

Emma Totsubo, E.I.T.

August 30, 2021

Page 2

Enter the address in the search by address box, or enter the APN without dashes in the search by parcel number box. Each epermit entry has data and attachments, including contact info, fees, plan check comments and inspections.

We are providing copies of the City's records located in connection with hazardous waste and environmental health; however, the City's Deputy Fire Chief advised for information on environmental reports and hazardous materials records, please contact the County of Marin Certified Unified Program Agency (CUPA) administrator at 415-473-6528.

Staff are compiling additional records in response to your requests, but due to time constraints staff will need additional time. We expect to provide those records to you no later than Friday, September 3, 2021 but will respond sooner if possible.

Very truly yours,



LISA A. GOLDFIEN
Assistant City Attorney

Enclosures



Office of the City Attorney
Robert F. Epstein, City Attorney
Lisa A. Goldfien, Assistant City Attorney

Phone: (415) 485-3080
Fax: (415) 485-3109
Email: city.attorney@cityofsanrafael.org

September 3, 2021

By Email Only: etotsubo@rouxinc.com

Emma Totsubo, E.I.T.
Staff Engineer
Roux
555 12th Street, Suite 250
Oakland, CA 94607

Re: Records Request to the City of San Rafael

Dear Ms. Totsubo:

This is in follow up to my August 30, 2021 letter to you regarding your records request to the City of San Rafael asking for public records for the addresses in San Rafael listed below. You stated you are interested in files available for the entire history of the address, particularly related to land use, hazardous waste, and environmental health (e.g. environmental site assessments, hazardous waste violations, documented releases, permits, etc.):

1. 1000 Northgate Drive,
2. 1500 Northgate Drive,
3. 5000 Northgate Drive,
4. 5010 Northgate Drive,
5. 5800 Northgate Drive,
6. 6000 Northgate Drive,
7. 7000 Northgate Drive,
8. 9000 Northgate Drive.

Enclosed are the reminder of records responsive to Request 5 in the folder entitled "5800 Northgate Drive No. 2". Also enclosed are a portion of the records in response to Request 6 in the folder entitled "6000 Northgate Drive". Responsive records may be accessed here.

These records, including any building code violations, approved site plans, variances, special permits, and conditional/special use permits can be found on the City's eTrakit website at the following link:

<http://epermits.cityofsanrafael.org/etrakit3/Search/permit.aspx>.

Emma Totsubo, E.I.T.
September 3, 2021
Page 2

Enter the address in the search by address box, or enter the APN without dashes in the search by parcel number box. Each permit entry has data and attachments, including contact info, fees, plan check comments and inspections.

As stated in my August 30 letter, we are providing copies of the City's records located in connection with hazardous waste and environmental health; however, the City's Deputy Fire Chief advised for information on environmental reports and hazardous materials records, please contact the County of Marin Certified Unified Program Agency (CUPA) administrator at 415-473-6528.

Staff are compiling additional records in response to your requests, but due to the volume of responsive records, staff will need additional time. We expect to provide those records to you by Friday, September 10, 2021.

Very truly yours,



LISA A. GOLDFIEN
Assistant City Attorney

Enclosures

Emma Totsubo

From: Laraine Gittens <Laraine.Gittens@cityofsanrafael.org>
Sent: Tuesday, September 7, 2021 4:51 PM
To: Emma Totsubo
Cc: Lisa Goldfien
Subject: Records Request to the City of San Rafael

This message originated outside your organization. Please use caution!

Hello –

This is in follow up to Assistant City Attorney Lisa Goldfien's 9/3/21 letter to you regarding your 8/20/21 records request below. The remainder of records located for 6000 Northgate Drive and all records located for 9000 Northgate Drive have now been uploaded to the records portal and may be accessed [here](#).

No records were located for 7000 Northgate Drive; however, the City's online records search portal at <http://epermits.cityofsanrafael.org/etrakit3/Search/permit.aspx> shows some activity at this parcel. Enter the address in the search by address box for more information.

Thank you.

Laraine K. Gittens | City of San Rafael
Legal Assistant
Office of the City Attorney
1400 5th Avenue
San Rafael, CA 94901
Tel: (415) 485-3080
Fax: (415) 485-3109



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From: Lindsay Lara
Sent: Friday, August 20, 2021 4:58 PM
To: Laraine Gittens <Laraine.Gittens@cityofsanrafael.org>; Lisa Goldfien <Lisa.Goldfien@cityofsanrafael.org>; Brenna Nurmi <Brenna.Nurmi@cityofsanrafael.org>
Subject: Fwd: Public Records Request

From: Emma Totsubo <etotsubo@rouxinc.com>
Sent: Friday, August 20, 2021 3:05 PM
To: Distrib- City Clerk
Subject: Public Records Request

Hello,

Roux Associates will be conducting a Phase I ESA for Northgate Mall and would like to request public records for the following addresses in San Rafael:

1000 Northgate Dr
1500 Northgate Dr
5000 Northgate Dr
5010 Northgate Dr
5800 Northgate Dr
6000 Northgate Dr
7000 Northgate Dr
9000 Northgate Dr

We are interested in files available for the entire history of the address - particularly related to land use, hazardous waste, and environmental health (e.g. environmental site assessments, hazardous waste violations, documented releases, permits etc.).

Please reach out if you have any questions.

Thank you,
Emma

Emma Totsubo, E.I.T. | Staff Assistant Engineer

Pronouns: She/her/hers

555 12th Street, Suite 250, Oakland, California 94607

Main: 415.967.6000 | Direct: 415.967.6026 | Mobile: 310.405.5368

Email: etotsubo@rouxinc.com | Website: www.rouxinc.com



[California](#) | [Illinois](#) | [Massachusetts](#) | [New Jersey](#) | [New York](#) | [Texas](#) | [Virginia](#)



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October 9, 2007
Kleinfelder Job No.: 86393

Mr. Phil Abell
The Macerich Company
401 Wilshire Blvd., Suite 700
Santa Monica, CA 90401

**Subject: Geotechnical Report
Northgate Mall Improvements – Interior Floor Slab
5800 Northgate Mall
San Rafael, California**

Dear Mr. Abell:

This letter report presents results of our geotechnical investigation regarding the interior floor slabs within the public access areas of the main mall structure. The floor slab area evaluation is in support of the preliminary design phases of a portion of the proposed Northgate Mall Improvements project.

The Northgate Mall is located at the referenced address, which is south of Las Gallinas Avenue and between Northgate Drive and Los Ranchitos Road, as shown on the Plate 1, Site Location. The mall consists of the main building and three outlying buildings and a parking structure with asphalt concrete-paved parking and driveway areas with some landscape areas covering the site. The main mall structure layout, including the covered public walkways, is shown on Plate 2, Site Plan.

The purpose of this geotechnical study was to obtain sample cores of the floor slabs and evaluate existing soil conditions immediately under various areas of the floor slabs to assist in the planning and design of improvements including possible rehabilitation or replacement of all or portions of the interior floor slabs.

AUTHORIZATION AND SCOPE OF SERVICES

This study was authorized by the Professional Services Agreement dated August 9, 2007, executed by Mr. Mark Klaver of Kleinfelder West, Inc. and Mr. Phil Abell of Macerich Property Management Company, LLC.

Our authorized scope of services relative to the floor slab investigation:

- Concrete coring, shallow exploration, and soil sampling at six (6) locations within the main mall structure to depths of between 1.4 and 2.1 feet.

- Conduct laboratory testing on select samples including moisture content and dry density determination, Atterberg limits, particle size analysis, expansion index, and corrosivity as deemed appropriate.
- Conduct engineering analysis and develop conclusions and/or recommendations regarding:
 - Observations of the condition of the concrete cores
 - Site-specific geotechnical and groundwater conditions
- Preparation of this letter report.

FIELD INVESTIGATION

Our field exploration was performed on August 29, 2007, and consisted of six (6) concrete corings and exploratory borings (C-1 through C-6) at the approximate locations shown on Plate 2. Borings were located in the field by Kleinfelder by taping and pacing from nearby interior walls and building corners, and should be considered accurate to the degree implied by the method used. Before the exploration commenced, the existing parquet wood floor covering was removed, and was to be replaced later, by mall personnel.

The concrete floor slab corings were accomplished with a 4-inch-diameter core barrel. The concrete cores were retrieved and brought to the Kleinfelder laboratory for observation. The borings were advanced using a hand auger and a hand-driven sampling device. Materials encountered in each boring were visually classified in the field and a log was recorded. Samples obtained were removed, examined for logging, labeled, and sealed to preserve their natural moisture content for possible laboratory testing. Upon completion of our drilling and sampling program, the borings were backfilled with neat cement grout up to the top of the floor slab.

A representative of Kleinfelder observed the corings, performed the exploration, logged the conditions encountered and obtained select samples for visual classification and laboratory testing. Visual classifications were made in accordance with the Unified Soil Classification System presented on the Boring Log Legend, Plate A-1. The Log of Exploration Borings C-1 through C-6, showing soil classifications and sample depths, are attached to this report as Plates A-2 through A-7.

LABORATORY TESTING

Selected soil samples were tested in our laboratory to evaluate pertinent engineering and physical properties. The laboratory-testing program evaluated the natural moisture content, density, plasticity, particle size analysis, and expansion index of the soils encountered. Classifications made in the field were modified, as appropriate, based on the laboratory test results. Classifications presented on the test boring logs reflect modifications made as a result of laboratory tests. A summary of most laboratory test results is presented on the Log of Exploration Borings C-1 through C-6 (see Plates A-2 through A-7). The results of the laboratory tests for this investigation are presented on Plates B-1 through B-3. A separate soil sample was

obtained from exploration outside the main mall structure for corrosivity potential of on-site shallow soils. The corrosion potential test results are included in Appendix B.

SITE CONDITIONS

The following summary of conditions encountered in the six test cores drilled for this investigation has been simplified for ease of report presentation. A more detailed description of the conditions encountered is presented on the Log of Exploration Borings (Plates A-2 through A-7).

Concrete Slab-On-Grade Floor Corings

- C-1: Concrete 8.5 inches thick; overlaid with 5.25 inches of red brick with mortar at top and bottom of brick; no steel; no visqueen; 5 inches of sandy gravel bedding; over sandy clay soil. Concrete is porous, weak.
- C-2: Concrete 5.5 to 6 inches thick; no steel; one visqueen membrane at base of concrete; 3 inches of sand bedding; over sandy clay soil. Concrete appears medium to poor quality.
- C-3: Concrete 4.75 inches thick; no steel; one visqueen membrane at base of concrete; no bedding; over sandy clay. Concrete appears medium to poor quality.
- C-4: Concrete 4 inches thick; with 0.25 to 0.5-inch of mortar (possibly used for leveling the surface) on top; with a vertical cold joint; no steel; no visqueen; 2.5 inches of sandy gravel bedding; over clayey sand soil. Concrete appears medium to poor quality.
- C-5: Concrete 3 inches thick; with 0.5-inch of mortar on top; no steel; no visqueen, 2.5 inches of sandy gravel bedding; over sandy clay soil. Concrete appears medium to poor quality.
- C-6: Concrete 2 inches thick; no steel, no visqueen; 2.5 inches of sandy gravel bedding; over clayey sand soil. Concrete appears medium to poor quality.

Subsurface Conditions

In general, based on our review of the recent borings as well as previous borings by others in 1986 and 2005, it appears that the top of the site bedrock, consisting of shale and sandstone, is present near the existing surface in the northwest portion of the property, extending from the vicinity of the north end of Mervyns to the north at the intersection of Northgate Drive and Los Ranchitos Road. The depth to the top of bedrock increases under the mall to the east and south, varying to approximately 13 feet under Macy's at the north end of the mall to an estimated 15 to 16 feet under Sears to the south end of the mall. From the surface (under slabs and pavement) to the top of the bedrock, the borings encountered varying depths of fill, consisting of medium dense to dense silty and clayey gravels and stiff to firm sandy clay, and alluvial soils, generally including medium dense clayey sand and stiff clay.

The on-site subsurface conditions under the floor slab areas consist of medium stiff, moist to wet, sandy clay, sandy clay with gravel, and clayey sand with gravel to the termination depths of approximately 1.4 to 2.1 feet below top of floor slab. These upper soils may be native, particularly at C-1, C-2, C-5 and C-6, or fill constructed of similar soils. A previous boring (Kleinfelder, 1986) within the mall area near the location of C-5 encountered up to approximately 2 feet of "possible fill" over bedrock. The 1986 report included borings B-2 and B-2A where fill was encountered to depths of approximately 9 to 10 feet in the mall mid-way between C-3 and C-5. Another 1986 boring, located near C-4, encountered approximately 9 feet of fill underlain by native sandy clay to a depth of about 14 feet where the top of deeply weathered bedrock was identified.

Groundwater

Groundwater was not encountered in the recent shallow borings but was encountered in the 1986 borings at depths ranging between about 5 and 17 feet below the existing ground surface. The mall was not enclosed at the time of the 1986 borings. Groundwater levels are expected to vary seasonally and will be higher after periods of sustained rainfall. The shallower free water levels encountered are likely to be perched water accumulated in sandy layers in the fill or native soils and not representative of deeper groundwater conditions.

DISCUSSION AND RECOMMENDATIONS

As stated above, this letter report presents results of our geotechnical evaluation regarding the interior floor slabs within the public access areas of the main mall structure in support of the preliminary design phases of the proposed Northgate Mall Improvements project. Based on our observations and evaluation, we submit the following discussion and recommendations.

- At the time of the site visits to plan and perform this investigation, we observed several areas where the wood parquet floor levels were uneven, indicating localized shallow depressions and slightly varying floor levels. It appears that some of these depressions may correspond to the locations of utility trenches under the slab areas where some trench backfill settlement may have occurred.
- Other varying floor levels observed may be caused by differential settlement of adjacent or abutting (but not structurally connected) floor slabs. The existing slabs were likely originally constructed as exterior walkways and possibly landscaping pavements.
- Laboratory tests performed for this study included Expansion Index and Plasticity on samples obtained from under the existing mall floor slab at several locations. The Expansion Index of the tested sample was 26. The Plasticity Index tests indicated a PI ranging from 10 to 12 percent. These test results indicate that the soils tested are considered to have a low expansion potential.
- Other laboratory tests included moisture content and density and a particle size analysis for soil classification. There were no unusual moisture contents or densities that would indicate adverse conditions in the shallow soils under the floor slabs.

- We observed that the quality of the concrete slabs, as cored, was generally medium to poor. The sample at C-1 was observed to be poor in quality, porous and weak in strength.

Based on the above discussion, we anticipate three different approaches towards upgrading the interior floor slab areas as follows:

- Rehabilitation of the existing slabs by selective grinding and resurfacing of the floor slab to provide a level surface. One advantage to this approach is relatively low initial cost; however, a drawback is that occasional future maintenance and re-leveling may be needed over time due to continuing future settlement of utility trench fills or differential settlement of non-continuous slabs. Although the quality of existing concrete was found to be generally medium to poor and no reinforcement was observed, the slab may be marginally adequate for its present function as a walkway and replacement may not be warranted at this time.
- Partial removal and replacement of selected portions of the floor slab, along with selective grinding and resurfacing of other portions as needed. Only those areas identified to have significant settlement or depressions would be replaced. This approach would be more costly initially than the above approach but would reduce the potential for future maintenance and re-leveling costs.
- Complete removal and replacement of the floor slabs. This option would provide the most uniform slab conditions, and lower future maintenance costs compared to the other approaches but would be the most costly initially.

It was not within our scope of services to survey the floor levels, map, or delineate depressed areas. If portions of the existing floor slab are to be retained or rehabilitated, we recommend consideration of having a detailed floor level survey performed to delineate areas that may need specific releveling or rehabilitation measures.

In those areas where slab removal is desired, partially or in full, we recommend the following:

Site Preparation and Grading

All debris and unsuitable soils, and soils disturbed by construction, should be removed. We recommend removal, as much as practicable, of any loose or soft utility trench backfill encountered under the slabs and replacement with compacted fill, tamped sand and gravel, or cement-based low-density fill or lean concrete. Unless approved by Kleinfelder for adequate moisture content and firmness, the exposed subgrade soils should be re-compacted to the requirements presented in Table 1 below.

On-site soil or rock that is free of organic matter and deleterious materials and does not contain particle sizes over 4 inches in diameter will generally be satisfactory for re-use as general compacted fill. Imported fill, if needed, should be of low expansion potential and free of organic matter, and should conform to the following requirements.

Plasticity Index	less than 15
Liquid Limit	less than 40
Maximum Aggregate Size	4 inches

All fill, approved on-site native or imported, should be placed in accordance with the requirements presented in Table 1 below.

TABLE 1 - SUMMARY OF COMPACTION REQUIREMENTS

<u>Area</u>	<u>Compaction Requirements</u>
Concrete Slab-On-Grade Floor Subgrade	Compact the top 8 inches of acceptable native subgrade soil to a minimum of 90 percent relative compaction at a minimum of 2 percent above optimum moisture content.
General Engineered Fill or Backfill (Native and/or Imported)	In lifts, a maximum of 8 inches loose thickness, compact to 90 percent relative compaction at a minimum of 2 percent above the optimum moisture content.

Planned soil subgrade should be finished to present a smooth, unyielding surface. The finished subgrade should be maintained at its moist or above optimum moisture content and be free of shrinkage cracks or disturbance until covered by permanent construction.

In general, site preparation and grading operations should be observed by a representative of Kleinfelder. This will allow us the opportunity to observe unforeseen conditions or detrimental materials that may be exposed by the construction equipment, and to modify our recommendations, as necessary.

Slab-On-Grade Walkways and Floors

We recommend that slabs-on-grade be a minimum of four-inches-thick for interior walkways and six-inches thick for floors or where heavy loads, storage, or traffic is anticipated, unless otherwise recommended by the project Structural Engineer. Also, concrete slabs should be reinforced according to the recommendations set forth by the Structural Engineer. During construction, care should be taken to check that reinforcement is placed at the slab mid-height, particularly when using welded-wire fabric. In addition, slabs should be scored for crack control as recommended by the Structural Engineer and/or project Architect.

Floor Moisture

Concrete slab-on-grade floors, where moisture propagation through the slab is of concern, should be supported on at least four inches of under-slab rock to provide a capillary moisture break. This rock should be graded so that 100 percent passes the one-inch sieve and no more than 5 percent passes the No. 4 sieve. If the subgrade soil dries out and cracks prior to concrete slab

placement, this soil should be re-moisture conditioned to wet of optimum (and to close any shrinkage cracks) before concrete is placed.

Subsurface moisture and moisture vapor naturally migrate upward through soil and, where the soil is covered by a building, this subsurface moisture will collect. To reduce the impact of this subsurface moisture and the potential impact of moisture that could be introduced in the future (such as landscape irrigation, precipitation, or leaking pipes), the current industry standard is to provide a vapor retardant membrane. This membrane typically consists of visqueen or polyvinyl plastic sheeting at least 10-mil in thickness. Although vapor barrier systems are currently the industry standard, these systems may not be completely effective in preventing floor slab moisture problems. These systems typically will not necessarily assure that floor slab moisture transmission rates will meet floor-covering manufacturer standards and that indoor humidity levels will be appropriate to inhibit mold growth. The design and construction of such systems are totally dependent on the use of the proposed building; therefore, the building function should be considered in the final slab-on-grade floor design. For example, building design and construction may have a significant role in perceived moisture problems since sealed buildings or rooms, or inadequate ventilation may produce excessive moisture in a building and affect indoor air quality.

Various factors such as surface grades, adjacent planters, concrete slab quality, and the permeability of the on-site soils can affect slab moisture and control future floor slab and flooring performance. In many cases, floor moisture problems are the result of either improper curing of floor slabs or improper application of flooring adhesives. We suggest contacting a flooring consultant experienced in the area of concrete slab-on-grade floors for specific recommendations regarding proposed flooring applications for the project.

Special precautions should be taken during the placement and curing of concrete slabs. Excessive slump (high water-cement ratio) of the concrete and/or improper curing procedures used during either hot or cold weather conditions could lead to excessive shrinkage, cracking, or curling of the slabs. High water-cement ratio and/or improper curing also greatly increase the water vapor permeability of concrete. Therefore, concrete placement and curing operations should be performed in accordance with the guidelines of the American Concrete Institute (ACI) Manual.

Kleinfelder personnel are not moisture proofing experts for floors. We make no guarantee, nor provide any assurance, that use of the capillary break/vapor retardant system will reduce concrete slab-on-grade floor moisture penetration to any specific rate or level, particularly those required by floor covering manufacturers. The project Contractor and Architect should be responsible for acceptable slab moisture resistance during slab design and construction.

PRELIMINARY CORROSIVITY

One near-surface soil sample from boring K-1 (outside and east of the main mall building) was submitted to Environmental Technical Services (ETS) for preliminary corrosivity analysis. The results of their tests are presented in Appendix B. It should be noted that Kleinfelder does not

practice corrosion engineering. As such, the corrosivity test results are presented for the preliminary use of our client and their design team. Our review of comments contained on the preliminary test results indicates that the soils are considered to be moderately alkaline.

ADDITIONAL SERVICES

The conclusions and recommendations contained in this report are based on six (6) soil test borings, laboratory testing, engineering analysis, and our experience in the project area. Additional information on subsurface conditions at the site will become available during subsequent project construction. As such, Kleinfelder's review of project plans and specifications, along with field observation and testing during project construction, are an integral part of the conclusions and recommendations made in this report. The recommended tests, observations, and consultation by Kleinfelder prior to and during construction include, but may not be limited to:

- Review of plans and specifications.
- Observation of site preparation.
- Observation and testing of engineered fill (or backfill) and finished subgrades.

The above additional services are not included as part of our agreement for this investigation but can be provided by our firm on a time-and-expense basis, when requested.

LIMITATIONS

This geotechnical report has been prepared by Kleinfelder for the exclusive use of The Macerich Company and their consultants for design of the Northgate Mall Improvements – Interior Floor Slab described in this report. In addition, a brochure prepared by ASFE (Association of Firms Practicing in the Geosciences) has been included in Appendix C of this report. We recommend that all individuals reading this report also read this attached brochure.

Our services consist of professional opinions and conclusions developed in accordance with generally accepted geotechnical engineering principles and practices. We provide no other warranty, either expressed or implied. The conclusions and recommendations contained in this report are based on six (6) exploratory borings, including six (6) concrete corings, hand sampling, laboratory testing, and engineering analysis. It is possible that subsurface conditions could vary between or beyond the points explored.


Site conditions and cultural features described in the text of this report are those existing at the time of our investigation and as encountered in our subsurface exploration for this study, and may not necessarily be the same or comparable at other times. The scope of our services did not include an environmental assessment or an investigation of the presence or absence of hazardous or toxic materials in the soil, surface water, groundwater or air on, below, or around this site.

This report may be used only by The Macerich Company for the purposes stated, within a reasonable time from its issuance (24 months). Site conditions (both on- and off-site) or other factors may change over time, and additional work may be required. Any party other than the client who wishes to use this report shall notify Kleinfelder of such intended use. Non-compliance with any of these requirements by the client or anyone else will release Kleinfelder from any liability resulting from the use of this report by any authorized party.

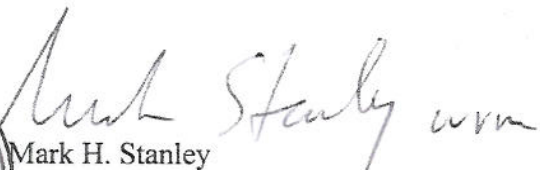
We trust this report provides the information required at this time. Should you have questions or need further services, please call.

Respectfully submitted,

KLEINFELDER WEST, INC.


Don R. Poindexter, GE
Geotechnical Engineer 690




Mark H. Stanley
Geotechnical Engineer 2397

MHS/DRP/jkd

Attachments:

Plate 1 Site Location
Plate 2 Site Plan

Appendix A

Plate A-1 Boring Log Legend
Plates A-2
through A-7 Log of Exploratory Borings C-1 through C-6

Appendix B

Plate B-1 Expansion Index
Plate B-2 Plasticity Chart
Plate B-3 Particle Size Analysis

ETS Preliminary Corrosion Potential Tests

Appendix C Important Information

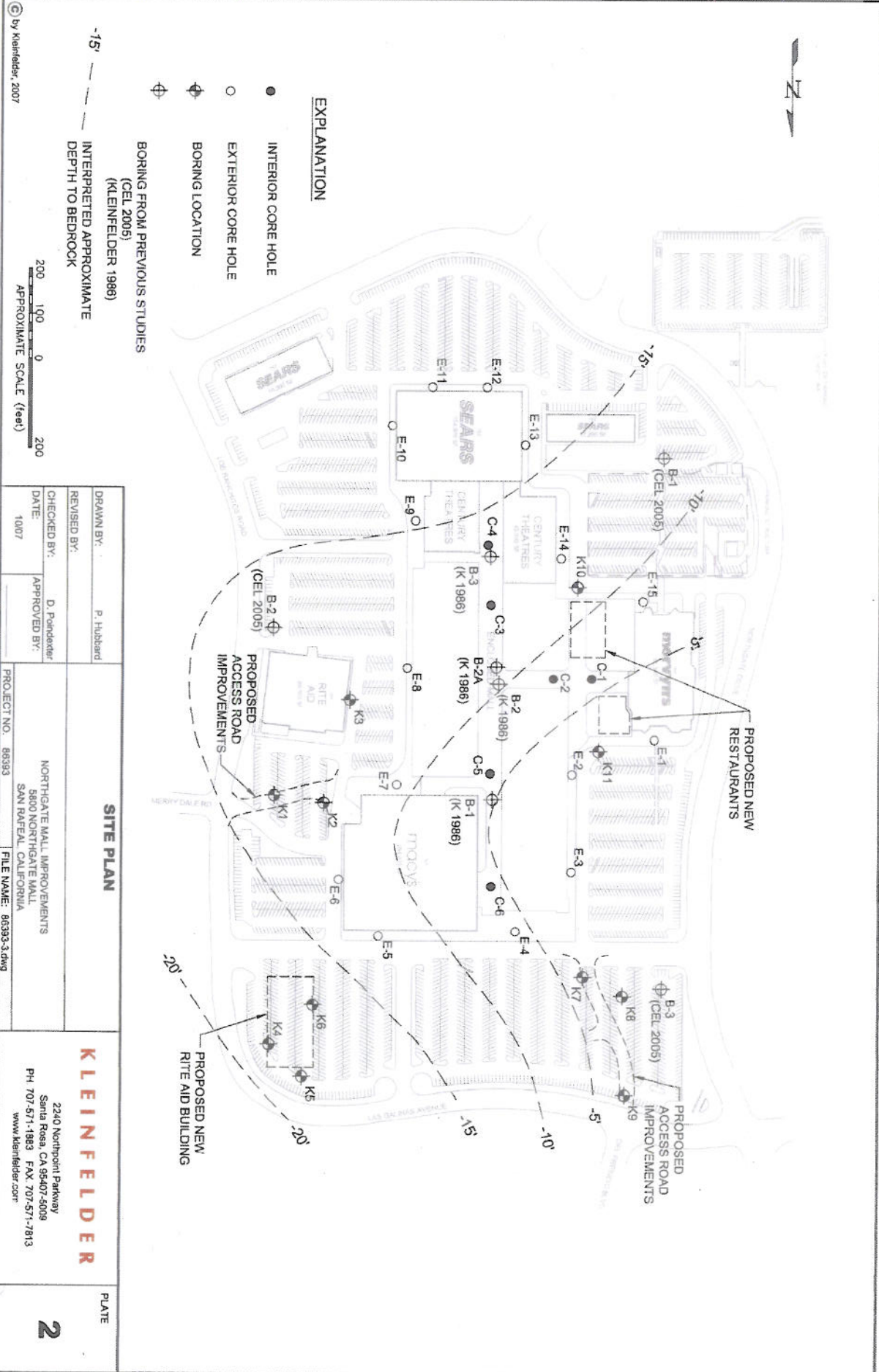
PLATES

ATTACHED IMAGES: Images: 86393-loc.jpg
 ATTACHED XREFS: Pie-L:200505PROJ

CAD FILE: U:\GEO\TECH_PROJECTS\Projects\Active\86393 Northgate Mall\CAD LAYOUT: Layout1



<p>KLEINFELDER</p> <p>2240 Northpoint Parkway Santa Rosa, CA 95407-5009 PH. 707-571-1883 FAX. 707-571-7813 www.kleinfelder.com</p>		<p>SITE LOCATION</p>		<p>DRAWN BY: P. Hubbard</p>
		<p>NORTHGATE MALL IMPROVEMENTS 5800 NORTHGATE MALL SAN RAFAEL, CALIFORNIA</p>		<p>REVISD BY:</p> <p>CHECKED BY: D. Poindexter</p> <p>PLATE</p> <p style="font-size: 2em; text-align: center;">1</p>
<p>DRAWN: 10/07</p>	<p>APPROVED BY: <i>[Signature]</i></p>	<p>PROJECT NO. 86393</p>	<p>FILE NAME 86393-1.dwg</p>	



- EXPLANATION**
- INTERIOR CORE HOLE
 - EXTERIOR CORE HOLE
 - ⊕ BORING LOCATION
 - ⊕ BORING FROM PREVIOUS STUDIES
(CEL 2005)
(KLEINFELDER 1986)
 - INTERPRETED APPROXIMATE
DEPTH TO BEDROCK



DRAWN BY:	P. Hubbard
REVISD BY:	
CHECKED BY:	D. Ponderer
DATE:	10/07
APPROVED BY:	

SITE PLAN	
PROJECT NO.	86393
FILE NAME:	86393-3.dwg
NORTHGATE MALL IMPROVEMENTS 5800 NORTHGATE MALL SAN RAFAEL, CALIFORNIA	

KLEINFELDER
















2240 Northpoint Parkway
 Santa Rosa, CA 95407-5009
 PH 707-571-1983 FAX 707-571-7813
 www.kleinfelder.com

PLATE
2










PLOTTED: 09 Oct 2007 8:45am phubbard

APPENDIX A

UNIFIED SOIL CLASSIFICATION SYSTEM

MAJOR DIVISIONS					DESCRIPTIVE NAMES
COARSE GRAINED SOILS More than Half > #200 sieve	GRAVELS MORE THAN HALF COARSE FRACTION IS LARGER THAN NO. 4 SIEVE	CLEAN GRAVELS WITH LITTLE OR NO FINES	GW		WELL GRADED GRAVELS, GRAVEL-SAND MIXTURES
			GP		POORLY GRADED GRAVELS, GRAVEL-SAND MIXTURES
		GRAVELS WITH OVER 15% FINES	GM		SILTY GRAVELS, POORLY GRADED GRAVEL-SAND-SILT MIXTURES
			GC		CLAYEY GRAVELS, POORLY GRADED GRAVEL-SAND-CLAY MIXTURES
	SANDS MORE THAN HALF COARSE FRACTION IS SMALLER THAN NO. 4 SIEVE	CLEAN SANDS WITH LITTLE OR NO FINES	SW		WELL GRADED SANDS, GRAVELLY SANDS
			SP		POORLY GRADED SANDS, GRAVELLY SANDS
		SANDS WITH OVER 15% FINES	SM		SILTY SANDS, POORLY GRADED SAND-SILT MIXTURES
			SC		CLAYEY SANDS, POORLY GRADED SAND-CLAY MIXTURES
FINE GRAINED SOILS More than Half < #200 sieve	SILTS AND CLAYS LIQUID LIMIT LESS THAN 50		ML		INORGANIC SILTS AND VERY FINE SANDS, ROCK FLOUR, SILTY OR CLAYEY FINE SANDS, OR CLAYEY SILTS WITH SLIGHT PLASTICITY
			CL		INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, GRAVELLY CLAYS, SANDY CLAYS, SILTY CLAYS, LEAN CLAYS
			OL		ORGANIC CLAYS AND ORGANIC SILTY CLAYS OF LOW PLASTICITY
	SILTS AND CLAYS LIQUID LIMIT GREATER THAN 50		MH		INORGANIC SILTS, MICACEOUS OR DIATOMACEOUS FINE SANDY OR SILTY SOILS, ELASTIC SILTS
			CH		INORGANIC CLAYS OF HIGH PLASTICITY, FAT CLAYS
			OH		ORGANIC CLAYS OF MEDIUM TO HIGH PLASTICITY, ORGANIC SILTS
HIGHLY ORGANIC SOILS			Pt		PEAT AND OTHER HIGHLY ORGANIC SOILS

FIELD SAMPLING

-  CALIFORNIA SAMPLE 2.5" I.D.
-  MODIFIED CALIFORNIA SAMPLE 2" I.D.
-  DISTURBED, BAG OR BULK SAMPLE
-  STANDARD PENETRATION TEST
-  SHELBY TUBE SAMPLE
-  3-1/2" I.D. CONTINUOUS CORE SAMPLE
-  UNRETAINED PORTION OF SAMPLE
-  WATER LEVEL OBSERVED IN BORING (at given post-drilling time)
-  WATER LEVEL OBSERVED IN BORING (at time of drilling)

LABORATORY TESTS

- LL LIQUID LIMIT
- PI PLASTICITY INDEX
- SA SIEVE ANALYSIS
- #200 PERCENT PASSING #200 SIEVE
- RV RESISTANCE VALUE
- EI EXPANSION INDEX
- DS DIRECT SHEAR
- Tx/UU TRIAXIAL SHEAR-UNCONSOLIDATED UNDRAINED
- UC UNCONFINED COMPRESSION
- SG SPECIFIC GRAVITY
- PP POCKET PENETROMETER SHEAR STRENGTH (tsf)

NOTES: Blow counts represent the number of blows of a 140-pound hammer falling 30-inches required to drive a sampler the last 12-inches of an 18-inch penetration. Field blow counts (not-converted).

