

Appendix 12

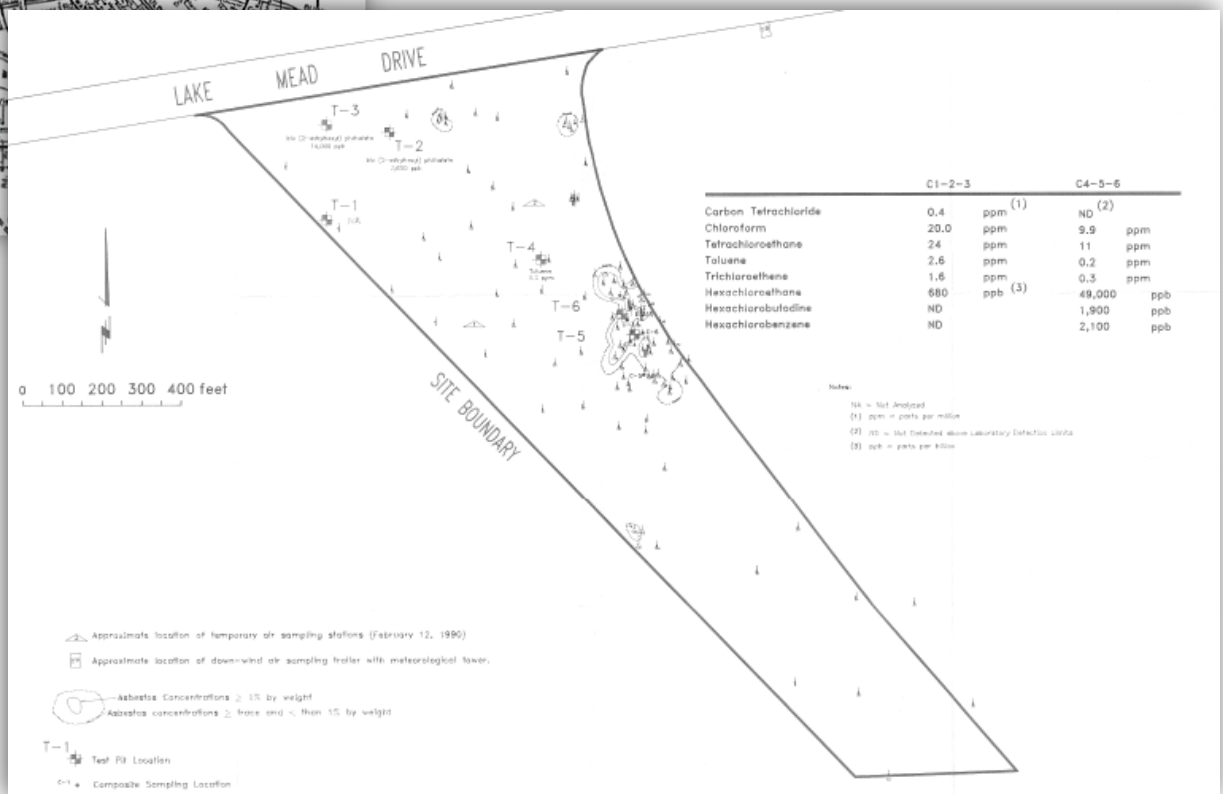
Summary of Hazardous Materials Reports

1. US 95 Expressway Extension to Lake Mead Blvd Site Investigation and Remediation

A. SOURCE: Harding Lawson Associates, Preliminary Asbestos and Hazardous Materials Investigation, Henderson Asbestos Project, 95 Expressway Extension, Henderson Nevada, August 3, 1990.

(COH filename: 19900803_Hazmat_Investigation)

- LOCATION: Property investigated was approx. 24.5 acres south of Lake Mead Drive (now I-215 Beltway) for the extension of US 95 (now I-515/I-11) to Lake Mead Drive.
- FINDINGS: Site sampling concluded approx. 2,100 to 2,800 cubic yards of ACM located within the site boundaries. Other contaminants consisted of:
 - Low levels of toluene and bis(2-ethylhexyl) phthalate reported.
 - Composite ACM samples contained detectable levels of carbon tetrachloride, chloroform, tetrachloroethene, toluene, trichloroethene, elevated levels of hexachloroethane, hexachlorobutadiene and hexachlorobenzene.
 - Low levels of EP (extraction procedure) toxicity metals and total metals reported in soil samples from test pits and composite ACM at concentrations above laboratory detection limits. No EP Toxicity Metals exceeded the designated EPA Maximum Concentrations.



- B. SOURCE: Harding Lawson Associates, Hazardous Materials Removal Project Monitoring and Clearance Sampling, US 95 Expressway Extension, Henderson, Nevada, May 30, 1991.
(COH filename: 19910530_Hazmat_Removal)

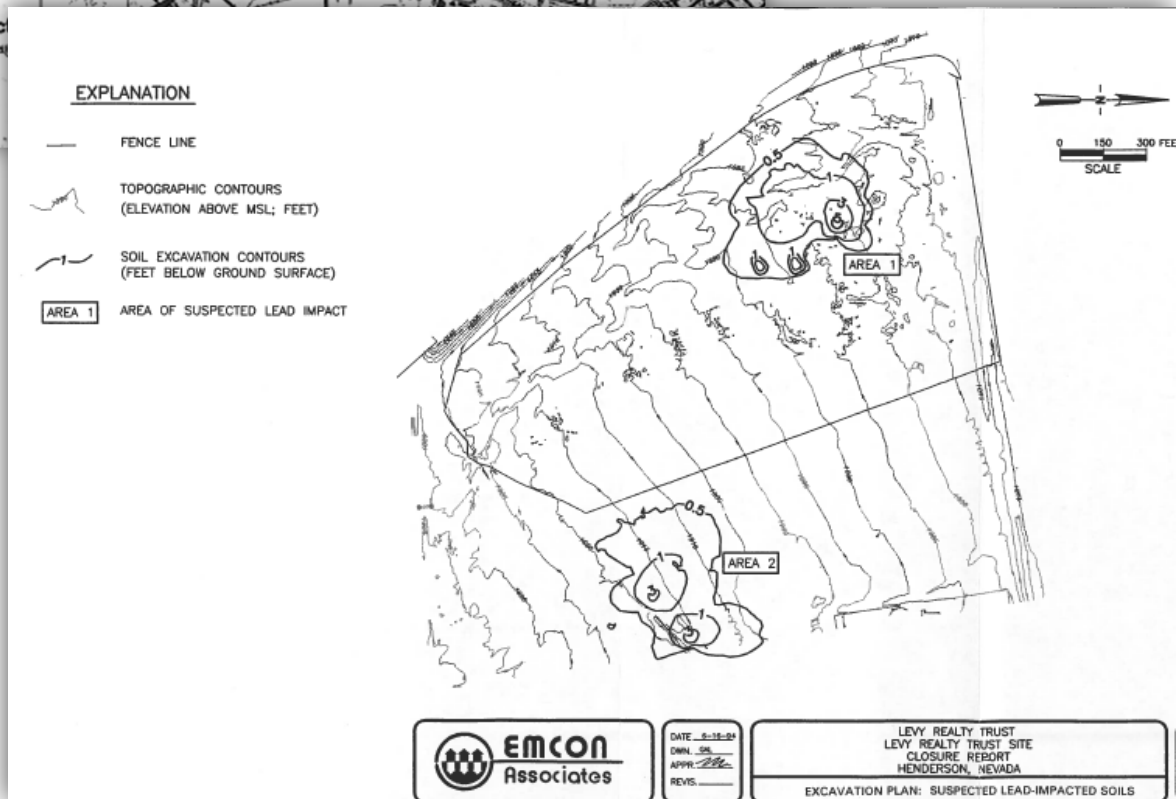
- LOCATION: The physical location of the site is on U.S. 95 from 0.4 miles south to Lake Mead Drive in Henderson.
- SCOPE: Removal, transportation, and proper disposal of asbestos-containing materials (ACM), contaminated with lead and consisting of debris piles and soil. Some soils containing low levels of asbestos were capped in place.
- WORK PROCEDURES: The project site consisted of four separate hot zones and a central decontamination pad. In each zone the piles of ACM were removed. ACM debris was stockpiled until it was transported offsite. After the visible ACM debris was removed, the contractor was required to scrape approximately three inches off the remaining soil surface to ensure that the ACM had been removed.
- CLEARANCE APPROVAL: Clark County Health District Air Pollution Control Division gave approval to NDOT to cap the remaining asbestos containing soil (low concentrations of asbestos, 2- 5%) with at least two feet of compacted non-asbestos-containing material.



