	<2.1	26	**43**
PUA-09	4/3/1996	5	<0.037	<0.037	<0.037	<0.037	<0.037	<0.037	<0.037	<0.073	0.13	0.078	<0.073	<0.17	<0.073	**0.093**	0.093	<0.37	<3.7
PUA-10	4/3/1996	1	<1.7	**2.1**	<1.7	<1.7	<1.7	<1.7	<1.7 I	<3.3	**190**	**39**	<3.3	<3.3	<3.3	<1.7	<1.7	110	<170
PUA-10	4/3/1996	5	<0.0017	<0.0017	<0.0017	<0.0017	<0.0017	<0.0017	<0.0017	<0.0033	0.076 J	<0.0033	<0.0033	<0.065 I	<0.0033	<0.0033	<0.0033 I	<0.017	<0.17
PUA-11	4/4/1996	1	<0.85	<0.85	<0.85	<0.85	<0.85	<0.85	<0.85	<1.7	1.2 J	<1.7	<1.7	<2.7 I	<1.7	<1.7	<1.7 I	<8.5	<85
PUA-11	4/4/1996	5	<0.0017	0.0035	<0.0017	<0.0017	<0.0017	<0.0017	<0.0017	<0.0033	0.0021 J	<0.0033	<0.0033	<0.0064 I	<0.0033	<0.0017	<0.0017	<0.017	<0.17
PUA-14	4/5/1996	1	<0.0017	<0.0017	<0.0017	<0.0017	<0.0017	<0.0017	<0.0017	<0.0033	0.0067	<0.0033	<0.0033	<0.0019 I	<0.0033	<0.0017	<0.0017	<0.017	<0.19
PUA-14	4/5/1996	5	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0036	<0.0036	<0.0036	<0.0036	<0.0019	<0.0036	<0.0019	<0.0019	<0.019	<0.19
PUB-01	5/13/1999	1	<0.005	<0.005	0.001	<0.005	<0.005	<0.005	<0.005	<0.005	0.47	0.17	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05
PUB-02	3/26/1996	1	<0.0017	<0.0017	0.0039	<0.0017	<0.0017	<0.0017	<0.0017	<0.0033	0.029	0.0091	<0.0033	<0.021 I	<0.0033	<0.0017	<0.0017	<0.017	<0.17
PUB-02	5/13/1999	1	<0.005	<0.005	0.0093	<0.005	0.0097	<0.005	<0.005	<0.005	1.3	0.28	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05
PUB-02	3/26/1996	5	<0.0019	<0.0019	0.0026	<0.0019	<0.0019	<0.0019	<0.0019	<0.0036	0.0014 J	<0.0036	<0.0036	<0.0019 I	<0.0036	<0.0019	<0.0019	<0.019	<0.19
PUB-03	5/13/1999	1	<0.005	0.077	0.074	<0.005	0.097	<0.005	<0.005	**5.7**	**3.5**	1.6	<0.005	<0.5	<0.5	<0.005	<0.005	<0.005	<0.05
PUB-04	3/26/1996	1	<0.0017	<0.0017	<0.0017	<0.0017	<0.0017	<0.0017	<0.0017	<0.0033	0.0084	<0.0033	<0.0033	<0.036 I	<0.0033	<0.0017	<0.0017	<0.017	<0.17

TABLE 4-2
Pesticide Detections in Soil Samples
BMI Common Areas
Henderson, Nevada

SITE	DATE	DEPTH (ft)	Aldrin (mg/kg)	alpha-BHC (mg/kg)	beta-BHC (mg/kg)	D-BHC (mg/kg)	G-BHC (mg/kg)	alpha-Chlordane (mg/kg)	gamma-Chlordane (mg/kg)	4,4'-DDD (mg/kg)	4,4'-DDE (mg/kg)	4,4'-DDT (mg/kg)	Dieldrin (mg/kg)	Endosulfan I (mg/kg)	Endosulfan II (mg/kg)	Heptachlor Epoxide (mg/kg)	Heptachlor (mg/kg)	Methoxychlor (mg/kg)	Toxaphene (mg/kg)
PRG Residential (mg/kg)			**0.029**	**0.09**	**0.32**	**0.32**	**0.44**	**1.6**	**1.6**	**2.4**	**1.7**	**1.7**	**0.03**	**370**	**370**	**0.053**	**0.11**	**310**	**0.44**
PUB-04	3/26/1996	5	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0036	<0.0036	<0.0036	<0.0036	<0.0019 I	<0.0036	<0.0019	<0.0019	<0.019	<0.19
PUB-05	10/13/1999	1	<0.005	<0.005	<0.005	<0.005	<0.005	0.2	<0.005	<0.060	<0.005	0.17	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05
PUB-06	4/3/1996	1	<0.034	<0.034	<0.034	<0.034	<0.034	<0.034	<0.034 I	<0.065	0.28	<0.065	<0.065	<1.3 I	<0.065	<0.34	<0.34	<0.34	<3.4
PUB-06	4/3/1996	5	<0.033	<0.033	<0.033	<0.033	<0.033	<0.033	<0.033	<0.065	0.083	<0.065	<0.065	<0.16 I	<0.065	<0.033	<0.033	<0.33	<3.3
PUB-08	4/3/1996	1	<0.510	<0.510	<0.510	<0.510	<0.510	<0.510	<0.510 I	<0.99	**17**	<0.99	<0.99	<34 I	<0.99	<0.51	<0.51	<5.1	<51
PUB-08	4/3/1996	5	<0.034	<0.034	<0.034	<0.034	<0.034	<0.034	<0.034 I	<0.065	1.1	0.28	<0.065	<1.2 I	<0.065	<0.034	<0.034	<0.34	<3.4
PUB-09	4/3/1996	1	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7 I	<3.3	**180**	**36**	<3.3	<320 I	<3.3	<1.7	<1.7	<17	<170
PUB-09	4/3/1996	5	<0.34	<0.34	<0.34	<0.34	<0.34	<0.34	<0.34 I	<0.66	**6.4**	**2.3**	<0.66	<17 I	<0.66	<0.34	<0.34	<3.4	<34
PUB-09	11/17/1998	9-10	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**3.5**	0.83	<0.5	<0.5	<0.5	<0.5	<0.5	<2 Jc	<20
PUB-09	11/17/1998	14-15	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.061	0.014	<0.005	<0.005	<0.005	<0.005	<0.005	<0.02 Jc	<0.2
PUB-10	4/3/1996	1	<1.7	**1.7** J	<1.7	<1.7	<1.7	<1.7	**10**	<3.3	**69**	**19**	<3.3	<3.3	<3.3	<1.7	<1.7	<17	<170
PUB-10	4/3/1996	5	<0.85	**2.1**	<0.85	<0.85	<0.85	<0.85	**4.8**	<1.7	**29**	**11**	<1.7	<1.7	<1.7	<0.85	**3.1**	<8.5	<85
PUB-10	11/17/1998	9-10	<5	<5	<5	<5	<5	<5	<5	<5	**74.0**	**21.0**	<5	<5	<5	<5	<5	<20 Jc	<200
PUB-10	11/17/1998	14-15	<5	<5	<5	<5	<5	<5	<5	<5	**44.0**	**12.0**	<5	<5	<5	<5	<5	<20 Jc	<200
PUB-10	10/19/1999	14-15	<0.005	<0.005	0.018 Jc	<0.005 Jc	<0.005 Jc	<0.005	<0.005	<0.005 Jc	0.026 Jc	0.0097	<0.005	<0.005	<0.005	<0.005	<0.005	<0.020	<0.2
PUB-10	10/19/1999	19-20	<0.005	<0.005	<0.005 Jc	<0.005 Jc	<0.005 Jc	<0.005	<0.005	<0.005 Jc	0.0077 Jc	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.020	<0.2
PUB-10	10/19/1999	24-25	<0.005	<0.005	<0.005 Jc	<0.005 Jc	<0.005 Jc	<0.005	<0.005	<0.005 Jc	0.041 Jc	0.0072	<0.005	<0.005	<0.005	<0.005	<0.005	<0.020	<0.2
PUB-10	10/19/1999	29-30	<0.005	<0.005	<0.005 Jc	<0.005 Jc	<0.005 Jc	<0.005	<0.005	<0.005 Jc	0.015 Jc	0.0061	<0.005	<0.005	<0.005	<0.005	<0.005	<0.020	<0.2
PUB-10	10/19/1999	39-40	<0.005	<0.005	<0.005 Jc	0.011 Jc	<0.005 Jc	<0.005	<0.005	<0.005 Jc	0.018 Jc	0.0053	<0.005	<0.005	<0.005	<0.005	<0.005	<0.020	<0.2
PUB-10	10/19/1999	39-40D	<0.005	<0.005	<0.005 Jc	<0.005 Jc	<0.005 Jc	<0.005	<0.005	<0.005 Jc	<0.005 Jc	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.020	<0.2
PUB-10	10/19/1999	49-50	<0.005	<0.005	<0.005 Jc	<0.005 Jc	<0.005 Jc	<0.005	<0.005	<0.005 Jc	0.0095 Jc	0.0070	<0.005	<0.005	<0.005	<0.005	<0.005	<0.020	<0.2
PUB-10-N-S	10/19/1999	*	<0.005	<0.005	0.015	<0.005	<0.005	0.086	<0.005	<0.005	0.97	0.13	<0.005	<0.005	<0.005	<0.005	<0.005	<0.02	<0.06
PUB-10-N-D	10/19/1999	*	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.019	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.02	<0.06
PUB-10-E-S	10/19/1999	*	<0.005	<0.005	<0.005	<0.005	<0.005	0.048	<0.005	<0.005	0.27	0.042	<0.005	<0.005	<0.005	<0.005	<0.005	<0.02	<0.06
PUB-10-E-D	10/19/1999	*	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.073	0.018	<0.005	<0.005	<0.005	<0.005	<0.005	<0.02	<0.06
PUC-01	3/26/1996	1	<0.0017	0.0065	0.0022	<0.0017	0.0013 J	<0.0017	<0.0017	<0.0033	0.099	0.05	<0.0033	<0.097 I	<0.0033	<0.0017	<0.0017	<0.017	<0.17
PUC-01	3/26/1996	5	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0036	<0.0036	<0.0036	<0.0036	<0.0019 I	<0.0036	<0.0019	<0.0019	<0.019	<0.19
PUC-02	5/13/1999	1	<0.005	<0.005	0.023	<0.005	<0.005	<0.005	<0.005	<0.005	0.72	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
PUC-03	3/26/1996	1	<0.0019	0.01	<0.034	<0.034	<0.034	<0.034	<0.034	<0.066	0.55	0.1	<0.066	<0.18 I	<0.066	<0.034	<0.034	<0.34	<3.4
PUC-03	3/26/1996	5	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0036	0.15	0.026	<0.0036	<0.55 I	<0.0036	<0.0019	<0.0019	<0.019	<0.19
PUC-05	4/3/1996	1	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7	**9.8**	<3.3	**110**	<3.3	<3.3	96	<3.3	<1.7	<1.7	<17	<170
PUC-05	4/3/1996	5	<0.033	<0.033	<0.033	<0.033	<0.033	<0.033	<0.023 I	<0.065	0.13	<0.065	<0.065	<0.34 I	<0.065	<0.033	<0.033	<0.33	<3.3
PUC-07	4/3/1996	1	<0.85	**0.42** J	<0.85	<0.85	<0.85	<0.85	<0.85 I	<1.7	**41**	**7.7**	<1.7	<35 I	<1.7	<0.85	<0.85	<8.5	<85
PUC-07	4/3/1996	5	<3.4	<3.4	<3.4	<3.4	<3.4	<3.4	<3.4 I	<6.5	**38**	**11**	<6.5	<26 I	<6.5	<3.4	<3.4	<3.4 I	<340
PUC-07	10/20/1999	4-5	<0.005	<0.005	<0.005 Jc	<0.005 Jc	<0.005 Jc	<0.005 Jc	<0.005 Jc	<0.005 Jc	<0.005 Jc	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.020	<0.2
PUC-07	10/20/1999	9-10	<0.005	<0.005	<0.005 Jc	<0.005 Jc	<0.005 Jc	<0.005 Jc	<0.005 Jc	<0.005 Jc	<0.005 Jc	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.020	<0.2
PUC-07	10/20/1999	14-15	<0.005	<0.005	<0.005 Jc	<0.005 Jc	<0.005 Jc	<0.005 Jc	<0.005 Jc	<0.005 Jc	0.012 Jc	0.0061	<0.005	<0.005	<0.005	<0.005	<0.005	<0.020	<0.2
PUC-07	10/20/1999	19-20	<0.005	<0.005	<0.005 Jc	<0.005 Jc	<0.005 Jc	<0.005 Jc	<0.005 Jc	<0.005 Jc	0.0075 Jc	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.020	<0.2
PUC-07	10/20/1999	24-25	<0.005	<0.005	<0.005 Jc	<0.005 Jc	<0.005 Jc	<0.005 Jc	<0.005 Jc	<0.005 Jc	0.013 Jc	0.0053	<0.005	<0.005	<0.005	<0.005	<0.005	<0.020	<0.2
PUC-07	10/20/1999	29-30	<0.005	<0.005	<0.005 Jc	<0.005 Jc	<0.005 Jc	<0.005 Jc	<0.005 Jc	<0.005 Jc	0.056 Jc	0.0086	<0.005	<0.005	<0.005	<0.005	<0.005	<0.020	<0.2
PUC-07	10/20/1999	39-40	<0.006	<0.006	0.093 Jc	0.018 Jc	0.049 Jc	<0.006 Jc	<0.006 Jc	<0.006 Jc	<0.006 Jc	0.020	<0.006	<0.006	<0.006	<0.006	<0.006	<0.020	<0.2
PUC-07	10/20/1999	44-45	<0.005	<0.005	<0.005 Jc	<0.005 Jc	<0.005 Jc	<0.005 Jc	<0.005 Jc	<0.005 Jc	<0.005 Jc	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.020	<0.2
PUC-07	10/20/1999	49-50	<0.005	<0.005	<0.005 Jc	<0.005 Jc	<0.005 Jc	<0.005 Jc	<0.005 Jc	<0.005 Jc	0.012 Jc	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.020	<0.2
PUC-07-N-S	10/19/1999	*	<0.005	<0.005	0.008	<0.005	<0.005	0.019	<0.005	<0.005	0.16	0.017	<0.005	<0.005	<0.005	<0.005	<0.005	<0.02	<0.06
PUC-07-N-D	10/19/1999	*	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.023	0.012	<0.005	<0.005	<0.005	<0.005	<0.005	<0.02	<0.06
PUC-07-E-S	10/19/1999	*	<0.005	<0.005	0.007	<0.005	<0.005	0.068	<0.005	<0.005	0.73	0.12	<0.005	<0.005	<0.005	<0.005	<0.005	<0.02	<0.06
PUC-07-E-D	10/19/1999	*	<0.005	<0.005	<0.005	<0.005	<0.005	0.07	<0.005	<0.005	0.4	0.095	<0.005	<0.005	<0.005	<0.005	<0.005	<0.02	<0.06
PUC-08	4/2/1996	1	<0.26	<0.26	<0.26	<0.26	<0.26	<0.26	<0.26 I	<0.50	**12**	0.88	<0.50	<6.1 I	<0.50	<0.26	<0.26	<2.6	<26
PUC-08	4/2/1996	5	<0.0019	<0.0019	0.00083 J	0.0007 J	<0.0019	<0.0019	<0.0019 I	<0.0036	0.052	<0.0036	0.0043	<0.032 I	<0.0036	<0.0019	<0.0019	<0.019	<0.19
PUD-01	5/13/1999	1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**2.7**	1.1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PUD-02	12/18/1998	1	<0.05	<0.05	0.07	<0.05	<0.05	<0.05	<0.05	<0.05	1.6	0.35	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
PUD-06	4/2/1996	1	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7	**5**	<3.3	**70**	<3.3	<3.3	34	<3.3	<1.7	<1.7	<17	<170
PUD-06	4/2/1996	5	<0.0017	<0.0017	<0.0017	<0.0017	<0.0017	<0.0017	<0.0017 I	<0.0033	0.034	<0.0033	<0.0033	<0.062 I	<0.062 I	<0.0017	<0.0017	<0.017	<0.17
PUD-06-N-S	10/20/1999	*	<0.005	<0.005	0.012	<0.005	<0.005	0.094	<0.005	<0.005	1.3	0.11	<0.005	<0.005	<0.005	<0.005	<0.005	<0.02	<0.06
PUD-06-N-D	10/20/1999	*	<0.005	<0.005	<0.005	<0.005	<0.005	0.034	<0.005	<0.005	0.46	0.047	<0.005	<0.005	<0.005	<0.005	<0.005	<0.02	<0.06
PUD-06-E-S	10/20/1999	*	<0.005	<0.005	<0.005	<0.005	<0.005	0.02	<0.005	<0.005	0.2	0.031	<0.005	<0.005	<0.005	<0.005	<0.005	<0.02	<0.06
PUD-06-E-D	10/20/1999	*	<0.005	<0.005	<0.005	<0.005	<0.005	0.037	<0.005	<0.005	0.3	0.047	<0.005	<0.005	<0.005	<0.005	<0.005	<0.02	<0.06
PUD-08	4/2/1996	1	<3.7	<3.7	<3.7	<3.7	<3.7	<3.7	<3.7 I	<7.3	**97**	**12**	<7.3	<59 I	<7.3	<3.7	<3.7	<37	<370
PUD-08	4/2/1996	5	<0.085	<0.085	<0.085	<0.085	<0.085	<0.085	<0.085 I	<.17	0.58	<.17	<.17	<0.085	<.17	<0.085	<0.085	<0.85	<8.5
PUD-09	4/2/1996	1	<3.4	<3.4	<3.4	<3.4	<3.4	<3.4	<3.4 I	<6.6	**46**	**19**	<6.6	<130 I	<6.6	<3.4	<3.4	<34	<340

TABLE 4-2
Pesticide Detections in Soil Samples
BMI Common Areas
Henderson, Nevada

SITE	DATE	DEPTH (ft)	Aldrin (mg/kg)	alpha-BHC (mg/kg)	beta-BHC (mg/kg)	D-BHC (mg/kg)	G-BHC (mg/kg)	alpha-Chlordane (mg/kg)	gamma-Chlordane (mg/kg)	4,4'-DDD (mg/kg)	4,4'-DDE (mg/kg)	4,4'-DDT (mg/kg)	Dieldrin (mg/kg)	Endosulfan I (mg/kg)	Endosulfan II (mg/kg)	Heptachlor Epoxide (mg/kg)	Heptachlor (mg/kg)	Methoxychlor (mg/kg)	Toxaphene (mg/kg)
PRG Residential (mg/kg)			**0.029**	**0.09**	**0.32**	**0.32**	**0.44**	**1.6**	**1.6**	**2.4**	**1.7**	**1.7**	**0.03**	**370**	**370**	**0.053**	**0.11**	**310**	**0.44**
PUD-09	4/2/1996	5	<.17	<.17	<.17	<.17	<.17	<.17	<.17 I	<.33	0.82	<.33	<.33	<2.5 I	<0.33	<0.17	<0.17	<1.7	<17
PUE-01	3/28/1996	1	<0.051	<0.051	<0.051	<0.051	<0.051	<0.051	<0.051	<0.099	0.94	0.17	<0.099	<0.51 I	<0.099	<0.051	<0.051	<0.51	<5.1
PUE-01	5/13/1999	1	<0.005	<0.005	<0.005	0.015	<0.005	<0.005	<0.005	<0.005	0.6	0.16	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
PUE-01	3/28/1996	5	<0.0017	<0.0017	<0.0017	<0.0017	<0.0017	<0.0017	<0.0017	<0.0033	0.021	0.007	<0.0033	<0.0033 I	<0.0033 I	<0.0017	<0.0017	<0.017	<0.17
PUE-02	10/12/1999	1	<0.050	<0.050	<0.050	<0.050	<0.050	0.51	<0.050	<0.60	<0.050	**5.40**	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.5
PUE-03	4/1/1996	1	<0.043	<0.043	0.023	<0.043	<0.043	<0.043	<0.043	<0.083	**3.3**	0.16	<0.083	<1.7 I	<0.083	<0.043	<0.043	<0.43	<0.17
PUE-03	4/1/1996	5	<0.0019	<0.0019	<0.0037	<0.0037	<0.0019	<0.0019	<0.0019	<0.0036	0.0013 J	<0.0036	<0.0036	<0.0019 I	<0.0036	<0.0019	<0.0019	<0.019	<0.19
PUE-05	4/1/1996	1	<1.9	<1.9	<1.9	<1.9	<1.9	<1.9	<1.9	<3.6	**63**	**3.2**	<3.6	<32 I	<3.6	<1.9	<1.9	<19	<19
PUE-05	4/1/1996	5	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0036	0.016	0.029	<0.0036	<0.0019 I	<0.0036	<0.0019	<0.0019	<0.019	<0.19
PUE-06	4/1/1996	1	<0.19	**1.1**	<0.19	<0.19	<0.19	<0.19	<0.19	<0.36	**74**	**16**	<0.36	**180**	<0.36	<0.19	<0.19	<1.9	<19
PUE-06	4/1/1996	5	<0.0019	0.0024	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0036	0.17	0.024	<0.0036	<0.0019 I	<0.0036	<0.0019	<0.0019	<0.019	<0.19
PUE-07	4/2/1996	1	<0.140	<0.140	<0.140	<0.140	<0.140	<0.140 I	<0.140 I	<.270	**1.8**	<.270	<.270	<2.1 I	<.270	<.140	<.140	<1.4	<14
PUE-07	4/2/1996	5	<0.560	<0.560	<0.560	<0.560	<0.560	<0.560	<0.560 I	<1.1	**7.8**	1.2	<1.1	<9.5 I	<1.1	<.560	<.560	<5.60	<56
PUE-07	11/17/1998	14-15	<0.05	<0.05	0.18	<0.05	<0.05	<0.05	<0.05	<0.05	1.4	0.27	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2 Jc	<2
PUE-07	10/20/1999	14-15	<0.005 Jm	<0.005 J	<0.005 J	<0.005 J	<0.005 J	<0.005 J	<0.005 J	<0.005 J	<0.005 J	<0.005 J	<0.005 J	<0.005 Jm	<0.005 J	<0.005 Jm	<0.005 J	<0.020 J	<0.2
PUE-07	10/20/1999	19-20	<0.005	<0.005	<0.005 Jc	<0.005 Jc	<0.005 Jc	<0.005 Jc	<0.005 Jc	<0.005 Jc	<0.005 Jc	<0.005 Jc	<0.005 Jc	<0.005 Jc	<0.005	<0.005	<0.005	<0.020	<0.2
PUE-07	10/20/1999	24-25	<0.005	<0.005	<0.005 Jc	<0.005 Jc	<0.005 Jc	<0.005 Jc	<0.005 Jc	<0.005 Jc	0.012 Jc	<0.005 Jc	<0.005 Jc	<0.005 Jc	<0.005	<0.005	<0.005	<0.020	<0.2
PUE-07	10/20/1999	29-30	<0.005	<0.005	<0.005 Jc	<0.005 Jc	<0.005 Jc	<0.005 Jc	<0.005 Jc	<0.005 Jc	0.013 Jc	0.0067	<0.005 Jc	<0.005 Jc	<0.005	<0.005	<0.005	<0.020	<0.2
PUE-07	10/20/1999	34-35	<0.005	<0.005	<0.005 Jc	<0.005 Jc	<0.005 Jc	<0.005 Jc	<0.005 Jc	<0.005 Jc	0.0075 Jc	<0.005 Jc	<0.005 Jc	<0.005 Jc	<0.005	<0.005	<0.005	<0.020	<0.2
PUE-07	10/20/1999	39-40	<0.005	<0.005	<0.005 Jc	<0.005 Jc	<0.005 Jc	<0.005 Jc	<0.005 Jc	<0.005 Jc	0.019 Jc	0.0054	<0.005 Jc	<0.005 Jc	<0.005	<0.005	<0.005	<0.020	<0.2
PUE-07	10/20/1999	44-45	<0.005	<0.005	<0.005 Jc	<0.005 Jc	<0.005 Jc	<0.005 Jc	<0.005 Jc	<0.005 Jc	0.010 Jc	<0.005 Jc	<0.005 Jc	<0.005 Jc	<0.005	<0.005	<0.005	<0.020	<0.2
PUE-07	10/20/1999	49-50	<0.005	<0.005	<0.005 Jc	<0.005 Jc	<0.005 Jc	<0.005 Jc	<0.005 Jc	<0.005 Jc	<0.005 Jc	<0.005 Jc	<0.005 Jc	<0.005 Jc	<0.005	<0.005	<0.005	<0.020	<0.2
PUE-07-N-S	10/20/1999	*	<0.005	<0.005	0.0065	<0.005	<0.005	0.03	<0.005	<0.005	0.22	0.033	<0.005	<0.005	<0.005	<0.005	<0.005	<0.02	<0.06
PUE-07-N-D	10/20/1999	*	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.055	0.018	<0.005	<0.005	<0.005	<0.005	<0.005	<0.02	<0.06
PUE-07-E-S	10/20/1999	*	<0.005	<0.005	0.0058	<0.005	<0.005	0.02	<0.005	<0.005	0.17	0.027	<0.005	<0.005	<0.005	<0.005	<0.005	<0.02	<0.06
PUE-07-E-D	10/20/1999	*	<0.005	<0.005	<0.005	<0.005	<0.005	0.0065	<0.005	<0.005	0.076	0.016	<0.005	<0.005	<0.005	<0.005	<0.005	<0.02	<0.06
PUF-01	3/25/1996	1	<0.0017	<0.0017	<0.0017	<0.0017	<0.0017	<0.0017	<0.0017	<0.0033	0.18	0.037	<0.0033	<0.14 I	<0.0033	<0.0017	<0.0017	<0.017	<0.17
PUF-01	5/13/1999	1	<0.005	<0.005	0.014	<0.005	<0.005	<0.005	<0.005	<0.005	0.95	0.12	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
PUF-01	3/25/1996	5	<0.0019	<0.0019	0.0033	<0.0019	<0.0019	<0.0019	<0.0019	<0.0036	0.027	0.0093	<0.0036	<0.03 I	<0.03 I	<0.0019	<0.0019	<0.019	<0.19
PUF-02	10/12/1999	1	<0.050	<0.050	<0.050	<0.050	<0.050	0.53	<0.050	<0.60	<0.050	1.30	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.5
PUF-03	3/28/1996	1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.20	**3.8**	0.22	<0.20	<3 I	<0.20	<0.10	<0.10	<1.0	0.17 Z
PUF-03	3/28/1996	5	0.0082	0.0082	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0036	0.18	<0.0036	<0.0036	<0.13 I	<0.0036	<0.0019	<0.0019	<0.019	<0.19
PUF-05	4/4/1996	1	<3.7	<3.7	<3.7	<3.7	<3.7	<3.7	<3.7 I	<7.3	**190**	**7.5**	<7.3	<75 I	<7.3	<3.7	<3.7	<37	<370
PUF-05	4/4/1996	5	<0.0019	<0.0019	0.0013 J	<0.0019	<0.0019	<0.0019	<0.0019 I	<0.0036	0.013	<0.0036	<0.0036	<0.0019 I	<0.0036	<0.0019	<0.0019	<0.019	<0.19
PUF-07	4/5/1996	1	<1.9	<1.9	<1.9	<1.9	<1.9	<1.9	<1.9	<3.6	**23**	**8.9**	<3.6	<3.6 I	<3.6	<1.9	<1.9	<19	<190
PUF-07	4/5/1996	5	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0036	0.023	<0.0036	<0.0036	<0.0019 I	<0.0036	<0.0019	<0.0019	<0.019	<0.19
PUF-10	4/8/1996	1	<0.0017	<0.0017	<0.0017	<0.0017	<0.0017	<0.0017	<0.0017	<0.0033	<0.0033	<0.0033	<0.0033	<0.0017	<0.0033	<0.0017	<0.0017	<0.017	<0.17
PUF-10	4/8/1996	5	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0036	<0.0036	<0.0036	<0.0036	<0.0019	<0.0036	<0.0019	<0.0019	<0.019	<0.19
PUF-10	4/19/1996	1	<0.0017	<0.0017	0.0041	<0.0017	<0.0017	<0.0017	<0.0017	<0.0033	0.002 J	<0.0033	<0.0033	<0.0017 I	<0.0033	<0.0017	<0.0017	<0.017	<0.17
PUG-01	10/12/1999	1	<0.005	<0.005	0.0051	<0.005	<0.005	0.0068	<0.005	<0.060	<0.005	0.086	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05
PUG-02	10/12/1999	1	<0.050	<0.050	<0.050	<0.050	<0.050	0.16	<0.050	<0.60	<0.050	0.87	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.5
PUG-03	10/12/1999	1	<0.025	<0.025	<0.025	<0.025	<0.025	0.063	<0.025	<0.30	<0.025	0.35	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.5
PUG-04	4/4/1996	1	<0.43	<0.43	<0.43	<0.43	<0.43	<0.43	<0.43	<0.83	**2.2**	<0.83	<0.83	<0.83 I	<0.83	<0.43	<0.43	<4.3	<43
PUG-04	4/4/1996	5	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019 I	<0.0036	0.02	0.0039	<0.0036	<0.0036 I	<0.0036	<0.0019	<0.0019	<0.019	<0.19
PUG-05	10/12/1999	1	<0.050	<0.050	<0.050	<0.050	<0.050	0.068	<0.050	<0.60	<0.050	**1.90**	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.5
PUG-06	4/4/1996	1	<1.9	<1.9	<1.9	<1.9	<1.9	<1.9	<1.9 I	<3.6	**25**	**3.8**	<3.6	<3.6 I	<3.6	<1.9	<1.9	<19	<190
PUG-06	4/4/1996	5	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.040	0.017 J	<0.040	<0.040	<0.040 I	<0.040	<0.020	<0.020	<0.2	<2
PUG-07	4/4/1996	1	<3.7	<3.7	<3.7	<3.7	<3.7	<3.7	<3.7 I	<7.3	**140**	**62**	<7.3	<7.3 I	<7.3	<3.7	<3.7	<37	<370
PUG-07	4/4/1996	5	<0.17	<0.17	<.17	<.17	<0.17	<0.17	<0.17	<0.33	<0.33	<0.33	<0.33	<0.33 I	<0.33	<0.17	<0.17	<1.7	<17
PUG-08	4/5/1996	1	<2.2	<2.2	<2.2	<2.2	<2.2	<2.2	<2.2	<4.3	**31**	**49**	<4.3	<4.3 I	<4.3	<2.2	<2.2	<22	<220
PUG-08	4/5/1996	5	<0.0017	<0.0017	<0.0017	<0.0017	<0.0017	<0.0017	<0.0017	<0.0033	0.0082	<0.0033	<0.0033	<0.0019 I	<0.0033	<0.0017	<0.0017	<0.017	<0.17
PUG-09	10/27/1999	1	<0.005	<0.005	<0.005	<0.005	0.0078	<0.005	0.022	<0.060	<0.005 J	0.038 J	<0.005	<0.005 Jm	<0.005 Jc	<0.005 Jm	<0.005 J	<0.005	<0.05
PUH-02	3/25/1996	1	<0.0017	<0.0017	0.0038	<0.0017	<0.0017	<0.0017	<0.0017	<0.0033	0.052	0.0047	<0.0033	<0.0019 I	0.063 I	0.0017	<0.0017	<0.017	<0.17
PUH-02	3/25/1996	5	<0.0017	<0.0017	<0.0017	<0.0017	<0.0017	<0.0017	<0.0017	<0.0033	0.0068	<0.0033	<0.0033	<0.0019 I	<0.0033	0.0017	<0.0017	<0.017	<0.17
PUH-03	10/12/1999	1	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.060	<0.005	0.64	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05
PUH-04	10/12/1999	1	<0.005	<0.005	<0.005	<0.005	<0.005	0.0077	<0.005	<0.060	<0.005	0.079	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05
PUH-05	10/12/1999	1	<0.005	<0.005	<0.005	<0.005	<0.005	0.02	<0.005	<0.060	<0.005	0.12	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05
PUH-06	10/12/1999	1	<0.005	<0.005	0.037	<0.005	<0.005	0.044	<0.005	<0.060	<0.005	0.48	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05
PUH-07	10/27/1999	1	<0.005	<0.005	<0.005	<0.005	<0.005	0.0054	<0.005	<0.060	<0.005	0.045	<0.005	<0.005	<0.005 Jc	<0.005	<0.005	<0.005	<0.05
PUH-08	4/5/1996	1	<0.0017	<0.0017	<0.0017	<0.0017	<0.0017	<0.0017	<0.0017	<0.0033	0.028	<0.0033	<0.0033	<0.0019 I	<0.0033	<0.0017	<0.0017	<0.017	<0.17

TABLE 4-2
Pesticide Detections in Soil Samples
BMI Common Areas
Henderson, Nevada

SITE	DATE	DEPTH (ft)	Aldrin (mg/kg)	alpha-BHC (mg/kg)	beta-BHC (mg/kg)	D-BHC (mg/kg)	G-BHC (mg/kg)	alpha-Chlordane (mg/kg)	gamma-Chlordane (mg/kg)	4,4'-DDD (mg/kg)	4,4'-DDE (mg/kg)	4,4'-DDT (mg/kg)	Dieldrin (mg/kg)	Endosulfan I (mg/kg)	Endosulfan II (mg/kg)	Heptachlor Epoxide (mg/kg)	Heptachlor (mg/kg)	Methoxychlor (mg/kg)	Toxaphene (mg/kg)
PRG Residential (mg/kg)			**0.029**	**0.09**	**0.32**	**0.32**	**0.44**	**1.6**	**1.6**	**2.4**	**1.7**	**1.7**	**0.03**	**370**	**370**	**0.053**	**0.11**	**310**	**0.44**
PUH-08	4/5/1996	5	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0036	<0.0036	<0.0036	<0.0036	<0.0019	<0.0036	<0.0019	<0.0019	<0.019	<0.19
PUH-09	10/27/1999	1	<0.005	<0.005	0.0053	<0.005	<0.005	<0.005	<0.005	<0.060	<0.005	0.008	<0.005	<0.005	<0.005 Jc	<0.005	<0.005	<0.005	<0.05
PUH-11	4/8/1996	1	<0.0017	<0.0017	<0.0017	<0.0017	<0.0017	<0.0017	<0.0017	<0.0033	<0.0033	<0.0033	<0.0033	<0.0017	<0.0033	0.0017	<0.0017	<0.017	<0.17
PUH-11	4/8/1996	5	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0036	<0.0036	<0.0036	<0.0036	<0.0019	<0.0036	0.0019	<0.0019	<0.019	<0.19
PUI-06	10/12/1999	1	<0.025	<0.025	0.013	<0.025	<0.025	<0.025	<0.025	<0.30	<0.025	0.013	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.25
PUI-07	10/12/1999	1	<0.005	<0.005	0.011	<0.005	<0.005	0.0084	<0.005	<0.060	<0.005	0.096	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05
PUI-08	10/27/1999	1	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.060	<0.005	0.037	<0.005	<0.005	<0.005 Jc	<0.005	<0.005	<0.005	<0.05
PUI-09	10/27/1999	1	<0.005	<0.005	0.01	<0.005	<0.005	<0.005	<0.005	<0.060	<0.005	0.013	<0.005	<0.005	<0.005 Jc	<0.005	<0.005	<0.005	<0.05
PUI-12	10/27/1999	1	<0.005	<0.005	0.019	<0.005	<0.005	<0.005	<0.005	<0.060	0.0057	0.066	<0.005	<0.005	<0.005 Jc	<0.005	<0.005	<0.005	<0.05
PUJ-02	10/13/1999	1	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.060	<0.005	0.034	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05
PUJ-05	10/12/1999	1	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.060	<0.005	0.04	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05
PUJ-07	4/5/1996	1	<0.0017	<0.0017	0.022	<0.0017	<0.0017	<0.0017	<0.0017	<0.0033	0.072	<0.0033	<0.0033	<0.0019 I	<0.0033	<0.0017	<0.0017	<0.017	<0.17
PUJ-07	4/5/1996	5	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0036	0.067	<0.0036	<0.0036	<0.0019 I	<0.0036	<0.0019	<0.0019	<0.019	<0.19
PUJ-14	3/22/1996	1	<0.0017	0.0043	0.02	<0.0017	<0.0017	<0.0017	<0.0017	0.008	0.099	0.11	<0.0033	<0.0019 I	<0.0033	<0.0017	<0.0017	<0.017	<0.17
PUJ-14	3/22/1996	5	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0036	<0.0036	<0.0036	<0.0036	<0.0019	<0.0036	<0.0019	<0.0019	<0.019	<0.19
PUK-02	3/25/1996	1	<0.0017	<0.0017	0.0056	<0.0017	<0.0017	<0.0017	<0.0017	<0.0033	0.018	0.0061	<0.0033	<0.0019 I	<0.0033	<0.0017	<0.0017	<0.017	<0.17
PUK-02	3/25/1996	5	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0036	<0.0036	<0.0036	<0.0036	<0.0019	<0.0036	<0.0019	<0.0019	<0.019	<0.19
PUK-09	4/8/1996	1	<0.0017	<0.0017	0.0044	<0.0017	<0.0017	<0.0017	<0.0017	<0.0033	0.012	<0.0033	<0.0033	<0.0019	<0.0033	<0.0017	<0.0017	<0.017	<0.17
PUK-09	4/8/1996	5	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0036	<0.0036	<0.0036	<0.0036	<0.0019	<0.0036	<0.0019	<0.0019	<0.0019	<0.19
PUL-03	3/25/1996	1	<0.0017	<0.0017	0.0057	<0.0017	<0.0017	<0.0017	<0.0017	<0.0033	0.039	0.0065	<0.0033	<0.0019 I	<0.0033	<0.0017	<0.0017	<0.017	<0.17
PUL-03	3/25/1996	5	<0.0017	<0.0017	0.0015	<0.0017	<0.0017	<0.0017	<0.0017	<0.0033	0.16	0.062	<0.0033	<0.0019 I	<0.0033	<0.0017	<0.0017	<0.017	<0.17
PUL-09	3/22/1996	1	<0.0017	<0.0017	<0.0017	<0.0017	<0.0017	<0.0017	<0.0017	<0.0033	0.044	0.038	<0.0033	<0.0019 I	<0.0033	<0.0017	<0.0017	<0.017	<0.17
PUL-09	3/22/1996	5	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0036	<0.0036	<0.0036	<0.0036	<0.0019	<0.0036	<0.0019	<0.0019	<0.019	<0.19
PUM-06	3/22/1996	1	<0.0017	0.0023	0.019	<0.0017	<0.0017	<0.0017	<0.0017	0.0051	0.091	0.092	<0.0033	<0.0019 I	<0.0033	<0.0017	<0.0017	<0.017	<0.17
PUM-06	3/22/1996	5	<0.0017	<0.0017	<0.0017	<0.0017	<0.0017	<0.0017	<0.0017	<0.0033	<0.0033	<0.0033	<0.0033	<0.0017	<0.0033	<0.0017	<0.0017	<0.017	<0.17
PUN-07	10/13/1999	1	<0.005	<0.005	0.015	<0.005	<0.005	<0.005	<0.005	<0.060	0.0074	0.082	<0.0033	<0.005	<0.005	<0.005	<0.005	<0.005	<0.5
PUO-03	3/25/1996	1	<0.0017	<0.0017	0.0042	<0.0017	<0.0017	<0.0017	<0.0017	<0.0033	0.026	<0.0033	<0.0033	<0.0019 I	<0.0033	<0.0017	<0.0017	<0.017	<0.17
PUO-03	3/25/1996	5	<0.0017	<0.0017	<0.0017	<0.0017	<0.0017	<0.0017	<0.0017	<0.0033	<0.0033	<0.0033	<0.0033	<0.0017	<0.0033	<0.0017	<0.0017	<0.017	<0.17
PUO-08	3/22/1996	1	<0.0017	<0.0017	0.014	<0.0017	<0.0017	<0.0017	<0.0017	<0.0033	0.023	0.031	<0.0033	<0.0017 I	<0.0033	<0.0017	<0.0017	<0.017	<0.17
PUO-08	3/22/1996	5	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0036	<0.0036	<0.0036	<0.0036	<0.0019	<0.0036	<0.0019	<0.0019	<0.019	<0.19
PUP-07	3/25/1996	1	<0.0017	<0.0017	0.007	<0.0017	<0.0017	<0.0017	<0.0017	<0.0033	0.0075	<0.0033	<0.0033	<0.0017 I	<0.0033	<0.0017	<0.0017	<0.017	<0.17
PUP-07	3/25/1996	5	<0.0019	<0.0019	0.002	<0.0019	<0.0019	<0.0019	<0.0019	<0.0036	<0.0036	<0.0036	<0.0036	<0.0019	<0.0036	<0.0019	<0.0019	<0.019	<0.19
PUQ-02	4/8/1996	1	<0.0017	<0.0017	0.0046	<0.0017	<0.0017	<0.0017	<0.0017	<0.0033	0.012	0.013	<0.0033	<0.0017 I	<0.0033	<0.0017	<0.0017	<0.017	<0.17
PUQ-02	4/8/1996	5	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0036	<0.0036	<0.0036	<0.0036	<0.0019	<0.0036	<0.0019	<0.0019	<0.019	<0.19
WDB-04	4/15/1996	1	<0.0018	<0.0018	0.0016 J	<0.0018	<0.0018	<0.0018	<0.0018	<0.0035	0.011	0.005	<0.0035	<0.0018 I	<0.0035	<0.0018	<0.0018	<0.018	<0.18
WDB-04	4/15/1996	5	<0.0018	<0.0018	<0.0018	<0.0018	<0.0018	<0.0018	<0.0018	<0.0034	<0.0034	<0.0034	<0.0034	<0.0018	<0.0034	<0.0018	<0.0018	<0.018	<0.18
WDB-05	4/16/1996	1	<0.0018	0.0041	0.014	<0.0018	<0.0018	<0.0018	<0.0018	<0.0034	0.083	0.066	<0.0034	<0.0018 I	<0.0034	<0.0018	<0.0018	<0.018	<0.18
WDB-05	4/16/1996	5	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0036	0.0094	<0.0036	<0.0036	<0.0019 I	<0.0036	<0.0019	<0.0019	<0.019	<0.19

Notes:
Table shows only compounds that were detected in at least one sample.
bgs = below ground surface
mg/kg = milligrams per kilogram
PRG = USEPA Region IX Preliminary Remediation Goals for Residential Soils
* = Soil berm sample location.
Bold indicates that the concentration of a chemical exceeds the PRG for that constituent.
I=Compound reported as positive detections during 8080 analysis; subsequent GC/MS analysis support interpretation of this detection as a false positive.
J = Reported at less than reporting limit

TABLE 4-3
Asbestos Detections in Soil Samples
BMI Common Areas
Henderson, Nevada

Site	Date	Depth (ft bgs)	Asbestos (%)
NESHAPs Standard for Asbestos			**1%**
ADB-01	4/18/1996	1	ND
ADB-01	4/18/1996	5	ND
ADB-02	4/18/1996	1	ND
ADB-02	4/18/1996	5	ND
ADB-03	4/18/1996	1	ND
ADB-03	4/18/1996	5	ND
ADB-04	4/18/1996	1	ND
ADB-04	4/18/1996	5	ND
ADB-05	4/19/1996	1	ND
ADB-06	4/18/1996	1	ND
ADB-06	4/18/1996	5	ND
ADB-07	4/19/1996	1	ND
ADB-07	4/19/1996	5	ND
ADB-08	4/9/1996	1	ND
ADB-08	4/9/1996	5	ND
ADB-10	3/21/1996	1	ND
ADB-10	3/21/1996	5	ND
ADB-11	3/21/1996	1	ND
ADB-11	3/21/1996	5	ND
ADB-13	4/11/1996	1	ND
ADB-13	4/11/1996	5	ND
ADB-14	4/11/1996	1	ND
ADB-14	4/11/1996	5	ND
ADB-15	4/11/1996	1	0.9
ADB-15	4/11/1996	5	ND
BDB-09	4/9/1996	1	**7.5**
BDB-09	4/9/1996	5	**3**
BDB-10	4/9/1996	1	**3**
BDB-10	4/9/1996	5	ND
BDB-11	4/9/1996	1	**3**
BDB-11	4/9/1996	5	ND
BDB-12	4/9/1996	1	**7.5**
BDB-12	4/9/1996	5	0.9
BDB-13	4/18/1996	1	0.9
BDB-13	4/18/1996	5	ND
BDB-14	4/4/1996	1	0.9
BDB-14	4/4/1996	5	ND
BDB-15	4/4/1996	1	ND
BDB-15	4/4/1996	5	ND
BDB-16	4/5/1996	1	ND

TABLE 4-3
Asbestos Detections in Soil Samples
BMI Common Areas
Henderson, Nevada

Site	Date	Depth (ft bgs)	Asbestos (%)
NESHAPs Standard for Asbestos			**1%**
BDB-16	4/5/1996	5	ND
BDB-17	4/5/1996	1	ND
BDB-17	4/5/1996	5	ND
BDB-18	4/5/1996	1	ND
BDB-18	4/5/1996	5	ND
BDB-19	3/25/1996	1	ND
BDB-19	3/25/1996	5	ND
BDB-20	4/8/1996	1	ND
BDB-20	4/8/1996	5	ND
BDB-21	4/9/1996	1	ND
BDB-21	4/9/1996	5	ND
BDB-22	4/17/1996	1	ND
BDB-22	4/17/1996	5	ND
BDB-23	4/17/1996	1	ND
BDB-23	4/17/1996	5	ND
BDB-24	4/17/1996	1	ND
BDB-24	4/17/1996	5	ND
BDB-25	4/11/1996	1	ND
BDB-25	4/11/1996	5	ND
BDB-26	4/11/1996	1	ND
BDB-26	4/11/1996	5	ND
NDB-04	4/15/1996	1	0.9
NDB-04	4/15/1996	5	ND
PLC-01	4/9/1996	1	ND
PLC-01	4/9/1996	5	ND
PLE-01	4/10/1996	1	ND
PLE-01	4/10/1996	5	ND
PLE-09	4/11/1996	1	0.9
PLE-09	4/11/1996	5	ND
PLG-01	4/10/1996	1	ND
PLG-01	4/10/1996	5	ND
PLG-05	4/16/1996	1	ND
PLG-05	4/16/1996	5	ND
PLH-01	4/10/1996	1	ND
PLH-01	4/10/1996	5	ND
PLH-04	4/16/1996	1	ND
PLH-04	4/16/1996	5	ND
PLI-03	4/18/1996	1	ND
PLI-03	4/18/1996	5	ND
PLJ-01	4/18/1996	1	ND
PLJ-02	4/18/1996	1	ND

TABLE 4-3
Asbestos Detections in Soil Samples
BMI Common Areas
Henderson, Nevada

Site	Date	Depth (ft bgs)	Asbestos (%)
NESHAPs Standard for Asbestos			**1%**
PUA-01	12/18/1998	1	ND
PUA-03	12/18/1998	1	**2**
PUA-05	4/4/1996	1	**3**
PUA-05	4/4/1996	5	ND
PUA-07	4/4/1996	1	**7.5**
PUA-07	4/4/1996	5	0.9
PUA-07-N-S	10/19/1999	*	ND
PUA-07-N-D	10/19/1999	*	Trace
PUA-07-E-S	10/19/1999	*	ND
PUA-07-E-D	10/19/1999	*	Trace
PUA-09	4/3/1996	1	**3**
PUA-09	4/3/1996	5	ND
PUA-10	4/3/1996	1	**3**
PUA-10	4/3/1996	5	0.9
PUA-11	4/4/1996	1	**3**
PUA-11	4/4/1996	5	ND
PUA-14	4/5/1996	1	ND
PUA-14	4/5/1996	5	ND
PUB-01	5/13/1999	1	ND
PUB-02	3/26/1996	1	ND
PUB-02	5/13/1999	1	ND
PUB-02	3/26/1996	5	ND
PUB-03	5/13/1999	1	ND
PUB-04	3/26/1996	1	ND
PUB-04	3/26/1996	5	ND
PUB-05	10/13/1999	1	Trace
PUB-06	4/3/1996	1	0.9
PUB-06	4/3/1996	5	ND
PUB-08	4/3/1996	1	**3**
PUB-08	4/3/1996	5	0.9
PUB-09	4/3/1996	1	**3**
PUB-09	4/3/1996	5	**3**
PUB-10	4/3/1996	1	**3**
PUB-10	4/3/1996	5	**3**
PUB-10-N-S	10/19/1999	*	Trace
PUB-10-N-D	10/19/1999	*	ND
PUB-10-E-S	10/19/1999	*	ND
PUB-10-E-D	10/19/1999	*	ND
PUC-01	3/26/1996	1	ND
PUC-01	3/26/1996	5	ND

TABLE 4-3
Asbestos Detections in Soil Samples
BMI Common Areas
Henderson, Nevada

Site	Date	Depth (ft bgs)	Asbestos (%)
NESHAPs Standard for Asbestos			**1%**
PUC-02	5/13/1999	1	ND
PUC-03	3/26/1996	1	ND
PUC-03	3/26/1996	5	ND
PUC-05	4/3/1996	1	**3**
PUC-05	4/3/1996	5	ND
PUC-07	4/3/1996	1	**3**
PUC-07	4/3/1996	5	**3**
PUC-07-N-S	10/19/1999	*	Trace
PUC-07-N-D	10/19/1999	*	Trace
PUC-07-E-S	10/19/1999	*	Trace
PUC-07-E-D	10/19/1999	*	Trace
PUC-08	4/2/1996	1	**3**
PUC-08	4/2/1996	5	0.9
PUD-01	5/13/1999	1	Trace
PUD-02	5/13/1999	1	ND
PUD-06	4/2/1996	1	**3**
PUD-06	4/2/1996	5	ND
PUD-06-N-S	10/20/1999	*	Trace
PUD-06-N-D	10/20/1999	*	ND
PUD-06-E-S	10/20/1999	*	ND
PUD-06-E-D	10/20/1999	*	ND
PUD-08	4/2/1996	1	**3**
PUD-08	4/2/1996	5	0.9
PUD-09	4/2/1996	1	**3**
PUD-09	4/2/1996	5	0.9
PUE-01	3/28/1996	1	ND
PUE-01	3/28/1996	5	ND
PUE-01	5/13/1999	1	ND
PUE-02	10/12/1999	1	Trace
PUE-03	4/1/1996	1	0.9
PUE-03	4/1/1996	5	ND
PUE-05	4/1/1996	1	**3**
PUE-05	4/1/1996	5	ND
PUE-06	4/1/1996	1	**7.5**
PUE-06	4/1/1996	5	ND
PUE-07	4/2/1996	1	**3**
PUE-07	4/2/1996	5	**3**
PUE-07-N-S	10/20/1999	*	Trace
PUE-07-N-D	10/20/1999	*	ND
PUE-07-E-S	10/20/1999	*	ND

TABLE 4-3
Asbestos Detections in Soil Samples
BMI Common Areas
Henderson, Nevada

Site	Date	Depth (ft bgs)	Asbestos (%)
NESHAPs Standard for Asbestos			**1%**
PUE-07-E-D	10/20/1999	*	ND
PUF-01	3/25/1996	1	ND
PUF-01	3/25/1996	5	ND
PUF-01	5/13/1999	1	ND
PUF-02	10/12/1999	1	ND
PUF-03	3/28/1996	1	ND
PUF-03	3/28/1996	5	ND
PUF-05	4/4/1996	1	**3**
PUF-05	4/4/1996	5	ND
PUF-07	4/5/1996	1	**3**
PUF-07	4/5/1996	5	ND
PUF-10	4/8/1996	1	ND
PUF-10	4/8/1996	5	ND
PUF-10	4/19/1996	1	ND
PUG-01	10/12/1999	1	ND
PUG-02	10/12/1999	1	ND
PUG-03	10/12/1999	1	ND
PUG-04	4/4/1996	1	0.9
PUG-04	4/4/1996	5	ND
PUG-05	10/12/1999	1	ND
PUG-06	4/4/1996	1	0.9
PUG-06	4/4/1996	5	ND
PUG-07	4/4/1996	1	**3**
PUG-07	4/4/1996	5	ND
PUG-08	4/5/1996	1	**3**
PUG-08	4/5/1996	5	ND
PUH-02	3/25/1996	1	ND
PUH-02	3/25/1996	5	ND
PUH-03	10/12/1999	1	ND
PUH-04	10/12/1999	1	ND
PUH-05	10/12/1999	1	ND
PUH-06	10/12/1999	1	Trace
PUH-08	4/5/1996	1	ND
PUH-08	4/5/1996	5	ND
PUH-11	4/8/1996	1	ND
PUH-11	4/8/1996	5	ND
PUI-06	10/12/1999	1	ND
PUI-07	10/12/1999	1	ND
PUJ-02	10/13/1999	1	ND
PUJ-05	10/12/1999	1	ND
PUJ-07	4/5/1996	1	ND

TABLE 4-3
Asbestos Detections in Soil Samples
BMI Common Areas
Henderson, Nevada

Site	Date	Depth (ft bgs)	Asbestos (%)
NESHAPs Standard for Asbestos			**1%**
PUJ-07	4/5/1996	5	ND
PUJ-14	3/22/1996	1	ND
PUJ-14	3/22/1996	5	ND
PUK-02	3/25/1996	1	ND
PUK-02	3/25/1996	5	ND
PUK-09	4/8/1996	1	ND
PUK-09	4/8/1996	5	ND
PUL-03	3/25/1996	1	ND
PUL-03	3/25/1996	5	ND
PUL-09	3/22/1996	1	ND
PUL-09	3/22/1996	5	ND
PUM-06	3/22/1996	1	ND
PUM-06	3/22/1996	5	ND
PUN-07	10/13/1999	1	ND
PUO-03	3/25/1996	1	ND
PUO-03	3/25/1996	5	ND
PUO-08	3/22/1996	1	ND
PUO-08	3/22/1996	5	ND
PUP-07	3/25/1996	1	ND
PUP-07	3/25/1996	5	ND
PUQ-02	4/8/1996	1	ND
PUQ-02	4/8/1996	5	ND
WDB-04	4/15/1996	1	ND
WDB-04	4/15/1996	5	ND
WDB-05	4/16/1996	1	ND
WDB-05	4/16/1996	5	ND

Notes:
bgs = Below ground surface
ND = Not detected
Trace = Denotes the presence of asbestos below the limit of quantification.
NESHAP = National Emission Standards for Hazardous Air Pollutants
* = Soil berm sample location.
Bold indicates an exceedance of the NESHAPs standard.