The lines separating strata on the logs represent approximate boundaries only. The actual transition may be gradual. No warranty is provided as to the continuity of soil strata between borings. Logs represent the soil strata and groundwater observed at the boring location on the date of drilling only.



BORING LOG LEGEND


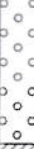


**Northgate Mall Improvements
Interior Floor Slab
San Rafael, California**

PLATE

A-1

PROJECT NUMBER 86393

DATE Oct 2007

LABORATORY				FIELD		Depth (feet)	Lithology Symbol	U.S.C.S. Designation	SOIL DESCRIPTION
Dry Density (pcf)	Moisture Content (%)	Shear Strength (ksf)	Other Tests	Blows/foot*	Sample				
						1			MORTAR - 0.25 inches thick BRICK - 4 inches thick red brick in mortar MORTAR - 1 inch thick CONCRETE - 8.5 inches thick, porous, no steel observed
			LL = 27 PI = 10					GP	SANDY GRAVEL - gray brown, moist, medium dense (FILL)
112	17.0							CL	SANDY CLAY WITH GRAVEL - medium brown, moist, medium stiff
			EI = 26			2		CL	SANDY CLAY - medium brown, moist, medium stiff to stiff
115	15.8								BOTTOM OF BORING C-1 @ 2.1 FEET No Free Water Encountered

* Field blow counts (not-converted).
**

SURFACE ELEVATION: **
TOTAL DEPTH: **2.1 feet**
GROUND WATER DEPTH: ∇ feet at time of drilling
 ∇ feet

LOGGED BY: **S. Carroll**
EQUIPMENT: **4" core barrel**
DIAMETER of BORING: **4**
DATE DRILLED: **8-29-07**



LOG OF EXPLORATION BORING C-1
Northgate Mall Improvements
Interior Floor Slab
San Rafael, California

PLATE
A-2
1 of 1

LABORATORY				FIELD		Depth (feet)	Lithology Symbol	U.S.C.S. Designation	SOIL DESCRIPTION
Dry Density (pcf)	Moisture Content (%)	Shear Strength (ksf)	Other Tests	Blows/foot *	Sample				
								CONCRETE - 5.5 to 6 inches thick, no steel observed, visqueen at base of concrete	
111	13.5						SP	SAND - 3 inches thick with visqueen at base of sand, gray brown, moist, loose, fine grained (FILL)	
123	12.2					1	CL	SANDY CLAY - medium brown, moist, soft to medium stiff (FILL)	
110	12.0		LL = 25 PI = 10						
						2		BOTTOM OF BORING C-2 @ 1.8 FEET No Free Water Encountered	
						3			

* Field blow counts (not-converted).
**

SURFACE ELEVATION: **
TOTAL DEPTH: **1.8 feet**
GROUND WATER DEPTH: ∇ feet at time of drilling
 ∇ feet

LOGGED BY: **S. Carroll**
EQUIPMENT: **4" core barrel**
DIAMETER of BORING: **4**
DATE DRILLED: **8-29-07**



LOG OF EXPLORATION BORING C-2
Northgate Mall Improvements
Interior Floor Slab
San Rafael, California

PLATE
A-3
1 of 1

LABORATORY				FIELD		Depth (feet)	Lithology Symbol	U.S.C.S. Designation	SOIL DESCRIPTION
Dry Density (pcf)	Moisture Content (%)	Shear Strength (ksf)	Other Tests	Blows/foot *	Sample				
123	12.1		LL = 27 PI = 12					CONCRETE - no steel observed, visqueen at base of concrete	
121	13.6					1	CL	SANDY CLAY WITH GRAVEL - mottled olive brown and yellow brown, moist to wet, medium stiff to stiff, fine to medium grained sand	
						2		BOTTOM OF BORING C-3 @ 1.4 FEET No Free Water Encountered	
						3			

* Field blow counts (not-converted).
**

SURFACE ELEVATION: **Not Available ****
TOTAL DEPTH: **1.4 feet**
GROUND WATER DEPTH: ∇ feet at time of drilling
 ∇ feet

LOGGED BY: **S. Carroll**
EQUIPMENT: **4" core barrel**
DIAMETER of BORING: **4**
DATE DRILLED: **8-29-07**



**LOG OF EXPLORATION
BORING C-3**
Northgate Mall Improvements
Interior Floor Slab
San Rafael, California

PLATE
A-4
1 of 1

LABORATORY				FIELD		Depth (feet)	Lithology Symbol	U.S.C.S. Designation	SOIL DESCRIPTION
Dry Density (pcf)	Moisture Content (%)	Shear Strength (ksf)	Other Tests	Blows/foot *	Sample				
						0		CEMENT GROUT - 0.25 to 0.5 inches thick CONCRETE - 4 inches thick no steel observed, vertical cold joint 2.8 inches from one side	
						1	GP	SANDY GRAVEL - gray, moist, loose, gravel to 1" diameter (FILL)	
			- 200 = 27%			1	SC	CLAYEY SAND WITH GRAVEL - medium brown to yellow brown, moist, medium stiff to stiff	
						1	CL	SANDY CLAY - brown, mottled reddish brown and yellow brown, moist to wet, medium stiff to stiff	
						2		BOTTOM OF BORING C-4 @ 1.4 FEET No Free Water Encountered	
						3			

* Field blow counts (not-converted).
 **

SURFACE ELEVATION: **Not Available ****
 TOTAL DEPTH: **1.4 feet**
 GROUND WATER DEPTH: ∇ feet at time of drilling
 ∇ feet

LOGGED BY: **S. Carroll**
 EQUIPMENT: **4" core barrel**
 DIAMETER of BORING: **4**
 DATE DRILLED: **8-29-07**



LOG OF EXPLORATION BORING C-4
 Northgate Mall Improvements
 Interior Floor Slab
 San Rafael, California

PLATE
A-5
 1 of 1

LABORATORY				FIELD		Depth (feet)	Lithology Symbol	U.S.C.S. Designation	SOIL DESCRIPTION
Dry Density (pcf)	Moisture Content (%)	Shear Strength (ksf)	Other Tests	Blows/foot *	Sample				
								CEMENT GROUT - 0.5 inches thick CONCRETE - 3 inches thick, no steel observed	
103	13.5						GM/GF	SANDY GRAVEL - medium gray brown, gray, fine to coarse angular gravel (FILL)	
						1	CL	SANDY CLAY - dark brown, mottled with yellow brown, moist to wet, medium stiff to stiff becomes gray with reddish brown	
						1	CL	SANDY CLAY - dark gray brown, moist, medium stiff to stiff	
						2		BOTTOM OF BORING C-5 @ 1.5 FEET No Free Water Encountered	

* Field blow counts (not-converted).
 **

SURFACE ELEVATION: **Not Available** **
 TOTAL DEPTH: **1.5 feet**
 GROUND WATER DEPTH: ∇ feet at time of drilling
 ∇ feet

LOGGED BY: **S. Carroll**
 EQUIPMENT: **4" core barrel**
 DIAMETER of BORING: **4**
 DATE DRILLED: **8-29-07**



LOG OF EXPLORATION BORING C-5
 Northgate Mall Improvements
 Interior Floor Slab
 San Rafael, California

PLATE
A-6
 1 of 1

LABORATORY				FIELD		Depth (feet)	Lithology Symbol	U.S.C.S. Designation	SOIL DESCRIPTION
Dry Density (pcf)	Moisture Content (%)	Shear Strength (ksf)	Other Tests	Blows/foot *	Sample				
						0 - 2			CONCRETE - 2 inches thick no steel observed
						2 - 3		GM	SANDY GRAVEL - gray, moist, loose (FILL)
						3 - 1.4		SC	CLAYEY SAND WITH GRAVEL - brown to yellow brown, moist, medium dense, fine to medium grained sand, fine to medium angular gravel
						1.4 - 1.4			BOTTOM OF BORING C-6 @ 1.4 FEET No Free Water Encountered

* Field blow counts (not-converted).
**

SURFACE ELEVATION: **Not Available ****
TOTAL DEPTH: **1.4 feet**
GROUND WATER DEPTH: ∇ feet at time of drilling
 ∇ feet

LOGGED BY: **S. Carroll**
EQUIPMENT: **4" core barrel**
DIAMETER of BORING: **4**
DATE DRILLED: **8-29-07**



**LOG OF EXPLORATION
BORING C-6**
Northgate Mall Improvements
Interior Floor Slab
San Rafael, California

PLATE
A-7
1 of 1

APPENDIX B

**KLEINFELDER
LABORATORY TESTING SERVICES**

Project Name: Northgate Mall
Project Number: 86393
Report Date: 9/14/07
Sample ID: C1 @ 2.0'
Material Description: Sandy Clay

Expansion Index Test (UBC 18-2)


Expansion Index:	26
Dry Density (PCF):	112.9
Initial Moisture Content (%)	8.1
Final Moisture Content (%)	22.7


Classification of expansive soil

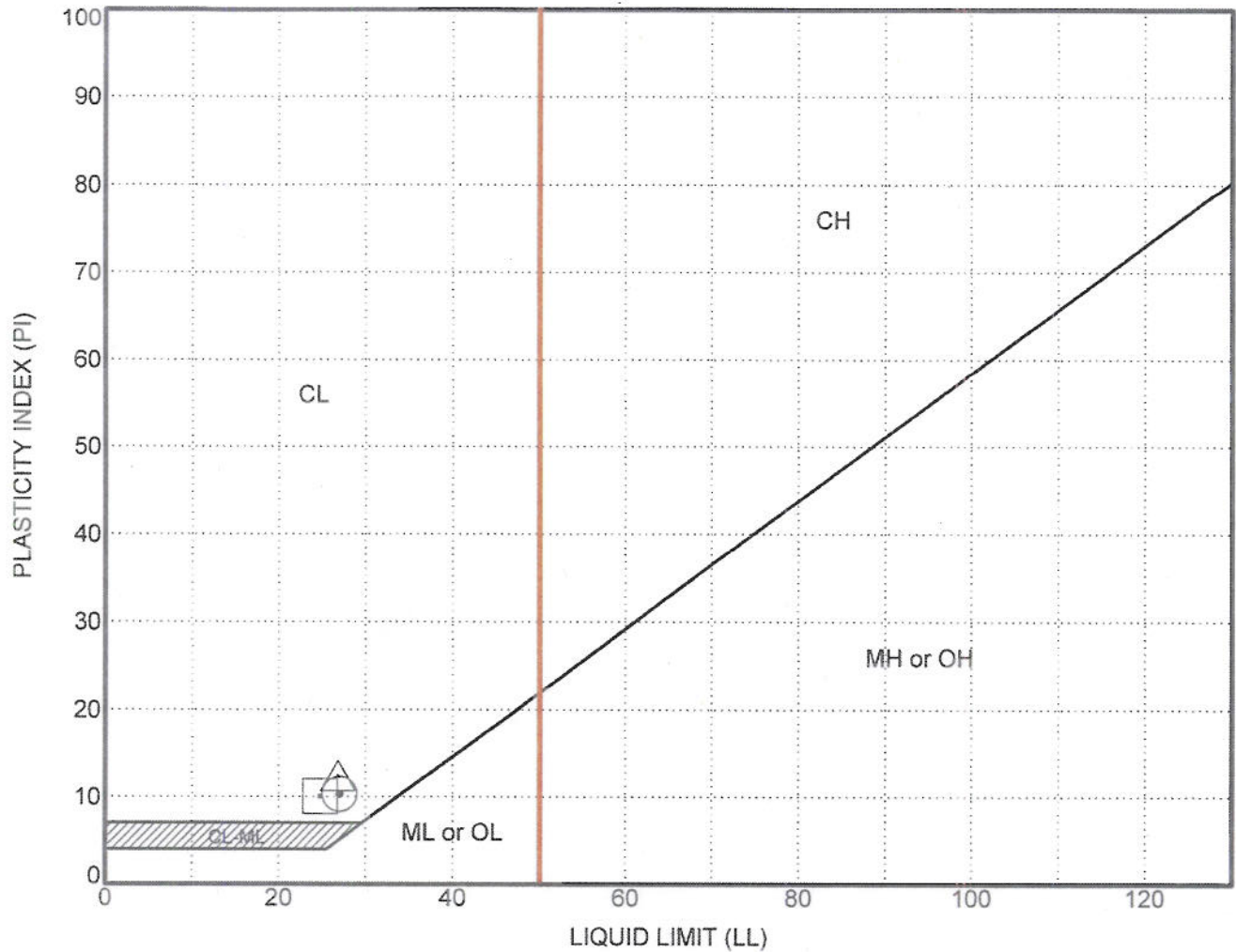
Expansion Index

Expansion Potential

0-20	Very Low
21-50	Low
51-90	Medium
91-130	High
Above 130	Very High

Reviewed By 

 KLEINFELDER	EXPANSION INDEX Northgate Mall Interior floor slab San Rafael, California	PLATE B-1
	PROJECT NUMBER 86393 DATE October 2007	



SAMPLE SOURCE	CLASSIFICATION	LIQUID LIMIT (%)	PLASTIC LIMIT (%)	PLASTICITY INDEX (%)	% PASSING #200 SIEVE
⊙ C-1 @ 1.6'	Sandy Clay (CL)	27	17	10	
□ C-2 @ 1.3'	Sandy Clay (CL)	25	15	10	
△ C-3 @ 0.4'	Sandy Clay (CL)	27	14	12	



PLASTICITY CHART

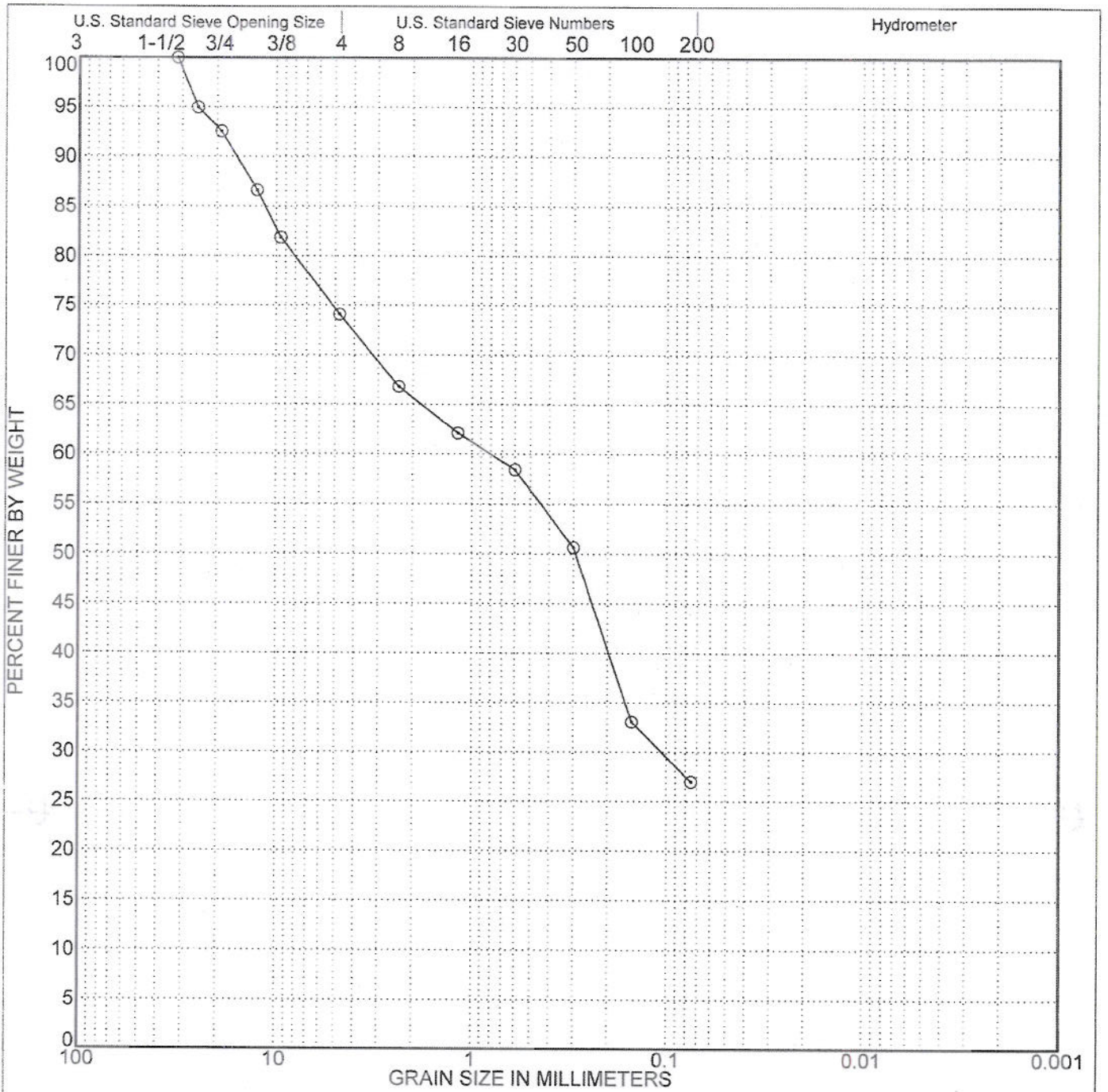
Northgate Mall Improvements
Interior Floor Slab
San Rafael, California

PLATE

B-2

PROJECT NUMBER 86393

DATE Oct 2007



Cobbles	GRAVEL		SAND			SILT	CLAY
	COARSE	FINE	COARSE	MEDIUM	FINE		

SYMBOL	SAMPLE SOURCE	CLASSIFICATION
⊙	C-4 @ 0.8'	CLAYEY SAND with GRAVEL (SC)

	PARTICLE SIZE ANALYSIS Northgate Mall Improvements Interior Floor Slab San Rafael, California	PLATE
		B-3
PROJECT NUMBER 86393	DATE Oct 2007	



ETS

Environmental Technical Services

-Soil, Water & Air Testing & Monitoring
-Analytical Labs
-Technical Support

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Petaluma, CA 94954
(707) 778-9605/FAX 778-9612

*Serving people and the environment
so that both benefit.*

RECEIVED
SEP 13 2007
KLEINFELDER

COMPANY: Kleinfelder Associates, 2240 Northpoint Parkway, Santa Rosa, CA 95407	ANALYST(S) D. Salinas S. Santos	SUPERVISOR D. Jacobson
ATTN: Mark H. Stanley	DATE RECEIVED 9/6/2007	DATE of COMPLETION 9/13/2007
JOB SITE: Northgate Mall, Santa rosa, California.		LAB DIRECTOR G.S. Conrad PhD
FILE #: 86393		

LAB SAMPLE NUMBER	SAMPLE ID	DESCRIPTION of SOIL and/or SEDIMENT	SOIL pH -log[H+]	NOMINAL RESISTIVITY ohm-cm	ELECTRICAL CONDUCTIVITY µmhos/cm	SULFATE SO4 ppm	CHLORIDE Cl ppm
02766-1	NM1/SR	KL1-1	8.15	2,630	[380]	42	88
Method	Detection	Limits →	---	1	0.1	1	1
LAB SAMPLE NUMBER	SAMPLE ID	DESCRIPTION of SOIL and/or SEDIMENT	SALINITY ECe mmhos/cm	SOLUBLE SULFIDES (S=) ppm	SOLUBLE CYANIDES (CN=) ppm	REDOX mV	PERCENT MOISTURE %
02766-1	NM1/SR	KL1-1				+298.6	
Method	Detection	Limits →	---	0.1	0.1	1	0.1

COMMENTS

Resistivity is over 2,000 ohm-cm but is mediocre, and soil reaction (i.e., pH) is moderately alkaline which does help; both sulfate and chloride are low; and redox is mild. The CalTrans times to perforation for this soil are as follows: for 18 ga steel the time to perforation is 37 yrs, and for 12 ga it goes up to over 81 yrs. The average pitting rate determination for steel in this soil is 0.07 mm/yr, thus pitting to a depth of 2 mm would be ≈28.5 yrs, and to a 4 mm depth it would be ≈57 yrs. Chlorides are so low that there should be no significant corrosion impact on concrete steel reinforcement; and sulfates are also low thus no measureable adverse impact should occur to concrete, mortar, grout or cement. The redox value is mild enough that no significant added adverse impact on construction materials should be expected. As concerns buried metals, this soil would not benefit at all from alkaline treatment since it pH is already alkaline enough. To increase metals longevity any more in this soil would require further upgrading (i.e., heavier gauge or more resistant steel); and/or other actions could be taken (e.g. special engineering fill, special coatings, cathodic protection, plastic pipe, etc.). Last, standard concrete mixes and related materials should be fine in this soil based on these results.

\\NOTES: Methods are from following sources: extractions by Cal Trans protocols as per Cal Test 417 (SO4), 422 (Cl), and 532/643 (pH & resistivity); &/or by ASTM Vol. 4.08 & ASTM Vol. 11.01 (=EPA Methods of Chemical Analysis, or Standard Methods); pH - ASTM G 51; Spec. Cond. - ASTM D 1125; resistivity - ASTM G 57; redox - Pt probe/ISE; sulfate - extraction Title 22, detection ASTM D 516 (=EPA 375.4); chloride - extraction Title 22, detection ASTM D 512 (=EPA 325.3); sulfides - extraction by Title 22, and detection EPA 376.2 (=SMEWW 4500-S D); cyanides - extraction by Title 22, and detection by ASTM D 4374 (=EPA 335.2).

APPENDIX C

Important Information About Your Geotechnical Engineering Report

Subsurface problems are a principal cause of construction delays, cost overruns, claims, and disputes.

The following information is provided to help you manage your risks.

Geotechnical Services Are Performed for Specific Purposes, Persons, and Projects

Geotechnical engineers structure their services to meet the specific needs of their clients. A geotechnical engineering study conducted for a civil engineer may not fulfill the needs of a construction contractor or even another civil engineer. Because each geotechnical engineering study is unique, each geotechnical engineering report is unique, prepared *solely* for the client. No one except you should rely on your geotechnical engineering report without first conferring with the geotechnical engineer who prepared it. *And no one — not even you — should apply the report for any purpose or project except the one originally contemplated.*

Read the Full Report

Serious problems have occurred because those relying on a geotechnical engineering report did not read it all. Do not rely on an executive summary. Do not read selected elements only.

A Geotechnical Engineering Report Is Based on A Unique Set of Project-Specific Factors

Geotechnical engineers consider a number of unique, project-specific factors when establishing the scope of a study. Typical factors include: the client's goals, objectives, and risk management preferences; the general nature of the structure involved, its size, and configuration; the location of the structure on the site; and other planned or existing site improvements, such as access roads, parking lots, and underground utilities. Unless the geotechnical engineer who conducted the study specifically indicates otherwise, do not rely on a geotechnical engineering report that was:

- not prepared for you,
- not prepared for your project,
- not prepared for the specific site explored, or
- completed before important project changes were made.

Typical changes that can erode the reliability of an existing geotechnical engineering report include those that affect:

- the function of the proposed structure, as when it's changed from a parking garage to an office building, or from a light industrial plant to a refrigerated warehouse,

- elevation, configuration, location, orientation, or weight of the proposed structure,
- composition of the design team, or
- project ownership.

As a general rule, *always* inform your geotechnical engineer of project changes—even minor ones—and request an assessment of their impact. *Geotechnical engineers cannot accept responsibility or liability for problems that occur because their reports do not consider developments of which they were not informed.*

Subsurface Conditions Can Change

A geotechnical engineering report is based on conditions that existed at the time the study was performed. *Do not rely on a geotechnical engineering report whose adequacy may have been affected by: the passage of time; by man-made events, such as construction on or adjacent to the site; or by natural events, such as floods, earthquakes, or groundwater fluctuations. Always* contact the geotechnical engineer before applying the report to determine if it is still reliable. A minor amount of additional testing or analysis could prevent major problems.

Most Geotechnical Findings Are Professional Opinions

Site exploration identifies subsurface conditions only at those points where subsurface tests are conducted or samples are taken. Geotechnical engineers review field and laboratory data and then apply their professional judgment to render an opinion about subsurface conditions throughout the site. Actual subsurface conditions may differ—sometimes significantly—from those indicated in your report. Retaining the geotechnical engineer who developed your report to provide construction observation is the most effective method of managing the risks associated with unanticipated conditions.

A Report's Recommendations Are *Not* Final

Do not overrely on the construction recommendations included in your report. *Those recommendations are not final*, because geotechnical engineers develop them principally from judgment and opinion. Geotechnical engineers can finalize their recommendations only by observing actual

subsurface conditions revealed during construction. *The geotechnical engineer who developed your report cannot assume responsibility or liability for the report's recommendations if that engineer does not perform construction observation.*

A Geotechnical Engineering Report Is Subject to Misinterpretation

Other design team members' misinterpretation of geotechnical engineering reports has resulted in costly problems. Lower that risk by having your geotechnical engineer confer with appropriate members of the design team after submitting the report. Also retain your geotechnical engineer to review pertinent elements of the design team's plans and specifications. Contractors can also misinterpret a geotechnical engineering report. Reduce that risk by having your geotechnical engineer participate in prebid and preconstruction conferences, and by providing construction observation.

Do Not Redraw the Engineer's Logs

Geotechnical engineers prepare final boring and testing logs based upon their interpretation of field logs and laboratory data. To prevent errors or omissions, the logs included in a geotechnical engineering report should never be redrawn for inclusion in architectural or other design drawings. Only photographic or electronic reproduction is acceptable, *but recognize that separating logs from the report can elevate risk.*

Give Contractors a Complete Report and Guidance

Some owners and design professionals mistakenly believe they can make contractors liable for unanticipated subsurface conditions by limiting what they provide for bid preparation. To help prevent costly problems, give contractors the complete geotechnical engineering report, *but* preface it with a clearly written letter of transmittal. In that letter, advise contractors that the report was not prepared for purposes of bid development and that the report's accuracy is limited; encourage them to confer with the geotechnical engineer who prepared the report (a modest fee may be required) and/or to conduct additional study to obtain the specific types of information they need or prefer. A prebid conference can also be valuable. *Be sure contractors have sufficient time* to perform additional study. Only then might you be in a position to give contractors the best information available to you, while requiring them to at least share some of the financial responsibilities stemming from unanticipated conditions.

Read Responsibility Provisions Closely

Some clients, design professionals, and contractors do not recognize that geotechnical engineering is far less exact than other engineering disciplines. This lack of understanding has created unrealistic expectations that

have led to disappointments, claims, and disputes. To help reduce the risk of such outcomes, geotechnical engineers commonly include a variety of explanatory provisions in their reports. Sometimes labeled "limitations" many of these provisions indicate where geotechnical engineers' responsibilities begin and end, to help others recognize their own responsibilities and risks. *Read these provisions closely.* Ask questions. Your geotechnical engineer should respond fully and frankly.

Geoenvironmental Concerns Are Not Covered

The equipment, techniques, and personnel used to perform a *geoenvironmental* study differ significantly from those used to perform a *geotechnical* study. For that reason, a geotechnical engineering report does not usually relate any geoenvironmental findings, conclusions, or recommendations; e.g., about the likelihood of encountering underground storage tanks or regulated contaminants. *Unanticipated environmental problems have led to numerous project failures.* If you have not yet obtained your own geoenvironmental information, ask your geotechnical consultant for risk management guidance. *Do not rely on an environmental report prepared for someone else.*

Obtain Professional Assistance To Deal with Mold

Diverse strategies can be applied during building design, construction, operation, and maintenance to prevent significant amounts of mold from growing on indoor surfaces. To be effective, all such strategies should be devised for the *express purpose* of mold prevention, integrated into a comprehensive plan, and executed with diligent oversight by a professional mold prevention consultant. Because just a small amount of water or moisture can lead to the development of severe mold infestations, a number of mold prevention strategies focus on keeping building surfaces dry. While groundwater, water infiltration, and similar issues may have been addressed as part of the geotechnical engineering study whose findings are conveyed in this report, the geotechnical engineer in charge of this project is not a mold prevention consultant; *none of the services performed in connection with the geotechnical engineer's study were designed or conducted for the purpose of mold prevention.* Proper implementation of the recommendations conveyed in this report will not of itself be sufficient to prevent mold from growing in or on the structure involved.

Rely on Your ASFE-Member Geotechnical Engineer for Additional Assistance

Membership in ASFE/The Best People on Earth exposes geotechnical engineers to a wide array of risk management techniques that can be of genuine benefit for everyone involved with a construction project. Confer with you ASFE-member geotechnical engineer for more information.



3811 Colesville Road/Suite G106, Silver Spring, MD 20910
Telephone: 301/565-2733 Facsimile: 301/589-2017
e-mail: info@asfe.org www.asfe.org

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Steve Buffenbarger

From: Thomas Ahrens
Sent: Friday, July 31, 2009 1:46 PM
To: Steve Buffenbarger
Subject: FW: Grease interceptors at Northgate Mall.

Steve, FYI. Looks like 2,000 gallon for food court and Building 40. 1500 Gallon for BJ's

-----Original Message-----

From: Smail, David [mailto:DSmail@co.marin.ca.us]
Sent: Friday, July 31, 2009 12:40 PM
To: bret@incommmechanical.com
Cc: Thomas Ahrens; VanLiew, Pricilla
Subject: FW: Grease interceptors at Northgate Mall.

Bret, contact either Janice Mandler or Mark Williams at the sanitary district re. hook up to the public main for the interceptors.

Mandler's number is 472 1734 x 13

William's number is 472 1734 x 11.

