November 9, 1998

Mr. Mike Alo
Liquid Sugars, Inc.
P. O. Box 96
Oakland, CA 94604

Subject: Report of Phase I Environmental Site Assessment
Liquid Sugars, Inc.
1269 & 1274 65th Street; and 1266 & 1285 66th Street
Emeryville, California
GA Project No. 149-01-01

Dear Mr. Alo;

In accordance with our agreement, Gribi Associates has completed this Phase I Environmental Site Assessment (ESA) for four Liquid Sugars, Inc. parcels located at 1269 & 1274 65th Street; and 1266 & 1285 66th Street in Emeryville, California. The purpose of the Phase I ESA was to identify potential onsite and offsite sources or practices that could adversely impact the project site environment. This Phase I ESA has been prepared for Liquid Sugars, Inc. and its subsidiaries, as their interest may appear.

This Phase I ESA revealed potential impacts to only the middle project site parcel, and no current or past activities on the north, west or south parcels which would appear to impact the project site environment. Past project site activities and business types on the middle project site parcel which could pose a risk to the project site include: (1) The operation of a Mohawk Petroleum bulk fuel plant on the west side of the middle project site from the late 1940s until the mid-1970s; (2) Possible past truck repairs by Emeryville Transportation or Mooney Trucking in the northwest building on the west parcel; (3) The past operation of three fuel USTs by Liquid Sugars, Inc. on the west side of the middle parcel; and (4) Heavy oil spills associated with the compressors located in the southeast corner of the boiler room on the west side of the middle parcel. Of these four activities, only the operation of USTs on the west side of the middle parcel is known to have impacted the project site environment.

Although this assessment did not include an asbestos survey, some asbestos-containing materials are known to exist on the project site.

This investigation revealed the following sites and activities located in an upgradient (east) groundwater flow direction which could pose a risk to the project site environment: (1) The storage of aromatic hydrocarbons in a concrete vault in the north yard at the adjacent east former Oliver Rubber plant at 1200 65th Street; (2) The possible use of cutting oils, solvents, fuels, and metal products at the Fabco Automotive facility at 1249 67th Street, immediately east from the north project site parcel; (3) Possible releases associated with zinc dust manufacturing at the former Alloy

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1.0 INTRODUCTION

In accordance with our agreement, Gribi Associates has completed this Phase I Environmental Site Assessment (ESA) for four Liquid Sugars, Inc. parcels located at 1269 & 1274 65th Street; and 1266 & 1285 66th Street in Emeryville, California. The purpose of the Phase I ESA was to identify potential onsite and offsite sources or practices that could adversely impact the project site environment. This Phase I ESA has been prepared for Liquid Sugars, Inc. and its subsidiaries, as their interest may appear.

The findings of the Phase I ESA are presented in the following sections of this report.

2.0 Site Examination
3.0 Historical Records Review
4.0 Government Agency Information Review
5.0 General Geology and Hydrology
6.0 Asbestos Assessment
7.0 Lead Based Paint Assessment
8.0 Radon Gas Assessment
9.0 Phase I Conclusions and Recommendations

1.1 Purpose

The purpose of the Phase I ESA was to identify potential and actual onsite and offsite hazardous waste sources or practices that may pose an environmental risk to the project site environment. The Phase I ESA consisted of two distinct tasks: (1) A site examination; and (2) A review of reasonably ascertainable documents and of oral information. Conclusions and recommendations within this report are based solely on observed evidence and data collected during the performance of the Scope of Services, which is contained in Appendix A. The Phase I ESA was conducted in accordance with *ASTM Standard Practice for Environmental Site Assessments, E 1527-97.*

1.2 Project Site Location

The project site consists of four parcels of land approximately 500 feet east from Hollis Street, between 65th Street and 67th Street in Emeryville, Alameda County, California (see Figure 1 and Figure 2). These four parcels include: (1) A triangular parcel, excepting a railroad right-of-way, located on the south side of 65th Street at 1269 65th Street (south parcel); (2) A nominally rectangular-shaped parcel measuring approximately 310 feet by 200 feet located between 65th Street and 66th Street, and having street addresses of 1274 65th Street and 1275 66th Street (middle parcel); (3) A rectangular parcel measuring 155 feet by 100 feet located on the south side of 66th Street at 1285 66th Street (west parcel); and (4) A nominally rectangular parcel measuring approximately 200 feet by 155 feet located on the north side of 66th street at 1266 66th Street (north parcel). According to the USGS Oakland, West, California 7.5-Minute Quadrangle Map, the project site is located at latitude of 37° 50' 50" North, and longitude of 122° 17' 20" West.

Date	Activity
January 1991	LSI submitted *Workplan for a Preliminary Site Assessment, 1275 66th Street, Emeryville, California* to Alameda County Health Agency. This Workplan proposed to: (1) Excavate fuel laden soil from the bottom and sides of the excavation to the extent possible; (2) Collect verification samples for TPH-G, TPH-D, and BTXE analysis; (3) Treat fuel laden soil onsite by enhanced bioremediation followed by Class III landfill disposal; and (4) Install and sample one downgradient ground water monitoring well. Consultant: Baseline Environmental Consulting.
March 12, 1991	LSI received approval of Workplan from Alameda County Health Care Services with the provision that LSI must install three ground water monitoring wells rather than one as originally proposed.
July 12, 1991	LSI submitted *Amended Workplan For a Preliminary Site Assessment, Liquid Sugars, Inc., 1275 66th Street, Emeryville, California* to Alameda County Health Agency. The amended Workplan contained the following elements: (1) Backfill the excavation pit; (2) Remediate and/or dispose of stockpiled soil; (3) Drill and sample five soil borings; (4) Remediate fuel laden soil above ground water table; and (5) Install and sample three ground water monitoring wells. Consultant: Century West Engineering.
July 29, 1991	Received verbal approval from Alameda County Health Agency to proceed with amended Workplan.
July 30, 1991	Visqueen was placed in UST excavation pit, and pit was backfilled and compacted using clean material. Prior to backfilling, two soil samples were collected from the west sidewall at a depth of approximately five feet below grade. Samples contained 10 ppm and 19 ppm of TPH-motor oil. Other fuel constituents were nondetectable. Consultant: Century West Engineering.
August 5, 1991	Collected five discrete soil samples from the soil stockpile for compositing into one sample. Composite sample was analyzed for TPH-gas, TPH-diesel, BTXE, RCI, and 17 CAM Metals. Sample contained 590 ppm of TPH-diesel and 560 ppm of TPH-motor oil. Consultant: Century West Engineering.
September 14, 1991	Stockpiled soil was hauled to Vasco Road Sanitary Landfill in Livermore, California for disposal.
November 7, 1991	Eight soil borings were drilled and sampled around the backfilled UST pit to assess lateral and vertical extent of fuel constituents in soil. Soil analytical results indicated low levels of diesel-range hydrocarbons at shallow depth on the northeast side of the former UST excavation cavity, and low to high levels of diesel- and gasoline-range hydrocarbons on the northeast and southwest sides of the former UST excavation cavity. Consultant: Century West Engineering.
April 15, 1993	Installed and sampled two groundwater monitoring wells (MW-1 and MW-2) on the southwest side of the former UST excavation cavity. A soil sample collected at about ten feet in depth from the well located ten feet southwest from the former UST cavity contained 670 ppm of TPH-G and 940 ppm of TPH-D; a soil sample collected at about ten feet in depth from the well located about 20 feet southwest from the former UST cavity contained 23 ppm of TPH-G and 27 ppm of TPH-D. Groundwater samples from these wells contained moderate to high levels of gasoline- and diesel-range hydrocarbons. Consultant: Century West Engineering.
July 1993 - May 1995	Conducted quarterly groundwater monitoring of MW-1 and MW-2 on seven occasions. Groundwater was encountered at depths ranging from about seven to nine feet in depth. Groundwater samples from the two wells contained moderate levels of TPH-G and TPH-D, with relatively low concentrations of BTEX constituents. Consultant: Century West Engineering.