TABLE 4-4
Perchlorate Detections in Soil Samples
BMI Common Areas
Henderson, Nevada

Sample Location	Date Sampled	Sample Depth (feet bgs)	Perchlorate (µg/kg)
PRG			**39,000**
ADB-07	07/15/99	1	<40
BDB-09	10/13/1999	1	3,600
BDB-13	10/13/1999	1	2,800
BDB-19	10/13/1999	1	<40
BDB-20	07/15/99	1	50
BDB-20	07/15/99	2	190
PLC-01	07/15/99	1	850
PLC-01	07/15/99	3	5,200
PLD-10	07/14/99	1	3,700
PLD-10	07/14/99	3	2,800
PLE-04	05/13/99	1	8,600
PLE-08	07/14/99	1	4,800
PLE-08	07/14/99	3	120
PLE-09	05/13/99	1	8,300
PLE-09	05/13/99	1	8,600
PLE-09	07/14/99	3	740
PLG-01	07/14/99	1	320
PLG-01	07/14/99	3	120
PLG-05	07/14/99	1	90
PLG-05	07/14/99	3	240
PLJ-02	07/14/99	1	**830,000**
PLJ-02	07/14/99	3	22,000
PUA-07-N-S	10/19/1999	*	110
PUA-07-N-D	10/19/1999	*	510
PUA-07-E-S	10/19/1999	*	190
PUA-07-E-D	10/19/1999	*	420
PUB-03	05/13/99	1	200
PUB-03	05/13/99	1	190
PUB-05	10/13/1999	1	580
PUB-10	10/19/1999	1	8,400
PUB-10	10/19/1999	5	60
PUB-10	10/19/1999	10	110
PUB-10	10/19/1999	15	160
PUB-10	10/19/1999	20	160
PUB-10	10/19/1999	25	180
PUB-10	10/19/1999	30	220

TABLE 4-4
Perchlorate Detections in Soil Samples
BMI Common Areas
Henderson, Nevada

Sample Location	Date Sampled	Sample Depth (feet bgs)	Perchlorate (µg/kg)
PRG			**39,000**
PUB-10	10/19/1999	40	140
PUB-10	10/19/1999	40D	90
PUB-10	10/19/1999	50	210
PUB-10-N-S	10/19/1999	*	410
PUB-10-N-D	10/19/1999	*	4,700
PUB-10-E-S	10/19/1999	*	60
PUB-10-E-D	10/19/1999	*	1,500
PUC-02	05/13/99	1	120
PUC-02	05/13/99	1	560
PUC-07	10/20/1999	1	5,700
PUC-07	10/20/1999	5	<40
PUC-07	10/20/1999	10	<40
PUC-07	10/20/1999	15	<40
PUC-07	10/20/1999	20	<40
PUC-07	10/20/1999	25	<40
PUC-07	10/20/1999	30	<40
PUC-07	10/20/1999	40	130
PUC-07	10/20/1999	45	420
PUC-07	10/20/1999	50	210
PUC-07-N-S	10/19/1999	*	160
PUC-07-N-D	10/19/1999	*	19,000
PUC-07-E-S	10/19/1999	*	420
PUC-07-E-D	10/19/1999	*	9,900
PUD-01	05/13/99	1	840
PUD-01	05/13/99	1	130
PUD-06-N-S	10/20/1999	*	80
PUD-06-N-D	10/20/1999	*	130
PUD-06-E-S	10/20/1999	*	70
PUD-06-E-D	10/20/1999	*	50
PUE-01	05/13/99	1	840
PUE-01	05/13/99	1	550
PUE-02	10/12/1999	1	<40
PUE-03	10/12/1999	1	65
PUE-07	10/20/1999	1	3,600
PUE-07	10/20/1999	5	540
PUE-07	10/20/1999	10	560
PUE-07	10/20/1999	15	360
PUE-07	10/20/1999	20	620

TABLE 4-3
Asbestos Detections in Soil Samples
BMI Common Areas
Henderson, Nevada

Site	Date	Depth (ft bgs)	Asbestos (%)
NESHAPs Standard for Asbestos			**1%**
PUA-01	12/18/1998	1	ND
PUA-03	12/18/1998	1	**2**
PUA-05	4/4/1996	1	**3**
PUA-05	4/4/1996	5	ND
PUA-07	4/4/1996	1	**7.5**
PUA-07	4/4/1996	5	0.9
PUA-07-N-S	10/19/1999	*	ND
PUA-07-N-D	10/19/1999	*	Trace
PUA-07-E-S	10/19/1999	*	ND
PUA-07-E-D	10/19/1999	*	Trace
PUA-09	4/3/1996	1	**3**
PUA-09	4/3/1996	5	ND
PUA-10	4/3/1996	1	**3**
PUA-10	4/3/1996	5	0.9
PUA-11	4/4/1996	1	**3**
PUA-11	4/4/1996	5	ND
PUA-14	4/5/1996	1	ND
PUA-14	4/5/1996	5	ND
PUB-01	5/13/1999	1	ND
PUB-02	3/26/1996	1	ND
PUB-02	5/13/1999	1	ND
PUB-02	3/26/1996	5	ND
PUB-03	5/13/1999	1	ND
PUB-04	3/26/1996	1	ND
PUB-04	3/26/1996	5	ND
PUB-05	10/13/1999	1	Trace
PUB-06	4/3/1996	1	0.9
PUB-06	4/3/1996	5	ND
PUB-08	4/3/1996	1	**3**
PUB-08	4/3/1996	5	0.9
PUB-09	4/3/1996	1	**3**
PUB-09	4/3/1996	5	**3**
PUB-10	4/3/1996	1	**3**
PUB-10	4/3/1996	5	**3**
PUB-10-N-S	10/19/1999	*	Trace
PUB-10-N-D	10/19/1999	*	ND
PUB-10-E-S	10/19/1999	*	ND
PUB-10-E-D	10/19/1999	*	ND
PUC-01	3/26/1996	1	ND
PUC-01	3/26/1996	5	ND

TABLE 4-3
Asbestos Detections in Soil Samples
BMI Common Areas
Henderson, Nevada

Site	Date	Depth (ft bgs)	Asbestos (%)
NESHAPs Standard for Asbestos			**1%**
PUC-02	5/13/1999	1	ND
PUC-03	3/26/1996	1	ND
PUC-03	3/26/1996	5	ND
PUC-05	4/3/1996	1	**3**
PUC-05	4/3/1996	5	ND
PUC-07	4/3/1996	1	**3**
PUC-07	4/3/1996	5	**3**
PUC-07-N-S	10/19/1999	*	Trace
PUC-07-N-D	10/19/1999	*	Trace
PUC-07-E-S	10/19/1999	*	Trace
PUC-07-E-D	10/19/1999	*	Trace
PUC-08	4/2/1996	1	**3**
PUC-08	4/2/1996	5	0.9
PUD-01	5/13/1999	1	Trace
PUD-02	5/13/1999	1	ND
PUD-06	4/2/1996	1	**3**
PUD-06	4/2/1996	5	ND
PUD-06-N-S	10/20/1999	*	Trace
PUD-06-N-D	10/20/1999	*	ND
PUD-06-E-S	10/20/1999	*	ND
PUD-06-E-D	10/20/1999	*	ND
PUD-08	4/2/1996	1	**3**
PUD-08	4/2/1996	5	0.9
PUD-09	4/2/1996	1	**3**
PUD-09	4/2/1996	5	0.9
PUE-01	3/28/1996	1	ND
PUE-01	3/28/1996	5	ND
PUE-01	5/13/1999	1	ND
PUE-02	10/12/1999	1	Trace
PUE-03	4/1/1996	1	0.9
PUE-03	4/1/1996	5	ND
PUE-05	4/1/1996	1	**3**
PUE-05	4/1/1996	5	ND
PUE-06	4/1/1996	1	7.5
PUE-06	4/1/1996	5	ND
PUE-07	4/2/1996	1	**3**
PUE-07	4/2/1996	5	**3**
PUE-07-N-S	10/20/1999	*	Trace
PUE-07-N-D	10/20/1999	*	ND
PUE-07-E-S	10/20/1999	*	ND

TABLE 4-3
Asbestos Detections in Soil Samples
BMI Common Areas
Henderson, Nevada

Site	Date	Depth (ft bgs)	Asbestos (%)
NESHAPs Standard for Asbestos			**1%**
PUE-07-E-D	10/20/1999	*	ND
PUF-01	3/25/1996	1	ND
PUF-01	3/25/1996	5	ND
PUF-01	5/13/1999	1	ND
PUF-02	10/12/1999	1	ND
PUF-03	3/28/1996	1	ND
PUF-03	3/28/1996	5	ND
PUF-05	4/4/1996	1	**3**
PUF-05	4/4/1996	5	ND
PUF-07	4/5/1996	1	**3**
PUF-07	4/5/1996	5	ND
PUF-10	4/8/1996	1	ND
PUF-10	4/8/1996	5	ND
PUF-10	4/19/1996	1	ND
PUG-01	10/12/1999	1	ND
PUG-02	10/12/1999	1	ND
PUG-03	10/12/1999	1	ND
PUG-04	4/4/1996	1	0.9
PUG-04	4/4/1996	5	ND
PUG-05	10/12/1999	1	ND
PUG-06	4/4/1996	1	0.9
PUG-06	4/4/1996	5	ND
PUG-07	4/4/1996	1	**3**
PUG-07	4/4/1996	5	ND
PUG-08	4/5/1996	1	**3**
PUG-08	4/5/1996	5	ND
PUH-02	3/25/1996	1	ND
PUH-02	3/25/1996	5	ND
PUH-03	10/12/1999	1	ND
PUH-04	10/12/1999	1	ND
PUH-05	10/12/1999	1	ND
PUH-06	10/12/1999	1	Trace
PUH-08	4/5/1996	1	ND
PUH-08	4/5/1996	5	ND
PUH-11	4/8/1996	1	ND
PUH-11	4/8/1996	5	ND
PUI-06	10/12/1999	1	ND
PUI-07	10/12/1999	1	ND
PUJ-02	10/13/1999	1	ND
PUJ-05	10/12/1999	1	ND
PUJ-07	4/5/1996	1	ND

TABLE 4-3
Asbestos Detections in Soil Samples
BMI Common Areas
Henderson, Nevada

Site	Date	Depth (ft bgs)	Asbestos (%)
NESHAPs Standard for Asbestos			**1%**
PUJ-07	4/5/1996	5	ND
PUJ-14	3/22/1996	1	ND
PUJ-14	3/22/1996	5	ND
PUK-02	3/25/1996	1	ND
PUK-02	3/25/1996	5	ND
PUK-09	4/8/1996	1	ND
PUK-09	4/8/1996	5	ND
PUL-03	3/25/1996	1	ND
PUL-03	3/25/1996	5	ND
PUL-09	3/22/1996	1	ND
PUL-09	3/22/1996	5	ND
PUM-06	3/22/1996	1	ND
PUM-06	3/22/1996	5	ND
PUN-07	10/13/1999	1	ND
PUO-03	3/25/1996	1	ND
PUO-03	3/25/1996	5	ND
PUO-08	3/22/1996	1	ND
PUO-08	3/22/1996	5	ND
PUP-07	3/25/1996	1	ND
PUP-07	3/25/1996	5	ND
PUQ-02	4/8/1996	1	ND
PUQ-02	4/8/1996	5	ND
WDB-04	4/15/1996	1	ND
WDB-04	4/15/1996	5	ND
WDB-05	4/16/1996	1	ND
WDB-05	4/16/1996	5	ND

Notes:
bgs = Below ground surface
ND = Not detected
Trace = Denotes the presence of asbestos below the limit of quantification.
NESHAP = National Emission Standards for Hazardous Air Pollutants
* = Soil berm sample location.
Bold indicates an exceedance of the NESHAPs standard.

TABLE 4-4
Perchlorate Detections in Soil Samples
BMI Common Areas
Henderson, Nevada

Sample Location	Date Sampled	Sample Depth (feet bgs)	Perchlorate (μg/kg)
PRG			**39,000**
ADB-07	07/15/99	1	<40
BDB-09	10/13/1999	1	3,600
BDB-13	10/13/1999	1	2,800
BDB-19	10/13/1999	1	<40
BDB-20	07/15/99	1	50
BDB-20	07/15/99	2	190
PLC-01	07/15/99	1	850
PLC-01	07/15/99	3	5,200
PLD-10	07/14/99	1	3,700
PLD-10	07/14/99	3	2,800
PLE-04	05/13/99	1	8,600
PLE-08	07/14/99	1	4,800
PLE-08	07/14/99	3	120
PLE-09	05/13/99	1	8,300
PLE-09	05/13/99	1	8,600
PLE-09	07/14/99	3	740
PLG-01	07/14/99	1	320
PLG-01	07/14/99	3	120
PLG-05	07/14/99	1	90
PLG-05	07/14/99	3	240
PLJ-02	07/14/99	1	**830,000**
PLJ-02	07/14/99	3	22,000
PUA-07-N-S	10/19/1999	*	110
PUA-07-N-D	10/19/1999	*	510
PUA-07-E-S	10/19/1999	*	190
PUA-07-E-D	10/19/1999	*	420
PUB-03	05/13/99	1	200
PUB-03	05/13/99	1	190
PUB-05	10/13/1999	1	580
PUB-10	10/19/1999	1	8,400
PUB-10	10/19/1999	5	60
PUB-10	10/19/1999	10	110
PUB-10	10/19/1999	15	160
PUB-10	10/19/1999	20	160
PUB-10	10/19/1999	25	180
PUB-10	10/19/1999	30	220

TABLE 4-4
Perchlorate Detections in Soil Samples
BMI Common Areas
Henderson, Nevada

Sample Location	Date Sampled	Sample Depth (feet bgs)	Perchlorate (µg/kg)
PRG			**39,000**
PUB-10	10/19/1999	40	140
PUB-10	10/19/1999	40D	90
PUB-10	10/19/1999	50	210
PUB-10-N-S	10/19/1999	*	410
PUB-10-N-D	10/19/1999	*	4,700
PUB-10-E-S	10/19/1999	*	60
PUB-10-E-D	10/19/1999	*	1,500
PUC-02	05/13/99	1	120
PUC-02	05/13/99	1	560
PUC-07	10/20/1999	1	5,700
PUC-07	10/20/1999	5	<40
PUC-07	10/20/1999	10	<40
PUC-07	10/20/1999	15	<40
PUC-07	10/20/1999	20	<40
PUC-07	10/20/1999	25	<40
PUC-07	10/20/1999	30	<40
PUC-07	10/20/1999	40	130
PUC-07	10/20/1999	45	420
PUC-07	10/20/1999	50	210
PUC-07-N-S	10/19/1999	*	160
PUC-07-N-D	10/19/1999	*	19,000
PUC-07-E-S	10/19/1999	*	420
PUC-07-E-D	10/19/1999	*	9,900
PUD-01	05/13/99	1	840
PUD-01	05/13/99	1	130
PUD-06-N-S	10/20/1999	*	80
PUD-06-N-D	10/20/1999	*	130
PUD-06-E-S	10/20/1999	*	70
PUD-06-E-D	10/20/1999	*	50
PUE-01	05/13/99	1	840
PUE-01	05/13/99	1	550
PUE-02	10/12/1999	1	<40
PUE-03	10/12/1999	1	65
PUE-07	10/20/1999	1	3,600
PUE-07	10/20/1999	5	540
PUE-07	10/20/1999	10	560
PUE-07	10/20/1999	15	360
PUE-07	10/20/1999	20	620

TABLE 4-4
Perchlorate Detections in Soil Samples
BMI Common Areas
Henderson, Nevada

Sample Location	Date Sampled	Sample Depth (feet bgs)	Perchlorate (µg/kg)
PRG			**39,000**
PUE-07	10/20/1999	25	470
PUE-07	10/20/1999	30	450
PUE-07	10/20/1999	35	410
PUE-07	10/20/1999	40	450
PUE-07	10/20/1999	45	540
PUE-07	10/20/1999	50	<40
PUE-07-N-S	10/20/1999	*	3,700
PUE-07-N-D	10/20/1999	*	3,800
PUE-07-E-S	10/20/1999	*	520
PUE-07-E-D	10/20/1999	*	3,900
PUF-03	10/12/1999	1	150
PUF-10	10/27/1999	1	500
PUG-01	10/12/1999	1	86
PUG-02	10/12/1999	1	43
PUG-03	10/12/1999	1	<40
PUG-04	10/12/1999	1	1,400
PUG-05	10/12/1999	1	2,800
PUG-06	10/12/1999	1	5,800
PUG-09	10/27/1999	1	230
PUH-02	10/12/1999	1	<40
PUH-03	10/12/1999	1	68
PUH-04	10/12/1999	1	56
PUH-05	10/12/1999	1	49
PUH-06	10/12/1999	1	79
PUH-07	10/27/1999	1	180
PUH-09	10/27/1999	1	69
PUH-11	10/27/1999	1	50
PUI-06	10/12/1999	1	<40
PUI-07	10/12/1999	1	70
PUI-08	10/27/1999	1	67
PUI-09	10/27/1999	1	310
PUI-12	10/27/1999	1	42
PUJ-02	10/13/1999	1	<40
PUJ-05	10/12/1999	1	<40
PUJ-07	10/27/1999	1	47

TABLE 4-4
Perchlorate Detections in Soil Samples
BMI Common Areas
Henderson, Nevada

Sample Location	Date Sampled	Sample Depth (feet bgs)	Perchlorate (μg/kg)
PRG			**39,000**
PUJ-14	10/13/1999	1	61
PUK-02	10/13/1999	1	<40
PUK-09	10/27/1999	1	73
PUL-03	10/13/1999	1	44
PUL-09	10/13/1999	1	64
PUN-07	10/13/1999	1	136

Notes:
bgs = Below ground surface
μg/kg = micrograms per kilogram
PRG = USEPA Region IX Preliminary Remediation Goal for Residential Uses
Bold indicates an exceedance of the PRG.
* = Soil berm sample location.
"<" = Less than; compound not detected above laboratory reporting limits

TABLE 4-5
Radionuclide Detections in Soil Samples
BMI Common Areas
Henderson, Nevada

SITE	DATE	DEPTH (ft	Thorium 232 (pci/g)	Radium 228 (pci/g)	Actinium 228 (pci/g)	Thorium 228 (pci/g)	Lead 212 (pci/g)	Bismuth 212 (pci/g)	Thallium 208 (pci/g)	Uranium 238 (pci/g)	Thorium 234 (pci/g)	Uranium 234 (pci/g)	Thorium 230 (pci/g)	Radium 226 (pci/g)
PUA-01	12/18/1998	0-1	1.45 ± 0.33	1.39 ± 0.37	NA	1.46 ± 0.34	NA	NA	NA	1.55 ± 0.38	NA	1.40 ± 0.35	1.13 ± 0.27	3.25 ± 0.51
PUA-03	12/18/1998	0-1	1.65 ± 0.37	1.58 ± 0.41	NA	1.58 ± 0.35	NA	NA	NA	1.43 ± 0.39	NA	1.69 ± 0.45	2.17 ± 0.47	13.3 ± 1.5
PUA-07	4/4/1996	0-1	10.81 ± 0.80	8.44 ± 0.78	5.0 ± 1.3	9.58 ± 0.83	4.48 ± 0.52	NA	1.51 ± 0.22	25.5 ± 1.5	27.6 ± 5.2	27.3 ± 1.6	35.7 ± 2.2	15.7 ± 1.4
PUA-07	4/4/1996	4-5	2.00 ± 0.26	2.91 ± 0.48	2.31 ± 0.64	2.46 ± 0.30	1.85 ± 0.22	NA	0.624 ± 0.100	5.01 ± 0.36	3.3 ± 1.1	4.90 ± 0.36	5.84 ± 0.50	2.28 ± 0.46
PUA-10	3/21/1996	0-1	10.45 ± 0.70	8.23 ± 0.75	11.02 ± 0.88	10.06 ± 0.60	10.25 ± 0.90	5.25 ± 0.82	3.20 ± 0.35	45.6 ± 2.8 F	45.8 ± 3.8	46.1 ± 2.8 F	65.4 ± 3.5	19.9 ± 3.0
PUB-02	3/26/1996	0-1	1.46 ± 0.23	0.57 ± 0.15	1.30 ± 0.29	1.75 ± 0.27	1.38 ± 0.15	NA	0.438 ± 0.057	1.16 ± 0.14	2.2 ± 3.2 J	1.03 ± 0.13	1.16 ± 0.20	1.19 ± 0.21
PUB-02	3/26/1996	4-5	1.47 ± 0.24	2.17 ± 0.53	1.35 ± 0.30	1.29 ± 0.25	1.25 ± 0.14	NA	0.378 ± 0.051	0.90 ± 0.12 F	2.8 ± 3.1 J	1.07 ± 0.13 F	0.98 ± 0.19	0.76 ± 0.30
PUB-04	3/26/1996	0-1	1.74 ± 0.32 Y	2.25 ± 0.49	1.46 ± 0.32	1.86 ± 0.37 Y	1.44 ± 0.16	NA	0.447 ± 0.058	1.26 ± 0.15 F	2.6 ± 3.2 J	1.43 ± 0.16 F	1.03 ± 0.24 Y	0.85 ± 0.27
PUB-04	3/26/1996	4-5	1.48 ± 0.27	2.63 ± 0.49	1.47 ± 0.43	1.81 ± 0.33	1.65 ± 0.20	NA	0.434 ± 0.075	0.73 ± 0.11 F	0.93 ± 0.78 J	0.85 ± 0.12 F	0.86 ± 0.20	0.65 ± 0.25
PUB-06	4/3/1996	0-1	1.78 ± 0.30	2.34 ± 0.49	1.82 ± 0.40	1.84 ± 0.34	1.72 ± 0.19	NA	0.553 ± 0.073	7.33 ± 0.49	7.8 ± 2.0	7.60 ± 0.50	4.30 ± 0.50	5.19 ± 0.75
PUB-06	4/3/1996	4-5	1.44 ± 0.24	1.77 ± 0.47	1.42 ± 0.36	1.45 ± 0.26	1.38 ± 0.16	NA	0.438 ± 0.061	0.74 ± 0.11	0.79 ± 0.79 J	0.80 ± 0.12	1.06 ± 0.20	1.28 ± 0.37
PUB-08	4/3/1996	0-1	2.72 ± 0.45 Y	2.85 ± 0.55	3.2 ± 1.1	2.99 ± 0.52 Y	3.45 ± 0.44	NA	1.09 ± 0.18	23.0 ± 1.4	18.1 ± 3.9	23.6 ± 1.4	31.7 ± 2.2 Y	36.5 ± 2.6
PUB-08	4/3/1996	4-5	1.67 ± 0.27	1.99 ± 0.48	1.83 ± 0.45	1.81 ± 0.30	1.70 ± 0.19	NA	0.584 ± 0.082	1.92 ± 0.19	3.1 ± 1.5	1.99 ± 0.19	2.70 ± 0.35	2.31 ± 0.47
PUB-10	10/19/1999	14-15	1.57 ± 0.54	1.01 ± 0.58	NA	1.92 ± 0.63	NA	NA	NA	0.84 ± 0.28	NA	0.55 ± 0.21	1.64 ± 0.56	0.75 ± 0.11
PUB-10	10/19/1999	19-20	1.37 ± 0.49	0.90 ± 0.50	NA	1.65 ± 0.57	NA	NA	NA	1.10 ± 0.34	NA	0.81 ± 0.28	1.89 ± 0.62	0.20 ± 0.03
PUB-10	10/19/1999	24-25	1.19 ± 0.40	1.33 ± 0.51	NA	1.31 ± 0.44	NA	NA	NA	1.52 ± 0.42	NA	1.55 ± 0.42	2.83 ± 0.77	0.44 ± 0.06
PUB-10	10/19/1999	29-30	1.47 ± 0.47	0.88 ± 0.50	NA	1.65 ± 0.52	NA	NA	NA	0.72 ± 0.24	NA	0.85 ± 0.27	0.97 ± 0.35	0.72 ± 0.10
PUB-10	10/19/1999	39-40	1.37 ± 0.47	1.37 ± 0.53	NA	1.55 ± 0.52	NA	NA	NA	0.79 ± 0.26	NA	0.71 ± 0.24	1.28 ± 0.45	0.084 ± 0.011
PUB-10	10/19/1999	39-40	1.37 ± 0.49	1.24 ± 0.53	NA	1.48 ± 0.53	NA	NA	NA	0.75 ± 0.25	NA	0.70 ± 0.24	1.31 ± 0.48	2.18 ± 0.32
PUB-10	10/19/1999	49-50	1.27 ± 0.40	1.58 ± 0.55	NA	1.53 ± 0.47	NA	NA	NA	0.70 ± 0.24	NA	0.60 ± 0.21	1.00 ± 0.34	<0.11 ± 0.15
PUC-03	3/26/1996	0-1	1.98 ± 0.28	3.32 ± 0.57	2.04 ± 0.53	1.64 ± 0.28	1.74 ± 0.20	NA	0.656 ± 0.093	3.63 ± 0.29 F	4.1 ± 1.9	3.64 ± 0.29 F	6.97 ± 0.60	7.00 ± 0.87
PUC-03	3/26/1996	4-5	1.53 ± 0.25	2.26 ± 0.43	1.71 ± 0.46	1.61 ± 0.27	1.83 ± 0.22	NA	0.549 ± 0.083	2.37 ± 0.22	1.7 ± 1.0	2.33 ± 0.22	2.79 ± 0.35	1.59 ± 0.37
PUC-05	4/3/1996	0-1	6.26 ± 0.60	5.65 ± 0.77	5.8 ± 1.1	5.90 ± 0.59	5.79 ± 0.62	NA	1.75 ± 0.21	33.5 ± 2.0	31.5 ± 6.1	33.3 ± 1.9	46.7 ± 2.7	31.5 ± 2.6
PUC-05	4/3/1996	4-5	1.31 ± 0.17	1.88 ± 0.47	1.76 ± 0.36	1.56 ± 0.20	1.72 ± 0.19	NA	0.517 ± 0.066	0.93 ± 0.13	2.2 ± 3.5 J	0.81 ± 0.12	1.13 ± 0.16	1.44 ± 0.37
PUC-07	4/3/1996	0-1	4.10 ± 0.47	3.69 ± 0.56	12.1 ± 2.1	3.40 ± 0.44	11.9 ± 1.2	NA	3.93 ± 0.44	30.3 ± 1.8	39.0 ± 6.5	30.7 ± 1.8	36.8 ± 2.2	27.7 ± 2.1
PUC-07	4/3/1996	4-5	1.81 ± 0.26	2.84 ± 0.52	2.22 ± 0.93	1.85 ± 0.28	1.74 ± 0.26	NA	0.56 ± 0.14	6.84 ± 0.48	3.3 ± 2.7	6.81 ± 0.48	7.43 ± 0.61	4.94 ± 0.73
PUC-07	10/20/1999	9-10	1.69 ± 0.69	1.25 ± 0.52	NA	1.80 ± 0.73	NA	NA	NA	0.89 ± 0.28	NA	1.16 ± 0.34	1.90 ± 0.75	0.033 ± 0.005
PUC-07	10/20/1999	14-15	1.43 ± 0.69	1.11 ± 0.56	NA	1.77 ± 0.81	NA	NA	NA	0.95 ± 0.30	NA	1.00 ± 0.31	1.31 ± 0.65	0.52 ± 0.07
PUC-07	10/20/1999	19-20	1.75 ± 0.62	1.11 ± 0.61	NA	1.38 ± 0.53	NA	NA	NA	0.91 ± 0.29	NA	0.92 ± 0.30	1.76 ± 0.63	<0.13 ± 0.006
PUC-07	10/20/1999	24-25	1.56 ± 0.49	1.25 ± 0.57	NA	2.13 ± 0.63	NA	NA	NA	0.78 ± 0.25	NA	0.86 ± 0.27	1.46 ± 0.47	<0.11 ± 0.08
PUC-07	10/20/1999	29-30	1.20 ± 0.44	1.53 ± 0.43	NA	1.21 ± 0.44	NA	NA	NA	0.76 ± 0.24	NA	0.73 ± 0.23	1.65 ± 0.55	<0.17 ± 0.14
PUC-07	10/20/1999	39-40	1.35 ± 0.43	1.50 ± 0.47	NA	1.54 ± 0.48	NA	NA	NA	0.84 ± 0.25	NA	0.87 ± 0.26	1.35 ± 0.43	<0.16 ± 0.13
PUC-07	10/20/1999	44-45	0.37 ± 0.17	0.94 ± 0.46	NA	0.52 ± 0.23	NA	NA	NA	1.33 ± 0.36	NA	1.21 ± 0.34	2.05 ± 0.56	0.40 ± 0.07
PUD-02	12/18/1998	0-1	1.38 ± 0.32	1.68 ± 0.44	NA	1.53 ± 0.35	NA	NA	NA	1.02 ± 0.31	NA	0.91 ± 0.29	1.18 ± 0.28	2.41 ± 0.41
PUD-06	4/2/1996	0-1	3.55 ± 0.44	2.57 ± 0.50	2.93 ± 0.61	3.11 ± 0.43	2.81 ± 0.31	NA	0.87 ± 0.11	19.0 ± 1.2	17.5 ± 3.7	20.5 ± 1.2	18.5 ± 1.3	18.9 ± 1.6
PUD-06	4/2/1996	4-5	1.67 ± 0.33 Y	2.03 ± 0.50	1.79 ± 0.46	1.39 ± 0.35 Y	1.75 ± 0.20	NA	0.609 ± 0.085	0.98 ± 0.12	1.8 ± 1.3 J	0.99 ± 0.12	1.15 ± 0.28 Y	1.54 ± 0.41
PUD-08	4/2/1996	0-1	5.08 ± 0.50	3.87 ± 0.58	4.7 ± 1.2	5.21 ± 0.52	5.74 ± 0.64	NA	1.51 ± 0.22	26.7 ± 1.6 F	26.7 ± 5.0	29.0 ± 1.8 F	37.4 ± 2.2	20.9 ± 1.8
PUD-08	4/2/1996	4-5	1.67 ± 0.24	2.11 ± 0.48	1.63 ± 0.43	1.92 ± 0.28	1.68 ± 0.19	NA	0.524 ± 0.076	1.59 ± 0.19	1.66 ± 0.88	1.46 ± 0.18	1.58 ± 0.23	1.75 ± 0.41
PUE-05	4/1/1996	0-1	2.70 ± 0.35	3.91 ± 0.60	3.64 ± 0.89	2.86 ± 0.38	3.34 ± 0.38	NA	1.03 ± 0.15	15.28 ± 0.98	18.1 ± 3.7	15.33 ± 0.99	21.6 ± 1.4	11.3 ± 1.1
PUE-05	4/1/1996	4-5	1.57 ± 0.29	2.54 ± 0.55	1.47 ± 0.34	1.87 ± 0.33	1.36 ± 0.15	NA	0.378 ± 0.055	2.80 ± 0.26	1.85 ± 0.91	2.95 ± 0.27	0.87 ± 0.21	0.78 ± 0.31
PUE-07	10/20/1999	14-15	1.50 ± 0.48	1.82 ± 0.45	NA	1.63 ± 0.51	NA	NA	NA	0.94 ± 0.28	NA	0.91 ± 0.27	1.68 ± 0.53	<0.18 ± 0.15
PUE-07	10/20/1999	19-20	1.13 ± 0.38	1.82 ± 0.49	NA	1.23 ± 0.41	NA	NA	NA	0.76 ± 0.24	NA	1.02 ± 0.30	1.58 ± 0.48	<0.19 ± 0.13
PUE-07	10/20/1999	24-25	1.64 ± 0.46	1.40 ± 0.44	NA	1.54 ± 0.45	NA	NA	NA	1.14 ± 0.32	NA	1.25 ± 0.35	2.49 ± 0.64	0.74 ± 0.11
PUE-07	10/20/1999	29-30	2.02 ± 0.60	1.41 ± 0.43	NA	1.72 ± 0.54	NA	NA	NA	0.88 ± 0.27	NA	0.88 ± 0.27	1.55 ± 0.50	<0.14 ± 0.12
PUE-07	10/20/1999	34-35	1.72 ± 0.54	1.18 ± 0.43	NA	1.37 ± 0.47	NA	NA	NA	0.70 ± 0.22	NA	0.84 ± 0.25	1.28 ± 0.44	<0.20 ± 0.005
PUE-07	10/20/1999	39-40	1.36 ± 0.38	3.50 ± 0.65	NA	1.43 ± 0.39	NA	NA	NA	0.87 ± 0.30	NA	0.58 ± 0.23	1.16 ± 0.34	<0.20 ± 0.76
PUE-07	10/20/1999	44-45	1.23 ± 0.37	1.27 ± 0.42	NA	1.71 ± 0.48	NA	NA	NA	0.86 ± 0.28	NA	0.82 ± 0.27	1.02 ± 0.32	<0.17 ± 0.15
PUE-07	10/20/1999	49-50	1.45 ± 0.64	1.29 ± 0.47	NA	1.62 ± 0.70	NA	NA	NA	0.96 ± 0.42	NA	0.80 ± 0.38	1.27 ± 0.58	<0.15 ± 0.14
PUG-05	10/12/1999	0-1	1.46 ± 0.62	1.86 ± 0.46	NA	1.92 ± 0.76	NA	NA	NA	3.29 ± 0.80	NA	3.48 ± 0.85	2.17 ± 0.83	5.42 ± 0.66
PUH-02	10/12/1999	0-1	2.42 ± 1.17	2.75 ± 0.57	NA	2.27 ± 1.16	NA	NA	NA	0.53 ± 0.23	NA	0.51 ± 0.23	0.61 ± 0.49	1.30 ± 0.22
PUH-04	10/12/1999	0-1	2.05 ± 0.94	2.21 ± 0.54	NA	2.45 ± 1.09	NA	NA	NA	0.71 ± 0.25	NA	0.53 ± 0.21	1.39 ± 0.72	1.34 ± 0.24
PUH-09	10/27/1999	0-1	1.44 ± 0.47	1.26 ± 0.46	NA	1.51 ± 0.49	NA	NA	NA	1.73 ± 0.44	NA	1.78 ± 0.45	1.44 ± 0.47	5.91 ± 0.77
PUI-07	10/12/1999	0-1	1.31 ± 0.36	1.51 ± 0.44	NA	1.86 ± 0.48	NA	NA	NA	0.59 ± 0.21	NA	0.78 ± 0.26	1.29 ± 0.36	1.40 ± 0.24
PUI-12	10/27/1999	0-1	1.69 ± 0.43	1.16 ± 0.46	NA	1.62 ± 0.42	NA	NA	NA	0.89 ± 0.27	NA	0.67 ± 0.22	1.02 ± 0.30	5.51 ± 0.72
PUJ-02	10/13/1999	0-1	1.93 ± 0.53	1.92 ± 0.51	NA	1.73 ± 0.49	NA	NA	NA	0.77 ± 0.26	NA	0.68 ± 0.23	1.04 ± 0.34	1.41 ± 0.24
PUK-02	10/13/1999	0-1	1.66 ± 0.65	1.20 ± 0.40	NA	2.10 ± 0.78	NA	NA	NA	0.61 ± 0.26	NA	0.66 ± 0.28	0.98 ± 0.46	1.28 ± 0.22
PUK-09	10/27/1999	0-1	2.84 ± 0.68	1.37 ± 0.50	NA	3.41 ± 0.80	NA	NA	NA	5.71 ± 1.33	NA	5.73 ± 1.33	4.51 ± 1.02	14.6 ± 1.6
PUL-03	10/13/1999	0-1	1.85 ± 0.66	1.95 ± 0.49	NA	1.94 ± 0.69	NA	NA	NA	0.73 ± 0.28	NA	0.59 ± 0.25	1.22 ± 0.50	1.07 ± 0.20
PUL-07	10/13/1999	0-1	1.80 ± 0.80	1.32 ± 0.42	NA	1.86 ± 0.85	NA	NA	NA	0.75 ± 0.26	NA	0.61 ± 0.22	1.34 ± 0.65	0.98 ± 0.19
PUN-07	10/13/1999	0-1	2.05 ± 0.82	2.11 ± 0.54	NA	2.28 ± 0.89	NA	NA	NA	0.92 ± 0.28	NA	0.84 ± 0.26	1.62 ± 0.69	1.30 ± 0.23

Notes:
J = Value qualified is an estimate or below detection limit.
F = Full width half max exceeded the acceptance limits.
Y = Chemical yield exceeded the acceptance limits.
# = Highest of multiple results.
* = U-Isotopic result

TABLE 4-6
Volatile Organic Compound Detections in Soil Samples
BMI Common Areas
Henderson, Nevada

Site	Date	Depth (ft bgs)	Acetone (mg/kg)	2-Butanone (mg/kg)	Chlorobezene (mg/kg)	Chloroform (mg/kg)	1,2-Dichloro benzene (mg/kg)	1,3-Dichloro benzene (mg/kg)	1,4-Dichloro benzene (mg/kg)	Methylene chloride (mg/kg)	Tetrachloro ethene (mg/kg)	Trichloroethene (mg/kg)	Trichloro fluoromethane (mg/kg)
PRG (mg/kg)			1,600	7,300	150	0.24	370	13	3.4	1.2	5.7	2.8	390
PUB-08	4/3/1996	2.5	< 0.011 (1)	< 0.011	< 0.0057	< 0.0057	< 0.0057	< 0.0057	0.0018 J	< 0.0057	< 0.0057	< 0.0057	< 0.0057
PUB-08	4/3/1996	5.5	< 0.01 (1)	< 0.01	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052
PUB-09	4/3/1996	2.5	< 0.012 (1)	< 0.012	0.0013 J	0.0019 J	0.0025 J	< 0.0061	0.0077	0.003 J	< 0.0061	0.0021 J	< 0.0061
PUB-09	4/3/1996	5.5	< 0.01 (1)	< 0.01	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052
PUB-10	4/3/1996	2.5	< 0.015 (1)	< 0.015	< 0.0074	0.0046 J	< 0.0074	< 0.0074	< 0.0074	0.0045 J	0.0042 J	< 0.0074	< 0.0074
PUB-10	4/3/1996	5.5	< 0.012 (1)	< 0.012	< 0.0061	0.005 J	< 0.0061	< 0.0061	< 0.0061	< 0.0061	0.0028 J	< 0.0061	< 0.0061
PUC-01	3/26/1996	2.5	< 0.011 (1)	< 0.011	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053
PUC-01	3/26/1996	5.5	< 0.011 (1)	< 0.011	< 0.0054	< 0.0054	< 0.0054	< 0.0054	< 0.0054	< 0.0054	< 0.0054	< 0.0054	< 0.0054
PUC-03	3/26/1996	2.5	< 0.01 (1)	< 0.01	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052
PUC-03	3/26/1996	5.5	< 0.011 (1)	< 0.011	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053
PUC-05	4/3/1996	2.5	< 0.011 (1)	< 0.011	< 0.0053	< 0.0053	< 0.0053	< 0.0053	0.0013 J	< 0.0053	< 0.0053	< 0.0053	< 0.0053
PUC-05	4/3/1996	5.5	< 0.011 (1)	< 0.011	< 0.0054	< 0.0054	< 0.0054	< 0.0054	< 0.0054	< 0.0054	< 0.0054	< 0.0054	< 0.0054
PUC-07	4/3/1996	2.5	< 0.01 (1)	< 0.011 (1)	0.0028 J	0.0019 J	0.0019 J	< 0.0051	0.0024 J	0.0022 J	< 0.0051	< 0.0051	< 0.0051
PUC-07	4/3/1996	5.5	< 0.01 (1)	< 0.01	< 0.0051	< 0.0051	< 0.0051	< 0.0051	< 0.0051	< 0.0051	< 0.0051	< 0.0051	< 0.0051
PUC-08	4/2/1996	2.5	< 0.01 (1)	< 0.01 (1)	< 0.0051	0.0011 J	< 0.0051	< 0.0051	< 0.0051	0.0012 J	0.0012 J	< 0.0051	< 0.0051
PUC-08	4/2/1996	5.5	< 0.01 (1)	< 0.01	< 0.0051	< 0.0051	< 0.0051	< 0.0051	< 0.0051	< 0.0051	< 0.0051	< 0.0051	< 0.0051
PUD-06	4/2/1996	2.5	< 0.011 (1)	< 0.011	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053	0.0012 J	< 0.0053	< 0.0053	< 0.0053
PUD-06	4/2/1996	5.5	< 0.011 (1)	< 0.011	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053	0.0011 J	< 0.0053
PUD-08	4/2/1996	2.5	< 0.012 (1)	< 0.012	0.0024 J	0.0016 J	0.0037 J	< 0.0058	0.0056 J	0.0014 J	< 0.0058	< 0.0058	< 0.0058
PUD-08	4/2/1996	5.5	0.0047 J	< 0.01	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052
PUD-09	4/2/1996	2.5	< 0.011 (1)	< 0.01 (1)	< 0.0054	0.0038 J	< 0.0054	< 0.0054	0.0016 J	0.0016 J	< 0.0054	< 0.0054	< 0.0054
PUD-09	4/2/1996	5.5	0.0087 J	< 0.01	< 0.0051	< 0.0051	< 0.0051	< 0.0051	< 0.0051	< 0.0051	< 0.0051	< 0.0051	< 0.0051
PUE-01	3/28/1996	2.5	< 0.01 (1)	< 0.01	< 0.0051	< 0.0051	< 0.0051	< 0.0051	< 0.0051	< 0.0051	< 0.0051	< 0.0051	< 0.0051
PUE-01	3/28/1996	5	< 0.01 (1)	< 0.01	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052
PUE-03	4/1/1996	2.5	0.0042 J	< 0.01	< 0.0051	< 0.0051	< 0.0051	< 0.0051	< 0.0051	< 0.0051	< 0.0051	< 0.0051	< 0.0051
PUE-03	4/1/1996	5.5	0.0036 J	< 0.01	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052
PUE-05	4/1/1996	2.5	0.0038 J	< 0.01	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052
PUE-05	4/1/1996	5.5	0.0035 J	< 0.01	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052
PUE-06	4/1/1996	2.5	0.0068 J	< 0.012	< 0.006	< 0.006	0.0017 J	< 0.006	0.0031 J	< 0.0052	< 0.006	< 0.006	< 0.006
PUE-06	4/1/1996	5.5	0.0045 J	< 0.01	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052
PUE-07	4/2/1996	2.5	< 0.011 (1)	< 0.011	< 0.0054	< 0.0054	< 0.0054	< 0.0054	< 0.0054	< 0.0054	< 0.0054	< 0.0054	< 0.0054
PUE-07	4/2/1996	5.5	< 0.01 (1)	< 0.01	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052
PUF-01	3/25/1996	5	< 0.01 (1)	< 0.01	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052
PUF-01	4/8/1996	2.5	< 0.01 (1)	< 0.01	< 0.0051	< 0.0051	< 0.0051	< 0.0051	< 0.0051	< 0.0051	< 0.0051	< 0.0051	< 0.0051
PUF-03	3/28/1996	2.5	< 0.011 (1)	< 0.011	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053
PUF-03	3/28/1996	5.5	< 0.01 (1)	< 0.01	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052
PUF-05	4/4/1996	2.5	< 0.01 (1)	< 0.01	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052
PUF-05	4/4/1996	5.5	< 0.011 (1)	< 0.011	< 0.0054	< 0.0054	< 0.0054	< 0.0054	< 0.0054	< 0.0054	< 0.0054	< 0.0054	< 0.0054
PUF-07	4/5/1996	2.5	< 0.011 (1)	< 0.011	0.0012 J	< 0.0055	0.0014 J	< 0.0055	0.0013 J	< 0.0055	< 0.0055	< 0.0055	< 0.0055
PUF-07	4/5/1996	5.5	< 0.011 (1)	< 0.01	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052
PUF-07	4/5/1996	5.5	< 0.01	< 0.011	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053
PUF-10	4/8/1996	2.5	< 0.01 (1)	< 0.01	< 0.0051	< 0.0051	< 0.0051	< 0.0051	< 0.0051	< 0.0051	< 0.0051	< 0.0051	< 0.0051
PUF-10	4/8/1996	5.5	< 0.011 (1)	< 0.011	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053
PUG-04	4/4/1996	2.5	< 0.011 (1)	< 0.011	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053
PUG-04	4/4/1996	5	< 0.011 (1)	< 0.011	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053
PUG-06	4/4/1996	2.5	< 0.01 (1)	< 0.01	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052
PUG-06	4/4/1996	5.5	< 0.011 (1)	< 0.011	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053
PUG-07	4/4/1996	2.5	< 0.01	< 0.01	< 0.0051	0.0018 J	< 0.0051	< 0.0051	< 0.0051	< 0.0051	< 0.0051	< 0.0051	< 0.0051
PUG-07	4/4/1996	5.5	< 0.01 (1)	< 0.01	< 0.0051	< 0.0051	< 0.0051	< 0.0051	< 0.0051	< 0.0051	< 0.0051	< 0.0051	< 0.0051
PUG-08	4/5/1996	2.5	< 0.011 (1)	< 0.011	< 0.0054	< 0.0054	< 0.0054	< 0.0054	< 0.0054	< 0.0054	< 0.0054	< 0.0054	< 0.0054
PUG-08	4/5/1996	5.5	< 0.01 (1)	< 0.01	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052
PUH-02	3/25/1996	2.5	< 0.01 (1)	< 0.01	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052
PUH-02	3/25/1996	5	< 0.01 (1)	< 0.01	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052
PUH-08	4/5/1996	2.5	< 0.01 (1)	< 0.01	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052

TABLE 4-6
Volatile Organic Compound Detections in Soil Samples
BMI Common Areas
Henderson, Nevada