Bob Adamson is correct in that Environmental Health is not looking at outside interceptors.

Thanks.

Dave Smail, Supervising R.E.H.S./Marin County

-----Original Message-----

From: Bob Adamson [mailto:badamson@centralmarinsa.org]
Sent: Thursday, July 30, 2009 2:15 PM
To: Smail, David
Cc: Robert Cole
Subject: Grease interceptors at Northgate Mall.

David,

For the past year and a half I have been having discussions and reviewing plans to generate letters or e-mails with the "grease removal device requirements" for new food service establishments (FSEs) at the remodeled Northgate Mall. The letters for each restaurant were cc'd to Jennifer Snow. However, I realize that you and Jennifer may have been "out of the loop" regarding the discussions on the outside interceptors serving several FSEs. Based on a past discussion we had regarding the interceptor installation at Embassy Suites, I thought interceptors outside the kitchen were not subject to Restaurant Plan Review.

Below is a summary of the outside interceptors (what the UPC now calls "gravity interceptors") that I have approved as complying with Las Gallinas Valley Sanitary District's FOG Ordinance. Sizing is based on Table 10-3 in the 2007 California Plumbing Code and estimated total kitchen fixtures.

"Building 40" interceptor will serve 3 medium-sized FSEs and will be 2,000 gallons.

The "Food Court" interceptor will serve 10 small FSEs and will be 2,000 gallons.

In addition, BJ's Restaurant will have its own 1,500 gallon interceptor.

The Mall management wants the FSEs served by a common interceptor to have small grease traps on their 3-comp sink, scrap sink, and wok stoves, in order to protect the drain lines going to the interceptor. I

have been including this requirement in the grease removal device letters I have been generating and forwarding to Jennifer.

I am not sure which of the above interceptors they are submitting to you. Feel free to contact me if you have questions or need more info.

Bob Adamson
Environmental Services Administrator
Central Marin Sanitation Agency
(415) 459-1455 ext. 140
Tues - Fri 6:00 AM to 4:30

Email Disclaimer: <http://www.co.marin.ca.us/nav/misc/EmailDisclaimer.cfm>



DIBBLE ENGINEERS

CITY OF SAN RAFAEL
BUILDING & FIRE PREVENTION DIVISION
REVIEWED FOR CODE COMPLIANCE

This set of plans and specifications shall be kept on the job site at all times and readily available to City Inspectors upon demand.

Approval of these plans and specifications shall not be held to permit, or to be an approval to violate any provisions of any City or State law, or Nationally recognized Fire Protection Standard.

Signature Cozel Date 9-23-09

Permit # B0908-043

PANERA T.I. - SAN RAFAEL
STRUCTURAL CALCULATIONS
Transformer Support Platform

SAN RAFAEL, CA

PREPARED FOR:
Freiheit & Ho Architects
10230 NE Points Drive, Suite 300
Kirkland, WA 98033

RECEIVED
SEP 03 2009
BUILDING



Handwritten red text: FIC

Structural Calculations
Project #: 09-400
Prepared by
Dibble Engineers, Inc.
August 27, 2009



DIBBLE ENGINEERS, INC.

Project No.
09-400.301

Sheet No.
T1

Project PANERA - SAN RAFAEL

Date 8-26-09

Subject TRANSFORMER PLATFORM - GRAVITY

By JR

Weight = 835 lb

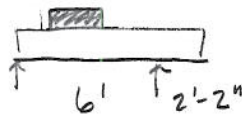
Size = 22" W x 24" D x 44" High

The distributed load = $\frac{835 \text{ lb}}{2' \times 1'-10"} = 228 \text{ psf}$

Live Load in mech'l area = 125 psf

Dead Load = 10 psf

TYPICAL JOIST



SEE ATTACHED ENERCALC FOR FORCES:

$M_{\text{max}} = 0.84 \text{ k ft (12)} = 10.08 \text{ in-k}$

$V_{\text{max interior}} = 0.84 \text{ k}$

$V_{\text{max ext.}} = 0.52 \text{ k}$

800S162-43
@ 12" o.c.

$M_a = 39.32 \text{ in-k} > 10.08 \text{ in-k}$

$V_a = 1593 \text{ lb} > 840 \text{ lb OK}$

Web Crippling = 529 lb ① 6" bearing NG
= 964 lb ② 6" bearing OK

Add web stiffeners.

Studs

Height = 11'-4" (Use 12' off table)

Partition lateral load = 5 psf

Studs @ 12" o.c. to match joist

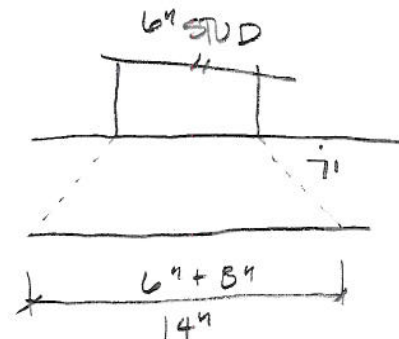
$P_{\text{allow}} = 2.49 \text{ k OK}$ 600S162-33 @ 12" o.c.

$P_{\text{req'd}} = 840 \text{ lb OK}$

FOUNDATION

Line Load = 840 plf

$q = \frac{840 \text{ plf}}{14"} = 720 \text{ psf} < 1500 \text{ psf}$ 4" SOD
OK





Dibble Engineers, Inc
1029 Market Street
Kirkland, WA 98033

Title :
Dsgnr:
Description :

Job #
Date: 12:15PM, 26 AUG 09

T2

Scope :

Rev: 580003
User: KW-0606102, Ver 5.8.0, 1-Dec-2003
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Single Span Beam Analysis

Page 1
transformer.ecw:Calculations

Description Transformer Joist - Load full span

General Information

Center Span	6.00 ft	Moment of Inertia	8.025 in ⁴
Left Cantilever	ft	Elastic Modulus	29,000 ksi
Right Cantilever	2.17 ft	Beam End Fixity	Pin-Pin

Uniform Loads

On Center Span...	On Left Cantilever...	On Right Cantilever...
# 1 0.135 k/ft	# 1 k/ft	# 1 0.135 k/ft

Trapezoidal Loads

Magnitude @ Left	0.103 k/ft	k/ft	k/ft	k/ft
Magnitude @ Right	0.103 k/ft	k/ft	k/ft	k/ft
Dist. To Left Side	1.500 ft	ft	ft	ft
Dist. To Right Side	3.500 ft	ft	ft	ft

Query Values

Center Location	0.000 ft	Left Cant	0.000 ft	Right Cant	6.000 ft
Moment	0.00 k-ft		0.00 k-ft		-0.32 k-ft
Shear	0.47 k		0.00 k		-0.54 k
Deflection	0.00000 in		0.00000 in		0.00000 in

Summary

Moments...				Shears...		Reactions...	
Max + @ Center	0.71 k-ft	at	2.64 ft	@ Left	0.47 k	@ Left	0.47 k
Max - @ Center	-0.32 k-ft	at	6.00 ft	@ Right	0.54 k	@ Right	0.84 k
@ Left Cant	0.00 k-ft			Maximum	0.54 k		
@ Right Cant	-0.32 k-ft			Deflections...			
Maximum =	0.71 k-ft			@ Center	-0.018 in	at	2.85 ft
				@ Left Cant.	0.000 in	at	0.00 ft
				@ Right Cant	0.013 in	at	8.17 ft



Dibble Engineers, Inc
 1029 Market Street
 Kirkland, WA 98033

Title :
 Dsgnr:
 Description :

Job #
 Date: 12:15PM, 26 AUG 09

Scope :

Rev: 580003
 User: KW-0606102, Ver 5.8.0, 1-Dec-2003
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Single Span Beam Analysis

Page 1
 transformer.ecw:Calculations

Description Transformer Joist - Load interior span only

General Information

Center Span	6.00 ft	Moment of Inertia	8.025 in ⁴
Left Cantilever	ft	Elastic Modulus	29,000 ksi
Right Cantilever	2.17 ft	Beam End Fixity	Pin-Pin

Uniform Loads

On Center Span...		On Left Cantilever...		On Right Cantilever...	
# 1	0.135 k/ft	# 1	k/ft	# 1	0.010 k/ft

Trapezoidal Loads

Magnitude @ Left	0.103 k/ft	k/ft	k/ft	k/ft
Magnitude @ Right	0.103 k/ft	k/ft	k/ft	k/ft
Dist. To Left Side	1.500 ft	ft	ft	ft
Dist. To Right Side	3.500 ft	ft	ft	ft

Query Values

Center Location	0.000 ft	Left Cant	0.000 ft	Right Cant	6.000 ft
Moment	0.00 k-ft		0.00 k-ft		-0.02 k-ft
Shear	0.52 k		0.00 k		-0.49 k
Deflection	0.00000 in		0.00000 in		0.00000 in

Summary

Moments...				Shears...				Reactions...			
Max + @ Center	0.84 k-ft	at	2.84 ft	@ Left	0.52 k	@ Left	0.52 k				
Max - @ Center	-0.02 k-ft	at	6.00 ft	@ Right	0.49 k	@ Right	0.52 k				
@ Left Cant	0.00 k-ft			Maximum	0.52 k						
@ Right Cant	-0.02 k-ft			Deflections...							
Maximum =	0.84 k-ft			@ Center	-0.023 in	at	2.97 ft				
				@ Left Cant.	0.000 in	at	0.00 ft				
				@ Right Cant	0.025 in	at	8.17 ft				



Dibble Engineers, Inc
1029 Market Street
Kirkland, WA 98033

Title :
Dsgnr:
Description :

Job #
Date: 12:15PM, 26 AUG 09

T4

Scope :

Rev: 580003
User: KW-0606102, Ver 5.8.0, 1-Dec-2003
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Single Span Beam Analysis

Page 1
transformer.ecw:Calculations

Description Transformer Joist - Cantilever Load only

General Information

Center Span	6.00 ft	Moment of Inertia	8.025 in ⁴
Left Cantilever	ft	Elastic Modulus	29,000 ksi
Right Cantilever	2.17 ft	Beam End Fixity	Pin-Pin

Uniform Loads

On Center Span...	On Left Cantilever...	On Right Cantilever...
# 1 0.010 k/ft	# 1 k/ft	# 1 0.135 k/ft

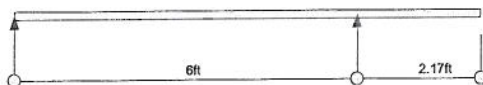
Query Values

Center Location	0.000 ft	Left Cant	0.000 ft	Right Cant	6.000 ft
Moment	0.00 k-ft		0.00 k-ft		-0.32 k-ft
Shear	-0.02 k		0.00 k		-0.08 k
Deflection	0.00000 in		0.00000 in		0.00000 in

Summary

Moments...				Shears...			Reactions...		
Max + @ Center	0.00 k-ft	at	0.00 ft	@ Left	0.02 k	@ Left	-0.02 k		
Max - @ Center	-0.32 k-ft	at	6.00 ft	@ Right	0.29 k	@ Right	0.38 k		
@ Left Cant	0.00 k-ft			Maximum	0.29 k				
@ Right Cant	-0.32 k-ft								
Maximum =	0.32 k-ft			Deflections...					
				@ Center	0.004 in	at	3.61 ft		
				@ Left Cant.	0.000 in	at	0.00 ft		
				@ Right Cant	-0.012 in	at	8.17 ft		

Sketch & Diagram



Section Properties

Structural (S) Stud Section Properties

Section	Design Thickness (in)	Gross							Effective 33ksi					Effective 50ksi					Torsional					
		Area (in ²)	Weight (lb/ft)	I _{xx} (in ⁴)	S _{xx} (in ³)	R _x (in)	I _{yy} (in ⁴)	R _y (in)	I _{xx} (in ⁴)	S _{xx} (in ³)	M _a (in-k)	V _a (lb)	Y _{cg} (in)	I _{xx} (in ⁴)	S _{xx} (in ³)	M _a (in-k)	V _a (lb)	Y _{cg} (in)	J ¹⁰⁰⁰ (in ⁸)	C _w (in ⁶)	X _o (in)	R _o (in)	β	
800S137-33 ¹	0.0346	0.388	1.32	3.198	0.799	2.873	0.073	0.435	3.198	0.663	13.10	455	4.335							0.155	0.948	-0.709	2.991	0.944
800S137-43	0.0451	0.503	1.71	4.134	1.033	2.866	0.093	0.430	4.134	1.033	20.42	1008	4.000							0.341	1.202	-0.700	2.981	0.945
800S137-54	0.0566	0.627	2.13	5.110	1.277	2.855	0.112	0.423	5.110	1.277	28.89	2006	4.000	5.110	1.249	37.38	2006	4.032		0.670	1.460	-0.691	2.967	0.946
800S137-68	0.0713	0.782	2.66	6.303	1.576	2.839	0.134	0.414	6.303	1.576	36.74	4048	4.000	6.303	1.573	54.40	4048	4.003		1.325	1.762	-0.680	2.948	0.947
800S137-97	0.1017	1.093	3.72	8.597	2.149	2.805	0.169	0.394	8.597	2.149	53.09	9037	4.000	8.597	2.149	78.22	11124	4.000		3.767	2.295	-0.658	2.908	0.949
800S162-33 ¹	0.0346	0.413	1.41	3.582	0.896	2.943	0.125	0.550	3.582	0.757	14.96	455	4.306							0.165	1.615	-0.951	3.142	0.908
800S162-43	0.0451	0.537	1.83	4.633	1.158	2.937	0.160	0.546	4.633	1.158	22.89	1008	4.000							0.364	2.056	-0.941	3.132	0.910
800S162-54	0.0566	0.670	2.28	5.736	1.434	2.927	0.194	0.539	5.736	1.434	31.83	2006	4.000	5.736	1.397	41.84	2006	4.039		0.715	2.509	-0.932	3.119	0.911
800S162-68	0.0713	0.836	2.84	7.089	1.772	2.913	0.235	0.530	7.089	1.772	40.41	4048	4.000	7.089	1.757	59.57	4048	4.013		1.416	3.047	-0.921	3.101	0.912
800S162-97	0.1017	1.169	3.98	9.713	2.428	2.883	0.305	0.510	9.713	2.428	58.27	9037	4.000	9.713	2.428	86.14	11124	4.000		4.030	4.023	-0.899	3.062	0.914
800S200-33 ¹	0.0346	0.448	1.52	4.096	1.024	3.023	0.227	0.712	4.096	0.812	16.04	455	4.410							0.179	2.945	-1.306	3.369	0.850
800S200-43	0.0451	0.582	1.98	5.302	1.325	3.018	0.292	0.708	5.302	1.293	25.54	1008	4.038							0.395	3.763	-1.295	3.359	0.851
800S200-54	0.0566	0.726	2.47	6.573	1.643	3.009	0.357	0.701	6.573	1.643	35.75	2006	4.000	6.573	1.475	44.15	2006	4.168		0.775	4.612	-1.286	3.346	0.852
800S200-68	0.0713	0.907	3.09	8.140	2.035	2.996	0.435	0.692	8.140	2.035	45.29	4048	4.000	8.140	1.964	65.21	4048	4.055		1.537	5.631	-1.275	3.329	0.853
800S200-97	0.1017	1.271	4.32	11.203	2.801	2.969	0.576	0.673	11.203	2.801	65.12	9037	4.000	11.203	2.801	96.63	11124	4.000		4.381	7.524	-1.253	3.292	0.855
800S250-43	0.0451	0.627	2.13	6.015	1.504	3.097	0.500	0.893	6.015	1.313	25.95	1008	4.219							0.425	6.320	-1.695	3.641	0.783
800S250-54	0.0566	0.783	2.66	7.465	1.866	3.088	0.614	0.886	7.465	1.712	33.82	2006	4.134	7.378	1.525	45.66	2006	4.323		0.836	7.769	-1.686	3.628	0.784
800S250-68	0.0713	0.978	3.33	9.261	2.315	3.077	0.752	0.877	9.261	2.240	44.26	4048	4.053	9.261	2.003	59.96	4048	4.219		1.658	9.526	-1.674	3.611	0.785
800S250-97	0.1017	1.372	4.67	12.789	3.197	3.053	1.009	0.857	12.789	3.190	72.06	9037	4.004	12.789	3.053	102.70	11124	4.073		4.731	12.838	-1.652	3.575	0.787
1000S162-43 ¹	0.0451	0.627	2.13	8.025	1.605	3.577	0.168	0.518	8.025	1.414	27.94	802	5.292							0.425	3.404	-0.836	3.709	0.949
1000S162-54	0.0566	0.783	2.66	9.950	1.990	3.565	0.204	0.511	9.950	1.990	39.32	1593	5.000	9.950	1.712	51.26	1593	5.332		0.836	4.160	-0.827	3.696	0.950
1000S162-68	0.0713	0.978	3.33	12.325	2.465	3.550	0.246	0.502	12.325	2.465	56.20	3209	5.000	12.325	2.465	73.80	3209	5.000		1.658	5.060	-0.817	3.677	0.951
1000S162-97	0.1017	1.372	4.67	16.967	3.393	3.516	0.320	0.483	16.967	3.393	81.43	9037	5.000	16.967	3.393	120.37	9461	5.000		4.731	6.708	-0.795	3.637	0.952
1000S200-43 ¹	0.0451	0.672	2.29	9.085	1.817	3.676	0.309	0.677	9.085	1.580	31.23	802	5.319							0.456	6.189	-1.162	3.914	0.912
1000S200-54	0.0566	0.839	2.86	11.278	2.256	3.666	0.378	0.671	11.278	2.256	44.57	1593	5.000	11.278	1.805	54.04	1593	5.478		0.896	7.595	-1.153	3.901	0.913
1000S200-68	0.0713	1.050	3.57	13.994	2.799	3.652	0.460	0.662	13.994	2.799	62.28	3209	5.000	13.994	2.744	82.15	3209	5.037		1.779	9.291	-1.142	3.883	0.913
1000S200-97	0.1017	1.474	5.02	19.336	3.867	3.622	0.609	0.643	19.336	3.867	89.92	9037	5.000	19.336	3.867	133.42	9461	5.000		5.082	12.460	-1.120	3.845	0.915
1000S250-43 ¹	0.0451	0.717	2.44	10.203	2.041	3.771	0.531	0.860	10.203	1.617	31.95	802	5.508							0.486	10.404	-1.535	4.161	0.864
1000S250-54	0.0566	0.896	3.05	12.677	2.535	3.762	0.653	0.854	12.677	2.277	44.99	1593	5.213	12.660	1.879	56.26	1593	5.635		0.957	12.805	-1.525	4.148	0.865
1000S250-68	0.0713	1.121	3.81	15.751	3.150	3.749	0.799	0.844	15.751	3.054	60.34	3209	5.060	15.751	2.670	79.94	3209	5.317		1.899	15.726	-1.514	4.130	0.866
1000S250-97	0.1017	1.576	5.36	21.827	4.365	3.722	1.072	0.825	21.827	4.356	98.40	9037	5.004	21.827	4.181	140.63	9461	5.082		5.433	21.268	-1.491	4.093	0.867
1200S162-54 ¹	0.0566	0.896	3.05	15.730	2.622	4.190	0.212	0.486	15.730	2.334	46.11	1321	6.311	15.730	2.024	60.60	1321	6.695		0.957	6.293	-0.744	4.283	0.970
1200S162-68	0.0713	1.121	3.81	19.518	3.253	4.173	0.255	0.477	19.518	3.253	64.28	2658	6.000	19.518	2.953	88.41	2658	6.257		1.899	7.666	-0.734	4.264	0.970
1200S162-97	0.1017	1.576	5.36	26.966	4.494	4.137	0.331	0.459	26.966	4.494	107.85	7814	6.000	26.966	4.494	159.42	7814	6.000		5.433	10.187	-0.713	4.223	0.971
1200S200-54 ¹	0.0566	0.953	3.24	17.662	2.944	4.306	0.393	0.643	17.662	2.658	52.52	1321	6.281	17.662	2.143	64.17	1321	6.836		1.017	11.462	-1.047	4.478	0.945
1200S200-68	0.0713	1.192	4.06	21.947	3.658	4.291	0.479	0.634	21.947	3.658	81.40	2658	6.000	21.947	3.265	97.75	2658	6.300		2.020	14.038	-1.036	4.459	0.946
1200S200-97	0.1017	1.677	5.71	30.417	5.069	4.258	0.635	0.615	30.417	5.069	117.87	7814	6.000	30.417	5.069	174.89	7814	6.000		5.783	18.876	-1.014	4.420	0.947
1200S250-54 ¹	0.0566	1.009	3.43	19.681	3.280	4.416	0.683	0.823	19.681	2.679	52.94	1321	6.521	19.681	2.238	67.01	1321	6.995		1.078	19.354	-1.395	4.704	0.912
1200S250-68	0.0713	1.263	4.30	24.484	4.081	4.402	0.836	0.813	24.484	3.963	78.31	2658	6.065	24.484	3.147	94.22	2658	6.643		2.141	23.796	-1.384	4.686	0.913
1200S250-97	0.1017	1.779	6.05	34.016	5.669	4.373	1.121	0.794	34.016	5.658	127.80	7814	6.004	34.016	5.446	183.15	7814	6.088		6.134	32.280	-1.361	4.648	0.914

¹ Web-height to thickness ratio exceeds 200. Web stiffeners are required at all support points and concentrated loads

See Section Properties Table Notes on page 6.

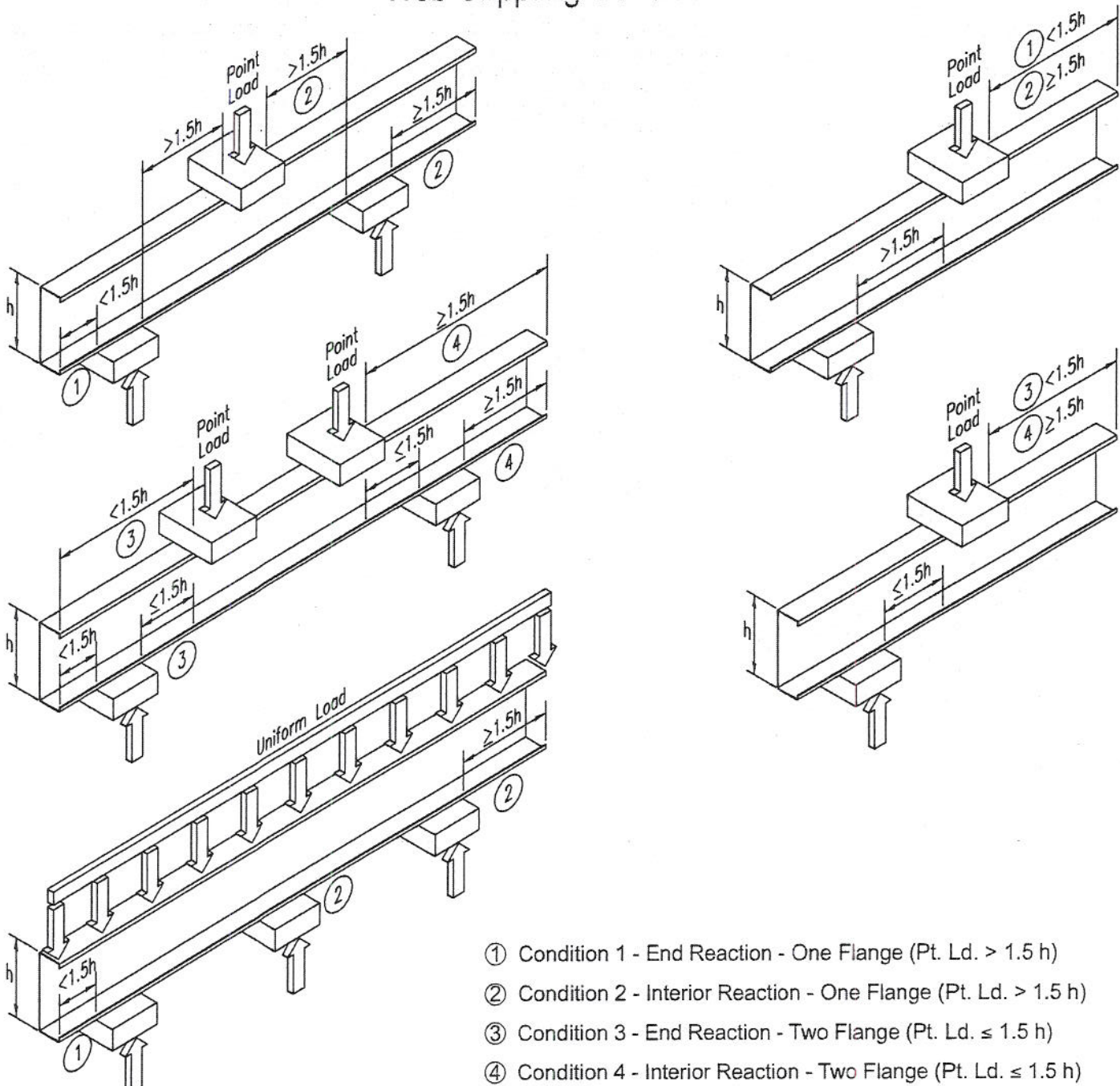


Web Crippling Load Tables

Web Crippling Load Table Notes

1. Only members with stiffened flanges are considered.
2. For multiple members, multiply the listed capacity of a single member by the number of members in the assembly.
3. For back-to-back members table, listed web crippling values are for the total system of two members.
4. For back to back members, the distance between the web connectors and the flange shall be kept to a minimum.
5. Web punchouts were not considered for the web crippling tables. A web crippling reduction factor is to be applied for web punchouts, per ICBO Acceptance Criteria AC46, Appendix B.

Web Crippling Conditions



- ① Condition 1 - End Reaction - One Flange (Pt. Ld. $> 1.5h$)
- ② Condition 2 - Interior Reaction - One Flange (Pt. Ld. $> 1.5h$)
- ③ Condition 3 - End Reaction - Two Flange (Pt. Ld. $\leq 1.5h$)
- ④ Condition 4 - Interior Reaction - Two Flange (Pt. Ld. $\leq 1.5h$)



Web Crippling Load Tables

Allowable Web Crippling Loads (lbs) — Single Members

Web Size	Design Thickness (in.)	Thickness in rivets	Yield Stress (ksi)	Condition 1 Bearing Length (in.)				Condition 2 Bearing Length (in.)				Condition 3 Bearing Length (in.)				Condition 4 Bearing Length (in.)			
				1	3.5	4	6	1	3.5	4	6	1	3.5	4	6	1	3.5	4	6
				162	0.0188	18	33	42	78	85	114	100	204	225	310	29	55	60	80
162	0.0283	27	33	128	212	229	296	241	408	446	596	92	152	164	212	266	295	301	324
162	0.0312	30	33	163	262	282	361	296	479	522	692	117	189	203	260	334	367	374	400
162	0.0346	33	33	209	326	350	444	367	568	616	810	151	235	252	320	423	461	469	500
250	0.0188	18	33	38	70	77	103	93	189	209	288	26	48	52	70	80	93	96	106
250	0.0283	27	33	120	199	214	277	230	389	425	569	84	140	151	195	238	264	269	290
250	0.0312	30	33	154	248	266	341	284	460	500	664	109	175	188	241	302	332	338	362
250	0.0346	33	33	199	310	332	421	353	547	594	780	141	220	236	299	387	423	430	458
250	0.0451	43	33	368	536	569	703	614	852	917	1176	264	384	408	504	718	768	778	818
250	0.0566	54	33	579	796	840	1013	961	1223	1306	1638	418	575	606	732	1173	1239	1252	1304
250	0.0566	54	50	728	1001	1056	1274	1291	1643	1754	2201	525	723	762	920	1575	1664	1682	1752
250	0.0713	68	33	906	1185	1241	1464	1510	1847	1915	2304	658	860	900	1062	1908	1994	2011	2079
250	0.0713	68	50	1140	1490	1560	1841	2028	2482	2572	3095	827	1081	1132	1335	2564	2678	2701	2793
350	0.0188	18	33	33	61	67	90	85	173	191	263	21	39	43	58	61	70	72	80
350	0.0283	27	33	111	183	198	256	218	368	402	538	76	125	135	175	205	228	232	250
350	0.0312	30	33	144	231	248	318	270	437	476	631	99	159	171	219	266	293	298	319
350	0.0346	33	33	187	291	312	396	338	523	568	746	130	202	217	275	347	378	384	410
350	0.0451	43	33	352	511	543	671	594	824	887	1138	249	361	384	474	663	710	719	756
350	0.0566	54	33	559	768	810	978	936	1191	1272	1596	399	549	579	698	1104	1166	1179	1228
350	0.0566	54	50	702	966	1019	1230	1258	1601	1709	2144	502	690	727	878	1483	1567	1583	1650
350	0.0713	68	33	881	1152	1207	1424	1479	1810	1876	2257	634	829	868	1025	1822	1904	1920	1985
350	0.0713	68	50	1108	1449	1517	1790	1987	2432	2521	3033	798	1043	1092	1288	2448	2558	2580	2667
362	0.0188	18	33	32	60	66	88	84	171	188	260	21	38	42	56	58	68	69	77
362	0.0283	27	33	110	182	196	253	216	366	399	534	75	124	133	172	201	223	228	245
362	0.0312	30	33	142	229	246	315	268	434	473	627	98	157	169	216	261	288	293	314
362	0.0346	33	33	185	289	310	393	336	520	564	742	128	200	215	272	342	373	379	404
362	0.0451	43	33	350	508	540	667	591	821	883	1133	247	359	381	471	656	702	711	748
362	0.0566	54	33	556	765	806	973	933	1188	1268	1591	396	545	575	694	1096	1157	1169	1219
362	0.0566	54	50	699	962	1014	1224	1253	1595	1704	2137	499	686	723	873	1472	1554	1571	1637
362	0.0713	68	33	878	1148	1202	1419	1476	1805	1871	2252	631	826	865	1020	1811	1893	1909	1974
362	0.0713	68	50	1105	1444	1512	1784	1982	2425	2514	3025	794	1038	1087	1283	2434	2543	2564	2651
400	0.0283	27	33	106	176	190	245	211	358	390	522	72	118	128	165	189	210	214	231
400	0.0312	30	33	138	222	239	306	263	426	464	615	94	151	163	208	248	273	278	297
400	0.0346	33	33	181	282	302	383	330	511	555	729	124	194	208	263	326	356	362	386
400	0.0451	43	33	344	499	531	655	584	810	872	1119	241	350	372	460	636	680	689	725
400	0.0566	54	33	548	754	795	960	924	1176	1256	1575	389	536	565	682	1070	1130	1142	1190
400	0.0566	54	50	690	948	1000	1207	1241	1580	1687	2116	490	673	710	857	1437	1518	1534	1599
400	0.0713	68	33	869	1136	1190	1404	1464	1791	1857	2234	623	814	853	1006	1779	1859	1875	1939
400	0.0713	68	50	1093	1429	1496	1765	1967	2407	2495	3001	783	1024	1072	1265	2390	2497	2519	2604
400	0.1017	97	33	1761	2155	2234	2550	2971	3450	3545	3928	1275	1560	1617	1845	3809	3929	3953	4049
400	0.1017	97	50	2215	2710	2810	3206	3992	4634	4763	5277	1603	1962	2034	2321	5117	5278	5310	5440
550	0.0283	27	33	93	153	165	214	192	326	356	475	59	97	105	135	141	156	159	172
550	0.0312	30	33	123	197	212	271	242	392	427	566	79	128	137	176	194	213	217	232
550	0.0346	33	33	162	254	272	345	307	475	516	678	107	167	179	227	265	289	294	314
550	0.0451	43	33	319	463	492	608	554	769	827	1061	218	316	336	415	554	592	600	631
550	0.0566	54	33	518	712	751	907	887	1129	1205	1512	361	496	523	632	967	1021	1032	1075
550	0.0566	54	50	651	896	945	1140	1191	1516	1619	2031	454	624	658	795	1299	1372	1386	1445
550	0.0713	68	33	832	1088	1139	1343	1419	1736	1799	2165	588	769	805	950	1650	1724	1739	1798
550	0.0713	68	50	1046	1368	1432	1689	1906	2332	2417	2908	739	967	1012	1194	2217	2316	2336	2415
550	0.1017	97	33	1710	2093	2169	2476	2908	3376	3470	3844	1227	1502	1557	1776	3626	3740	3763	3854
550	0.1017	97	50	2151	2632	2728	3113	3907	4536	4661	5165	1543	1888	1958	2234	4871	5024	5055	5178
600	0.0312	30	33	117	188	203	260	235	381	415	550	74	120	129	165	176	193	197	211
600	0.0346	33	33	156	244	262	332	299	463	503	661	102	159	170	216	245	267	272	289
600	0.0451	43	33	310	451	479	592	544	755	812	1042	210	305	324	400	526	563	571	600
600	0.0566	54	33	508	698	736	889	874	1113	1189	1491	351	483	510	615	933	985	995	1037
600	0.0566	54	50	639	878	926	1118	1175	1495	1597	2003	442	608	641	774	1253	1323	1337	1394
600	0.0713	68	33	819	1071	1122	1323	1403	1717	1780	2141	576	754	789	931	1607	1679	1693	1751
600	0.0713	68	50	1031	1347	1411	1664	1885	2307	2391	2877	725	948	992	1171	2159	2256	2275	2352
600	0.1017	97	33	1693	2072	2148	2451	2887	3352	3445	3817	1211	1482	1536	1753	3565	3677	3700	3789
600	0.1017	97	50	2129	2606	2701	3082	3878	4503	4628	5127	1523	1864	1932	2205	4789	4940	4970	5091
800	0.0451	43	33	277	403	428	529	503	699	752	964	179	260	276	341	417	446	452	475
800	0.0566	54	33	467	642	678	818	825	1050	1121	1407	313	431	455	549	795	840	849	885
800	0.0566	54	50	587	808	852	1028	1108	1411	1507	1890	394	542	572	690	1069	1129	1140	1188
800	0.0713	68	33	770	1007	1054	1243	1343	1643	1703	2049	530	693	726	856	1435	1499	1512	1564
800	0.0713	68	50	968	1266	1325	1564	1804	2207	2288	2752	667	872	913	1077	1928	2014	2031	2101
800	0.1017	97	33	1625	1989	2061	2352	2803	3254	3344	3705	1147	1404	1456	1661	3320	3425	3446	3530
800	0.1017	97	50	2043	2501	2592	2958	3765	4371	4492	4977	1443	1766	1831	2089	4461	4601	4630	4742
1000	0.0566	54	33	427	587	619	747	776	987	1054	1323	275	379	400	482	658	695	702	732
1000	0.0566	54	50	536	738	778	939	1042	1326	1416									