2.1.1 North Parcel - 1266 66th Street

The north parcel, located at 1266 66th Street, consists of a large warehouse, office, and laboratory building on the west side of the parcel; and a boiler room and approximately 20 vertical product tanks on the east side of the site. The laboratory, which tests sugar and vegetable oil products, uses and generates wastes which include sulfuric acid, chloroform, acetic acid, sugars, and vegetable oil. Laboratory wastes are stored in small one to 55-gallon containers on a spill containment platform located in the warehouse area.

The north yard area, which contains about 20 vertical product tanks, is covered with a concrete ground surface and contains an outer concrete berm. Several catch basins in the yard divert rain water and potential spills to sumps located in the southeast and southwest corners of the yard area prior to discharge to the middle project site parcel and, ultimately, to the wastewater treatment area on the south parcel prior to discharge to the sanitary sewer. The product tanks are accessed from east and west railspurs via a series of pumps and piping. The boiler room in the north yard area contains a spill containment platform used to store five-gallon drums labeled "Boiler Water Treatment".

During the site inspection, no obvious evidence of spills or other hazardous waste practices were observed in this area which would seem to pose a threat to the project site environment.

2.12 West Parcel - 1285 66th Street

The west parcel consists of a large building which comprises two-story office space on the west side and single story warehouse space on the east side. The entire building contains a concrete slab floor, and the open space between the building and 66th Street to the north contains an asphalt parking area.

During the site inspection, no obvious evidence of spills or other hazardous waste practices were observed in this area which would indicate seem to pose a threat to the project site environment.

2.13 Middle Parcel - 1275 66th Street

The middle parcel, which is the main LSI yard, consists of: (1) An office area at the northeast corner of the parcel; (2) A packaging plant located on the north side of the parcel; (3) A warehouse located on the northwest side of the parcel; (4) A boiler room located on the west side of the parcel; (5) A maintenance area located on the southwest side of the site; and (6) Product processing and storage tanks and areas located on the southeast and east sides of the parcel. The entire parcel is concrete surfaced, except for the location of three former underground storage tanks (USTs) on the west side of the parcel, which is asphalt surfaced. This parcel is only partially bermed, and several catch basins in the yard area divert rain water and potential spills to sumps located on the south side of the parcel, prior to discharge to the wastewater treatment area on the south parcel before discharge to the sanitary sewer.

In the processing and storage area on the southeast side of the site are two closed fiberglass tanks, one containing hydrochloric acid solution and the other containing sodium hydroxide solution. During the site examination minor white scale was observed on the concrete floor surface adjacent to the hydrochloric acid tank.

- strong, pungent, or noxious odors
- suspicious pools of liquid, pits, ponds, or lagoons

2.2 Site Area Reconnaissance

The site area reconnaissance was conducted on Friday, October 16, 1998. The purpose of the site area reconnaissance was to identify sites in the vicinity that may pose a risk to the project site environment.

According to the USGS Oakland, West, California 7.5-Minute Quadrangle Map, the project site lies on a gently southwest-sloping plain approximately two miles southwest from the northwest-southeast trending Berkeley Hills. The elevation at the project site is approximately 30 feet above mean sea level. The project site is located in a predominantly industrial and light industrial area of Emeryville, approximately 300 feet south from the Berkeley city limit and 150 feet west from the Oakland city limit. Some residential land use is present southeast from the project site.

Current land uses surrounding the project site include the following:

- **North** Bordering the project site on the northwest is an apparent distribution warehouse northwest from the project site at 1295 67th Street, George Martin Machining Company north from the project site at 1265 67th Street, and Fabco Automotive northeast from the project site at 1249 67th Street.

- **East** East from the north project site parcel is Fabco Automotive at 1249 67th Street. East from the middle project site yard is the former Oliver Rubber facility (now vacant), followed by the former Myers Drum Company facility (now vacant), which extends approximately 1,000-feet east to San Pablo Avenue. East from the south project site parcel is a industrial building, partially occupied the LSI Engineering Department and by the City of Emeryville for storage, followed by parking, light industrial, and residential properties.

- **South** Bordering the project site on the south is apparent residential housing under construction, followed by residential and industrial properties.

- **West** Bordering the south project site parcel on the west is Oakland Diesel Distributors at 1289 65th Street, followed by various active and vacant industrial facilities. West from the south portion of the middle project site parcel is Autumn Press at 1280 65th Street, followed by commercial and light industrial properties. West from the west project site parcel is Card House at 1303 66th Street, followed by industrial and light industrial properties. West from the north project site parcel is an apparent distribution warehouse occupied by New Logic International at 1295 67th Street, followed by industrial and light industrial properties.

Types of businesses on the expected upgradient (east) groundwater flow direction which might be expected to impact the project site include: (1) Fabco Automotive, located northeast from the project site at 1249 67th ; (2) The former Oliver Rubber facility, located east from the project site at 1200 65th Street; and (3) The former Myers Drum facility, located on the east side of Vallejo Street at 6549 San Pablo Avenue.

northeast corner of the south project site parcel. These tanks are all shown to contain "corn syrup and sugar". The south project site parcel is shown as vacant on maps prior to 1967.

- on the 1967 and 1969 maps, the currently-existing warehouse located in the northwest corner of the middle parcel is shown as "private auto repair", with a concrete floor

- On the 1967 and 1969 maps, the west portion of the currently-existing building on the west project site parcel is shown as a "wholesale auto parts warehouse".

- The former Oliver Rubber facility located immediately east from the middle project site parcel, is shown on 1950 and all subsequent maps.

- On the 1950 and 1952 maps, the building located east from the south project site building was occupied by The Alloy Company; on the 1967 and 1969 maps, this adjacent building was occupied by Industrial Pipe Warehouse. The Alloy Company apparently conducted zinc dust manufacturing.

- On the 1952 and subsequent maps, a machine shop and a doughnut mixing plant are shown immediately north from the north project site parcel.

- On 1950 and subsequent maps, the Fabco Automotive factory is shown immediately east from the north project site parcel.