Site	Date	Depth (ft bgs)	Acetone (mg/kg)	2-Butanone (mg/kg)	Chlorobezene (mg/kg)	Chloroform (mg/kg)	1,2-Dichloro benzene (mg/kg)	1,3-Dichloro benzene (mg/kg)	1,4-Dichloro benzene (mg/kg)	Methylene chloride (mg/kg)	Tetrachloro ethene (mg/kg)	Trichloroethene (mg/kg)	Trichloro fluoromethane (mg/kg)
PRG (mg/kg)			1,600	7,300	150	0.24	370	13	3.4	1.2	5.7	2.8	390
ADB-01	4/18/1996	2.5	< 0.011	< 0.011	< 0.0053 (1)	< 0.0053	0.021	0.0013 J	< 0.0053 (1)	< 0.0053	< 0.0053	< 0.0053	< 0.0053
ADB-01	4/18/1996	5.5	< 0.011 (1)	< 0.011	< 0.0055 (1)	< 0.0055	0.0013 J	< 0.0055	< 0.0055 (1)	< 0.0055	< 0.0055	< 0.0055	< 0.0055
ADB-02	4/18/1996	2.5	< 0.011 (1)	< 0.011	< 0.0053 (1)	< 0.0053	0.0027 J	< 0.0053	< 0.0053 (1)	< 0.0053	< 0.0053	< 0.0053	< 0.0053
ADB-02	4/18/1996	5.5	< 0.011 (1)	< 0.011	< 0.0054 (1)	< 0.0054	< 0.0054	< 0.0054	< 0.0054 (1)	< 0.0054	< 0.0054	< 0.0054	< 0.0054
ADB-03	4/18/1996	2.5	< 0.011	< 0.011	< 0.0053 (1)	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053
ADB-03	4/18/1996	5.5	< 0.011 (1)	< 0.011	< 0.0054 (1)	< 0.0054	0.0098	< 0.0054	< 0.0054 (1)	< 0.0054	< 0.0054	< 0.0054	< 0.0054
ADB-04	4/18/1996	2.5	< 0.01 (1)	< 0.01	< 0.0052 (1)	< 0.0052	< 0.0052	< 0.0052	< 0.0052 (1)	< 0.0052	< 0.0052	< 0.0052	< 0.0052
ADB-04	4/18/1996	5.5	< 0.011	< 0.01	< 0.0054 (1)	< 0.0052	0.0032 J	< 0.0052	< 0.0054 (1)	< 0.0052	< 0.0052	< 0.0052	< 0.0052
ADB-04	4/18/1996	5.5	< 0.01	< 0.011	< 0.0052	< 0.0054	< 0.0054	< 0.0054	< 0.0052	< 0.0054	< 0.0054	< 0.0054	< 0.0054
ADB-05	4/19/1996	1	< 0.01 (1)	< 0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
ADB-06	4/18/1996	2.5	< 0.011 (1)	< 0.011	< 0.0053	< 0.0053	0.0021 J	< 0.0053	< 0.0053 (1)	< 0.0053	< 0.0053	< 0.0053	< 0.0053
ADB-06	4/18/1996	5.5	< 0.01 (1)	< 0.01	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052
ADB-07	4/19/1996	2.5	< 0.01 (1)	< 0.01	< 0.0052	< 0.0052	0.0011 J	< 0.0052	< 0.0052 (1)	< 0.0052	< 0.0052	< 0.0052	< 0.0052
ADB-07	4/19/1996	5.5	< 0.01 (1)	< 0.01	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052
ADB-07	4/19/1996	5.5	< 0.01	< 0.01	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052
ADB-08	4/9/1996	2.5	< 0.011 (1)	< 0.011	< 0.0055	< 0.0055	< 0.0055	< 0.0055	< 0.0055	< 0.0055	< 0.0055	< 0.0055	< 0.0055
ADB-08	4/9/1996	5.5	< 0.011 (1)	< 0.011	< 0.0056	< 0.0056	< 0.0056	< 0.0056	< 0.0056	< 0.0056	< 0.0056	< 0.0056	< 0.0056
ADB-10	3/21/1996	2.5	0.0092 J	0.0024 J	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053
ADB-10	3/21/1996	5	0.0092 J	< 0.011	< 0.0054	< 0.0054	< 0.0054	< 0.0054	< 0.0054	< 0.0054	< 0.0054	< 0.0054	< 0.0054
ADB-11	3/21/1996	2.5	0.0067 J	< 0.011	< 0.0054	< 0.0054	< 0.0054	< 0.0054	< 0.0054	< 0.0054	< 0.0054	< 0.0054	< 0.0054
ADB-11	3/21/1996	5	0.0077 J	0.0028 J	< 0.0055	< 0.0055	< 0.0055	< 0.0055	< 0.0055	< 0.0055	< 0.0055	< 0.0055	< 0.0055
ADB-12	3/22/1996	2.5	< 0.011 (1)	< 0.011	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053
ADB-12	3/22/1996	4.5	< 0.011 (1)	< 0.011	< 0.0055	< 0.0055	< 0.0055	< 0.0055	< 0.0055	< 0.0055	< 0.0055	< 0.0055	0.0013 J
ADB-13	4/11/1996	2.5	< 0.011 (1)	< 0.011	< 0.0056	< 0.0056	< 0.0056	< 0.0056	< 0.0056	< 0.0056	< 0.0056	< 0.0056	< 0.0056
ADB-13	4/11/1996	5.5	< 0.0099 (1)	< 0.0099	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
ADB-14	4/11/1996	2.5	< 0.01 (1)	< 0.01	< 0.0051	< 0.0051	< 0.0051	< 0.0051	< 0.0051	< 0.0051	< 0.0051	< 0.0051	< 0.0051
ADB-14	4/11/1996	5.5	< 0.01 (1)	< 0.01	< 0.0051	< 0.0051	< 0.0051	< 0.0051	< 0.0051	< 0.0051	< 0.0051	< 0.0051	< 0.0051
ADB-15	4/11/1996	2.5	< 0.01 (1)	< 0.01	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052
ADB-15	4/11/1996	5.5	< 0.01 (1)	< 0.01	< 0.0051	< 0.0051	< 0.0051	< 0.0051	< 0.0051	< 0.0051	< 0.0051	< 0.0051	< 0.0051
BDB-09	4/9/1996	2.5	< 0.011 (1)	< 0.011	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053
BDB-09	4/9/1996	5.5	< 0.011 (1)	< 0.011	< 0.0057	< 0.0057	< 0.0057	< 0.0057	< 0.0057	< 0.0057	< 0.0057	< 0.0057	< 0.0057
BDB-10	4/9/1996	2.5	< 0.011 (1)	< 0.011	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053
BDB-10	4/9/1996	5.5	< 0.011 (1)	< 0.011	< 0.0053	0.0015 J	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053
BDB-11	4/9/1996	2.5	< 0.011 (1)	< 0.011	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053
BDB-11	4/9/1996	5.5	< 0.011 (1)	< 0.011	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053
BDB-12	4/9/1996	2.5	< 0.011 (1)	< 0.011	< 0.0053	0.0024 J	< 0.0053	< 0.0053	< 0.0053	< 0.0053	0.0013 J	< 0.0053	< 0.0053
BDB-12	4/9/1996	5.5	< 0.011 (1)	< 0.011	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053
BDB-13	4/18/1996	2.5	< 0.011 (1)	< 0.011	0.0012 J	< 0.0055	< 0.0055	< 0.0055	0.0034 J	< 0.0055	< 0.0055	< 0.0055	< 0.0055
BDB-13	4/18/1996	5.5	< 0.011	< 0.011	< 0.0056	< 0.0056	< 0.0056	< 0.0056	< 0.0056	< 0.0056	< 0.0056	< 0.0056	< 0.0056
BDB-13	4/18/1996	5.5	< 0.011	< 0.011	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053
BDB-14	4/4/1996	2.5	< 0.011 (1)	< 0.011	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053
BDB-14	4/4/1996	5.5	< 0.011 (1)	< 0.011	< 0.0054	< 0.0054	< 0.0054	< 0.0054	< 0.0054	< 0.0054	< 0.0054	< 0.0054	< 0.0054
BDB-15	4/4/1996	2.5	< 0.01 (1)	< 0.01	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052
BDB-15	4/4/1996	5.5	< 0.011 (1)	< 0.011	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053
BDB-16	4/5/1996	2.5	< 0.01 (1)	< 0.01	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052
BDB-16	4/5/1996	5.5	< 0.011 (1)	< 0.011	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053
BDB-17	4/5/1996	2.5	< 0.01 (1)	< 0.01	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052
BDB-17	4/5/1996	5.5	< 0.01 (1)	< 0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
BDB-18	4/5/1996	2.5	< 0.011 (1)	< 0.011	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053
BDB-18	4/5/1996	5.5	< 0.01 (1)	< 0.01	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052
BDB-19	3/25/1996	2.5	< 0.01 (1)	< 0.01	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052
BDB-19	3/25/1996	5	< 0.01 (1)	0.0036 J	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052
BDB-20	4/8/1996	2.5	< 0.011 (1)	< 0.011	< 0.0056	< 0.0056	< 0.0056	< 0.0056	< 0.0056	< 0.0056	< 0.0056	< 0.0056	< 0.0056
BDB-20	4/8/1996	5.5	< 0.011 (1)	< 0.011	< 0.0057	0.0029 J	< 0.0057	< 0.0057	< 0.0057	< 0.0057	< 0.0057	< 0.0057	< 0.0057

TABLE 4-6

Volatile Organic Compound Detections in Soil Samples

BMI Common Areas

Henderson, Nevada

Site	Date	Depth (ft bgs)	Acetone (mg/kg)	2-Butanone (mg/kg)	Chlorobezene (mg/kg)	Chloroform (mg/kg)	1,2-Dichloro benzene (mg/kg)	1,3-Dichloro benzene (mg/kg)	1,4-Dichloro benzene (mg/kg)	Methylene chloride (mg/kg)	Tetrachloro ethene (mg/kg)	Trichloroethene (mg/kg)	Trichloro fluoromethane (mg/kg)
PRG (mg/kg)			1,600	7,300	150	0.24	370	13	3.4	1.2	5.7	2.8	390
BDB-20	4/8/1996	5.5	< 0.011	< 0.011	< 0.0055	< 0.0055	< 0.0055	< 0.0055	< 0.0055	< 0.0055	< 0.0055	< 0.0055	< 0.0055
BDB-21	4/9/1996	2.5	< 0.011 (1)	< 0.011	< 0.0054	< 0.0054	< 0.0054	< 0.0054	< 0.0054	< 0.0054	< 0.0054	< 0.0054	< 0.0054
BDB-21	4/9/1996	5.5	< 0.011 (1)	< 0.011	< 0.0056	0.0027 J	< 0.0056	< 0.0056	< 0.0056	< 0.0056	< 0.0056	< 0.0056	< 0.0056
BDB-21	4/9/1996	5.5	< 0.011	< 0.011	< 0.0056	< 0.0056	< 0.0056	< 0.0056	< 0.0056	< 0.0056	< 0.0056	< 0.0056	< 0.0056
BDB-22	4/17/1996	2.5	0.0049 J	< 0.01	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052
BDB-22	4/17/1996	5.5	0.0056 J	< 0.011	< 0.0055	< 0.0055	< 0.0055	< 0.0055	< 0.0055	< 0.0055	< 0.0055	< 0.0055	< 0.0055
BDB-23	4/17/1996	2.5	0.0042 J	< 0.012	< 0.0059	< 0.0059	< 0.0059	< 0.0059	< 0.0059	< 0.0059	< 0.0059	< 0.0059	< 0.0059
BDB-23	4/17/1996	5	0.0052 J	< 0.012	< 0.006	< 0.006	< 0.006	< 0.006	< 0.006	< 0.006	< 0.006	< 0.006	< 0.006
BDB-24	4/17/1996	2.5	0.0044 J	< 0.011	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053
BDB-24	4/17/1996	5.5	0.0055 J	< 0.012	< 0.0061	0.0019 J	< 0.0061	< 0.0061	< 0.0061	< 0.0061	< 0.0061	< 0.0061	< 0.0061
BDB-25	4/11/1996	2.5	< 0.011 (1)	< 0.011	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053
BDB-25	4/11/1996	5.5	< 0.011 (1)	< 0.011	< 0.0055	< 0.0055	< 0.0055	< 0.0055	< 0.0055	< 0.0055	< 0.0055	< 0.0055	< 0.0055
BDB-26	4/11/1996	2.5	< 0.011 (1)	< 0.011	< 0.0057	< 0.0057	< 0.0057	< 0.0057	< 0.0057	< 0.0057	< 0.0057	< 0.0057	< 0.0057
NDB-04	4/15/1996	2.5	< 0.011 (1)	< 0.011	< 0.0056	< 0.0056	< 0.0056	< 0.0056	< 0.0056	< 0.0056	< 0.0056	< 0.0056	< 0.0056
NDB-04	4/15/1996	5.5	< 0.011 (1)	< 0.011	< 0.0055	< 0.0055	< 0.0055	< 0.0055	< 0.0055	< 0.0055	< 0.0055	< 0.0055	< 0.0055
PLC-01	4/9/1996	2.5	< 0.01 (1)	< 0.01	< 0.0051	< 0.0051	< 0.0051	< 0.0051	< 0.0051	< 0.0051	< 0.0051	< 0.0051	< 0.0051
PLC-01	4/9/1996	5.5	< 0.011 (1)	< 0.011	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053
PLE-01	4/10/1996	2.5	< 0.011 (1)	< 0.011	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053
PLE-01	4/10/1996	5.5	< 0.011 (1)	< 0.011	< 0.0056	< 0.0056	< 0.0056	< 0.0056	< 0.0056	< 0.0056	< 0.0056	< 0.0056	< 0.0056
PLE-09	4/11/1996	2.5	< 0.011 (1)	< 0.011	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053
PLE-09	4/11/1996	5.5	< 0.01 (1)	< 0.01	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052
PLE-09	4/11/1996	5.5	< 0.01	< 0.01	< 0.0051	< 0.0051	< 0.0051	< 0.0051	< 0.0051	< 0.0051	< 0.0051	< 0.0051	< 0.0051
PLG-01	4/10/1996	2.5	< 0.013 (1)	< 0.013	< 0.0065	< 0.0065	< 0.0065	< 0.0065	< 0.0065	< 0.0065	< 0.0065	< 0.0065	< 0.0065
PLG-01	4/10/1996	5.5	< 0.011 (1)	< 0.011	< 0.0055	< 0.0055	< 0.0055	< 0.0055	< 0.0055	< 0.0055	< 0.0055	< 0.0055	< 0.0055
PLG-05	4/16/1996	2.5	< 0.011 (1)	0.0022 J	< 0.0054	< 0.0054	< 0.0054	< 0.0054	< 0.0054	< 0.0054	< 0.0054	< 0.0054	< 0.0054
PLG-05	4/16/1996	5.5	< 0.012 (1)	< 0.012	< 0.006	< 0.006	< 0.006	< 0.006	< 0.006	< 0.006	< 0.006	< 0.006	< 0.006
PLH-01	4/10/1996	2.5	< 0.011 (1)	< 0.011	< 0.0056	< 0.0056	< 0.0056	< 0.0056	< 0.0056	< 0.0056	< 0.0056	< 0.0056	< 0.0056
PLH-01	4/10/1996	5.5	< 0.011 (1)	< 0.011	< 0.0055	< 0.0055	< 0.0055	< 0.0055	< 0.0055	< 0.0055	< 0.0055	< 0.0055	< 0.0055
PLH-04	4/16/1996	2.5	< 0.014 (1)	< 0.014	< 0.0068	< 0.0068	< 0.0068	< 0.0068	< 0.0068	< 0.0068	< 0.0068	< 0.0068	< 0.0068
PLH-04	4/16/1996	5.5	< 0.013 (1)	< 0.013	< 0.0064	< 0.0064	< 0.0064	< 0.0064	< 0.0064	< 0.0064	< 0.0064	< 0.0064	0.0013 J
PLI-03	4/18/1996	2.5	< 0.012 (1)	< 0.012	< 0.0058	< 0.0058	< 0.0058	< 0.0058	< 0.0058	< 0.0058	< 0.0058	< 0.0058	< 0.0058
PLI-03	4/18/1996	5	< 0.011 (1)	< 0.011	< 0.0053	< 0.0053	< 0.0053	< 0.0053	0.0011 J	< 0.0053	< 0.0053	< 0.0053	< 0.0053
PLJ-01	4/18/1996	1	< 0.011 (1)	< 0.011	< 0.0057 (1)	< 0.0057	< 0.0057 (1)	< 0.0057	< 0.0057 (1)	< 0.0057	< 0.0057	< 0.0057	< 0.0057
PLJ-02	4/18/1996	1	< 0.019 (1)	< 0.019	< 0.0095 (1)	< 0.0095	< 0.0095 (1)	< 0.0095	< 0.0095 (1)	< 0.0095	< 0.0095	< 0.0095	< 0.0095
PUA-05	4/4/1996	2.5	< 0.01 (1)	0.0026 J	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052
PUA-05	4/4/1996	5.5	< 0.01 (1)	< 0.01	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052
PUA-07	4/4/1996	2.5	< 0.01 (1)	< 0.01	< 0.0051	< 0.0051	< 0.0051	< 0.0051	< 0.0051	< 0.0051	< 0.0051	< 0.0051	< 0.0051
PUA-07	4/4/1996	5.5	< 0.01 (1)	< 0.01	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052
PUA-09	4/3/1996	2.5	< 0.011 (1)	< 0.0059 (1)	< 0.0057	0.003 J	0.0026 J	0.0012 J	0.0055 J	0.0019 J	0.0049 J	< 0.0057	< 0.0057
PUA-09	4/3/1996	5.5	< 0.01 (1)	< 0.01	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052
PUA-10	4/3/1996	2.5	< 0.017 (1)	< 0.013	0.0016 J	0.0031 J	0.015	0.0059 J	0.069	0.0029 J	< 0.0064	< 0.0063	< 0.0064
PUA-10	4/3/1996	5.5	< 0.013 (1)	< 0.011	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053
PUA-10	4/3/1996	5.5	< 0.01	< 0.01	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052
PUA-11	4/4/1996	2.5	< 0.01 (1)	< 0.01	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052
PUA-11	4/4/1996	5.5	< 0.01 (1)	< 0.01	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052
PUA-11	4/4/1996	5.5	< 0.01	< 0.01	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052
PUA-14	4/5/1996	2.5	< 0.011 (1)	< 0.011	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053
PUA-14	4/5/1996	5.5	< 0.01 (1)	< 0.01	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052
PUB-02	3/26/1996	2.5	< 0.01 (1)	< 0.01	< 0.0051	< 0.0051	< 0.0051	< 0.0051	< 0.0051	< 0.0051	< 0.0051	< 0.0051	< 0.0051
PUB-02	3/26/1996	5	< 0.011 (1)	< 0.011	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053
PUB-04	3/26/1996	2.5	< 0.012 (1)	< 0.012	< 0.0059	< 0.0059	< 0.0059	< 0.0059	< 0.0059	< 0.0059	< 0.0059	< 0.0059	< 0.0059
PUB-04	3/26/1996	5.5	< 0.012 (1)	< 0.012	< 0.0058	< 0.0058	< 0.0058	< 0.0058	< 0.0058	< 0.0058	< 0.0058	< 0.0058	< 0.0058
PUB-06	4/3/1996	2.5	< 0.01 (1)	< 0.01	< 0.0051	< 0.0051	< 0.0051	< 0.0051	< 0.0051	< 0.0051	< 0.0051	< 0.0051	< 0.0051
PUB-06	4/3/1996	5.5	< 0.011 (1)	< 0.011	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053

TABLE 4-6
Volatile Organic Compound Detections in Soil Samples
BMI Common Areas
Henderson, Nevada

Site	Date	Depth (ft bgs)	Acetone (mg/kg)	2-Butanone (mg/kg)	Chlorobezene (mg/kg)	Chloroform (mg/kg)	1,2-Dichloro benzene (mg/kg)	1,3-Dichloro benzene (mg/kg)	1,4-Dichloro benzene (mg/kg)	Methylene chloride (mg/kg)	Tetrachloro ethene (mg/kg)	Trichloroethene (mg/kg)	Trichloro fluoromethane (mg/kg)
PRG (mg/kg)			1,600	7,300	150	0.24	370	13	3.4	1.2	5.7	2.8	390
PUB-08	4/3/1996	2.5	< 0.011 (1)	< 0.011	< 0.0057	< 0.0057	< 0.0057	< 0.0057	0.0018 J	< 0.0057	< 0.0057	< 0.0057	< 0.0057
PUB-08	4/3/1996	5.5	< 0.01 (1)	< 0.01	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052
PUB-09	4/3/1996	2.5	< 0.012 (1)	< 0.012	0.0013 J	0.0019 J	0.0025 J	< 0.0061	0.0077	0.003 J	< 0.0061	0.0021 J	< 0.0061
PUB-09	4/3/1996	5.5	< 0.01 (1)	< 0.01	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052
PUB-10	4/3/1996	2.5	< 0.015 (1)	< 0.015	< 0.0074	0.0046 J	< 0.0074	< 0.0074	< 0.0074	0.0045 J	0.0042 J	< 0.0074	< 0.0074
PUB-10	4/3/1996	5.5	< 0.012 (1)	< 0.012	< 0.0061	0.005 J	< 0.0061	< 0.0061	< 0.0061	< 0.0061	0.0028 J	< 0.0061	< 0.0061
PUC-01	3/26/1996	2.5	< 0.011 (1)	< 0.011	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053
PUC-01	3/26/1996	5.5	< 0.011 (1)	< 0.011	< 0.0054	< 0.0054	< 0.0054	< 0.0054	< 0.0054	< 0.0054	< 0.0054	< 0.0054	< 0.0054
PUC-03	3/26/1996	2.5	< 0.01 (1)	< 0.01	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052
PUC-03	3/26/1996	5.5	< 0.011 (1)	< 0.011	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053
PUC-05	4/3/1996	2.5	< 0.011 (1)	< 0.011	< 0.0053	< 0.0053	< 0.0053	< 0.0053	0.0013 J	< 0.0053	< 0.0053	< 0.0053	< 0.0053
PUC-05	4/3/1996	5.5	< 0.011 (1)	< 0.011	< 0.0054	< 0.0054	< 0.0054	< 0.0054	< 0.0054	< 0.0054	< 0.0054	< 0.0054	< 0.0054
PUC-07	4/3/1996	2.5	< 0.01 (1)	< 0.011 (1)	0.0028 J	0.0019 J	0.0019 J	< 0.0051	0.0024 J	0.0022 J	< 0.0051	< 0.0051	< 0.0051
PUC-07	4/3/1996	5.5	< 0.01 (1)	< 0.01	< 0.0051	< 0.0051	< 0.0051	< 0.0051	< 0.0051	< 0.0051	< 0.0051	< 0.0051	< 0.0051
PUC-08	4/2/1996	2.5	< 0.01 (1)	< 0.01 (1)	< 0.0051	0.0011 J	< 0.0051	< 0.0051	< 0.0051	0.0012 J	0.0012 J	< 0.0051	< 0.0051
PUC-08	4/2/1996	5.5	< 0.01 (1)	< 0.01	< 0.0051	< 0.0051	< 0.0051	< 0.0051	< 0.0051	< 0.0051	< 0.0051	< 0.0051	< 0.0051
PUD-06	4/2/1996	2.5	< 0.011 (1)	< 0.011	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053	0.0012 J	< 0.0053	< 0.0053	< 0.0053
PUD-06	4/2/1996	5.5	< 0.011 (1)	< 0.011	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053	0.0011 J	< 0.0053
PUD-08	4/2/1996	2.5	< 0.012 (1)	< 0.012	0.0024 J	0.0016 J	0.0037 J	< 0.0058	0.0056 J	0.0014 J	< 0.0058	< 0.0058	< 0.0058
PUD-08	4/2/1996	5.5	0.0047 J	< 0.01	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052
PUD-09	4/2/1996	2.5	< 0.011 (1)	< 0.01 (1)	< 0.0054	0.0038 J	< 0.0054	< 0.0054	0.0016 J	0.0016 J	< 0.0054	< 0.0054	< 0.0054
PUD-09	4/2/1996	5.5	0.0087 J	< 0.01	< 0.0051	< 0.0051	< 0.0051	< 0.0051	< 0.0051	< 0.0051	< 0.0051	< 0.0051	< 0.0051
PUE-01	3/28/1996	2.5	< 0.01 (1)	< 0.01	< 0.0051	< 0.0051	< 0.0051	< 0.0051	< 0.0051	< 0.0051	< 0.0051	< 0.0051	< 0.0051
PUE-01	3/28/1996	5	< 0.01 (1)	< 0.01	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052
PUE-03	4/1/1996	2.5	0.0042 J	< 0.01	< 0.0051	< 0.0051	< 0.0051	< 0.0051	< 0.0051	< 0.0051	< 0.0051	< 0.0051	< 0.0051
PUE-03	4/1/1996	5.5	0.0036 J	< 0.01	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052
PUE-05	4/1/1996	2.5	0.0038 J	< 0.01	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052
PUE-05	4/1/1996	5.5	0.0035 J	< 0.01	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052
PUE-06	4/1/1996	2.5	0.0068 J	< 0.012	< 0.006	< 0.006	0.0017 J	< 0.006	0.0031 J	< 0.0052	< 0.006	< 0.006	< 0.006
PUE-06	4/1/1996	5.5	0.0045 J	< 0.01	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052
PUE-07	4/2/1996	2.5	< 0.011 (1)	< 0.011	< 0.0054	< 0.0054	< 0.0054	< 0.0054	< 0.0054	< 0.0054	< 0.0054	< 0.0054	< 0.0054
PUE-07	4/2/1996	5.5	< 0.01 (1)	< 0.01	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052
PUF-01	3/25/1996	5	< 0.01 (1)	< 0.01	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052
PUF-01	4/8/1996	2.5	< 0.01 (1)	< 0.01	< 0.0051	< 0.0051	< 0.0051	< 0.0051	< 0.0051	< 0.0051	< 0.0051	< 0.0051	< 0.0051
PUF-03	3/28/1996	2.5	< 0.011 (1)	< 0.011	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053
PUF-03	3/28/1996	5.5	< 0.01 (1)	< 0.01	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052
PUF-05	4/4/1996	2.5	< 0.01 (1)	< 0.01	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052
PUF-05	4/4/1996	5.5	< 0.011 (1)	< 0.011	< 0.0054	< 0.0054	< 0.0054	< 0.0054	< 0.0054	< 0.0054	< 0.0054	< 0.0054	< 0.0054
PUF-07	4/5/1996	2.5	< 0.011 (1)	< 0.011	0.0012 J	< 0.0055	0.0014 J	< 0.0055	0.0013 J	< 0.0055	< 0.0055	< 0.0055	< 0.0055
PUF-07	4/5/1996	5.5	< 0.011 (1)	< 0.01	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052
PUF-07	4/5/1996	5.5	< 0.01	< 0.011	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053
PUF-10	4/8/1996	2.5	< 0.01 (1)	< 0.01	< 0.0051	< 0.0051	< 0.0051	< 0.0051	< 0.0051	< 0.0051	< 0.0051	< 0.0051	< 0.0051
PUF-10	4/8/1996	5.5	< 0.011 (1)	< 0.011	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053
PUG-04	4/4/1996	2.5	< 0.011 (1)	< 0.011	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053
PUG-04	4/4/1996	5	< 0.011 (1)	< 0.011	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053
PUG-06	4/4/1996	2.5	< 0.01 (1)	< 0.01	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052
PUG-06	4/4/1996	5.5	< 0.011 (1)	< 0.011	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053
PUG-07	4/4/1996	2.5	< 0.01	< 0.01	< 0.0051	0.0018 J	< 0.0051	< 0.0051	< 0.0051	< 0.0051	< 0.0051	< 0.0051	< 0.0051
PUG-07	4/4/1996	5.5	< 0.01 (1)	< 0.01	< 0.0051	< 0.0051	< 0.0051	< 0.0051	< 0.0051	< 0.0051	< 0.0051	< 0.0051	< 0.0051
PUG-08	4/5/1996	2.5	< 0.011 (1)	< 0.011	< 0.0054	< 0.0054	< 0.0054	< 0.0054	< 0.0054	< 0.0054	< 0.0054	< 0.0054	< 0.0054
PUG-08	4/5/1996	5.5	< 0.01 (1)	< 0.01	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052
PUH-02	3/25/1996	2.5	< 0.01 (1)	< 0.01	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052
PUH-02	3/25/1996	5	< 0.01 (1)	< 0.01	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052
PUH-08	4/5/1996	2.5	< 0.01 (1)	< 0.01	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052

TABLE 4-6
Volatile Organic Compound Detections in Soil Samples
BMI Common Areas
Henderson, Nevada

Site	Date	Depth (ft bgs)	Acetone (mg/kg)	2-Butanone (mg/kg)	Chlorobezene (mg/kg)	Chloroform (mg/kg)	1,2-Dichloro benzene (mg/kg)	1,3-Dichloro benzene (mg/kg)	1,4-Dichloro benzene (mg/kg)	Methylene chloride (mg/kg)	Tetrachloro ethene (mg/kg)	Trichloroethene (mg/kg)	Trichloro fluoromethane (mg/kg)
PRG (mg/kg)			1,600	7,300	150	0.24	370	13	3.4	1.2	5.7	2.8	390
PUH-08	4/5/1996	5.5	< 0.01 (1)	< 0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
PUH-11	4/8/1996	2.5	< 0.01 (1)	< 0.01	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052
PUH-11	4/8/1996	5.5	< 0.01	< 0.01	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052
PUJ-07	4/5/1996	2.5	< 0.01 (1)	< 0.01	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052
PUJ-07	4/5/1996	5.5	< 0.011 (1)	< 0.011	< 0.0055	< 0.0055	< 0.0055	< 0.0055	< 0.0055	< 0.0055	< 0.0055	< 0.0055	< 0.0055
PUJ-14	3/22/1996	2.5	< 0.011 (1)	< 0.011	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053
PUJ-14	3/22/1996	5	< 0.01 (1)	< 0.01	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052
PUK-02	3/25/1996	2.5	< 0.01 (1)	< 0.01	< 0.0051	< 0.0051	< 0.0051	< 0.0051	< 0.0051	< 0.0051	< 0.0051	< 0.0051	< 0.0051
PUK-02	3/25/1996	5	< 0.011 (1)	< 0.011	< 0.0055	< 0.0055	< 0.0055	< 0.0055	< 0.0055	< 0.0055	< 0.0055	< 0.0055	< 0.0055
PUK-09	4/8/1996	2.5	< 0.011 (1)	< 0.011	< 0.0054	< 0.0054	< 0.0054	< 0.0054	< 0.0054	0.0012 J	< 0.0054	< 0.0054	< 0.0054
PUK-09	4/8/1996	5.5	< 0.01	< 0.01	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052
PUL-03	3/25/1996	2.5	< 0.011 (1)	0.0036 J	< 0.0055	< 0.0055	< 0.0055	< 0.0055	< 0.0055	< 0.0055	< 0.0055	< 0.0055	< 0.0055
PUL-03	3/25/1996	5	< 0.01 (1)	< 0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
PUL-09	3/22/1996	2.5	< 0.011 (1)	< 0.011	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053
PUL-09	3/22/1996	5	< 0.011 (1)	< 0.011	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053
PUM-06	3/22/1996	2.5	< 0.01 (1)	< 0.01	< 0.0051	< 0.0051	< 0.0051	< 0.0051	< 0.0051	< 0.0051	< 0.0051	< 0.0051	< 0.0051
PUM-06	3/22/1996	5	< 0.012 (1)	< 0.012	< 0.0059	< 0.0059	< 0.0059	< 0.0059	< 0.0059	< 0.0059	< 0.0059	< 0.0059	< 0.0059
PUO-03	3/25/1996	2.5	< 0.01 (1)	< 0.01	< 0.0051	< 0.0051	< 0.0051	< 0.0051	< 0.0051	< 0.0051	< 0.0051	< 0.0051	< 0.0051
PUO-03	3/25/1996	5	< 0.01 (1)	< 0.01	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052
PUO-08	3/22/1996	2.5	< 0.011 (1)	< 0.011	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053
PUO-08	3/22/1996	5	< 0.011 (1)	< 0.011	< 0.0056	< 0.0056	< 0.0056	< 0.0056	< 0.0056	0.0014 J	< 0.0056	< 0.0056	< 0.0056
PUP-07	3/25/1996	2.5	< 0.01 (1)	< 0.01	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052
PUP-07	3/25/1996	5	< 0.01 (1)	< 0.01	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052
PUQ-02	4/8/1996	2.5	< 0.011 (1)	< 0.011	< 0.0055	< 0.0055	< 0.0055	< 0.0055	< 0.0055	< 0.0055	< 0.0055	< 0.0055	< 0.0055
PUQ-02	4/8/1996	5.5	< 0.01 (1)	< 0.01	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.0052
WDB-04	4/15/1996	2.5	< 0.011 (1)	< 0.011	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053
WDB-04	4/15/1996	5.5	< 0.01 (1)	< 0.01	< 0.0051	< 0.0051	< 0.0051	< 0.0051	< 0.0051	< 0.0051	< 0.0051	< 0.0051	< 0.0051
WDB-05	4/16/1996	2.5	< 0.011	< 0.011	< 0.0057	< 0.0057	< 0.0057	< 0.0057	< 0.0057	< 0.0057	< 0.0057	< 0.0057	< 0.0057
WDB-05	4/16/1996	5.5	< 0.011 (1)	< 0.011	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.0053

Notes:
(1) Detections qualified as non-detect based on similar detections in laboratory and/or field blanks.
bgs = below ground surface
mg/kg = milligrams per kilogram
J = Reported at less than reporting limit
PRG = USEPA Region IX Preliminary Remediation Goals for Residential Soils
Only those compounds detected at the site are shown.
Bold indicates that the concentration of a chemical exceeds the PRG for that constituent.

TABLE 4-7
Semivolatile Organic Compound Detections in Soil Samples
BMI Common Areas
Henderson, Nevada

SITE	DATE	DEPTH (ft)	Benzo(a)anthracene (mg/kg)	Benzo(a)pyrene (mg/kg)	Benzo(b)fluoranthene (mg/kg)	Benzoic acid (mg/kg)	4-Bromophenyl phenyl ether (mg/kg)	Butylbenzyl phthalate (mg/kg)	4-Chloroaniline (mg/kg)	Chrysene (mg/kg)	Di-n-butyl phthalate (mg/kg)	1,2-Dichloro benzene (mg/kg)	1,3-Dichloro benzene (mg/kg)	1,4-Dichloro benzene (mg/kg)	Fluoranthene (mg/kg)	bis(2-ethylhexyl)phthalate (mg/kg)	Hexachloro benzene (mg/kg)	Hexachloro butadiene (mg/kg)	Pentachloro phenol (mg/kg)	Phenanthrene (mg/kg)	Phenol (mg/kg)	Pyrene (mg/kg)	1,2,4-Trichloro benzene (mg/kg)
PRGs			**0.62**	**0.062**	**0.62**	-	-	**12,000**	**240**	**62**	**6,100**	**370**	**13**	**3.4**	**2,300**	**35**	**0.3**	**6.2**	**3**	-	**37,000**	**2,300**	**650**
ADB-01	4/18/1996	1	< 0.67	< 0.67	< 0.67	< 3.4	< 0.67	< 0.67	< 1.3	< 0.67	< 0.67	< 0.67	< 0.67	< 0.67	< 0.67	< 0.67	< 0.67	< 0.67	< 3.4	< 0.67	< 0.67	< 0.67	< 0.67
ADB-01	4/18/1996	5	< 0.71	< 0.71	< 0.71	< 3.6	< 0.71	< 0.71	< 1.4	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 3.6	< 0.71	< 0.71	< 0.71	< 0.71
ADB-02	4/18/1996	1	< 0.67	< 0.67	< 0.67	< 3.4	< 0.67	< 0.67	< 1.3	< 0.67	< 0.67	< 0.67	< 0.67	< 0.67	< 0.67	< 0.67	< 0.67	< 0.67	< 3.4	< 0.67	< 0.67	< 0.67	< 0.67
ADB-02	4/18/1996	5	< 0.72	< 0.72	< 0.72	< 3.6	< 0.72	< 0.72	< 1.4	< 0.72	< 0.72	< 0.72	< 0.72	< 0.72	< 0.72	< 0.72	< 0.72	< 0.72	< 3.6	< 0.72	< 0.72	< 0.72	< 0.72
ADB-03	4/18/1996	1	< 0.7	< 0.7	< 0.7	< 3.5	< 0.7	< 0.7	< 1.4	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7	< 3.5	< 0.7	< 0.7	< 0.7	< 0.7
ADB-04	4/18/1996	1	< 0.73	< 0.73	< 0.73	< 3.6	< 0.73	< 0.73	< 1.4	< 0.73	< 0.73	< 0.73	< 0.73	< 0.73	< 0.73	< 0.73	< 0.73	< 0.73	< 3.6	< 0.73	< 0.73	< 0.73	< 0.73
ADB-05	4/19/1996	1	< 0.67	< 0.67	< 0.67	< 3.4	< 0.67	< 0.67	< 1.3	< 0.67	< 0.67	< 0.73	< 0.73	< 0.73	< 0.67	< 0.67	< 0.67	< 0.67	< 3.4	< 0.67	< 0.67	< 0.67	< 0.67
ADB-06	4/18/1996	1	< 0.73	< 0.73	< 0.73	< 3.7	< 0.73	< 0.73	< 1.4	< 0.73	< 0.73	< 0.73	< 0.73	< 0.73	< 0.73	< 0.73	< 0.73	< 0.73	< 3.7	< 0.73	< 0.73	< 0.73	< 0.73
ADB-06	4/18/1996	5	< 0.7	< 0.7	< 0.7	< 3.5	< 0.7	< 0.7	< 1.4	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7	< 3.5	< 0.7	< 0.7	< 0.7	< 0.7
ADB-07	4/19/1996	1	< 0.69	< 0.69	< 0.69	< 3.5	< 0.69	< 0.69	< 1.4	< 0.69	< 0.69	< 0.69	< 0.69	< 0.69	< 0.69	< 0.69	< 0.69	< 0.69	< 3.5	< 0.69	< 0.69	< 0.69	< 0.69
ADB-08	4/9/1996	1	< 0.71	< 0.71	< 0.71	< 3.6	< 0.71	< 0.71	< 1.4	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 3.6	< 0.71	< 0.71	< 0.71	< 0.71
ADB-10	3/21/1996	1	< 0.71	< 0.71	< 0.71	< 3.5	< 0.71	< 0.71	< 1.4	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 3.5	< 0.71	< 0.71	< 0.71	< 0.71
ADB-11	3/21/1996	1	< 0.67	< 0.67	< 0.67	< 3.4	< 0.67	< 0.67	< 1.3	< 0.67	< 0.67	< 0.67	< 0.67	< 0.67	< 0.67	< 0.67	< 0.67	< 0.67	< 3.4	< 0.67	< 0.67	< 0.67	< 0.67
ADB-12	3/22/1996	1	< 0.69	< 0.69	< 0.69	< 3.4	< 0.69	< 0.69	< 1.4	< 0.69	< 0.69	< 0.69	< 0.69	< 0.69	< 0.69	< 0.69	< 0.69	< 0.69	< 3.4	< 0.69	< 0.69	< 0.69	< 0.69
ADB-13	4/11/1996	1	< 0.71	< 0.71	< 0.71	< 3.5	< 0.71	< 0.71	< 1.4	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 3.5	< 0.71	< 0.71	< 0.71	< 0.71
ADB-14	4/11/1996	1	< 0.68	< 0.68	< 0.68	< 3.4	< 0.68	< 0.68	< 1.3	< 0.68	< 0.68	< 0.68	< 0.68	< 0.68	< 0.68	< 0.68	< 0.68	< 0.68	< 3.4	< 0.68	< 0.68	< 0.68	< 0.68
ADB-15	4/11/1996	1	0.23 J	**0.18 J**	0.24 J	< 3.3	< 0.67	< 0.67	< 1.3	0.27 J	< 0.67	< 0.67	< 0.67	< 0.67	0.55 J	< 0.67	< 0.67	< 0.67	< 3.3	0.26 J	< 0.67	0.49 J	< 0.67
ADB-15	4/11/1996	5	< 0.69	< 0.69	< 0.69	< 3.4	< 0.69	< 0.69	< 1.4	< 0.69	< 0.69	< 0.69	< 0.69	< 0.69	< 0.69	< 0.69	< 0.69	< 0.69	< 3.4	< 0.69	< 0.69	< 0.69	< 0.69
BDB-09	4/9/1996	1	< 1.6	< 1.6	< 1.6	< 7.8	< 1.6	< 1.6	< 3.1	< 1.6	< 1.6	< 1.6	< 1.6	< 1.6	< 1.6	0.75 J	**9.7**	< 1.6	< 7.8	< 1.6	< 1.6	< 1.6	3.5
BDB-09	4/9/1996	5	< 0.71	< 0.71	< 0.71	< 3.6	< 0.71	< 0.71	< 1.4	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	**3.5**	< 0.71	< 3.6	< 0.71	< 0.71	< 0.71	< 0.71
BDB-10	4/9/1996	1	< 0.68	< 0.68	< 0.68	< 3.4	< 0.68	< 0.68	< 1.3	< 0.68	< 0.68	< 0.68	< 0.68	< 0.68	< 0.68	< 0.68	**0.63 J**	< 0.68	< 3.4	< 0.68	< 0.68	< 0.68	< 0.68
BDB-10	4/9/1996	5	< 0.72	< 0.72	< 0.72	< 3.6	< 0.72	< 0.72	< 1.4	< 0.72	< 0.72	< 0.72	< 0.72	< 0.72	< 0.72	< 0.72	< 0.72	< 0.72	< 3.6	< 0.72	< 0.72	< 0.72	< 0.72
BDB-11	4/9/1996	1	< 1.5	< 1.5	< 1.5	< 7.7	< 1.5	< 1.5	< 3	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5	0.45 J	< 1.5	**7.9**	< 1.5	< 7.7	< 1.5	< 1.5	< 1.5	1.5 J
BDB-11	4/9/1996	5	< 0.7	< 0.7	< 0.7	< 3.5	< 0.7	< 0.7	< 1.4	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7	< 3.5	< 0.7	< 0.7	< 0.7	< 0.7
BDB-12	4/9/1996	1	0.51 J	**0.62 J**	< 1.4	< 6.9	< 1.4	< 1.4	< 2.7	0.78 J	< 1.4	4.6	< 1.4	**4**	0.95 J	< 1.4	**11**	< 1.4	< 6.9	0.55 J	< 1.4	0.93 J	6.2
BDB-12	4/9/1996	5	< 0.71	< 0.71	< 0.71	< 3.6	< 0.71	< 0.71	< 1.4	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 3.6	< 0.71	< 0.71	< 0.71	< 0.71
BDB-13	4/18/1996	1	< 0.69	< 0.69	< 0.69	< 3.4	< 0.69	< 0.69	1.2 J	< 0.69	< 0.69	< 0.69	< 0.69	< 0.69	< 0.69	0.48 J	**3.8**	< 0.69	< 3.4	< 0.69	< 0.69	< 0.69	< 0.69
BDB-13	4/18/1996	5	< 0.71	< 0.71	< 0.71	< 3.5	< 0.71	< 0.71	< 1.4	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	**10**	< 0.71	< 3.5	< 0.71	< 0.71	< 0.71	< 0.71
BDB-14	4/4/1996	1	< 0.65	< 0.65	< 0.65	< 3.3	< 0.65	< 0.65	< 1.3	< 0.65	< 0.65	< 0.65	< 0.65	< 0.65	< 0.65	< 0.65	< 0.65	< 0.65	< 3.3	< 0.65	< 0.65	< 0.65	< 0.65
BDB-15	4/4/1996	1	< 0.68	< 0.68	< 0.68	< 3.4	< 0.68	< 0.68	< 1.3	< 0.68	< 0.68	< 0.68	< 0.68	< 0.68	< 0.68	< 0.68	< 0.68	< 0.68	< 3.4	< 0.68	< 0.68	< 0.68	< 0.68
BDB-16	4/5/1996	1	< 0.68	< 0.68	< 0.68	< 3.4	< 0.68	< 0.68	< 1.3	< 0.68	1.7	< 0.68	< 0.68	< 0.68	< 0.68	< 0.68	< 0.68	< 0.68	< 3.4	< 0.68	< 0.68	< 0.68	< 0.68
BDB-16	4/5/1996	5	< 0.7	< 0.7	< 0.7	< 3.5	0.24 J	< 0.7	< 1.4	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7	< 3.5	< 0.7	< 0.7	< 0.7	< 0.7
BDB-17	4/5/1996	1	< 0.68	< 0.68	< 0.68	< 3.4	< 0.68	< 0.68	< 1.3	< 0.68	< 0.68	< 0.68	< 0.68	< 0.68	< 0.68	< 0.68	< 0.68	< 0.68	< 3.4	< 0.68	< 0.68	< 0.68	< 0.68
BDB-18	4/5/1996	1	< 0.67	< 0.67	< 0.67	< 3.3	< 0.67	< 0.67	< 1.3	< 0.67	< 0.67	< 0.67	< 0.67	< 0.67	< 0.67	< 0.67	< 0.67	< 0.67	< 3.3	< 0.67	< 0.67	< 0.67	< 0.67
BDB-19	3/25/1996	1	< 0.67	< 0.67	< 0.67	< 3.4	< 0.67	< 0.67	< 1.3	< 0.67	< 0.67	< 0.67	< 0.67	< 0.67	< 0.67	< 0.67	< 0.67	< 0.67	< 3.4	< 0.67	< 0.67	< 0.67	< 0.67
BDB-20	4/8/1996	1	< 0.73	< 0.73	< 0.73	< 3.6	< 0.73	< 0.73	< 1.4	< 0.73	< 0.73	< 0.73	< 0.73	< 0.73	< 0.73	< 0.73	< 0.73	< 0.73	< 3.6	< 0.73	< 0.73	< 0.73	< 0.73
BDB-21	4/9/1996	1	< 0.71	< 0.71	< 0.71	< 3.6	< 0.71	< 0.71	< 1.4	< 0.71	10	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 3.6	< 0.71	< 0.71	< 0.71	< 0.71
BDB-21	4/9/1996	5	< 0.76	< 0.76	< 0.76	< 3.8	< 0.76	< 0.76	< 1.5	< 0.76	< 0.76	< 0.76	< 0.76	< 0.76	< 0.76	< 0.76	< 0.76	< 0.76	< 3.8	< 0.76	< 0.76	< 0.76	< 0.76
BDB-21	4/9/1996	5	< 0.71	< 0.71	< 0.71	< 3.6	< 0.71	< 0.71	< 1.4	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 3.6	< 0.71	< 0.71	< 0.71	< 0.71
BDB-22	4/17/1996	1	< 0.69	< 0.69	< 0.69	< 3.4	< 0.69	< 0.69	< 1.4	< 0.69	< 0.69	< 0.69	< 0.69	< 0.69	< 0.69	< 0.69 (1)	< 0.69	< 0.69	< 3.4	< 0.69	< 0.69	< 0.69	< 0.69
BDB-22	4/17/1996	5	< 0.73	< 0.73	< 0.73	< 3.6	< 0.73	< 0.73	< 1.4	< 0.73	< 0.73	< 0.73	< 0.73	< 0.73	< 0.73	< 0.73	< 0.73	< 0.73	< 3.6	< 0.73	< 0.73	< 0.73	< 0.73
BDB-23	4/17/1996	1	< 0.75	< 0.75	< 0.75	< 3.8	< 0.75	< 0.75	< 1.5	< 0.75	< 0.75	< 0.75	< 0.75	< 0.75	< 0.75	< 0.75 (1)	< 0.75	< 0.75	< 3.8	< 0.75	< 0.75	< 0.75	< 0.75
BDB-23	4/17/1996	5	< 0.8	< 0.8	< 0.8	< 4	< 0.8	< 0.8	< 1.6	< 0.8	< 0.8	< 0.68	< 0.68	< 0.68	< 0.8	< 0.8	< 0.8	< 0.8	< 4	< 0.8	< 0.8	< 0.8	< 0.8
BDB-24	4/17/1996	1	< 0.68	< 0.68	< 0.68	< 3.4	< 0.68	< 0.68	< 1.3	< 0.68	< 0.68	< 0.68	< 0.68	< 0.68	< 0.68	< 0.68 (1)	< 0.68	< 0.68	< 3.4	< 0.68	< 0.68	< 0.68	< 0.68
BDB-24	4/17/1996	5	< 0.74	< 0.74	< 0.74	< 3.7	< 0.74	< 0.74	< 1.5	< 0.74	< 0.74	< 0.74	< 0.74	< 0.74	< 0.74	< 0.74	< 0.74	< 0.74	< 3.7	< 0.74	< 0.74	< 0.74	< 0.74
BDB-25	4/11/1996	1	< 0.73	< 0.73	< 0.73	< 3.6	< 0.73	< 0.73	< 1.4	< 0.73	2.9	< 0.73	< 0.73	< 0.73	< 0.73	< 0.73	< 0.73	< 0.73	< 3.6	< 0.73	< 0.73	< 0.73	< 0.73
BDB-26	4/11/1996	1	< 0.73	< 0.73	< 0.73	< 3.7	< 0.73	< 0.73	< 1.4	< 0.73	< 0.73	< 0.73	< 0.73	< 0.73	< 0.73	< 0.73	< 0.73	< 0.73	< 3.7	< 0.73	< 0.73	< 0.73	< 0.73
NDB-04	4/15/1996	1	< 0.68	< 0.68	< 0.68	< 3.4	< 0.68	< 0.68	< 1.3	< 0.68	< 0.68	< 0.68	< 0.68	< 0.68	< 0.68	< 0.68	**1.4**	< 0.68	< 3.4	< 0.68	< 0.68	< 0.68	< 0.68
NDB-04	4/15/1996	5	< 0.74	< 0.74	< 0.74	< 3.7	< 0.74	< 0.74	< 1.5	< 0.74	< 0.74	< 0.74	< 0.74	< 0.74	< 0.74	< 0.74	< 0.74	< 0.74	< 3.7	< 0.74	< 0.74	< 0.74	< 0.74
PLC-01	4/9/1996	1	< 0.67	< 0.67	< 0.67	< 3.4	< 0.67	< 0.67	< 1.3	< 0.67	< 0.67	< 0.67	< 0.67	< 0.67	< 0.67	< 0.67	< 0.67	< 0.67	< 3.4	< 0.67	< 0.67	< 0.67	< 0.67
PLC-01	4/9/1996	5	< 1.4	< 1.4	< 1.4	< 7.1	< 1.4	< 1.4	< 2.8	< 1.4	16	< 1.4	< 1.4	< 1.4	< 1.4	< 1.4	< 1.4	< 1.4	< 7.1	< 1.4	0.59 J	< 1.4	< 1.4
PLE-01	4/10/1996	1	< 0.67	< 0.67	< 0.67	< 3.4	< 0.67	< 0.67	< 1.3	< 0.67	< 0.67	< 0.67	< 0.67	< 0.67	< 0.67	< 0.67	< 0.67	< 0.67	< 3.4	< 0.67	< 0.67	< 0.67	< 0.67
PLE-01	4/10/1996	5	< 0.71	< 0.71	< 0.71	< 3.6	< 0.71	< 0.71	< 1.4	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 3.6	< 0.71	< 0.71	< 0.71	< 0.71
PLE-09	4/11/1996	1	< 0.69	< 0.69	< 0.69	< 3.4	< 0.69	< 0.69	< 1.4	< 0.69	< 0.69	< 0.69	< 0.69	< 0.69	< 0.69	< 0.69	**0.36 J**	< 0.69	< 3.4	< 0.69	< 0.69	< 0.69	< 0.69
PLE-09	4/11/1996	5	< 0.7	< 0.7	< 0.7	< 3.5	< 0.7	< 0.7	< 1.4	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7	< 3.5	< 0.7	< 0.7	< 0.7	< 0.7
PLG-01	4/10/1996	1	< 0.71	< 0.71	< 0.71	< 3.5	< 0.71	< 0.71	< 1.4	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 3.5	< 0.71	< 0.71	< 0.71	< 0.71
PLG-05	4/16/1996	1	< 0.79	< 0.79	< 0.79	< 3.9	< 0.79	< 0.79	< 1.5	< 0.79	< 0.79	< 0.79	< 0.79	< 0.79	< 0.79	< 0.71 (1)	< 0.79	< 0.79	< 3.9	< 0.79	< 0.79	< 0.79	< 0.79
PLG-05	4/16/1996	5	< 0.77	< 0.77	< 0.77	< 3.8	< 0.77	< 0.77	< 1.5	< 0.77	< 0.77	< 0.77	< 0.77	< 0.77	< 0.77	< 0.77	< 0.77	< 0.77	< 3.8	< 0.77	< 0.77	< 0.77	< 0.77
PLH-01	4/10/1996	1	< 0.83	< 0.83	< 0.83	< 4.1	< 0.83	< 0.83	< 1.6	< 0.83	< 0.83	< 0.83	< 0.83	< 0.83	< 0.83	< 0.83	< 0.83	< 0.83	< 4.1	< 0.83	< 0.83	< 0.83	< 0.83
PLH-04	4/16/1996	1	< 0.78	< 0.78	< 0.78	< 3.9	< 0.78	< 0.78	< 1.5	< 0.78	< 0.78	< 0.78	< 0.78	< 0.78	< 0.78	< 0.71 (1)	< 0.78	< 0.78	< 3.9	< 0.78	< 0.78	< 0.78	< 0.78
PLH-04	4/16/1996	5	< 0.74	< 0.74	< 0.74	< 3.7	< 0.74	< 0.74	< 1.5	< 0.74	< 0.74	< 0.74	< 0.74	< 0.74	< 0.74	< 0.74	< 0.74	< 0.74	< 3.7	< 0.74	< 0.74	< 0.74	< 0.74
PLI-03	4/18/1996	1	< 0.84	< 0.84	< 0.84	< 4.2	< 0.84	< 0.84	< 1.7	< 0.84	< 0.84	< 0.84	< 0.84	< 0.84	< 0.84	< 0.84	< 0.84	< 0.84	< 4.2	< 0.84	< 0.84	< 0.84	< 0.84
PLJ-01	4/18/1996	1	< 0.77	< 0.77	< 0.77	< 3.8	< 0.77	< 0.77	< 1.5	< 0.77	< 0.77	< 0.68	< 0.68	< 0.68	< 0.77	< 0.77	< 0.77	< 0.77	< 3.8	< 0.77	< 0.77	< 0.77	< 0.77
PLJ-02	4/18/1996	1	< 1.3	< 1.3	< 1.3	< 6.3	< 1.3	< 1.3	< 2.5	< 1.3	< 1.3	< 0.68	< 0.68	< 0.68	< 1.3	< 1.3	< 1.3	< 1.3	< 6.3	< 1.3	< 1.3	< 1.3	< 1.3
PUA-05	4/4/1996	1	< 0.68	< 0.68	< 0.68	< 3.4	< 0.68	< 0.68	< 1.3	< 0.68	< 0.68	< 0.68	< 0.68	< 0.68	< 0.68	< 0.68	**0.39 J**	< 0.68	< 3.4	< 0.68	< 0.68	< 0.68	< 0.68
PUA-05	4/4/1996	5	< 0.69	< 0.69	< 0.69	< 3.5	< 0.69	< 0.69	< 1.4	< 0.69	< 0.69	< 0.69	< 0.69	< 0.69	< 0.69	< 0.69	< 0.69	< 0.69	< 3.5	< 0.69	< 0.69	< 0.69	< 0.69
PUA-07	4/4/1996	1	< 0.66	< 0.66	< 0.66	< 3.3	< 0.66	< 0.66	< 1.3	0.18 J	< 0.66	< 0.66	< 0.66	< 0.66	< 0.66	< 0.66	**3.2**	< 0.66	< 3.3	< 0.66	< 0.66	< 0.66	< 0.66
PUA-07	4/4/1996	5	< 0.65	< 0.65	< 0.65	< 3.3	< 0.65	< 0.65	< 1.3	< 0.65	< 0.65	< 0.65	< 0.65	< 0.65	< 0.65	< 0.65	**0.69**	< 0.65	< 3.3	< 0.65	< 0.65	< 0.65	< 0.65