Combined Axial and Lateral Load Tables

		5 psf Lateral Load														
Wall Height (ft)	Spacing (in.) o.c.	600S137-(mils)					600S162-(mils)					600S200-(mils)				
		33 ksi		50 ksi			33 ksi		50 ksi			33 ksi		50 ksi		
		33	43	54	68	97	33	43	54	68	97	33	43	54	68	97
8	12	1.88	2.62	3.90	5.14	7.62	2.55	3.52	5.72	7.56	11.50	2.99	4.44	7.56	10.02	15.60
	16	1.88	2.62	3.90	5.14	7.62	2.55	3.52	5.72	7.56	11.50	2.99	4.44	7.56	10.02	15.60
	24	1.88	2.62	3.90	5.14	7.62	2.55	3.52	5.72	7.56	11.50	2.99	4.44	7.56	10.02	15.60
9	12	1.88	2.62	3.90	5.14	7.62	2.55	3.52	5.72	7.56	11.50	2.97	4.40	7.46	9.89	15.38
	16	1.88	2.62	3.90	5.14	7.62	2.55	3.52	5.72	7.56	11.50	2.97	4.40	7.46	9.89	15.38
	24	1.88	2.62	3.90	5.14	7.62	2.55	3.52	5.72	7.56	11.50	2.97	4.40	7.46	9.89	15.38
10	12	1.88	2.62	3.90	5.14	7.62	2.54	3.52	5.72	7.56	11.50	2.95	4.35	7.33	9.72	15.11
	16	1.88	2.62	3.90	5.14	7.62	2.54	3.52	5.72	7.56	11.50	2.95	4.35	7.33	9.72	15.11
	24	1.88	2.62	3.90	5.14	7.62	2.54	3.52	5.72	7.56	11.50	2.95	4.35	7.33	9.72	15.11
12	12	1.88	2.62	3.90	5.14	7.62	2.49 ¹	3.44	5.60	7.52	11.50	2.88	4.22	6.99	9.27	14.40
	16	1.88	2.62	3.90	5.14	7.62	2.49	3.44	5.60	7.52	11.50	2.88	4.22	6.99	9.27	14.40
	24	1.88	2.62	3.90	5.14	7.62	2.49	3.44	5.60	7.52	11.50	2.88	4.22	6.99	9.27	14.40
14	12	1.88	2.62	3.90	5.14	7.62	2.40	3.33	5.32	7.13	11.28	2.78	4.04	6.55	8.68	13.45
	16	1.88	2.62	3.90	5.14	7.62	2.40	3.33	5.32	7.13	11.28	2.78	4.04	6.55	8.68	13.45
	24	1.86	2.62	3.90	5.14	7.62	2.40	3.33	5.32	7.13	11.28	2.78	4.04	6.55	8.68	13.45
16	12	1.88	2.62	3.90	5.14	7.62	2.29	3.17	4.94	6.62	10.42	2.65	3.82	6.01	7.97	12.32
	16	1.88	2.62	3.90	5.14	7.62	2.29	3.17	4.94	6.62	10.42	2.65	3.82	6.01	7.97	12.32
	24	1.64 ⁷	2.62	3.90	5.14	7.62	2.09 ⁷	3.17	4.94	6.62	10.42	2.49	3.82	6.01	7.97	12.32

		5 psf Lateral Load														
Wall Height (ft)	Spacing (in.) o.c.	800S137-(mils)					800S162-(mils)					800S200-(mils)				
		33 ksi		50 ksi			33 ksi		50 ksi			33 ksi		50 ksi		
		33	43	54	68	97	33	43	54	68	97	33	43	54	68	97
8	12	1.79	2.50	3.62	4.80	7.27	2.49	3.44	5.51	7.32	11.33	3.07	4.58	7.85	10.38	16.07
	16	1.79	2.50	3.62	4.80	7.27	2.49	3.44	5.51	7.32	11.33	3.07	4.58	7.85	10.38	16.07
	24	1.79	2.50	3.62	4.80	7.27	2.49	3.44	5.51	7.32	11.33	3.07	4.58	7.85	10.38	16.07
9	12	1.79	2.50	3.62	4.80	7.27	2.49	3.44	5.51	7.32	11.33	3.07	4.58	7.85	10.38	16.07
	16	1.79	2.50	3.62	4.80	7.27	2.49	3.44	5.51	7.32	11.33	3.07	4.58	7.85	10.38	16.07
	24	1.79	2.50	3.62	4.80	7.27	2.49	3.44	5.51	7.32	11.33	3.07	4.58	7.85	10.38	16.07
10	12	1.79	2.50	3.62	4.80	7.27	2.49	3.44	5.51	7.32	11.33	3.07	4.58	7.85	10.38	16.07
	16	1.79	2.50	3.62	4.80	7.27	2.49	3.44	5.51	7.32	11.33	3.07	4.58	7.85	10.38	16.07
	24	1.79	2.50	3.62	4.80	7.27	2.49	3.44	5.51	7.32	11.33	3.07	4.58	7.85	10.38	16.07
12	12	1.79	2.50	3.62	4.80	7.27	2.49	3.44	5.51	7.32	11.33	3.07	4.58	7.85	10.38	16.07
	16	1.79	2.50	3.62	4.80	7.27	2.49	3.44	5.51	7.32	11.33	3.07	4.58	7.85	10.38	16.07
	24	1.79	2.50	3.62	4.80	7.27	2.49	3.44	5.51	7.32	11.33	3.07	4.58	7.85	10.38	16.07
14	12	1.79	2.50	3.62	4.80	7.27	2.49	3.44	5.51	7.32	11.33	3.03	4.51	7.70	10.25	16.07
	16	1.79	2.50	3.62	4.80	7.27	2.49	3.44	5.51	7.32	11.33	3.03	4.51	7.70	10.25	16.07
	24	1.79	2.50	3.62	4.80	7.27	2.49	3.44	5.51	7.32	11.33	3.03	4.51	7.70	10.25	16.07
16	12	1.79	2.50	3.62	4.80	7.27	2.49	3.44	5.51	7.32	11.33	2.97	4.40	7.41	9.87	15.52
	16	1.79	2.50	3.62	4.80	7.27	2.49	3.44	5.51	7.32	11.33	2.97	4.40	7.41	9.87	15.52
	24	1.79	2.50	3.62	4.80	7.27	2.49	3.44	5.51	7.32	11.33	2.97	4.40	7.41	9.87	15.52

		15 psf Lateral Load															
Wall Height (ft)	Spacing (in.) o.c.	350S162-(mils)				362S137-(mils)				362S162-(mils)				362S200-(mils)			
		33 ksi		50 ksi		33 ksi		50 ksi		33 ksi		50 ksi		33 ksi		50 ksi	
		33	43	54	68	33	43	54	68	33	43	54	68	33	43	54	68
8	12	2.03	2.76	4.09	5.14	1.67	2.32	3.42	4.42	2.08	2.85	4.27	5.44	2.49	3.50	5.34	6.76
	16	1.86	2.76	4.09	5.14	1.50	2.32	3.42	4.42	1.96	2.85	4.27	5.44	2.41	3.50	5.34	6.76
	24	1.49 ⁶	2.51 ⁷	4.09	5.14	1.16 ⁶	2.04 ⁷	3.42	4.42	1.59 ⁶	2.64	4.27	5.44	2.00 ⁷	3.30	5.34	6.76
9	12	1.80	2.66	3.83	4.80	1.46 ⁷	2.26	3.27	4.19	1.90	2.75	4.04	5.12	2.34	3.37	5.02	6.32
	16	1.57 ⁶	2.53 ⁷	3.83	4.80	1.25 ⁶	2.10 ⁷	3.27	4.19	1.67 ⁶	2.67	4.04	5.12	2.08 ⁷	3.31	5.02	6.32
	24	1.13 ⁶	2.09 ⁶	3.71 ⁶	4.80 ⁷	0.86 ³	1.70 ⁶	3.21 ⁶	4.19 ⁷	1.23 ⁶	2.24 ⁶	3.99 ⁷	5.12	1.60 ⁶	2.80 ⁷	5.02	6.32
10	12	1.53 ⁶	2.44 ⁷	3.53	4.43	1.24 ⁶	2.05 ⁷	3.07	3.91	1.63 ⁶	2.59	3.78	4.75	2.04 ⁷	3.19	4.68	5.85
	16	1.26 ⁶	2.17 ⁶	3.53 ⁷	4.43	1.00 ⁶	1.80 ⁶	3.07 ⁶	3.91	1.37 ⁶	2.32 ⁶	3.78 ⁷	4.75	1.74 ⁶	2.87 ⁷	4.68	5.85
	24	0.78 ³	1.68 ³	3.11 ⁶	4.40 ⁶	0.56 ³	1.35 ³	2.74 ⁶	3.83 ⁶	0.88 ³	1.82 ⁶	3.40 ⁶	4.75 ⁶	1.20 ³	2.29 ⁶	4.32 ⁶	5.85 ⁷
12	12	1.00 ³	1.78 ⁶	2.83 ⁶	3.64 ⁶	0.80 ³	1.50 ⁶	2.56 ⁶	3.30 ⁶	1.10 ³	1.93 ⁶	3.11 ⁶	3.94 ⁷	1.43 ⁶	2.38 ⁶	3.89 ⁷	4.82
	16	0.71 ²	1.47 ³	2.54 ⁶	3.57 ⁶	0.53 ²	1.21 ³	2.30 ³	3.18 ⁶	0.80 ³	1.61 ³	2.81 ⁶	3.93 ⁶	1.08 ³	2.01 ⁶	3.54 ⁶	4.82 ⁶
	24	0.18 ²	0.91 ²	2.03 ³	3.07 ³		0.69 ²	1.84 ²	2.70 ³	0.26 ²	1.04 ²	2.27 ³	3.40 ³	0.47 ²	1.34 ³	2.92 ³	4.34 ⁶
14	12	0.56 ²	1.19 ³	2.02 ³	2.85 ⁶	0.42 ²	0.99 ²	1.86 ³	2.56 ³	0.65 ²	1.32 ³	2.24 ³	3.14 ⁶	0.88 ³	1.65 ³	2.80 ⁶	3.92 ⁶
	16	0.26 ²	0.87 ²	1.73 ²	2.56 ³	0.14 ²	0.69 ²	1.59 ²	2.28 ³	0.34 ²	0.99 ²	1.93 ³	2.83 ³	0.53 ²	1.26 ³	2.45 ³	3.58 ⁶
	24		0.32 ²	1.22 ²	2.05 ²		0.16 ¹	1.13 ²	1.79 ²		0.42 ²	1.40 ²	2.30 ²		0.58 ²	1.84 ²	2.98 ³
16	12	0.23 ²	0.72 ²	1.41 ²	2.08 ³	0.13 ²	0.58 ²	1.31 ²	1.87 ²	0.29 ²	0.83 ²	1.58 ²	2.31 ³	0.45 ²	1.06 ²	2.00 ³	2.91 ³
	16		0.42 ²	1.13 ²	1.80 ²		0.29 ¹	1.06 ²	1.60 ²		0.51 ²	1.29 ²	2.01 ²		0.68 ²	1.66 ²	2.58 ³
	24			0.65 ¹	1.32 ²			0.61 ¹	1.13 ¹			0.77 ¹	1.50 ²			1.07 ²	2.01 ²

1 Deflection exceeds L/120
 2 Deflection exceeds L/240
 3 Deflection exceeds L/360

6 Deflection exceeds L/600
 7 Deflection exceeds L/720
 - If not noted, deflection is less than L/720

See Combined Axial and Lateral Load Table Notes on page 20.





Project	PANERA - SAN RAFAEL	Date	8-26-09
Subject	TRANSFORMER PLATFORM - LATERAL	By	JR

SEISMIC

Coefficients from Existing Building Drawings:

Site Class C

$$F_a = 1.0$$

$$F_v = 1.3$$

$$S_s = 1.5$$

$$S_1 = 0.60$$

$$S_{ds} = 1.0$$

$$S_{d1} = 0.52$$

Lightgauge wood shear walls independent from existing structure $R = 6.5$ $\rho_o = 3$ $C_d = 4$

(ASCE 7-02 A13)
Table 12.2-1

$$C_s = \frac{S_{ds}}{R/I} = \frac{1.0}{6.5/1.0} = 0.15$$

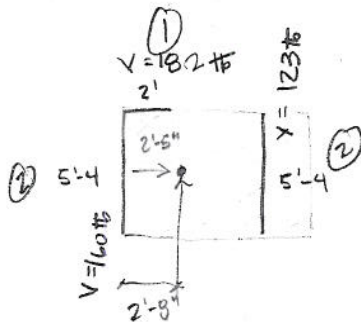
$$p = 1.3$$

$$V = 0.15(1.3) W_p$$

$$W_p = 10 \text{ psf} \left(8'-2" \times 5'-4" \right) + 835 \text{ lb}$$

$$= 1270 \text{ lb}$$

$$V = 247 \text{ lb}$$



- 3 sided box analysis

Light framed shear walls & plywood diaphragm.

See attached rigid diaphragm

load distribution.



Dibble Engineers, Inc
1029 Market Street
Kirkland, WA 98033

Title :
Dsgnr :
Description :

Job #
Date: 1:47PM, 26 AUG 09

Scope :

T10

Rev: 580002
User: KW-0606102, Ver 5.8.0, 1-Dec-2003
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Rigid Diaphragm Torsional Analysis

Page 1
transformer.ecw:Calculations

Description

General Information

Y-Y Axis Shear	0.25 k	Min. X Axis Ecc	5.00 %	X Axis Center of Mass	2.50 ft
X-X Axis Shear	0.25 k	Min. Y Axis Ecc	5.00 %	Y Axis Center of Mass	2.67 ft
...Shears are applied on each axis separately				Max X Dimension	8.17 ft
				Max Y Dimension	5.33 ft

Wall Data

Label	Thickness in	Length ft	Height ft	Wall Xcg ft	Wall Ycg ft	Wall Angle deg CCW	Wall End Fixity	E
1	6.000	5.330	12.000	0.000	2.667	90.0	Fix-Fix	1.0
2	6.000	2.000	12.000	1.000	5.330	0.0	Fix-Fix	1.0
3	6.000	5.330	12.000	6.000	2.670	90.0	Fix-Fix	1.0

Calculated Wall Forces

Label	Load Location for Maximum Forces		Direct Shears k		Torsional Shears k		Final Max. Wall Shear k
	X	Y	Length	Thick	Length	Thick	
1	-0.904	0.000	0.123	0.000	0.037	0.000	0.160
2	0.000	-1.695	-0.182	0.000	0.001	-0.000	-0.182
3	-0.904	0.000	0.123	0.000	-0.037	0.000	0.123

Summary

X Distance to Center of Rigidity	2.995 ft	Controlling Eccentricities & Forces from Applied Y-Y Shear			
Y Distance to Center of Rigidity	4.631 ft	Xcm + (Min%*MaxX) - X-cr =	-0.087 ft	Torsion =	-0.02 k-ft
		Xcm - (Min%*MaxX) - X-cr =	-0.904 ft	Torsion =	-0.22 k-ft
X Accidental Eccentricity	0.409 ft	Controlling Eccentricities & Forces from Applied X-X Shear			
Y Accidental Eccentricity	0.267 ft	Ycm + (Min%*MaxY) - Y-cr =	-1.695 ft	Torsion =	-0.42 k-ft
		Ycm - (Min%*MaxY) - Y-cr =	-2.228 ft	Torsion =	-0.55 k-ft



DIBBLE ENGINEERS, INC.

Project No.
09-400

Sheet No.
T 11

Project
PAVERA SAN RAFAEL

Date
9-26-09

Subject
TRANSFORMER PLATFORM - SW DESIGN

By
JR

WALL ①

Perforated SW analysis. $H:W = 7:2' < 4:1$ OK

$$\text{Percent of full height SW} = \frac{2+2.5}{8} = 0.5625$$

$$\text{Maximum opening height ratio} = \frac{7'}{12'} = 0.5833$$

from interpolation the shear resistance
Adjustment factor $\phi_a = 0.77$

$$V_{req'd} = \frac{182 \text{ lb}}{4.5' (0.77)} \times \frac{1}{\frac{2w/h}{.571}} = 92 \text{ plf}$$

SW-1

Uplift

$$C = \frac{Vh}{C_a \phi L_1} = \frac{182 \text{ lb} (12')}{0.77 (4.5)} = 630 \text{ lb}$$

5/8" anchor
S/HDV4 6#14 stud
(2) 33mil stud
2320lb

Strap over door

$$C = \frac{182 \text{ lb} (7')}{0.77 (4.5)} = 368 \text{ lb}$$

LSTA 9 w/ 8-#10

Wall ②

$w/h = 2.25:1 \therefore$ increase $2w/h$

$$L = 5'-4"$$

$$H = 12'-0"$$

$$F = 160 \text{ lb}$$

$$V = 160 \text{ lb} / 5.33' \times \frac{1}{2(5.33)/12} = 34 \text{ plf}$$

SW-1

$$M_{OT} = 12' (160 \text{ lb}) = 1920 \text{ lb}\cdot\text{ft}$$

$$M_R = 10 \text{ psf} (12') (5.33)^2 \frac{1}{2} + \frac{835 \text{ lb}}{2} (2.5') = 2748 \text{ lb}\cdot\text{ft}$$

$$H_D = \frac{1920 \text{ lb}\cdot\text{ft} - 0.6 (2748 \text{ lb}\cdot\text{ft})}{5.33'} = -5.4 \text{ lb} \therefore \text{no uplift.}$$

in that segment are multiplied by $2w/h$.

C3.2.4 Adjusted Shear Resistance

The *adjusted shear resistance* shall be calculated by multiplying the *unadjusted shear resistance* by the shear resistance adjustment factors of Table C3.2-1. For intermediate values of opening height ratio and percentages of full-height sheathing the shear resistance adjustment factors shall be permitted to be determined by interpolation.

Table C3.2-1
SHEAR RESISTANCE ADJUSTMENT FACTOR- C_a

Wall Height (h)	Maximum Opening Height Ratio ¹ and Height				
	h/3	h/2	2h/3	5h/6	h
8'-0" (2440 mm)	2'-8" (810 mm)	4'-0" (1220 mm)	5'-4" (1630 mm)	6'-8" (2030 mm)	8'-0" (2440 mm)
10'-0" (3050 mm)	3'-4" (1020 mm)	5'-0" (1530 mm)	6'-8" (2030 mm)	8'-4" (2540 mm)	10'-0" (3050 mm)
Percent Full-Height Sheathing ²	Shear Resistance Adjustment Factor				
10%	1.00	0.69	0.53	0.43	0.36
20%	1.00	0.71	0.56	0.45	0.38
30%	1.00	0.74	0.59	0.49	0.42
40%	1.00	0.77	0.63	0.53	0.45
50%	1.00	0.80	0.67	0.57	0.50
60%	1.00	0.83	0.71	0.63	0.56
70%	1.00	0.87	0.77	0.69	0.63
80%	1.00	0.91	0.83	0.77	0.71
90%	1.00	0.95	0.91	0.87	0.83
100%	1.00	1.00	1.00	1.00	1.00

1 See Section C3.2.2

2 See Section C3.2.1

C3.3 Anchorage and Load Path

Design of *Type II shear wall* anchorage and load path shall conform to the requirements of this section, or shall be calculated using principles of mechanics.

C3.3.1 Anchorage for In-Plane Shear

The unit shear force, v , transmitted into the top and out of the base of the *Type II shear wall* full-height sheathing segments, and into *collectors* (drag struts) connecting *Type II shear wall segments*, shall be calculated in accordance with the following:

$$v = \frac{V}{C_a \sum L_i}$$

(Eq. C3.3-1)

where:

- v = unit shear force (plf, kN/m)
- V = shear force in *Type II shear wall* (lbs, kN)
- C_a = shear resistance adjustment factor from Table C3-1
- $\sum L_i$ = sum of widths of *Type II shear wall segments* (feet, mm/1000)

C3.3.2 Uplift Anchorage at Type II Shear Wall Ends

Anchorage for uplift forces due to overturning shall be provided at each end of the

interpolate 0.77

- 3) Where fully blocked gypsum board is applied to the opposite side of this assembly, per Table C2.1-2 with screw spacing at 7 inches (178 mm) o.c. edge and 7 inches (178 mm) o.c. field, these *nominal strengths* are permitted to be increased by 30%.
- 4) See Section C2.1 for requirements for sheathing applied to both sides of wall.
- 5) *Shear wall* height to width aspect ratio's (h/w) greater than 2:1, but not exceeding 4:1, are permitted provided the *nominal* shear strength is multiplied by 2w/h. See Section C2.1.
- 6) Shear values permitted for use in seismic design where the seismic response modification factor, R, is taken equal to or less than 3, subject to the limitations in Section C1.1.
- 7) For SI: 1" = 25.4 mm, 1 foot = 0.305 m, 1 lb = 4.45 N

TABLE C2.1-2
NOMINAL SHEAR STRENGTH, (R_n), FOR WIND AND SEISMIC LOADS
FOR SHEAR WALLS FACED WITH GYPSUM BOARD^{1,2,3,4}
 (Pounds Per Foot)

Wall Construction	Max. Aspect Ratio (h/w)	Orientation	Screw Spacing (inches o.c.)		Nominal Shear Strength (lb/ft)
			Edge	Field	
½" gypsum board on one side of wall; studs max. 24" o/c	2:1	Gypsum board applied perpendicular to framing with strap blocking behind the horizontal joint and with solid blocking between the first two end studs or applied vertically with all edges attached to framing members	7	7	290
			4	4	425
			4	12	295
			8	12	230

1. *Nominal* shear strengths shall be multiplied by the *resistance factor* (ϕ) to determine *design strength* or divided by the *safety factor* (Ω) to determine *allowable* shear strengths as set forth in Section C2.1.
2. See Section C2.1 for requirements for sheathing applied to both sides of wall.
3. Unblocked assemblies are permitted provided the *nominal* shear strength values above are multiplied by 0.35.
4. For SI: 1" = 25.4 mm, 1 foot = 0.305 m, 1 lb = 4.45 N

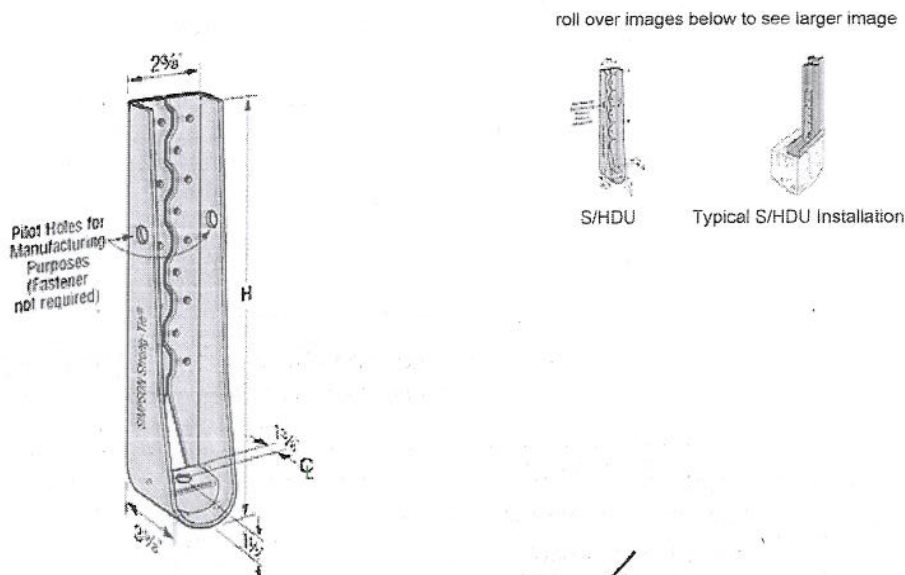
TABLE C2.1-3
NOMINAL SHEAR STRENGTH, (R_n), FOR SEISMIC LOADS FOR SHEAR WALLS^{1,4,7}
 (Pounds Per Foot)

Assembly Description	Max. Aspect Ratio (h/w)	Fastener Spacing at Panel Edges ² (inches)				Designation Thickness ^{5,6} of Stud and Track (mls)	Required Sheathing Screw Size
		6	4	3	2		
15/32" Structural 1 sheathing (4-ply), one side	2:1 ³	780	990	-	-	33 or 43	8
	2:1	890	1330	1775	2190	43 or 54	8
7/16" OSB, one side	2:1 ³	700	915	-	-	33	8
	2:1 ³	825	1235	1545	2060	43 or 54	8
	2:1	940	1410	1760	2350	54	8
	2:1	1232	1848	2310	3080	68	10
0.018" steel sheet, one side	2:1	390	-	-	-	33 (min.)	8
0.027" steel sheet, one side	4:1	-	1000	1085	1170	33 (min.)	8

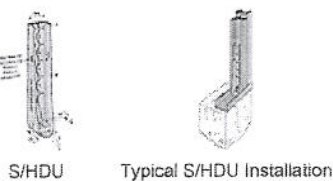
1. *Nominal* shear strength shall be multiplied by the *resistance factor* (ϕ) to determine *design strength* or divided by the *safety factor* (Ω) to determine *allowable* shear strength as set forth in Section C2.1.
2. Screws in the field of the panel shall be installed 12 inches (305 mm) o.c. unless otherwise shown.
3. *Shear wall* height to width aspect ratios (h/w) greater than 2:1, but not exceeding 4:1, are permitted provided the *nominal* shear strength are multiplied by 2w/h. See Section C2.1.
4. See Section C2.1 for requirements for sheathing applied to both sides of wall.

T14

Gallery:



roll over images below to see larger image



Load Table: See code report listings below

top

Model	Height	Fasteners		Stud Member Type mil (ga)	ASD		LRFD		Nominal Tension Load	
		Fdn Anchor Diameter	Stud Fasteners		Tension Load (100)	Deflection at ASD Load (133)	Tension Load	Deflection at LRFD Load		
S/HDU4	7 3/8	5/8	6 - #14	2-33 (2-20ga)	2320	2320	0.093	3705	0.149	5685
				2-43 (2-18ga)	3825	3825	0.115	6105	0.190	9365
				2-54 (2-16ga)	3970	3970	0.093	6345	0.156	9730
				Steel Fixture	3970	3970	0.038	6345	0.061	12120
S/HDU6	10 3/8	5/8	12 - #14	2-33 (2-20ga)	4895	4895	0.125	8850	0.271	10470
				2-43 (2-18ga)	5875	6125	0.119	9785	0.258	15460
				2-54 (2-16ga)	5875	6125	0.108	9785	0.234	15005
				Steel Fixture	5875	6125	0.061	9785	0.157	14695
S/HDU9	12 3/8	7/8	18 - #14	2-33 (2-20ga)	6965	6965	0.103	11125	0.189	13165
				2-43 (2-18ga)	9255	9255	0.125	15960	0.262	21810
				2-54 (2-16ga)	9990	9990	0.106	15960	0.225	24480
				Steel Fixture	9990	9990	0.059	15960	0.075	31455
S/HDU11 ^{1,2}	16 3/8	7/8	27 - #14	2-33 (2-20ga)	6965	6965	0.103	11125	0.189	13165
				2-43 (2-18ga)	11100	11100	0.125	19610	0.262	24955
				2-54 (2-16ga)	11500	12175	0.125	19445	0.243	29825
				Steel Fixture	11500	12175	0.107	19445	0.153	31715

1. Heavy hex nut is required to achieve the table loads for S/HDU11.
2. Allowable tension loads for S/HDU11 with regular hex nut is 9595 lb. and for 2-54 mil is 9675 lb.
3. The Designer shall specify the anchor embedment and configuration. See SSTB Anchor Bolts.
4. Back-to-back stud members are required unless otherwise specified.
5. 1/4" self-drilling screws can be substituted for #14.
6. See Holdown and Post Base Anchor Solutions for anchor bolt retrofit.
7. Tabulated loads shown at (100) do not include steel stress increase. Tabulated loads shown at (133) include a 1/3 stress increase on the steel. Refer to Steel Stress Increase for additional information.
8. Deflection Load: The deflection of a holdown measured between the anchor bolt and the strap portion of the holdown when loaded to the highest load listed in the catalog table. This movement is strictly due to the holdown deformation under a static load test with attached to members listed in the table above.
9. Nominal Tension Load is based on the average peak load from tests. AISI Lateral Design standard requires holdown to have nominal strength to resist lesser of amplified seismic load or what the system can deliver.