3.2 City Directory Review

Polk city directories and Haines Cross-Cross city directories for years 1969, 1974, 1979, and 1987 were reviewed at the Oakland Public Library. These directories provide tenant names for given street addresses. Review of selected city directories revealed the following:

- Diamond Alkali Company is listed at the 1269 66th Street project site address in 1969, but not in 1974.

- Mooney Truck Service Repairs is listed at the 1275 66th Street project site address in 1969, 1974, and 1979 directories, but is not listed in the 1987 directory.

- Emeryville Transportation and Trucking is listed at 1255 66th Street and 1275 66th Street project site addresses in the 1969, 1974, and 1979 directories.

- In the 1979 directory, Vegetable Oil, Inc. is listed at the 1266 66th street project site address, and Liquid Sugars, Inc. is listed at the 1267 66th Street project site address.

- In the 1987 directory, California Omega Foods, California Syrup & Extract, Emeryville Transportation, and Liquid Sugars, Inc. are all listed at the 1285 66th Street project site address.

- Mohawk Petroleum Bulk Plant is listed at the 1274 65th Street project site address in the 1969 and 1974 directories, but not in the 1979 directory.

3.4 Interviews With Knowledgeable Persons

Interviews were conducted project site personnel with knowledge related to site and site area history and activities. Results of these interviews provided the following relevant information.

- According to Ms. Barbara Blank, who has worked for LSI since 1960, Emeryville Transportation, and later Liquid Sugars, Inc., occupied the middle project site parcel since about 1962. Initially, they shared the property with Mohawk Petroleum, and, as business grew, took over all four project site parcels. According to Ms. Blank, the warehouse located in the northwest corner of the middle project site parcel was previously used for truck repairs, and the middle project site parcel yard was previously covered with dirt and gravel.

- Mr. Don Drum, Director of Technical Department, LSI, provided information about current LSI products and hazardous wastes. LSI maintains Material Safety Data Sheets (MSDS) for all known hazardous chemicals at all LSI facilities. A list of substances for which LSI maintains MSDSs is contained in Appendix F. According to Mr. Drum, LSI products which are stored in silos and tanks at the LSI Emeryville facility include: (1) Various grades of food-grade corn syrup and fructose sugar liquids; (2) Various grades of vegetable oils and shortenings; (3) Various molasses and syrup blends; (4) Granulated sugar; and (5) Various emulsifiers.

- According to Mr. Mike Alo, Manager of Engineering Department, LSI maintains a Stormwater Pollution Prevention Plan and a Spill Prevention and Countermeasure Plan for the LSI Emeryville facility. These plans have been developed to minimize potential environmental threats posed by the various liquid storage and handling activities at the site.

4.0 GOVERNMENT AGENCY INFORMATION REVIEW

Gribi Associates reviewed hazardous waste information from the following governmental agency sources: (1) Federal lists; (2) State of California and regional lists; and (3) UST files review. The purpose of this review was to provide information about reported hazardous waste sites and incidents in the project site vicinity. In order to facilitate our review of Federal, State and regional lists, Gribi Associates obtained and reviewed a radius site profile for the project site area from Environmental Data Resources, Inc. (EDR). The EDR report, which includes a computer-generated listing of the following regulated hazardous waste sites within a specified radius from the project site, is contained in Appendix G.

4.1	**Federal Lists**		**Approximate Search Radius**
	4.1.1	CERCLIS List	½ mile
	4.1.2	National Priority List	1 mile
	4.1.3	RCRA Generators Lists	1/8 mile
	4.1.4	RCRA TSD Facilities List	½ mile
	4.1.5	ERNS List	Project Site
	4.1.6	RCRA CORRACTS List	1 mile
	4.1.7	Other Non-ASTM Lists	Project Site

4.2	**State and Regional Lists**		**Approximate Search Radius**
	4.2.1	CHMIRS List	1 mile
	4.2.2	CALSITES List	1 mile
	4.2.3	UST List	1/4 mile

waste. The EDR report identifies TSD sites prior to April 1998. The EDR report identified no TSD sites within one-half mile radius from the project site.

4.1.5 Emergency Response Notification System (ERNS) List

The Emergency Response Notification System (ERNS) is a national database containing information from spill reports made to Federal authorities. The EDR report includes sites with ERNS reports from 1986 through June 1998. The EDR report identified no ERNS reports for the project site.

4.1.6 RCRA Corrective Actions and Associated TSD (CORRACTS) List

The EPA maintains this database of RCRA facilities which are undergoing corrective actions when there has been a release of hazardous waste or constituents into the environment from RCRA facilities. Corrective actions may be required beyond the facility's boundary and may be required regardless of when the release occurred. The EDR report identifies sites prior to December 1997. The EDR report identified no CORRACTS sites within one mile radius from the project site

4.1.7 Other Non-ASTM Lists

The EDR report searched for project site addresses on the following non-ASTM Federal lists. The project site was not reported by EDR to be on any of these lists.

HMIRS	Spill incidents reported to the US Department of Transportation, prior to December 1996
RAATS	RCRA Administration Action Tracking System, prior to April 1995
PADS	PCB Activity Database System, prior to October 1997
MLTS	Radioactive Materials Licensing Tracking System, prior to January 1998
FINDS	Facilities Index System, from various Federal sources, prior to April 1997
TRIS	Toxic Chemical Release Inventory System, prior to December 1995
TSCA	Toxic Substances Control Act, prior to January 1994

4.2 State and Regional Lists

4.2.1 CHMIRS List

The California Hazardous Material Incident Reporting System (CHMIRS) is provided by the Office of Emergency Services and contains information on reporting hazardous material accident releases or spills. The EDR report identifies sites prior to December 1994. The EDR report identifies no sites within one-eight mile radius, one site between one-eighth mile and one quarter mile radius, and nine sites between one-half mile and one mile radius from the project site. The listing between one-eighth mile and one-quarter mile is A. A. Johnson & Sons at 1164 66th Street. The incident apparently involved a 40-gallon release of diesel to the ground surface on June 17, 1991. Based on the small quantity of this release, we would not expect it to impact the project site environment.

Pablo Avenue; and (4) A.A. Johnson & Sons at 1164 66th Street. Based on our review of Alameda County site files, as reported in Section 4.3 of this report, we would not expect releases from any of these upgradient USTs to impact the project site environment.

4.2.5 SWLF List

The State of California lists permitted solid waste landfills, incinerators, or transfer stations (SWLFs) within the State through January 1998. This list also includes a review of the Waste management Unit Database System prior to March 1998 provided by the State Water Resources Control Board. The EDR report identifies no permitted SWLFs within one-half mile radius from the project site.

4.2.6 NOTIFY 65 List

In accordance with Proposition 65, the State Water Resources Control Board provides a list of facility notifications about any releases which could impact drinking water, and thereby expose the public to a potential health risk. The EDR report, which lists Proposition 65 sites prior to October 1993, contains one site within one-eighth mile radius, one site between one-eighth mile and one-quarter mile radius, no sites between one-quarter mile and one-half mile radius, and six sites between one-half mile and one mile radius from the project site. The two sites located within one-half mile radius from the project site are not located in an upgrading (east) groundwater flow direction and would not be expected to impact the project site environment.