TABLE 4-7
Semivolatile Organic Compound Detections in Soil Samples
BMI Common Areas
Henderson, Nevada

SITE	DATE	DEPTH (ft)	Benzo(a)anthracene (mg/kg)	Benzo(a)pyrene (mg/kg)	Benzo(b)fluoranthene (mg/kg)	Benzoic acid (mg/kg)	4-Bromophenyl phenyl ether (mg/kg)	Butylbenzyl phthalate (mg/kg)	4-Chloroaniline (mg/kg)	Chrysene (mg/kg)	Di-n-butyl phthalate (mg/kg)	1,2-Dichloro benzene (mg/kg)	1,3-Dichloro benzene (mg/kg)	1,4-Dichloro benzene (mg/kg)	Fluoranthene (mg/kg)	bis(2-ethylhexyl)phthalate (mg/kg)	Hexachloro benzene (mg/kg)	Hexachloro butadiene (mg/kg)	Pentachloro phenol (mg/kg)	Phenanthrene (mg/kg)	Phenol (mg/kg)	Pyrene (mg/kg)	1,2,4-Trichloro benzene (mg/kg)
PRGs			**0.62**	**0.062**	**0.62**	**-**	**-**	**12,000**	**240**	**62**	**6,100**	**370**	**13**	**3.4**	**2,300**	**35**	**0.3**	**6.2**	**3**	**-**	**37,000**	**2,300**	**650**
PUA-09	4/3/1996	1	0.15 J	< 0.69	< 0.69	< 3.4	< 0.69	< 0.69	< 1.4	0.38 J	< 0.69	0.87	< 0.69	0.96	0.75	< 0.69	3	< 0.69	< 3.4	0.93	< 0.69	0.56 J	0.72
PUA-09	4/3/1996	5	< 0.69	< 0.69	< 0.69	< 3.4	< 0.69	< 0.69	< 1.4	< 0.69	< 0.69	< 0.69	< 0.69	< 0.69	< 0.69	< 0.69	**3.4**	< 0.69	< 3.4	< 0.69	< 0.69	< 0.69	< 0.69
PUA-10	4/3/1996	1	< 0.69	< 0.69	< 0.69	< 3.4	< 0.69	< 0.69	< 1.4	0.75	< 0.69	4.8	2	**8.1**	1.2	< 0.69	**6.6**	1.4	< 3.4	1.4	< 0.69	0.96	2.7
PUA-10	4/3/1996	5	< 0.69	< 0.69	< 0.69	< 3.4	< 0.69	< 0.69	< 1.4	< 0.69	< 0.69	< 0.69	< 0.69	< 0.69	< 0.69	< 0.69	**0.57 J**	< 0.69	< 3.4	< 0.69	< 0.69	< 0.69	< 0.69
PUA-11	4/4/1996	1	< 0.69	< 0.69	< 0.69	< 3.4	< 0.69	< 0.69	< 1.4	0.38 J	< 0.69	1.6	< 0.69	1.2	0.39 J	< 0.69	**120**	< 0.69	< 3.4	< 0.69	< 0.69	0.3 J	0.59 J
PUA-14	4/5/1996	1	< 0.67	< 0.67	< 0.67	< 3.3	< 0.67	< 0.67	< 1.3	< 0.67	< 0.67	< 0.67	< 0.67	< 0.67	< 0.67	< 0.67	< 0.67	< 0.67	< 3.3	< 0.67	< 0.67	< 0.67	< 0.67
PUB-02	3/26/1996	1	< 0.67	< 0.67	< 0.67	< 3.4	< 0.67	< 0.67	< 1.3	< 0.67	< 0.67	< 0.67	< 0.67	< 0.67	< 0.67	< 0.67	< 0.67	< 0.67	< 3.4	< 0.67	< 0.67	< 0.67	< 0.67
PUB-04	3/26/1996	1	< 0.69	< 0.69	< 0.69	< 3.4	< 0.69	< 0.69	< 1.4	< 0.69	< 0.69	< 0.69	< 0.69	< 0.69	< 0.69	< 0.69	< 0.69	< 0.69	< 3.4	< 0.69	< 0.69	< 0.69	< 0.69
PUB-06	4/3/1996	1	< 0.66	< 0.66	< 0.66	< 3.3	< 0.66	< 0.66	< 1.3	< 0.66	< 0.66	< 0.66	< 0.66	< 0.66	< 0.66	< 0.66	**0.35 J**	< 0.66	< 3.3	< 0.66	< 0.66	< 0.66	< 0.66
PUB-06	4/3/1996	5	< 0.64	< 0.64	< 0.64	< 3.2	< 0.64	< 0.64	< 1.3	< 0.64	< 0.64	< 0.64	< 0.64	< 0.64	< 0.64	< 0.64	< 0.64	< 0.64	< 3.2	< 0.64	< 0.64	< 0.64	< 0.64
PUB-08	4/3/1996	1	0.2 J	< 0.81	< 0.81	< 4.1	< 0.81	< 0.81	< 1.6	0.48 J	< 0.81	1.3	< 0.81	2.5	0.85	< 0.81	**6.6**	< 0.81	< 4.1	0.78 J	< 0.81	0.37 J	0.63 J
PUB-08	4/3/1996	5	< 0.66	< 0.66	< 0.66	< 3.3	< 0.66	< 0.66	< 1.3	< 0.66	< 0.66	< 0.66	< 0.66	< 0.66	< 0.66	< 0.66	< 0.66	< 0.66	< 3.3	< 0.66	< 0.66	< 0.66	< 0.66
PUB-09	4/3/1996	1	0.31 J	< 0.68	< 0.68	< 3.4	< 0.68	< 0.68	< 1.3	0.78	< 0.68	0.64 J	< 0.68	0.71	2.7	0.68 J	**8.6**	< 0.68	1.5 J	2.6	< 0.68	0.45 J	0.71
PUB-09	4/3/1996	5	< 0.69	< 0.69	< 0.69	< 3.5	< 0.69	< 0.69	< 1.4	< 0.69	< 0.69	< 0.69	< 0.69	< 0.69	< 0.69	< 0.69	**0.67 J**	< 0.69	< 3.5	< 0.69	< 0.69	< 0.69	< 0.69
PUB-10	4/3/1996	1	0.18 J	< 0.69	< 0.69	< 3.5	< 0.69	< 0.69	< 1.4	0.49 J	< 0.69	0.59 J	< 0.69	0.67 J	1.7	< 0.69	**18**	< 0.69	1.3 J	2.4	< 0.69	0.78	1.1
PUB-10	4/3/1996	5	< 26	< 26	< 26	< 130	< 26	< 26	< 52	0.77 J	< 26	< 26	< 26	< 26	1.9 J	< 26	**230**	< 26	< 130	1.2 J	< 26	0.77 J	< 26
PUC-01	3/26/1996	1	< 0.67	< 0.67	< 0.67	< 3.4	< 0.67	< 0.67	< 1.3	< 0.67	< 0.67	< 0.67	< 0.67	< 0.67	< 0.67	< 0.67	< 0.67	< 0.67	< 3.4	< 0.67	< 0.67	< 0.67	< 0.67
PUC-03	3/26/1996	1	< 0.67	< 0.67	< 0.67	< 3.4	< 0.67	< 0.67	< 1.3	< 0.67	< 0.67	< 0.67	< 0.67	< 0.67	< 0.67	< 0.67	< 0.67	< 0.67	< 3.4	< 0.67	< 0.67	< 0.67	< 0.67
PUC-05	4/3/1996	1	0.14 J	< 0.67	< 0.67	< 3.3	< 0.67	< 0.67	< 1.3	0.74	< 0.67	1	< 0.67	1.5	1.1	< 0.67	**3.8**	< 0.67	< 3.3	0.93	< 0.67	0.32 J	0.67
PUC-05	4/3/1996	5	< 0.65	< 0.65	< 0.65	< 3.3	< 0.65	< 0.65	< 1.3	< 0.65	< 0.65	< 0.65	< 0.65	< 0.65	< 0.65	< 0.65	< 0.65	< 0.65	< 3.3	< 0.65	< 0.65	< 0.65	< 0.65
PUC-07	4/3/1996	1	0.21 J	< 0.66	< 0.66	< 3.3	< 0.66	< 0.66	< 1.3	0.49 J	< 0.66	< 0.66	< 0.66	0.42 J	1	0.37 J	**3**	< 0.66	< 3.3	0.6 J	< 0.66	0.48 J	< 0.66
PUC-07	4/3/1996	5	< 0.66	< 0.66	< 0.66	< 3.3	< 0.66	< 0.66	< 1.3	< 0.66	< 0.66	< 0.66	< 0.66	< 0.66	< 0.66	< 0.66	**0.44 J**	< 0.66	< 3.3	< 0.66	< 0.66	< 0.66	< 0.66
PUC-08	4/2/1996	1	< 0.68	< 0.68	< 0.68	< 3.4	< 0.68	0.53 J	< 1.3	0.13 J	< 0.68	< 0.68	< 0.68	< 0.68	< 0.68	< 0.68	**1.8**	< 0.68	< 3.4	< 0.68	< 0.68	< 0.68	< 0.68
PUC-08	4/2/1996	5	< 0.68	< 0.68	< 0.68	< 3.4	< 0.68	< 0.68	< 1.3	< 0.68	< 0.68	< 0.68	< 0.68	< 0.68	< 0.68	< 0.68	< 0.68	< 0.68	< 3.4	< 0.68	< 0.68	< 0.68	< 0.68
PUD-06	4/2/1996	1	< 0.7	< 0.7	< 0.7	< 3.5	< 0.7	< 0.7	< 1.4	0.45 J	< 0.7	< 0.7	< 0.7	< 0.7	0.52 J	< 0.7	**1.6**	< 0.7	< 3.5	0.18 J	< 0.7	0.17 J	< 0.7
PUD-06	4/2/1996	5	< 0.64	< 0.64	< 0.64	< 3.2	< 0.64	< 0.64	< 1.3	< 0.64	< 0.64	< 0.64	< 0.64	< 0.64	< 0.64	< 0.64	< 0.64	< 0.64	< 3.2	< 0.64	< 0.64	< 0.64	< 0.64
PUD-08	4/2/1996	1	0.23 J	< 0.7	< 0.7	< 3.5	< 0.7	< 0.7	< 1.4	0.91	< 0.7	0.38 J	< 0.7	0.55 J	2	< 0.7	**8.4**	< 0.7	< 3.5	1	< 0.7	0.64 J	0.53 J
PUD-08	4/2/1996	5	< 0.65	< 0.65	< 0.65	< 3.3	< 0.65	< 0.65	< 1.3	< 0.65	< 0.65	< 0.65	< 0.65	< 0.65	< 0.65	< 0.65	< 0.65	< 0.65	< 3.3	< 0.65	< 0.65	< 0.65	< 0.65
PUD-09	4/2/1996	1	< 0.69	< 0.69	< 0.69	< 3.5	< 0.69	< 0.69	< 1.4	0.31 J	< 0.69	0.87	< 0.69	0.66 J	1	< 0.69	**4.4**	< 0.69	< 3.5	0.73	< 0.69	0.44 J	1.2
PUD-09	4/2/1996	5	< 0.68	< 0.68	< 0.68	< 3.4	< 0.68	< 0.68	< 1.3	< 0.68	< 0.68	< 0.68	< 0.68	< 0.68	< 0.68	< 0.68	**0.44 J**	< 0.68	< 3.4	< 0.68	< 0.68	< 0.68	< 0.68
PUE-01	3/28/1996	1	< 0.67	< 0.67	< 0.67	< 3.3	< 0.67	< 0.67	< 1.3	< 0.67	< 0.67	< 0.67	< 0.67	< 0.67	< 0.67	< 0.67	< 0.67	< 0.67	< 3.3	< 0.67	< 0.67	< 0.67	< 0.67
PUE-03	4/1/1996	1	< 0.67	< 0.67	< 0.67	< 3.4	< 0.67	< 0.67	< 1.3	< 0.67	< 0.67	< 0.67	< 0.67	< 0.67	< 0.67	< 0.67	< 0.67	< 0.67	< 3.4	< 0.67	< 0.67	< 0.67	< 0.67
PUE-05	4/1/1996	1	0.19 J	< 0.7	< 0.7	< 3.5	< 0.7	< 0.7	< 1.4	0.64 J	< 0.7	< 0.7	< 0.7	< 0.7	1.1	< 0.7	**3.7**	< 0.7	< 3.5	0.64 J	< 0.7	0.49 J	< 0.7
PUE-05	4/1/1996	5	< 0.69	< 0.69	< 0.69	< 3.5	< 0.69	< 0.69	< 1.4	< 0.69	< 0.69	< 0.69	< 0.69	< 0.69	< 0.69	< 0.69	< 0.69	< 0.69	< 3.5	< 0.69	< 0.69	< 0.69	< 0.69
PUE-06	4/1/1996	1	0.27 J	< 0.71	< 0.71	< 3.6	< 0.71	< 0.71	< 1.4	0.67 J	< 0.71	0.57 J	< 0.71	0.8	2.2	0.45 J	**16**	< 0.71	0.48 J	1.8	< 0.71	0.93	0.68 J
PUE-06	4/1/1996	5	< 0.69	< 0.69	< 0.69	< 3.4	< 0.69	< 0.69	< 1.4	< 0.69	< 0.69	< 0.69	< 0.69	< 0.69	< 0.69	< 0.69	< 0.69	< 0.69	< 3.4	< 0.69	< 0.69	< 0.69	< 0.69
PUE-07	4/2/1996	1	0.24 J	< 0.71	0.31 J	< 3.6	< 0.71	< 0.71	< 1.4	0.66 J	< 0.71	< 0.71	< 0.71	< 0.71	0.95	< 0.71	**1.9**	< 0.71	< 3.6	0.24 J	< 0.71	0.4 J	< 0.71
PUE-07	4/2/1996	5	0.18 J	< 0.69	0.24 J	< 3.5	< 0.69	< 0.69	< 1.4	0.54 J	< 0.69	< 0.69	< 0.69	< 0.69	0.67 J	< 0.69	**1.6**	< 0.69	< 3.5	0.38 J	< 0.69	0.43 J	< 0.69
PUF-01	3/25/1996	1	< 0.67	< 0.67	< 0.67	< 3.3	< 0.67	< 0.67	< 1.3	< 0.67	< 0.67	< 0.67	< 0.67	< 0.67	< 0.67	< 0.67	< 0.67	< 0.67	< 3.3	< 0.67	< 0.67	< 0.67	< 0.67
PUF-03	3/28/1996	1	< 0.67	< 0.67	< 0.67	< 3.4	< 0.67	< 0.67	< 1.3	< 0.67	< 0.67	< 0.67	< 0.67	< 0.67	< 0.67	< 0.67	< 0.67	< 0.67	< 3.4	< 0.67	< 0.67	< 0.67	< 0.67
PUF-03	3/28/1996	5	< 0.71	< 0.71	< 0.71	< 3.6	< 0.71	< 0.71	< 1.4	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 3.6	< 0.71	< 0.71	< 0.71	< 0.71
PUF-05	4/4/1996	1	< 0.7	< 0.7	< 0.7	< 3.5	< 0.7	< 0.7	< 1.4	0.4 J	< 0.7	< 0.7	< 0.7	< 0.7	0.68 J	< 0.7	**2.5**	< 0.7	< 3.5	0.63 J	< 0.7	0.47 J	< 0.7
PUF-05	4/4/1996	5	< 0.7	< 0.7	< 0.7	< 3.5	< 0.7	< 0.7	< 1.4	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7	< 3.5	< 0.7	< 0.7	< 0.7	< 0.7
PUF-07	4/5/1996	1	< 1.5	< 1.5	< 1.5	< 7.3	< 1.5	< 1.5	< 2.9	0.29 J	< 1.5	< 1.5	< 1.5	< 1.5	0.42 J	< 1.5	**0.97 J**	< 1.5	< 7.3	0.45 J	< 1.5	< 1.5	< 1.5
PUF-07	4/5/1996	5	< 0.69	< 0.69	< 0.69	< 3.5	< 0.69	< 0.69	< 1.4	< 0.69	< 0.69	< 0.69	< 0.69	< 0.69	< 0.69	< 0.69	< 0.69	< 0.69	< 3.5	< 0.69	< 0.69	< 0.69	< 0.69
PUF-10	4/8/1996	1	< 0.69	< 0.69	< 0.69	< 3.4	< 0.69	< 0.69	< 1.4	< 0.69	< 0.69	< 0.69	< 0.69	< 0.69	< 0.69	< 0.69	< 0.69	< 0.69	< 3.4	< 0.69	< 0.69	< 0.69	< 0.69
PUF-10	4/8/1996	5	< 0.72	< 0.72	< 0.72	< 3.6	< 0.72	< 0.72	< 1.4	< 0.72	< 0.72	< 0.72	< 0.72	< 0.72	< 0.72	< 0.72	< 0.72	< 0.72	< 3.6	< 0.72	< 0.72	< 0.72	< 0.72
PUF-10	4/19/1996	1	< 0.69	< 0.69	< 0.69	< 3.4	< 0.69	< 0.69	< 1.4	< 0.69	< 0.69	< 0.69	< 0.69	< 0.69	< 0.69	< 0.69	< 0.69	< 0.69	< 3.4	< 0.69	< 0.69	< 0.69	< 0.69
PUG-04	4/4/1996	1	< 0.67	< 0.67	< 0.67	< 3.3	< 0.67	< 0.67	< 1.3	< 0.67	< 0.67	< 0.67	< 0.67	< 0.67	< 0.67	< 0.67	< 0.67	< 0.67	< 3.3	< 0.67	< 0.67	< 0.67	< 0.67
PUG-04	4/4/1996	5	< 0.7	< 0.7	< 0.7	< 3.5	< 0.7	< 0.7	< 1.4	< 0.7	< 0.7	< 0.67	< 0.67	< 0.67	< 0.7	< 0.7	< 0.7	< 0.7	< 3.5	< 0.7	< 0.7	< 0.7	< 0.7
PUG-06	4/4/1996	1	< 0.7	< 0.7	< 0.7	< 3.5	< 0.7	< 0.7	< 1.4	0.29 J	< 0.7	< 0.7	< 0.7	< 0.7	0.35 J	< 0.7	**1.1**	< 0.7	< 3.5	0.22 J	< 0.7	0.18 J	< 0.7
PUG-06	4/4/1996	5	< 0.77	< 0.77	< 0.77	< 3.8	< 0.77	< 0.77	< 1.5	< 0.77	7.5	< 0.77	< 0.77	< 0.77	< 0.77	< 0.77	< 0.77	< 0.77	< 3.8	< 0.77	< 0.77	< 0.77	< 0.77
PUG-07	4/4/1996	1	0.2 J	< 0.69	< 0.69	2.8 J	< 0.69	< 0.69	< 1.4	0.8	< 0.69	< 0.69	< 0.69	< 0.69	1.6	< 0.69	**4.3**	< 0.69	1.3 J	3.7	< 0.69	0.41 J	< 0.69
PUG-07	4/4/1996	5	< 0.69	< 0.69	< 0.69	< 3.5	< 0.69	< 0.69	< 1.4	< 0.69	< 0.69	< 0.69	< 0.69	< 0.69	< 0.69	< 0.69	< 0.69	< 0.69	< 3.5	< 0.69	< 0.69	< 0.69	< 0.69
PUG-08	4/5/1996	1	< 1.7	< 1.7	< 1.7	2.2 J	< 1.7	< 1.7	< 3.4	< 1.7	< 1.7	< 1.7	< 1.7	< 1.7	< 1.7	1.5 J	**1.9**	< 1.7	< 8.6	0.58 J	< 1.7	< 1.7	< 1.7
PUG-08	4/5/1996	5	< 0.69	< 0.69	< 0.69	< 3.5	< 0.69	< 0.69	< 1.4	< 0.69	< 0.69	< 0.69	< 0.69	< 0.69	< 0.69	< 0.69	< 0.69	< 0.69	< 3.5	< 0.69	< 0.69	< 0.69	< 0.69
PUH-02	3/25/1996	1	< 0.67	< 0.67	< 0.67	< 3.3	< 0.67	< 0.67	< 1.3	< 0.67	< 0.67	< 0.67	< 0.67	< 0.67	< 0.67	< 0.67	< 0.67	< 0.67	< 3.3	< 0.67	< 0.67	< 0.67	< 0.67
PUH-08	4/5/1996	1	< 0.67	< 0.67	< 0.67	< 3.4	< 0.67	< 0.67	< 1.3	< 0.67	< 0.67	< 0.67	< 0.67	< 0.67	< 0.67	< 0.67	**0.39 J**	< 0.67	< 3.4	< 0.67	< 0.67	< 0.67	< 0.67
PUH-08	4/5/1996	5	< 0.69	< 0.69	< 0.69	< 3.5	< 0.69	< 0.69	< 1.4	< 0.69	< 0.69	< 0.69	< 0.69	< 0.69	< 0.69	< 0.69	< 0.69	< 0.69	< 3.5	< 0.69	< 0.69	< 0.69	< 0.69
PUH-11	4/8/1996	1	< 0.66	< 0.66	< 0.66	< 3.3	< 0.66	< 0.66	< 1.3	< 0.66	< 0.66	< 0.66	< 0.66	< 0.66	< 0.66	< 0.66	< 0.66	< 0.66	< 3.3	< 0.66	< 0.66	< 0.66	< 0.66
PUJ-07	4/5/1996	1	< 0.67	< 0.67	< 0.67	< 3.3	< 0.67	< 0.67	< 1.3	< 0.67	< 0.67	< 0.67	< 0.67	< 0.67	< 0.67	< 0.67	< 0.67	< 0.67	< 3.3	< 0.67	< 0.67	< 0.67	< 0.67
PUJ-07	4/5/1996	5	< 0.69	< 0.69	< 0.69	< 3.5	< 0.69	< 0.69	< 1.4	< 0.69	< 0.69	< 0.69	< 0.69	< 0.69	< 0.69	< 0.69	< 0.69	< 0.69	< 3.5	< 0.69	< 0.69	< 0.69	< 0.69
PUJ-14	3/22/1996	1	< 0.67	< 0.67	< 0.67	< 3.4	< 0.67	< 0.67	< 1.3	< 0.67	< 0.67	< 0.67	< 0.67	< 0.67	< 0.67	< 0.67	< 0.67	< 0.67	< 3.4	< 0.67	< 0.67	< 0.67	< 0.67
PUK-02	3/25/1996	1	< 0.67	< 0.67	< 0.67	< 3.3	< 0.67	< 0.67	< 1.3	< 0.67	< 0.67	< 0.67	< 0.67	< 0.67	< 0.67	< 0.67	< 0.67	< 0.67	< 3.3	< 0.67	< 0.67	< 0.67	< 0.67
PUK-09	4/8/1996	1	< 0.67	< 0.67	< 0.67	< 3.3	< 0.67	< 0.67	< 1.3	< 0.67	< 0.67	< 0.67	< 0.67	< 0.67	< 0.67	< 0.67	< 0.67	< 0.67	< 3.3	< 0.67	< 0.67	< 0.67	< 0.67
PUL-03	3/25/1996	1	< 0.67	< 0.67	< 0.67	< 3.4	< 0.67	< 0.67	< 1.3	< 0.67	< 0.67	< 0.67	< 0.67	< 0.67	< 0.67	< 0.67	< 0.67	< 0.67	< 3.4	< 0.67	< 0.67	< 0.67	< 0.67
PUL-09	3/22/1996	1	< 0.67	< 0.67	< 0.67	< 3.4	< 0.67	< 0.67	< 1.3	< 0.67	< 0.67	< 0.67	< 0.67	< 0.67	< 0.67	< 0.67	< 0.67	< 0.67	< 3.4	< 0.67	< 0.67	< 0.67	< 0.67

TABLE 4-7
Semivolatile Organic Compound Detections in Soil Samples
BMI Common Areas
Henderson, Nevada

SITE	DATE	DEPTH (ft)	Benzo(a)anthracene (mg/kg)	Benzo(a)pyrene (mg/kg)	Benzo(b)fluoranthene (mg/kg)	Benzoic acid (mg/kg)	4-Bromophenyl phenyl ether (mg/kg)	Butylbenzyl phthalate (mg/kg)	4-Chloroaniline (mg/kg)	Chrysene (mg/kg)	Di-n-butyl phthalate (mg/kg)	1,2-Dichloro benzene (mg/kg)	1,3-Dichloro benzene (mg/kg)	1,4-Dichloro benzene (mg/kg)	Fluoranthene (mg/kg)	bis(2-ethylhexyl)phthalate (mg/kg)	Hexachloro benzene (mg/kg)	Hexachloro butadiene (mg/kg)	Pentachloro phenol (mg/kg)	Phenanthrene (mg/kg)	Phenol (mg/kg)	Pyrene (mg/kg)	1,2,4-Trichloro benzene (mg/kg)
PRGs			**0.62**	**0.062**	**0.62**	**-**	**-**	**12,000**	**240**	**62**	**6,100**	**370**	**13**	**3.4**	**2,300**	**35**	**0.3**	**6.2**	**3**	**-**	**37,000**	**2,300**	**650**
PUM-06	3/22/1996	1	< 0.67	< 0.67	< 0.67	< 3.3	< 0.67	< 0.67	< 1.3	< 0.67	< 0.67	< 0.67	< 0.67	< 0.67	< 0.67	< 0.67	< 0.67	< 0.67	< 3.3	< 0.67	< 0.67	< 0.67	< 0.67
PUM-06	3/22/1996	5	< 0.68	< 0.68	< 0.68	< 3.4	< 0.68	< 0.68	< 1.3	< 0.68	< 0.68	< 0.67	< 0.67	< 0.67	< 0.68	< 0.68	< 0.68	< 0.68	< 3.4	< 0.68	< 0.68	< 0.68	< 0.68
PUO-03	3/25/1996	1	< 0.67	< 0.67	< 0.67	< 3.4	< 0.67	< 0.67	< 1.3	< 0.67	< 0.67	< 0.67	< 0.67	< 0.67	< 0.67	< 0.67	< 0.67	< 0.67	< 3.4	< 0.67	< 0.67	< 0.67	< 0.67
PUO-08	3/22/1996	1	< 0.66	< 0.66	< 0.66	< 3.3	< 0.66	< 0.66	< 1.3	< 0.66	< 0.66	< 0.66	< 0.66	< 0.66	< 0.66	< 0.66	< 0.66	< 0.66	< 3.3	< 0.66	< 0.66	< 0.66	< 0.66
PUP-07	3/25/1996	1	< 0.67	< 0.67	< 0.67	< 3.3	< 0.67	< 0.67	< 1.3	< 0.67	< 0.67	< 0.67	< 0.67	< 0.67	< 0.67	< 0.67	< 0.67	< 0.67	< 3.3	< 0.67	< 0.67	< 0.67	< 0.67
PUQ-02	4/8/1996	1	< 0.67	< 0.67	< 0.67	< 3.3	< 0.67	< 0.67	< 1.3	< 0.67	< 0.67	< 0.67	< 0.67	< 0.67	< 0.67	< 0.67	< 0.67	< 0.67	< 3.3	< 0.67	< 0.67	< 0.67	< 0.67
WDB-04	4/15/1996	1	< 0.69	< 0.69	< 0.69	< 3.4	< 0.69	< 0.69	< 1.4	< 0.69	2.7	< 0.69	< 0.69	< 0.69	< 0.69	< 0.69	< 0.69	< 0.69	< 3.4	< 0.69	< 0.69	< 0.69	< 0.69
WDB-05	4/16/1996	1	< 0.69	< 0.69	< 0.69	< 3.4	< 0.69	< 0.69	< 1.4	< 0.69	< 0.69	< 0.69	< 0.69	< 0.69	< 0.69	< 0.69	< 0.69	< 0.69	< 3.4	< 0.69	< 0.69	< 0.69	< 0.69
WDB-05	4/16/1996	5	< 0.72	< 0.72	< 0.72	< 3.6	< 0.72	< 0.72	< 1.4	< 0.72	< 0.72	< 0.72	< 0.72	< 0.72	< 0.72	< 0.72	< 0.72	< 0.72	< 3.6	< 0.72	< 0.72	< 0.72	< 0.72

Notes:
(1) Detections qualified as non-detect based on similar detections in laboratory and/or field blanks.
bgs = below ground surface
mg/kg = milligrams per kilogram
J = Reported at less than reporting limit
PRG = USEPA Region IX Preliminary Remediation Goals for Residential Soils
Only those compounds detected at the site are shown.
Bold indicates that the concentration of a chemical exceeds the PRG for that constituent.
(1) Detections qualified as non-detect based on similar detections in laboratory and/or field blanks.

TABLE 4-8
Inorganic Compound Detections in Leachate Analysis (mg/L)
BMI Common Areas
Henderson, Nevada

Sample Location	Date Sampled	Depth (ft bgs)	Extractant	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Copper	Lead	Manganese	Mercury	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc	Perchlorate
BDB-09	04/09/96	0-1	Std	na	na	<10	na	na	<0.5	na	<1	na	na	na	na	na	na	na	na	na
BDB-09	04/09/96	4-5	Std	na	na	na	na	na	<0.5	na	<1	na	na	na	na	na	na	na	na	na
BDB-10	04/09/96	0-1	Std	na	na	na	na	na	<0.5	na	<1	na	na	na	na	na	na	na	na	na
BDB-11	04/09/96	0-1	Std	na	<0.1	<10	na	na	<0.5	na	<1	na	na	na	na	na	na	na	na	na
BDB-12	04/09/96	0-1	Std	na	na	<10	na	na	<0.5	na	<1	na	na	na	na	na	na	na	na	na
BDB-12	04/09/96	4-5	Std	na	<0.1	<10	na	na	<0.5	na	<1	na	na	na	na	na	na	na	na	na
BDB-13	04/18/99	0-1	D.I.	na	na	<10	na	na	<0.5	na	<1	na	na	na	na	na	na	na	na	na
BDB-13D	04/18/99	0-1	D.I.	na	na	<10	na	na	<0.5	na	<1	na	na	na	na	na	na	na	na	na
BDB-13	04/18/99	4-5	D.I.	na	na	<10	na	na	<0.5	na	<1	na	na	na	na	na	na	na	na	na
BDB-13D	04/18/99	4-5	D.I.	na	na	<10	na	na	<0.5	na	<1	na	na	na	na	na	na	na	na	na
BDB-17	04/05/96	0-1	Std	na	na	na	na	na	na	na	<1	na	na	na	na	na	na	na	na	na
BDB-18	04/05/96	4-5	Std	na	na	na	na	na	na	na	<1	na	na	na	na	na	na	na	na	na
BDB-19	04/25/99	0-1	D.I.	na	na	na	na	na	na	na	<1	na	na	na	na	na	na	na	na	na
BDB-20	07/15/99	0-1	D.I.	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	<0.004
BDB-20	07/15/99	1-2	D.I.	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	0.014
PLC-01	07/15/99	0-1	D.I.	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	0.033
PLC-01	07/15/99	2-3	D.I.	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	0.26
PLD-10	07/14/99	0-1	D.I.	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	0.21
PLD-10	07/14/99	2-3	D.I.	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	0.18
PLE-08	07/14/99	0-1	D.I.	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	0.19
PLE-08	07/14/99	2-3	D.I.	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	0.0051
PLE-09	06/28/99	0	D.I.	<0.005	<0.005	<0.005	na	na	0.015	na	<0.5	<0.005	na	na	na	na	<1	0.38	na	0.23
PLE-09	04/11/96	0-1	Std	na	na	na	na	na	na	na	<1	na	na	na	na	na	na	na	na	na
PLE-09	07/14/99	2-3	D.I.	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	0.03
PLG-01	07/14/99	0-1	D.I.	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	0.018
PLG-01	07/14/99	2-3	D.I.	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	0.0067
PLG-05	07/14/99	0-1	D.I.	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	<0.004
PLG-05	07/14/99	2-3	D.I.	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	0.011
PLJ-02	07/14/99	0-1	D.I.	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	38
PLJ-02	04/18/96	0-1	Std	na	na	na	na	na	na	na	<1	na	na	na	na	na	na	na	na	na
PLJ-02	07/14/99	2-3	D.I.	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	1.1
PUA-01	06/28/99	0-1	D.I.	<0.005	<0.005	<0.005	<0.005	<0.01	0.085	<0.1	0.057	0.047	na	<0.04	<0.1	<0.02	<0.005	0.84	<0.5	<0.004
PUA-01N	10/19/99	0-1	D.I.	<0.01	<0.01	<0.005	na	na	0.037	na	<0.05	0.056	na	na	na	na	<0.01	1.7	na	na
PUA-01S	10/19/99	0-1	D.I.	<0.01	<0.01	<0.005	na	na	0.069	na	<0.05	0.16	na	na	na	na	<0.01	0.74	na	na
PUA-03	06/28/99	0-1	D.I.	<0.005	<0.005	<0.005	<0.005	<0.01	0.042	<0.1	0.051	0.030	na	<0.04	<0.1	<0.02	<0.005	0.36	<0.5	<0.004
PUA-03N	10/18/99	0-1	D.I.	<0.01	<0.01	<0.005	na	na	0.12	na	<0.05	0.040	na	na	na	na	<0.01	2.3	na	na
PUA-03S	10/18/99	0-1	D.I.	<0.01	<0.01	<0.005	na	na	0.014	na	<0.05	0.096	na	na	na	na	<0.01	0.39	na	na
PUA-05	04/04/96	0-1	Std	na	na	na	na	na	1.3	na	<1	na	na	na	na	na	na	na	na	na
PUA-07	04/04/96	4-5	Std	na	na	na	na	na	<0.5	na	na	na	na	na	na	na	na	na	na	na
PUA-09	04/03/96	0-1	Std	na	<0.1	<10	na	na	<0.5	na	<1	na	na	na	na	na	na	na	na	na
PUA-09	04/03/96	4-5	Std	na	na	na	na	na	<0.5	na	na	na	na	na	na	na	na	na	na	na
PUA-10D	04/03/96	4-5	Std	na	<0.1	<10	na	na	<0.5	na	<1	na	na	na	na	na	na	na	na	na
PUA-11	04/04/96	0-1	Std	na	<0.1	<10	na	na	1.7	na	<1	na	na	na	na	na	na	na	na	na
PUB-01N	10/20/99	0-1	D.I.	0.043	<0.01	<0.005	na	na	<0.01	na	<0.05	<0.005	na	na	na	na	<0.01	0.013	na	na
PUB-01S	10/20/99	0-1	D.I.	<0.01	0.012	<0.005	na	na	<0.01	na	<0.05	<0.005	na	na	na	na	<0.01	0.074	na	na
PUB-02N	10/19/99	0-1	D.I.	<0.01	<0.01	<0.005	na	na	0.016	na	<0.05	0.62	na	na	na	na	<0.01	0.42	na	na
PUB-02S	10/19/99	0-1	D.I.	<0.01	<0.01	<0.005	na	na	<0.01	na	<0.05	0.038	na	na	na	na	<0.01	0.19	na	na
PUB-03	06/28/99	0-1	D.I.	0.064	0.037	<0.005	<0.005	<0.01	0.61	<0.1	<0.05	0.0087	na	<0.04	<0.1	<0.02	<0.005	1.5	<0.5	0.012
PUB-03N	10/19/99	0-1	D.I.	<0.01	<0.01	<0.005	na	na	0.038	na	<0.05	0.088	na	na	na	na	<0.01	0.62	na	na
PUB-03S	10/19/99	0-1	D.I.	<0.01	<0.01	<0.005	na	na	0.018	na	<0.05	0.23	na	na	na	na	<0.01	0.34	na	na
PUB-04	03/26/96	0-1	Std	na	na	na	na	na	<0.5	na	<1	na	na	na	na	na	na	na	na	na
PUB-06	04/03/96	0-1	Std	na	<0.1	<10	na	na	0.53	na	<1	na	na	na	na	na	na	na	na	na
PUB-08	04/03/96	0-1	Std	na	<0.1	<10	na	na	<0.5	na	<1	na	na	na	na	na	na	na	na	na
PUB-08	04/03/96	4-5	Std	na	na	<10	na	na	<0.5	na	<1	na	na	na	na	na	na	na	na	na
PUB-09	04/03/96	0-1	Std	na	<0.1	<10	na	na	<0.5	na	<1	na	na	na	na	na	na	na	na	na
PUB-09	04/03/96	4-5	Std	na	na	<10	na	na	<0.5	na	<1	na	na	na	na	na	na	na	na	na

TABLE 4-8
Inorganic Compound Detections in Leachate Analysis (mg/L)
BMI Common Areas
Henderson, Nevada

Sample Location	Date Sampled	Depth (ft bgs)	Extractant	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Copper	Lead	Manganese	Mercury	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc	Perchlorate
PUB-10	04/03/96	0-1	Std	na	<0.1	<10	na	na	<0.5	na	<1	na	na	na	na	na	na	na	na	na
PUB-10	04/03/96	4-5	Std	na	<0.1	<10	na	na	<0.5	na	<1	na	na	na	na	na	na	na	na	na
PUC-01	03/26/96	0-1	Std	na	na	na	na	na	<0.5	na	<1	na	na	na	na	na	na	na	na	na
PUC-02	06/28/99	0-1	D.I.	<0.005	<0.005	<0.005	<0.005	<0.01	0.072	<0.1	0.093	0.17	na	<0.04	<0.1	<0.02	<0.005	0.20	<0.5	0.021
PUC-03	03/26/96	0-1	Std	na	na	<10	na	na	<0.5	na	<1	na	na	na	na	na	na	na	na	na
PUC-03	03/26/96	4-5	Std	na	na	na	na	na	<0.5	na	<1	na	na	na	na	na	na	na	na	na
PUC-05	04/03/96	0-1	Std	na	na	<10	na	na	1.2	na	<1	na	na	na	na	na	na	na	na	na
PUC-05	04/03/96	4-5	Std	na	na	na	na	na	na	na	<1	na	na	na	na	na	na	na	na	na
PUC-07	04/03/96	0-1	Std	na	<0.1	<10	na	na	<0.5	na	<1	na	na	na	na	na	na	na	na	na
PUC-07	04/04/96	0-1	Std	na	na	<10	na	na	<0.5	na	<1	na	na	na	na	na	na	na	na	na
PUC-07	04/03/96	4-5	Std	na	na	<10	na	na	<0.5	na	<1	na	na	na	na	na	na	na	na	na
PUC-08	04/08/96	0-1	Std	na	na	<10	na	na	0.55	na	<1	na	na	na	na	na	na	na	na	na
PUD-02	06/28/99	0-1	D.I.	<0.005	0.0081	<0.005	<0.005	<0.01	0.16	<0.1	0.060	0.071	na	<0.04	<0.1	<0.02	<0.005	1.3	<0.5	0.011
PUD-06	04/08/96	0-1	Std	na	na	<10	na	na	1.1	na	<1	na	na	na	na	na	na	na	na	na
PUD-08	04/08/96	0-1	Std	na	na	<10	na	na	<0.5	na	<1	na	na	na	na	na	na	na	na	na
PUD-09	04/08/96	0-1	Std	na	na	<10	na	na	<0.5	na	<1	na	na	na	na	na	na	na	na	na
PUD-09	04/08/96	4-5	Std	na	na	na	na	na	na	na	<1	na	na	na	na	na	na	na	na	na
PUD-10	04/03/96	0-1	Std	na	na	<10	na	na	<0.5	na	<1	na	na	na	na	na	na	na	na	na
PUE-01	03/28/96	0-1	Std	na	na	na	na	na	<0.5	na	<1	na	na	na	na	na	na	na	na	na
PUE-03	04/01/96	0-1	Std	na	na	<10	na	na	1.1	na	<1	na	na	na	na	na	na	na	na	na
PUE-05	04/01/96	0-1	Std	na	na	<10	na	na	3	na	<1	na	na	na	na	na	na	na	na	na
PUE-05	04/01/96	4-5	Std	na	na	na	na	na	<0.5	na	na	na	na	na	na	na	na	na	na	na
PUE-06	04/01/96	0-1	Std	na	na	<10	na	na	0.9	na	<1	na	<0.02 H	na	na	na	na	na	na	na
PUE-07	04/08/96	0-1	Std	na	<0.1	<10	na	na	0.52	na	<1	na	na	na	na	na	na	na	na	na
PUF-01	03/25/96	0-1	Std	na	na	na	na	na	<0.5	na	<1	na	na	na	na	na	na	na	na	na
PUF-03	03/28/96	0-1	Std	na	na	na	na	na	0.58	na	<1	na	na	na	na	na	na	na	na	na
PUF-03	03/28/96	4-5	Std	na	na	na	na	na	<0.5	na	na	na	na	na	na	na	na	na	na	na
PUF-05	04/04/96	0-1	Std	na	na	<10	na	na	<0.5	na	<1	na	na	na	na	na	na	na	na	na
PUF-07	04/05/96	0-1	Std	na	na	<10	na	na	<0.5	na	<1	na	na	na	na	na	na	na	na	na
PUF-07	04/05/96	4-5	Std	na	na	na	na	na	<0.5	na	<1	na	na	na	na	na	na	na	na	na
PUF-10	04/19/96	0-1	Std	na	na	na	na	na	<0.5	na	na	na	na	na	na	na	na	na	na	na
PUG-04	04/04/96	0-1	Std	na	na	na	na	na	1.2	na	<1	na	na	na	na	na	na	na	na	na
PUG-06	04/04/96	0-1	Std	na	na	na	na	na	3.1	na	<1	na	na	na	na	na	na	na	na	na
PUG-07	04/04/96	0-1	Std	na	na	<10	na	na	0.8	na	<1	na	na	na	na	na	na	na	na	na
PUG-08	04/05/96	0-1	Std	na	na	<10	na	na	0.53	na	<1	na	na	na	na	na	na	na	na	na
PUH-08	04/05/96	0-1	Std	na	na	na	na	na	<0.5	na	<1	na	na	na	na	na	na	na	na	na
PUJ-07	04/05/96	0-1	Std	na	na	na	na	na	<0.5	na	<1	na	na	na	na	na	na	na	na	na
PUK-09	04/08/96	0-1	Std	na	na	na	na	na	<0.5	na	na	na	na	na	na	na	na	na	na	na
PUM-06	03/22/96	0-1	Std	na	na	na	na	na	<0.5	na	na	na	na	na	na	na	na	na	na	na

Notes:

Under "Extractant" column, "Std" = the standard acetic acid extractant called for in the TCLP method; "D.I." = deionized water

na = Not analyzed, per original scope of work.

D = Duplicate sample.

H = Sample was analyzed outside of the method specific hold time.

N = Post-remediation confirmation sample collected from the north section of the pond.

S = Post-remediation confirmation sample collected from the south section of the pond.

Table 4-9
Pesticide Detections in Leachate Analysis (mg/L)
BMI Common Areas
Henderson, Nevada

Sample Location	Date Sampled	Depth (ft bgs)	Extractant	Aldrin	alpha-BHC	beta-BHC	delta-BHC	gamma-BHC	alpha-Chlordane	gamma-Chlordane	Chlordane	4,4'-DDD	4,4'-DDE	4,4'-DDT	Dieldrin	Endosulfan I	Endosulfan II	Endosulfan sulfate	Endrin	Endrin Aldehyde	Endrin ketone	Heptachlor	Heptachlor epoxide	Methoxychlor	Toxaphene
BDB-12	#######	0.5-1	Std	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	<0.004	<0.0004	<0.0004 J	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	<0.004	<0.012
PLE-09	06/28/99	0	D.I.	<0.0004 P	<0.0004	0.0007	<0.0004	<0.0004	<0.0004	<0.0004	<0.004	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	0.0041	<0.012
PUA-01	06/28/99	0	D.I.	<0.0004 P	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	<0.004	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	<0.004	<0.012
PUA-03	06/28/99	0	D.I.	<0.0004 P	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	<0.004	<0.0004	<0.0004 J	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	<0.004	<0.012
PUB-03	06/28/99	0	D.I.	<0.0004 P	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	<0.004	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	<0.004	<0.012
PUB-09	11/17/98	0-1	Std	<0.0004	<0.0004	<0.0004	<0.0004	0.0012	<0.0004	<0.0004	<0.004	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	<0.004	<0.012
PUC-02	06/28/99	0	D.I.	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	<0.004	<0.0004	<0.0004 J	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	<0.004	<0.012
PUD-02	06/28/99	0	D.I.	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	<0.004	<0.0004	<0.0004 J	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	<0.004	<0.012

Notes:

Under "Extractant" column, "Std" = the standard acetic acid extractant called for in the TCLP method; "D.I." = deionized water

J = The posted concentration should be considered an estimate due to laboratory control sample failure.

P = Sample was improperly preserved, but was analyzed upon request.