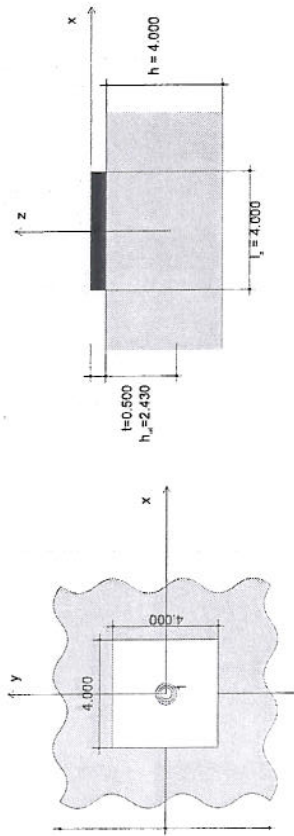
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Specifier's comments:

1. Input data

Anchor type and diameter: HIT-RE 500-SD + HAS. 3/8
 Effective embedment depth: $h_{eff} = 2.430$ in. ($h_{min} = 2.750$ in.)
 Material: ASTM F 588M Class 5.8
 Evaluation Service Report: ESR 2322
 Issued | Valid: 11/1/2007 | -
 Proof: design method ACI 318 / AC308
 Stand-off installation: $e = 0.000$ in. (no stand-off); $i = 0.500$ in.
 Anchor plate: Custom; $t_a = 35998$ psi; $l_x, l_y, l_z = 4.000 \times 4.000 \times 4.000$ in. (Recommended plate thickness: not calculated)
 Profile: Round HSS; Steel pipe (AISC); ($l_x \times l_y \times l_z$) = 0.840 in. \times 0.840 in. \times 0.109 in.
 Base material: cracked concrete; $f_c = 3000$ psi; $f_t = 3000$ psi; $h = 4.000$ in.; Temp. shortlong: 32/32°F
 Installation: hammer drilled hole, installation condition: dry
 Reinforcement: condition B; no supplemental splitting reinforcement present
 edge reinforcement: none or < No. 4 bar

Geometry [in.]



Loading [lb, in.-lb]

Governing loads (Load case 1)

N	933
V _x	0
V _y	0
M _x	0.000
M _y	0.000
M _z	0.000

Eccentricity (structural section) [in.]
 $e_x = 0.000$; $e_y = 0.000$
 Seismic loads (cracked concrete assumed; categories C, D, E, or F): no

V_x = 0
 M_x = 0.000

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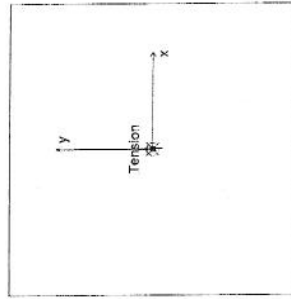
2. Load case/Resulting anchor forces

Load case (governing):

Anchor reactions [lb]
 Tension force (+Tension, -Compression)

Anchor	Tension force	Shear force	Shear force x	Shear force y
1	933	0	0	0

max. concrete compressive strain [%]: 0.00
 max. concrete compressive stress [psi]: 0
 resulting tension force in (x/y) = (0.00/0.00) [lb]: 933
 resulting compression force in (x/y) = (0.00) [lb]: 0



3. Tension load

Proof	Load N _{ax} [lb]	Capacity ϕN_s [lb]	Utilization f_{ax} [%] = $N_{ax} / \phi N_s$	Status
Steel Strength*	933	3653	26	OK
Bond Strength*	933	2028	46	OK
Concrete Breakout Strength**	933	2293	41	OK

* most unfavorable anchor **anchor group (anchors in tension)

Steel Strength

N _{ax} [lb]	ϕ	$\phi N_{s,ax}$ [lb]	N _{ax} [lb]
5620	0.650	3653	933

Bond Strength

A _{ax} [in ²]	A _{ax,eff} [in ²]	s _{ax,eff} [in.]	c _{ax} [in.]	c [in.]	$\tau_{ax,max}$ [psi]	$\tau_{ax,act}$ [psi]	V _{ax,act}	V _{ax,max}
53.14	53.14	7.290	3.645	393.701	1232	1000	1.000	1.000

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Concrete Breakout Strength

A_{br} [in ²]	A_{br} [m ²]	c [in.]	c [m.]	V_{con}	V_{con}	k_{tr}
53.14	53.14	393.701	4.874	1,000	1,000	17,000
e_{min} [in.]	e_{min} [m.]	e_{min} [in.]	V_{con}	V_{con}		
0.000	1.000	0.000	1,000	1,000		
N_u [lb]	ϕN_u [lb]	ϕN_u [lb]	N_u [lb]			
3527	0.850	2293	933			



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4. Shear load

Proof	Load V_u [lb]	Capacity ϕV_n [lb]	Utilization β_u [%] = $V_u / \phi V_n$	Status
Steel Strength*	N/A	N/A	N/A	N/A
Steel failure (with lever arm)*	N/A	N/A	N/A	N/A
Pryout Strength**	N/A	N/A	N/A	N/A
Concrete edge failure in direction**	N/A	N/A	N/A	N/A

* most unfavorable anchor ** anchor group (relevant anchors)

5. Allowable Stress Design (Refer to ICC-ES Evaluation Service Report)

single anchor relevant (tension); relevant to a single anchor (shear)

Reference for load	Tension [lb]		Shear [lb]	
	including seismic	excluding seismic	including seismic	excluding seismic
ACI318 Section D.4.4		2028		0
ACI318 Section D.4.5		1014		0

$R_{con,db} = R_y / \gamma$
 $T/T_{req,db} + V/V_{req,db} \leq 1.2$

6. Proof of the transmission of the anchor loads to the supports

Transmission of the anchor loads into the concrete

Checking the transfer of loads into the base is required in accordance with ACI318

Shear resistance of base material

Shear resistance of the base material must be checked according to relevant approval or standard

7. Warnings

Condition A applies where the potential concrete failure surfaces are crossed by supplementary reinforcement proportioned to tie the potential concrete failure prism into the structural member. Condition B applies where such supplementary reinforcement is not provided, or where pullout or pryout strength governs.

Design Strengths of adhesive anchor systems are influenced by the cleaning method. Refer to the INSTRUCTIONS FOR USE given in the Evaluation Service Report for cleaning and installation instructions

The present version of the software does not account for special design provisions for overhead applications. Refer to related approval (e.g. section 4.1.1 of the ICC-ESR 2322) for details.

IBC 2006, Section 1908.1.16, requires that the governing design strength of an anchor or group of anchors be limited by ductile steel failure, if this is NOT the case. ACI 318-D Section D.3.3.5 requires that the attachment that the anchor is connecting to the structure shall be designed so that the attachment will undergo ductile yielding at a load level corresponding to anchor forces no greater than the design strength of anchors specified in ACI 318-D section D.3.3.3, or the minimum design strength of the anchors shall be at least 2.5 times the factored forces transmitted by the attachment.

Fastening meets the design criteria

T16

T17

Load Table: See code report listings below

top

Available with additional corrosion protection. Check with factory.

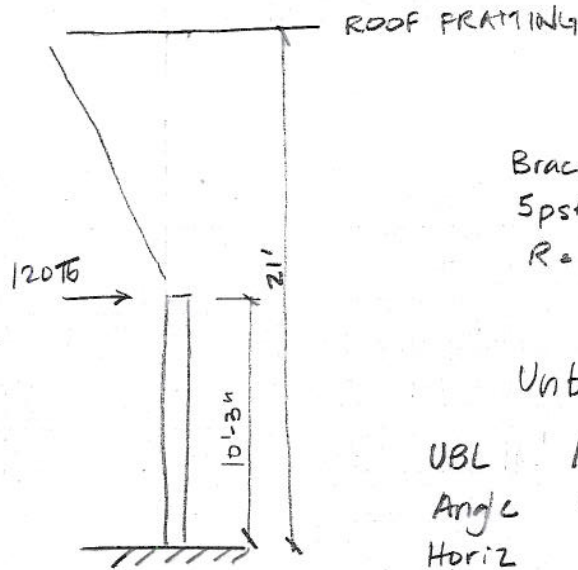
Model No.	Material Thick. mill (ga)	Dimensions		Fasteners (Total)			Allowable Tension Loads				
				Rafter/Stud/Joist Thickness			33 mil (20 ga)		43 mil (18 ga)		54 mil
		W	L	33 mil (20 ga)	43 mil (18 ga)	54 mil (16 ga)	(100)	(133)	(100)	(133)	(100)
LSTA9	33 (20 ga)	1 1/4	9	8- #10	8- #10	8- #10	705	945	1120	1495	1190
LSTA12		1 1/4	12	10- #10	10- #10	8- #10	885	1180	1190	1590	1190
LSTA15		1 1/4	15	12- #10	12- #10	10- #10	1060	1415	1190	1590	1190
LSTA18		1 1/4	18	14- #10	12- #10	10- #10	1190	1590	1190	1590	1190
LSTA21		1 1/4	21	14- #10	12- #10	10- #10	1190	1590	1190	1590	1190
LSTA24		1 1/4	24	14- #10	12- #10	10- #10	1190	1590	1190	1590	1190
ST292		2 1/16	9 5/16	12- #10	10- #10	10- #10	1060	1415	1240	1650	1240
ST2122		2 1/16	12 19/16	16- #10	12- #10	10- #10	1415	1885	1502	2005	1502
ST2115		3/4	16 9/16	8- #10	6- #10	4- #10	630	840	630	840	630
ST2215		2 1/16	16 9/16	20- #10	14- #10	10- #10	1765	2355	1825	2435	1825
LSTA30	43 (18 ga)	1 1/4	30	18- #10	12- #10	10- #10	1555	2070	1555	2070	1555
LSTA36		1 1/4	36	18- #10	16- #10	14- #10	1555	2070	1555	2070	1555
LSTI49		3 3/4	49	32- #10	32- #10	20- #10	2830	3770	4050	5400	4050
LSTI73		3 3/4	73	46- #10	32- #10	20- #10	4050	5400	4050	5400	4050
MSTA9		1 1/4	9	8- #10	8- #10	8- #10	705	945	1050	1405	1555
MSTA12		1 1/4	12	10- #10	10- #10	8- #10	885	1180	1315	1755	1555
MSTA15		1 1/4	15	12- #10	12- #10	10- #10	1060	1415	1555	2070	1555
MSTA18		1 1/4	18	14- #10	12- #10	10- #10	1235	1650	1555	2070	1555
MSTA21		1 1/4	21	16- #10	12- #10	10- #10	1415	1885	1555	2070	1555
MSTA24		1 1/4	24	18- #10	12- #10	10- #10	1555	2070	1555	2070	1555
MSTA30	54 (16 ga)	1 1/4	30	22- #10	16- #10	12- #10	1945	2590	1950	2600	1950
MSTA36		1 1/4	36	24- #10	18- #10	16- #10	1950	2600	1950	2600	1950
ST6215		2 1/16	16 5/16	20- #10	16- #10	10- #10	1765	2355	2025	2705	2025
ST6224		2 1/16	23 5/16	28- #10	20- #10	12- #10	2455	3275	2455	3275	2455
ST9		1 1/4	9	8- #10	8- #10	8- #10	705	945	1050	1405	1350
ST12		1 1/4	11 5/8	10- #10	10- #10	8- #10	885	1180	1315	1755	1350
ST18		1 1/4	17 3/4	14- #10	12- #10	12- #10	1235	1650	1350	1800	1350
ST22		1 1/4	21 5/8	20- #10	20- #10	20- #10	1350	1800	1350	1800	1350
MSTC28		3	28 1/4	36- #10	36- #10	30- #10	3180	4240	4600	6130	4600
MSTC40		3	40 1/4	52- #10	46- #10	46- #10	4595	6125	4600	6130	4600
MSTC52	3	52 1/4	54- #10	42- #10	42- #10	4600	6130	4600	6130	4600	
MSTC66	68 (14 ga)	3	65 3/4	66- #10	46- #10	30- #10	5795	7725	5795	7725	5795
MSTC78		3	77 3/4	66- #10	46- #10	30- #10	5795	7725	5795	7725	5795
ST6236		2 1/16	33 19/16	40- #10	30- #10	18- #10	3535	4715	3760	5015	3760
HRS6		1 3/8	6	6- #10	6- #10	6- #10	530	705	790	1050	1600
HRS8	1 3/8	8	10- #10	10- #10	10- #10	885	1180	1315	1755	2670	
HRS12	1 3/8	12	14- #10	14- #10	12- #10	1235	1650	1840	2455	2710	
FHA6	97 (12 ga)	1 7/16	6 3/8	8- #10	8- #10	8- #10	705	945	1050	1405	2045
FHA9		1 7/16	9	8- #10	8- #10	8- #10	705	945	1050	1405	2045
FHA12		1 7/16	11 5/8	8- #10	8- #10	8- #10	705	945	1050	1405	2045
FHA18		1 7/16	17 3/4	8- #10	8- #10	8- #10	705	945	1050	1405	2045
FHA24		1 7/16	23 3/8	8- #10	8- #10	8- #10	705	945	1050	1405	2045
FHA30		1 7/16	30	8- #10	8- #10	8- #10	705	945	1050	1405	2045
MSTI26		2 1/16	26	26- #10	26- #10	22- #10	2300	3065	3420	4560	5025
MSTI36		2 1/16	36	36- #10	36- #10	22- #10	3180	4240	4735	6310	5025
MSTI48		2 1/16	48	48- #10	40- #10	22- #10	4240	5655	5025	6700	5025
MSTI60		2 1/16	60	58- #10	40- #10	22- #10	5025	6700	5025	6700	5025
MSTI72		2 1/16	72	62- #10	58- #10	54- #10	5025	6700	5025	6700	5025
S/MST27		2 1/16	27	30- #10	30- #10	22- #10	2650	3535	3945	5260	5025
S/MST37		2 1/16	37	42- #10	40- #10	22- #10	3710	4950	5025	6700	5025
S/MST48		2 1/16	48	54- #10	40- #10	24- #10	4770	6365	5155	6870	5155
S/MST60	118 (10 ga)	2 1/16	60	68- #10	52- #10	30- #10	6010	8010	6650	8865	6650
S/MST72		2 1/16	72	76- #10	52- #10	30- #10	6650	8865	6650	8865	6650

1. Use half of the fasteners in each member being connected to achieve the listed loads.



DIBBLE ENGINEERS, INC.

Project No. 09-400	Sheet No. T18
Project PANERA	Date 8-27-09
Subject WALL BRACING	By JR



Braces @ 4'-0" o.c.

5psf partition load

$$R = \frac{10.25' (4') (5psf)}{2} = 120 \text{ lbs}$$

Unbraced length vs force

UBL	16'	14'	12'
Angle	47.8°	39.8°	26.38°
Horiz	11.85'	8.95'	5'4"
Force	162 lbs	187 lbs	270 lbs
Allow Axial	N/A	74 lbs	452 lbs
		3625162-97	3625162-33
Use	2:1 slope	362162-33	



SECTION DESIGNATION: 362S162-33 Single

INPUT PROPERTIES:

Web Height =	3.625 in	Steel Thickness =	0.0346 in
Top Flange =	1.625 in	Inside Corner Radius =	0.0765 in
Bottom Flange =	1.625 in	Yield Stress, Fy =	33.0 ksi
Stiffening Lip =	0.500 in	Fy With Cold-Work, Fya =	33.0 ksi
Punchout Width =	1.500 in	Punchout Length =	4.000 in

Wall Solver Design Data - Simple Span

Wall Height 12.00 ft	Deflection Limit L/180
Lateral Pressure 5.00 psf	Axial Load 230 lb
Stud Spacing 6.0 in	

Check Flexure

Load Multiplier for Flexural Strength = 1.00
 Input Flexural Bracing: None
 Cb = 1.14
 Me = 258 Ft-Lb My = 836 Ft-Lb Me <= 0.56 My
 Mc = 258 Ft-Lb Sc/Sf = 0.97
 Mmax = 45 Ft-Lb <= Ma = 150 Ft-Lb

Check Deflection

Deflection Limit: L/180
 Load Multiplier for Deflection = 1.00
 Maximum Deflection = 0.072 in Deflection Ratio = L/2007

Check Shear

Vmax = 15 lb (Including Flexural Load Multiplier)
 Shear capacity not reduced for punchouts near ends of member
 Va = 1024 lb >= Vmax

Check Web Crippling

Rmax = 15 lb (Including Flexural Load Multiplier)
 Web Crippling capacity not reduced for punchouts near ends of member
 End Bearing Length = 1.00 in
 Ra = 165 lb >= Rmax, stiffeners not required

Check Axial Interactions

P = 230 lb (Including Axial Load Multiplier)
 Axial Loads Multiplied by 1.00 for Interaction Checks
 Max unbraced length, KyLy and KtLt = 144.0 in **Max KL/r = 234**
 Allowable Pure Axial Load, Pa = 452 lb : Axial Load Ratio, P/Pa = 0.509

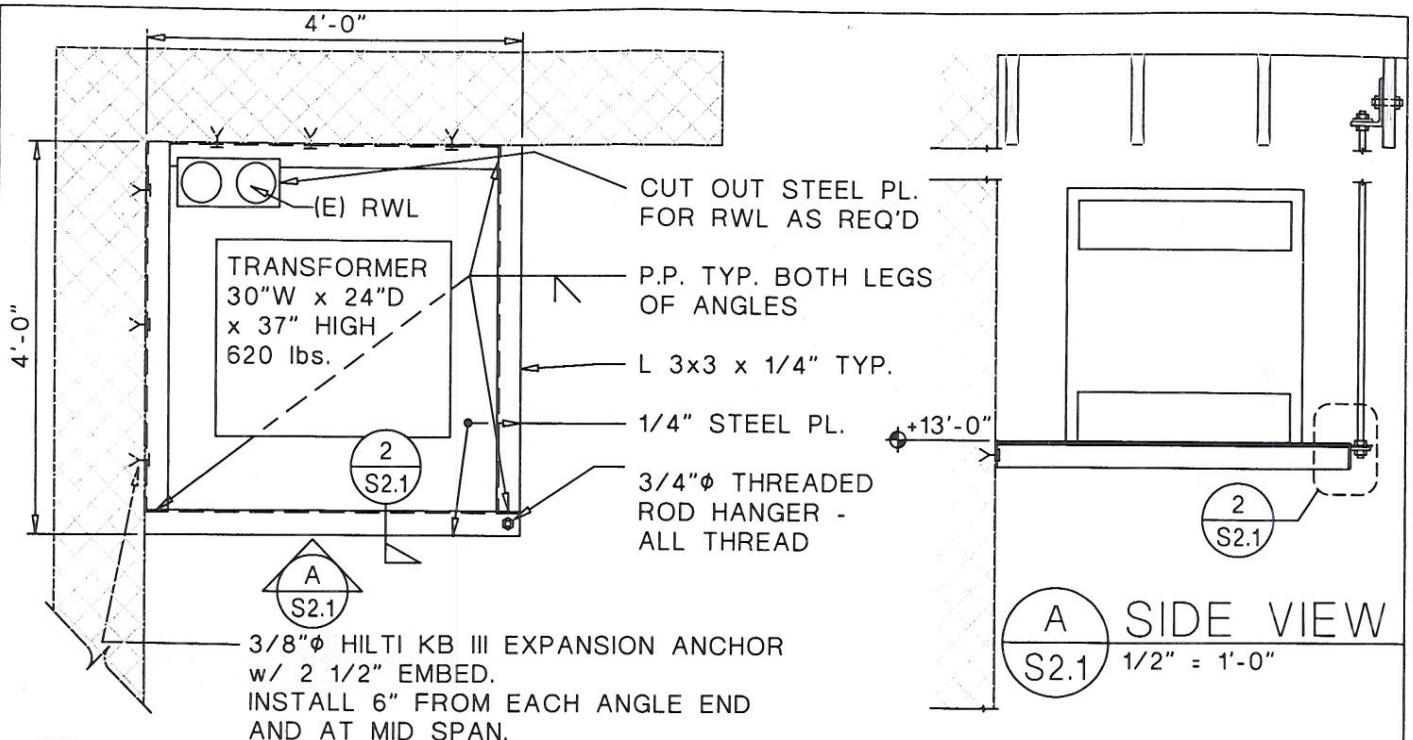
Check Equation C5.2.1-1

Cmx = 1.00
 Pcr = 7739 lb Alpha = 0.943
Equation C5.2.1-1 = 0.826

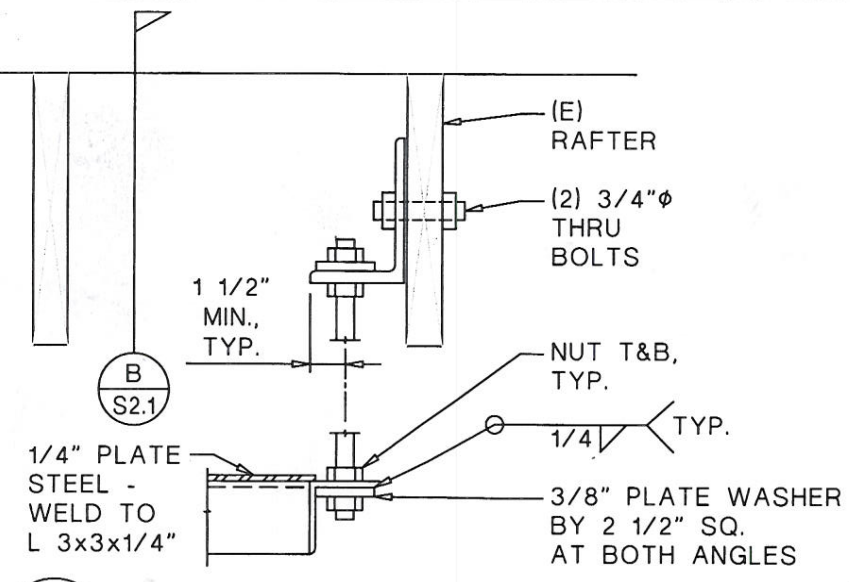
Check Equation C5.2.1-2

Pao = 3176 lb
Equation C5.2.1-2 = 0.372

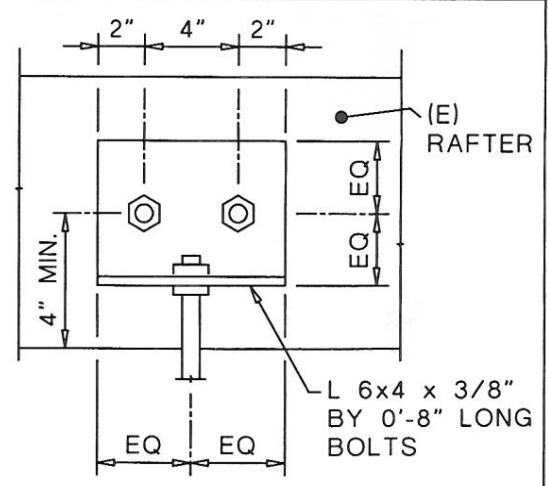
Maximum Interaction = 0.826 <= 1.0



1 TRANSFORMER SUPPORT PLATFORM
 S2.1 SCALE: 1/2" = 1'-0"



2 DETAIL - HANGER
 S2.1 SCALE: 1 1/2" = 1'-0"



DETAIL - HANGER BRACKET
 B S2.1 SCALE: 1 1/2" = 1'-0"

B0909-033



The Mall at Northgate **Roadside BBQ** San Rafael, California

Title: TRANSFORMER SUPPORT PLATFORM

Date: November 18, 2009 Scale: AS NOTED Sheet No.: S2.1

Thompson Planning & Design


244 Magnolia Avenue, Larkspur, California 94939 cthompson@tp-d.com tel. (415) 927-9772 fax (415) 927-9771



Permit #:

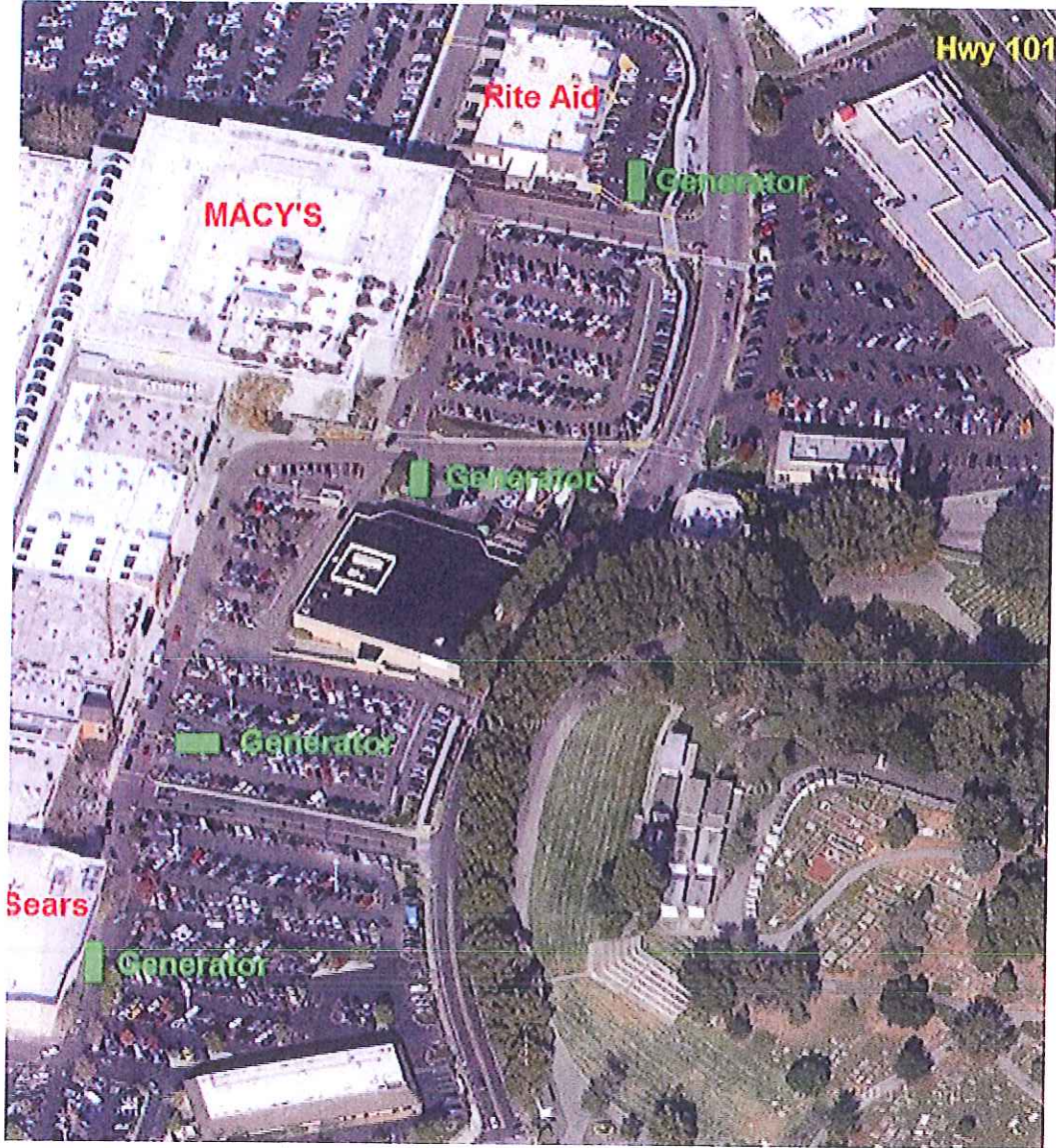
F1110-021

FIRE PERMIT

Address 5800 NORTHGATE DR				Related Bldg Permit:																	
Description of Work 4 Generators			APN 175-060-60		Appl. Date: 10/20/2011 Issued Date: 10/20/2011																
Owner Information NORTHGATE MALL ASSOC 2235 FARADAY AVE SUITE O CARLSBAD CA 92008 phone: fax:		Contractor Information phone: fax:		Tenant Information phone: fax:																	
Architect Information phone: fax:		Engineer Information phone: fax:		Applicant Information PG&E 1100 S. 27th St Richmond, CA phone: (415) 238-6547 fax:																	
Property Information				Special Conditions																	
<table border="1"> <thead> <tr> <th colspan="4">Setbacks</th> <th rowspan="2">Lot Size (SF)</th> <th rowspan="2">Zoning</th> </tr> <tr> <th>Front</th> <th>Left</th> <th>Right</th> <th>Rear</th> </tr> </thead> <tbody> <tr> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>1,275,829</td> <td>GC</td> </tr> </tbody> </table>				Setbacks				Lot Size (SF)	Zoning	Front	Left	Right	Rear	0	0	0	0	1,275,829	GC		
Setbacks				Lot Size (SF)	Zoning																
Front	Left	Right	Rear																		
0	0	0	0	1,275,829	GC																
<i>(The above is based on available data. The City of San Rafael does not certify the accuracy of this information.)</i>																					
Building Square Footage																					
Existing 0		Proposed 0		Decks/Balc./Porches 0																	
				Garage / Carport																	
Plans Reviewed By: Fire Prevention David Heida		Fees Charged CFC Operational Permit \$220.00 Small Sheet Archiving \$3.90		Applicant Certification By my signature below, I certify to each of the following: I am <input type="checkbox"/> a California licensed contractor <input type="checkbox"/> the property owner* <input type="checkbox"/> authorized to act on the property owner's behalf* I have read this construction permit application and the information I have provided is correct. I agree to comply with all applicable city and county ordinances and state laws relating to building construction. I authorize representatives of this city or county to enter the above-identified property for inspection purposes. Signature:  Print Name: KURT KIDWELL Date: 10/20/11																	
Permit Issued By: BRC		Total Permit Fees \$ 223.90		*requires separate verification form and proof of identity																	

SAN RAFAEL BUILDING AND FIRE PREVENTION DIVISION

1400 Fifth Avenue Phone: (415) 485-3367
San Rafael, CA Fax: (415) 485-3184



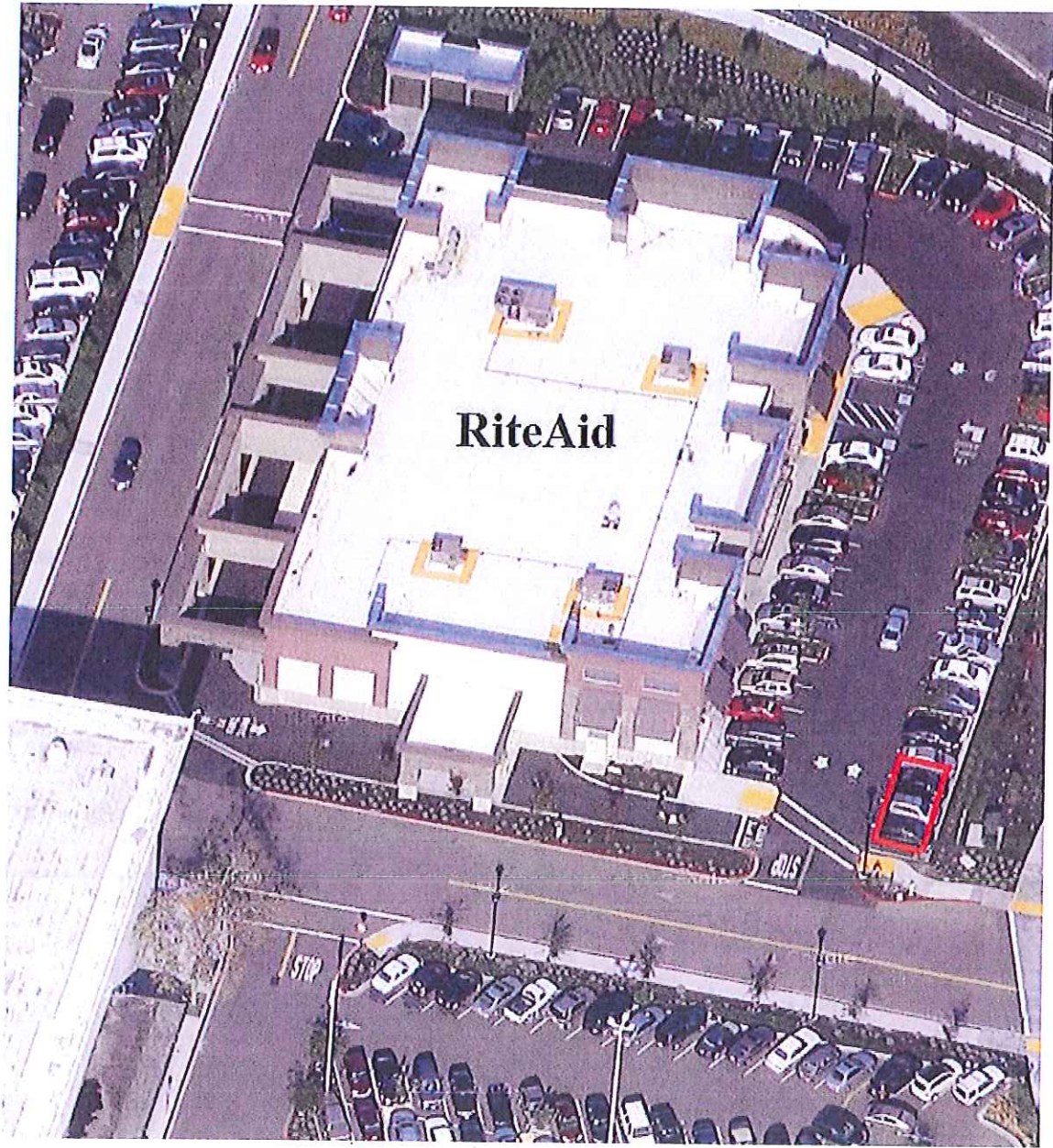
**CITY OF SAN RAFAEL
FIRE DEPARTMENT
REVIEWED FOR CODE COMPLIANCE**

This set of plans and specifications shall be kept on the job site at all times and readily available to City Inspectors upon demand.