4.2.7 Cortese List

This list, which is provided by the Office of Environmental Protection, is known as the Hazardous Waste and Substances Sites list and is commonly referred to as the Cortese list. In many instances, the Cortese list duplicates information contained in the LUST list. The EDR report identifies all sites prior to December 1994.

The EDR report identifies three sites within one-eighth mile radius, six sites between one-eighth mile and one-quarter mile radius, 26 sites between one-quarter mile and one-half mile radius, and 33 sites within one-half mile and one mile radius from the project site.

The 1275 66th Street project site parcel is contained on the Cortese list. This listing involves the removal and investigation of three USTs formerly located on the middle project site parcel, as summarized in Section 1.3 of this report.

Of the remaining eight Cortese sites within one-quarter mile radius from the project site, those located in an expected upgrading (east) groundwater flow direction from the project site are also LUST sites and include: (1) Oliver Rubber at 1200 65th Street; (2) Fabco Division at 1249 67th Street; and (3) Myers Drum at 6549 San Pablo Avenue. Based on our review of Alameda County site files, as reported in Section 4.3 of this report, we would not expect releases from any of these upgrading USTs to impact the project site environment.

Oliver Rubber 1200 65th Street 50 feet east (upgrading)

A Stormwater Pollution Prevention Plan for the former Oliver Rubber facility lists the use of zinc oxide, aromatic oils, naphthenic oil, and motor oil at the site. Naphthenic oil was apparently stored in a 4,000-gallon above ground storage tank (AST) in the yard area on the north side of the facility. Aromatic oil was apparently stored in a concrete-lined vault located on the west side of the yard area, adjacent to the railroad tracks.

Two 8,000-gallon nonhalogenated solvent underground storage tanks (USTs) located in the north 65th Street sidewalk were removed in November 1991. Soil samples contained Total Petroleum Hydrocarbons as Gasoline (TPH-G) ranging from nondetectable to 250 parts per million (ppm), with little or no detectable levels of nonhalogenated solvent compounds. Approximately 80 cubic yards of soil was excavated from the UST cavity, and subsequent soil samples contained little or no gasoline or nonhalogenated solvent compounds..

One 1,000-gallon bunker oil UST located in the south 65th Street sidewalk at 1259 65th Street was removed in July 1992. Soil samples contained Total Petroleum Hydrocarbons as Diesel (TPH-D) ranging from nondetectable to 490 ppm. In December 1992, approximately 50 cubic yards of soil was excavated from the UST cavity, and subsequent soil samples contained little or no hydrocarbon constituents.

In October 1992, three groundwater monitoring wells were installed at the site, including one well downgradient (west) from the former 8,000-gallon USTs and one well downgradient from the former 1,000 bunker oil UST. Soil samples from the wells contained very low levels of some halogenated solvents and no detectable gasoline, diesel, or nonhalogenated solvent compounds. Groundwater samples collected over four quarterly monitorings contained no detectable levels of target compounds.

Based on these results, Alameda County Health Agency and the San Francisco Bay Regional Water Quality Control Board granted regulatory closure for the site in April 1995.

Fabco Automotive 1249 67th Street 50 feet northeast (upgrading)

A Stormwater Pollution Prevention Plan for this site indicates that Fabco Automotive began manufacturing truck components at the facility in 1919. Manufacturing processes generally include metal casing and welding, and chemicals used at the site include cutting oils, grease, machine tool coolant, iron and aluminum oxides, copper, silicon, and chromium.

One 1,000-gallon gasoline UST and one 4,000-gallon concrete cutting oil UST were apparently removed from the site in March 1988. Soil samples contained little or no Total Oil and Grease or TPH-D.

In June 1988, deteriorated asphalt and three to four inches of base rock were excavated from a small stained area of the site. Soil samples collected following removal indicated no significant impact to underlying soils at the site.

6.0 ASBESTOS ASSESSMENT

This investigation did not include a formal asbestos assessment. However, given the age of site buildings and the general site activities, it seems likely that asbestos-containing materials (ACM) are present at the site. In fact, Mr. Mike Alo of Liquid Sugars stated that he is currently exploring disposal options for ACM insulation associated with some of the vertical tanks in the north project site yard.

7.0 LEAD BASED PAINT ASSESSMENT

Lead based paint was banned by Federal law in 1978. Because the highest risk of lead poisoning is to small children, current Federal law regarding existing lead based paint surfaces apply only to residential houses, apartments, or mobile homes constructed prior to 1978, and not to commercial buildings.

Because the project site includes no residential housing, the existence of potential lead based paint surfaces in project site buildings does not represent an environmental condition.

8.0 RADON GAS ASSESSMENT

Radon, specifically radon isotope-222, is a naturally radioactive gas formed by the decay of uranium in bedrock and soil. Uranium and radon naturally occur in varying amounts in rocks and soils; therefore, radon is present in the air we breathe. The adverse health effects associated with radon gas depend on various factors, such as the concentration of the gas and duration of exposure. The concentration of radon gas in a building depends on subsurface soil conditions, the integrity of the building's foundation, the building's ventilation system, and the existence and integrity of basements or substructures. The USEPA has established radon guidelines which apply to residential occupancy only, and not to commercial occupancy. The USEPA recommends action be taken to reduce radon levels when the levels in residences exceed 4 pico curies per liter (pCi/L)

The California Department of Health Services (DHS) estimates that two percent (2%) of California residences may be above the 4 pCi/L recommended action level. Since the project site has no residential occupancy, and the presence or absence of radon gas does not represent an environmental condition at the project site. Furthermore, because all project site buildings rest on a concrete slab flooring with no basements or substructures, significant levels of radon gas would not be expected at the project site,

9.0 CONCLUSIONS

Gribi Associates has conducted a Phase I Environmental Site Assessment (ESA) in accordance with the scope and limitations of ASTM Practice E 1527-97 for the four Liquid Sugars, Inc. parcels in Emeryville, California. The purpose of the Phase I ESA was to identify potential and actual onsite and offsite hazardous waste sources or practices that may pose an environmental risk to the project site environment.

9.1 Impacts From Project Site

This Phase I ESA revealed potential impacts to only the middle projects site parcel, and no current or past activities on the north. west or south parcels which would appear to impact the project site environment. Past project site activities and business types on the middle project site parcel which could pose a risk to the project site include: (1) The operation of a Mohawk Petroleum bulk fuel plant on the west side of the middle project site from the late 1940s until the mid-1970s; (2) Possible past truck repairs by Emeryville Transportation or Mooney Trucking in the northwest building on the west parcel; (3) The past operation of three fuel USTs by Liquid Sugars, Inc. on the west side of the middle parcel; and (4) Heavy oil spills associated with the compressors located in the southeast corner of the boiler room on the west side of the middle parcel. Of these four activities, only the operation of USTs on the west side of the middle parcel is known to have impacted the project site environment.