2. Levy Realty Trust Property Remediation for Proposed US 95/Lake Mead Drive Interchange

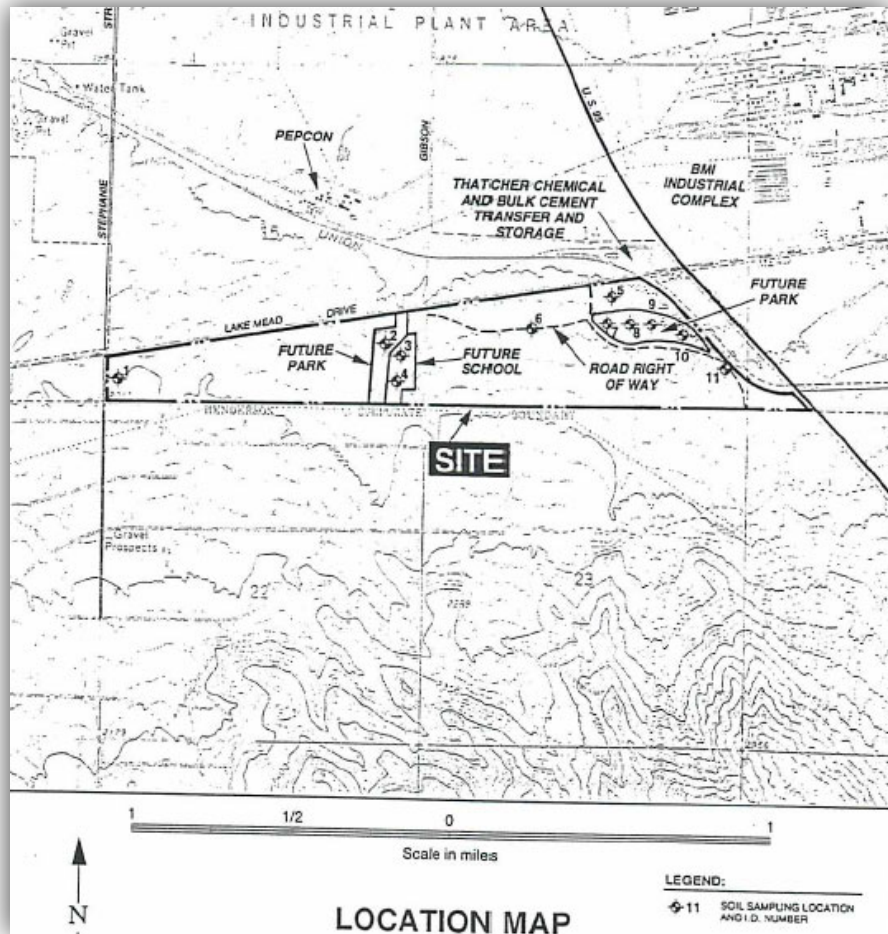
- SOURCE: EMCON Associates, Closure Report, Levy Realty Trust Property, Henderson, Nevada, June 1994. (COH filename: 19940628_Closure_Rpt)
- LOCATION: The approx. 110-acre site is bounded on the north by Lake Mead Drive (US Route 146), west by US Highway 95 (Hwy 95) expressway extension (then under construction), south by a Union Pacific Railroad spur, and east by a light industrial complex and residential development (see figure).

- HISTORY OF USE:** An area of approximately 16 acres, located along the west and northwest portion of the property, was used as an industrial dump site beginning in the early 1940s. The subject property is adjacent to the BMI complex. The complex manufactured magnesium-based incendiary devices for the United States World War II effort.
- SCOPE:** Removal, transportation, and disposal of TCLP lead impacted soil and non-hazardous industrial waste from the Trust property. Chemical constituents found on the property included lead and asbestos. The presence of two localized areas impacted by TCLP lead were identified. The remedial action workplan was divided into three phases of work. Phase I included the removal and disposal of the industrial waste piles within the fenced area. Phase 2 included the excavation, stabilization, and disposal of lead-impacted soil. Phase 3 included confirmation sampling.