Approval of these plans and specifications shall not be held to permit, or to be an approval to violate any provisions of any City or State law, or Nationally recognized Fire Protection Standard.

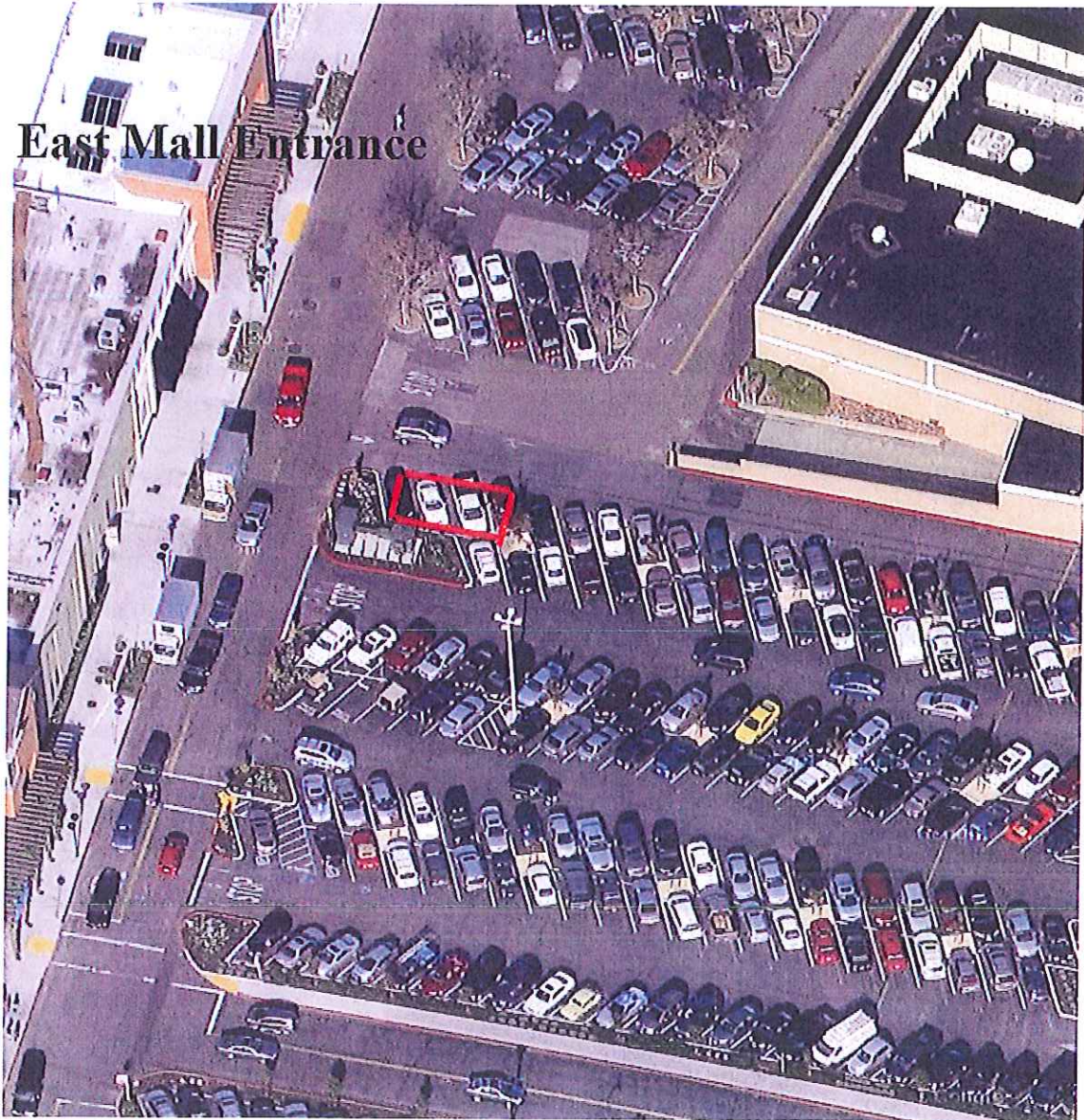
Signature *Doc M* Date 10/20/11

Permit # F110-021

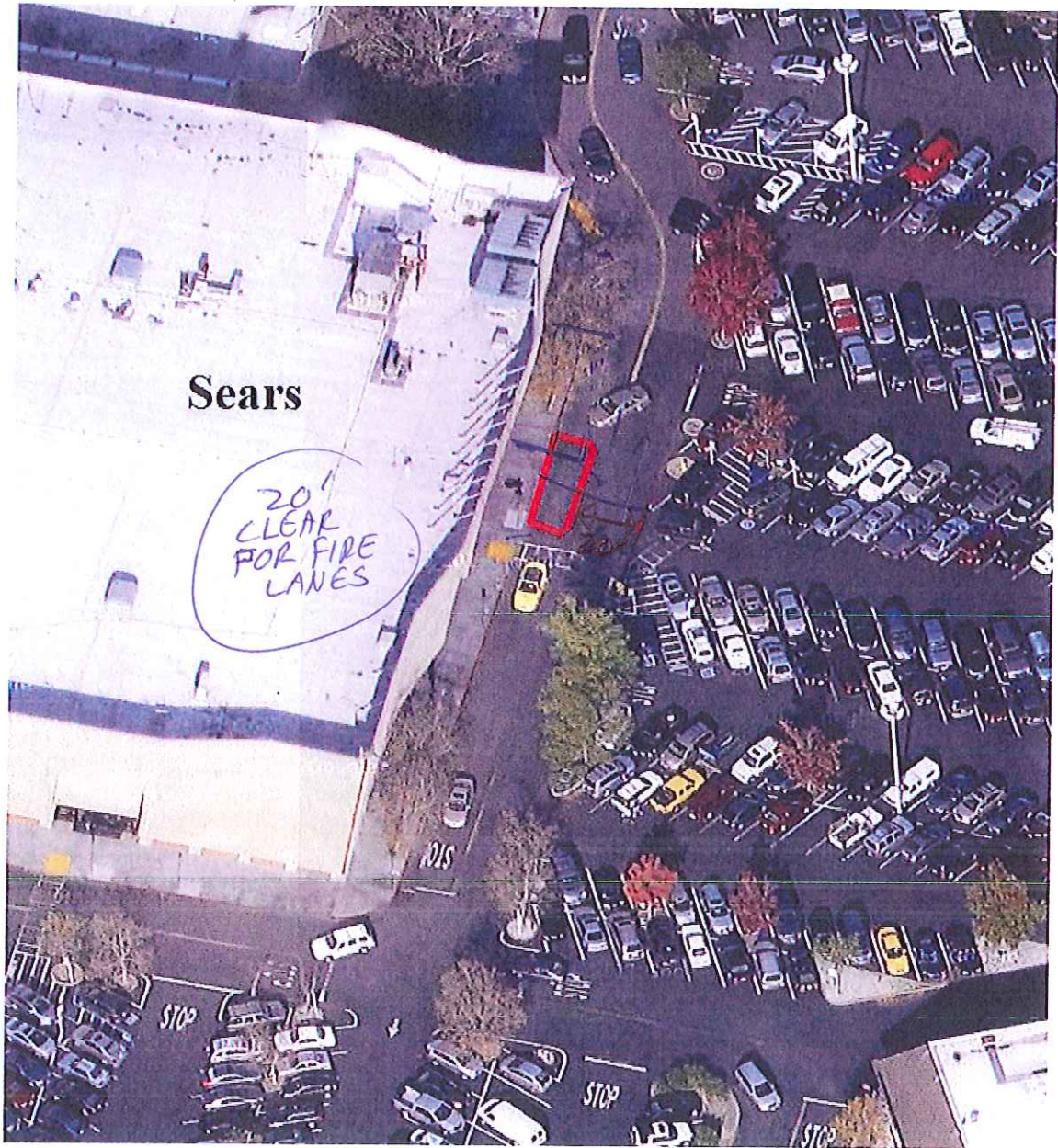


REVIEWED FOR CODE COMPLIANCE
Fire Prevention Bureau
City of San Rafael

East Mall Entrance



REVIEWED FOR CODE COMPLIANCE
Fire Prevention Bureau
City of San Rafael



REVIEWED FOR CODE COMPLIANCE
Fire Prevention Bureau
City of San Rafael



REVIEWED FOR CODE COMPLIANCE
Fire Prevention Bureau
City of San Rafael

PG&E Planned System Upgrade

Start: Tuesday, October 25, 2011

End: Monday, October 31, 2011

Service Interruption: 2:00AM - 6:00A

Service Interruption: 2:00AM - 6:00A

Work: Preventative upgrades to replace two sub-surface switches
Back-up generators will be running the duration of the outage

Mon.

10/24/11

9:00AM Generators (4) arrive at Northgate Mall to for staging

Tues.

10/25/11

2:00AM - 6:00AM Service interruption to connect generators

6:00AM customers will be powered by generators

Crews will wrap up work between 7-8AM

Crews will start work between 6-7PM

Wed.

10/26/11

Crews will wrap up work between 7-8AM

Crews will start work between 6-7PM

Thurs.

10/27/11

Crews will wrap up work between 7-8AM

Crews will start work between 6-7PM

Fri.

10/28/11

Crews will wrap up work between 7-8AM

Crews will start work between 6-7PM

Sat.

10/29/11

Crews will wrap up work between 7-8AM

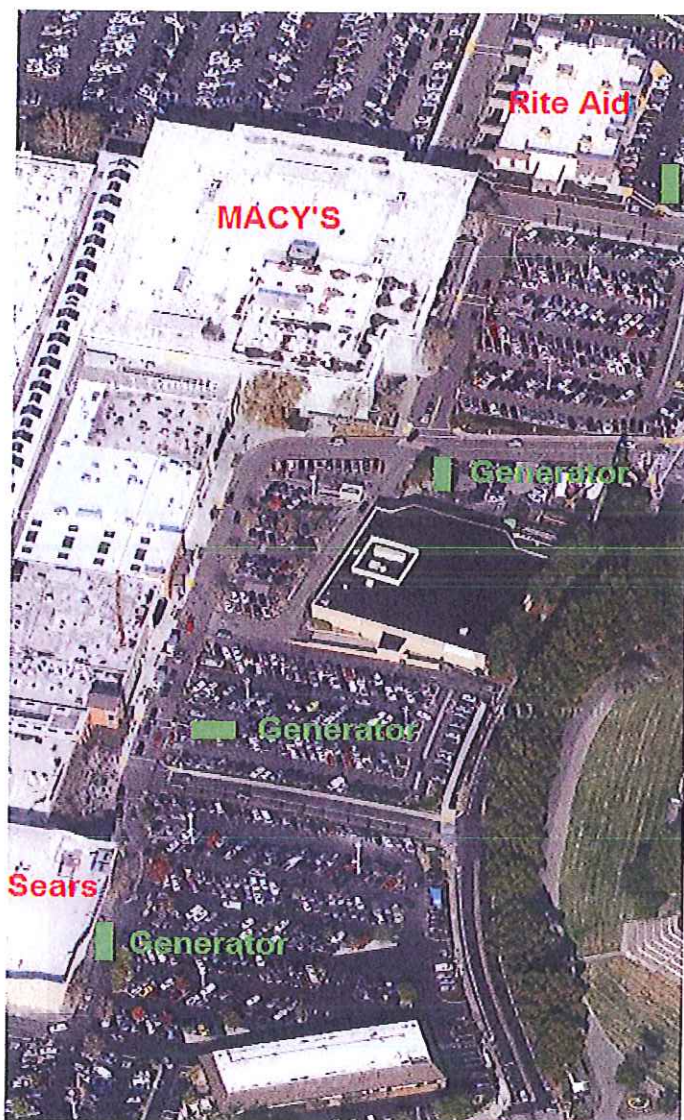
Crews will start work between 6-7PM

Sun.

10/30/11

Crews will wrap up work between 7-8AM

Crews will start work between 6-7PM



Mon.
10/31/11

2:00AM - 6:00AM Service interruption to disconnect generators
6:00AM customers will be connected back to PG&E electric



City of San Rafael

MEP PERMIT

Mechanical Permit #		Electrical Permit # E1806-084	Plumbing Permit #
Address 9000 NORTHGATE DR		APN 175-060-40	Related Building Permit
Description of Work Install backup generator 3 phase 10kw			Issued Date: 6/26/2018
Owner Information MGP XI NORTHGATE LLC 425 CALIFORNIA STREET TENT FL SAN FRANCISCO CA 94104 phone: fax:	Contractor Information phone: fax:	Applicant Information RH 15 Koch Rd #J CORTE MADERA, CA 94925 phone: (415) 209-8694 fax:	
Mechanical Permit Fees	Electrical Permit Fees	Plumbing Permit Fees	
	MINIMUM ELECTRICAL FEE \$125.00 ADDITIONAL HOURLY PLAN CHEC \$62.50		
Mechanical Total: \$0.00	Electrical Total: \$187.50	Plumbing Total: \$0.00	
Notices This permit will expire if work authorized is not commenced within 180 days or if work is suspended or abandoned for more than 180 days. Do not conceal or cover any construction until the work is inspected and the inspection recorded on the jobsite copy of the inspection record. All work performed under this permit must conform to the plans and specifications approved by the City of San Rafael. This permit does not constitute an approval or waiver of any violation of the state law or local ordinance, regulation, or requirement. Encroachment permit is required from San Rafael Public Works prior to any construction on any street or public right of way.	GRAND TOTAL: \$187.50		
	Applicant Certification By my signature below, I certify to each of the following: I am <input type="checkbox"/> a California licensed contractor <input checked="" type="checkbox"/> the property owner* <input type="checkbox"/> authorized to act on the property owner's behalf* I have read this construction permit application and the information I have provided is correct. I agree to comply with all applicable city and county ordinances and state laws relating to building construction. I authorize representatives of this city or county to enter the above-identified property for inspection purposes. Signature: _____ Print Name: RH / ETUGADE Date: 06.26.18 <small>*requires separate verification form and proof of identity</small>		
Permit Issued By: _____			

CALIFORNIA LICENSED CONTRACTOR'S DECLARATION

I hereby affirm under penalty of perjury that I am licensed under provisions of Chapter 9 (commencing with Section 7000) of Division 3 of the Business & Professions Code, and my license is in full force and effect.

Contractor Name and Address: _____

License Class and #. _____ Contractor Signature _____

OWNER-BUILDER'S DECLARATION

I hereby affirm under penalty of perjury that I am exempt from the Contractors' State License Law for the reason(s) indicated below by the checkmark(s) I have placed next to the applicable item(s) (Section 7031.5, Business & Professions Code: Any city or county that requires a permit to construct, alter, improve, demolish, or repair any structure, prior to its issuance, also requires the applicant for the permit to file a signed statement that he or she is licensed pursuant to the provisions of the Contractors' State License Law (Chapter 9 (commencing with Section 7000) of Division 3 of the Business & Professions Code) or that he or she is exempt from licensure and the basis for the alleged exemption. Any violation of Section 7031.5 by any applicant for a permit subjects the applicant to a civil penalty of not more than five hundred dollars(\$500).):

() I, as owner of the property, or my employees with wages as their sole compensation, will do () all of or () portions of the work, and the structure is not intended or offered for sale (Section 7044, Business and Professions Code: The Contractors' State License Law does not apply to an owner of property who, through employees' or personal effort, builds or improves the property, provided that the improvements are not intended or offered for sale. If, however, the building or improvement is sold within one year of completion, the Owner-Builder will have the burden of proving that it was not built or improved for the purpose of sale.)

(X) I, as owner of the property, am exclusively contracting with licensed Contractors to construct the project (Section 7044, Business & Professions Code: The Contractors' State License Law does not apply to an owner of property who builds or improves thereon, and who contracts for the projects with a licensed Contractor pursuant to the Contractors' State License Law.)

() I am exempt from licensure under the Contractors' State License Law for the following reason:

By my signature below I acknowledge that, except for my personal residence in which I must have resided for at least one year prior to completion of the improvements covered by this permit, I cannot legally sell a structure that I have built as an owner-builder if it has not been constructed in its entirety by licensed contractors. I understand that a copy of the applicable law, Section 7044 of the Business & Professions Code, is available upon request when this application is submitted or at the following Web site: <http://www.leginfo.ca.gov/calaw.html>.

Property Owner or Authorized Agent signature _____ Date 06-26-18

WORKERS' COMPENSATION DECLARATION

WARNING: FAILURE TO SECURE WORKERS' COMPENSATION COVERAGE IS UNLAWFUL, AND SHALL SUBJECT AN EMPLOYER TO CRIMINAL PENALTIES AND CIVIL FINES UP TO ONE HUNDRED THOUSAND DOLLARS(\$100,000), IN ADDITION TO THE COST OF COMPENSATION, DAMAGES AS PROVIDED FOR IN SECTION 3706 OF THE LABOR CODE, INTEREST, AND ATTORNEY'S FEES.

I hereby affirm under penalty of perjury one of the following declarations:

() I have and will maintain a certificate of consent to self-insure for workers' compensation, issued by the Director of Industrial Relations as provided for by Section 3700 of the Labor Code, for the performance of the work for which this permit is issued. Policy No. _____

() I have and will maintain workers' compensation insurance, as required by Section 3700 of the Labor Code, for the performance of the work for which this permit is issued. My workers' compensation insurance carrier and policy number are:

Carrier _____ Policy No _____ Expiration Date _____

Name of Agent _____ Tel No _____

(X) I certify that, in the performance of the work for which this permit is issued, I shall not employ any person in any manner so as to become subject to the workers' compensation laws of California, and agree that, if I should become subject to the workers' compensation provisions of Section 3700 of the Labor Code, I shall forthwith comply with those provisions.

DECLARATION REGARDING CONSTRUCTION LENDING AGENCY

I hereby affirm under penalty of perjury that there is a construction lending agency for the performance of the work for which this permit is issued(Section 3097, Civil Code).

Lender's Name and Address _____



Jared Blumenfeld
Secretary for
Environmental Protection



Department of Toxic Substances Control

Meredith Williams, Ph.D., Director
1001 "I" Street
P.O. Box 806
Sacramento, California 95812-0806



Gavin Newsom
Governor

August 26, 2021

Ms. Emma Totsubo
Staff Assistant Engineer
Roux
555 12th Street, Suite 250,
Oakland, California 94607

PUBLIC RECORDS ACT REQUEST – PRA # 2-082021-03

Dear Ms. Totsubo:

On August 20, 2021, the Department of Toxic Substances Control (DTSC) received your Public Records Act request for records pertaining to the following property:

**1500, 5010, & 5800 Northgate Drive
San Rafael, California 94903-3671**

The search on the above address, conducted in DTSC's "Electronic Devices Online System - For Notification and Reporting Requirements," resulted in the enclosed information on **C&T Recycling & Attan Recycling Corporation**

that are associated with the property. Some additional information associated with the property is pending review and will be provided once the review is completed.

Should you have any questions regarding this matter, please feel free to contact me via electronicwaste@dtsc.ca.gov.

Sincerely,

Laura Helfrich
Associate Governmental Program Analyst
Program Implementation Unit
Permitting Division
Hazardous Waste Management Program

Enclosure



Facility Profile

Business Name: C&T Recycling

Facility Name: Northgate mall

Facility Type: Handler/Collection **Status:** C

Date Notified: 09/05/2012

Last Date Revised: 09/05/2012

Facility Physical Address:

1500 Northgate Dr

San Rafael, CA 94903-3671 **County:** Merced

Temporary Collection Event Location: No

Export Notifications: None

Business Contact: Charles Landmesser charlie@ctrecycling.net

Business Phone: (510)590-7510

Business Mailing Address:

2303 Farley St.

Castro Valley, CA 94546

Facility Description:

- Accepts materials from Businesses, Collector, Household, Government, Other approved sources
- Expected to handle Bare CRT, CRT Glass, CRT Device, LCD Monitor, LCD Laptop, LCD TV, DVD, Plasma TV, Microwave, VCR, Computer, Printer, Cellular Phone, Telephone, Radio, Small Electronics, Large Electronics, Others: Other approved material

**2015 Annual Report, Date Submitted: 05/10/2016,
Annual Report ID: 60520**

No Annual Report submitted during this reporting period.

**2014 Annual Report, Date Submitted: 05/10/2016,
Annual Report ID: 60521**

No Annual Report submitted during this reporting period.



Facility Profile

Business Name: Attan Recycling Corporation

Facility Name: KOHLS

Facility Type: Handler/Collection **Status:** A

Date Notified: 06/13/2014

Last Date Revised: 06/13/2014

Facility Physical Address:

5010 NORTHGATE DR

SAN RAFAEL, CA 94903 **County:** Marin

Temporary Collection Event Location: No

Export Notifications: None

Business Contact: Chihshan Chen attanrecycling@gmail.com

Business Website: www.attanrecyclingcorp.com

Business Phone: (909)591-8408

Business Mailing Address:

13941 Norton Ave Ste D

Chino, CA 91710-5455

Facility Description:

- Accepts materials from Businesses, Collector, Household, Government
- Expected to handle CRT Glass, CRT Device, LCD Monitor, LCD Laptop, LCD TV, DVD, Plasma TV, Microwave, VCR, Computer, Printer, Cellular Phone, Telephone, Radio, Small Electronics, Large Electronics

2019 Annual Report, Date Submitted: 08/21/2019,

Annual Report ID: 93720

No Annual Report submitted during this reporting period.

2018 Annual Report, Date Submitted: 08/21/2019,

Annual Report ID: 93719

No Annual Report submitted during this reporting period.



Facility Profile

Business Name: Attan Recycling Corporation

Facility Name: Northgate Mall

Facility Type: Handler/Collection **Status:** A

Date Notified: 12/12/2014

Last Date Revised: 12/12/2014

Facility Physical Address:

5800 Northgate Dr

San Rafael, CA 94903-3691 **County:** Marin

Temporary Collection Event Location: No

Export Notifications: None

Business Contact: [Chihshan Chen](mailto:attanrecycling@gmail.com) attanrecycling@gmail.com

Business Website: www.attanrecyclingcorp.com

Business Phone: (909)591-8408

Business Mailing Address:

13941 Norton Ave Ste D

Chino, CA 91710-5455

Facility Description:

- Accepts materials from Businesses, Collector, Household, Government
- Expected to handle CRT Glass, CRT Device, LCD Monitor, LCD Laptop, LCD TV, DVD, Plasma TV, Microwave, VCR, Computer, Printer, Cellular Phone, Telephone, Radio, Small Electronics, Large Electronics

2019 Annual Report, Date Submitted: 08/21/2019, Annual Report ID: 93812

No Annual Report submitted during this reporting period.

2018 Annual Report, Date Submitted: 08/21/2019, Annual Report ID: 93811

No Annual Report submitted during this reporting period.

2017 Annual Report, Date Submitted: 01/26/2018, Annual Report ID: 77068

No Annual Report submitted during this reporting period.



Facility Profile

Business Name: C&T Recycling

Facility Name: C&T Recycling

Facility Type: Handler/Collection **Status:** C

Date Notified: 04/26/210

Last Date Revised: 04/26/2010

Facility Physical Address:

5800 Northgate Dr
 San Rafael, CA 94903-3691 **County:** Marin

Temporary Collection Event Location: No

Export Notifications: None

Business Contact: [Charles Landmesser](mailto:charlie@ctrecycling.net) charlie@ctrecycling.net

Business Phone: (510)590-7510

Business Mailing Address:

2303 Farley St.
 Castro Valley, CA 94546

Facility Description:

- Accepts materials from Businesses, Household, Government, other approved sources
- Expected to handle CRT Device, LCD Monitor, LCD Laptop, LCD TV, DVD, Plasma TV, Microwave, VCR, Computer, Printer, Cellular Phone, Telephone, Radio, Small Electronics, Large Electronics, Others: speakers,routers, mother boards,video cameras

2015 Annual Report, Date Submitted: 05/10/2016, Annual Report ID: 60526

No Annual Report submitted during this reporting period.

2014 Annual Report, Date Submitted: 05/10/2016, Annual Report ID: 60527

No Annual Report submitted during this reporting period.

2013 Annual Report, Date Submitted: 05/10/2016, Annual Report ID: 60528

No Annual Report submitted during this reporting period.



Facility Profile

Business Name: Goodwill of San Francisco

Facility Name: Goodwill of San Francisco

Facility Type: Handler/Collection **Status:** C

Date Notified: 07/17/2008

Last Date Revised: 01/23/2017

Facility Physical Address:

5800 Northgate Dr
San Rafael, CA 94903-3691 **County:** Marin

Temporary Collection Event Location: No

Export Notifications: None

Business Contact: [Tony Chang](mailto:qchang@sfgoodwill.org) qchang@sfgoodwill.org

Business Website: www.sfgoodwill.org

Business Phone: (415)889-0815

Business Mailing Address:

750 Post Street
San Francisco, CA 94109

EPA ID Number: [CUW000000029](#)

Facility Description:

- Accepts materials from Businesses, Government, Public
- Expected to handle CRT Device, Others: UWEDs

2016 Annual Report, Date Submitted: 08/23/2016, Annual Report ID: 61556

No Annual Report submitted during this reporting period.

2015 Annual Report, Date Submitted: 08/23/2016, Annual Report ID: 61555

No Annual Report submitted during this reporting period.

2014 Annual Report, Date Submitted: 08/28/2015, Annual Report ID: 47687

No Annual Report submitted during this reporting period.

Handled	0	30,951	0	27,078	40	0	0	0	0				
Shipped-Domestic Phone: 4155752101, Ext. 2206													
Goodwill Industries of San Francisco, 1500 Mission St, San Francisco, CA													
D34	0	30,951	0	27,078	40	0	0	0	0	0	0	0	0

2010 Annual Report, Date Submitted: 01/27/2011, Annual Report ID: 9696

- The facility generated more than 11,000 pounds of electronic devices, CRTs, and CRT glasses.
- Actual handled CRT Device, LCD Monitor, LCD Laptop, LCD TV, DVD, Plasma TV, Microwave, VCR, Computer, Printer, Cellular Phone, Telephone, Radio, Small Electronics, Others:

Type	Electronic Devices		CRT Devices			CRTs			CRT Glass		Universal Waste	Scrap Metal Printed Circuit Board	Yokes
	Count	Pound	Count	Pound	Conv	Count	Pound	Conv	Pound Received	Pound Residuals			
Handled	0	11,527	0	10,400	40	0	0	0	0	0			
Shipped-Domestic Phone: 4155752101, Ext. 2206													
Goodwill Industries of San Francisco, 1500 Mission St, San Francisco, CA													
D34	0	11,527	0	10,400	40	0	0	0	0	0	0	0	0

2009 Annual Report, Date Submitted: 02/19/2010, Annual Report ID: 6105

- The facility generated more than 11,000 pounds of electronic devices, CRTs, and CRT glasses.
- Actual handled CRT Device, LCD Monitor, LCD Laptop, LCD TV, DVD, Plasma TV, Microwave, VCR, Computer, Printer, Cellular Phone, Telephone, Radio, Small Electronics, Large Electronics

Type	Electronic Devices		CRT Devices			CRTs			CRT Glass		Universal Waste	Scrap Metal Printed Circuit Board	Yokes
	Count	Pound	Count	Pound	Conv	Count	Pound	Conv	Pound Received	Pound Residuals			
Handled	0	31,899	0	29,551	55	0	0	0	0				
Shipped-Domestic Phone: 4155752101, Ext. 2206													
Goodwill Industries of San Francisco, 1500 Mission St, San Francisco, CA													
D34	0	31,899	0	29,551	55	0	0	0	0	0	0	0	0

2008 Annual Report, Date Submitted: 01/30/2009, Annual Report ID: 430

- Actual handled CRT Device, Others: UWED



Jared Blumenfeld
Secretary for
Environmental Protection



Department of Toxic Substances Control

Meredith Williams, Ph.D.
Director
700 Heinz Avenue
Berkeley, California 94710-2721



Gavin Newsom
Governor

August 27, 2021

Emma Totsubo
Roux Inc.
Etotsubo@rouxinc.com

Public Records Request Number: 2-082021-03

Location(s): Northgate Mall, San Rafael, CA; 1000 Northgate Dr., 1500 Northgate Dr, 5000 Northgate Dr, 5010 Northgate Dr, 5800 Northgate Dr, 6000 Northgate Dr, 7000 Northgate Dr, & 9000 Northgate Dr. San Rafael, CA

Dear Ms. Totsubo,

We have received your Public Records Act Request at the Department of Toxic Substances Control (DTSC). Upon thorough review of our files, we found no records pertaining to the site(s) referenced above.

DTSC's E-Waste unit may also have records that pertain to this PRA request. ("E-Waste" pertains to any unwanted electronic device or Cathode Ray Tube {CRT}). You can contact them by email at electronicwaste@dtsc.ca.gov if you are interested in any pertinent information related to this site.

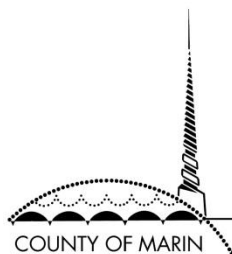
For information regarding public reports on hazardous waste shipments of generators, transporters, and TSDFs, you can access our Hazardous Waste Tracking System (HWTS) online at: <https://hwts.dtsc.ca.gov/>. Select the "Reports" tab for search options. If you are interested in retrieving detailed reports, please contact the HWTS unit via e-mail: hwtsreports@dtsc.ca.gov or phone: 1-800-618-6942. Customized reports may require a fee. For copies of manifests, please send an e-mail to mcr@dtsc.ca.gov.