Although this assessment did not include an asbestos survey, some asbestos-containing materials are known to exist on the project site.

9.2 Impacts From Site Vicinity

This investigation revealed the following sites and activities located in an upgradient (east) groundwater flow direction which could pose a risk to the project site environment: (1) The storage of aromatic hydrocarbons in a concrete vault in the north yard at the adjacent east former Oliver Rubber plant at 1200 65th Street; (2) The possible use of cutting oils, solvents, fuels, and metal products at the Fabco Automotive facility at 1249 67th Street, immediately east from the north project site parcel; (3) Possible releases associated with zinc dust manufacturing at the former Alloy Company, located directly east from the south project site parcel sometime in the 1950s; and (4) The use of fuel oil at the former California Syrup Factory, located immediately east from the middle project site parcel in the early 1900s. Although solvent and hydrocarbon releases have been documented on the east half of the former Myers Drum facility, located about 200 feet east from the middle project site parcel at 6549 San Pablo Avenue, soil and groundwater investigations at the Myers Drum site have indicated no offsite migration of these solvent or hydrocarbon releases.

10.0 RECOMMENDATIONS

Based on the results of this Phase I ESA, Gribi Associates recommends conducting soil and groundwater sampling, primarily on the west side of the middle parcel, where a Mohawk bulk fuel plant and LSI underground storage tanks were located in the past.

In order to assess potential risks associated with possible asbestos-containing materials at the site, Liquid Sugars, Inc. may wish to conduct a detailed asbestos survey, to include sampling and laboratory analysis of suspected ACM materials at the site.

June 3, 1993

UST Local Oversight Program
Alameda County Health Agency
Department of Environmental Health
80 Swan Way, Suite 200
Oakland, CA 94621

Attention: Ms. Susan Hugo

Subject: Report of Ground Water Investigation
Liquid Sugars UST Site
1275 66th Street
Emeryville, California
CWEC 20516-001-04

Ladies and Gentlemen:

The enclosed report documents the installation and sampling of two ground water monitoring wells at the subject site in Emeryville California. Sampling was conducted in accordance with the amended workplan submitted to Alameda County UST Local Oversight Program on April 2, 1993. The purpose of these wells was to investigate the extent of fuel hydrocarbons in ground water in a downgradient direction from the three former gasoline and diesel underground storage tanks (USTs) located at the subject site.

Soil analytical results from the two wells indicate that migration of fuel hydrocarbons in subsurface soils has been limited both vertically and laterally. Vertically, fuel hydrocarbons are only present in a relatively thin layer at the ground water table between seven and ten feet in depth. Laterally, soils in the closest well, MW-2, showed elevated levels of gasoline and diesel constituents. However, soils in MW-1, which is located near the downgradient property line, showed levels of fuel hydrocarbons which are below the regulatory action level of 100 ppm.

Although ground water samples from both wells contained fuel hydrocarbon constituents, these levels were substantially lower in MW-1, which is located near the downgradient property line. Furthermore, the levels of gasoline and diesel constituents in the MW-1

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July 30, 1991	Visqueen was placed in UST excavation pit, and pit was backfilled and compacted using clean material. Prior to backfilling, two soil samples were collected from the west sidewall at a depth of approximately five feet below grade. Samples contained 10 ppm and 19 ppm of TPH-motor oil. Other fuel constituents were nondetectable. Consultant: Century West Engineering.
August 5, 1991	Collected five discrete soil samples from the soil stockpile for compositing into one sample. Composite sample was analyzed for TPH-gas, TPH-diesel, BTXE, RCI, and 17 CAM Metals. Sample contained 590 ppm of TPH-diesel and 560 ppm of TPH-motor oil. Consultant: Century West Engineering.
September 14, 1991	Stockpiled soil was hauled to Vasco Road Sanitary Landfill in Livermore, California for disposal.
November 7, 1991	Eight soil borings were drilled and sampled around the backfilled UST pit to assess lateral and vertical extent of fuel constituents in soil. Consultant: Century West Engineering.

1.2 Scope of Work

Century West Engineering was retained by Liquid Sugars, Inc. to conduct the following tasks:

Task 1: Drill and Install Two Ground Water Monitoring Wells.

Task 2: Develop and Sample Two Monitoring Wells

Task 3: Provide Laboratory Analysis of Soil and Ground Water Samples

Task 4: Prepare Report of Findings

With the submittal of this report, we have completed the tasks listed above.

1.3 Limitations

This report has been prepared for the exclusive use of Liquid Sugars, Inc. with specific application to the site located at 1275 66th Street in Emeryville, California. The use of this report, its contents, or any part of it by a party, or its agents, other than for whom this report was prepared, is herewith disallowed.

In part, these findings, conclusions, and recommendations are based on the best available information known or made available by the site owner, regulators, other consultants, or other sources. Over time, the surficial evidence of some activities are obscured or obliterated entirely. It is possible that certain adverse conditions could exist at the site which were not detected in this evaluation.

The services provided under this contract, as described in this report, include professional opinions and judgements based on data collected. These services have been

ahead of the drill bit; (2) The sampler was raised quickly to the surface and the brass liners exposed; (3) One of the brass liners (the one containing the most undisturbed soil) was quickly sealed with aluminum foil and plastic end caps, labeled, and wrapped tightly with tape; and (4) The sealed soil sample was immediately placed in cold storage for transport to the laboratory under formal chain-of-custody. All sampling equipment was thoroughly cleaned and decontaminated between each sample collection by triple-rinsing first with water, then with dilute tri-sodium phosphate solution, and finally with distilled water.

3.3 Installation of Ground Water Monitoring Wells

The two wells were constructed in accordance with the following specifications. Well construction diagrams for both wells are contained in Appendix D.

- The closer downgradient well (MW-2) was constructed using four-inch diameter casing, and the farther downgradient well (MW-1) was constructed using two-inch diameter casing. Well casing consisted of Schedule 40 threaded PVC. 0.020-inch slotted well screen was placed from approximately twenty feet to five feet in depth, and blank casing was placed from a depth of approximately five feet to ground level.

- Number 3 Lonestar silica sand was placed around the casing to a depth of approximately four feet below grade.

- A hydrated bentonite seal was placed around the casing from approximately four feet to three feet in depth.

- The remaining three feet of annulus was grouted using a cement/sand slurry (bentonite less than 5 percent).

- The top of the well was sealed in a traffic rated locking box set in concrete slightly raised above grade.

3.3 Development and Sampling of Two Monitoring Wells.

Century West Engineering developed and sampled each well as follows:

- After the cement was cured in each of the wells for a minimum of 48 hours, the ground water depth in each of the wells was measured to the nearest 0.01 foot using an electronic probe. A single bail of fluid was taken using a disposable PVC bailer to check for hydrocarbon sheen and odor.

- Each of the wells was developed by bailing each well of at least three well volumes, periodically monitoring the purged ground water for free-floating

due to a combination of lighter hydrocarbons and Diesel".

3 - Water level measured in well prior to sampling on April 23, 1993.