3. 300-Acre BMI Annexation Area for Residential Development

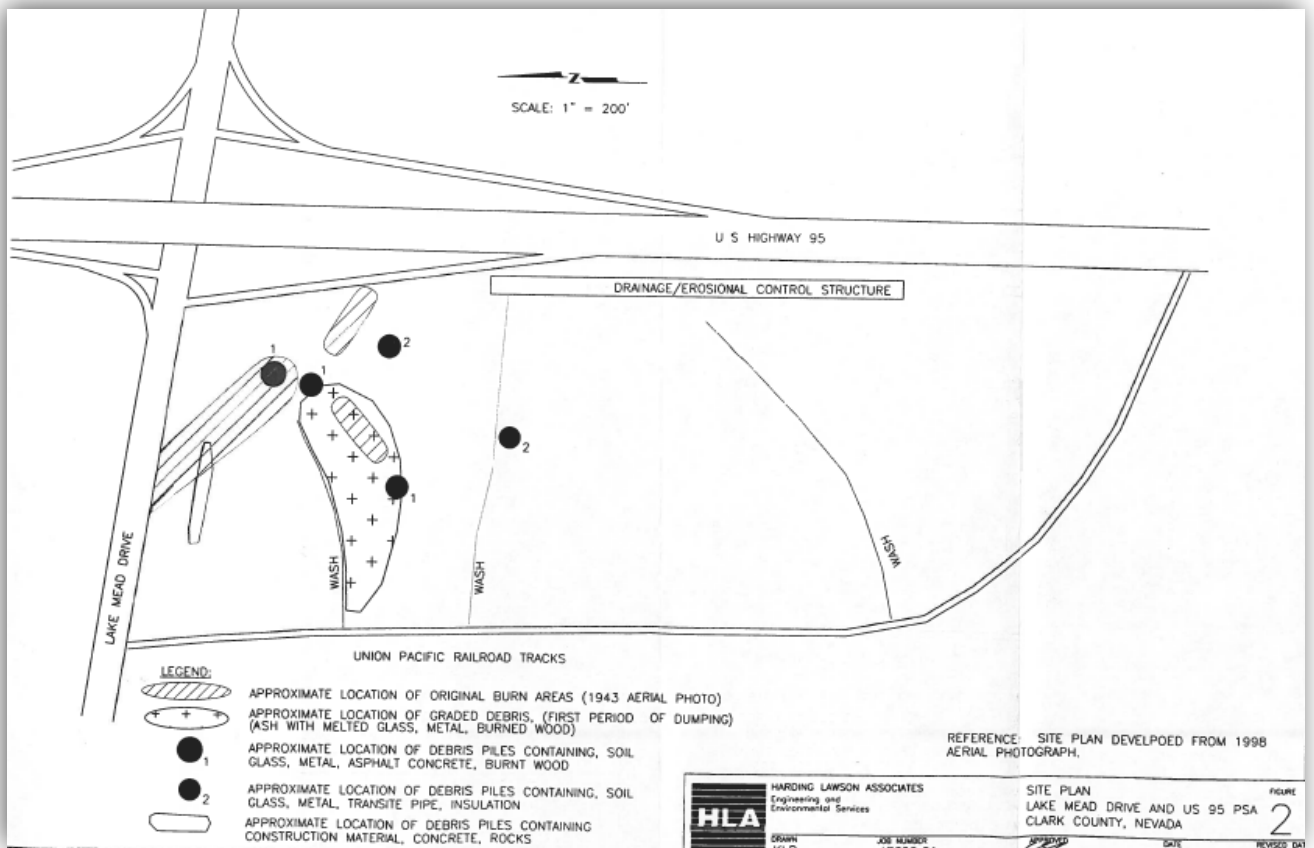
- SOURCE: Dames & Moore, Phase I Environmental Assessment and Soil Sampling, 300-Acre Undeveloped Parcel South of Lake Mead Drive, Annexation Area for Basic Management, Inc., January 9 1995. (COH filename: 19950109_Phase_I)
- LOCATION: The subject site (undeveloped at the time) is located along the southern side of Lake Mead Drive (State Highway 146) and extends from the UPRR tracks on the east to Stephanie Street on the west. Gibson Road runs north-south through the middle of the property, bisecting it into an eastern parcel and a western parcel. According to the May 10, 1994 Master Plan for the West of I-515 Annexation, the property was to be developed as residential.
- SCOPE: The ESA included the chemical analyses of eleven composite surface soil samples collected along three proposed public road rights-of-way, two park sites, and one school site within the property. The work was performed for Basic Management, Inc. (BMI), the property owner since the early 1950s.
- FINDINGS: Eleven soil samples were laboratory analyzed for RCRA metals and pesticides and PCBs. Low concentrations of metals were detected in all samples. Low concentrations of the pesticide-related compound Beta-BHC were detected in most of the soil samples. Trace levels of DDE and DDT were also detected in several samples; these were found to be below regulatory action levels. The ESA concluded that there were no significant adverse environmental conditions at the subject property, and no additional investigations were recommended.



4. Lake Mead Drive/I-515/US 95 Interchange Project

A. SOURCE: Harding Lawson Associates, Phase I ESA, NDOT Parcel APN 170-14-703-004, Intersection of Lake Mead Drive and I-515/US 95, Henderson, Nevada, June 16, 1999. (COH filename: 19990616_Phase_I)

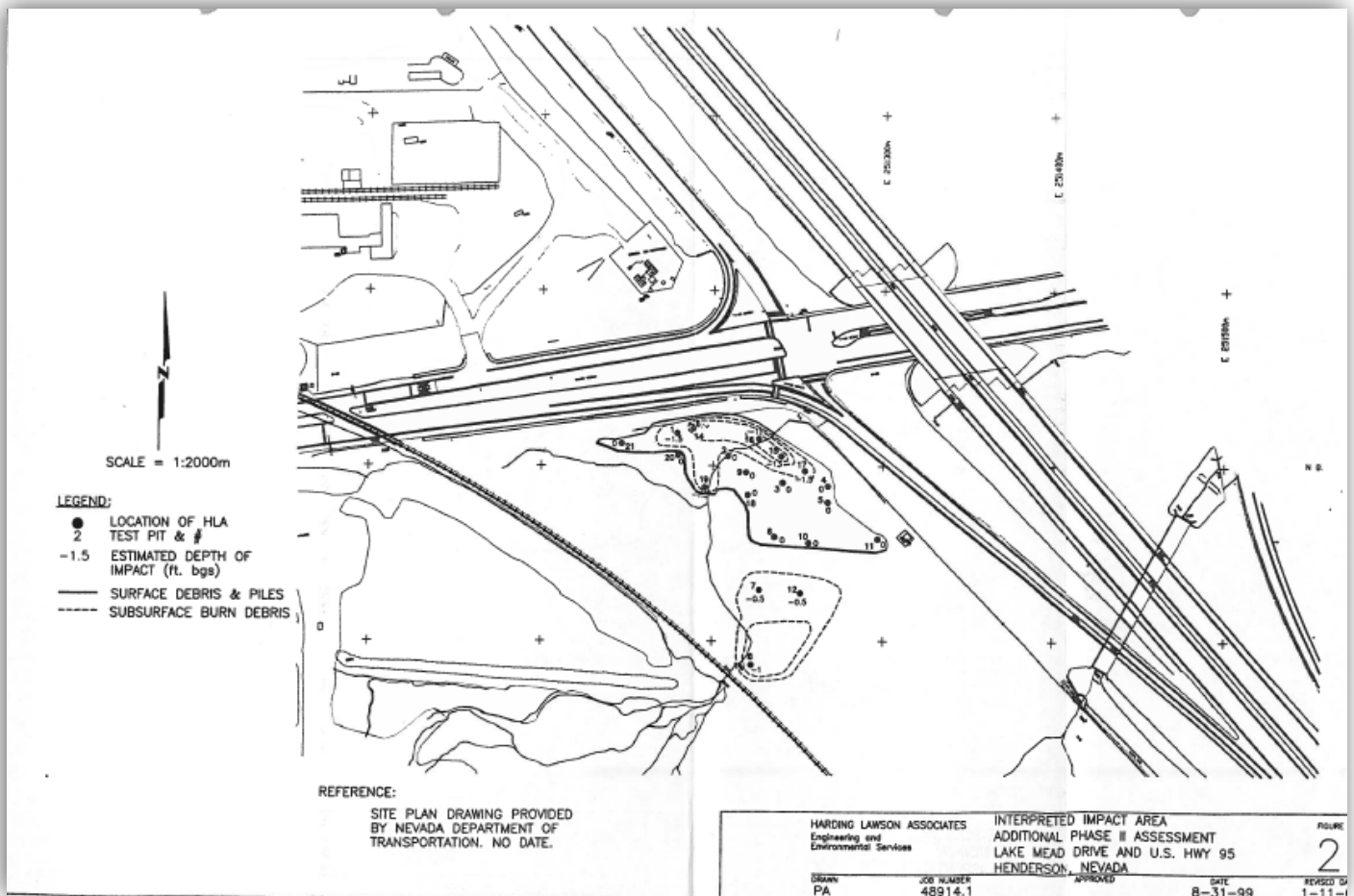
- LOCATION: The parcel is located along the southwest corner of the intersection of Lake Mead Drive and US 95. The site is bounded to the north by Lake Mead Drive, to the east by US 95, and on the south and west by Union Pacific Railroad Tracks.
- FINDINGS: Appeared there may have been at least two periods of dumping on the site. The first period of dumped material contains what appears to be an ash-like material (potentially from an incinerator). A second period dumping, at the same location, appeared as a mix of incinerator clean out and construction debris. Based on the available data there was no reason to suspect impacts to groundwater on the site.
- RECOMMENDATIONS: Phase II investigation to investigate/characterize the dumped material and the original burn areas at the north end of the site. Recommended the excavation of backhoe test pits within the dumped debris, above and below grade and analytical testing of debris material to determine presence of hazardous materials.