In addition, the DTSC provides access to public records online via Envirostor; another data management system that tracks our efforts in cleanup, permitting, enforcement, and investigation of known/suspected hazardous waste sites and facilities. The available data is updated in real-time. You can access Envirostor online at www.envirostor.dtsc.ca.gov. Navigate the website easily by clicking the "How to Use Envirostor" tab, then selecting the option "Take a Tour".

If you have any questions or would like further information regarding your request, please contact me via phone: [510-540-3800](tel:510-540-3800) or e-mail: Berkeleyfileroom@dtsc.ca.gov.

Sincerely,

Christina de la Vega
Regional Records Coordinator



Brian E. Washington
COUNTY COUNSEL

August 30, 2021

Renee Giacomini Brewer
ASSISTANT COUNTY COUNSEL

VIA NEXTREQUEST ONLY

Jenna J. Brady
CHIEF DEPUTY COUNTY COUNSEL

Emma Totsubo
Roux Associates
555 12th Street, Suite 250
Oakland, CA 94607
etotsubo@rouxinc.com

Patrick M. K. Richardson
Stephen R. Raab
Steven M. Perl
Brian C. Case
Kerry L. Gerchow
Tarisha K. Bal
Deidre K. Smith
Brandon W. Halter
Sarah B. Anker
Jacy C. Dardine
Kate K. Stanford

Re: Public Records Act Request dated August 20, 2021
File No. 21-477

Dear Ms. Totsubo,

My office represents the County of Marin. We are in receipt of your Public Records Act (PRA) request, dated August 20, 2021. Below is your request with a corresponding response.

DEPUTIES

Colleen McGrath
ADMINISTRATIVE SERVICES
OFFICER

Request: Roux Associates will be conducting a Phase I ESA for Northgate Mall and would like to request public records for the following addresses in San Rafael:

1000 Northgate Dr
1500 Northgate Dr
5000 Northgate Dr
5010 Northgate Dr
5800 Northgate Dr
6000 Northgate Dr
7000 Northgate Dr
9000 Northgate Dr

We are interested in files available for the entire history of the address - particularly related to land use, hazardous waste, and environmental health (e.g. environmental site assessments, hazardous waste violations, documented releases, permits etc.).

Marin County Civic Center
3501 Civic Center Drive
Suite 275
San Rafael, CA 94903
415 473 6117 T
415 473 3796 F
415 473 2226 TTY
www.marincounty.org/cl

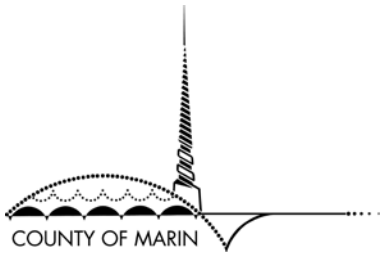
Response to Request: The County of Marin has no responsive records to your request. However, Marin County Certified Unified Programs Agency (CUPA) records can be accessed by completing the following form and submitting directly to CUPA. https://www.marincounty.org/-/media/files/departments/pw/forms/cupa_file_review_request.pdf?la=en.

If you need any further assistance, please do not hesitate to contact me directly.

BRIAN E. WASHINGTON
COUNTY COUNSEL



Jenna J. Brady
Chief Deputy County Counsel



Certified Unified Program Agency

County of Marin – Waste Management Division

P.O. Box 4186, San Rafael, CA 94913-4186
1600 Los Gamos Drive, Suite 210, San Rafael, CA 94903
PHONE: (415) 473-6647 FAX: (415) 473-2391
www.marincounty.org/depts/pw/divisions/waste-management

PLEASE NOTE: Department of Public Works, Waste Management Division’s jurisdiction now encompasses all of Marin County CUPA business sites. Our office maintains files for current and closed sites. Please contact Melinda Wong at the California Regional Water Quality Control Board at (510) 622-2430 for closed files from City of San Rafael.

Please fax (415-473-2391) or e-mail (CUPA@marincounty.org) this request 48 hours in advance to confirm an appointment time between the hours of 8:30 am - 11:30 am and 1:30 pm - 4:00 pm Monday through Friday.

Photocopier is available for use @ \$0.15 per copy. Payment by check or exact cash at the time of the appointment is required. Thank you in advance for not wearing perfume/cologne during your file review.

Please complete the following information for your file review(s)

Company/Agency: Roux Associates

Name/phone number/e-mail: Emma Totsubo / 310-405-5368 / etotsubo@rouxinc.com

Date & time to schedule file review: Electronic copies preferred

CUPA files

Business name and address of CUPA file(s) requested:	Open/Closed
1. <u>Northgate Mall, 5800 Northgate Dr</u>	<u>/</u>
2. <u>1000 Northgate Dr</u>	<u>/</u>
3. <u>1500 Northgate Dr</u>	<u>/</u>
4. <u>5000/5010 Northgate Dr</u>	<u>/</u>
5. <u>6000 Northgate Dr</u>	<u>/</u>
6. <u>7000 Northgate Dr</u>	<u>/</u>
7. <u>9000 Northgate Dr</u>	<u>/</u>

Contact:
Administrative Assistant
Phone (415) 473-6647 - Fax (415) 473-2391

FOR OFFICE USE ONLY:

Date Received _____ Date E-mailed to County Counsel _____

Emma Totsubo

From: Wong, Melinda@Waterboards <Melinda.Wong@waterboards.ca.gov>
Sent: Monday, August 30, 2021 11:21 AM
To: Emma Totsubo
Subject: RE: PRA 21-0142 Records Request

This message originated outside your organization. Please use caution!

Hello Emma,

The San Francisco Bay Regional Water Board received your August 20, 2021 file review request, which seeks records related to the addresses you described below. Based on a thorough search, it appears in Geotracker a non-case informational for the address at 9000 Northgate Drive, San Rafael, the site documents are available to access online.

It appears in SMARTS database a terminated construction NOI permit coverage, WDID number 21C351950 for the address at 5800 Northgate Drive, San Rafael, a document is available at this link:

<https://smarts.waterboards.ca.gov/smarts/faces/PublicDataAccess/PublicNoiSearchResults.xhtml>

I was unable to find any records information for the other addresses you requested.

I would recommend contacting the local agency, Marin County Health Department, LOP for any further information they may have.

Thank you,

Melinda Wong
Management Services Division
San Francisco Bay Water Board
1515 Clay Street, Suite 1400
Oakland, CA 94612
Phone: (510) 622-2430
Fax: (510) 622-2095 direct line for Public Records Act request
Email: mwong@waterboards.ca.gov

From: Emma Totsubo <etotsubo@rouxinc.com>
Sent: Friday, August 20, 2021 1:48 PM
To: Wong, Melinda@Waterboards <Melinda.Wong@waterboards.ca.gov>
Subject: Public Records Request

EXTERNAL:

Hello Melinda,

Roux Associates will be conducting a Phase I ESA for Northgate Mall in San Rafael, CA and would like to request public records for the following addresses:

- 1000 Northgate Dr
- 1500 Northgate Dr
- 5000 Northgate Dr
- 5010 Northgate Dr

- 5800 Northgate Dr
- 6000 Northgate Dr
- 7000 Northgate Dr
- 9000 Northgate Dr

We are interested in files available for the entire history of the address - particularly related to land use, hazardous waste, and environmental health (e.g. environmental site assessments, hazardous waste violations, documented releases, permits etc.).

Please reach out if you have any questions.

Thank you,
Emma

Emma Totsubo, E.I.T. | Staff Assistant Engineer

Pronouns: She/her/hers

555 12th Street, Suite 250, Oakland, California 94607

Main: 415.967.6000 | Direct: 415.967.6026 | Mobile: 310.405.5368

Email: etotsubo@rouxinc.com | Website: www.rouxinc.com



California | Illinois | Massachusetts | New Jersey | New York | Texas | Virginia



🌱 Please consider the environment before printing this email.

NOTICE: This electronic communication, including any authorized attachments, contains information that may be legally privileged, protected, confidential and/or exempt from disclosure or certain types of use under applicable law. This information is for the sole use of the intended recipient(s). If you are not the intended recipient(s) or the employee or agent responsible for delivery of this message to the intended recipient(s), you are hereby notified that any review, use, disclosure, copying, distribution or the taking of any action in reliance on the contents of this e-mail or any attachments is strictly prohibited. You are further advised that review by an individual other than the intended recipient(s) shall not constitute a waiver of any attorney-client privilege which may apply to this communication. If you have received this communication in error, please notify the sender immediately by return e-mail, permanently delete this e-mail and any attachments from all computers on which they may be stored and destroy any print-outs of this email and any attachments.



State Water Resources Control Board
NOTICE OF INTENT
 GENERAL PERMIT TO DISCHARGE STORM WATER
 ASSOCIATED WITH CONSTRUCTION ACTIVITY
 (WQ ORDER No. 2009-0009-DWQ)



WDID: 2 21C351950

Risk Level:

Property Owner Information

Type: Private Business

Name: Macerich Contact Name: Chuck Davis
 Address: 401 Wilshire Blvd Ste 700 Title: _____
 Address 2: _____ Phone Number: 310-394-6000
 City/State/Zip: Santa Monica CA 90401 Email Address: _____

Contractor/Developer Information

Name: Macerich Contact Name: Chuck Davis
 Address: 401 Wilshire Blvd Ste 700 Title: _____
 Address 2: _____ Phone Number: 310-394-6000
 City/State/Zip: Santa Monica CA 90401 Email Address: _____

Construction Site Information

Contact Name: Anthony Edwards Title: _____
 Site Name: Renovation of the Mall at Northgate
 Address: 5800 Northgate Mall
 City/State/Zip: San Rafael CA 94903 Site Phone #: 415-479-5956
 County: Marin Email Address: _____
 Latitude: _____ Longitude: _____ Construction Start: July 01, 2008
 Total Size of Construction Area: 44.75 Acres Complete Grading: _____
 Total Area to be Disturbed: 20 Acres Final Stabilization: July 01, 2009

Risk Values

R: _____ K: _____ LS: _____ Beneficial Uses/303(d): _____
 Type of Construction: _____ *Commercial*Reconstruction
 Receiving Water: San Pablo Bay
 Qualified SWPPP Developer: _____

RWQCB Jurisdiction: Region 2 - San Francisco Bay

Phone: 510-622-2300 Email: r2stormwater@waterboards.ca.gov

Certification

Certification #:

Name: _____ Date: _____
 Title: _____

Site Photographs



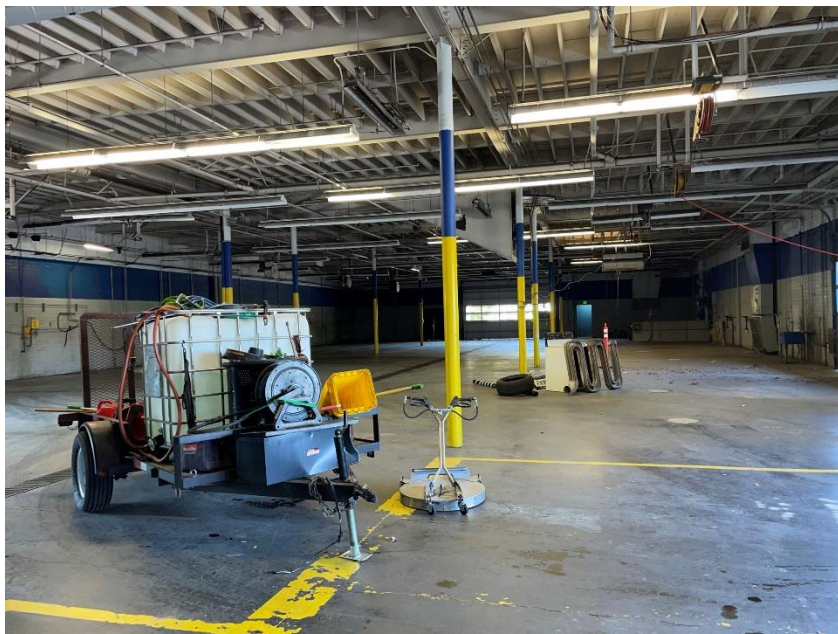
Photograph 1. Former Sears Auto Center building (northside).



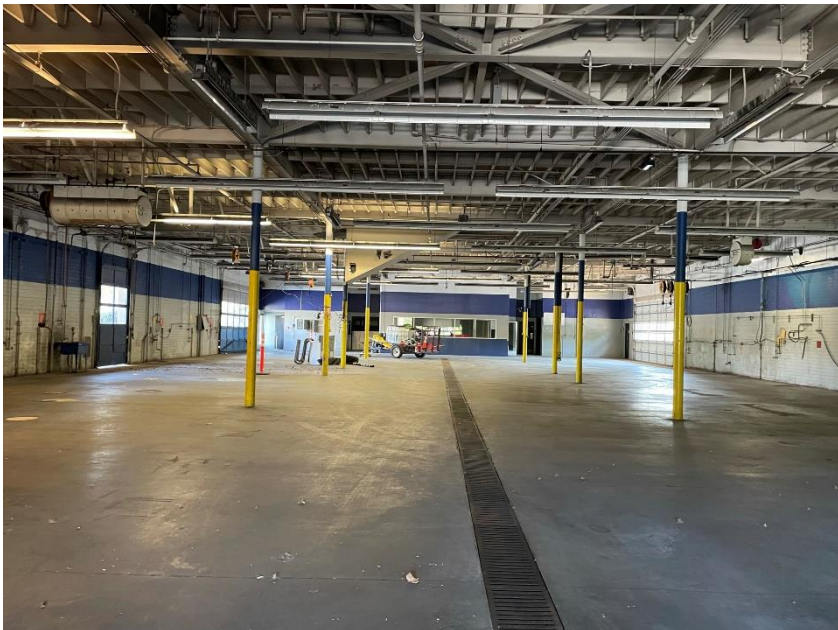
Photograph 2. Clarifier or oil/water separator at north side of auto center building.



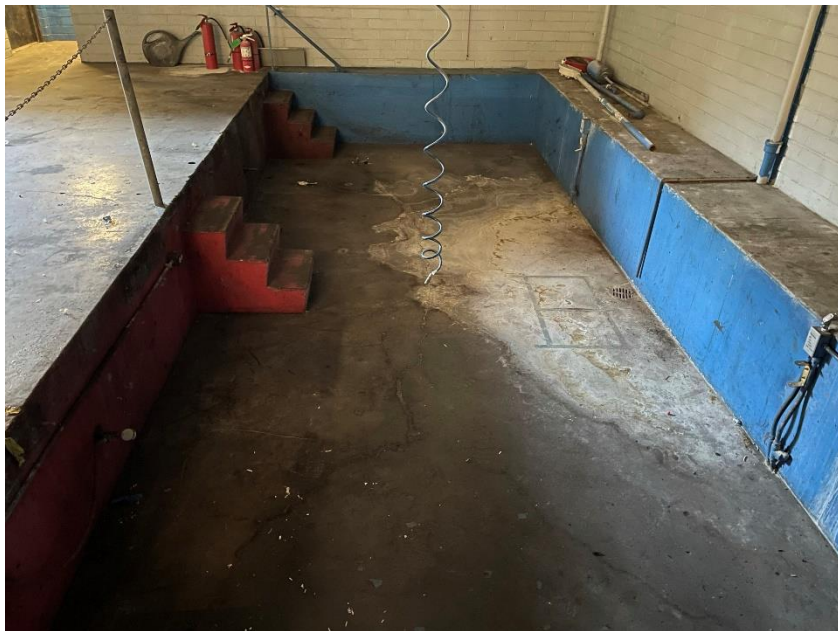
Photograph 3. Front room of former Sear Auto center facility.



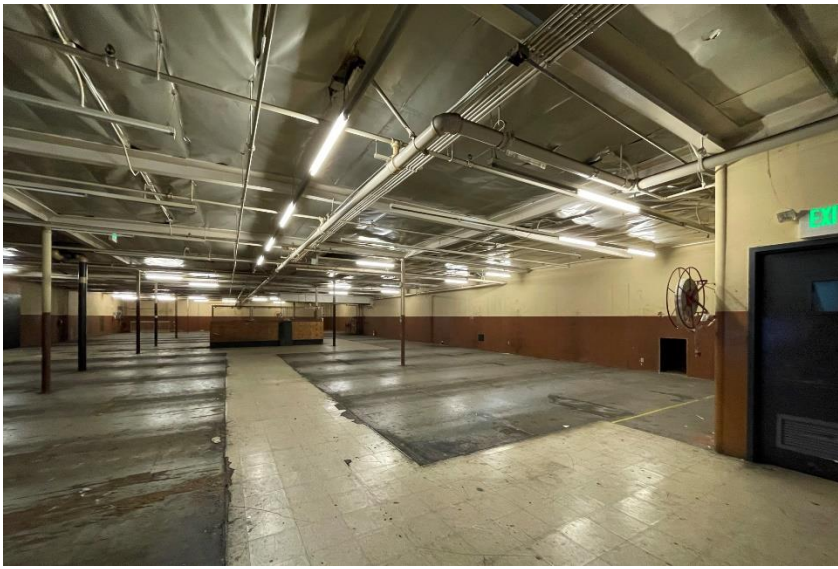
Photograph 4. Miscellaneous items left in main auto shop floor space and open chute protruding from the ceiling.



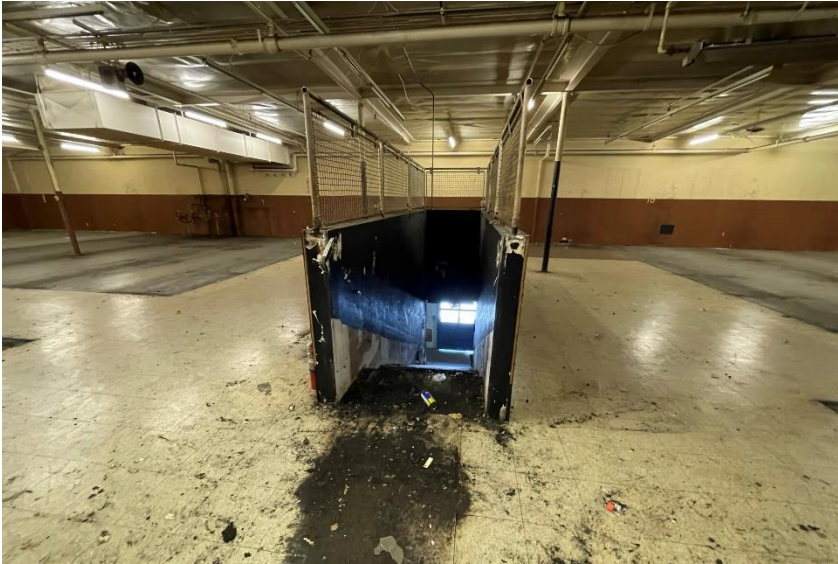
Photograph 5. Main auto repair area with trench drain and locations of former hydraulic lifts.



Photograph 6. Sunken work area at northwest corner of auto shop floor.



Photograph 7. Second floor storage space of the former auto shop.



Photograph 8. View of chute/ramp towards auto shop garage door.



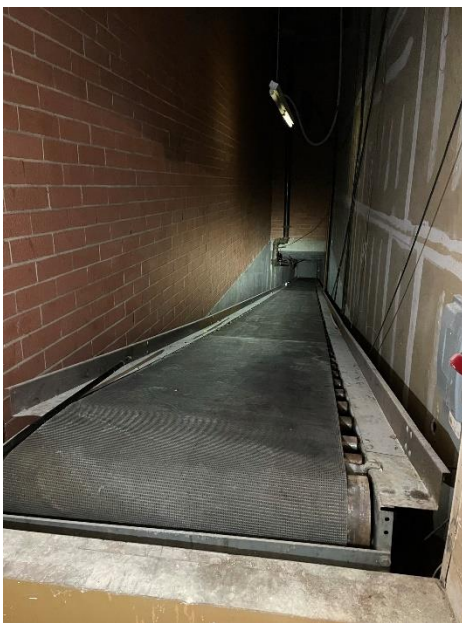
Photograph 9. Former Sears Auto Center second floor elevator equipment room with minor staining on floor.



Photograph 10. Interior of former appliance service building.



Photograph 11. Former appliance service Building outside courtyard storage.



Photograph 12. (Left)
Tunnel with conveyor belt leading down to former Sears basement loading dock area.



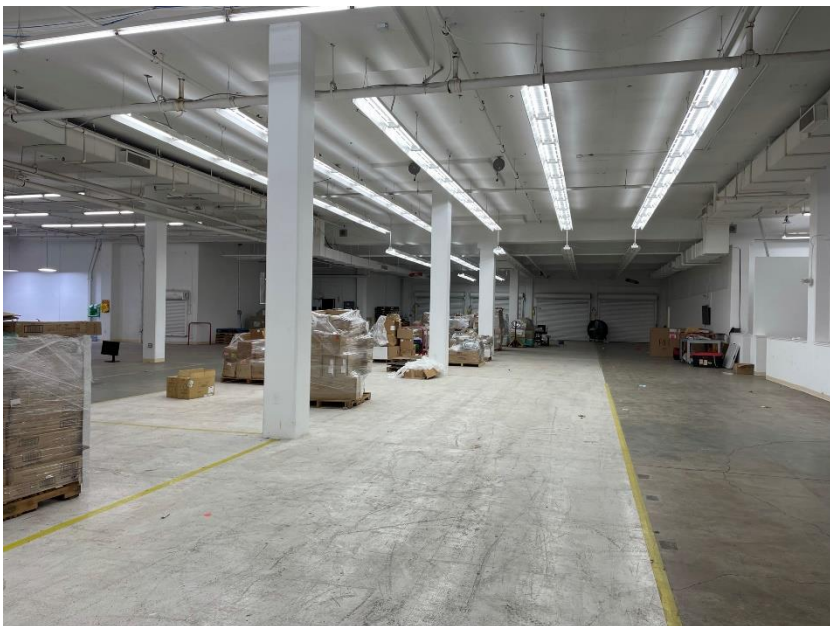
Photograph 13. (Right)
Transformer and water heater inside former appliance service building.



Photograph 14. RH Outlet/former Sears loading dock with trash compactor and storm drain catch basin.



Photograph 15. RH Outlet showroom.



Photograph 16. RH Outlet/former Sears basement, facing loading dock doors.



Photograph 17. North freight elevator, former Sears basement.



Photograph 18. Passenger elevator equipment room, former Sears basement.



Photograph 19. Empty drum, former Sears basement.



Photograph 20. South freight elevator equipment room, former Sears basement.



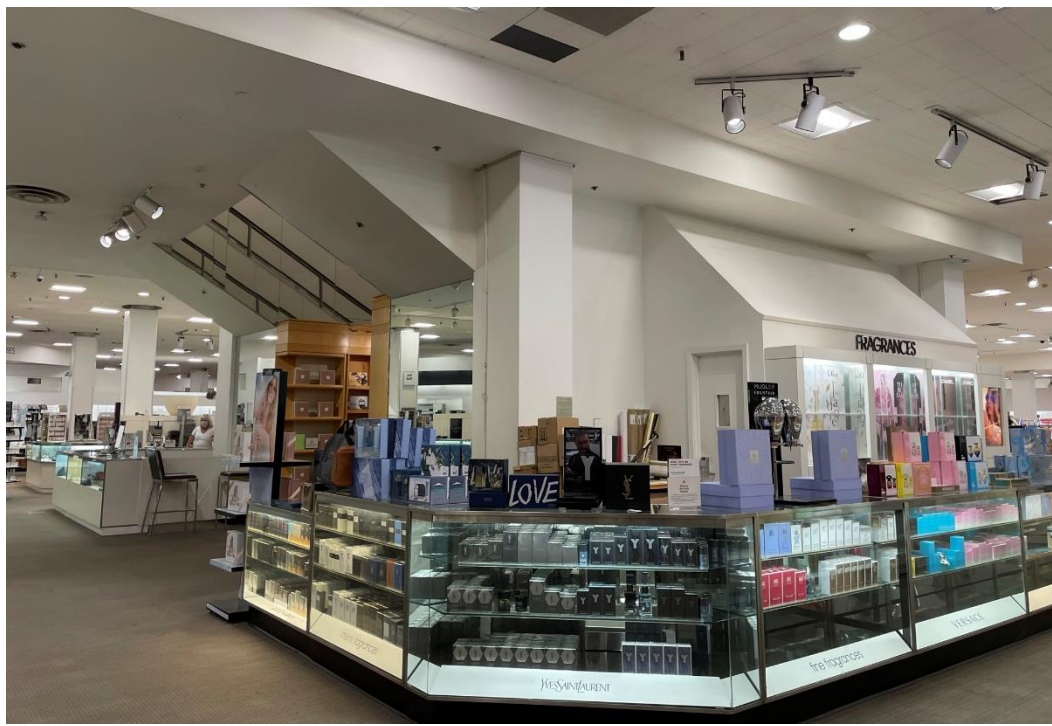
Photograph 21. Drums and sewer, former Sears basement.



Photograph 22. Transformer in former Sears basement.



Photograph 23. Former Sears second floor retail space.



Photograph 24. Macy's department store.



Photograph 25. Macy's backup generator and diesel fuel storage on third floor.



Photograph 26. Macy's hazardous waste storage in loading dock area.



Photograph 27. Macy's transformer in outside wooden in closure.



Photograph 28. Homegoods department store



Photograph 29. Homegoods hazardous waste storage area.



Photograph 30. Rite Aid drug store pharmacy counter.



Photograph 31. Rite Aid hazardous materials storage area.



Photograph 32. Kohl's hazardous materials storage.



Photograph 33. Kohl's transformer and backup generator enclosure.



Photograph 34. Kohl's loading dock and trash compactor.



Photograph 35. Vacant unit at 5000 Northgate Drive (former European Wax Center).



Photograph 36. Grease interceptor manholes outside Panda Express.



Photograph 37. Hazardous material storage at BJ's restaurant.



Photograph 38. Eyeglasses lab in LensCrafters.



Photograph 39. Chemical storage at Century Theatres.



Photograph 40. Bike path at northeastern corner and neighboring properties.



Photograph 41. Hydrodynamic separator in parking lot south of Homegoods.



Photograph 42. Backup diesel generator for the Mall at Northgate, located in the parking lot south of Macy's.



Photograph 43. Grease storage enclosure under the parking structure.



Photograph 44. Paints stored in the maintenance staff's area in the parking structure.



Photograph 45. Example storm drain catch basin in the parking lot.

User-Provided Documents

VIA CERTIFIED MAIL
P 995 749 312

"We Make Good
Things Happen"

November 25, 1992

Vice President
SEARS, ROEBUCK AND CO.
2650 E. Olympic Blvd.
Los Angeles, CA 90054

Re: Sears
NORTHGATE MALL
San Rafael, California

Dear Sir/Madam:

It has come to our attention that Sears was the owner of two underground gasoline storage tanks and one underground waste oil tank on your premises and that those tanks had the potential for leaking toxic substances into the environment. It is our understanding that all of those tanks have been removed by Sears.

We hereby request that you provide the following information to the undersigned as soon as possible:


- 1) Results of all soil and groundwater tests already complete, if any.
- 2) What is the current status of the tanks? (It is our understanding that Sears removed two 12,000 gallon gasoline storage tanks and a waste oil tank). Please confirm that all tanks have been removed.

Since Sears has the responsibility to assure compliance with applicable environmental laws with regard to these tanks, including any removal or cleanup required, and since there is significant potential liability resulting from environmental damage, your response to the above referenced questions is requested as soon as possible.

Your cooperation is appreciated. If you have any questions, please feel free to contact me.

Sincerely,

THE MACERICH COMPANY


Robert D. Aptaker
Environmental Manager
Assistant Vice President

RDA/mo

cc: Patrick Prinster
Henry Lichtman

Sears, Roebuck and Co.
925 S. Homan Ave.
Chicago, ILL 60607

The MaceRich Company

P.O. BOX 3879, VENTURA, CA 93006, (805) 650-0589



H.E. Schmalz
Director of Environmental Matters
Dept. 824C A 72A
Sears Merchandise Group
3333 Beverly Road
Hoffman Estates, Illinois 60179
708-286-8071

RECEIVED
VENTURA
AUG 23 1993

August 19, 1993

Mr. Robert D. Aptaker
Environmental Manager
The MaceRich Company
P.O. Box 3879
Ventura, CA 93006

*** VIA FAX ***

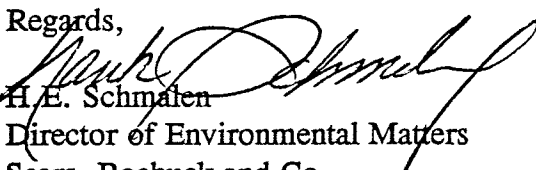
subj: Sears #1528 San Rafael, CA - UST Removal

Dear Bob,

In as much as Sears is currently in negotiation with MaceRich on several projects in California (i.e. Oxnard and Reno) and in that same spirit of cooperation, the following information about the Underground Storage Tanks that were removed in 1986 at our store in San Rafael is attached. You will note that the "Clearance" report from the Department of Health and Human Services (March 2, 1987) shows the samples at the site at a safe level or free from any residual product formerly stored. I know that this comes as good news and should help expedite your endeavors.

If I can answer any further questions Bob, don't hesitate to call.

Regards,


H.E. Schmalz
Director of Environmental Matters
Sears, Roebuck and Co.

att (3)

cc: Szymczak
Krantz

Environmental Health Services

COUNTY OF MARIN

Hall of Justice • Civic Center • San Rafael, CA 94903

(415) 499-6907

DATE: March 2, 1987

TO:

Attn: Donald Woods
Sears & Roebuck Company

Merchandise Group-Western Law Office

900 South Fremont Ave.

Alhambra, CA 91802

RE: San Rafael Store

900 Northgate Mall

San Rafael, CA 94903

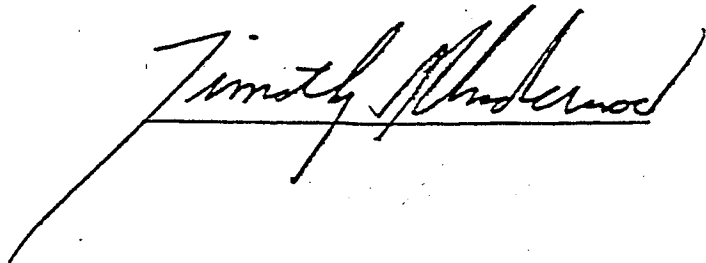
CLEARANCE

Analysis of samples of the soil or ground water at the above site indicated a safe level or absence of any residual of the product formerly stored in underground storage tanks at this location.

Thank you for your cooperation.

Very truly yours,

EDWARD J. STEWART, CHIEF
ENVIRONMENTAL HEALTH SERVICES



DEPARTMENT OF HEALTH AND HUMAN SERVICES
Environmental Health Services
COUNTY OF MARIN
Hall of Justice • Civic Center • San Rafael, CA 94903
(415) 499-6907

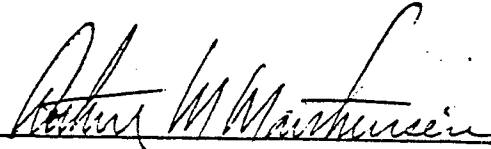
PERMIT TO REMOVE UNDERGROUND STORAGE TANK

TO <u>Sears, Roebuck and Company</u> <u>Attn: Donald Woods</u> <u>Merchandise Group-Western Law Office</u> <u>900 South Fremont Ave.</u> <u>Alhambra, CA 91802</u>	NAME OF FACILITY <u>San Rafael Store</u> ADDRESS <u>9000 Northgate Mall</u> <u>San Rafael, CA 94903</u>
NO. OF TANKS TO BE REMOVED <u>3</u>	

TANK ID#(S) 2929001,002, 003

PURSUANT TO THE CALIFORNIA ADMINISTRATIVE REGULATIONS, PERMISSION IS GRANTED TO REMOVE UNDERGROUND STORAGE TANKS AT THE ABOVE LOCATION WITH THE FOLLOWING CONDITIONS:

1. ALL STORED MATERIAL TO BE REMOVED.
2. TANK PURGED OF FLAMMABLE VAPORS.
3. PROPER DISPOSAL OF THE TANK.

SIGNED 

DATE August 5, 1986

cc: K. Schoenthal, San Rafael Fire Dept.
K.E. Curtis Construction Co.