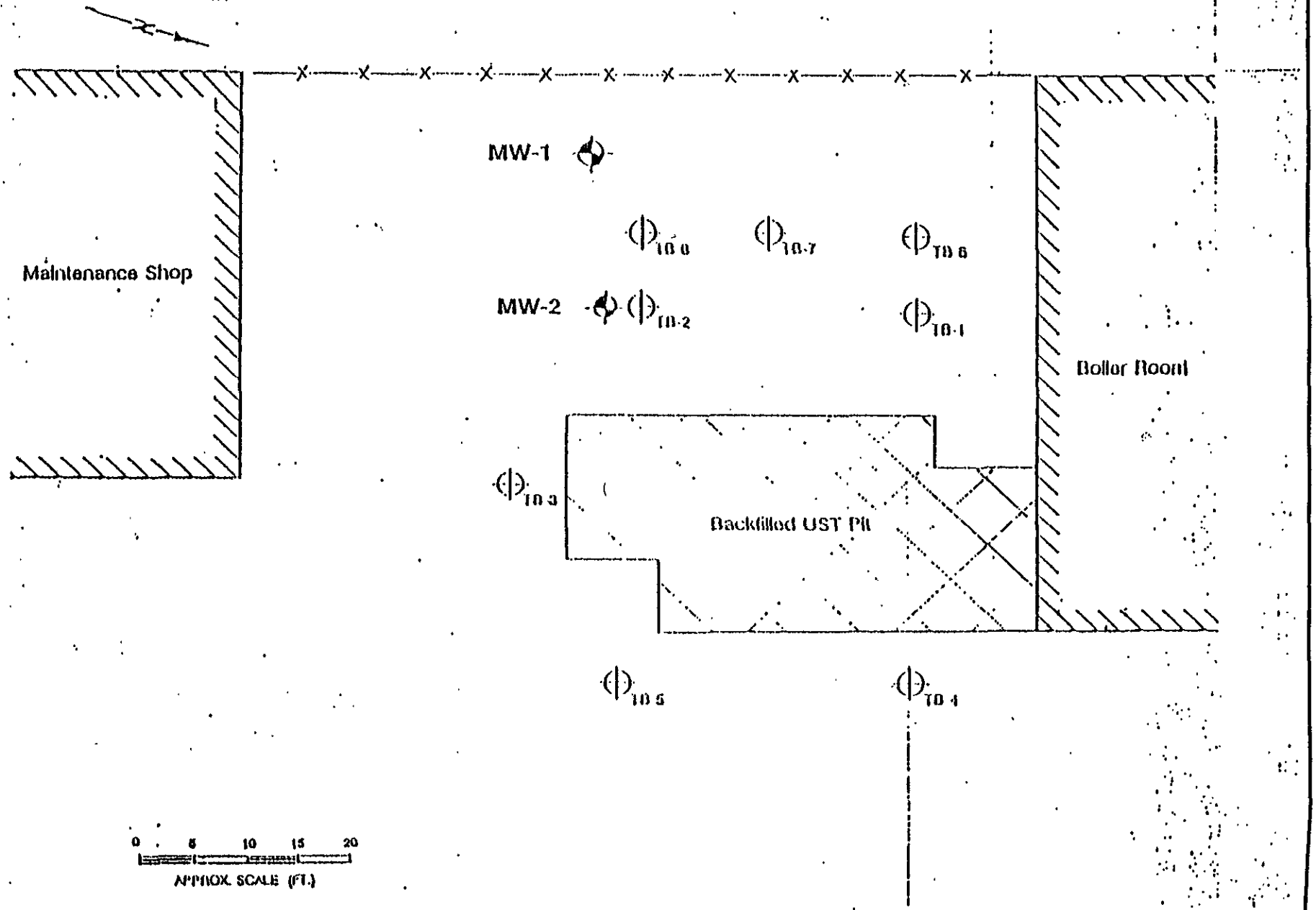
4 - NET Pacific lab report states "The positive result for Petroleum Hydrocarbons as Gasoline does not appear to have a typical Gasoline pattern".

5.0 CONCLUSIONS

Soil analytical results indicate that migration of fuel hydrocarbons in subsurface soils has been limited both vertically and laterally. Vertically, fuel hydrocarbons are only present in a relatively thin layer at the ground water table between seven and ten feet in depth. Laterally, soils in the closest well, MW-2, showed elevated levels of gasoline and diesel constituents. However, soils in MW-1, which is located near the downgradient property line, showed levels of fuel hydrocarbons which are below the regulatory action level of 100 ppm.

Although ground water samples from both wells contained fuel hydrocarbon constituents, these levels were substantially lower in MW-1, which is located near the downgradient property line. Furthermore, the levels of gasoline and diesel constituents in the MW-1 ground water sample are relatively low (i.e. below 1 ppm) and do not warrant additional remediation.

Based on these results, Liquid Sugars proposes to monitor ground water quality in the two wells quarterly for at least one year to further assess ground water impacts.



DESIGNED BY :	DATE :	CENTURY WEST ENGINEERING	DRAWING NO.
DRAWN BY :	SCALE :	FIGURE 2 PROPOSED WELL LOCATIONS	
CHECKED BY :	SEC. :		SHEET NO.

ALAMEDA COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT
5997 PARKSIDE DRIVE • PLEASANTON, CALIFORNIA 94588 • (510) 484-2600

12 April 1993

Century West Engineering
7950 Dublin Boulevard, Suite 203
Dublin, CA 94568

Gentlemen:

Enclosed is drilling permit 93179 for a monitoring well construction project at 1275 - 66th Street in Emeryville for Liquid Sugars, Inc.

Please note that permit condition A-2 requires that a well construction report be submitted after completion of the work. The report should include drilling and completion logs, location sketch, and permit number.

If you have any questions, please contact Wyman Hong or me at 484-2600.