B. SOURCE: Harding Lawson Associates, Phase II & Additional Phase II Study Reports, PCB, Dioxin and Furans Assessment, NDOT Parcel APN 178-14-703-004, Intersection of Lake Mead Drive and I-515/US 95, Henderson, Nevada, January 19, 2000. (COH filenames: 19991006_Phase-II & 20000119_Phase_II)

- LOCATION: (See 4A above.)

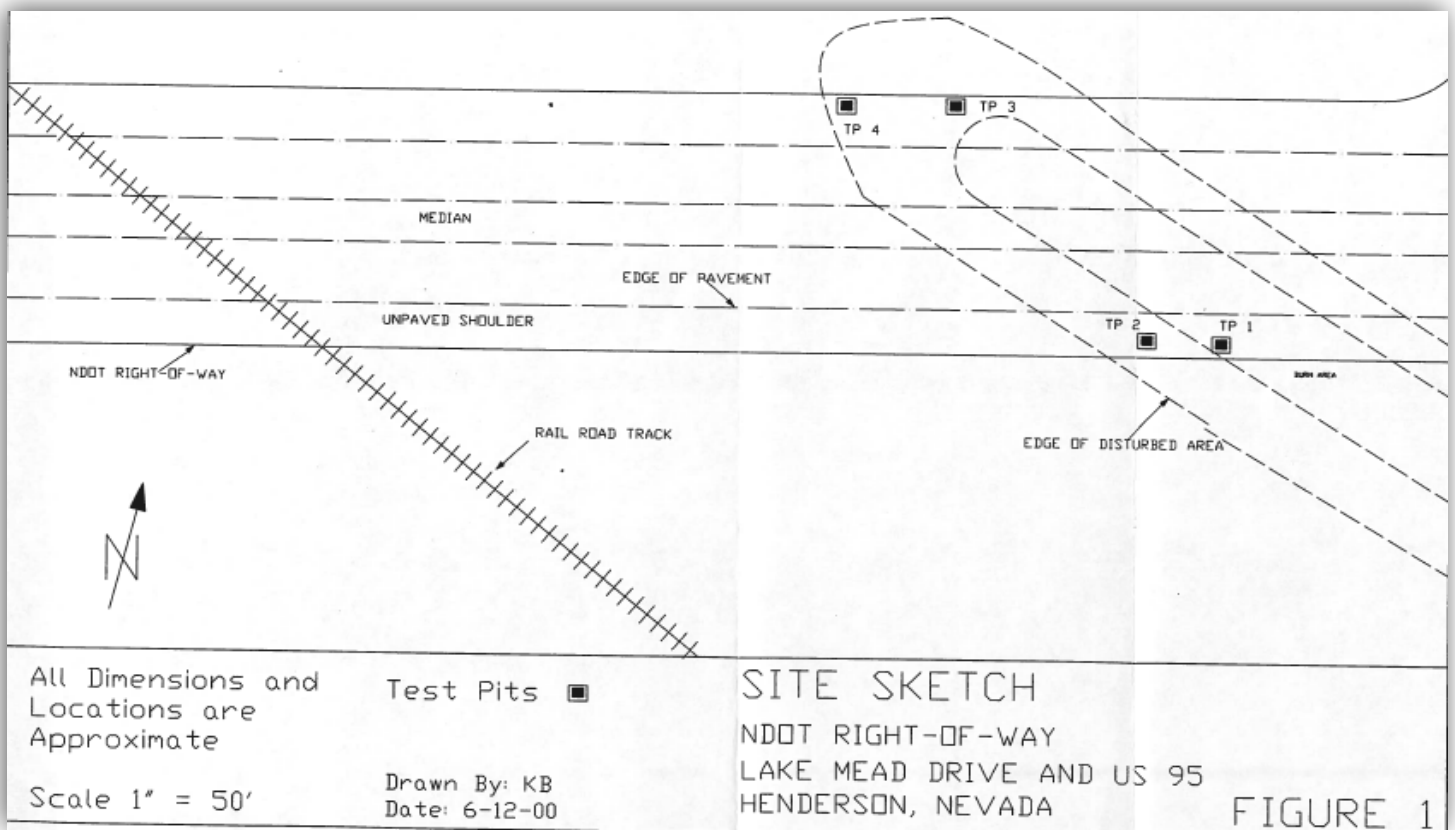
- FIELD INVESTIGATION:** Excavated 13 test pits in areas of previous dumping and areas identified on aerial historic photographs as former burning (burn pit) areas. Soil samples were collected from the test pits for chemical analyses.
- SAMPLE ANALYSIS:** Three composite samples were analyzed for PCBs and metals, comprised of samples from Test Pits 1, 2 and 3 (Sample 1), Test Pits 4 and 5 (Sample 2), and Test Pits 6 and 7 (Sample 3). Each sample from Test Pits 8, 11, 12 and 13 were analyzed for asbestos. The results of the laboratory analyses reported the presence of asbestos in 5 of the 7 samples tested. The only metal detected was lead reported in two of the composite samples (composite Sample 1 and 3) at low (0.12 and 0.15 ppm) concentrations, and PCBs in one composite sample (Sample 1) at a concentration of 340 ppb.
- ADDITIONAL PHASE II ANALYSIS:** Additional site assessment, using 8 additional test pit locations, to attempt to identify the burn-affected media, test for the presence and concentration of PCBs, dioxins and furans¹, and identify potential environmental concerns. Results of chemical analyses reported the presence of dioxins (dioxins, furans, PCBs) in the subsurface samples collected. Total dioxins detected at the site ranged from non-detected to 53,700 pg/g. furans ranged from non-detected to 149,000 pg/g, and PCBs ranging from non-detected to 470 ug/kg (parts per billion).



¹ Dioxins and furans are highly toxic by-products of industrial processes, waste incineration, etc.