Table 4-10
Radionuclide Detections in Leachate Analyses
BMI Common Areas
Henderson, Nevada

Sample Location	Date Sampled	Depth	Extractant	Gross Alpha (pCi/L)	Gross Beta (pCi/L)	Radium-226 (pCi/L)	Radium-228 (pCi/L)	Thorium-228 (pCi/L)	Thorium-230 (pCi/L)	Thorium-232 (pCi/L)	Uranium-234 (pCi/L)	Uranium-238 (pCi/L)	Uranium-235/236 (pCi/L)
BDB-12	11/17/98	0-1	Std.	na	na	0.36 ± 0.12	<0.86	<0.27	<0.53	<0.35	6.99 ± 1.47	5.63 ± 1.20	0.40 ± 0.15
PUA-03	07/15/99	0-1	D.I.	6.60 ± 1.5	6.55 ± 1.47	1.05 ± 0.28	<0.96	<0.12	0.28 ± 0.13	<0.13	0.34 ± 0.26	0.52 ± 0.31	<0.24
PUB-09	11/17/98	0-1	Std.	na	na	<0.22	<1.97	<0.26	<0.47	<0.32	1.67 ± 0.40	1.84 ± 0.44	<0.15
PUD-02	07/15/99	0-1	D.I.	<15.3	<15.6	<0.17	<0.72	0.15 ± 0.10	0.21 ± 0.11	<0.03	<0.25	<0.21	<0.26

Notes:
Under "Extractant" column, "Std" = the standard acetic acid extractant called for in the TCLP method; "D.I." = deionized water
pCi/L = picoCuries per Liter

TABLE 5-1
Areas Requiring Remedial Measures
BMI Common Areas
Henderson, Nevada

Location	Sampled	Remediation	Above Acceptable Levels Asbestos (1%)	Arsenic (22 mg/kg)	Lead (400 mg/kg)	Risk (HI = 1 or Cancer Risk = 1×10^{-6})	Notes
ADB-01	X						(2)
ADB-02	X						(2)
ADB-03	X						(2)
ADB-04	X						(2)
ADB-05	X						(2)
ADB-06	X						(2)
ADB-07	X						(2)
ADB-08	X						(2)
ADB-09	X						(2)
ADB-10	X						(2)
ADB-11	X						(2)
ADB-12	X						(2)
ADB-13	X						(2)
ADB-14	X						(2)
ADB-15	X						(2)
BDB-09	X	X	X	X	X	X	
BDB-10	X	X	X			X	
BDB-11	X	X	X	X	X	X	
BDB-12	X	X	X	X	X	X	
BDB-13	X	X		X	X	X	
BDB-14	X	X					(1)
BDB-15	X	X					(1)
BDB-16	X	X					(1)
BDB-17	X	X					(1)
BDB-18	X	X					(1)
BDB-19	X	X		X	X	X	
BDB-20	X						(2)
BDB-21	X						(2)
BDB-22	X						(2)
BDB-23	X						(2)
BDB-24	X						(2)

TABLE 5-1
Areas Requiring Remedial Measures
BMI Common Areas
Henderson, Nevada

			Above Acceptable Levels				
Location	**Sampled**	**Remediation**	**Asbestos (1%)**	**Arsenic (22 mg/kg)**	**Lead (400 mg/kg)**	**Risk (HI = 1 or Cancer Risk = 1 x 10^{-6})**	**Notes**
BDB-25	X						(2)
BDB-26	X						(2)
NDB-04	X						(2)
NDB-05	X						(2)
PLA-01							(3)
PLA-02							(3)
PLA-03							(3)
PLB-01							(3)
PLB-02							(3)
PLC-01	X						(2)
PLC-02							(3)
PLD-01							(3)
PLD-02							(3)
PLD-10	X	X					(4)
PLE-01	X						(3)
PLE-02							(3)
PLE-08	X						(2)
PLE-09	X	X					(4)
PLF-01							(3)
PLF-02							(3)
PLF-05	X						(3)
PLF-06							(3)
PLF-07	X						(2)
PLF-08	X						(2)
PLG-01	X						(2)
PLG-02							(3)
PLG-03							(3)
PLG-04							(3)
PLG-05	X						(2)
PLG-06							(3)
PLH-01	X						(2)

TABLE 5-1
Areas Requiring Remedial Measures
BMI Common Areas
Henderson, Nevada

			Above Acceptable Levels				
Location	**Sampled**	**Remediation**	**Asbestos (1%)**	**Arsenic (22 mg/kg)**	**Lead (400 mg/kg)**	**Risk (HI = 1 or Cancer Risk = 1 x 10^{-6})**	**Notes**
PLH-02							(3)
PLH-03							(3)
PLH-04	X						(2)
PLI-01							(3)
PLI-02							(3)
PLI-03	X						(2)
PLJ-01	X			(6)			(6)
PLJ-02	X			(6)			(6)
WDB-04	X						(2)
PUA-01	X	X					(4)
PUA-02		X					(4)
PUA-03	X	X					(4)
PUA-04		X					(1)
PUA-05	X	X	X		X	X	(5)
PUA-06		X					(1), (5)
PUA-07	X	X	X		X	X	(5)
PUA-08		X					(1), (5)
PUA-09	X	X	X	X	X	X	(5)
PUA-10	X	X	X	X	X	X	(5)
PUA-11	X	X	X	X	X	X	(5)
PUA-12							(3)
PUA-13							(3)
PUA-14	X						(2)
PUA-15							(3)
PUA-16							(3)
PUA-17							(3)
PUB-01	X	X					(4)
PUB-02	X	X					(4)
PUB-03	X	X					(4)
PUB-04	X	X					(1)
PUB-05	X	X				X	(5)

TABLE 5-1
Areas Requiring Remedial Measures
BMI Common Areas
Henderson, Nevada

			Above Acceptable Levels				
Location	**Sampled**	**Remediation**	**Asbestos (1%)**	**Arsenic (22 mg/kg)**	**Lead (400 mg/kg)**	**Risk (HI = 1 or Cancer Risk = 1 x 10^{-6})**	**Notes**
PUB-06	X	X		X	X	X	(5)
PUB-07		X					(1), (5)
PUB-08	X	X	X	X	X	X	(5)
PUB-09	X	X	X	X	X	X	(5)
PUB-10	X	X	X	X	X	X	(5)
PUC-01	X	X					(4)
PUC-02	X	X					(4)
PUC-03	X	X		X	X	X	(5)
PUC-04		X					(1), (5)
PUC-05	X	X	X		X	X	(5)
PUC-06		X					(1), (5)
PUC-07	X	X	X	X	X	X	(5)
PUC-08	X	X	X	X	X	X	(5)
PUD-01	X	X					(4)
PUD-02	X	X					(4)
PUD-03		X					(1)
PUD-04		X					(1)
PUD-05		X					(1), (5)
PUD-06	X	X	X	X	X	X	(5)
PUD-07		X					(1), (5)
PUD-08	X	X	X		X	X	(5)
PUD-09	X	X	X	X	X	X	(5)
PUE-01	X						(2)
PUE-02	X	X			X		
PUE-03	X	X			X		
PUE-04		X					(1), (5)
PUE-05	X	X	X		X	X	(5)
PUE-06	X	X	X	X	X	X	(5)
PUE-07	X	X	X	X	X	X	(5)
PUE-08		X					(1), (5)
PUE-09							(3)

TABLE 5-1
Areas Requiring Remedial Measures
BMI Common Areas
Henderson, Nevada

Location	Sampled	Remediation	Above Acceptable Levels: Asbestos (1%)	Arsenic (22 mg/kg)	Lead (400 mg/kg)	Risk (HI = 1 or Cancer Risk = 1 x 10^{-6})	Notes
PUE-10							(3)
PUE-11							(3)
PUF-01	X						(2)
PUF-02	X						(2)
PUF-03	X						(2)
PUF-04		X					(1), (5)
PUF-05	X	X	X		X	X	(5)
PUF-06		X					(1), (5)
PUF-07	X	X	X	X		X	(5)
PUF-08		X					(1), (5)
PUF-09							(3)
PUF-10	X						(2)
PUF-11							(3)
PUF-12							(3)
PUG-01	X						(2)
PUG-02	X	X			X		
PUG-03	X	X					(1)
PUG-04	X	X			X		(5)
PUG-05	X	X			X		(5)
PUG-06	X	X			X	X	(5)
PUG-07	X	X	X	X	X	X	(5)
PUG-08	X	X	X	X	X	X	(5)
PUG-09	X	X		X		X	(5)
PUG-10							(3)
PUG-11							(3)
PUG-12							(3)
PUH-01	Arsenic Only						(2), (3)
PUH-02	X						(2)
PUH-03	X						(2)
PUH-04	X						(2)
PUH-05	X						(2)

TABLE 5-1
Areas Requiring Remedial Measures
BMI Common Areas
Henderson, Nevada

			Above Acceptable Levels				
Location	**Sampled**	**Remediation**	**Asbestos (1%)**	**Arsenic (22 mg/kg)**	**Lead (400 mg/kg)**	**Risk (HI = 1 or Cancer Risk = 1 x 10^{-6})**	**Notes**
PUH-06	X	X				X	
PUH-07	X	X					(1)
PUH-08	X	X		X		X	(5)
PUH-09	X						(2)
PUH-10							(3)
PUH-11	X						(2)
PUH-12							(3)
PUI-01	Arsenic Only						(2), (3)
PUI-02	Arsenic Only						(2), (3)
PUI-03	Arsenic Only						(2), (3)
PUI-04	Arsenic Only						(2), (3)
PUI-05	Arsenic Only						(2), (3)
PUI-06	X						(2)
PUI-07	X						(2)
PUI-08	X	X				X	
PUI-09	X						(2)
PUI-10							(3)
PUI-11							(3)
PUI-12	X						(2)
PUI-13	Arsenic Only						(2), (3)
PUI-14	Arsenic Only						(2), (3)
PUJ-01	Arsenic Only						(2), (3)
PUJ-02	X						(2)
PUJ-03	Arsenic Only						(2), (3)
PUJ-04	Arsenic Only						(2), (3)
PUJ-05	X						(2)
PUJ-06	Arsenic Only						(2), (3)
PUJ-07	X	X		X		X	
PUJ-08							(3)
PUJ-09							(3)
PUJ-10							(3)

TABLE 5-1
Areas Requiring Remedial Measures
BMI Common Areas
Henderson, Nevada

			Above Acceptable Levels				
Location	**Sampled**	**Remediation**	**Asbestos (1%)**	**Arsenic (22 mg/kg)**	**Lead (400 mg/kg)**	**Risk (HI = 1 or Cancer Risk = 1 x 10^{-6})**	**Notes**
PUJ-11							(3)
PUJ-12	Arsenic Only						(2), (3)
PUJ-13	Arsenic Only						(2), (3)
PUJ-14	X						(2)
PUK-01	Arsenic Only						(2), (3)
PUK-02	X						(2)
PUK-03	Arsenic Only						(2), (3)
PUK-04	Arsenic Only						(2), (3)
PUK-05	Arsenic Only						(2), (3)
PUK-06	Arsenic Only						(2), (3)
PUK-07							(3)
PUK-08							(3)
PUK-09	X						(2)
PUK-10							(3)
PUK-11							(3)
PUK-12	Arsenic Only						(2), (3)
PUK-13	Arsenic Only						(2), (3)
PUL-01	Arsenic Only						(2), (3)
PUL-02	Arsenic Only						(2), (3)
PUL-03	X						(2)
PUL-04	Arsenic Only						(2), (3)
PUL-05							(3)
PUL-06							(3)
PUL-07							(3)
PUL-08							(3)
PUL-09	X						(2)
PUL-10	Arsenic Only						(2), (3)
PUL-11	Arsenic Only						(2), (3)
PUM-01	Arsenic Only						(2), (3)
PUM-02	Arsenic Only						(2), (3)
PUM-03	Arsenic Only						(2), (3)

TABLE 5-1
Areas Requiring Remedial Measures
BMI Common Areas
Henderson, Nevada

Location	Sampled	Remediation	Above Acceptable Levels Asbestos (1%)	Arsenic (22 mg/kg)	Lead (400 mg/kg)	Risk (HI = 1 or Cancer Risk = 1 x 10^{-6})	Notes
PUM-04	Arsenic Only						(2), (3)
PUM-05	Arsenic Only						(2), (3)
PUM-06	X						(2)
PUM-07							(3)
PUM-08							(3)
PUM-09	Arsenic Only						(2), (3)
PUM-10	Arsenic Only						(2), (3)
PUM-11	Arsenic Only						(2), (3)
PUN-01							(3)
PUN-02							(3)
PUN-03	Arsenic Only						(2), (3)
PUN-04	Arsenic Only						(2), (3)
PUN-05	Arsenic Only						(2), (3)
PUN-06	Arsenic Only	X		X			
PUN-07	X						(2)
PUN-08	Arsenic Only						(2), (3)
PUN-09	Arsenic Only						(2), (3)
PUO-01							(3)
PUO-02							(3)
PUO-03	X						(2)
PUO-04							(3)
PUO-05	Arsenic Only						(2), (3)
PUO-06	Arsenic Only						(2), (3)
PUO-07							(3)
PUO-08	X						(2)
PUO-09							(3)
PUP-01							(3)
PUP-02							(3)
PUP-03							(3)
PUP-04							(3)
PUP-05							(3)

TABLE 5-1
Areas Requiring Remedial Measures
BMI Common Areas
Henderson, Nevada

Location	Sampled	Remediation	Above Acceptable Levels Asbestos (1%)	Arsenic (22 mg/kg)	Lead (400 mg/kg)	Risk (HI = 1 or Cancer Risk = 1 x 10^{-6})	Notes
PUP-06							(3)
PUP-07	X						(2)
PUP-08							(3)
PUP-09							(3)
PUP-10							(3)
PUQ-01							(3)
PUQ-02	X						(2)
PUQ-03							(3)
PUR-01							(3)
PUR-02							(3)
WDB-04	X						(2)
WDB-05	X						(2)

Notes:
(1) Remediation is required at this location because adjacent locations have been determined to require remedial measures due to chemical concentrations and/or risk levels in excess of acceptable levels.
(2) No remedial measures are planned at this location because sampling results indicate that chemical concentrations and risk levels do not exceed acceptable levels.
(3) No remedial measures are planned at this location because adjacent locations do not require remediation (sampling results indicate that chemical concentrations and risk levels do not exceed acceptable levels).
(4) Remediation has already been completed at this location during IRM activities.
(5) Remediation is required at this location because of visual evidence of impacts on the surface of the pond cell.
(6) Remediation is not required at this location because no direct contact with arsenic impacted soils will occur at this location. This location is located within designated wetland areas, which will be restricted from residential development.

General Response Action	Technology	Process Options	Description	Applicability*
NO ACTION	None	None required	No action. This general response action is required for consideration by the NCP	All
INSTITUTIONAL CONTROLS/ LIMITED ACTION	Access Restrictions	Fencing/Warning Signs	Construct fence around site perimeter and post warning signs.	All
	Deed Notification/ Deed Restriction	None required	Implement deed notification to inform future owners of the presence of potentially hazardous substances at the site and/or implement deed restriction to restrict future use of site.	All
	Dust Control/Dust Suppression	Chemical Salts, Polymer Solutions	Spray chemical salts or polymer solutions over impacted areas to reduce fugitive dust emissions.	All
		Foam	Spray foam over impacted areas at site to reduce fugitive dust emissions.	All
		Physical Barriers	Place plastic sheeting over impacted areas to reduce fugitive dust emissions.	All

General Response Action	Technology	Process Options	Description	Applicability*
		Revegetation	Plant drought resistant vegetation over impacted areas to reduce fugitive dust emissions.	All
		Water Spray	Spray water over impacted areas to reduce fugitive dust emissions.	All
		Wind Barriers	Construct wind barriers across site to reduce wind borne dust emissions.	All
CONTAINMENT	Capping	Asphalt Concrete	Construct asphalt concrete pavement cap over impacted soils to prevent exposure to site soil and minimize the percolation of water.	All
		Bentonite/Soil	Construct cap consisting of bentonite geosynthetic clay and soil over impacted soils to prevent exposure to site soil and percolation of water.	All
		Soil	Construct soil cap over impacted soils to prevent exposure to site soil and minimize the percolation of water.	All
		Multimedia	Construct cap consisting of bentonite geosynthetic clay and soil over impacted soils to prevent exposure to site soil and minimize the percolation of water.	All

General Response Action	Technology	Process Options	Description	Applicability*
		Portland Cement Concrete	Construct reinforced concrete cap over impacted soils to prevent exposure to site soil and minimize the percolation of water.	All
	Vertical Barriers	Grout Curtain	Install vertical curtain of impermeable grout to prevent lateral migration of chemicals in soil.	All
		HDPE Barrier Wall	Install vertical HDPE barrier wall to prevent lateral migration of chemicals in soil.	All
		Sheet Piling	Install vertical sheet piling to prevent lateral migration of chemicals in soil.	All
		Slurry Wall	Construct slurry wall with low permeability to prevent lateral migration of chemicals in soil.	All
	Horizontal Barriers	Grout Injection	Inject grout into subsurface permeable unit to prevent the vertical migration of chemical constituents.	All
	In-Place Encapsulation	Total Encapsulation	Construct a combination of horizontal and vertical barriers to totally encapsulate affected soils.	All

General Response Action	Technology	Process Options	Description	Applicability*
	Ex-Situ Containment	On-Site Secure Containment	Consolidate affected soil into a secure engineered containment structure.	All
RECYCLING	On-Site Recycling	Asphalt Concrete Production	Produce hot-mix asphalt concrete in an on-site batch plant using affected site soils.	M
		Emulsion Treated Road Base Production	Produce cold-mix emulsion treated road base (functionally equivalent to Class II road base) on site with affected site soils.	M
		Portland Cement Concrete Production	Produce structural concrete with affected site soils.	M
	Off-Site Recycling	Asphalt Concrete Production	Produce hot-mix asphalt concrete in an off-site batch plant using affected site soils.	M
		Bituminous Products Manufacture	Transport affected soil off site and use to produce bituminously treated road base.	M
		Portland Cement Production	Produce Portland cement in cement kilns using affected site soil.	M

General Response Action	Technology	Process Options	Description	Applicability*
TREATMENT	In-Situ Treatment	Anaerobic Bioremediation	Isolation of affected soil to promote biodegradation of organic contaminants in the absence of oxygen.	None
		Bioventing	Providing low flow vacuum or direct air insertion through affected soil region to stimulate existing microorganisms to degrade chemicals.	None
		Chemical and Physical Solidification/ Stabilization	Affected soil is treated by in situ mixing of affected soil with chemical reagents, thus reducing chemical constituent mobility.	All
		Chemical Reduction/Oxidation	Reduction/oxidation chemically converts hazardous contaminants in shallow soils to non-hazardous or less toxic compounds that are more stable, less mobile, and/or inert.	M
		Electrokinetic Treatment	Impress a current upon a high moisture or saturated soil area, which causes selective migration of heavy metals to subsurface electrodes.	M
		Enhanced Aerobic Bioremediation	Introduction of an oxygen nutrient/cultured microorganisms source into impacted soils to stimulate existing micro-organisms and promote biodegradation of chemicals.	None
		Natural Attenuation	Allow natural subsurface processes to reduce contaminant concentrations to acceptable levels.	None

General Response Action	Technology	Process Options	Description	Applicability*
		Soil Flushing	Inject or spray detergents/surfactants upon affected soil to leach contaminants downward; collect and treat leachate.	All
		Thermally Enhanced Vapor Extraction/Steam Stripping	Impresses a vacuum on the subsurface to recover volatile organics and uses steam/hot-air injection to increase the mobility of volatiles.	None
		Vapor Extraction	Vacuum is applied through extraction wells to create a pressure/concentration gradient that induces gas-phase volatiles to diffuse through soil to extraction wells. The process includes a system for handling off-gases.	None
		Vitrification	Electrically heat subsurface soil to oxidize organics and bind metals in glass-like solid matrix.	All
	Ex Situ Treatment	Acid Extraction	Affected soil and acid are mixed in a batch reactor, dissolving the metal constituents. The acid and the dissolved metal constituents are then separated for further treatment.	M
		Biodegradation (Composting)	A controlled biological process by which biodegradable chemicals are converted by microorganisms to innocuous, stabilized byproducts.	None

General Response Action	Technology	Process Options	Description	Applicability*
		Biodegradation (Slurry Phase Bioreactor)	Aboveground slurry reactor that mixes slurried soil and encourages growth of existing micro-organisms or with specially cultured organisms to degrade hazardous compounds.	None
		Chemical and Physical Solidification/ Stabilization	Mix excavated soil with cement, silicates or pozzolanic reagents to chemically bind chemicals, reducing solubility.	All
		Chemical Extraction	Affected soil and solvent are mixed in an extractor, dissolving the contaminants into the solvent. The soil and solvent contaminants are then placed in a separator, where the solvent/ contaminants and soil are separated for further treatment.	M, P
		Chemical Reduction/Oxidation	Reduction/oxidation chemically converts hazardous contaminants to non-hazardous or less toxic compounds that are more stable, less mobile, and/or inert.	M
		Critical Fluid Solvent Extraction	Uses high pressure gases to extract organics from excavated slurried soils.	P
		Dehalogenation	Process uses an alkaline polyethylene glycol reagent to dehalogenate aromatic compounds in a batch reactor.	None

General Response Action	Technology	Process Options	Description	Applicability*
		High-Temperature Thermal Desorption	Wastes are heated within a continuous flow reactor to 315-538 °C (600-1,000 °F) to volatilize organic contaminants and some volatile metals. A carrier gas or vacuum system transports volatilized water and organics to the gas treatment system.	P
		Incineration	High temperatures, 871-1,204 °C (1,600-2,200 °F), are used to combust (in the presence of oxygen) organic constituents in hazardous wastes.	P
		Low-Temperature Thermal Desorption	Wastes are heated within a continuous flow reactor to 93-315 °C (200-600 °F) to volatilize organic contaminants. A carrier gas or vacuum system transports volatilized organics to the gas treatment system.	P
		Pyrolytic Incineration	Chemical decomposition is induced in organic materials by heating in the absence of oxygen. Organic materials are transformed into gaseous components and a solid residue (coke) containing fixed carbon and ash.	P
		Slagging	Two stage high temperature system where light components (volatile metals) are volatilized and destroyed and heavier components are reduced to a metallic slag.	M

General Response Action	Technology	Process Options	Description	Applicability*
		Soil Washing	Wash excavated soil with surfactants, detergents, acids, etc., to remove chemicals from surface of soil particles. Treat or dispose of high chemical concentration residuals.	All
		Thermally Enhanced Soil Vapor Extraction	Steam/hot air injection is used to increase the mobility of volatiles, at above ground treatment cells, and facilitate vapor extraction. The process includes a system for handling off-gases.	None
		Vapor Extraction	Vacuum is applied through extraction pipes to create a pressure/concentration gradient, within affected soil placed in above ground treatment cells, that induces gas-phase volatiles to diffuse through soil to extraction wells. The process includes a system for handling off-gases.	None
		Vitrification	Excavated soils are vitrified to a glass-like solid matrix in a vitrification reactor, binding metal and organics and reducing solubility.	All

General Response Action	Technology	Process Options	Description	Applicability*
DISPOSAL	Off Site	Non-hazardous Waste Landfill	Excavated affected soil would be transported to a non-hazardous waste landfill for disposal.	All
		Hazardous Waste Landfill	Excavated soil would be transported to a RCRA waste landfill .	All(1)

*P = Pesticides, M = Metals, A = Asbestos, R = Radionuclides, All = Pesticides, Metals, Asbestos, and Radionuclides

(1) Although all of these types of chemicals can be disposed of at a hazardous waste landfill, site soils are not classified as a hazardous waste.

Evaluation Criteria	**Alternative 1** No Action	**Alternative 2** Institutional Controls/Limited Action	**Alternative 3** On-Site Capping of Soils	**Alternative 4A** Excavation of Soils and On-Site Landfill Disposal Within Common Areas	**Alternative 4B** Excavation of Soils and On-Site Landfill Disposal Within BMI Complex	**Alternative 5** Excavation of Soils and Off-Site Landfill Disposal
Overall Protection of Human Health	Not protective of human health and the environment; does not satisfy RAOs.	Alternative 2 satisfies the RAO. Direct exposure to soils is mitigated through institutional controls. The potential for indirect exposure to dusts will be mitigated through dust control measures. A monitoring and maintenance program will be instituted to ensure the reliability of these controls. No disturbance of impacted soils is anticipated to occur because the site will be left undeveloped.	Alternative 3 satisfies the RAO through complete capping of all impacted soil. The capped area may be redeveloped. Construction activities at the site may require construction within the cap and impacted soils. During construction activities, increased risks to human health will occur. Therefore, this alternative will require long-term monitoring and training to prevent exposure to the impacted soils.	Alternative 4A satisfies the RAO through excavation and disposal of all impacted soil in an on-site landfill within the Common Areas. This alternative limits the area of the site that contains impacted soils. The landfill area may then be developed. Following development, construction activities at the site may require construction within the landfill and impacted soils. During construction activities, increased risks to human health will occur. Therefore, this alternative will require long-term monitoring and training to prevent exposure to the impacted soils.	Alternative 4B satisfies the RAO through excavation and disposal of all impacted soil in an on-site landfill within the BMI Complex. Under this alternative, all soils will be removed from the site such that the current development plan can be used. No future construction activities that would require construction within the landfill and impacted soils are anticipated under this alternative.	Alternative 5 satisfies the RAO since all impacted soil is excavated and disposed of off-site. Increased community exposure to impacted soils and significant traffic hazards would result from the off-site transportation of soils. This alternative would require approximately 50,000 truck trips through the community, to and from the site. This represents a threat to human health.
Effectiveness and Permanence	Alternative 1 does not provide long-term effectiveness or permanence as no actions are taken. Affected soil would continue to pose a threat to human health.	Alternative 2 is an effective remedy. Long-term concerns associated with the effectiveness of dust control and access restrictions will require routine monitoring and inspection to ensure the permanence of this remedy.	Alternative 3 is an effective remedy. All impacted soil is contained to prevent contact with humans. Cap maintenance and inspection is required to document long-term permanence during construction/maintenance activities.	Alternative 4A is an effective remedy. Excavation removes impacted soils from the majority of areas and provides permanence in these areas. All impacted soil is contained to prevent contact with humans. Landfill maintenance and inspection is required to document long-term permanence during construction/maintenance activities.	Alternative 4B is an effective and permanent remedy. Excavation removes impacted soils from the site and provides permanence in these areas. All impacted soil is contained to prevent contact with humans. Landfill maintenance and inspection is required to document long-term permanence during construction/maintenance activities.	Alternative 5 is an effective and permanent remedy. Excavation and off-site disposal is a proven response action for providing long-term permanence and reliability of a remedial action.

Evaluation Criteria	**Alternative 1** No Action	**Alternative 2** Institutional Controls/Limited Action	**Alternative 3** On-Site Capping of Soils	**Alternative 4A** Excavation of Soils and On-Site Landfill Disposal Within Common Areas	**Alternative 4B** Excavation of Soils and On-Site Landfill Disposal Within BMI Complex	**Alternative 5** Excavation of Soils and Off-Site Landfill Disposal
Implementability	As no actions are taken under Alternative 1, this action is readily implementable.	Alternative 2 is implementable. The required equipment and services are readily available. Implementation of this alternative will require institution of dust control measures to prevent exposure to off-site receptors during grading activities. A long-term fence inspection and maintenance program will have to be developed as part of this alternative.	Alternative 3 is implementable. The required equipment and services are readily available. Implementation of this alternative will require institution of dust control measures to prevent exposure to off-site receptors during soil excavation, transportation, and capping activities. A long-term cap inspection and maintenance program will have to be developed as part of this alternative.	Alternative 4A is implementable. The required equipment and services are readily available. Implementation of this alternative will require a landfill permit to be obtained. This alternative will also require the institution of dust control measures to prevent exposure to off-site receptors during soil excavation, transportation, and capping activities. A long-term landfill inspection and maintenance program will have to be developed as part of this alternative.	Alternative 4B is implementable. The required equipment and services are readily available. Implementation of this alternative will require a landfill permit to be obtained. This alternative will also require the institution of dust control measures to prevent exposure to off-site receptors during soil excavation, transportation, and capping activities. A long-term landfill inspection and maintenance program will have to be developed as part of this alternative.	Alternative 5 is implementable. The required equipment and services are readily available. However, the concerns regarding increased community exposure to impacted soils and traffic hazards make this alternative difficult to implement. An extensive transportation plan would have to be created for this alternative.
Cost	$0	$3,286,000 - $7,492,000	$7,021,000 - $13,806,000	$13,033,000 - $17,966,000	$16,195,000 - $21,129,000	$22,833,000-$33,838,000
NDEP and Community Acceptance	To be evaluated following receipt of NDEP and Community input.	To be evaluated following receipt of NDEP and Community input.	To be evaluated following receipt of NDEP and Community input.	To be evaluated following receipt of NDEP and Community input.	To be evaluated following receipt of NDEP and Community input.	To be evaluated following receipt of NDEP and Community input.

Figures

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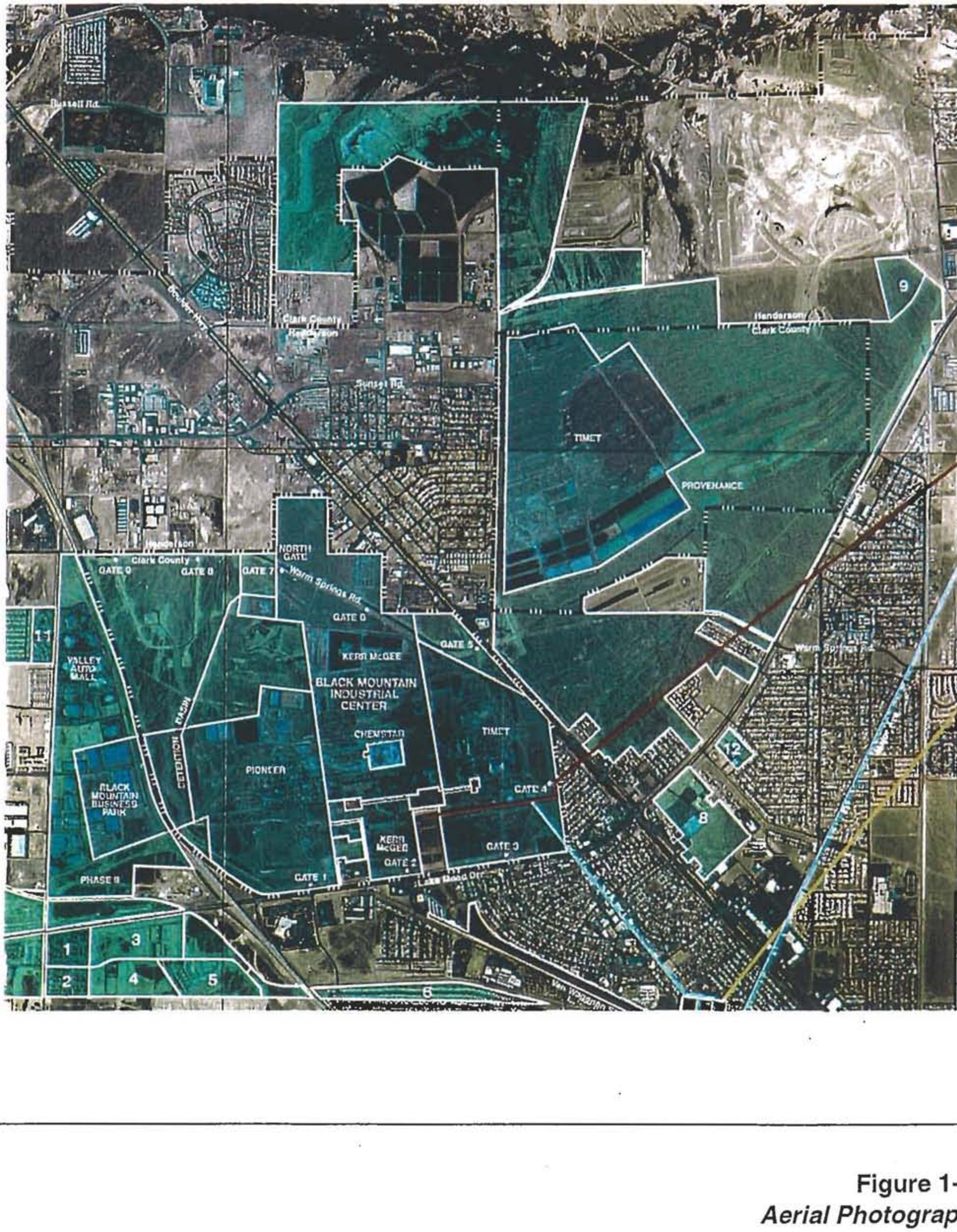

Figure 1-1
Aerial Photograph
BMI Common Areas
Henderson, Nevada

ERM *12/99*

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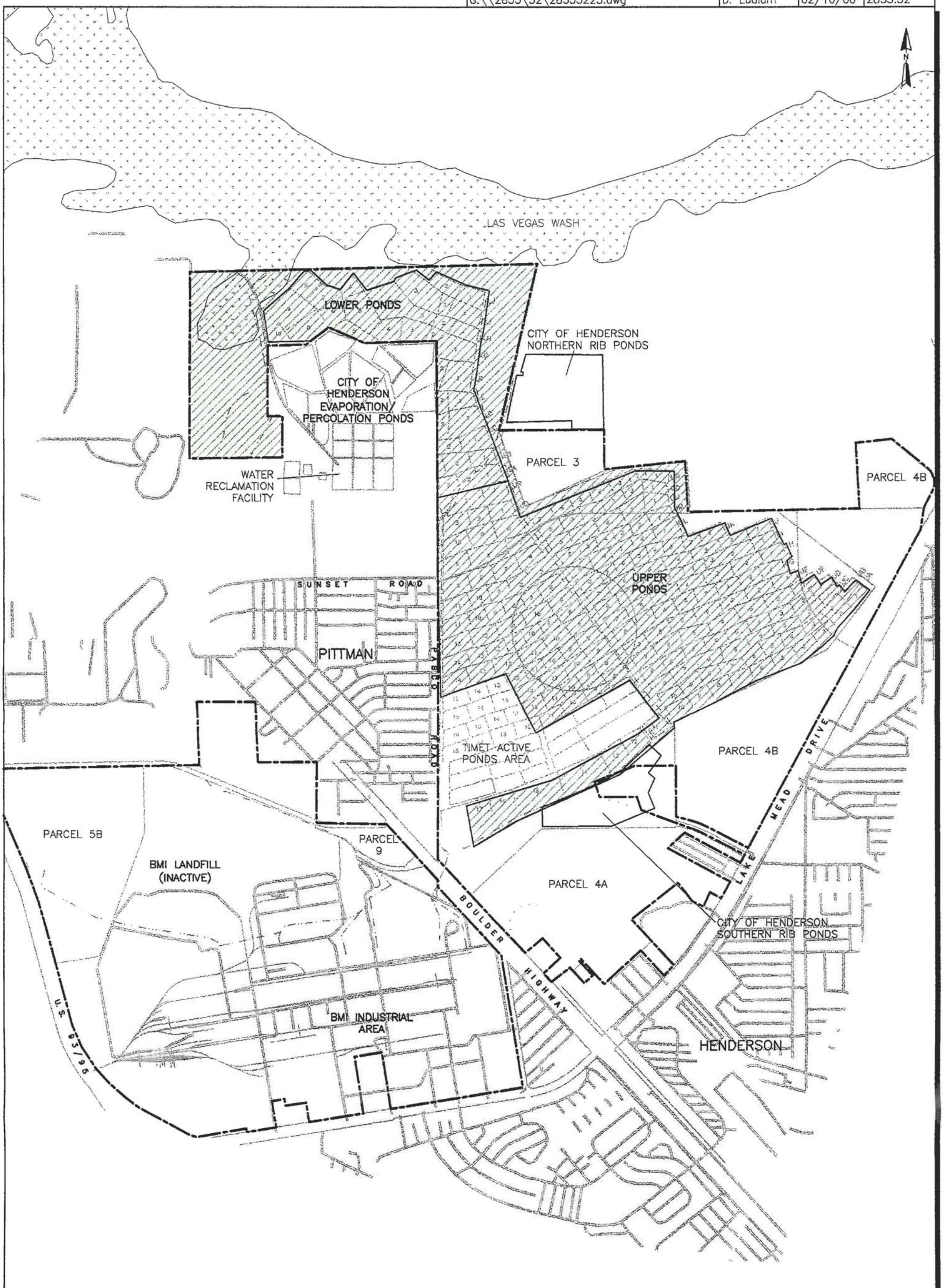

Figure 1-2
Site Map
BMI Common Areas
Henderson, Nevada
ERM *01/00*

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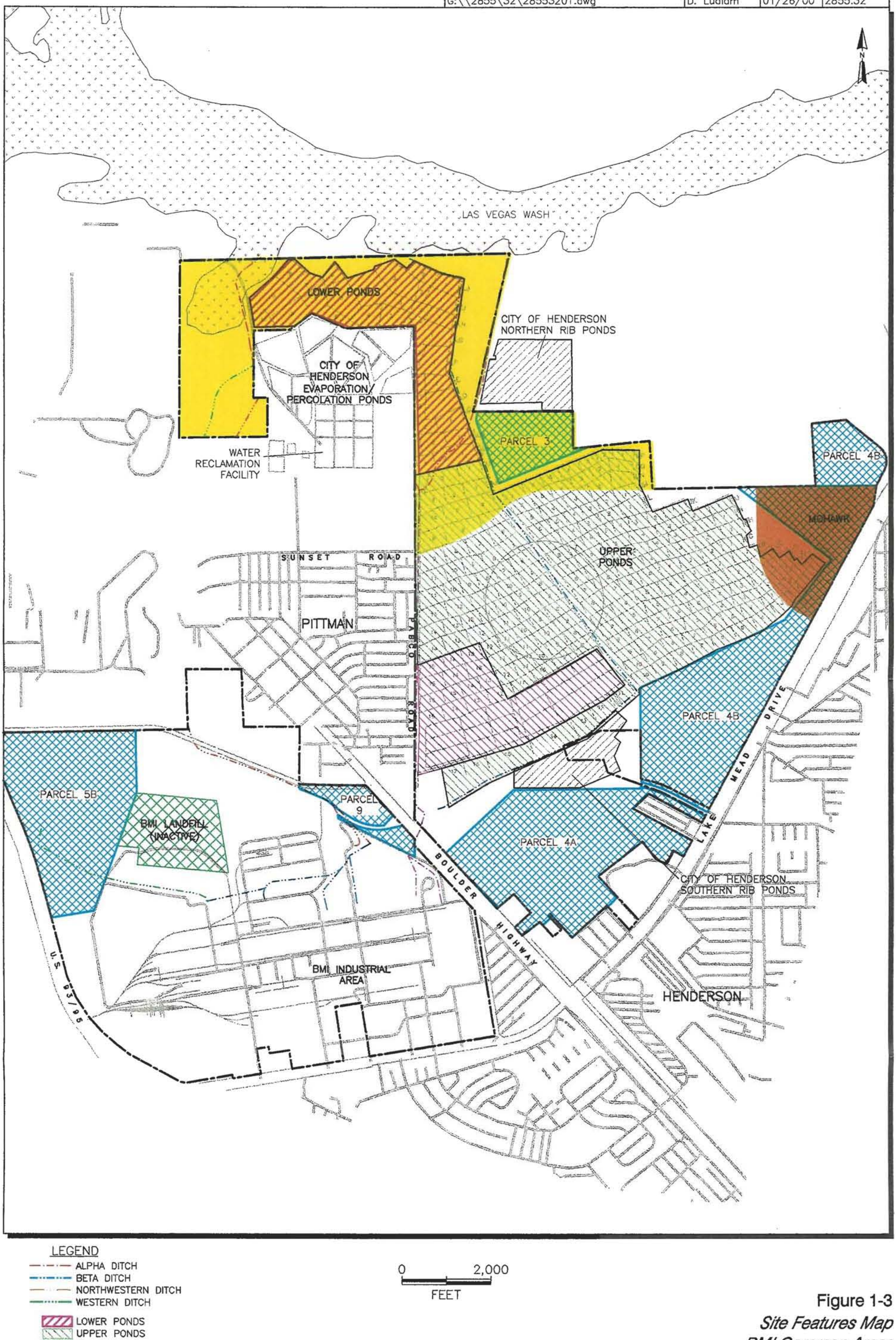

Figure 1-3
Site Features Map
BMI Common Areas
Henderson, Nevada

ERM 12/99

Graphic File:	Drawn by:	Date:	Project No.:
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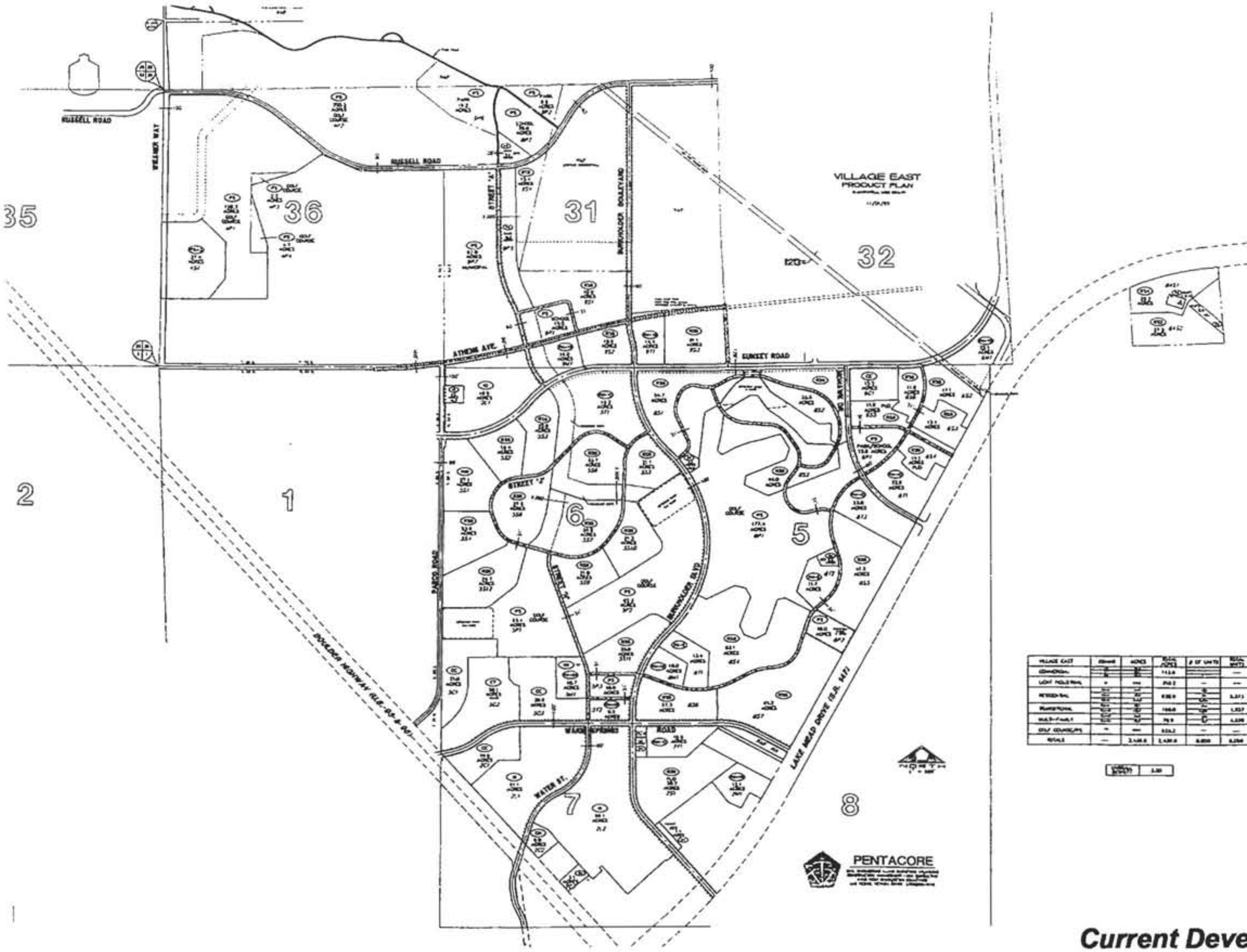

Figure 1-4
Current Development Plan
BMI Common Areas
Henderson, Nevada

ERM *12/99*

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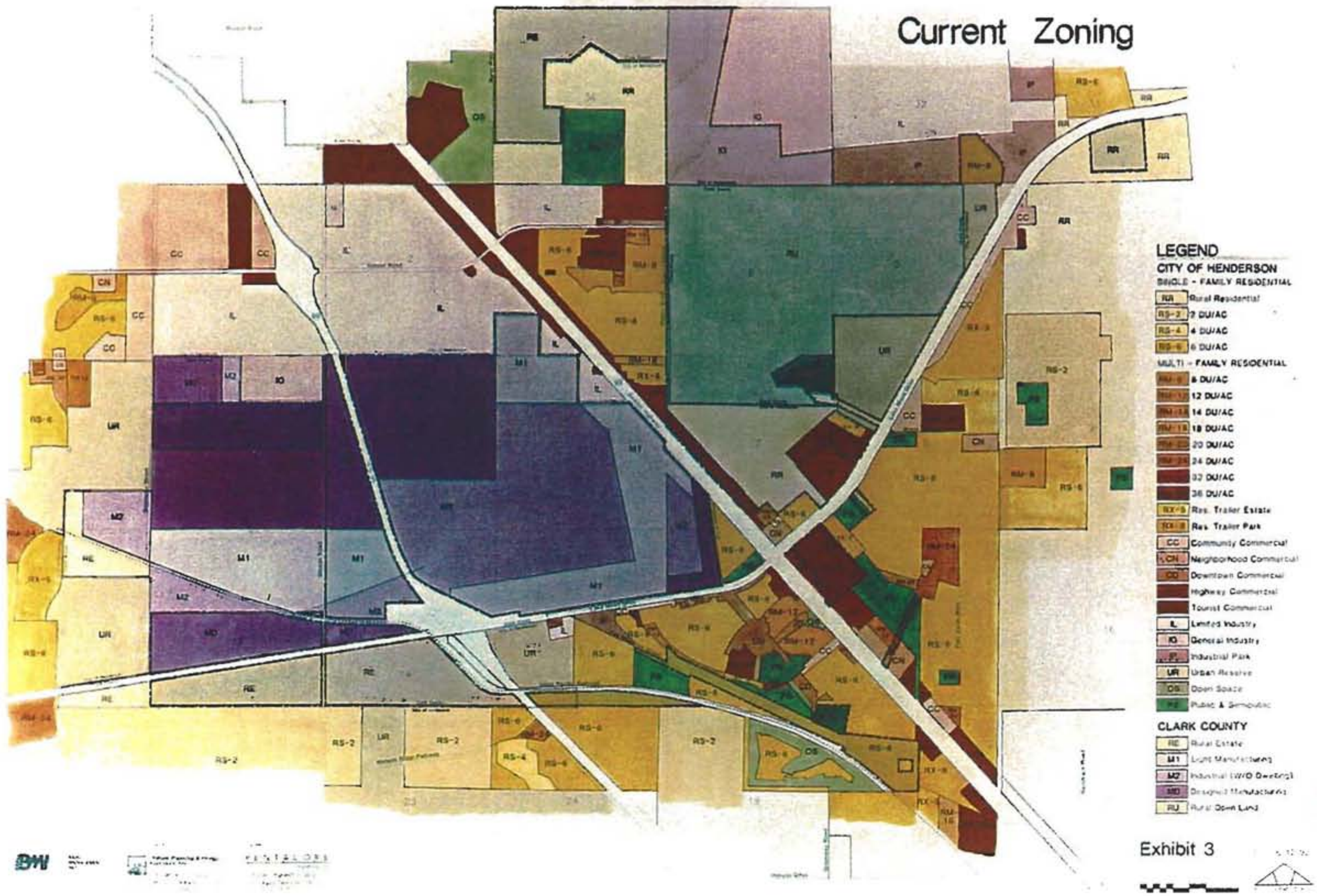


Figure 1-5
Zoning Map
BMI Common Areas
Henderson, Nevada

ERM *12/99*

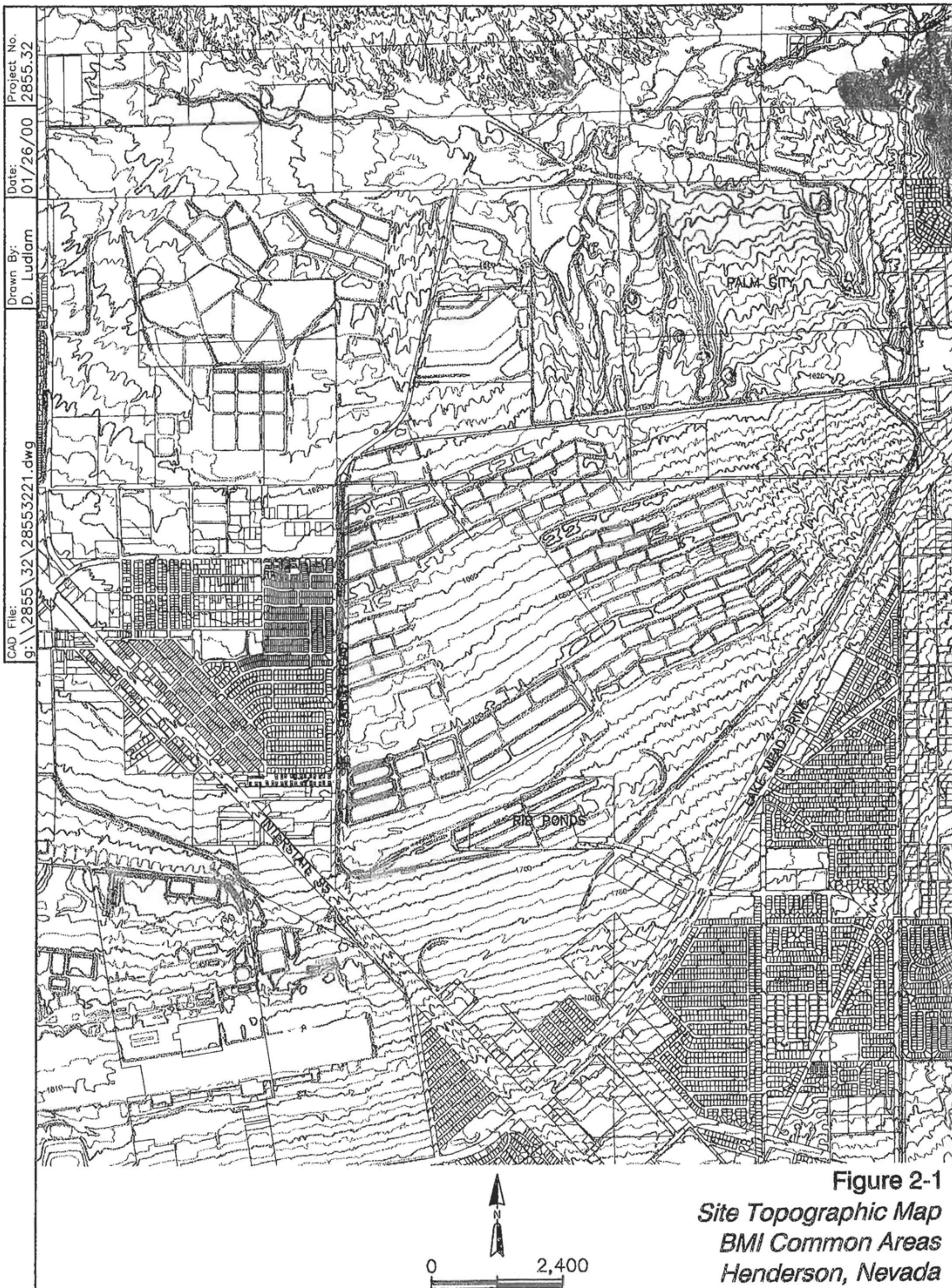
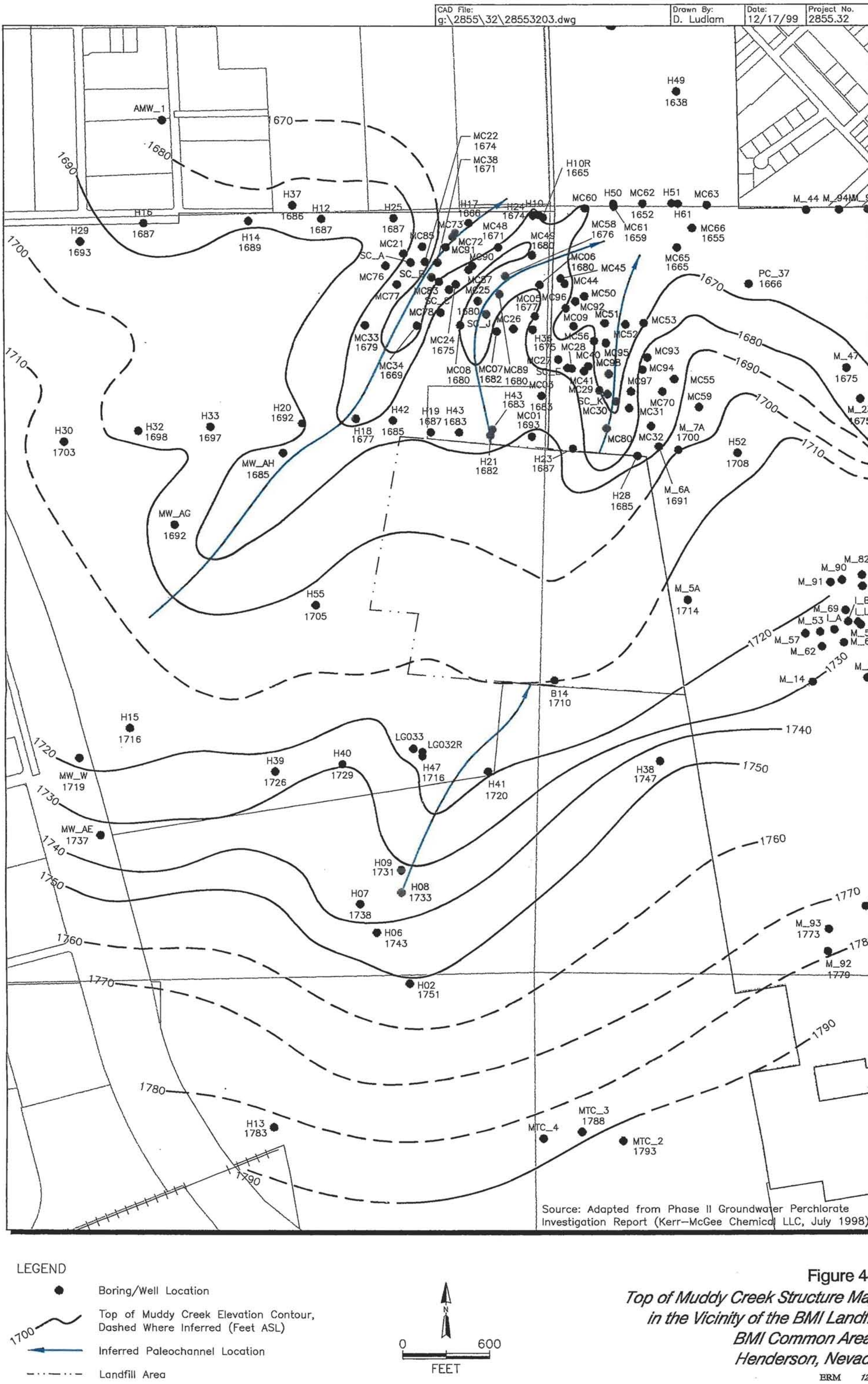


Figure 2-1
Site Topographic Map
BMI Common Areas
Henderson, Nevada

ERM 12/99



LEGEND

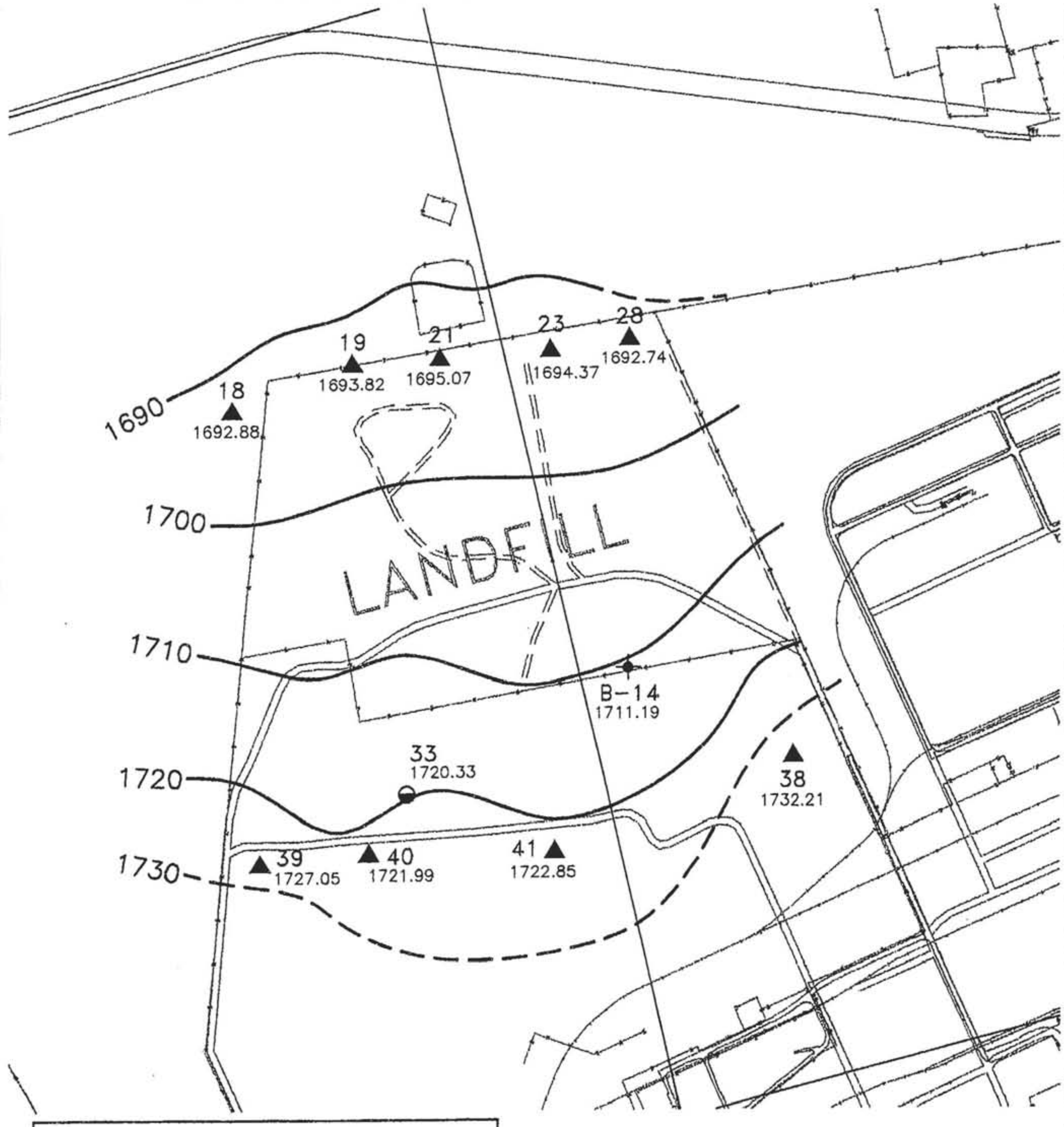
- Boring/Well Location
- 1700 — Top of Muddy Creek Elevation Contour, Dashed Where Inferred (Feet ASL)
- Inferred Paleochannel Location
- Landfill Area

Figure 4-1

Top of Muddy Creek Structure Map in the Vicinity of the BMI Landfill
BMI Common Areas
Henderson, Nevada

ERM 12/99

CAD File: g:\\2855\32\28553204.dwg | Drawn By: D. Ludlam | Date: 12/08/99 | Project No. 2855.32



LEGEND

- ▲ Stauffer H-Series Monitoring Well
- LG Series Monitoring Well
- Pond Leak Detection Well
- 1720 Line of Equal Ground Water Elevation, Dashed Where Inferred

The well locations were compiled from various sources and are considered approximate.