Very truly yours,

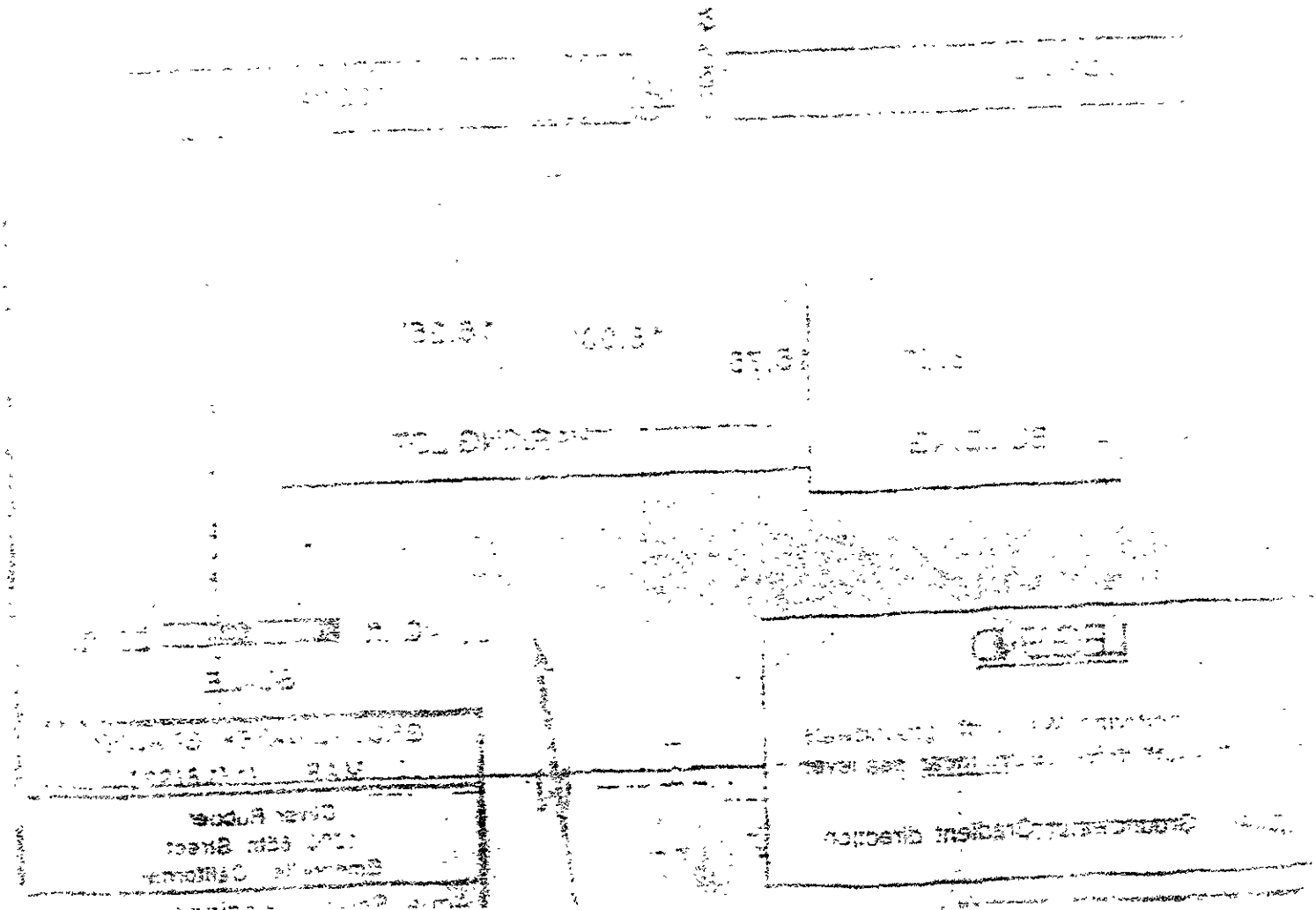
Craig A. Mayfield

Craig A. Mayfield
Water Resources Engineer III

WH:mm
Enc.

APPENDIX B

OLIVER TIRE GRADIENT MAP



APPENDIX C

BORING LOGS

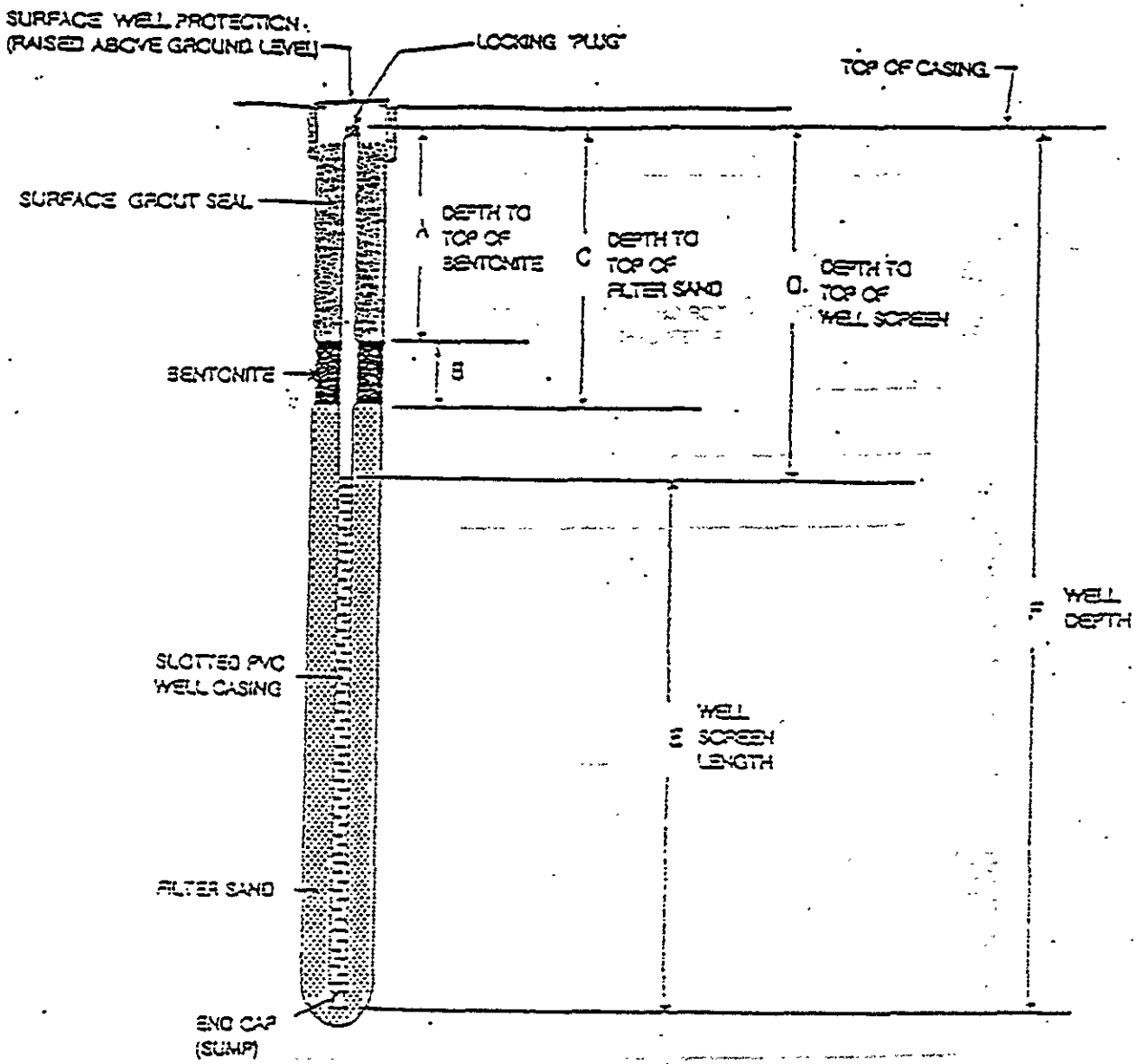
SOIL BORING LOG MW-2

Century West Engineering

Site Location: 1275 66th Street, Emeryville Ca.	Boring ID: MW-2	Total Depth: 21 ft
Boring Location: 10 ft west of the UST	Elevation: NA	Initial GW Depth: 18 ft
Purpose: Ground water monitoring	Logged By: Jim Gribi	Final GW Depth:
Date: April 15, 1993	Blank Casing: 4-inch Sch 40	From: 5.1 ft To: 0 (TOC)
Consulting Firm: Century West Engineering	Perforations: 0.020 inch	From: 21 ft To: 5.1 ft
Project Number: 20516-001-04	Filter Sand: Lonestar	From: 21 ft To: 3.5 ft
Drilling Contractor: Gregg Drilling and Testing	Bentonite: Hydrated pellets	From: 3.5 ft To: 2.5 ft
Drilling Method: Hollow stem auger	Grout: Cement slurry (bent. <5%)	From: 2.5 ft To: .5 ft