5. US 95/Lake Mead Drive NDOT Right-of-Way Assessment

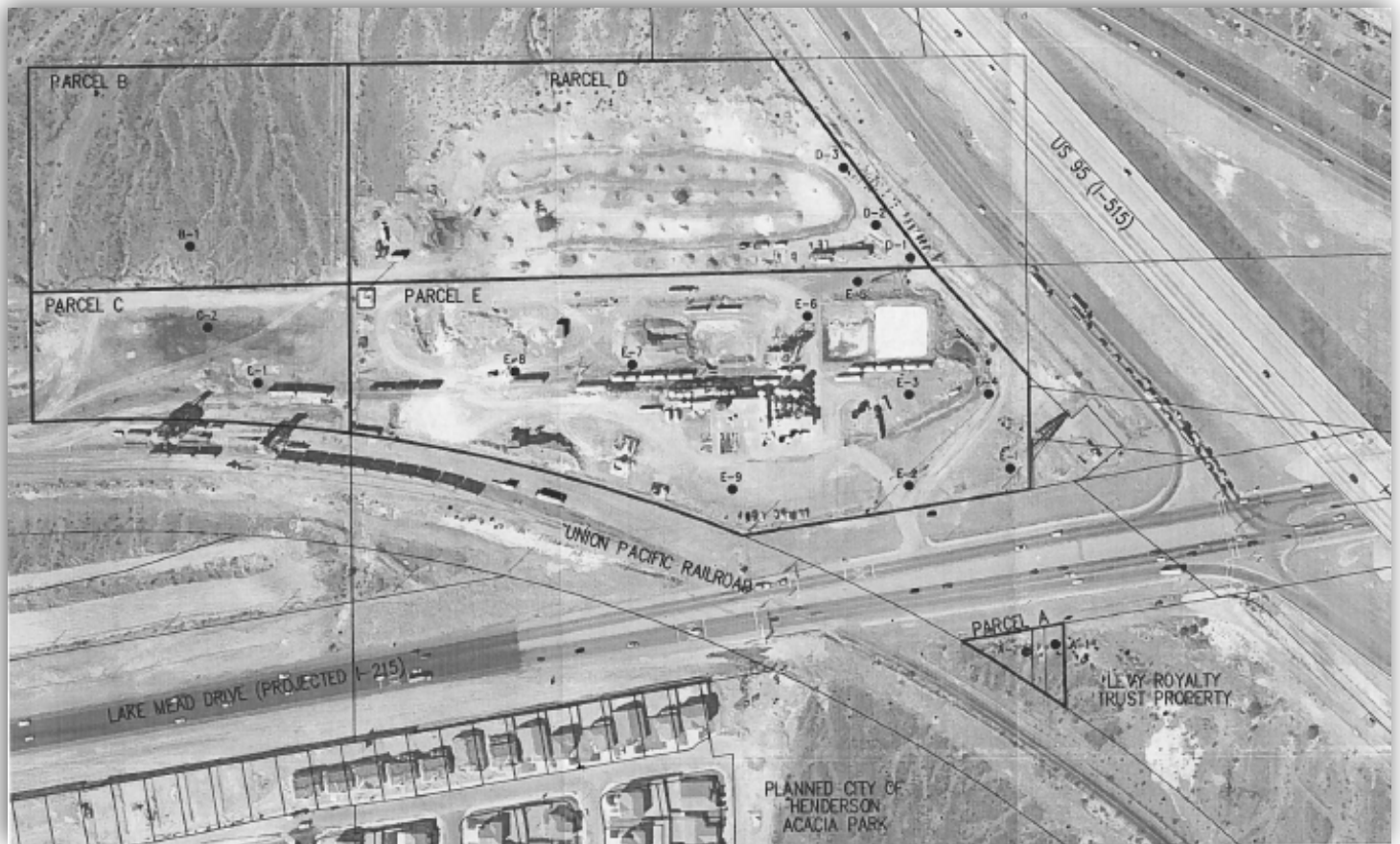
- SOURCE: Dan Harms & Kathi Brandmueller, NDOT Environmental Services Division, Field Activities, Preliminary Assessment of NDOT Right-of-Way, Intersection of US 95 and Lake Mead Drive, Henderson, Nevada, August 7, 2000. (COH filename: 20000807_Field_Activities)
- SCOPE: Four test pits were excavated to approximately 6 feet below ground surface (fbgs). Native soil was encountered in each test pit at approximately 3 fbgs, overlain by fill material. Soil samples were collected from each test pit at the surface (fill soil) and near the terminus depth (native soil).
- FINDINGS: Soil sample analysis reported no polychlorinated biphenyls (PCBs) and volatile or semi-volatile organics above the respective laboratory detection limit. Toxicity equivalent (TEQ) values for dioxins and furans were documented. Based on the analysis, the reported concentrations and resultant TEQ values for dioxins and furans did not appear to present an environmental or health concern if left in-place. No ash material was encountered.