0 700
SCALE IN FEET

N

Figure 4-2
Potentiometric Surface Map in the Vicinity of the BMI Landfill Area March 1999 BMI Common Areas Henderson, Nevada

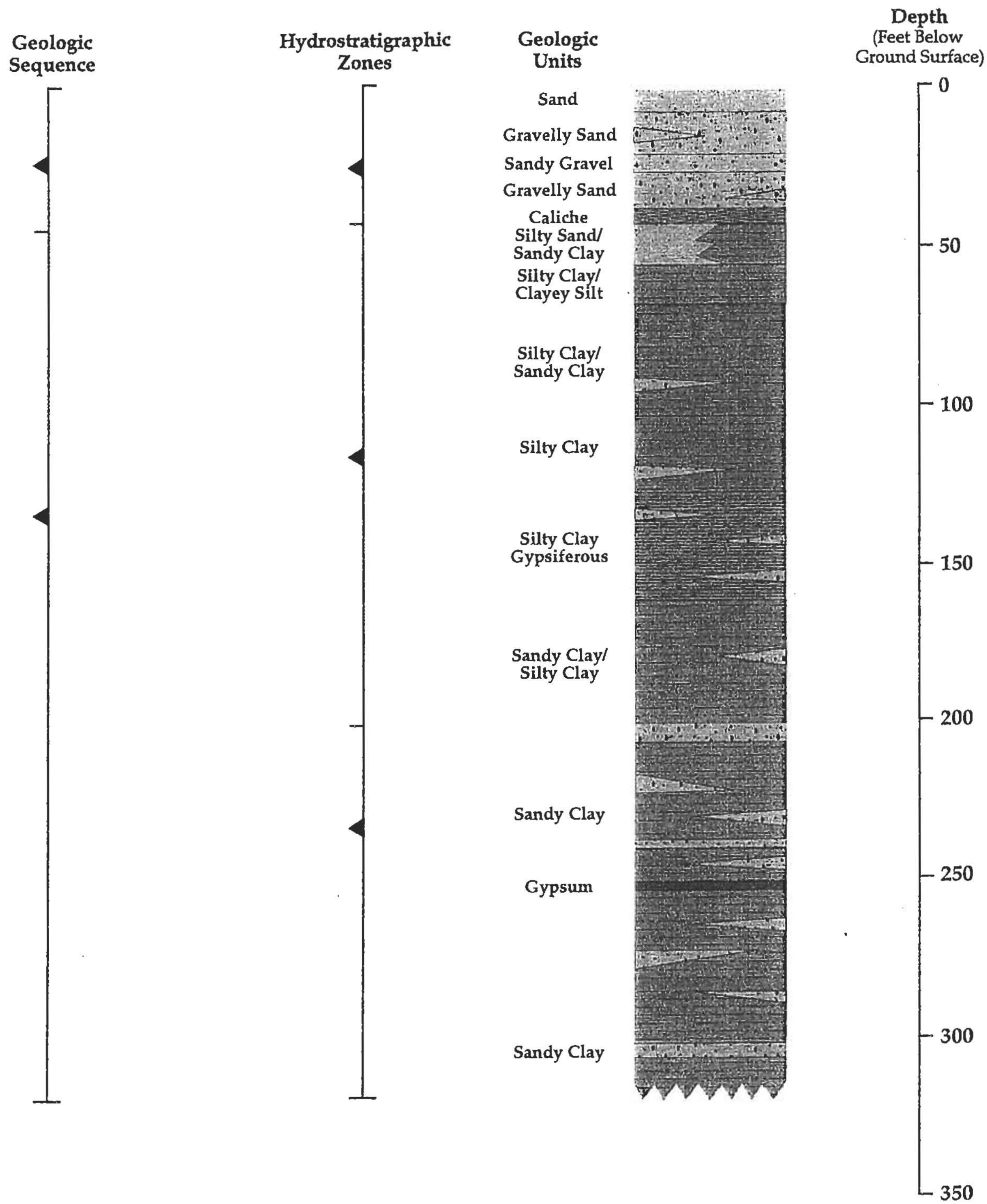
ERM 12/99

Project No.: 2855.32

Date: 12/09/99

Drawn by: H. Lutsky

Graphic File: G:MacGraphics/Projects/2855/32/28553205.ai



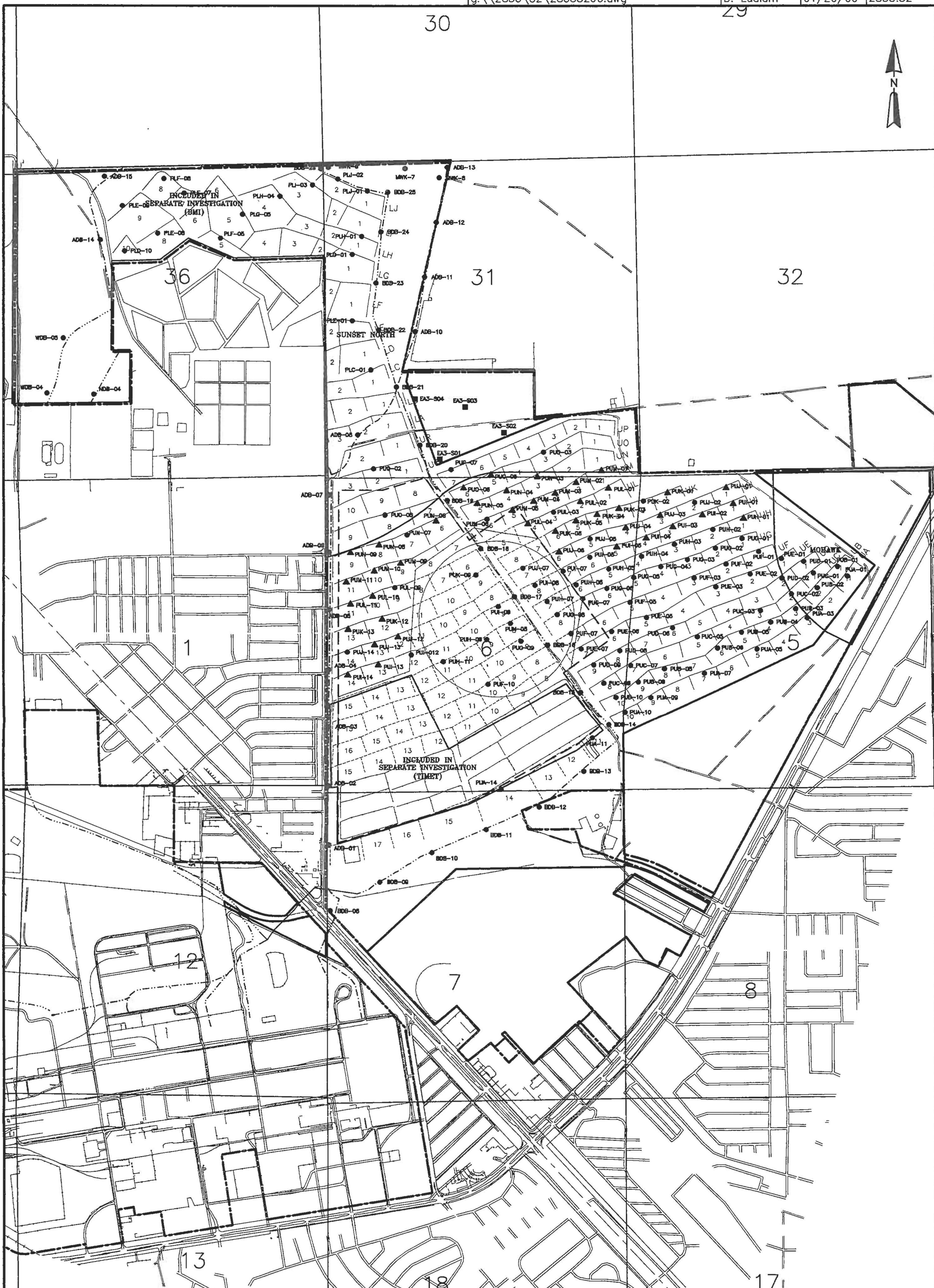
NOTE: The stratigraphy depicted on this figure is based on site boring logs completed to a maximum total depth of 305 feet bgs.

Figure 4-3

Generalized Stratigraphic Column
BMI Common Areas
Henderson, Nevada

ERM *12/99*

CAD File:	Drawn By:	Date:	Project No.
g:\\2855\32\28553206.dwg	D. Ludlam	01/20/00	2855.32



LEGEND

- COMMON AREA BOUNDARY
- TIMET BOUNDARY
- ALPHA DITCH
- BETA DITCH
- NORTHWESTERN DITCH
- WESTERN DITCH
- OFFSITE DITCH
- ▲ SOIL SAMPLING LOCATION (ARSENIC ONLY)
- ● SOIL SAMPLING LOCATION (MULTIPLE ANALYTES)

0 1,600
FEET

Figure 4-4
Soil Sampling Locations
BMI Common Areas
Henderson, Nevada

ERM 12/99

CAD File:	Drawn By:	Date:	Project No.
g:\\2855\32\28553207.dwg	D. Ludlam	12/15/99	2855.32

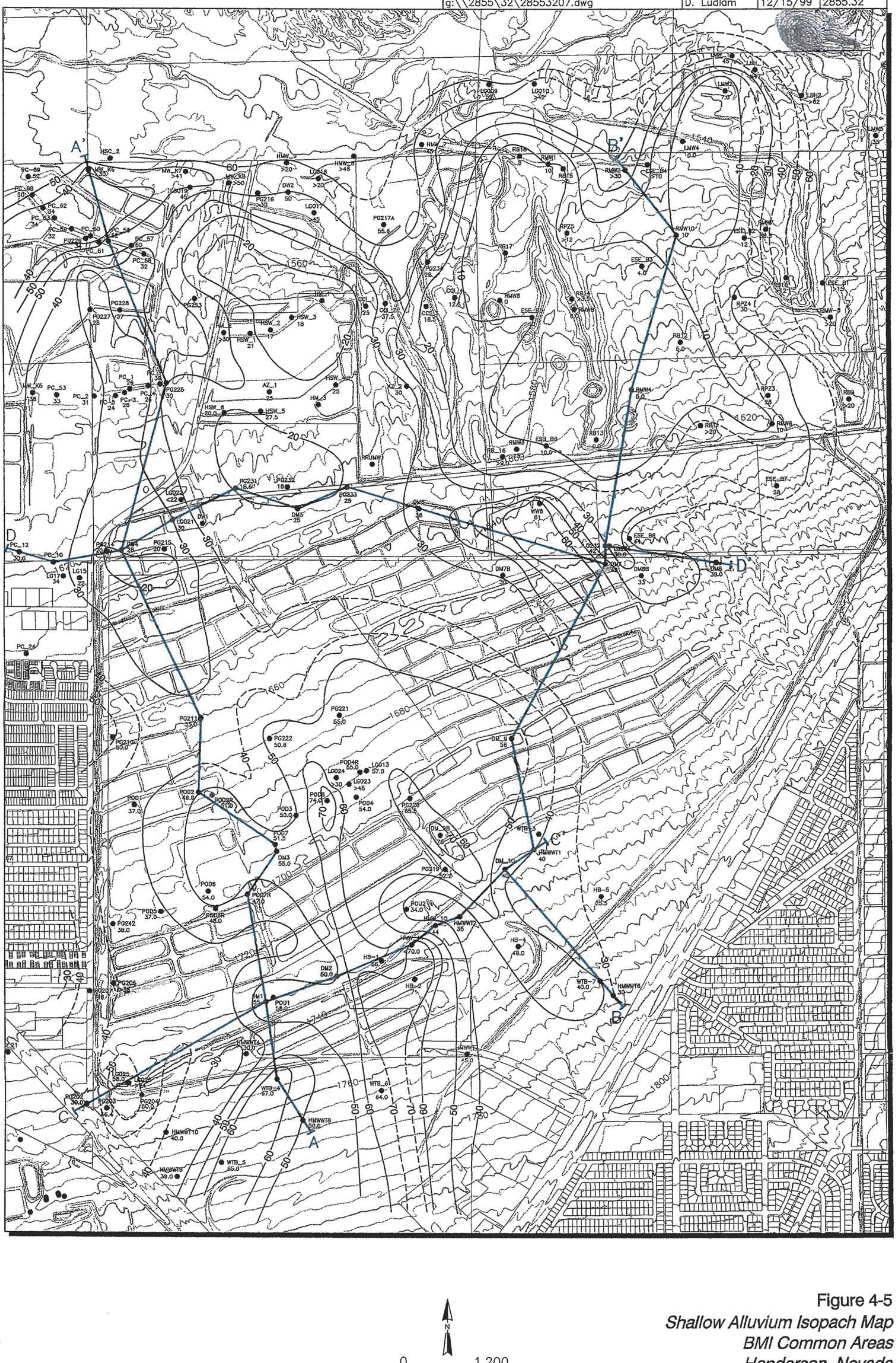
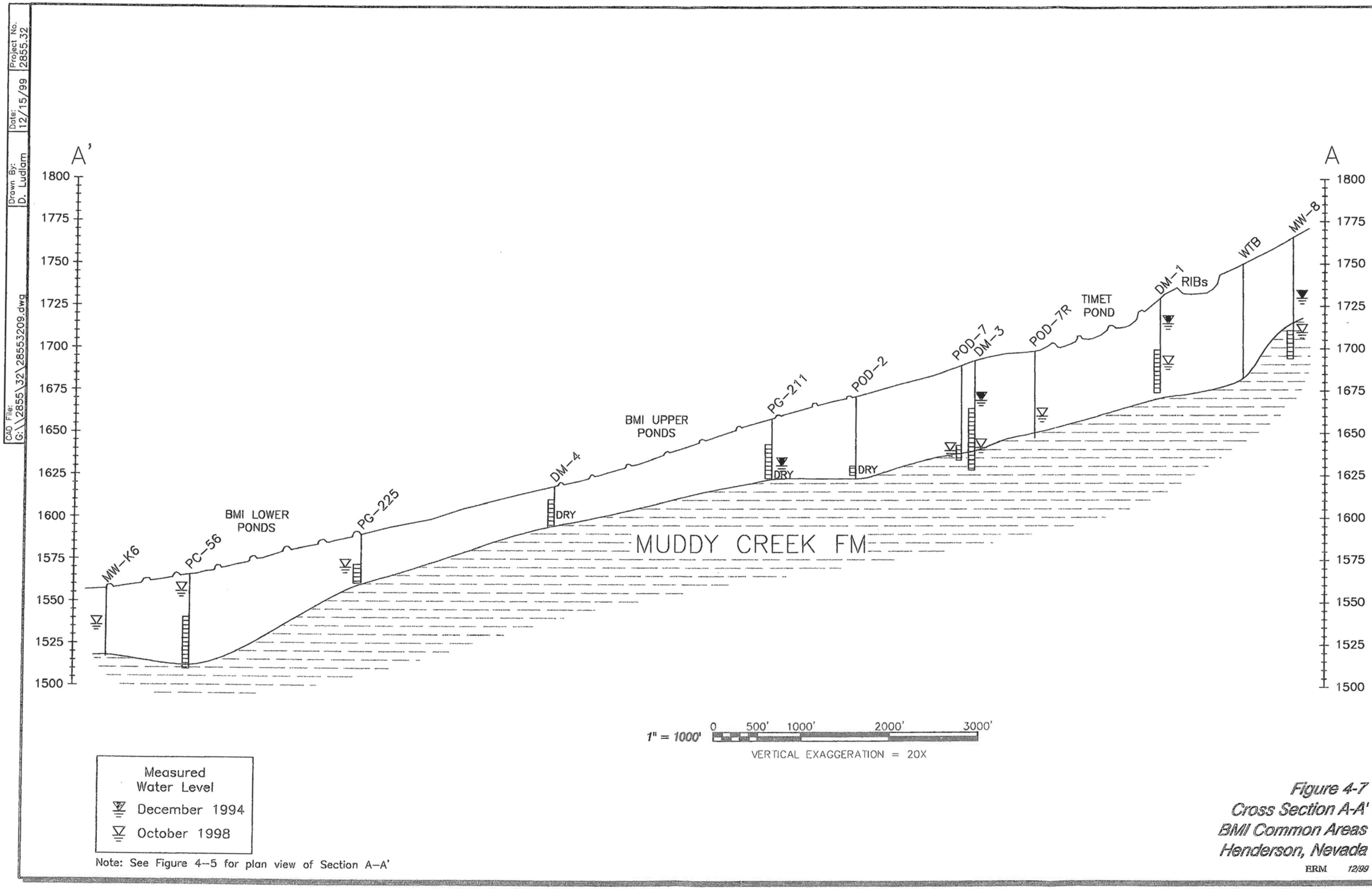


Figure 4-5
Shallow Alluvium Isopach Map
BMI Common Areas
Henderson, Nevada
ERM 12/99

CAD File:	Drawn By:	Date:	Project No.
g:\\2855\32\28553208.dwg	D. Ludlam	12/15/99	2855.32

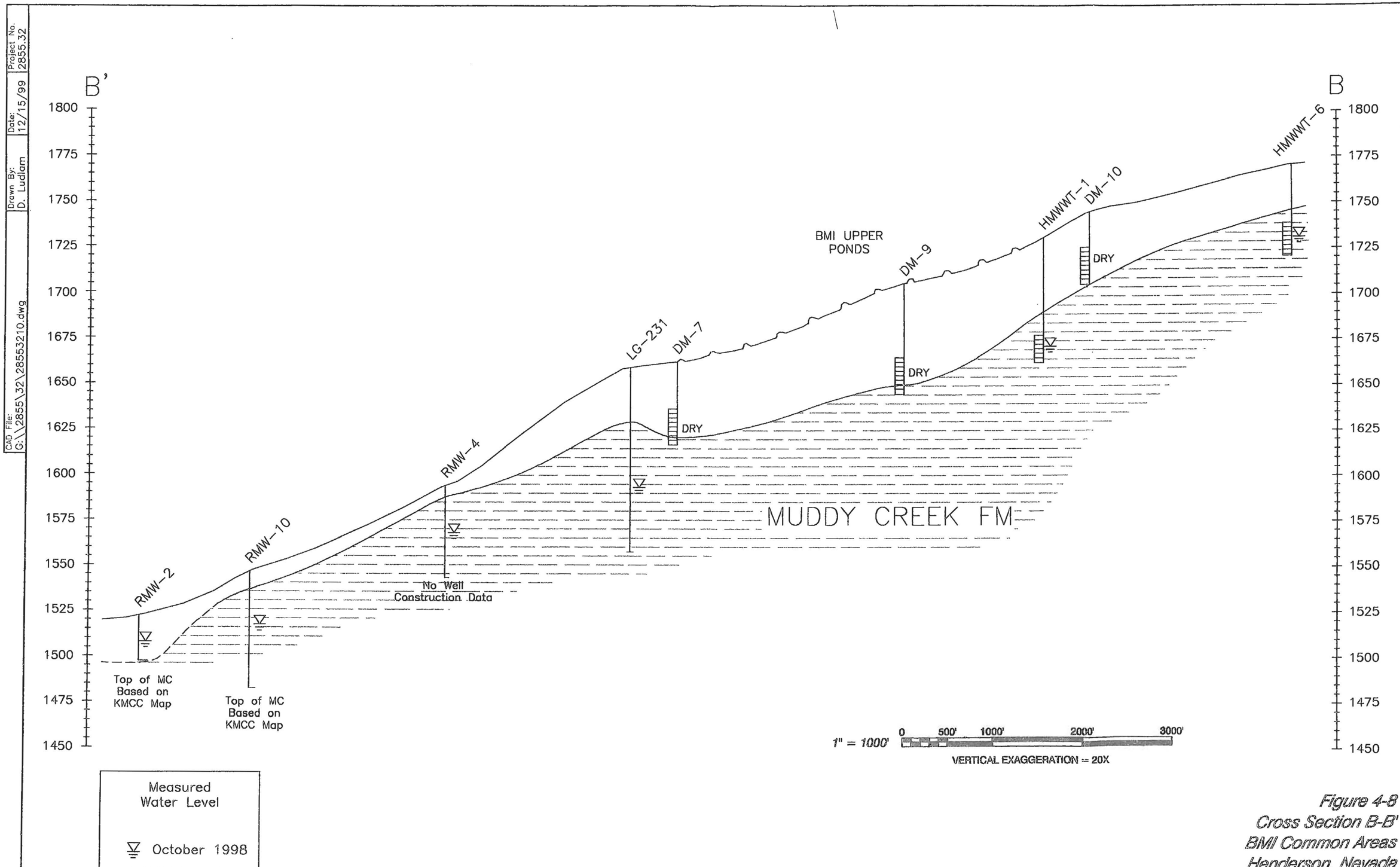
Figure 4-6
Top of Muddy Creek Structure Map
BMI Common Areas
Henderson, Nevada
BRM 12/99



Note: See Figure 4-5 for plan view of Section A-A'

Figure 4-7
Cross Section A-A'
BMI Common Areas
Henderson, Nevada

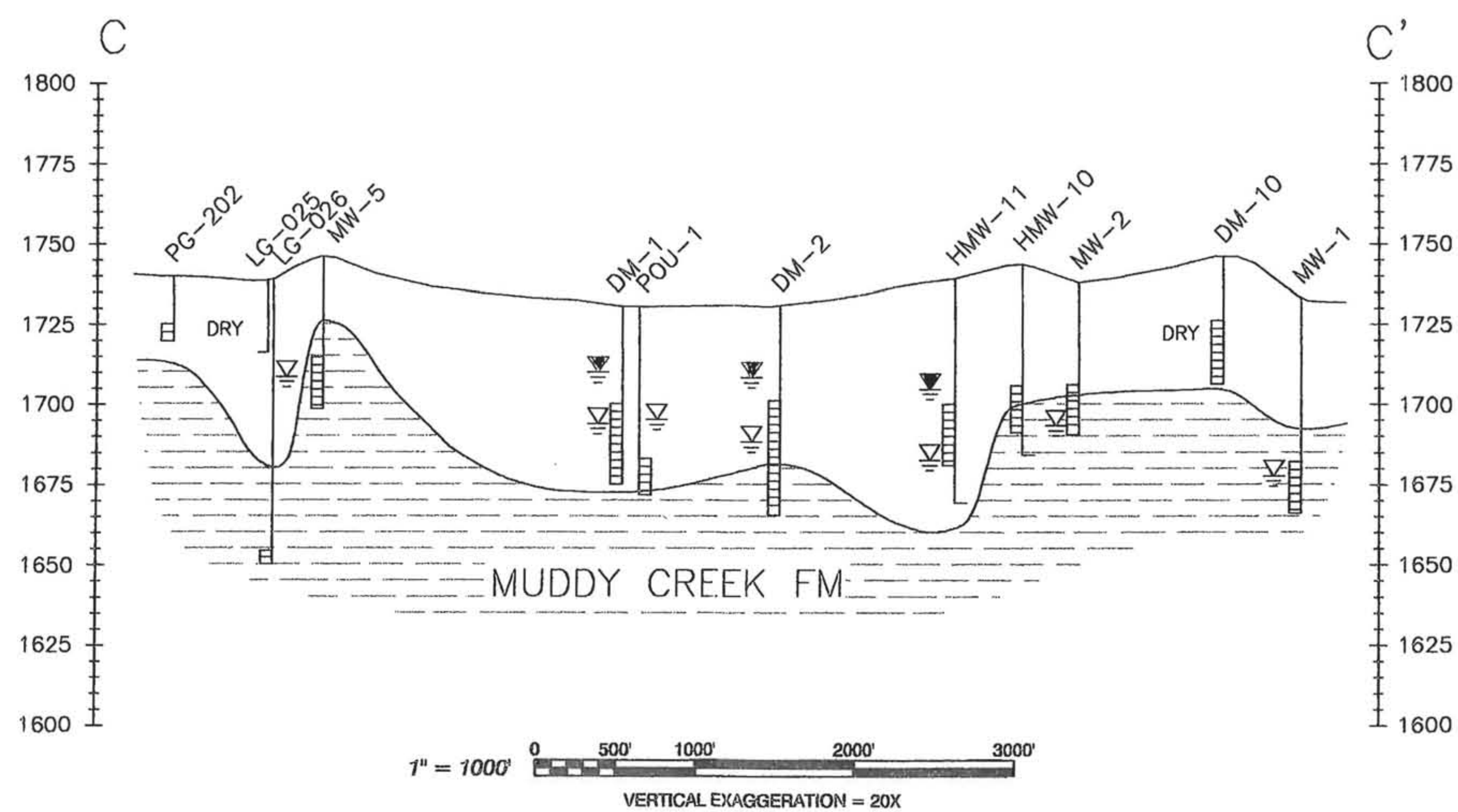
ERM 12/99



Note: See Figure 4-5 for plan view of Section B-B'

Figure 4-8
Cross Section B-B'
BMI Common Areas
Henderson, Nevada

ERM 12/99



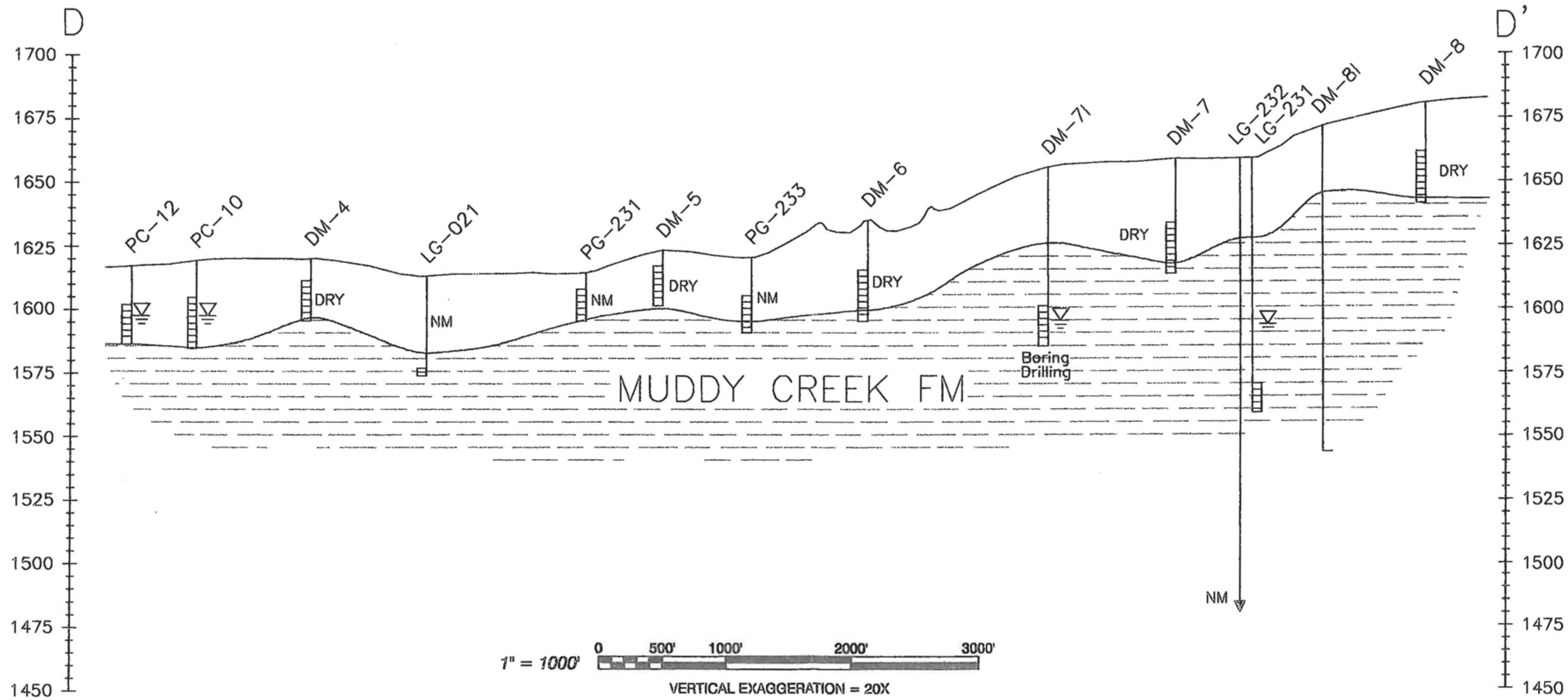
Note: See Figure 4-5 for plan view of Section C-C'

CAD File: G:\2855\32\28553211.dwg | Drawn By: D. Ludlam | Date: 12/15/99 | Project No. 2855.32

Figure 4-9
Cross Section C-C'
BMI Common Areas
Henderson, Nevada

ERM 12/99

CAD File: G:\2855\32\28553212.dwg | Drawn By: D. Ludlam | Date: 12/17/99 | Project No. 2855.32



Measured Water Level

October 1998

Note: See Figure 4-5 for plan view of Section D-D'

Figure 4-10
Cross Section D-D'
BMI Common Areas
Henderson, Nevada

ERM 12/99

CAD File:	Drawn By:	Date:	Project No.
g:\\2855\32\28553213.dwg	D. Ludlam	12/15/99	2855.32

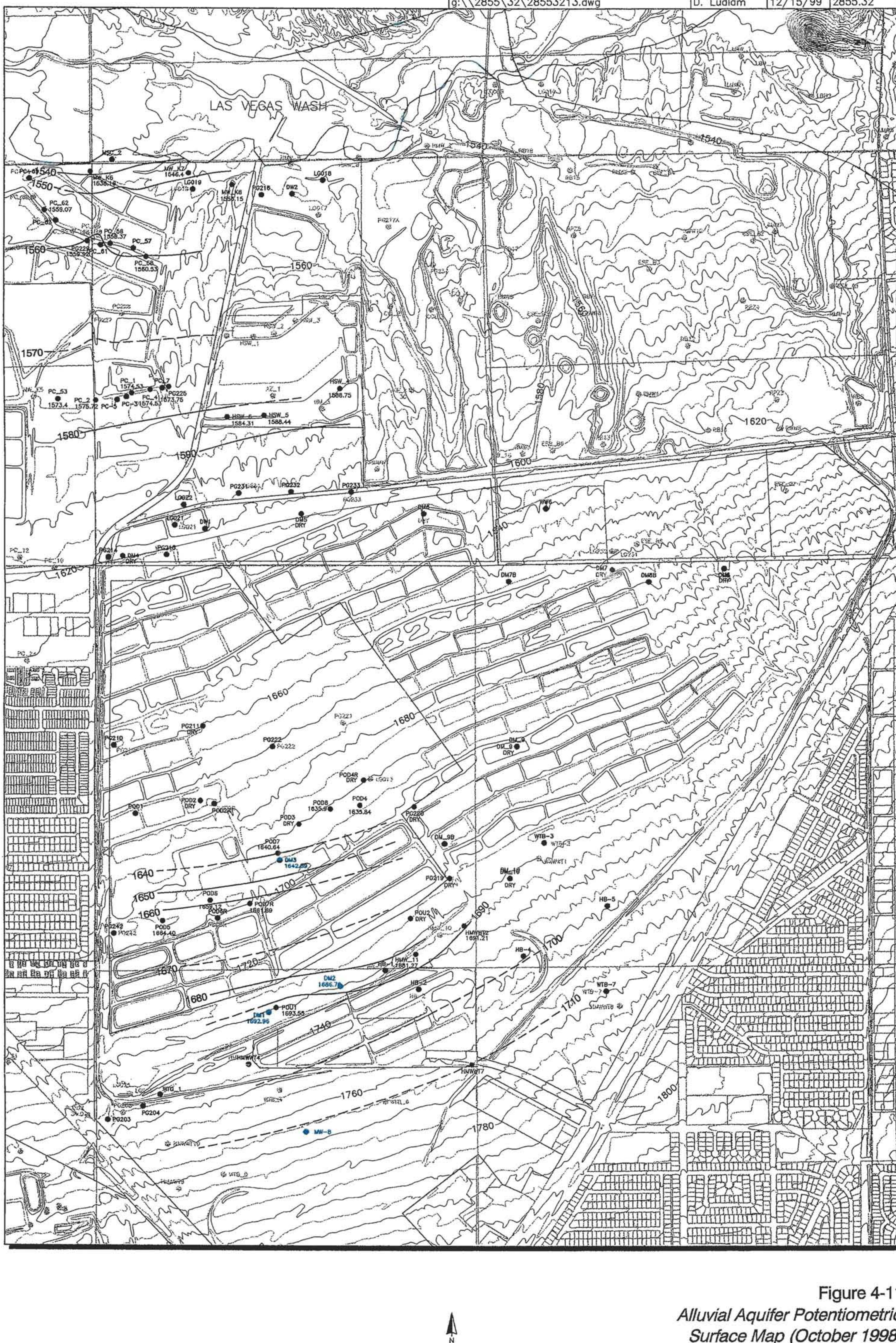


Figure 4-11
Alluvial Aquifer Potentiometric Surface Map (October 1998)
BMI Common Areas
Henderson, Nevada

ERM 12/99

Graphic File:	Drawn by:	Date:	Project No.:
G:MacGraphics/Projects/2855/32/28553206.ai	H. Lutsky	12/07/99	2855.32

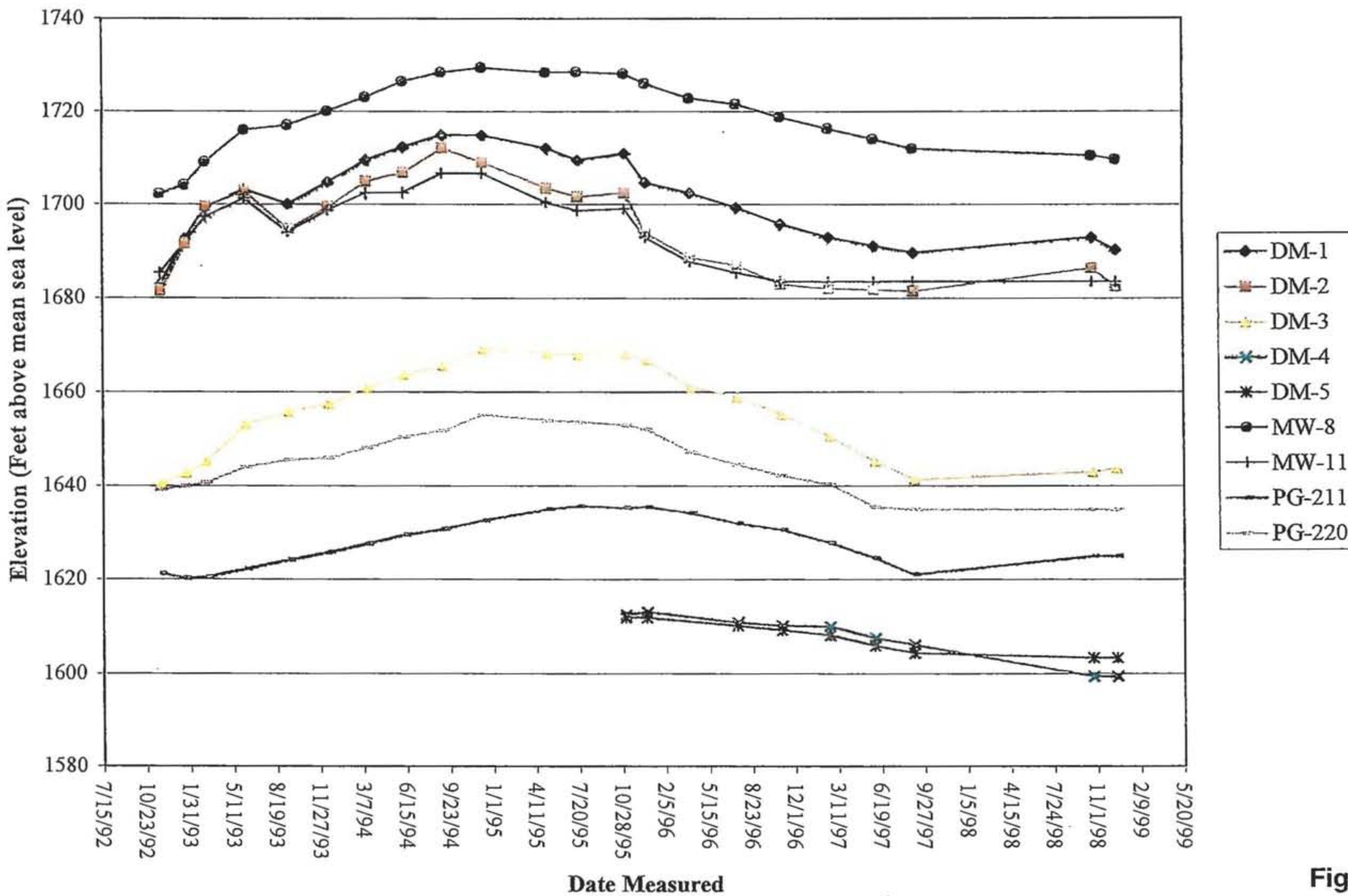
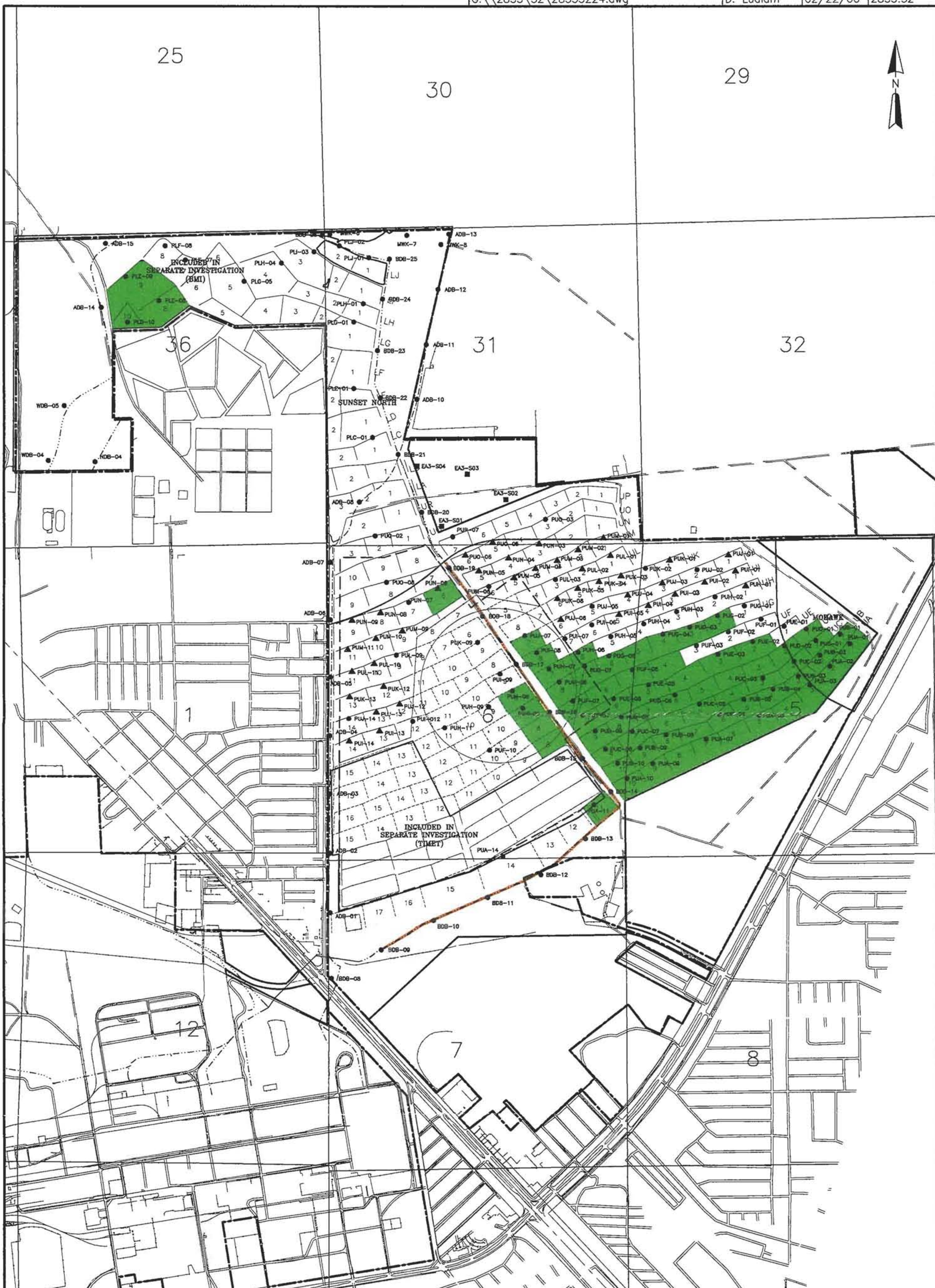


Figure 4-12
Temporal Variations of Ground Water Elevations in RIB Vicinity
BMI Common Areas
Henderson, Nevada

ERM *12/99*

CAD File:	Drawn By:	Date:	Project No.
G:\\2855\32\28553224.dwg	D. Ludlam	02/22/00	2855.32



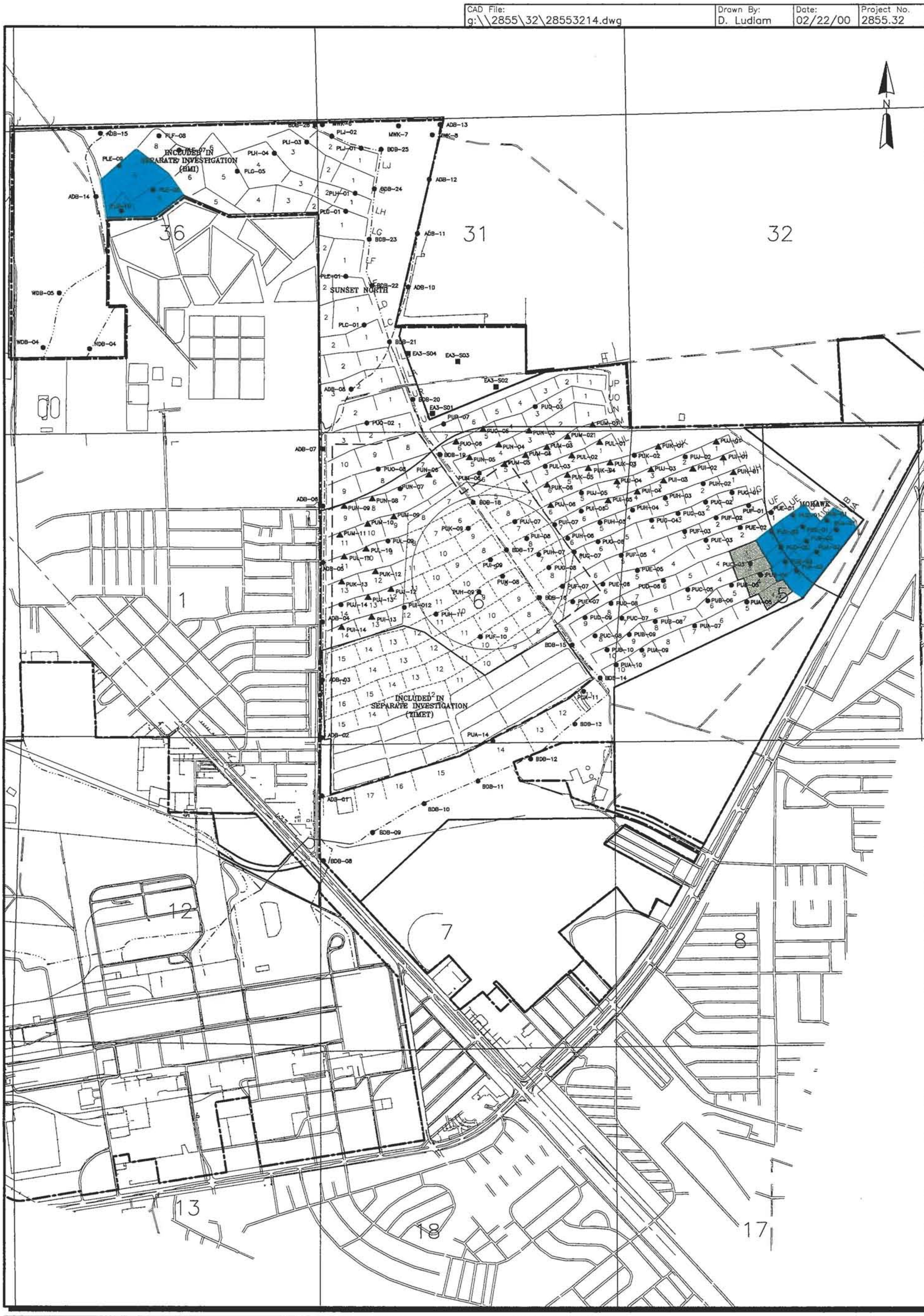
LEGEND

COMMON AREA BOUNDARY
TIMET BOUNDARY
ALPHA DITCH
BETA DITCH
NORTHWESTERN DITCH
WESTERN DITCH
OFFSITE DITCH
▲ SOIL SAMPLING LOCATION (ARSENIC ONLY)
PONDS WITH CHEMICAL CONCENTRATIONS IN SOIL IN EXCESS OF CLEANUP GOALS
DITCHES
● SOIL SAMPLING LOCATION (MULTIPLE ANALYTES)

0 1,600
FEET

Figure 5-1
Areas with Chemical Concentrations in Soil in Excess of Cleanup Goals
BMI Common Areas
Henderson, Nevada

ERM *02/00*



LEGEND

- COMMON AREA BOUNDARY
- TIMET BOUNDARY
- ALPHA DITCH
- BETA DITCH
- NORTHWESTERN DITCH
- WESTERN DITCH
- OFFSITE DITCH
- ▲ SOIL SAMPLING LOCATION (ARSENIC ONLY)
- SOIL STOCKPILE AREA
- PONDS EXCAVATED DURING IRM
- ● SOIL SAMPLING LOCATION (MULTIPLE ANALYTES)

0 1,600
FEET

Figure 6-1
Sunset North / Mohawk Area
Interim Remedial Measures
BMI Common Areas
Henderson, Nevada

ERM 12/99

LEGEND

- COMMON AREA BOUNDARY
- TIMET BOUNDARY
- ALPHA DITCH
- BETA DITCH
- NORTHWESTERN DITCH
- WESTERN DITCH
- OFFSITE DITCH
- ▲ SOIL SAMPLING LOCATION (ARSENIC ONLY)
- PONDS ALREADY EXCAVATED
- PONDS REQUIRING INSTITUTIONAL CONTROLS / LIMITED ACTION
- DITCHES
- ● SOIL SAMPLING LOCATION (MULTIPLE ANALYTES)

0 1,000
FEET

Figure 7-1
Alternative 2
Areas Requiring Institutional Controls / Limited Action
BMI Common Areas
Henderson, Nevada

ERM *12/99*

CAD File:	Drawn By:	Date:	Project No.
g:\\2855\32\28553216.dwg	D. Ludlam	02/22/00	2855.32

Figure 7-2
Alternative 3
Areas Requiring Cap
BMI Common Areas
Henderson, Nevada

ERM 12/99

Figure 7-3
Alternative 4A
Areas Requiring Excavation or Cap
BMI Common Areas
Henderson, Nevada

ERM 12/99

CAD File:	Drawn By:	Date:	Project No.
g:\\2855\32\28553218.dwg	D. Ludlam	02/22/00	2855.32

LEGEND

- COMMON AREA BOUNDARY
- TIMET BOUNDARY
- ALPHA DITCH
- BETA DITCH
- NORTHWESTERN DITCH
- WESTERN DITCH
- OFFSITE DITCH
- ▲ SOIL SAMPLING LOCATION (ARSENIC ONLY)
- PONDS ALREADY EXCAVATED
- PONDS REQUIRING EXCAVATION
- DITCHES
- ● SOIL SAMPLING LOCATION (MULTIPLE ANALYTES)

Figure 7-4
Alternative 4B
Areas Requiring Excavation
BMI Common Areas
Henderson, Nevada

ERM *12/99*

CAD File:	Drawn By:	Date:	Project No.
g:\\2855\32\28553218.dwg	D. Ludlam	02/22/00	2855.32

LEGEND

- COMMON AREA BOUNDARY
- TIMET BOUNDARY
- ALPHA DITCH
- BETA DITCH
- NORTHWESTERN DITCH
- WESTERN DITCH
- OFFSITE DITCH
- ▲ SOIL SAMPLING LOCATION (ARSENIC ONLY)
- PONDS ALREADY EXCAVATED
- PONDS REQUIRING EXCAVATION
- DITCHES
- ● SOIL SAMPLING LOCATION (MULTIPLE ANALYTES)

0 1,000
FEET

Figure 7-4
Alternative 4B
Areas Requiring Excavation
BMI Common Areas
Henderson, Nevada

ERM 12/99

CAD File:	Drawn By:	Date:	Project No.
g:\\2855\32\28553218.dwg	D. Ludlam	02/22/00	2855.32

LEGEND

- COMMON AREA BOUNDARY
- TIMET BOUNDARY
- ALPHA DITCH
- BETA DITCH
- NORTHWESTERN DITCH
- WESTERN DITCH
- OFFSITE DITCH
- ▲ SOIL SAMPLING LOCATION (ARSENIC ONLY)
- PONDS ALREADY EXCAVATED
- PONDS REQUIRING EXCAVATION
- DITCHES
- ● SOIL SAMPLING LOCATION (MULTIPLE ANALYTES)

0 1,000
FEET

Figure 7-4
Alternative 4B
Areas Requiring Excavation
BMI Common Areas
Henderson, Nevada

ERM 12/99

CAD File:	Drawn By:	Date:	Project No.
g:\\2855\32\28553218.dwg	D. Ludlam	02/22/00	2855.32

LEGEND

— · — · —	COMMON AREA BOUNDARY	(blue)	PONDS ALREADY EXCAVATED
— — —	TIMET BOUNDARY	(green)	PONDS REQUIRING EXCAVATION
— · · —	ALPHA DITCH	(orange)	DITCHES
— · · · —	BETA DITCH	●	SOIL SAMPLING LOCATION (MULTIPLE ANALYTES)
········	NORTHWESTERN DITCH		
········	WESTERN DITCH		
— · —	OFFSITE DITCH		
▲	SOIL SAMPLING LOCATION (ARSENIC ONLY)		

0 1,000
FEET

Figure 7-4
Alternative 4B
Areas Requiring Excavation
BMI Common Areas
Henderson, Nevada

ERM 12/99

CAD File:	Drawn By:	Date:	Project No.
g:\\2855\32\28553218.dwg	D. Ludlam	02/22/00	2855.32

LEGEND

- COMMON AREA BOUNDARY
- TIMET BOUNDARY
- ALPHA DITCH
- BETA DITCH
- NORTHWESTERN DITCH
- WESTERN DITCH
- OFFSITE DITCH
- ▲ SOIL SAMPLING LOCATION (ARSENIC ONLY)
- PONDS ALREADY EXCAVATED
- PONDS REQUIRING EXCAVATION
- DITCHES
- ● SOIL SAMPLING LOCATION (MULTIPLE ANALYTES)

0 1,000
FEET

Figure 7-4
Alternative 4B
Areas Requiring Excavation
BMI Common Areas
Henderson, Nevada

ERM 12/99

Figure 7-4
Alternative 4B
Areas Requiring Excavation
BMI Common Areas
Henderson, Nevada
ERM 12/99

CAD File:	Drawn By:	Date:	Project No.
g:\\2855\32\28553218.dwg	D. Ludlam	02/22/00	2855.32

LEGEND

- COMMON AREA BOUNDARY
- TIMET BOUNDARY
- ALPHA DITCH
- BETA DITCH
- NORTHWESTERN DITCH
- WESTERN DITCH
- OFFSITE DITCH
- ▲ SOIL SAMPLING LOCATION (ARSENIC ONLY)
- PONDS ALREADY EXCAVATED
- PONDS REQUIRING EXCAVATION
- DITCHES
- ● SOIL SAMPLING LOCATION (MULTIPLE ANALYTES)

0 1,000
FEET

Figure 7-4

Alternative 4B
Areas Requiring Excavation
BMI Common Areas
Henderson, Nevada

ERM 12/99

CAD File:	Drawn By:	Date:	Project No.
g:\\2855\32\28553218.dwg	D. Ludlam	02/22/00	2855.32

LEGEND

COMMON AREA BOUNDARY	PONDS ALREADY EXCAVATED
TIMET BOUNDARY	PONDS REQUIRING EXCAVATION
ALPHA DITCH	DITCHES
BETA DITCH	SOIL SAMPLING LOCATION (MULTIPLE ANALYTES)
NORTHWESTERN DITCH	
WESTERN DITCH	
OFFSITE DITCH	
SOIL SAMPLING LOCATION (ARSENIC ONLY)	

0 1,000
FEET

Figure 7-4
Alternative 4B
Areas Requiring Excavation
BMI Common Areas
Henderson, Nevada

ERM 12/99

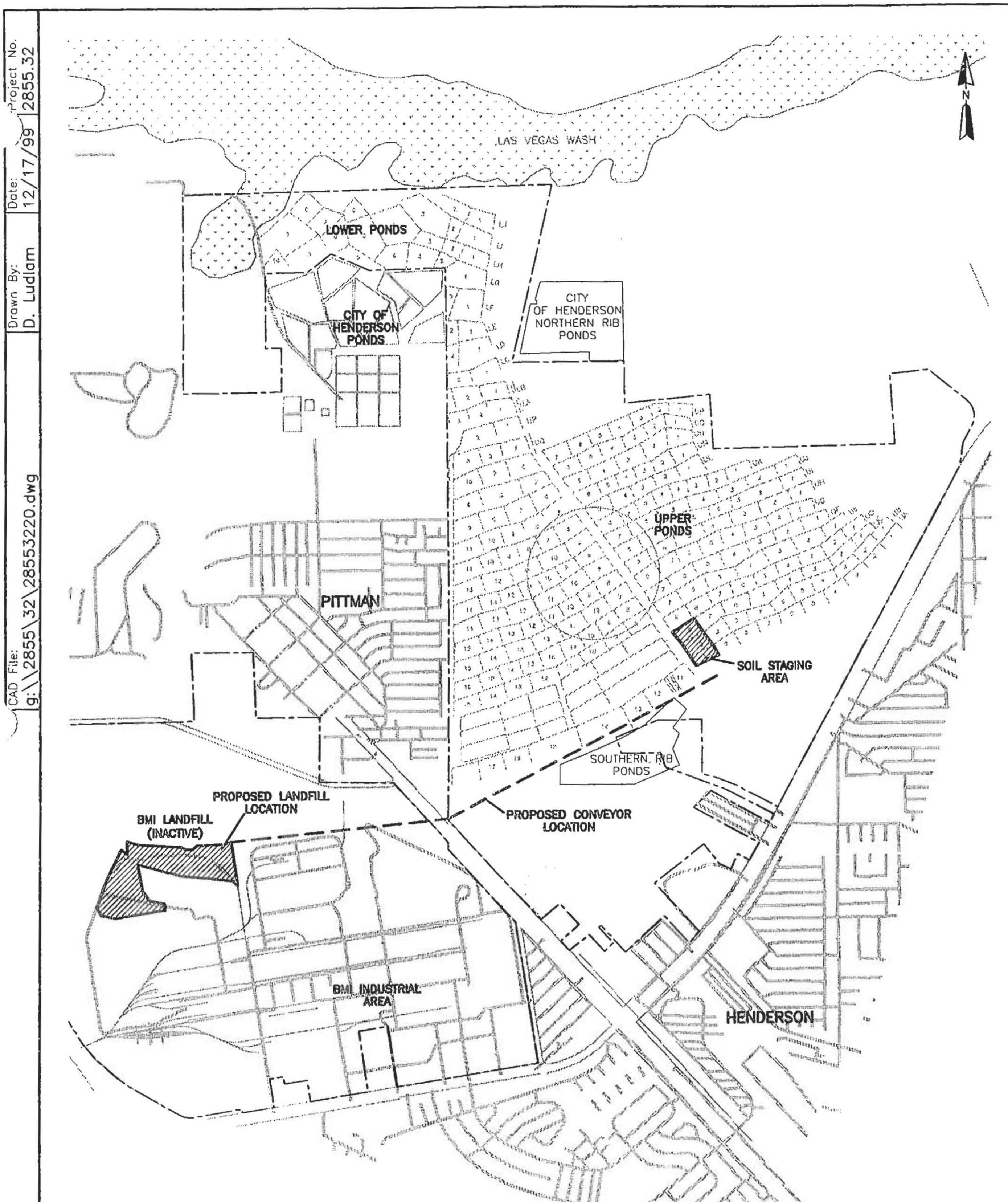


Figure 7-5

Location of Proposed Landfill, Conveyor, and Soil Staging Area BMI Common Areas Henderson, Nevada

0 2,800

FEET

ERM 12/99

CAD File:	Drawn By:	Date:	Project No.
g:\\2855\32\28553219.dwg	D. Ludlam	02/22/00	2855.32

LEGEND

- COMMON AREA BOUNDARY
- TIMET BOUNDARY
- ALPHA DITCH
- BETA DITCH
- NORTHWESTERN DITCH
- WESTERN DITCH
- OFFSITE DITCH
- ▲ SOIL SAMPLING LOCATION (ARSENIC ONLY)
- PONDS ALREADY EXCAVATED
- PONDS REQUIRING EXCAVATION
- DITCHES
- ● SOIL SAMPLING LOCATION (MULTIPLE ANALYTES)

0 1,000
FEET

Figure 7-6
Alternative 5
Areas Requiring Excavation
BMI Common Areas
Henderson, Nevada

ERM 12/99

Appendix A
Remedial Alternative Cost Estimates

APPENDIX A

REMEDIAL ALTERNATIVE COST ESTIMATES

This appendix presents cost estimates developed for the following remedial alternatives that were retained for detailed analysis (Section 7).