Depth	Sample ID	Blow Counts	Profile	Soil Description	Remarks
01					USCS Classification
02				0.0 - 1.0 ft Concrete	
03				1.0 - 8.0 ft Dark grey, moist to wet firm clay; slight to moderate hydrocarbon odor	CH
04					
05					
06	MW-2.1	9 12 25	▽		
07					
08				8.0 - 12.0 ft. Grey green, moist to wet, gravelly clay containing 1/4 to 1 inch clasts; moderate to strong hydrocarbon odor	CL
09					
10					
11	MW-2.2	20 24 29			
12				12.0 - 21.0 ft Brown, firm and wet clayey silt containing some gravels; slight to moderate hydrocarbon odor.	CL
13					
14					
15					
16					
17					
18					
19					
20					
21					

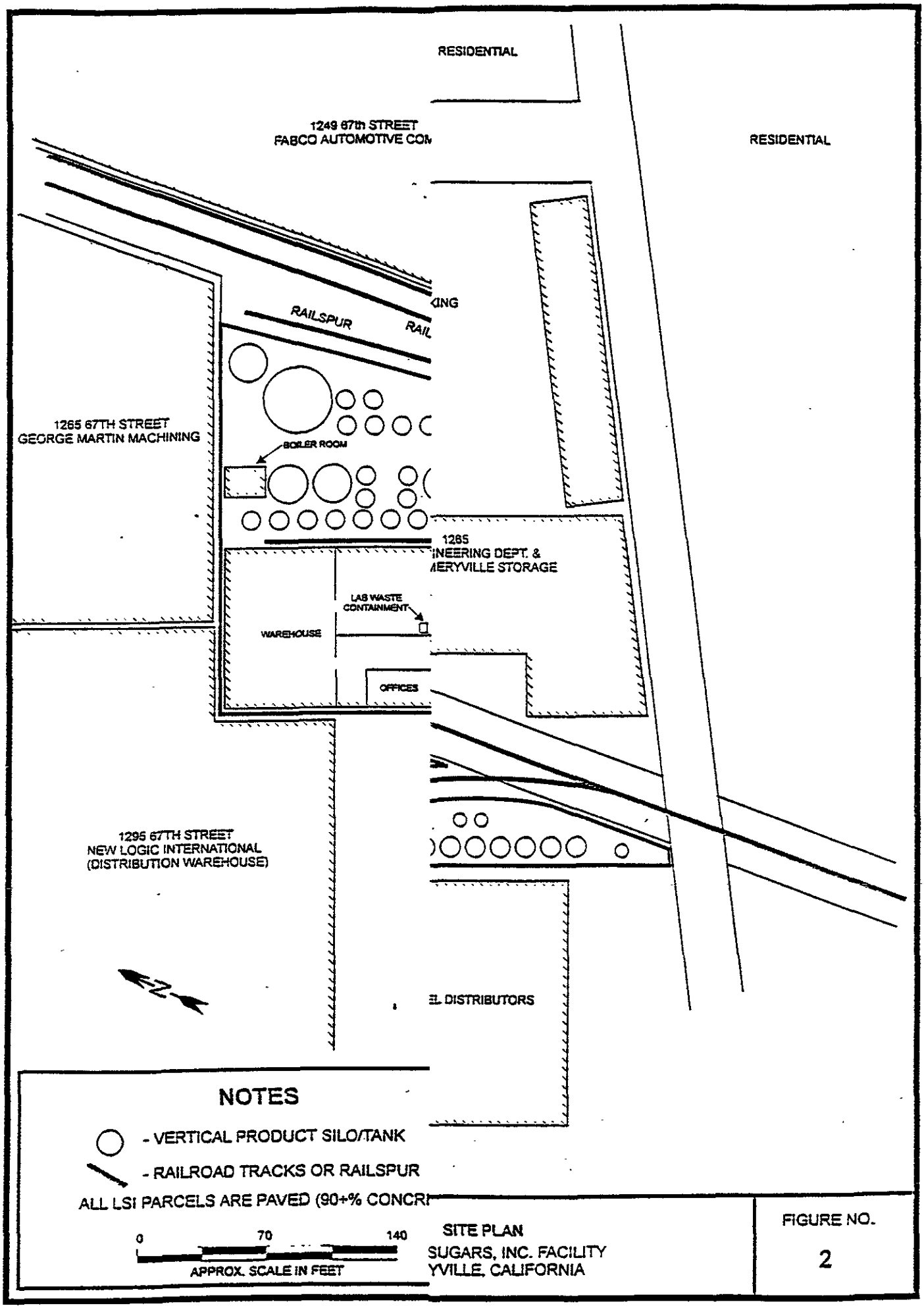
Final auger depth 21.0 ft
Ground Water Depth - 6.73 feet



MW-1 WELL SPECIFICATIONS

WELL CASING:	Two-inch Sch. 40 PVC	A	3 feet
WELL SLOT SIZE:	0.020 inch	B	1 feet
BENTONITE:	Hydrated pellets	C	4 feet
SURFACE SEAL:	Cement slurry (bent. < 5%)	D	4.56 feet
WELL PLUG:	Locking expandable cap	E	20.00 feet
SURFACE PROTECTION:	Traffic rated, water tight	F	24.56 feet

DESIGN BY		CHECKED BY		WELL CONSTRUCTION DIAGRAM	APPROVED
SURVEY BY		SCALE	NO SCALE		DATE
DRAWN BY	JEG	DWG. NO.			CENTURY WEST ENGINEERING CORPORATION


RESIDENTIAL
1249 67th STREET
FABCO AUTOMOTIVE CON
RESIDENTIAL
RAILSPUR
RAIL
1265 67TH STREET
GEORGE MARTIN MACHINING
BOILER ROOM
1285
INEERING DEPT. &
/ERYVILLE STORAGE
LAB WASTE
CONTAINMENT
WAREHOUSE
OFFICES
1295 67TH STREET
NEW LOGIC INTERNATIONAL
(DISTRIBUTION WAREHOUSE)
EL DISTRIBUTORS
NOTES
- VERTICAL PRODUCT SILO/TANK
- RAILROAD TRACKS OR RAILSPUR
ALL LSI PARCELS ARE PAVED (90+% CONCR
0
70
140
APPROX. SCALE IN FEET
SITE PLAN
SUGARS, INC. FACILITY
YVILLE, CALIFORNIA
FIGURE NO.
2