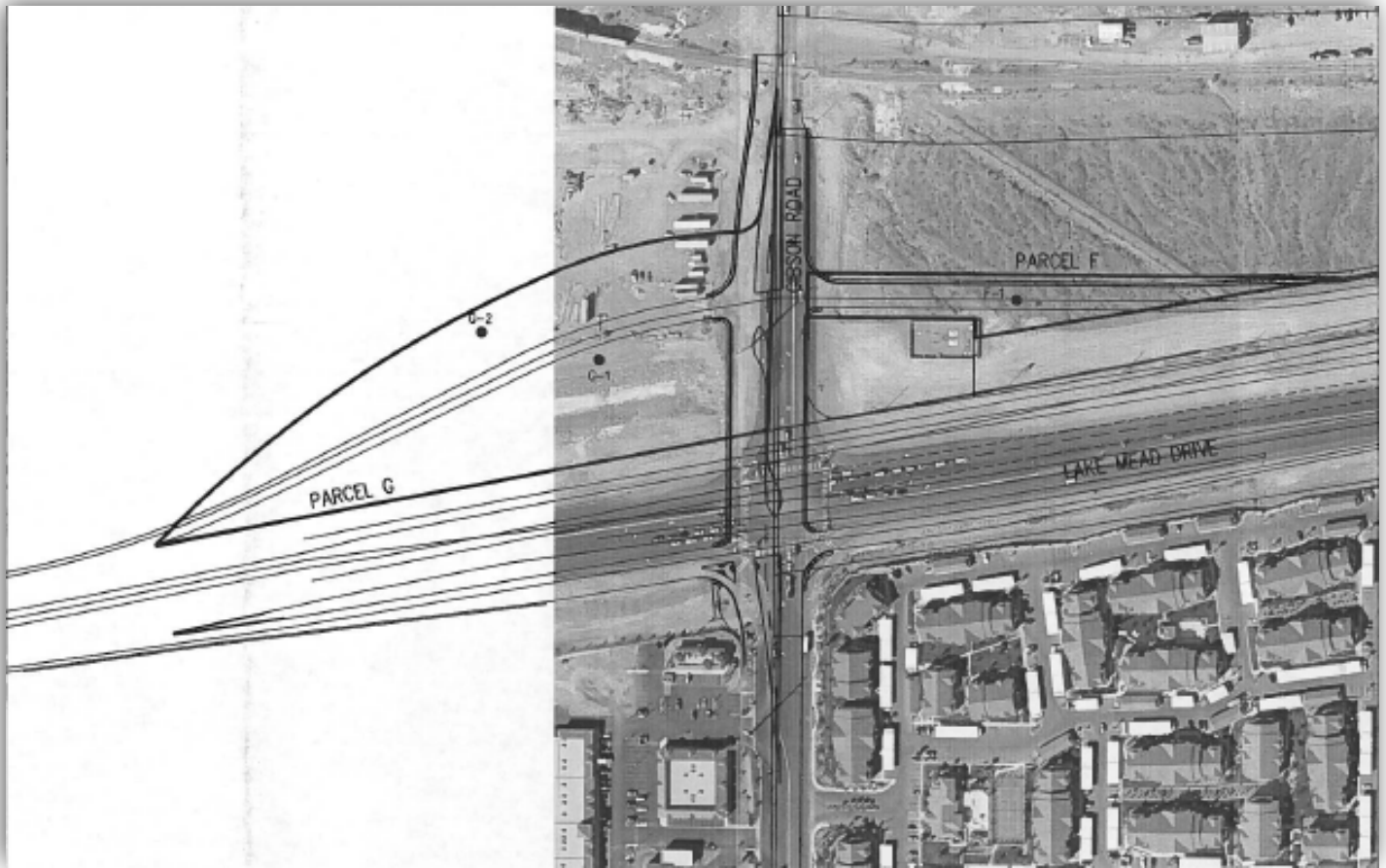


6. I-215/I-515 Interchange Project

- SOURCE: Terracon, Subsurface Soil Evaluation, I-215/I-515 Interchange, Lake Mead Drive & I-515 (US 95), Henderson, Nevada, October 10, 2000. (COH filename: 20001010_Soil_Evaluation_Rpt)
- LOCATION: Five of the seven parcels are located immediately west of the intersection of US 95 (1-515) and Lake Mead Drive. The two remaining parcels are located at the intersection of Lake Mead Drive and Gibson Road.

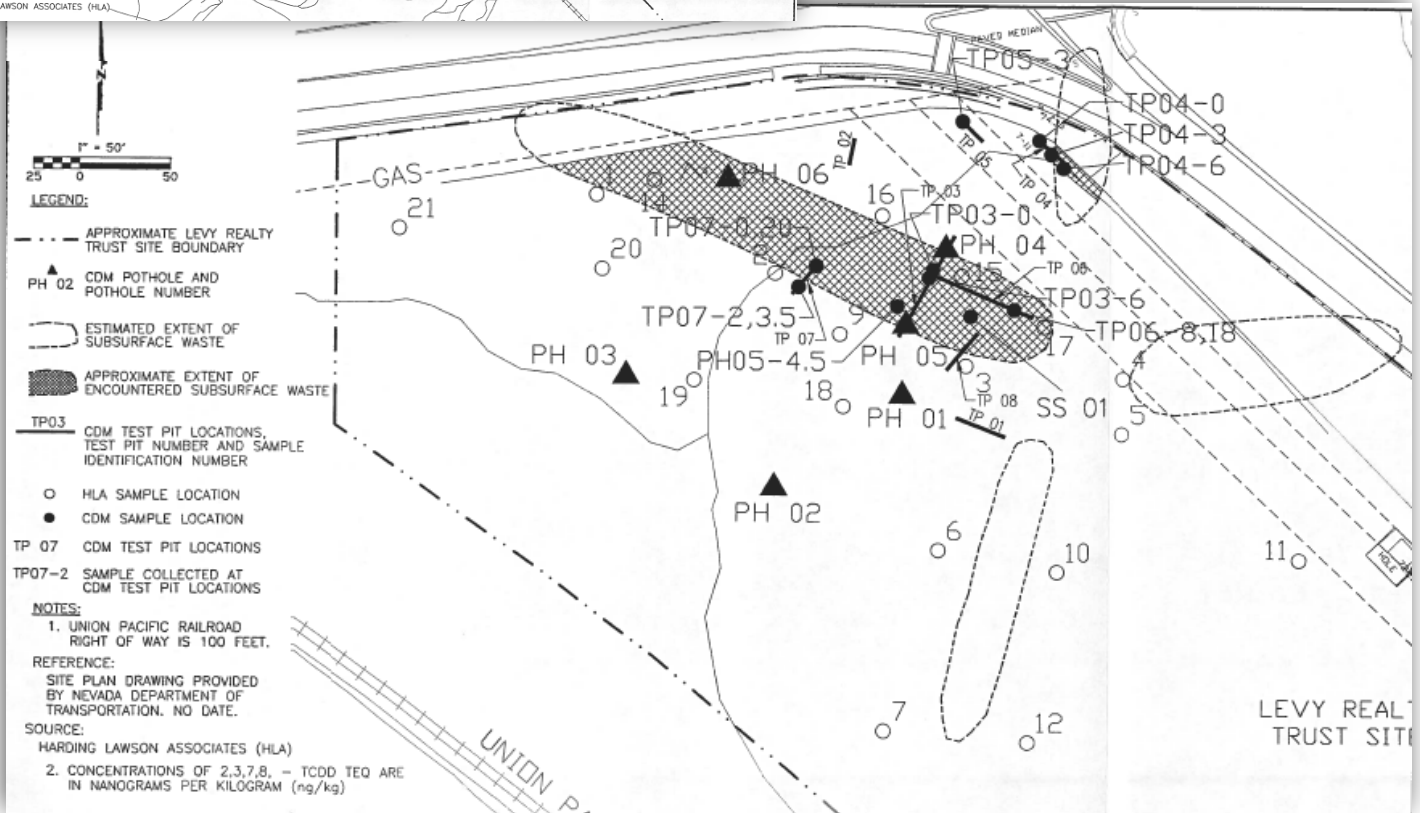
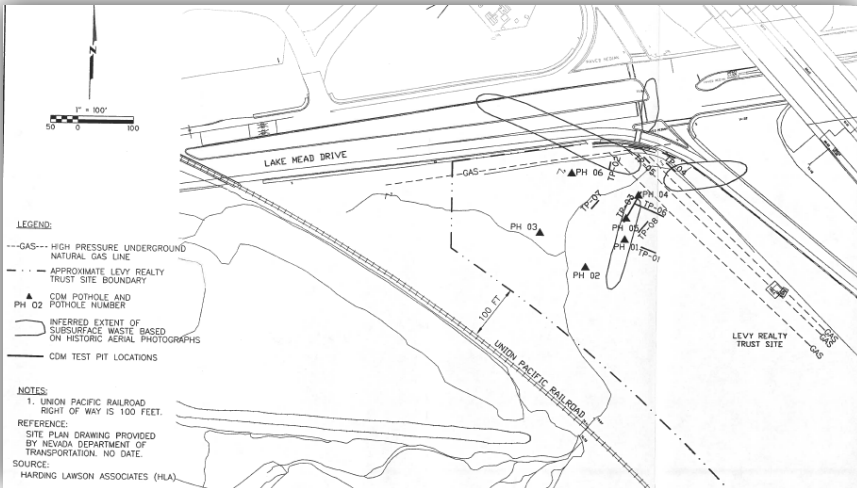
- **BACKGROUND:** This evaluation was conducted to assess the shallow subsurface soils for impacts from previous industrial activities in the immediate area that included uncontrolled dumping, spillage of materials/wastes, and burning of wastes.
- **SCOPE:** Twenty (20) test pits were excavated in selected locations to collect subsurface soil samples for laboratory analysis. One soil sample was collected from each test pit at a depth ranging from one foot to five feet below the ground surface and was analyzed for petroleum hydrocarbons, TCLP RCRA metals, asbestos, PCBs, furans and dioxins.
- **FINDINGS:** Concentrations of total petroleum hydrocarbons exceeding NDEP soil action levels were identified in five of the twenty samples. Asbestos was not detected in the twenty samples. TCLP RCRA Metals were not detected in concentrations exceeding the respective action levels. PCBs were detected in five samples in concentrations ranging from 22 µg/kg to 2,600 µg/kg. Four of the five samples had concentrations below the EPA Region IX Preliminary Remediation Goal (PRG) screening levels of 220 µg/kg (residential) and 1,000 µg/kg (industrial). One sample contained PCBs at a concentration (2,600 µg/kg) exceeding the PRG for both industrial and residential sites. Dioxins and furans were detected in each of the twenty samples in concentrations ranging from 0.3 pg/g to 23.7 pg/g. Three of the twenty samples had concentrations that exceed the EPA Region IX Preliminary Remediation Goal (PRG) screening level of 3.9 pg/g (residential) and 27 pg/g (industrial).