- Alternative 2 - Institutional Controls / Limited Action
- Alternative 3 - On-Site Capping of Soils
- Alternative 4 – Excavation of Soils and On-Site Landfill Disposal
- Alternative 5 - Excavation of Soils and Off-Site Landfill Disposal

As part of the detailed analysis, alternatives were refined to develop order-of-magnitude cost estimates with a relative accuracy of +50 percent to -30 percent for each retained alternative. Information developed during refinement of the alternatives included preliminary design calculations for process options of each alternative, sizing of key components, preliminary site layouts, and limitations and uncertainties concerning each alternative. The cost estimates assume ground water monitoring is not specifically required for any of the remedial alternatives.

Costs for the components of each alternative are based on vendor information and quotations, 1999 RSMeans Environmental Remediation Cost Data (5th edition), site cost experience, and professional engineering judgment.

Where long-term recurring costs are anticipated, a present worth analysis of the long-term costs was conducted. Present worth costs assumed a 7 percent discount rate and 100-year project duration. Inflation was ignored.

The cost estimates developed for each of the alternatives are presented in Tables A-1 through A-12. Listed below are the key assumptions and exclusions used to develop the cost estimates for each alternative.

Alternative 2

- The total area of the site containing impacted soils is 200 acres. The cost estimate assumes that this entire area will require implementation of institutional controls, deed restrictions and notifications, and dust control measures.

- The cost estimate assumes it will take 5 days for a two man surveying crew [equipped with appropriate personnel protective equipment (PPE)] to survey and stake the impacted areas.

- The cost estimate assumes that prior to application of dust control measures the 200-acre area of the Site will have to be cleared of brush and debris.

- The cost estimate assumes that brush and debris generated during site clearing can be disposed of at a local municipal landfill.

- The cost estimate assumes the entire 200 acre portion of the Site will have to be graded to facilitate the even application of the dust control measures.

- The purchase and shipping costs for dust control compounds are based on estimates obtained from Soil Stabilization Products Company (SSPCo.) of Merced, California.

- The costs to prepare and apply the dust control emulsion are based on engineering estimates and discussions with SSPCo.

- The cost estimate includes 15,000 linear feet of fencing to be installed around the 200-acre area. This fencing is assumed to consist of 7 feet high galvanized chain link fence with 3 strands of barbed wire.

- Engineering, construction management, and project management costs are assumed to be five percent of direct capital costs.

- The cost estimate assumes that the dust control measures will be reapplied at a frequency ranging from every 6 months to every 2 years. The annual costs also include quarterly inspections of the site, fence and sign inspection and repair, and perimeter air monitoring. Cost for annual reporting of these activities is also included.

- A 10 percent general contingency is applied to the direct and indirect capital costs.

Alternative 3

- The total area of the site containing impacted soils is 200 acres. The cost estimate assumes that this entire area will require implementation of institutional controls and deed restrictions and notifications.
- The cost estimate assumes it will take 5 days for a two man surveying crew [equipped with appropriate personnel protective equipment (PPE)] to survey and stake the impacted areas.
- The cost estimate assumes that prior to capping, the 200-acre area of the Site will have to be cleared of brush and debris.
- The cost estimate assumes that brush and debris generated during site clearing can be disposed of at a local municipal landfill.
- The area of the site requiring capping is estimated to be 1,000,000 square yards.
- A cap thickness ranging from 2 to 5 feet was assumed for the impacted soils; therefore, the volume of soil required for constructing the cap is estimated to range from 650,000 to 1,610,000 cubic yards.
- Soil for constructing the cap will be imported from unimpacted areas of the Site. A purchase price of $1 per cubic yard is applied for this soil.
- Engineering, construction management, and project management costs are assumed to be five percent of direct capital costs.
- The annual costs also include quarterly inspections of the site and cap inspection and repair. Cost for annual reporting of these activities is also included.
- A 10 percent general contingency is applied to the direct and indirect capital costs.

Alternative 4

Alternative 4 consists of two different options for the final disposition of excavated soils from the Site (Alternative 4A assumes a landfill will be constructed within the Upper Ponds, Alternative 4B assumes a landfill will be constructed within the BMI Complex). The general assumptions that apply to both Alternatives 4A and 4B are presented below. Following this list of assumptions, assumptions specific to each alternative are presented.

- The total area of the site containing impacted soils is 200 acres.
- The cost estimate assumes it will take 5 days for a two man surveying crew [equipped with appropriate personnel protective equipment (PPE)] to survey and stake the impacted areas.
- The cost estimate assumes that prior to excavation, the 200-acre area of the Site will have to be cleared of brush and debris.
- The cost estimate assumes that brush and debris generated during site clearing can be disposed of at a local municipal landfill.
- The volume of soil excavated from the Mohawk and Sunset North Areas is estimated to be approximately 150,000 cubic yards. Based on measurements collected at the Site, the volume of sediment requiring excavation is 265,000 cubic yards. The depth of soil excavation required beneath the sediments was assumed to range from 6 to 18 inches. Therefore, the total volume of soil requiring excavation is estimated to range from 600,000 to 900,000 cubic yards.
- The excavation floor sampling interval is assumed to be 1 sample per 10,000 square feet of excavation floor area.
- The excavation sidewall sampling interval is assumed to be 1 soil sample per 100 linear feet of sidewall.
- The soil stockpile sampling interval is estimated to be 1 soil sample per 1,000 cubic yards.
- The cost estimate assumes that all excavation and sidewall samples will be analyzed for pesticides by EPA method 8081, perchlorate, asbestos, and metals by various methods.

- Vendor quotes in unit costs per ton were converted to unit cost per cubic yard using a factor of 1.35 tons per cubic yard.
- It was assumed that the soil staging area will be within 1 mile from excavated soil stockpiles.
- It was assumed that no backfill is required for the excavated areas.
- Engineering, construction management, and project management costs are assumed to be five percent of direct capital costs.
- A 10 percent general contingency is applied to the direct and indirect capital costs.

Alternative 4A

- A new landfill will be constructed within the Upper Ponds to contain soils from the Site. Based on the preliminary design, the construction of the landfill will cost approximately $7 per cubic yard of imported soil based on the total anticipated volume of soil to be placed in the landfill. This includes soils from the Site and the Timet Active Ponds Area. For this alternative, the volume of soil to be placed in the landfill from the Site is estimated to range from 600,000 to 900,000 cubic yards.
- Annual operation and maintenance costs for the landfill are anticipated to be approximately $150,000.

Alternative 4B

- A new landfill will be constructed at the BMI Complex to contain soils from the Site. Based on the preliminary design, the construction of the landfill will cost approximately $7 per cubic yard of imported soil based on the total anticipated volume of soil to be placed in the landfill. This includes soils from the Site and the Timet Active Ponds Area. For this alternative, the volume of soil to be placed in the landfill from the Site is estimated to range from 600,000 to 900,000 cubic yards.
- A conveyor system will be constructed to transport soils from the Site to the proposed landfill location. Based on preliminary estimates, this conveyor will cost approximately $2,500,000.
- It was assumed that the soil staging area (where soils will be loaded on the conveyor system) will be within 1 mile from all soil excavation areas.

- Annual operation and maintenance costs for the landfill are anticipated to be approximately $150,000.

Alternative 5

- The total area of the site containing impacted soils is 200 acres.
- The cost estimate assumes it will take 5 days for a two man surveying crew [equipped with appropriate personnel protective equipment (PPE)] to survey and stake the impacted areas.
- The cost estimate assumes that prior to excavation, the 200-acre area of the Site will have to be cleared of brush and debris.
- The cost estimate assumes that brush and debris generated during site clearing can be disposed of at a local municipal landfill.
- The volume of soil excavated from the Mohawk and Sunset North Areas is estimated to be approximately 150,000 cubic yards. Based on measurements collected at the Site, the volume of sediment requiring excavation is 265,000 cubic yards. The depth of soil excavation required beneath the sediments was assumed to range from 6 to 18 inches. Therefore, the total volume of soil requiring excavation is estimated to range from 600,000 to 900,000 cubic yards.
- The excavation floor sampling interval is assumed to be 1 sample per 10,000 square feet of excavation floor area.
- The excavation sidewall sampling interval is assumed to be 1 soil sample per 100 linear feet of sidewall.
- The soil stockpile sampling interval is estimated to be 1 soil sample per 1,000 cubic yards.
- The cost estimate assumes that all excavation and sidewall samples will be analyzed for pesticides by EPA method 8081, perchlorate, asbestos, and metals by various methods.
- Vendor quotes in unit costs per ton were converted to unit cost per cubic yard using a factor of 1.35 tons per cubic yard.
- It was assumed that the soil staging area (where soils will be loaded onto trucks for off-site transport) will be within 1 mile from all soil excavation areas.

- It was assumed that no backfill is required for the excavated areas.
- Engineering, construction management, and project management costs are assumed to be five percent of direct capital costs.
- A 10 percent general contingency is applied to the direct and indirect capital costs.
- Soil is assumed to be non-hazardous and the selected disposal facility is APEX landfill located in Clark County, Nevada.
- Soil transportation will performed via trucks at a cost of approximately $10 per cubic yard.
- Soil disposal will be at a cost of $13 per cubic yard.

TABLE A-1
Remediation Cost Estimates
BMI Common Areas
Henderson, Nevada

Alternative	Estimated Cost		
Alternative 1 - No Action		$0	
Alternative 2 - Institutional Controls/Limited Action	$3,286,000	-	$7,492,000
Alternative 3 - Capping In Place	$7,021,000	-	$13,806,000
Alternative 4A - Excavation of Soil and On-Site Landfill Disposal	$13,033,000	-	$17,966,000
Alternative 4B - Excavation of Soil and On-Site Landfill Disposal	$16,195,000	-	$21,129,000
Alternative 5 - Excavation of Soil and Off-Site Disposal	$22,833,000	-	$33,838,000

TABLE A-2
Alternative 2 - Low End Cost Estimate
Insitutional Controls/Limited Action
BMI Common Areas
Henderson, Nevada

DESCRIPTION	QUANTITY		COST		NOTES
	NUMBER	UNIT	UNIT COST	TOTAL COST	
DIRECT CAPITAL COST					
Site Preparation					
Survey and Stake Site to Outline Impacted Areas	5	Day	$1,650	$8,250	Assumes full day with a two man crew (10 percent increase due to Health and Safety)
Site Clearing	200	Acre	$168	$33,670	Means, medium brush without grub, clearing (10 percent increase due to Health and Safety)
Load Debris into Trucks, Haul to Landfill, and Disposal	2,000	yd^3	$25	$50,000	Assumes Local Municipal Landfill Disposal
Grade Site	968,000	yd^2	$0.69	$664,435	Means, rough grading (10 percent increase due to Health and Safety)
Dust Control and Access Restrictions					
Purchase and Transport Dust Control Solution to Site	48,400	gal	$2.35	$113,740	Assumes 1 gallon per 20 square yards
Apply Dust Control Emulsion	10	day	$6,160	$61,600	Assumes 2 man crew and a water truck, includes emuslsion preparation
Fence Installation and Sign Posting	15,000	ft	$11	$165,000	Vendor quote, 7 foot high chain link fence with 3 strands barbed wire
TOTAL DIRECT CAPITAL COSTS				$1,097,000	
INDIRECT CAPITAL COST					
Engineering, Procurement, Administrative, and Legal Costs (5% of Direct Capital Costs)				$54,850	Deed Restrictions/Notifications
Construction Management (5% of Direct Capital Costs)				$54,850	
Permitting				$13,289	Grading Permit Fees (2% of Grading Costs)
Project Management (5% of Direct Capital Costs)				$54,850	
INDIRECT CAPITAL COST				$178,000	
TOTAL CAPITAL COST (DIRECT AND INDIRECT)				$1,275,000	
OPERATION, MAINTENANCE, AND MONITORING COST					
Fence and Sign Inspection and Maintenance	1	Annual	$10,000	$10,000	Based on current fence and sign maintenance costs at site
Site Inspection (including air monitoring)	1	Annual	$10,000	$10,000	
Purchase and Transport Dust Control Solution to Site	25,000	gal	$2.35	$58,750	Assumes 1 gallon per 20 square yards
Apply Dust Control Emulsion	5	day	$6,160	$30,800	Assumes 2 man crew and a water truck, includes emuslsion preparation
Reporting	1	Annual	$10,000	$10,000	Annual reporting cost
OPERATION, MAINTENANCE, AND MONITORING COST				$120,000	
100 YEAR NET PRESENT VALUE OF OMM COSTS				$1,712,000	
General Contingency (10% of Total Capital Costs and Operation and Maintenance Costs)				$299,000	
TOTAL COST OF ALTERNATIVE				$3,286,000	

TABLE A-3
Alternative 2 - High End Cost Estimate
Insitutional Controls/Limited Action
BMI Common Areas
Henderson, Nevada

DESCRIPTION	QUANTITY		COST		NOTES
	NUMBER	UNIT	UNIT COST	TOTAL COST	
DIRECT CAPITAL COST					
Site Preparation					
Survey and Stake Site to Outline Impacted Areas	5	Day	$1,650	$8,250	Assumes full day with a two man crew (10 percent increase due to Health and Safety)
Site Clearing	200	Acre	$168	$33,670	Means, medium brush without grub, clearing (10 percent increase due to Health and Safety)
Load Debris into Trucks, Haul to Landfill, and Disposal	2,000	yd^3	$25	$50,000	Assumes Local Municipal Landfill Disposal
Grade Site	968,000	yd^2	$0.69	$664,435	Means, rough grading (10 percent increase due to Health and Safety)
Dust Control and Access Restrictions					
Purchase and Transport Dust Control Solution to Site	48,400	gal	$2.35	$113,740	Assumes 1 gallon per 20 square yards
Apply Dust Control Emulsion	10	day	$6,160	$61,600	Assumes 2 man crew and a water truck, includes emuslsion preparation
Fence Installation and Sign Posting	15,000	ft	$11	$165,000	Vendor quote, 7 foot high chain link fence with 3 strands barbed wire
TOTAL DIRECT CAPITAL COSTS				$1,097,000	
INDIRECT CAPITAL COST					
Engineering, Procurement, Administrative, and Legal Costs (5% of Direct Capital Costs)				$54,850	Deed Restrictions/Notifications
Construction Management (5% of Direct Capital Costs)				$54,850	
Permitting				$13,289	Grading Permit Fees (2% of Grading Costs)
Project Management (5% of Direct Capital Costs)				$54,850	
INDIRECT CAPITAL COST				$178,000	
TOTAL CAPITAL COST (DIRECT AND INDIRECT)				$1,275,000	
OPERATION, MAINTENANCE, AND MONITORING COST					
Fence and Sign Inspection and Maintenance	1	Annual	$10,000	$10,000	Based on current fence and sign maintenance costs at site
Site Inspection (including air monitoring)	1	Annual	$10,000	$10,000	
Purchase and Transport Dust Control Solution to Site	100,000	gal	$2.35	$235,000	Assumes 1 gallon per 20 square yards
Apply Dust Control Emulsion	20	day	$6,160	$123,200	Assumes 2 man crew and a water truck, includes emuslsion preparation
Reporting	1	Annual	$10,000	$10,000	Annual reporting cost
OPERATION, MAINTENANCE, AND MONITORING COST				$388,000	
100 YEAR NET PRESENT VALUE OF OMM COSTS				$5,536,000	
General Contingency (10% of Total Capital Costs and Operation and Maintenance Costs)				$681,000	
TOTAL COST OF ALTERNATIVE				$7,492,000	

TABLE A-4
Alternative 3 - Low End Cost Estimate
On-Site Capping of Soils
BMI Common Areas
Henderson, Nevada

DESCRIPTION	QUANTITY		COST		NOTES
	NUMBER	UNIT	UNIT COST	TOTAL COST	
DIRECT CAPITAL COST					
Site Preparation					
Survey and Stake Site to Outline Impacted Areas	5	Day	$1,650	$8,250	Assumes full day with a two man crew (10 percent increase due to Health and Safety)
Site Clearing	200	Acre	$168	$33,670	Means, medium brush without grub, clearing (10 percent increase due to Health and Safety)
Load Debris into Trucks, Haul to Landfill, and Disposal	2,000	yd^3	$25	$50,000	Assumes Local Municipal Landfill Disposal
Grade Site	1,000,000	yd^2	$0.69	$686,400	Means, rough grading (10 percent increase due to Health and Safety)
Excavation and Soil Handling					
Excavate and Load Clean Soil	650,000	yd^3	$1.89	$1,230,320	Means, Excavation and load with track loader, 100cy/hr
Purchase Fill Material	650,000	yd^3	$1.00	$650,000	Purchase cost assigned for unimpacted soil from Common Areas
Haul Clean Soil to Capping Areas	650,000	yd^3	$1.65	$1,074,840	Means, Haul Soil, 16.5 cubic yards, 1.0 mile
Place Clean Soils and Compact	650,000	yd^3	$1.04	$676,000	Means, place and compact in 6 inch lifts
Install Drainage System	100,000	LF	$4.70	$469,700	Means, 18" x 18" Underground French Drain
Final Site Work					
Survey Final Fill Depth, Location	5	Day	$1,500	$7,500	Assumes full day with a two man crew
TOTAL DIRECT CAPITAL COSTS				$4,887,000	
INDIRECT CAPITAL COST					
Engineering, Procurement, Administrative, and Legal Costs (5% of Direct Capital Costs)				$244,350	
Construction Management (5% of Direct Capital Costs)				$244,350	
Permitting				$50,000	
Project Management (5% of Direct Capital Costs)				$244,350	
INDIRECT CAPITAL COST				$783,000	
TOTAL CAPITAL COST (DIRECT AND INDIRECT)				$5,670,000	
OPERATION, MAINTENANCE, AND MONITORING COST					
Soil Cap Inspection, Maintenance, and Reporting	1	Annual	$50,000.00	$50,000	Quarterly inspection, maintenance fees, and reporting
ANNUAL OPERATION, MAINTENANCE, AND MONITORING COST				$50,000	
100 YEAR NET PRESENT VALUE OF OMM COSTS				$713,000	
General Contingency (10% of Total Capital Costs and Operation and Maintenance Costs)				$638,000	
TOTAL COST OF ALTERNATIVE				$7,021,000	

TABLE A-5
Alternative 3 - High End Cost Estimate
On-Site Capping of Soils
BMI Common Areas
Henderson, Nevada

DESCRIPTION	QUANTITY		COST		NOTES
	NUMBER	UNIT	UNIT COST	TOTAL COST	
DIRECT CAPITAL COST					
Site Preparation					
Survey and Stake Site to Outline Impacted Areas	5	Day	$1,650	$8,250	Assumes full day with a two man crew (10 percent increase due to Health and Safety)
Site Clearing	200	Acre	$168	$33,670	Means, medium brush without grub, clearing (10 percent increase due to Health and Safety)
Load Debris into Trucks, Haul to Landfill, and Disposal	2,000	yd^3	$25	$50,000	Assumes Local Municipal Landfill Disposal
Grade Site	1,000,000	yd^2	$0.69	$686,400	Means, rough grading (10 percent increase due to Health and Safety)
Excavation and Soil Handling					
Excavate and Load Clean Soil	1,610,000	yd^3	$1.89	$3,047,408	Means, Excavation and load with track loader, 100cy/hr
Purchase Fill Material	1,610,000	yd^3	$1.00	$1,610,000	Purchase cost assigned for unimpacted soil from Common Areas
Haul Clean Soil to Capping Areas	1,610,000	yd^3	$1.65	$2,662,296	Means, Haul Soil, 16.5 cubic yards, 1.0 mile
Place Clean Soils and Compact	1,610,000	yd^3	$1.04	$1,674,400	Means, place and compact in 6 inch lifts
Install Drainage System	100,000	LF	$4.70	$469,700	Means, 18" x 18" Underground French Drain
Final Site Work					
Survey Final Fill Depth, Location	5	Day	$1,500	$7,500	Assumes full day with a two man crew
TOTAL DIRECT CAPITAL COSTS				$10,250,000	
INDIRECT CAPITAL COST					
Engineering, Procurement, Administrative, and Legal Costs (5% of Direct Capital Costs)				$512,500	
Construction Management (5% of Direct Capital Costs)				$512,500	
Permitting				$50,000	
Project Management (5% of Direct Capital Costs)				$512,500	
INDIRECT CAPITAL COST				$1,588,000	
TOTAL CAPITAL COST (DIRECT AND INDIRECT)				$11,838,000	
OPERATION, MAINTENANCE, AND MONITORING COST					
Soil Cap Inspection, Maintenance, and Reporting	1	Annual	$50,000.00	$50,000	Quarterly inspection, maintenance fees, and reporting
ANNUAL OPERATION, MAINTENANCE, AND MONITORING COST				$50,000	
100 YEAR NET PRESENT VALUE OF OMM COSTS				$713,000	
General Contingency (10% of Total Capital Costs and Operation and Maintenance Costs)				$1,255,000	
TOTAL COST OF ALTERNATIVE				$13,806,000	

TABLE A-6
Alternative 4A - Low End Cost Estimate
Excavation of Soils and On-Site Landfill Disposal Within Common Areas
BMI Common Areas
Henderson, Nevada

DESCRIPTION	QUANTITY		COST		NOTES
	NUMBER	UNIT	UNIT COST	TOTAL COST	
DIRECT CAPITAL COST					
Site Preparation					
Survey and Stake Site to Outline Impacted Areas	5	Day	$1,650	$8,250	Assumes full day with a two man crew (10 percent increase due to Health and Safety)
Site Clearing	200	Acre	$168	$33,670	Means, medium brush without grub, clearing (10 percent increase due to Health and Safety)
Load Debris into Trucks and Haul to Landfill	2,000	yd^3	$25.00	$50,000	Assumes Local Municipal Landfill Disposal
Excavation and Soil Handling					
Excavate Impacted Soils	600,000	yd^3	$3.25	$1,950,000	Engineering estimate (includes excavation, health and safety, dust control, and air monitoring)
Load and Haul Impacted Soil to Landfill	600,000	yd^3	$2.25	$1,350,000	Engineering estimate (includes load and haul, health and safety, temporary road construction)
Construction Costs					
Construct Landfill	600,000	yd^3	$7	$4,200,000	Preliminary Engineering Estimate (preliminary cost based on similar projects)
Final Site Work					
Surveying of Final Excavation Boundaries	5	Day	$1,500	$7,500	Assumes full day with a two man crew
Excavation Sample Collection					
Stockpiling Sampling - 1 sample/1000 CY	600	Sample	$500	$300,000	pesticides (EPA 8081), perchlorate, asbestos, and metals
Excavation Floor Confirmatory Sampling - 1 sample/10,000 SF	871	Sample	$500	$435,600	pesticides (EPA 8081), perchlorate, asbestos, and metals
Excavation Sidewall Confirmatory Sampling - 1 sample/100 LF	125	Sample	$500	$62,500	pesticides (EPA 8081), perchlorate, asbestos, and metals
TOTAL DIRECT CAPITAL COST				$8,398,000	
INDIRECT CAPITAL COST					
Costs)				$419,900	
Construction Management (5% of Direct Capital Costs)				$419,900	
Permitting				$50,000	
Project Management (5% of Direct Capital Costs)				$419,900	
INDIRECT CAPITAL COST				$1,310,000	
TOTAL CAPITAL COST (DIRECT AND INDIRECT)				$9,708,000	
OPERATION, MAINTENANCE, AND MONITORING COST					
Landfill Inspection, Maintenance, and Reporting	1	Annual	$150,000	$150,000	Quarterly inspection, maintenance fees, and reporting
OPERATION, MAINTENANCE, AND MONITORING COST				$150,000	
100 YEAR NET PRESENT VALUE OF OMM COSTS				$2,140,000	
General Contingency (10% of Direct Capital Costs and Indirect Capital Costs)				$1,185,000	
TOTAL COST OF ALTERNATIVE				$13,033,000	

TABLE A-7
Alternative 4A - High End Cost Estimate
Excavation of Soils and On-Site Landfill Disposal Within Common Areas
BMI Common Areas
Henderson, Nevada

DESCRIPTION	QUANTITY		COST		NOTES
	NUMBER	UNIT	UNIT COST	TOTAL COST	
DIRECT CAPITAL COST					
Site Preparation					
Survey and Stake Site to Outline Impacted Areas	5	Day	$1,650	$8,250	Assumes full day with a two man crew (10 percent increase due to Health and Safety)
Site Clearing	200	Acre	$168	$33,670	Means, medium brush without grub, clearing (10 percent increase due to Health and Safety)
Load Debris into Trucks and Haul to Landfill	2,000	yd^3	$25.00	$50,000	Assumes Local Municipal Landfill Disposal
Excavation and Soil Handling					
Excavate Impacted Soils	900,000	yd^3	$3.25	$2,925,000	Engineering estimate (includes excavation, health and safety, dust control, and air monitoring)
Load and Haul Impacted Soil to Landfill	900,000	yd^3	$2.25	$2,025,000	Engineering estimate (includes load and haul, health and safety, temporary road construction)
Construction Costs					
Construct Landfill	900,000	yd^3	$7	$6,300,000	Preliminary Engineering Estimate (preliminary cost based on similar projects)
Final Site Work					
Surveying of Final Excavation Boundaries	5	Day	$1,500	$7,500	Assumes full day with a two man crew
Excavation Sample Collection					
Stockpiling Sampling - 1 sample/1000 CY	900	Sample	$500	$450,000	pesticides (EPA 8081), perchlorate, asbestos, and metals
Excavation Floor Confirmatory Sampling - 1 sample/10,000 SF	871	Sample	$500	$435,600	pesticides (EPA 8081), perchlorate, asbestos, and metals
Excavation Sidewall Confirmatory Sampling - 1 sample/100 LF	125	Sample	$500	$62,500	pesticides (EPA 8081), perchlorate, asbestos, and metals
TOTAL DIRECT CAPITAL COST				$12,298,000	
INDIRECT CAPITAL COST					
Costs)				$614,900	
Construction Management (5% of Direct Capital Costs)				$614,900	
Permitting				$50,000	
Project Management (5% of Direct Capital Costs)				$614,900	
INDIRECT CAPITAL COST				$1,895,000	
TOTAL CAPITAL COST (DIRECT AND INDIRECT)				$14,193,000	
OPERATION, MAINTENANCE, AND MONITORING COST					
Landfill Inspection, Maintenance, and Reporting	1	Annual	$150,000	$150,000	Inspection, maintenance fees, and reporting
OPERATION, MAINTENANCE, AND MONITORING COST				$150,000	
100 YEAR NET PRESENT VALUE OF OMM COSTS				$2,140,000	
General Contingency (10% of Direct Capital Costs and Indirect Capital Costs)				$1,633,000	
TOTAL COST OF ALTERNATIVE				$17,966,000	

TABLE A-8
Alternative 4B - Low End Cost Estimate
Excavation of Soils and On-Site Landfill Disposal Within BMI Complex
BMI Common Areas
Henderson, Nevada

DESCRIPTION	QUANTITY		COST		NOTES
	NUMBER	UNIT	UNIT COST	TOTAL COST	
DIRECT CAPITAL COST					
Site Preparation					
Survey and Stake Site to Outline Impacted Areas	5	Day	$1,650	$8,250	Assumes full day with a two man crew (10 percent increase due to Health and Safety)
Site Clearing	200	Acre	$168	$33,670	Means, medium brush without grub, clearing (10 percent increase due to Health and Safety)
Load Debris into Trucks and Haul to Landfill	2,000	yd^3	$25	$50,000	Assumes Local Municipal Landfill Disposal
Excavation and Soil Handling					
Excavate Impacted Soils	600,000	yd^3	$3.25	$1,950,000	Engineering estimate (includes excavation, health and safety, dust control, and air monitoring)
Load and Haul Impacted Soil to Staging Area	600,000	yd^3	$2.25	$1,350,000	Engineering estimate (includes load and haul, health and safety, temporary road construction)
Construction Costs					
Construct Conveyor System	1	LS	$2,500,000	$2,500,000	Preliminary Engineering Estimate (preliminary cost based on similar projects)
Construct Landfill	600,000	yd^3	$7	$4,200,000	Preliminary Engineering Estimate (preliminary cost based on similar projects)
Final Site Work					
Surveying of Final Excavation Boundaries	5	Day	$1,500	$7,500	Assumes full day with a two man crew
Excavation Sample Collection					
Stockpiling Sampling - 1 sample/1000 CY	600	Sample	$500	$300,000	pesticides (EPA 8081), perchlorate, asbestos, and metals
Excavation Floor Confirmatory Sampling - 1 sample/10,000 SF	871	Sample	$500	$435,600	pesticides (EPA 8081), perchlorate, asbestos, and metals
Excavation Sidewall Confirmatory Sampling - 1 sample/100 LF	125	Sample	$500	$62,500	pesticides (EPA 8081), perchlorate, asbestos, and metals
TOTAL DIRECT CAPITAL COST				$10,898,000	
INDIRECT CAPITAL COST					
Engineering, Procurement, Administrative, and Legal Costs (5% of Direct Capital Costs)				$544,900	
Construction Management (5% of Direct Capital Costs)				$544,900	
Permitting				$50,000	
Project Management (5% of Direct Capital Costs)				$544,900	
INDIRECT CAPITAL COST				$1,685,000	
TOTAL CAPITAL COST (DIRECT AND INDIRECT)				$12,583,000	
OPERATION, MAINTENANCE, AND MONITORING COST					
Landfill Inspection, Maintenance, and Reporting	1	Annual	$150,000	$150,000	Inspection, maintenance fees, and reporting
OPERATION, MAINTENANCE, AND MONITORING COST				$150,000	
100 YEAR NET PRESENT VALUE OF OMM COSTS				$2,140,000	
General Contingency (10% of Direct Capital Costs and Indirect Capital Costs)				$1,472,000	
TOTAL COST OF ALTERNATIVE				$16,195,000	

TABLE A-9
Alternative 4B - High End Cost Estimate
Excavation of Soils and On-Site Landfill Disposal Within BMI Complex
BMI Common Areas
Henderson, Nevada

DESCRIPTION	QUANTITY		COST		NOTES
	NUMBER	UNIT	UNIT COST	TOTAL COST	
DIRECT CAPITAL COST					
Site Preparation					
Survey and Stake Site to Outline Impacted Areas	5	Day	$1,650	$8,250	Assumes full day with a two man crew (10 percent increase due to Health and Safety)
Site Clearing	200	Acre	$168	$33,670	Means, medium brush without grub, clearing (10 percent increase due to Health and Safety)
Load Debris into Trucks and Haul to Landfill	2,000	yd^3	$25	$50,000	Assumes Local Municipal Landfill Disposal
Excavation and Soil Handling					
Excavate Impacted Soils	900,000	yd^3	$3.25	$2,925,000	Engineering estimate (includes excavation, health and safety, dust control, and air monitoring)
Load and Haul Impacted Soil to Staging Area	900,000	yd^3	$2.25	$2,025,000	Engineering estimate (includes load and haul, health and safety, temporary road construction)
Construction Costs					
Construct Conveyor System	1	LS	$2,500,000	$2,500,000	Preliminary Engineering Estimate (preliminary cost based on similar projects)
Construct Landfill	900,000	LS	$7	$6,300,000	Preliminary Engineering Estimate (preliminary cost based on similar projects)
Final Site Work					
Surveying of Final Excavation Boundaries	5	Day	$1,500	$7,500	Assumes full day with a two man crew
Excavation Sample Collection					
Stockpiling Sampling - 1 sample/1000 CY	900	Sample	$500	$450,000	pesticides (EPA 8081), perchlorate, asbestos, and metals
Excavation Floor Confirmatory Sampling - 1 sample/10,000 SF	871	Sample	$500	$435,600	pesticides (EPA 8081), perchlorate, asbestos, and metals
Excavation Sidewall Confirmatory Sampling - 1 sample/100 LF	125	Sample	$500	$62,500	pesticides (EPA 8081), perchlorate, asbestos, and metals
TOTAL DIRECT CAPITAL COST				$14,798,000	
INDIRECT CAPITAL COST					
Engineering, Procurement, Administrative, and Legal Costs (5% of Direct Capital Costs)				$739,900	
Construction Management (5% of Direct Capital Costs)				$739,900	
Permitting				$50,000	
Project Management (5% of Direct Capital Costs)				$739,900	
INDIRECT CAPITAL COST				$2,270,000	
TOTAL CAPITAL COST (DIRECT AND INDIRECT)				$17,068,000	
OPERATION, MAINTENANCE, AND MONITORING COST					
Landfill Inspection, Maintenance, and Reporting	1	Annual	$150,000	$150,000	Inspection, maintenance fees, and reporting
OPERATION, MAINTENANCE, AND MONITORING COST				$150,000	
100 YEAR NET PRESENT VALUE OF OMM COSTS				$2,140,000	
General Contingency (10% of Direct Capital Costs and Indirect Capital Costs)				$1,921,000	
TOTAL COST OF ALTERNATIVE				$21,129,000	

TABLE A-10
Alternative 5 - Low End Cost Estimate
Excavation of Soils and Off-Site Landfill Disposal
BMI Common Areas
Henderson, Nevada

DESCRIPTION	QUANTITY		COST		NOTES
	NUMBER	UNIT	UNIT COST	TOTAL COST	
DIRECT CAPITAL COST					
Site Preparation					
Survey and Stake Site to Outline Impacted Areas	10	Day	$1,650	$16,500	Assumes full day with a two man crew (10 percent increase due to Health and Safety)
Site Clearing	200	Acre	$168	$33,670	Means, medium brush without grub, clearing (10 percent increase due to Health and Safety)
Load Debris into Trucks and Haul to Landfill	2,000	yd^3	$25	$50,000	Assumes Local Municipal Landfill Disposal
Excavation and Soil Handling					
Excavate Affected Soil	600,000	yd^3	$3.25	$1,950,000	Engineering estimate (includes excavation, health and safety, dust control, and air monitoring)
Load and Haul Impacted Soil to Staging Area	600,000	yd^3	$2.25	$1,350,000	Engineering estimate (includes load and haul, health and safety, temporary road construction)
Load and Haul Impacted Soil to Landfill	600,000	yd^3	$10	$6,000,000	Vendor quotes
Soil Disposal	600,000	yd^3	$13	$7,800,000	Vendor quotes
Final Site Work					
Surveying of Final Excavation Boundaries	5	Day	$1,500	$7,500	Assumes full day with a two man crew
Excavation Sample Collection					
Stockpiling Sampling - 1 sample/1000 CY	600	Sample	$500	$300,000	pesticides (EPA 8081), perchlorate, asbestos, and metals
Excavation Floor Confirmatory Sampling - 1 sample/10,000 SF	871	Sample	$500	$435,600	pesticides (EPA 8081), perchlorate, asbestos, and metals
Excavation Sidewall Confirmatory Sampling - 1 sample/100 LF	125	Sample	$500	$62,500	pesticides (EPA 8081), perchlorate, asbestos, and metals
TOTAL DIRECT CAPITAL COST				$18,006,000	
INDIRECT CAPITAL COST					
Engineering, Procurement, Administrative, and Legal Costs (5% of Direct Capital Costs)				$900,300	
Construction Management (5% of Direct Capital Costs)				$900,300	
Permitting				$50,000	
Project Management (5% of Direct Capital Costs)				$900,300	
INDIRECT CAPITAL COST				$2,751,000	
TOTAL CAPITAL COST (DIRECT AND INDIRECT)				$20,757,000	
General Contingency (10% of Direct Capital Costs and Indirect Capital Costs)				$2,076,000	
TOTAL COST OF ALTERNATIVE				$22,833,000	

TABLE A-11
Alternative 5 - High End Cost Estimate
Excavation of Soils and Off-Site Landfill Disposal
BMI Common Areas
Henderson, Nevada

DESCRIPTION	QUANTITY		COST		NOTES
	NUMBER	UNIT	UNIT COST	TOTAL COST	
DIRECT CAPITAL COST					
Site Preparation					
Survey and Stake Site to Outline Impacted Areas	10	Day	$1,650	$16,500	Assumes full day with a two man crew (10 percent increase due to Health and Safety)
Site Clearing	200	Acre	$168	$33,670	Means, medium brush without grub, clearing (10 percent increase due to Health and Safety)
Load Debris into Trucks and Haul to Landfill	2,000	yd^3	$25	$50,000	Assumes Local Municipal Landfill Disposal
Excavation and Soil Handling					
Excavate Affected Soil	900,000	yd^3	$3.25	$2,925,000	Engineering estimate (includes excavation, health and safety, dust control, and air monitoring)
Load and Haul Impacted Soil to Staging Area	900,000	yd^3	$2.25	$2,025,000	Engineering estimate (includes load and haul, health and safety, temporary road construction)
Load and Haul Impacted Soil to Landfill	900,000	yd^3	$10	$9,000,000	Vendor quotes
Soil Disposal	900,000	yd^3	$13	$11,700,000	Vendor quotes
Final Site Work					
Surveying of Final Excavation Boundaries	5	Day	$1,500	$7,500	Assumes full day with a two man crew
Excavation Sample Collection					
Stockpiling Sampling - 1 sample/1000 CY	900	Sample	$500	$450,000	pesticides (EPA 8081), perchlorate, asbestos, and metals
Excavation Floor Confirmatory Sampling - 1 sample/10,000 SF	871	Sample	$500	$435,600	pesticides (EPA 8081), perchlorate, asbestos, and metals
Excavation Sidewall Confirmatory Sampling - 1 sample/100 LF	125	Sample	$500	$62,500	pesticides (EPA 8081), perchlorate, asbestos, and metals
TOTAL DIRECT CAPITAL COST				$26,706,000	
INDIRECT CAPITAL COST					
Costs)				$1,335,300	
Construction Management (5% of Direct Capital Costs)				$1,335,300	
Permitting				$50,000	
Project Management (5% of Direct Capital Costs)				$1,335,300	
INDIRECT CAPITAL COST				$4,056,000	
TOTAL CAPITAL COST (DIRECT AND INDIRECT)				$30,762,000	
General Contingency (10% of Direct Capital Costs and Indirect Capital Costs)				$3,076,000	
TOTAL COST OF ALTERNATIVE				$33,838,000	

TABLE A-12
Unit Cost Table
BMI Common Areas
Clark County, Nevada

DESCRIPTION	UNIT	UNIT COST	NOTES
Site Preparation			
Survey and Stake Site to Outline Impacted Areas (Prior to remedation)	Day	$1,650	Assumes full day with a two man crew (10 percent increase due to Health and Safety)
Site Clearing	Acre	$168	Means, medium brush without grub, clearing (10 percent increase due to Health and Safety)
Load Debris into Trucks and Haul to Landfill	yd^3	$25	Assumes Local Municipal Landfill Disposal
Grade Site	yd^2	$0.69	Means, rough grading (10 percent increase due to Health and Safety)
Excavation and Soil Handling			
Excavate Impacted Soil	yd^3	$3.25	Engineering estimate (includes excavation, health and safety, dust control, and air monitoring)
Excavate Clean Soil	yd^3	$1.89	Means, Excavation and load with track loader, 100cy/hr
Load and Haul Impacted Soil On Site	yd^3	$2.25	Engineering estimate (includes load and haul, health and safety, temporary road construction)
Load and Haul Impacted Soil Off Site	yd^3	$3.50	Engineering estimate (includes load and haul, health and safety, temporary road construction)
Load and Haul Clean Soil On Site	yd^3	$1.65	Means, Haul Soil, 16.5 cubic yards, 1.0 mile
Load and Haul Clean Soil Off Site	yd^3	$2.90	Means, Haul Soil, 16.5 cubic yards, 1.0 mile
Place Affected Soils and Compact	yd^3	$1.75	Engineering Estimate (includes Health and Safety)
Place Clean Soils and Compact	yd^3	$1.04	Means, place and compact in 6 inch lifts
Purchase Fill Material	yd^3	$1.00	Purchase cost assigned for unimpacted soil from Common Areas
Install Drainage System	LF	$4.70	Means, 18" x 18" Underground French Drain
Load Debris into Trucks and Haul to Landfill	yd^3	$10	Vendor quotes
Soil Disposal	yd^3	$13	Vendor quotes
Final Site Work			
Surveying of Final Excavation Boundaries	Day	$1,500	Assumes full day with a two man crew
Grade Site (Post remediation)	yd^2	$0.62	Means, rough grading
Fence Installation and Sign Posting	ft	$11	Vendor quote, 7 foot high chain link fence with 3 strands barbed wire
Excavation Sample Collection			
Stockpiling Sampling - 1 sample/1000 CY	Sample	$500	pesticides (EPA 8081), perchlorate, asbestos, and metals
Excavation Floor Confirmatory Sampling - 1 sample/10,000 SF	Sample	$500	pesticides (EPA 8081), perchlorate, asbestos, and metals
Excavation Sidewall Confirmatory Sampling - 1 sample/100 LF	Sample	$500	pesticides (EPA 8081), perchlorate, asbestos, and metals
Dust Control			
Purchase and Transport Dust Control Solution to Site	gal	$2.35	Assumes 1 gallon per 20 square yards
Apply Dust Control Emulsion	day	$6,160	Assumes 2 man crew and a water truck, includes emuslsion preparation

APPENDIX D

REMEDIAL ALTERNATIVE COST ESTIMATES

APPENDIX D

REMEDIAL ALTERNATIVE COST ESTIMATES

This appendix presents cost estimates developed for the following remedial alternatives that were retained for detailed analysis (Section 4).

- Alternative 2 - Institutional Controls / Limited Action
- Alternative 3 - On-Site Capping of Soils and Institutional Controls
- Alternative 4 - On-Site Capping of Soils and Limited Soil Consolidation
- Alternative 5 - Excavation of Soils and Soil Consolidation
- Alternative 6 - Excavation and Off-Site Disposal of Soils

As part of the detailed analysis, alternatives were refined to develop order-of-magnitude cost estimates with a relative accuracy of +50 percent to -30 percent for each retained alternative. Information developed during refinement of the alternatives included preliminary design calculations for process options of each alternative, sizing of key components, preliminary site layouts, and limitations and uncertainties concerning each alternative. The cost estimates assume ground water monitoring is not specifically required for any of the remedial alternatives.

Costs for the components of each alternative are based on vendor information and quotations, 1999 RSMeans Environmental Remediation Cost Data (5th edition), site cost experience, and professional engineering judgment.

Where long-term recurring costs are anticipated, a present worth analysis of the long-term costs was conducted. Present worth costs assumed a 7 percent discount rate and 100-year project duration. Inflation was ignored.

The cost estimates developed for each of the alternatives are presented in Tables D-1 through D-16. Listed below are the key assumptions and exclusions used to develop the cost estimates for each alternative.

Alternative 2

- The total area of the site containing impacted soils under the residential exposure scenario (the most conservative exposure scenario) is 190 acres. The cost estimate assumes that this entire area will require implementation of institutional controls, deed restrictions and notifications, and dust control measures.

- The cost estimate assumes it will take 5 days for a two man surveying crew [equipped with appropriate personnel protective equipment (PPE)] to survey and stake the impacted areas.

- The cost estimate assumes that prior to application of dust control measures the 190 acre area of the Site will have to be cleared of brush and debris.

- The cost estimate assumes that brush and debris generated during site clearing can be disposed of at a local municipal landfill.

- The cost estimate assumes the entire 190 acre portion of the Site will have to be graded to facilitate the even application of the dust control measures.

- The purchase and shipping costs for dust control compounds are based on estimates obtained from Soil Stabilization Products Company (SSPCo.) of Merced, California.

- The costs to prepare and apply the dust control emulsion are based on engineering estimates and discussions with SSPCo.

- The cost estimate includes 15,000 linear feet of fencing to be installed around the 190 acre area. This fencing is assumed to consist of 7 feet high galvanized chain link fence with 3 strands of barbed wire.

- Engineering, construction management, and project management costs are assumed to be five percent of direct capital costs.

- The cost estimate assumes that the dust control measures will be reapplied at a frequency ranging from every 6 months to every 2 years. The annual costs also include quarterly inspections of the site, fence and sign inspection and repair, and perimeter air monitoring. Cost for annual reporting of these activities is also included.

- A 30 percent general contingency is applied to the direct and indirect capital costs.

Alternative 3

- The total area of the site containing impacted soils under the residential exposure scenario (the most conservative exposure scenario) is 190 acres. The cost estimate assumes that this entire area will require implementation of institutional controls and deed restrictions and notifications.

- The cost estimate assumes it will take 5 days for a two man surveying crew [equipped with appropriate personnel protective equipment (PPE)] to survey and stake the impacted areas.

- The cost estimate assumes that prior to capping, the 190 acre area of the Site will have to be cleared of brush and debris.

- The cost estimate assumes that brush and debris generated during site clearing can be disposed of at a local municipal landfill.

- The area of the site requiring capping is estimated to be 900,000 square yards.

- A cap thickness ranging from 2 to 5 feet was assumed for the impacted soils.

- The volume of soil required for constructing the cap is estimated to range from 520,000 to 1,310,000 cubic yards.

- Soil for constructing the cap will be imported from unimpacted areas of the Site. A purchase price of $1 per cubic yard is applied for this soil.

- Engineering, construction management, and project management costs are assumed to be five percent of direct capital costs.

- The annual costs also include quarterly inspections of the site and cap inspection and repair. Cost for annual reporting of these activities is also included.

- A 30 percent general contingency is applied to the direct and indirect capital costs.

Alternative 4

- The total area of the site containing impacted soils under the residential exposure scenario (the most conservative exposure scenario) is 190 acres.

- The cost estimate assumes it will take 5 days for a two man surveying crew [equipped with appropriate personnel protective equipment (PPE)] to survey and stake the impacted areas.

- The cost estimate assumes that prior to excavation and capping, the 190 acre area of the Site will have to be cleared of brush and debris.

- The cost estimate assumes that brush and debris generated during site clearing can be disposed of at a local municipal landfill.

- The depth of impacted soil excavation is assumed to range from 18 inches to 4 feet.

- The volume of soil to be excavated is estimated to range from 90,000 to 250,000 cubic yards.

- The area of the site requiring capping is estimated to be 640,000 square yards.

- A cap thickness of 2 to 5 feet was assumed for the impacted soils.

- The volume of soil required for construction of the cap is estimated to range from 430,000 to 1,060,000 cubic yards.

- Soil for constructing the cap will be imported from unimpacted areas of the Site. A purchase price of $1 per cubic yard is applied for this soil.

- The excavation sidewall perimeter is estimated to be 5,200 linear feet.

- The excavation floor sampling interval is assumed to be 1 sample per 10,000 square feet of excavation floor area.

- The excavation sidewall sampling interval is assumed to be 1 soil sample per 100 linear feet of sidewall.

- The cost estimate assumes that all excavation and sidewall samples will be analyzed for pesticides by EPA method 8081, asbestos, and metals by various methods.

- Engineering, construction management, and project management costs are assumed to be five percent of direct capital costs.

- The annual costs also include quarterly inspections of the site and cap inspection and repair. Cost for annual reporting of these activities is also included.

- A 30 percent general contingency is applied to the direct and indirect capital costs.

Alternative 5

Alternative 5 consists of two different options for the location of impacted soils following consolidation. The general assumptions that apply to both alternatives 5A and 5B are presented below. Following this list of assumptions, assumptions specific to each alternative are presented.

- The total area of the site containing impacted soils under the residential exposure scenario (the most conservative exposure scenario) is 190 acres.

- The cost estimate assumes it will take 5 days for a two man surveying crew [equipped with appropriate personnel protective equipment (PPE)] to survey and stake the impacted areas.

- The cost estimate assumes that prior to excavation and capping, the 190 acre area of the Site will have to be cleared of brush and debris.

- The cost estimate assumes that brush and debris generated during site clearing can be disposed of at a local municipal landfill.

- The depth of impacted soil excavation is assumed to range from 18 inches to 4 feet.

- The volume of soil to be excavated is estimated to range from 430,000 to 1,120,000 cubic yards.

- The excavation sidewall perimeter is estimated to be 10,900 linear feet.

- The excavation floor sampling interval is assumed to be 1 sample per 10,000 square feet of excavation floor area.

- The excavation sidewall sampling interval is assumed to be 1 soil sample per 100 linear feet of sidewall.

- The cost estimate assumes that all excavation and sidewall samples will be analyzed for pesticides by EPA method 8081, asbestos, and metals by various methods.

- Engineering, construction management, and project management costs are assumed to be five percent of direct capital costs.

- The annual costs also include quarterly inspections of the site and cap inspection and repair. Cost for annual reporting of these activities is also included.

- A 30 percent general contingency is applied to the direct and indirect capital costs.

Alternative 5A

- The volume of soil requiring excavation to create the impoundment is estimated to range from 430,000 to 1,120,000 cubic yards.

- A cap thickness of 2 to 5 feet was assumed for the impacted soils.

- The total volume of soil required for construction of the cap is estimated to range from 80,000 to 200,000 cubic yards.

- Soil for construction of the cap will be imported from unimpacted areas of the Site. A purchase price of $1 per cubic yard is applied for this soil.

Alternative 5B

- The volume of soil requiring excavation to create the berm footprint is estimated to be 100,000 cubic yards.

- The volume of unimpacted soil required for construction of the berm is estimated to range from 110,000 to 280,000 cubic yards.

- Soil for construction of the berm will be imported from unimpacted areas of the Site. A purchase price of $1 per cubic yard is applied for this soil.

Alternative 6

Alternative 6 consists of two different options for the amount of impacted soils to be excavated. The general assumptions that apply to both alternatives 6A and 6B are presented below. Following this list of assumptions, assumptions specific to each alternative are presented.

- The total area of the site containing impacted soils under the residential exposure scenario (the most conservative exposure scenario) is 190 acres.
- The cost estimate assumes it will take 5 days for a two man surveying crew [equipped with appropriate personnel protective equipment (PPE)] to survey and stake the impacted areas.
- The cost estimate assumes that prior to excavation and capping, the 190 acre area of the Site will have to be cleared of brush and debris.
- The cost estimate assumes that brush and debris generated during site clearing can be disposed of at a local municipal landfill.
- The depth of excavation is assumed to range from 18 inches to 4 feet.
- The excavation floor sampling interval is assumed to be 1 sample per 10,000 square feet of excavation floor area.
- The excavation sidewall sampling interval is assumed to be 1 soil sample per 100 linear feet of sidewall.
- The soil stockpile sampling interval is estimated to be 1 soil sample per 1,000 cubic yards.
- The cost estimate assumes that all excavation and sidewall samples will be analyzed for pesticides by EPA method 8081, asbestos, and metals by various methods.
- Vendor quotes in unit costs per ton were converted to unit cost per cubic yard using a factor of 1.35 tons per cubic yard.
- It was assumed that the rail car loading zone and on-site containment area will be within 1 mile from excavated soil stockpiles.
- The selected disposal facility is APEX landfill located in Nevada.

- It was assumed that no backfill is required for the excavated areas.
- Engineering, construction management, and project management costs are assumed to be five percent of direct capital costs.
- A 30 percent general contingency is applied to the direct and indirect capital costs.

Alternative 6A

- The volume of soil requiring excavation is estimated to range from 520,000 to 1,220,000 cubic yards.
- The excavation sidewall perimeter is estimated to be 11,500 linear feet.

Alternative 6B

- The volume of soil requiring excavation is estimated to range from 430,000 to 1,120,000 cubic yards.
- The excavation sidewall perimeter is estimated to be 10,900 linear feet.

TABLE D-1
Remediation Cost Estimates
BMI Common Areas
Clark County, Nevada

Alternative	Estimated Cost
Alternative 1 - No Action	$0
Alternative 2 - Institutional Controls/Limited Action	$3,920,000 - $8,891,000
Alternative 3 - Capping In Place	$6,551,000 - $13,147,000
Alternative 4 - Limited Consolidation and Capping	$6,670,000 - $13,667,000
Alternative 5A - Consolidation with Capping On-Site	$8,398,000 - $19,604,000
Alternative 5B - Consolidation with Capping Off-Site	$7,371,000 - $17,876,000
Alternative 6A - Excavation and Off-Site Disposal	$29,498,000 - $67,958,000
Alternative 6B - Excavation and Off-Site Disposal	$24,483,000 - $62,394,000

TABLE D-2
Alternative 2 - Low End Cost Estimate
Insitutional Controls/Limited Action
BMI Common Areas
Clark County, Nevada

DESCRIPTION	QUANTITY		COST		NOTES
	NUMBER	UNIT	UNIT COST	TOTAL COST	
DIRECT CAPITAL COST					
Site Preparation					
Survey and Stake Site to Outline Impacted Areas	5	Day	$1,650	$8,250	Assumes full day with a two man crew (10 percent increase due to Health and Safety)
Site Clearing	190	Acre	$168	$31,987	Means, medium brush without grub, clearing (10 percent increase due to Health and Safety)
Load Debris into Trucks, Haul to Landfill, and Disposal	2,000	yd^3	$25	$50,000	Assumes Local Municipal Landfill Disposal
Grade Site	1,000,000	yd^2	$0.69	$686,400	Means, rough grading (10 percent increase due to Health and Safety)
Dust Control and Access Restrictions					
Purchase and Transport Dust Control Solution to Site	50,000	gal	$2.35	$117,500	Assumes 1 gallon per 20 square yards
Apply Dust Control Emulsion	10	day	$6,160	$61,600	Assumes 2 man crew and a water truck, includes emulsion preparation
Fence Installation and Sign Posting	15,000	ft	$11	$165,000	Vendor quote, 7 foot high chain link fence with 3 strands barbed wire
TOTAL DIRECT CAPITAL COSTS				$1,121,000	
INDIRECT CAPITAL COST					
Engineering, Procurement, Administrative, and Legal Costs (5% of Direct Capital Costs)				$56,050	Deed Restrictions/Notifications
Construction Management (5% of Direct Capital Costs)				$56,050	
Permitting				$13,728	Grading Permit Fees (2% of Grading Costs)
Project Management (5% of Direct Capital Costs)				$56,050	
INDIRECT CAPITAL COST				$182,000	
TOTAL CAPITAL COST (DIRECT AND INDIRECT)				$1,303,000	
OPERATION, MAINTENANCE, AND MONITORING COST					
Fence and Sign Inspection and Maintenance	1	Annual	$10,000	$10,000	Based on current fence and sign maintenance costs at site
Site Inspection (including air monitoring)	1	Annual	$10,000	$10,000	
Purchase and Transport Dust Control Solution to Site	25,000	gal	$2.35	$58,750	Assumes 1 gallon per 20 square yards
Apply Dust Control Emulsion	5	day	$6,160	$30,800	Assumes 2 man crew and a water truck, includes emulsion preparation
Reporting	1	Annual	$10,000	$10,000	Annual reporting cost
OPERATION, MAINTENANCE, AND MONITORING COST				$120,000	
100 YEAR NET PRESENT VALUE OF OMM COSTS				$1,712,000	
General Contingency (30% of Total Capital Costs and Operation and Maintenance Costs)				$905,000	
TOTAL COST OF ALTERNATIVE				$3,920,000	

TABLE D-3
Alternative 2 - High End Cost Estimate
Insitutional Controls/Limited Action
BMI Common Areas
Clark County, Nevada

DESCRIPTION	QUANTITY		COST		NOTES
	NUMBER	UNIT	UNIT COST	TOTAL COST	
DIRECT CAPITAL COST					
Site Preparation					
Survey and Stake Site to Outline Impacted Areas	5	Day	$1,650	$8,250	Assumes full day with a two man crew (10 percent increase due to Health and Safety)
Site Clearing	190	Acre	$168	$31,987	Means, medium brush without grub, clearing (10 percent increase due to Health and Safety)
Load Debris into Trucks, Haul to Landfill, and Disposal	2,000	yd^3	$25	$50,000	Assumes Local Municipal Landfill Disposal
Grade Site	1,000,000	yd^2	$0.69	$686,400	Means, rough grading (10 percent increase due to Health and Safety)
Dust Control and Access Restrictions					
Purchase and Transport Dust Control Solution to Site	50,000	gal	$2.35	$117,500	Assumes 1 gallon per 20 square yards
Apply Dust Control Emulsion	10	day	$6,160	$61,600	Assumes 2 man crew and a water truck, includes emuslsion preparation
Fence Installation and Sign Posting	15,000	ft	$11	$165,000	Vendor quote, 7 foot high chain link fence with 3 strands barbed wire
TOTAL DIRECT CAPITAL COSTS				$1,121,000	
INDIRECT CAPITAL COST					
Engineering, Procurement, Administrative, and Legal Costs (5% of Direct Capital Costs)				$56,050	Deed Restrictions/Notifications
Construction Management (5% of Direct Capital Costs)				$56,050	
Permitting				$13,728	Grading Permit Fees (2% of Grading Costs)
Project Management (5% of Direct Capital Costs)				$56,050	
INDIRECT CAPITAL COST				$182,000	
TOTAL CAPITAL COST (DIRECT AND INDIRECT)				$1,303,000	
OPERATION, MAINTENANCE, AND MONITORING COST					
Fence and Sign Inspection and Maintenance	1	Annual	$10,000	$10,000	Based on current fence and sign maintenance costs at site
Site Inspection (including air monitoring)	1	Annual	$10,000	$10,000	
Purchase and Transport Dust Control Solution to Site	100,000	gal	$2.35	$235,000	Assumes 1 gallon per 20 square yards
Apply Dust Control Emulsion	20	day	$6,160	$123,200	Assumes 2 man crew and a water truck, includes emuslsion preparation
Reporting	1	Annual	$10,000	$10,000	Annual reporting cost
OPERATION, MAINTENANCE, AND MONITORING COST				$388,000	
100 YEAR NET PRESENT VALUE OF OMM COSTS				$5,536,000	
General Contingency (30% of Total Capital Costs and Operation and Maintenance Costs)				$2,052,000	
TOTAL COST OF ALTERNATIVE				$8,891,000	

TABLE D-4
Alternative 3 - Low End Cost Estimate
On-Site Capping of Soils and Institutional Controls
BMI Common Areas
Clark County, Nevada

DESCRIPTION	QUANTITY		COST		NOTES
	NUMBER	UNIT	UNIT COST	TOTAL COST	
DIRECT CAPITAL COST					
Site Preparation					
Survey and Stake Site to Outline Impacted Areas	5	Day	$1,650	$8,250	Assumes full day with a two man crew (10 percent increase due to Health and Safety)
Site Clearing	190	Acre	$168	$31,987	Means, medium brush without grub, clearing (10 percent increase due to Health and Safety)
Load Debris into Trucks, Haul to Landfill, and Disposal	2,000	yd^3	$25	$50,000	Assumes Local Municipal Landfill Disposal
Grade Site	900,000	yd^2	$0.69	$617,760	Means, rough grading (10 percent increase due to Health and Safety)
Excavation and Soil Handling					
Excavate and Load Clean Soil	520,000	yd^3	$1.89	$984,256	Means, Excavation and load with track loader, 100cy/hr
Purchase Fill Material	520,000	yd^3	$1.00	$520,000	Purchase cost assigned for unimpacted soil from Common Areas
Haul Clean Soil to Capping Areas	520,000	yd^3	$1.65	$859,872	Means, Haul Soil, 16.5 cubic yards, 1.0 mile
Place Clean Soils and Compact	520,000	yd^3	$1.04	$540,800	Means, place and compact in 6 inch lifts
Install Drainage System	100,000	LF	$4.70	$469,700	Means, 18" x 18" Underground French Drain
Final Site Work					
Survey Final Fill Depth, Location	5	Day	$1,500	$7,500	Assumes full day with a two man crew
TOTAL DIRECT CAPITAL COSTS				$4,090,000	
INDIRECT CAPITAL COST					
Engineering, Procurement, Administrative, and Legal Costs (5% of Direct Capital Costs)				$204,500	
Construction Management (5% of Direct Capital Costs)				$204,500	
Permitting				$50,000	
Project Management (5% of Direct Capital Costs)				$204,500	
INDIRECT CAPITAL COST				$664,000	
TOTAL CAPITAL COST (DIRECT AND INDIRECT)				$4,754,000	
OPERATION, MAINTENANCE, AND MONITORING COST					
Soil Cap Inspection, Maintenance, and Reporting	1	Annual	$20,000.00	$20,000	Quarterly inpsection, maintenance fees, and reporting
ANNUAL OPERATION, MAINTENANCE, AND MONITORING COST				$20,000	
100 YEAR NET PRESENT VALUE OF OMM COSTS				$285,000	
General Contingency (30% of Total Capital Costs and Operation and Maintenance Costs)				$1,512,000	
TOTAL COST OF ALTERNATIVE				$6,551,000	

TABLE D-5
Alternative 3 - High End Cost Estimate
On-Site Capping of Soils and Institutional Controls
BMI Common Areas
Clark County, Nevada

DESCRIPTION	QUANTITY		COST		NOTES
	NUMBER	UNIT	UNIT COST	TOTAL COST	
DIRECT CAPITAL COST					
Site Preparation					
Survey and Stake Site to Outline Impacted Areas	5	Day	$1,650	$8,250	Assumes full day with a two man crew (10 percent increase due to Health and Safety)
Site Clearing	190	Acre	$168	$31,987	Means, medium brush without grub, clearing (10 percent increase due to Health and Safety)
Load Debris into Trucks, Haul to Landfill, and Disposal	2,000	yd^3	$25	$50,000	Assumes Local Municipal Landfill Disposal
Grade Site	900,000	yd^2	$0.69	$617,760	Means, rough grading (10 percent increase due to Health and Safety)
Excavation and Soil Handling					
Excavate and Load Clean Soil	1,310,000	yd^3	$1.89	$2,479,568	Means, Excavation and load with track loader, 100cy/hr
Purchase Fill Material	1,310,000	yd^3	$1.00	$1,310,000	Purchase cost assigned for unimpacted soil from Common Areas
Haul Clean Soil to Capping Areas	1,310,000	yd^3	$1.65	$2,166,216	Means, Haul Soil, 16.5 cubic yards, 1.0 mile
Place Clean Soils and Compact	1,310,000	yd^3	$1.04	$1,362,400	Means, place and compact in 6 inch lifts
Install Drainage System	100,000	LF	$4.70	$469,700	Means, 18" x 18" Underground French Drain
Final Site Work					
Survey Final Fill Depth, Location	5	Day	$1,500	$7,500	Assumes full day with a two man crew
TOTAL DIRECT CAPITAL COSTS				$8,503,000	
INDIRECT CAPITAL COST					
Engineering, Procurement, Administrative, and Legal Costs (5% of Direct Capital Costs)				$425,150	
Construction Management (5% of Direct Capital Costs)				$425,150	
Permitting				$50,000	
Project Management (5% of Direct Capital Costs)				$425,150	
INDIRECT CAPITAL COST				$1,325,000	
TOTAL CAPITAL COST (DIRECT AND INDIRECT)				$9,828,000	
OPERATION, MAINTENANCE, AND MONITORING COST					
Soil Cap Inspection, Maintenance, and Reporting	1	Annual	$20,000.00	$20,000	Quarterly inpsection, maintenance fees, and reporting
ANNUAL OPERATION, MAINTENANCE, AND MONITORING COST				$20,000	
100 YEAR NET PRESENT VALUE OF OMM COSTS				$285,000	
General Contingency (30% of Total Capital Costs and Operation and Maintenance Costs)				$3,034,000	
TOTAL COST OF ALTERNATIVE				$13,147,000	

TABLE D-6
Alternative 4 - Low End Cost Estimate
On-Site Capping of Soils and Limited Soil Consolidation
BMI Common Areas
Clark County, Nevada

DESCRIPTION	QUANTITY		COST		NOTES
	NUMBER	UNIT	UNIT COST	TOTAL COST	
DIRECT CAPITAL COST					
Site Preparation					
Survey and Stake Site to Outline Impacted Areas	5	Day	$1,650	$8,250	Assumes full day with a two man crew (10 percent increase due to Health and Safety)
Site Clearing	190	Acre	$168	$31,987	Means, medium brush without grub, clearing (10 percent increase due to Health and Safety)
Load Debris into Trucks and Haul to Landfill	2,000	yd^3	$25	$50,000	Assumes Local Municipal Landfill Disposal
Excavation and Soil Handling					
Excavate Impacted Soil in Residential Area	90,000	yd^3	$3.25	$292,500	Engineering estimate (includes excavation, health and safety, dust control, and air monitoring)
Haul Impacted Soil to Golf Course Area	90,000	yd^3	$2.25	$202,500	Engineering estimate (includes load and haul, health and safety, temporary road construction)
Place Impacted Soils in Golf Course Area and Compact	90,000	yd^3	$1.75	$157,500	Engineering Estimate (includes Health and Safety)
Grade Site	640,000	yd^2	$0.69	$439,296	Means, rough grading (10 percent increase due to Health and Safety)
Excavate and Load Clean Soil	430,000	yd^3	$1.89	$813,904	Means, Excavation and load with track loader, 100cy/hr
Purchase Fill Material	430,000	yd^3	$1.00	$430,000	Purchase cost assigned for unimpacted soil from Common Areas
Haul Clean Soil	430,000	yd^3	$1.65	$711,048	Means, Haul Soil, 16.5 cubic yards, 1.0 mile
Place Clean Soils and Compact	430,000	yd^3	$1.04	$447,200	Means, place and compact in 6 inch lifts
Install Drainage System	100,000	LF	$4.70	$469,700	Means, 18" x 18" Underground French Drain
Final Site Work					
Survey Final Depth, Locations	5	Day	$1,500	$7,500	Assumes full day with a two man crew
Excavation Sample Collection					
Excavation Floor Confirmatory Sampling - 1 sample/10,000 SF	166	Sample	$500.00	$82,991	EPA 8081, asbestos, and metals
Excavation Sidewall Confirmatory Sampling - 1 sample/100 LF	52	Sample	$500.00	$25,767	EPA 8081, asbestos, and metals
TOTAL DIRECT CAPITAL COSTS				$4,170,000	
INDIRECT CAPITAL COST					
Costs)				$208,500	
Construction Management (5% of Direct Capital Costs)				$208,500	
Permitting				$50,000	
Project Management (5% of Direct Capital Costs)				$208,500	
INDIRECT CAPITAL COST				$676,000	
TOTAL CAPITAL COST (DIRECT AND INDIRECT)				$4,846,000	
OPERATION, MAINTENANCE, AND MONITORING COST					
Soil Cap Inspection, Maintenance, and Reporting	1	Annual	$20,000.00	$20,000	Quarterly inpsection, maintenance fees, and reporting
OPERATION, MAINTENANCE, AND MONITORING COST				$20,000	
100 YEAR NET PRESENT VALUE OF OMM COSTS				$285,000	
Costs)				$1,539,000	
TOTAL COST OF ALTERNATIVE				$6,670,000	

TABLE D-7
Alternative 4 - High End Cost Estimate
On-Site Capping of Soils and Limited Soil Consolidation
BMI Common Areas
Clark County, Nevada

DESCRIPTION	QUANTITY		COST		NOTES
	NUMBER	UNIT	UNIT COST	TOTAL COST	
DIRECT CAPITAL COST					
Site Preparation					
Survey and Stake Site to Outline Impacted Areas	5	Day	$1,650	$8,250	Assumes full day with a two man crew (10 percent increase due to Health and Safety)
Site Clearing	190	Acre	$168	$31,987	Means, medium brush without grub, clearing (10 percent increase due to Health and Safety)
Load Debris into Trucks and Haul to Landfill	2,000	yd^3	$25	$50,000	Assumes Local Municipal Landfill Disposal
Excavation and Soil Handling					
Excavate Impacted Soil in Residential Area	250,000	yd^3	$3.25	$812,500	Engineering estimate (includes excavation, health and safety, dust control, and air monitoring)
Haul Impacted Soil to Golf Course Area	250,000	yd^3	$2.25	$562,500	Engineering estimate (includes load and haul, health and safety, temporary road construction)
Place Impacted Soils in Golf Course Area and Compact	250,000	yd^3	$1.75	$437,500	Engineering Estimate (includes Health and Safety)
Grade Site	640,000	yd^2	$0.69	$439,296	Means, rough grading (10 percent increase due to Health and Safety)
Excavate and Load Clean Soil	1,060,000	yd^3	$1.89	$2,006,368	Means, Excavation and load with track loader, 100cy/hr
Purchase Fill Material	1,060,000	yd^3	$1.00	$1,060,000	Purchase cost assigned for unimpacted soil from Common Areas
Haul Clean Soil	1,060,000	yd^3	$1.65	$1,752,816	Means, Haul Soil, 16.5 cubic yards, 1.0 mile
Place Clean Soils and Compact	1,060,000	yd^3	$1.04	$1,102,400	Means, place and compact in 6 inch lifts
Install Drainage System	100,000	LF	$4.70	$469,700	Means, 18" x 18" Underground French Drain
Final Site Work					
Survey Final Depth, Locations	5	Day	$1,500	$7,500	Assumes full day with a two man crew
Excavation Sample Collection					
Excavation Floor Confirmatory Sampling - 1 sample/10,000 SF	166	Sample	$500.00	$82,991	EPA 8081, asbestos, and metals
Excavation Sidewall Confirmatory Sampling - 1 sample/100 LF	52	Sample	$500.00	$25,767	EPA 8081, asbestos, and metals
TOTAL DIRECT CAPITAL COSTS				$8,850,000	
INDIRECT CAPITAL COST					
Costs)				$442,500	
Construction Management (5% of Direct Capital Costs)				$442,500	
Permitting				$50,000	
Project Management (5% of Direct Capital Costs)				$442,500	
INDIRECT CAPITAL COST				$1,378,000	
TOTAL CAPITAL COST (DIRECT AND INDIRECT)				$10,228,000	
OPERATION, MAINTENANCE, AND MONITORING COST					
Soil Cap Inspection, Maintenance, and Reporting	1	Annual	$20,000.00	$20,000	Quarterly inpsection, maintenance fees, and reporting
OPERATION, MAINTENANCE, AND MONITORING COST				$20,000	
100 YEAR NET PRESENT VALUE OF OMM COSTS				$285,000	
Costs)				$3,154,000	
TOTAL COST OF ALTERNATIVE				$13,667,000	

TABLE D-8
Alternative 5A - Low End Cost Estimate
Excavation of Soils and On-Site Consolidation
BMI Common Areas
Clark County, Nevada

DESCRIPTION	QUANTITY		COST		NOTES
	NUMBER	UNIT	UNIT COST	TOTAL COST	
DIRECT CAPITAL COST					
Site Preparation					
Survey and Stake Site to Outline Impacted Areas	5	Day	$1,650	$8,250	Assumes full day with a two man crew (10 percent increase due to Health and Safety)
Site Clearing	190	Acre	$168	$31,987	Means, medium brush without grub, clearing (10 percent increase due to Health and Safety)
Load Debris into Trucks and Haul to Landfill	2,000	yd^3	$25.00	$50,000	Assumes Local Municipal Landfill Disposal
Excavation and Soil Handling					
Excavate Impacted Soil Outside of Impoundment (Residential and Golf Course Areas)	430,000	yd^3	$3.25	$1,397,500	Engineering estimate (includes excavation, health and safety, dust control, and air monitoring)
Excavate Clean Soil Inside of Impoundment	430,000	yd^3	$1.89	$813,904	Means, Excavation and load with track loader, 100cy/hr
Haul Impacted Soil to Impoundment	430,000	yd^3	$2.25	$967,500	Engineering estimate (includes load and haul, health and safety, temporary road construction)
Haul Remaining Clean Soil to Other Areas	350,000	yd^3	$1.65	$578,760	Means, Haul Soil, 16.5 cubic yards, 1.0 mile
Place Affected Soils in Impoundment and Compact	430,000	yd^3	$1.75	$752,500	Engineering Estimate (includes Health and Safety)
Grade Site	121,000	yd^2	$0.69	$83,054	Means, rough grading (10 percent increase due to Health and Safety)
Purchase Fill Material	80,000	yd^3	$1.00	$80,000	Purchase cost assigned for unimpacted soil from Common Areas
Place and Compact Clean Fill	80,000	yd^3	$1.04	$83,200	Means, place and compact in 6 inch lifts
Install Drainage System	10,000	LF	$4.70	$46,970	Means, 18" x 18" Underground French Drain
Final Site Work					
Surveying of Final Excavation Boundaries	5	Day	$1,500	$7,500	Assumes full day with a two man crew
Excavation Sample Collection					
Excavation Floor Confirmatory Sampling - 1 sample/10,000 SF	741	Sample	$500.00	$370,261	EPA 8081, asbestos, and metals
Excavation Sidewall Confirmatory Sampling - 1 sample/100 LF	109	Sample	$500.00	$54,425	EPA 8081, asbestos, and metals
TOTAL DIRECT CAPITAL COST				$5,326,000	
INDIRECT CAPITAL COST					
Costs)				$266,300	
Construction Management (5% of Direct Capital Costs)				$266,300	
Permitting				$50,000	
Project Management (5% of Direct Capital Costs)				$266,300	
INDIRECT CAPITAL COST				$849,000	
TOTAL CAPITAL COST (DIRECT AND INDIRECT)				$6,175,000	
OPERATION, MAINTENANCE, AND MONITORING COST					
Soil Cap Inspection, Maintenance, and Reporting	1	Annual	$20,000.00	$20,000	Quarterly inpsection, maintenance fees, and reporting
OPERATION, MAINTENANCE, AND MONITORING COST				$20,000	
100 YEAR NET PRESENT VALUE OF OMM COSTS				$285,000	
General Contingency (30% of Direct Capital Costs and Indirect Capital Costs)				$1,938,000	
TOTAL COST OF ALTERNATIVE				$8,398,000	

TABLE D-9
Alternative 5A - High End Cost Estimate
Excavation of Soils and On-Site Consolidation
BMI Common Areas
Clark County, Nevada

DESCRIPTION	QUANTITY		COST		NOTES
	NUMBER	UNIT	UNIT COST	TOTAL COST	
DIRECT CAPITAL COST					
Site Preparation					
Survey and Stake Site to Outline Impacted Areas	5	Day	$1,650	$8,250	Assumes full day with a two man crew (10 percent increase due to Health and Safety)
Site Clearing	190	Acre	$168	$31,987	Means, medium brush without grub, clearing (10 percent increase due to Health and Safety)
Load Debris into Trucks and Haul to Landfill	2,000	yd^3	$25.00	$50,000	Assumes Local Municipal Landfill Disposal
Excavation and Soil Handling					
Excavate Impacted Soil Outside of Impoundment (Residential and Golf Course Areas)	1,120,000	yd^3	$3.25	$3,640,000	Engineering estimate (includes excavation, health and safety, dust control, and air monitoring)
Excavate Clean Soil Inside of Impoundment	1,120,000	yd^3	$1.89	$2,119,936	Means, Excavation and load with track loader, 100cy/hr
Haul Impacted Soil to Impoundment	1,120,000	yd^3	$2.25	$2,520,000	Engineering estimate (includes load and haul, health and safety, temporary road construction)
Haul Remaining Clean Soil to Other Areas	920,000	yd^3	$1.65	$1,521,312	Means, Haul Soil, 16.5 cubic yards, 1.0 mile
Place Affected Soils in Impoundment and Compact	1,120,000	yd^3	$1.75	$1,960,000	Engineering Estimate (includes Health and Safety)
Grade Site	121,000	yd^2	$0.69	$83,054	Means, rough grading (10 percent increase due to Health and Safety)
Purchase Fill Material	200,000	yd^3	$1.00	$200,000	Purchase cost assigned for unimpacted soil from Common Areas
Place and Compact Clean Fill	200,000	yd^3	$1.04	$208,000	Means, place and compact in 6 inch lifts
Install Drainage System	10,000	LF	$4.70	$46,970	Means, 18" x 18" Underground French Drain
Final Site Work					
Surveying of Final Excavation Boundaries	5	Day	$1,500	$7,500	Assumes full day with a two man crew
Excavation Sample Collection					
Excavation Floor Confirmatory Sampling - 1 sample/10,000 SF	741	Sample	$500.00	$370,261	EPA 8081, asbestos, and metals
Excavation Sidewall Confirmatory Sampling - 1 sample/100 LF	109	Sample	$500.00	$54,425	EPA 8081, asbestos, and metals
TOTAL DIRECT CAPITAL COST				$12,822,000	
INDIRECT CAPITAL COST					
Costs)				$641,100	
Construction Management (5% of Direct Capital Costs)				$641,100	
Permitting				$50,000	
Project Management (5% of Direct Capital Costs)				$641,100	
INDIRECT CAPITAL COST				$1,973,000	
TOTAL CAPITAL COST (DIRECT AND INDIRECT)				$14,795,000	
OPERATION, MAINTENANCE, AND MONITORING COST					
Soil Cap Inspection, Maintenance, and Reporting	1	Annual	$20,000.00	$20,000	Quarterly inpsection, maintenance fees, and reporting
OPERATION, MAINTENANCE, AND MONITORING COST				$20,000	
100 YEAR NET PRESENT VALUE OF OMM COSTS				$285,000	
General Contingency (30% of Direct Capital Costs and Indirect Capital Costs)				$4,524,000	
TOTAL COST OF ALTERNATIVE				$19,604,000	

TABLE D-10
Alternative 5B - Low End Cost Estimate
Excavation of Soils and Off-Site Consolidation
BMI Common Areas
Clark County, Nevada

DESCRIPTION	QUANTITY NUMBER	UNIT	COST UNIT COST	TOTAL COST	NOTES
DIRECT CAPITAL COST					
Site Preparation					
Survey and Stake Site to Outline Impacted Areas	5	Day	$1,650	$8,250	Assumes full day with a two man crew (10 percent increase due to Health and Safety)
Site Clearing	190	Acre	$168	$31,987	Means, medium brush without grub, clearing (10 percent increase due to Health and Safety)
Load Debris into Trucks and Haul to Landfill	2,000	yd^3	$25	$50,000	Assumes Local Municipal Landfill Disposal
Excavation and Soil Handling					
Excavate Impacted Soils	430,000	yd^3	$3.25	$1,397,500	Engineering estimate (includes excavation, health and safety, dust control, and air monitoring)
Excavate Soils for Footprint of Berm	100,000	yd^3	$1.89	$189,280	Means, Excavation and load with track loader, 100cy/hr
Load and Haul Impacted Soil to Berm	430,000	yd^3	$3.50	$1,505,000	Engineering estimate (includes load and haul, health and safety, temporary road construction)
Place Impacted Soils in Berm and Compact	430,000	yd^3	$1.75	$752,500	Engineering Estimate (includes Health and Safety)
Purchase Fill Material	110,000	yd^3	$1.00	$110,000	Purchase cost assigned for unimpacted soil from Common Areas
Excavate Clean Soil	10,000	yd^3	$1.89	$18,928	Means, Excavation and load with track loader, 100cy/hr
Haul Clean Soil to Berm	10,000	yd^3	$2.90	$29,000	Means, Haul Soil, 16.5 cubic yards, 1.0 mile
Place and Compact Soil for Berm	110,000	yd^3	$1.04	$114,400	Means, place and compact in 6 inch lifts
Final Site Work					
Surveying of Final Excavation Boundaries	5	Day	$1,500	$7,500	Assumes full day with a two man crew
Excavation Sample Collection					
Excavation Floor Confirmatory Sampling - 1 sample/10,000 SF	741	Sample	$500	$370,261	EPA 8081, asbestos, and metals
Excavation Sidewall Confirmatory Sampling - 1 sample/100 LF	109	Sample	$500	$54,425	EPA 8081, asbestos, and metals
TOTAL DIRECT CAPITAL COST				$4,639,000	
INDIRECT CAPITAL COST					
Engineering, Procurement, Administrative, and Legal Costs (5% of Direct Capital Costs)				$231,950	
Construction Management (5% of Direct Capital Costs)				$231,950	
Permitting				$50,000	
Project Management (5% of Direct Capital Costs)				$231,950	
INDIRECT CAPITAL COST				$746,000	
TOTAL CAPITAL COST (DIRECT AND INDIRECT)				$5,385,000	
OPERATION, MAINTENANCE, AND MONITORING COST					
Soil Cap Inspection, Maintenance, and Reporting	1	Annual	$20,000.00	$20,000	Quarterly inpsection, maintenance fees, and reporting
OPERATION, MAINTENANCE, AND MONITORING COST				$20,000	
100 YEAR NET PRESENT VALUE OF OMM COSTS				$285,000	
General Contingency (30% of Direct Capital Costs and Indirect Capital Costs)				$1,701,000	
TOTAL COST OF ALTERNATIVE				$7,371,000	

TABLE D-11
Alternative 5B - High End Cost Estimate
Excavation of Soils and Off-Site Consolidation
BMI Common Areas
Clark County, Nevada

DESCRIPTION	QUANTITY		COST		NOTES
	NUMBER	UNIT	UNIT COST	TOTAL COST	
DIRECT CAPITAL COST					
Site Preparation					
Survey and Stake Site to Outline Impacted Areas	5	Day	$1,650	$8,250	Assumes full day with a two man crew (10 percent increase due to Health and Safety)
Site Clearing	190	Acre	$168	$31,987	Means, medium brush without grub, clearing (10 percent increase due to Health and Safety)
Load Debris into Trucks and Haul to Landfill	2,000	yd^3	$25	$50,000	Assumes Local Municipal Landfill Disposal
Excavation and Soil Handling					
Excavate Impacted Soils	1,120,000	yd^3	$3.25	$3,640,000	Engineering estimate (includes excavation, health and safety, dust control, and air monitoring)
Excavate Soils for Footprint of Berm	100,000	yd^3	$1.89	$189,280	Means, Excavation and load with track loader, 100cy/hr
Load and Haul Impacted Soil to Berm	1,120,000	yd^3	$3.50	$3,920,000	Engineering estimate (includes load and haul, health and safety, temporary road construction)
Place Impacted Soils in Berm and Compact	1,120,000	yd^3	$1.75	$1,960,000	Engineering Estimate (includes Health and Safety)
Purchase Fill Material	280,000	yd^3	$1.00	$280,000	Purchase cost assigned for unimpacted soil from Common Areas
Excavate Clean Soil	180,000	yd^3	$1.89	$340,704	Means, Excavation and load with track loader, 100cy/hr
Haul Clean Soil to Berm	180,000	yd^3	$2.90	$522,000	Means, Haul Soil, 16.5 cubic yards, 1.0 mile
Place and Compact Soil for Berm	280,000	yd^3	$1.04	$291,200	Means, place and compact in 6 inch lifts
Final Site Work					
Surveying of Final Excavation Boundaries	5	Day	$1,500	$7,500	Assumes full day with a two man crew
Excavation Sample Collection					
Excavation Floor Confirmatory Sampling - 1 sample/10,000 SF	741	Sample	$500	$370,261	EPA 8081, asbestos, and metals
Excavation Sidewall Confirmatory Sampling - 1 sample/100 LF	109	Sample	$500	$54,425	EPA 8081, asbestos, and metals
TOTAL DIRECT CAPITAL COST				$11,666,000	
INDIRECT CAPITAL COST					
Engineering, Procurement, Administrative, and Legal Costs (5% of Direct Capital Costs)				$583,300	
Construction Management (5% of Direct Capital Costs)				$583,300	
Permitting				$50,000	
Project Management (5% of Direct Capital Costs)				$583,300	
INDIRECT CAPITAL COST				$1,800,000	
TOTAL CAPITAL COST (DIRECT AND INDIRECT)				$13,466,000	
OPERATION, MAINTENANCE, AND MONITORING COST					
Soil Cap Inspection, Maintenance, and Reporting	1	Annual	$20,000.00	$20,000	Quarterly inpsection, maintenance fees, and reporting
OPERATION, MAINTENANCE, AND MONITORING COST				$20,000	
100 YEAR NET PRESENT VALUE OF OMM COSTS				$285,000	
General Contingency (30% of Direct Capital Costs and Indirect Capital Costs)				$4,125,000	
TOTAL COST OF ALTERNATIVE				$17,876,000	

TABLE D-12
Alternative 6A - Low End Cost Estimate
Excavation and Off-Site Disposal of Soils
BMI Common Areas
Clark County, Nevada

DESCRIPTION	QUANTITY		COST		NOTES
	NUMBER	UNIT	UNIT COST	TOTAL COST	
DIRECT CAPITAL COST					
Site Preparation					
Survey and Stake Site to Outline Impacted Areas	10	Day	$1,650	$16,500	Assumes full day with a two man crew (10 percent increase due to Health and Safety)
Site Clearing	190	Acre	$168	$31,987	Means, medium brush without grub, clearing (10 percent increase due to Health and Safety)
Load Debris into Trucks and Haul to Landfill	2,000	yd^3	$25	$50,000	Assumes Local Municipal Landfill Disposal
Excavation and Soil Handling					
Excavate Affected Soil	520,000	yd^3	$3	$1,690,000	Engineering estimate (includes excavation, health and safety, dust control, and air monitoring)
Load and Haul Impacted Soil to Landfill	520,000	yd^3	$8	$4,160,000	Vendor quotes
Soil Disposal	520,000	yd^3	$25	$13,000,000	Vendor quotes
Final Site Work					
Surveying of Final Excavation Boundaries	5	Day	$1,500	$7,500	Assumes full day with a two man crew
Excavation Sample Collection					
Stockpiling Sampling - 1 sample/1000 CY	520	Sample	$500	$260,000	EPA 8081, asbestos, and metals
Excavation Floor Confirmatory Sampling - 1 sample/10,000 SF	828	Sample	$500	$414,151	EPA 8081, asbestos, and metals
Excavation Sidewall Confirmatory Sampling - 1 sample/100 LF	115	Sample	$500	$57,560	EPA 8081, asbestos, and metals
TOTAL DIRECT CAPITAL COST				$19,688,000	
INDIRECT CAPITAL COST					
Engineering, Procurement, Administrative, and Legal Costs (5% of Direct Capital Costs)				$984,400	
Construction Management (5% of Direct Capital Costs)				$984,400	
Permitting				$50,000	
Project Management (5% of Direct Capital Costs)				$984,400	
INDIRECT CAPITAL COST				$3,003,000	
TOTAL CAPITAL COST (DIRECT AND INDIRECT)				$22,691,000	
General Contingency (30% of Direct Capital Costs and Indirect Capital Costs)				$6,807,000	
TOTAL COST OF ALTERNATIVE				$29,498,000	

TABLE D-13
Alternative 6A - High End Cost Estimate
Excavation and Off-Site Disposal of Soils
BMI Common Areas
Clark County, Nevada

DESCRIPTION	QUANTITY		COST		NOTES
	NUMBER	UNIT	UNIT COST	TOTAL COST	
DIRECT CAPITAL COST					
Site Preparation					
Survey and Stake Site to Outline Impacted Areas	10	Day	$1,650	$16,500	Assumes full day with a two man crew (10 percent increase due to Health and Safety)
Site Clearing	190	Acre	$168	$31,987	Means, medium brush without grub, clearing (10 percent increase due to Health and Safety)
Load Debris into Trucks and Haul to Landfill	2,000	yd^3	$25	$50,000	Assumes Local Municipal Landfill Disposal
Excavation and Soil Handling					
Excavate Affected Soil	1,220,000	yd^3	$3	$3,965,000	Engineering estimate (includes excavation, health and safety, dust control, and air monitoring)
Load and Haul Impacted Soil to Landfill	1,220,000	yd^3	$8	$9,760,000	Vendor quotes
Soil Disposal	1,220,000	yd^3	$25	$30,500,000	Vendor quotes
Final Site Work					
Surveying of Final Excavation Boundaries	5	Day	$1,500	$7,500	Assumes full day with a two man crew
Excavation Sample Collection					
Stockpiling Sampling - 1 sample/1000 CY	1,220	Sample	$500	$610,000	EPA 8081, asbestos, and metals
Excavation Floor Confirmatory Sampling - 1 sample/10,000 SF	828	Sample	$500	$414,151	EPA 8081, asbestos, and metals
Excavation Sidewall Confirmatory Sampling - 1 sample/100 LF	115	Sample	$500	$57,560	EPA 8081, asbestos, and metals
TOTAL DIRECT CAPITAL COST				$45,413,000	
INDIRECT CAPITAL COST					
Engineering, Procurement, Administrative, and Legal Costs (5% of Direct Capital Costs)				$2,270,650	
Construction Management (5% of Direct Capital Costs)				$2,270,650	
Permitting				$50,000	
Project Management (5% of Direct Capital Costs)				$2,270,650	
INDIRECT CAPITAL COST				$6,862,000	
TOTAL CAPITAL COST (DIRECT AND INDIRECT)				$52,275,000	
General Contingency (30% of Direct Capital Costs and Indirect Capital Costs)				$15,683,000	
TOTAL COST OF ALTERNATIVE				$67,958,000	

TABLE D-14
Alternative 6B - Low End Cost Estimate
Excavation and Off-Site Disposal of Soils
BMI Common Areas
Clark County, Nevada

DESCRIPTION	QUANTITY		COST		NOTES
	NUMBER	UNIT	UNIT COST	TOTAL COST	
DIRECT CAPITAL COST					
Site Preparation					
Survey and Stake Site to Outline Impacted Areas	10	Day	$1,650	$16,500	Assumes full day with a two man crew (10 percent increase due to Health and Safety)
Site Clearing	190	Acre	$168	$31,987	Means, medium brush without grub, clearing (10 percent increase due to Health and Safety)
Load Debris into Trucks and Haul to Landfill	2,000	yd^3	$25	$50,000	Assumes Local Municipal Landfill Disposal
Excavation and Soil Handling					
Excavate Affected Soil	430,000	yd^3	$3	$1,397,500	Engineering estimate (includes excavation, health and safety, dust control, and air monitoring)
Load and Haul Impacted Soil to Landfill	430,000	yd^3	$8	$3,440,000	Vendor quotes
Soil Disposal	430,000	yd^3	$25	$10,750,000	Vendor quotes
Final Site Work					
Surveying of Final Excavation Boundaries	5	Day	$1,500	$7,500	Assumes full day with a two man crew
Excavation Sample Collection					
Stockpiling Sampling-EPA 8080 & Metals (1 sample/1000 CY)	430	Sample	$500	$215,000	EPA 8081, asbestos, and metals
Excavation Floor Confirmatory Sampling-EPA 8080 & Metals (1 sample/10,000 SF)	741	Sample	$500	$370,261	EPA 8081, asbestos, and metals
Excavation Sidewall Confirmatory Sampling-EPA 8080 & Metals (1 sample/100 LF)	109	Sample	$500	$54,425	EPA 8081, asbestos, and metals
TOTAL DIRECT CAPITAL COST				$16,333,000	
INDIRECT CAPITAL COST					
Engineering, Procurement, Administrative, and Legal Costs (5% of Direct Capital				$816,650	
Construction Management (5% of Direct Capital Costs)				$816,650	
Permitting				$50,000	
Project Management (5% of Direct Capital Costs)				$816,650	
INDIRECT CAPITAL COST				$2,500,000	
TOTAL CAPITAL COST (DIRECT AND INDIRECT)				$18,833,000	
General Contingency (30% of Direct Capital Costs and Indirect Capital Costs)				$5,650,000	
TOTAL COST OF ALTERNATIVE				$24,483,000	

TABLE D-15
Alternative 6B - High End Cost Estimate
Excavation and Off-Site Disposal of Soils
BMI Common Areas
Clark County, Nevada

DESCRIPTION	QUANTITY		COST		NOTES
	NUMBER	UNIT	UNIT COST	TOTAL COST	
DIRECT CAPITAL COST					
Site Preparation					
Survey and Stake Site to Outline Impacted Areas	10	Day	$1,650	$16,500	Assumes full day with a two man crew (10 percent increase due to Health and Safety)
Site Clearing	190	Acre	$168	$31,987	Means, medium brush without grub, clearing (10 percent increase due to Health and Safety)
Load Debris into Trucks and Haul to Landfill	2,000	yd^3	$25	$50,000	Assumes Local Municipal Landfill Disposal
Excavation and Soil Handling					
Excavate Affected Soil	1,120,000	yd^3	$3	$3,640,000	Engineering estimate (includes excavation, health and safety, dust control, and air monitoring)
Load and Haul Impacted Soil to Landfill	1,120,000	yd^3	$8	$8,960,000	Vendor quotes
Soil Disposal	1,120,000	yd^3	$25	$28,000,000	Vendor quotes
Final Site Work					
Surveying of Final Excavation Boundaries	5	Day	$1,500	$7,500	Assumes full day with a two man crew
Excavation Sample Collection					
Stockpiling Sampling-EPA 8080 & Metals (1 sample/1000 CY)	1,120	Sample	$500	$560,000	EPA 8081, asbestos, and metals
Excavation Floor Confirmatory Sampling-EPA 8080 & Metals (1 sample/10,000 SF)	741	Sample	$500	$370,261	EPA 8081, asbestos, and metals
Excavation Sidewall Confirmatory Sampling-EPA 8080 & Metals (1 sample/100 LF)	109	Sample	$500	$54,425	EPA 8081, asbestos, and metals
TOTAL DIRECT CAPITAL COST				$41,691,000	
INDIRECT CAPITAL COST					
Engineering, Procurement, Administrative, and Legal Costs (5% of Direct Capital				$2,084,550	
Construction Management (5% of Direct Capital Costs)				$2,084,550	
Permitting				$50,000	
Project Management (5% of Direct Capital Costs)				$2,084,550	
INDIRECT CAPITAL COST				$6,304,000	
TOTAL CAPITAL COST (DIRECT AND INDIRECT)				$47,995,000	
General Contingency (30% of Direct Capital Costs and Indirect Capital Costs)				$14,399,000	
TOTAL COST OF ALTERNATIVE				$62,394,000	

TABLE D-16
Unit Cost Table
BMI Common Areas
Clark County, Nevada

DESCRIPTION	UNIT	UNIT COST	NOTES
Site Preparation			
Survey and Stake Site to Outline Impacted Areas (Prior to remedation)	Day	$1,650	Assumes full day with a two man crew (10 percent increase due to Health and Safety)
Site Clearing	Acre	$168	Means, medium brush without grub, clearing (10 percent increase due to Health and Safety)
Load Debris into Trucks and Haul to Landfill	yd^3	$25	Assumes Local Municipal Landfill Disposal
Grade Site	yd^2	$0.69	Means, rough grading (10 percent increase due to Health and Safety)
Excavation and Soil Handling			
Excavate Impacted Soil	yd^3	$3.25	Engineering estimate (includes excavation, health and safety, dust control, and air monitoring)
Excavate Clean Soil	yd^3	$1.89	Means, Excavation and load with track loader, 100cy/hr
Load and Haul Impacted Soil On Site	yd^3	$2.25	Engineering estimate (includes load and haul, health and safety, temporary road construction)
Load and Haul Impacted Soil Off Site	yd^3	$3.50	Engineering estimate (includes load and haul, health and safety, temporary road construction)
Load and Haul Clean Soil On Site	yd^3	$1.65	Means, Haul Soil, 16.5 cubic yards, 1.0 mile
Load and Haul Clean Soil Off Site	yd^3	$2.90	Means, Haul Soil, 16.5 cubic yards, 1.0 mile
Place Affected Soils and Compact	yd^3	$1.75	Engineering Estimate (includes Health and Safety)
Place Clean Soils and Compact	yd^3	$1.04	Means, place and compact in 6 inch lifts
Purchase Fill Material	yd^3	$1.00	Purchase cost assigned for unimpacted soil from Common Areas
Install Drainage System	LF	$4.70	Means, 18" x 18" Underground French Drain
Load Debris into Trucks and Haul to Landfill	yd^3	$8	Vendor quotes
Soil Disposal	yd^3	$25	Vendor quotes
Final Site Work			
Surveying of Final Excavation Boundaries	Day	$1,500	Assumes full day with a two man crew
Grade Site (Post remediation)	yd^2	$0.62	Means, rough grading
Fence Installation and Sign Posting	ft	$11	Vendor quote, 7 foot high chain link fence with 3 strands barbed wire
Excavation Sample Collection			
Stockpiling Sampling - 1 sample/1000 CY	Sample	$500	EPA 8081, asbestos, and metals
Excavation Floor Confirmatory Sampling - 1 sample/10,000 SF	Sample	$500	EPA 8081, asbestos, and metals
Excavation Sidewall Confirmatory Sampling - 1 sample/100 LF	Sample	$500	EPA 8081, asbestos, and metals
Dust Control			
Purchase and Transport Dust Control Solution to Site	gal	$2.35	Assumes 1 gallon per 20 square yards
Apply Dust Control Emulsion	day	$6,160	Assumes 2 man crew and a water truck, includes emuslsion preparation