7. Levy Realty Trust Site Field Investigation/Site Characterization for US 95 to Lake Mead Drive Access Road
- SOURCE: *Camp Dresser & McKee, Levy Realty Trust Site, Draft Field Investigation and Site Characterization for Agency Review, November 3, 2000.* (COH filename: 20001130_Charac_Rpt)
 - LOCATION: The site is located southeast of the intersection of Lake Mead Drive and Highway US 95 in Henderson, Nevada. The site contains buried waste materials from historic burn pit operations.
 - SCOPE: Eight test pits and six potholes were excavated using a backhoe. Test pits were excavated to a minimum depth of at least 5 feet bgs, with several test pits excavated to a maximum depth of 14 feet bgs.
 - ANALYTIC RESULTS: Dioxins/ furans, PCBs, arsenic, metals, and VOCs were detected in surface soil, subsurface soil and waste materials at the Site. Pesticides and perchlorate were also detected in surface soil. Detections of VOCs at the site were very limited, types typically associated with laboratory contaminants (i.e., acetone, methylene chloride).
 - EXTENT OF CONTAMINATION: Dioxins/ furans are the most important chemicals at the Site from a risk and remediation standpoint. The analytical data show that high concentrations of dioxins and furans are predominantly associated with waste materials at the site.
 - CONSTRUCTION RISK: Waste materials and contaminated subsurface soils are unearthed during construction. Construction workers involved in the access road project may directly contact

contaminated subsurface soil and buried waste materials. During construction large quantities of dust may be generated and this dust may subsequently be inhaled by construction workers and be blown offsite into residential areas and be deposited onto soils and be inhaled by offsite residents.

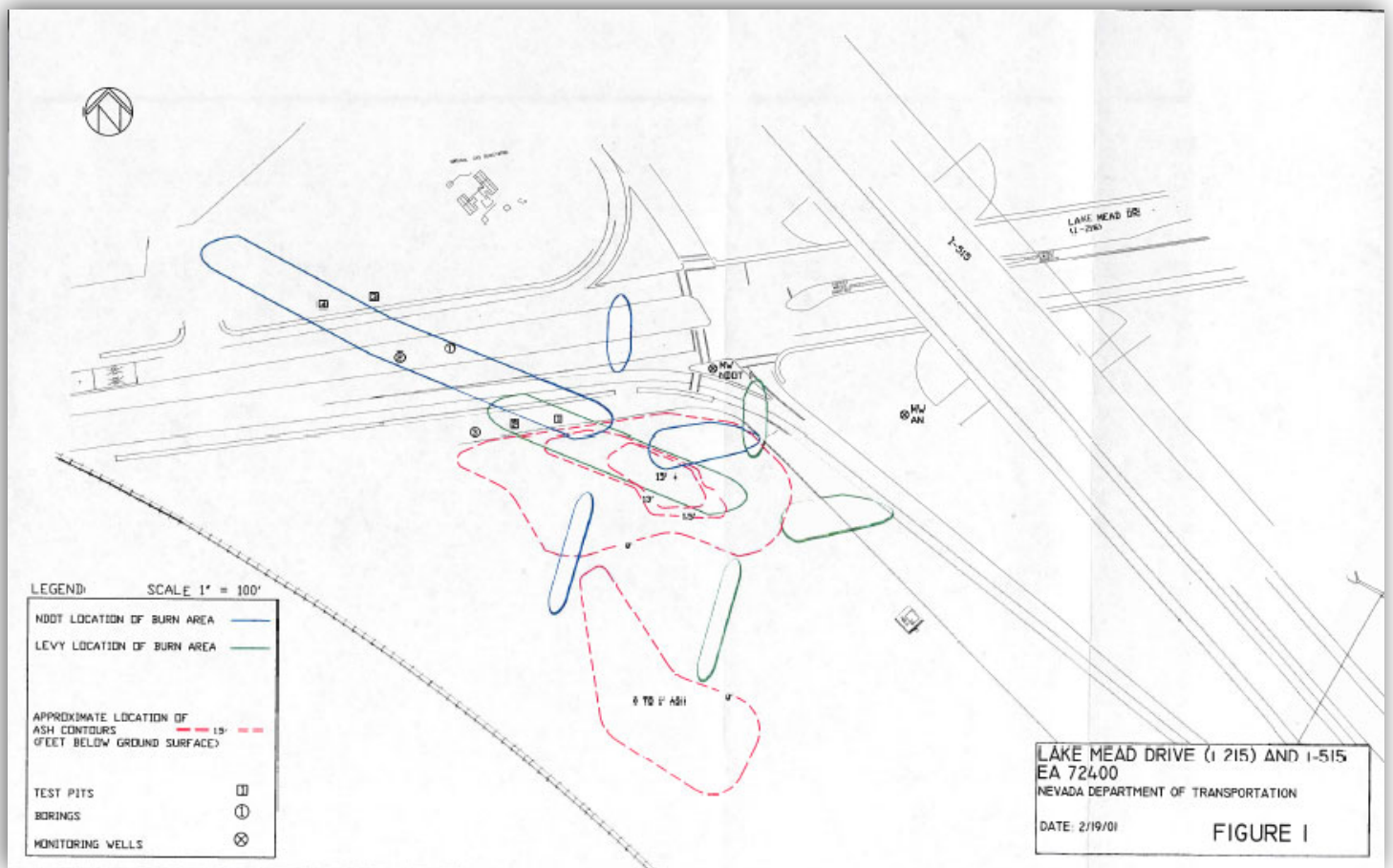


8. Intersection of I-515 and I-215, NDOT Additional Field Activities

- SOURCE: Dan Harms & Kathi Brandmueller, NDOT Environmental Services Division), Additional Field Activities, Further Assessment of NDOT Right-of-Way, EA Number 72400, Intersection of I-515 and Lake Mead Drive (I-215), Henderson, Nevada, March 2, 2001.

(COH filename: 20010302_Add._Field_Activities)

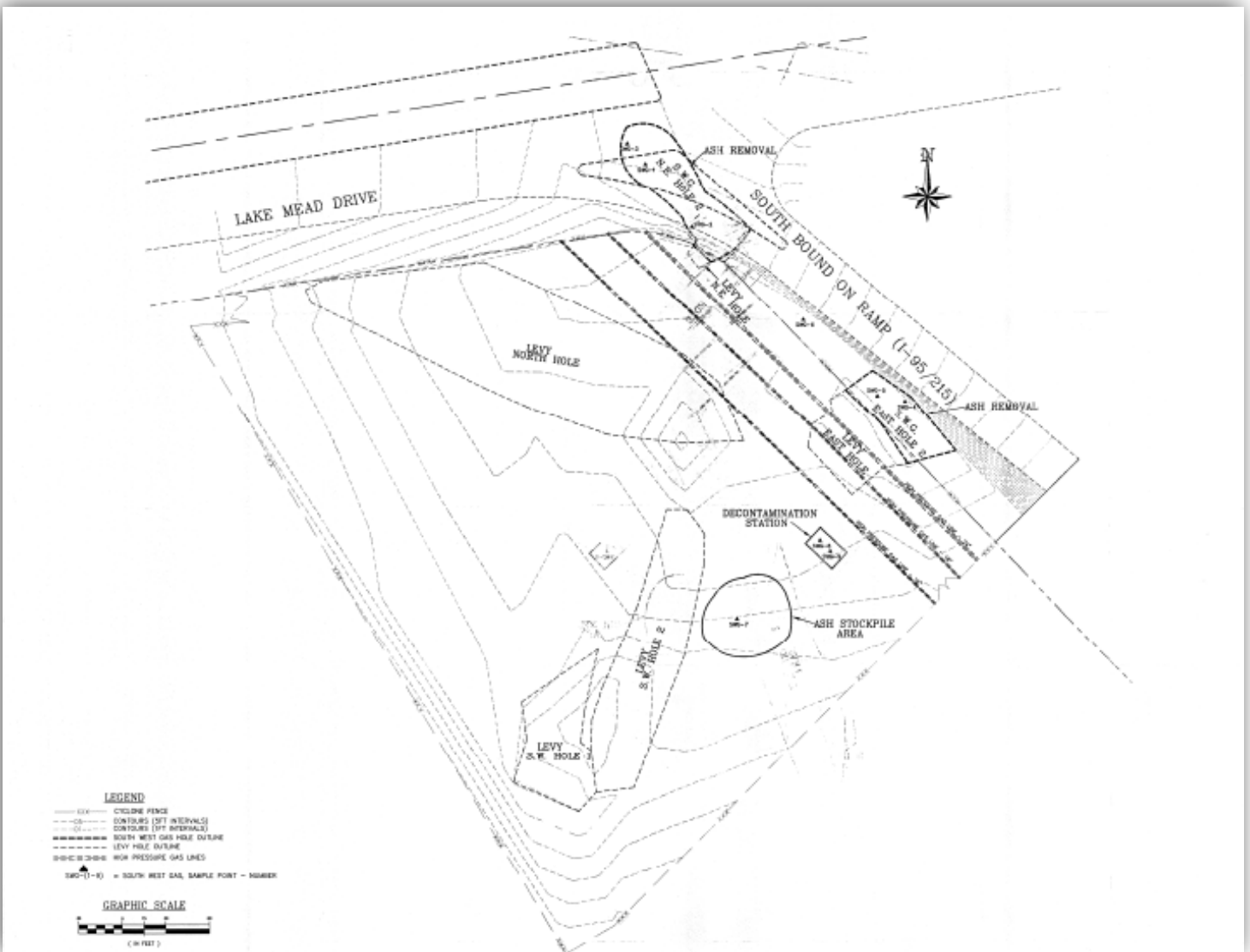
- SCOPE: The objective was to assess, in the NDOT ROW, the postulated locations that may contain remnant ash material from historic burning in the area and evaluate select geochemical data for groundwater. Four additional soil borings (to supplement borings previously taken by CDM—see No. 7 above) were advanced in the NDOT ROW.
- LAB ANALYSIS: The samples were submitted for analysis of polychlorinated biphenyls (PCBs); total lead; 2, 3, 7, 8 tetrachlorodibenzo-p-dioxin (2, 3, 7, 8-TCDD); and, perchlorate.
- FINDINGS: No evidence of ash or debris was found at any of the boring locations. This assessment and NDOT's initial assessment completed in May 2000 (see No. 5 above) were based on postulated areas that may have contained remnant ash material from historic burning. No ash material was encountered in either assessment. Impacts from the dioxin containing ash material do not appear to have affected groundwater at this location.



9. Southwest Gas Natural Gas Pipeline Installation on NDOT Right-of-Way for West Lake Mead and US 95
 - SOURCE: Stewart Environmental, Inc, Dioxin/Furan Ash Material Removal, Southwest Gas/NDOT Right-of-Way, West Lake Mead and US 95, Henderson, Nevada, March 26, 2003. (COH filename: 20030326_Removal_Rpt)
 - SCOPE: A total of 52 samples were collected and analyzed. Soil sample locations with sample dioxin/furan results above the 50 ppt Site Threshold were either excavated and removed (approximately 17,900 tons), and a nominal amount (approximately five tons) was encapsulated

in the northwest excavation corner, at 22 feet below ground surface, with the spraying of the gunite. The Southwest Gas Corporation removed the ash material that remained at the northeast and east edge of the Levy Realty Trust site during the gas pipeline relocation.

- SOIL REMOVAL/TRANSPORT: A total of 17,916 tons of ash material and impacted soil were removed from the adjacent Levy Realty Trust site from August 12, 2002, through December 18, 2002. The impacted soil and ash material were transported to the US Ecology, Inc., facility near Beatty, Nevada, for disposal.



10. I-215/I-515 Interchange Geotechnical Investigation

- SOURCE: Converse Consultants, Geotechnical Investigation Addendum No. 6 (Revised), I-215/I-515 Henderson Interchange, Lake Mead Drive and I-515, Henderson, Nevada, November 7, 2003. (COH filename: 20031107_ Investigation_Rpt_Add.)
- SITE CONDITIONS: Ash from former burn pits (reportedly dating from the 1940s and 1950s) was encountered in a utility jacking pit on the south side of Lake Mead Drive during construction activities related to utility relocation. Based on the linear trend of the burn pit (from historic

aerial photographs), there was a concern that if the pit continued beneath the road, it would be possible that the burn pit would extend north to a point that the foundation of the 1-215 over Ramp SE Bridge and Mechanically Stabilized Earth (MSE) Wall No. 105 could have been affected. It was also a concern that the ash could affect paved roadway along a portion of Ramp SE, Cantilever Retaining Wall No. 104, and the Ramp ES, Pier 8S drilled shaft foundation.

- FIELD INVESTIGATION: The site investigation to attempt to delineate the burn pit included drilling nineteen (19) borings to depths of 6 to 30 feet below the existing grade. In addition, several borings drilled for the previous phases of geotechnical investigation were included in the analysis.
- FINDINGS: Ash from the burn pits was encountered beneath the southern-most lane of Lake Mead Drive (Boring Nos. B-307, B-308, and B-319) and south of Lake Mead Drive (Boring Nos. B-316, B-317, and B-318), but was not encountered in the borings along the southern edge of the 1-215 over Ramp SE Bridge and MSE Wall No. 105, in and just south of the median of Lake Mead Drive. The zone of ash encountered to the south of the existing Lake Mead Drive roadway was 9 and 10 feet thick in Boring Nos. B-317 and B-316, respectively, near the Ramp ES, Pier 8 location and appeared to taper off to the east, with a thickness of about 3 feet at Boring No. B-318. The zone of ash encountered in the southern travel lane of Lake Mead Drive was about 6 to 6.5 feet thick near Boring Nos. B-307 and B-319 and about 3 feet thick in Boring No. B-308.