COUNTY OF MARIN
HALL OF JUSTICE
CIVIC CENTER
ROOM 285
SAN RAFAEL, CALIFORNIA 94903
(415) 499-6907

RECEIVED

#265.021

AUG 5 1986

#464035
86

ENVIRONMENTAL HEALTH SERVICES

APPLICATION TO REMOVE
UNDERGROUND HAZARDOUS MATERIAL STORAGE TANK ENVIRONMENTAL HEALTH

1. Facility Information

Name of Facility SEARS		Type of Business AUTOMOTIVE & RETAIL SALES	
Street Address 9000 NORTHGATE MALL	City SAN RAFAEL	Zip Code 94903	Telephone 472-3670
Contract Period MID AUGUST 1986		Position with Company ANALYTICAL CHEMIST	Telephone (805) 498-6771
Owners Name (Corporation, Agency, or Individual) SEARS & ROEBUCK COMPANY			
Street Address (if Different than Above) 900 S. FREMONT AVE.		City ALHAMBRA	Zip Code 91802
		Telephone (818) 576-4225	

2. Contractor Removing Tank

Company Name K.E. CURTIS CONSTRUCTION COMP.	Street Address 1400 OLD CONEJO RD	City NEWBURY PARK	Telephone (805) 499-0428
<i>CA. 91306</i>			

3. Soil Analysis Laboratory

Company Name COMBUSTION ENGINEERING EMST	Street Address 2421 W. HILLCREST DR	City NEWBURY PARK	Telephone (805) 498-6771
<i>CA.</i>			

4. Hazardous Waste Hauler (if appropriate)

Company Name IT CORP.	Street Address 4585 PACHECO	City MARTENIZ	Telephone (415) 372-9110
---------------------------------	---------------------------------------	-------------------------	------------------------------------

5. Tank Identification & Construction

Tank ID # 2929002	UL # - NA -	Year Tank Installed 1972	Volume of Tank (Gallon) 2-500, 1-1000	Cathodic Protection <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes, Type _____
Primary Construction <input type="checkbox"/> Concrete <input checked="" type="checkbox"/> Steel <input type="checkbox"/> Fiberglass <input type="checkbox"/> Fiberglass/Coated Steel <input type="checkbox"/> Other: SINGLE WALL				

6. Chemical Composition of Materials Currently or Previously Stored in Tank

currently stored	previously stored	CAS # (if known)	Chemical Do Not Use Commercial Name (Use additional paper for more room)
<input type="checkbox"/> 01	<input checked="" type="checkbox"/> 02		WASTE OIL BULK WASTE OIL
<input type="checkbox"/> 01	<input checked="" type="checkbox"/> 02		WASTE OIL BULK WASTE OIL
<input type="checkbox"/> 01	<input checked="" type="checkbox"/> 02		WASTE OIL

7. Piping

A. Aboveground Piping: 01 Double-walled pipe 02 Concrete-lined trench 03 Gravity 04 Pressure 05 Suction
 [(Check) appropriate box(es)] 06 Unknown 07 None

B. Underground Piping: 01 Double-walled pipe 02 Concrete-lined trench 03 Gravity 04 Pressure 05 Suction
 [(Check) appropriate box(es)] 06 Unknown 07 None

8. Disposition of Tank(s)

Proposed Disposition of Tank(s) IT WILL REMOVE, RINSE & TANK SCRAPPED	Reason for Removal NO LONGER IN THAT SALES BUSINESS
---	---

9. Applicant Information

Name of Applicant MARK GIGAS	Signature of Applicant <i>Mark Gigas</i>	Date 8/4/86
--	---	-----------------------



H.E. Schmalen
Director of Environmental Matters
Dept. 824C 72A
Sears Merchand. Group
3333 Beverly Road
Hoffman Estates, Illinois 60179
708-286-8071

September 13, 1993

Mr. Robert D. Aptaker
Environmental Manager
The MaceRich Company
P.O. Box 3879
Ventura, CA 93006

RECEIVED
VENTURA

SEP 13 1993

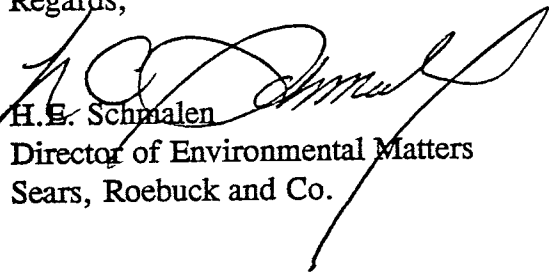
subj: Sears Park Lane Mall, Reno NV
re: Your letter of September 10, 1993
Our phone conversation this date

Dear Bob,

As I indicated in our phone conversation this afternoon, the attached invoices are the only "records" that we have of the tank pulls at this site. As you know, back in 1986 was not atypical for our individual regions at that time to take care of these UST's and complete records are usually not available here.

I hope that this helps with your lenders. If I can be of any further assistance Bob, don't hesitate to call.

Regards,


H.E. Schmalen
Director of Environmental Matters
Sears, Roebuck and Co.

att (2)
cc: Szymczak
Krantz

1375 EAST SECOND ST. LAS VEGAS, NEVADA 89502-1196 * TELEPHONE (702) 322-4000



"SINCE 1946"
PETROLEUM MARKETING EQUIPMENT
SALES AND SERVICE
GENERAL CONTRACTORS
INDUSTRIAL EQUIPMENT AND TOOLS

SHIPPING No. 25498

SOLD TO SEARS, ROEBUCK & CO.
200 EAST PLUMAS AVE
HELENS, NV. 89502

SHIPPED TO ST. LOUIS 3098
FROM NV

ATTN: R. NEIL DRESBACH

DATE OF ORDER	DATE OF INVOICE	CUSTOMER ORDER NO	REQUISITION NO	RESALE	SALESMAN	SHIP TO	LIST	NET	AMOUNT
5-14-84	8-11-84	CONTRACT		<input type="checkbox"/>	J.W.T.	DELIVER			
ORDERED	SHIPPED	B.O.	DESCRIPTION						
			REMOVAL OF UNDERGROUND OIL						
			STORAGE TANKS AS PER CONTRACT.						
			AS PER CONTRACT						7750 ⁰⁰
			90% OF 7750 ⁰⁰				6975 ⁰⁰		
			10% OF 7750 ⁰⁰				775 ⁰⁰		
							7750 ⁰⁰		

NO DISCOUNT. ALL ACCOUNTS ARE DUE AND PAYABLE BY THE 10th OF THE MONTH FOLLOWING DATE OF INVOICE.
FINANCE CHARGE OF 1 3/4% per month which is an ANNUAL PERCENTAGE RATE OF 21% after 30 days.

SUB TOTAL

SALES TAX

TOTAL

INCLUDED

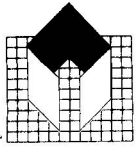
7750⁰⁰

PLEASE PAY FROM INVOICE STATEMENT SENT ONLY ON REQUEST

**PHASE I
ENVIRONMENTAL SITE ASSESSMENT
FOR
THE MACERICH COMPANY
THE MALL AT NORTHGATE
5800 NORTHGATE DRIVE
SAN RAFAEL, CALIFORNIA
DEI PROJECT NO. D2088-0221
AUGUST 12, 1993**

CONFIDENTIAL AND PRIVILEGED

925-460-5300



ATC/DIAGNOSTIC ENVIRONMENTAL INC.

6658 Owens Dr.
Pleasanton, CA
94588

510-460-5300
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- Air/Soil/Water Analysis
- Asbestos Management
- Building System Evaluation
- Environmental Engineering
- Industrial Hygiene
- Remedial Investigation

August 12, 1993

Mr. Bob Aptaker
 Assistant Vice President
 Environmental Manager
 THE MACERICH COMPANY
 1891 Goodyear Avenue, Suite 618
 Ventura, California 93003

RE: ENVIRONMENTAL SITE ASSESSMENT
 NORTHGATE MALL, SAN RAFAEL, CALIFORNIA
 PROJECT NO. D2088-0221

Mr. Aptaker:

Attached is the Environmental Site Assessment Report for the above-referenced facility. The report includes an Executive Summary, Project Area Overview, Geological/Hydrogeological Data, Project Area Observations, Neighboring Property Observations, Public Records Review, and Findings.

If you have any questions regarding this report, please call this office.

Sincerely,

DIAGNOSTIC ENVIRONMENTAL INC.

Wilson Wong
 Assistant Project Manager

Donald A. Ashton
 Environmental Program Manager

DAA/WW/ko

Attachment (2)

cc: Ms. Lori Gatto (2)

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EXECUTIVE SUMMARY

At the request of The MaceRich Company, ATC/Diagnostic Environmental Incorporated (ATC/DEI) performed an Environmental Site Assessment of the Northgate Mall, located at 5800 Northgate Drive, San Rafael, California (Project Area/Site). Sears Department Store and its facilities, which also lie within the Site Boundary, are not part of the Project Area. ATC/DEI initiated its services on July 30, 1993. The purpose of the Environmental Site Assessment was to establish a preliminary evaluation of the past and/or present existence, use and/or release of environmentally regulated materials or wastes. The Environmental Site Assessment included a review of Project Area operations, a review of immediately adjacent and surrounding property use, a review of available historical site data and government records, aerial photo study and a review of geological/hydrogeological existing conditions.

ATC/DEI visually reviewed the Project Area to determine the presence or possible presence of stored materials, process materials and wastes, site waste containment or deposits, materials used in construction, evidence of cesspools, evidence of above- or below-grade storage tanks, stressed vegetation and PCB-containing electrical equipment, including transformers, hydraulic lifts, compressors and fluorescent light ballasts. Neighboring properties were also reviewed to determine whether activities at adjacent properties were impacting the Project Area.

The survey was conducted by Mr. Wilson Wong and Ms. Lee Ann Norman of ATC/DEI's San Francisco office. The conditions presented are as observed and evaluated on the days of the Environmental Site Assessment.

The Project Area history indicates that the Project Area was developed in phases - with the facility construction beginning in 1963. Historical records indicate that the Project Area was unused land before the development of the mall. The evaluation of adjacent properties revealed four gasoline service stations located adjacent to the Project Area, but in a hydraulically cross-gradient location. One of the four gasoline stations was demolished in 1992 and another two, Shell and Exxon, are in the Leaking Underground Storage Tank (LUST) database. The fourth gasoline station, Chevron, revealed no evidence of serious

ENVIRONMENTAL SITE ASSESSMENT
THE MACERICH COMPANY - THE MALL AT NORTHGATE - SAN RAFAEL, CALIFORNIA

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leakage. According to Mr. Joe Curley, Supervising Building Inspector for City of San Rafael, all three gasoline stations had undergone clean up. Based on the predicted regional hydrological conditions, the proximity of the sites to the Project Area and the reported site conditions/status of the aforementioned sites, the Project Area does not appear to be environmentally threatened.

The former Sears Automotive Operation and former gasoline station (currently Tim's Car Radio) was closed in 1986. No information regarding soil and/or groundwater quality for this site was available. The site is located at the downgradient boundary of the Project Area, and a petroleum release at this site would likely have minimal impact to the Project Area.

The current operations of the Project Area were reviewed - inclusive of tenants and facility management activities. ATC/DEI did not observe any findings presenting a significant Area of Concern.

Based upon the findings of the report, there are no open or pending environmental regulatory issues associated with The Mall at Northgate.

**PHASE I
ENVIRONMENTAL SITE ASSESSMENT**

At the request of The MaceRich Company, ATC/Diagnostic Environmental Incorporated, (ATC/DEI) performed a Phase I Environmental Site Assessment of the property with its principal address listed as 5800 Northgate Drive, San Rafael, California (Project Area/Site). The assessment was initiated on July 30, 1993. The Project Area is improved with one centralized multi-tenant retail structure, four smaller free-standing commercial/retail buildings and grade-level asphaltic concrete parking and a bi-level parking structure at the southwest corner of the Project Area, totaling approximately 45 acres of property. The Sears facilities, including land and buildings of the retail store, Automotive Center, Garden Center and Tim's Car Radio, are separate from the Northgate Mall and considered neighboring properties. The purpose of the Phase I Environmental Site Assessment was to establish a preliminary evaluation of the past and present existence, use or release of environmentally regulated or hazardous substances on or near the Project Area.

I PROJECT AREA OVERVIEW

The Project Area is located at located at 5800 Northgate Drive, San Rafael, California (Project Area/Site). The Project Area is situated in the northern portion of San Rafael in Marin County, in a mixed commercial and residential area. A site location map detailing the Project Area is provided in Figure 1.

II. GEOLOGICAL/HYDROGEOLOGICAL DATA

ATC/DEI reviewed pertinent, available documents and maps regarding local geology, hydrogeology, and physiography in order to evaluate the potential migration of hazardous substances at or around the Project Area.

Geology and Physiography

The site is underlain by bedrock composed of sandstone and shale. The bedrock is less weathered and harder with increasing depth. Surficial soils consist generally of stiff to very stiff sandy and silty clays above the bedrock. Source: Sears TBA and Former Gas Station Soil Report, September 22, 1970 Woodward-Clyde Associates, San Francisco.

Hydrogeology

The water utility for the Northgate Mall is the Marin Municipal Water District, whose source is seven reservoirs/lakes that they own. According to Shelley Melville (Engineering Representative at Marin Municipal Water District), they do not have any wells on line. Groundwater in the general vicinity of the Project Area can be found at depths ranging from 7 to 10 feet below grade. The groundwater flows in an easterly direction toward the San Rafael Bay. Due to the proximity of the San Rafael Bay, the flow direction varies greatly, depending on the time of verification. Source: Ms. Shelley Melville, Marin Municipal Water District.

III PROJECT AREA OBSERVATIONS

The Project Area is comprised of five structures - including the principal retail structure housing approximately 125 retail stores, 3 large department stores and related maintenance and security operations. The other structures are physically and structurally independent facilities located around the principal structure. Located to the east is the Pay Less Drug Store, in the southeast corner are the Sears Automotive Center and Tim's Car Radio (also owned by Sears), and in the southwest corner is the Sears Garden Center.

The principal structure was originally an outdoor shopping center which began in 1963 with an Emporium department store along with several retail stores. The Sears department store was added in 1971. The Mervyn's and Pay Less Drug Store were added in 1985. The facility was expanded and converted into a shopping mall in 1987. The mall now includes 125 small retail stores, and three anchor department stores (Sears, Mervyn's, and Emporium). Of the three department stores, Sears owns its own land and buildings - including the automotive center, garden center, and Tim's Car Radio (a former Sears Gasoline Station). Mervyn's and Emporium own their buildings but lease the land.

Pay Less Drug Store, located at the east end of the principal structure, leases both its building and land. ATC/DEI did not observe evidence of spills or illegal disposal of hazardous materials associated with this operation.

The retail tenants typically consist of the larger department stores, jewelry stores, men's and women's clothing stores, eating establishments, home furnishings stores, banks, a dry cleaner, and miscellaneous goods and services. At the time of the Project Area visit, ATC/DEI interviewed select retail establishments. Specifically, ATC/DEI focused on tenants most likely to handle, generate or otherwise use hazardous materials in their operations. ATC/DEI reviewed the tenant operations of Mervyn's, Emporium, Pay Less Drug Store, Hudson Goodman Jewelers, Kay Jewelers, Ritz Camera, Expressly Portrait, Glamour Shots, All American Printing, Pearle Vision Express, William M. Liebman, M.D., Inc., and Fairfax French Cleaners.

In general, ATC/DEI did not observe any indication of improper handling, including storage or disposal, of hazardous materials and wastes in the referenced locations that pose an environmental risk to the Project Area.

Both jewelry stores (Hudson Goodman Jewelers, and Kay Jewelers) do jewelry repairing off-site and only carry limited mild cleaning solutions for jewelry cleaning.

Pearle Vision Express corporate office is responsible for all hazardous material activities of the branch in the Project Area.

Ritz Camera develops color film (C-41 Process) and prints color photographs in-house; black and white processing is done off-site. A silver recovery unit is maintained on site. Recovered silver residue is collected and the waste water solution is disposed to the sanitary sewer.

Glamour Shot does not handle regulated materials on-site. All photos are sent to an off-site lab.

Expressly Portrait corporate office is responsible for all hazardous material activities of the branch in the Project Area.

Fairfax French Cleaners does no on-site dry cleaning. It only serves as a pick up and drop-off location.

All American Printing does not handle regulated materials on site.

William M. Liebman, M.D., Inc., generates small amounts of medical waste on-site. All waste is transported off-site for proper disposal.

Mervyn's hires outside maintenance personnel to service all elevators, escalators and HVAC units. A back-up generator with an aboveground 100-gallon diesel fuel tank (part of the generator) is maintained on-site. The Operations Manager stated that Mervyn's did not

carry or store hazardous materials except diesel fuel. Source: Karen Beam, Operations Manager, and Charlie Martin, Facility Manager.

Emporium employs in-house maintenance personnel to service all elevators, escalators, and HVAC units. All materials required for servicing are obtained by the maintenance personnel. A ventilated work area is used for painting and storage of small amounts of paint and empty paint cans. A back-up diesel generator is located in the boiler room along with two 55-gallon fuel storage drums. No other hazardous materials are stored on-site. Source: Marianne Porter, Assistant Store Manager, Operations, Emporium.

Pay Less Drug Store operates a silver recovery unit for its photo processing service but carries no other regulated materials in the store. The silver residue is transported off-site for refining and the waste solution is disposed to the sanitary sewer.

The mall maintenance staff uses small amounts of regulated materials, including paints, gasoline, diesel, and solvents that are used in general facility maintenance operations for touch-up and cleaning. Gasoline is used for operating leaf blowers and diesel is stored for a backup generator which is no longer in operation. Limited quantities of these materials are stored in within the maintenance and display preparation areas located in the parking structure. Minor oil stains were observed on the ground under the back-up generator. ATC/DEI did not observe other evidence of spills or illegal disposal of hazardous materials associated with these operations. Source: Henry Lichtman, Mall Manager.

Polychlorinated Biphenyls Survey

ATC/DEI identified 10 pad-mounted transformers within the Project Area boundaries. All electrical transformers were observed to be in good condition. According to Mr. Steve Woodward of Pacific Gas & Electric (PG&E), these transformers are owned and maintained by PG&E. Since 1983, PG&E has tested all the transformers and three were found to be PCB-containing (greater than 50 ppm PCBs); however, all three have been replaced with non-PCB containing transformers.

Fluorescent lights were observed throughout the facility. All fluorescent lights in the mall were installed in 1987 when the original outdoor shopping center was enclosed. The fluorescent lighting systems in the Mervyn's and Pay Less Drug Store were installed in 1984 when they were originally built. Since PCB-containing fluorescent light ballasts were phased out in the late 1970's, no further investigation is required for these systems. Emporium was unable to disclose its maintenance records of the fluorescent lighting. ATC/DEI has requested this information from Emporium and will forward its findings when it is received.

The two outlying buildings belong to Sears and are not a part of the Project Site. Sears would not grant ATC/DEI an interview until a written notice of approval is issued by their Corporate office.

IV. NEIGHBORING PROPERTY OPERATIONS

The Project Area is located in a mixed commercial/residential area. Perimeter streets are Las Gallinas Avenue to the north, Los Ranchitos Road to the east, and Northgate Drive to the south and west. East of the project area on Las Gallinas Avenue is a cemetery and small strip mall. In the strip mall are various retail/service businesses, including a dry cleaner and a Goodyear Tire and Brake Auto Center. North of the project area are several medical/dental offices and gasoline stations. West on Northgate Drive is a mixed residential/commercial area. Southwest of the project area is residential and southeast is predominantly commercial. ATC/DEI identified five former or existing gasoline stations in the immediate area that are discussed in detail as follows:

Sears Automotive Facility - 9000 Northgate Drive

Located at 9000 Northgate Drive is Sears Automotive Center and Tim's Car Radio, a former Sears Gasoline Station. Both of these facilities and Sears department store lie within the Project Area boundary but are not part of the Project Area. Two underground gasoline storage tanks were removed from the site of the former Sears Automotive Gasoline Station during the installation of two above-ground storage tanks (one 550-gallon and one 300-gallon oil tank) in 1986. The battery storage area was in good condition but battery acid residue was observed on the cement floor and by the doorway. Old batteries are stored in a secondary containment area with a concrete berm and sand on the floor. Battery vendors transport the old batteries off-site for proper disposal upon delivery of new ones.

The waste oil storage area is located on the south side of the building. In the storage area, one empty anti-freeze container is no longer used but remains on site. Several drums of old rotors and oil filters were also stored in this area. The concrete floor in the storage area was observed to be in good condition with minor oil stains.

Located in the work area are fourteen subsurface hydraulic lifts; all were reported to be in good condition. There is one elevator on the premises which was in working order and observed to be in good condition. Two compressors located on the second floor were in fair

condition, with only minor oil/grease stains on the concrete floor beneath. An exterior three-stage clarifier was located to the north of the building. The clarifier is connected to the TBA and is used infrequently.

No further investigation was allowed in the Sears store until the Sears corporate office could be notified for access permission. ATC/DEI will forward its findings when access is permitted.

Former Unocal Gas Station - 929 Del Presidio Boulevard

A vacant lot to the north of the Project Area, located at 929 Del Presidio Boulevard, was a former Unocal Gasoline Station site. Four underground storage tanks (USTs) were removed in 1991. Contamination was discovered during removal of the tanks and four monitoring wells were installed to sample the extent of contamination. The source/cause of discharge was unknown. After removal, in July, 1992, a permit was granted to aerate 150 cubic yards of stockpiled soil. The average degree of total petroleum hydrocarbons (TPH) as gasoline was 446 parts per million (ppm); no organic lead was detected in the samples.

A Quarterly Monitoring Report by Kaprealian Engineering, dated April 7, 1993, reported that the four monitoring wells had been monitored three times, and sampled once, in the quarter. Prior to the sampling, the wells were checked for free product and sheen, and none was found. In a letter to Unocal on June 8, 1993, Deputy Fire Marshal Forrest Craig, of the San Rafael Fire Department, delayed a request for site closure due to the presence of methyl tertiary butyl ether (MTBE) in at least two groundwater monitoring wells (no concentrations reported) and the extent of contamination in both soil and groundwater had not yet been fully defined. A preliminary site assessment is currently under way.

Chevron Gas Station - 949 Del Presidio Boulevard

North of the vacant lot is a Chevron Gasoline Station, located at 949 Del Presidio, where there are three underground storage tanks. On July 27, 1987, a broken dispenser filter was discovered and reported. The filter was repaired and about 15 gallons of released product was abated. A 90-day inventory audit was ordered to determine product loss. The audit

showed no appreciable variation, and no further investigation was undertaken. The letter does not discuss the method of disposal of the 15 gallons of product

Shell Gas Station - 950 Del Presidio Boulevard

A waste oil tank was removed from the Shell Service Station at 950 Del Presidio Boulevard on November 5, 1987. At the time the tank was removed, T. Underwood, an inspector for the Marin County Environmental Health Services noted numerous holes in the tank greater than 1/4 inch, and that the tank seams were rusted out. Samples from the tank excavation were analyzed for high-boiling-point hydrocarbons (EPA Method 8015), gravimetric petroleum oil, and purgeable hydrocarbons (EPA Methods 8010 and 8020). A soil sample collected from the tank's excavation at nine feet below grade contained 96 parts per million (ppm) gravimetric petroleum oil. Stockpiled soil was found to contain 900 ppm of total oil and grease. This soil was reportedly disposed of at a Class I landfill.

In 1989, soil samples were collected to 10 feet below ground surface (BGS), and no concentrations of petroleum hydrocarbons were found greater than the method detection limits. Groundwater monitoring in one well indicated 0.07 milligrams per liter (mg/L) total petroleum hydrocarbons as diesel in March 1990. No volatile hydrocarbons were detected. No further activities were recorded through June, 1992.

Exxon Gas Station - 930 Del Presidio Boulevard

The Exxon Service Station (Exxon RS 7-7067) located at 930 Del Presidio Boulevard operates three currently existing USTs. Subsurface investigations have been conducted since 1987, when liquid-phase hydrocarbons (LPH) were observed in a repair excavation for the diesel tank turbine pump. A soil vapor survey was conducted. Results indicated the presence of petroleum hydrocarbons in soil underlying the site and the adjacent streets, Las Gallinas Avenue and Del Presidio Boulevard. Groundwater monitoring wells have been installed at the site and a groundwater monitoring program is in place. Concentrations of petroleum hydrocarbons vary seasonally, with the greatest concentrations found in samples collected in the vicinity of the tank field in 1989. Free phase petroleum product was present in an upgradient well onsite. Soil samples contained TPHG at concentrations up to 2,000 ppm.

In February, 1992, a groundwater treatment system was constructed and began operation in February, 1993. Groundwater concentrations of TPHG, TPHD, and benzene have been found at 30,000 microgram/liter ($\mu\text{g/L}$), and 3,800 microgram/liter ($\mu\text{g/L}$), respectively. Source: Report of Quarterly Sampling and Analysis, Exxon Retail Site 7-7067, 930 Del Presidio Boulevard, San Rafael, California, EA Engineering, Science, and Technology, May, 1993.

Marin County Office of Environmental Health Services reported a gas spill of 10 gallons on May 4, 1993. Source: San Rafael Fire Department, Records Review on August 4, 1993

Off-Site Sources of Potential Contamination

Leaking Underground Storage Tanks (LUSTs)

Five sites are currently listed under the LUST list as follows:

1. Exxon Service Station #7-7067
930 Del Presidio/Las Gallinas
San Rafael, California 94903
1/4 mile north of Project Area
Also on RCRIS
2. Shell Gasoline Station
950 Del Presidio Boulevard
San Rafael, California 94903
1/4 mile north of Project Area
Also on CORTESE
3. Pacific Bell
7 Professional Center Parkway
San Rafael, California 94903
1/2 mile north-northeast of Project Area
Also on RCRIS

4. Fairchild Semiconductor
4300 Redwood Road
Pittsburg, California 94565
3/4 mile north-northeast of Project Area
Also on CORTESE

5. Chevron Gasoline Station
69 Mitchell Boulevard
San Rafael, California 94903
1 mile north-northeast of Project Area
Also on CORTESE

None of these sites are located up-gradient of the Project Area.

Potentially Contaminated Sites

Two sites currently listed in the LUST database are also on the RCRIS database. They are the Exxon Service Station #7-7067, a small quantity generator, and Pacific Bell, a large quantity generator. The database lists properties that are generators of hazardous waste. Inclusion on this list is not indicative of an environmental problem.

Three sites currently listed under the LUST database are also in the CORTESE database. This database lists properties of leaking/contaminated sites. The three sites are the Shell Gasoline Station, Fairchild Semiconductor and the Chevron Gasoline Station.

ATC/DEI did not observe any immediate or impending environmental threat from observable neighboring property operations.

V. PUBLIC RECORDS AND HISTORICAL DOCUMENT REVIEW

The purpose of the historical/agency records review is to trace activities on the site to the original owner and/or to undeveloped virgin land, in order to identify the present and past existence, use or release of environmentally regulated or hazardous substances at the Project Area.

Sanborn Map Collection, Sanborn Mapping and Geographic Information Service

A search of the Chadwick-Healy collection for the years 1867 to 1970 failed to reveal any available Sanborn Maps for review.

Historical Aerial Photographs

ATC/DEI has completed a review of aerial photographs provided by Pacific Aerial Surveys, Oakland, California. Photographs covering the years 1986, 1980, 1975, 1970, 1963, and 1950 were reviewed. The following is a descriptive account of observations made of the Project Area and immediate surrounding areas from these photographs.

<u>Year</u>	<u>Observations</u>
1986	The Project Area and surrounding neighborhood appeared similar to the currently existing retail facilities. All four gasoline stations previously referenced to the north of the Project Area were observed in the photo.
1980	The Project Area showed an outdoor shopping plaza with similar structures but without the Mervyn's and Pay Less Drug Store. The surrounding properties appeared relatively unchanged from the observations mentioned in the previous photograph.
1975	No substantive changes from the earlier photograph were noted.

- 1970 The Sears facilities were not observed on the photograph. The part of the lot where Sears currently is located was graded.
- 1963 The Project Area appeared to be recently graded and was under construction.
- 1950 The Project Area appeared to be bare land scattered with several trees. There were no apparent stains or storage of materials that might suggest an environmental area of concern on or near the Project Site.

Title Report Review

ATC/DEI reviewed Title Report Order Number 191717, effective July 5, 1991, prepared by California Land Title Company of Marin, for purposes of noting land use, deed restrictions, liens or easements which may be indicative of current or former hazardous materials activities on the Project Area. Upon reviewing the report, ATC/DEI observed an indication of a battery store that was not found in the mall. The Mall Management Office informed ATC/DEI that the battery store decided not to open the store. ATC/DEI did not observe other potentially environmental hazardous activities besides that noted above.

San Rafael Building and Planning Department

The San Rafael Building and Planning Department is the local agency responsible for monitoring, approving and administering local building codes and regulations. ATC/DEI interviewed Mr. Joe Curley, Supervising Building Inspector, regarding hazardous material activities in the neighborhood and reviewed files and permits for the Project Site. No environmental issues were found.

San Rafael Fire Department - Fire Prevention Division

The San Rafael Fire Prevention Division of the Fire Department is the agency responsible for files regarding hazardous material activities in the Project Area. However, the Fire Department needed written approval from The MaceRich Company before ATC/DEI could access their files. ATC/DEI will forward its findings to MaceRich when the Project Area files are made accessible. Source: Forrest Craig, Deputy Fire Marshal, Hazardous Material Division, file review request made on August 4, 1993.

Marin County Environmental Health Services Department

Marin County Environmental Health Services Department is the agency responsible for regulating and documenting hazardous materials storage and hazardous material spill incidents, and enforcement of state and local waste management laws, regulations and ordinances for areas within the County. Elizabeth Irvine of the Health Department told ATC/DEI that all files concerning the Project Area were transferred to the Fire Department. Source: Ms. Elizabeth Irvine, telephone interview on July 29, 1993.

Marin Municipal Water District

Marin Municipal Water District is the lead agency responsible for maintaining and regulating water quality in the Project Area and for monitoring investigations for leaking underground storage tanks. Marin Municipal Water District had no records on file concerning contamination of water supply in the Project Area. Source: Ms. Shelley Melville, Engineering Representative, July 30, 1993.

State of California, California Environmental Protection Agency: CAL-SITES

The California Environmental Protection Agency, Department of Toxic Substances Control (CEPA-DTSC) is the lead agency in the State of California responsible for the promulgation and enforcement of state waste management laws and regulations. The CEPA-DTSC maintains a list (CAL-SITES) of potential and known hazardous waste sites listed by zip code. The CAL-SITES list contains potential hazardous waste sites identified by the

historical Abandoned Site Program and Information Survey (ASPIS) and the current Rural Site Evaluation Program; neither the Project Site nor neighboring sites within a 1/2-mile radius of the Project Site were identified. Source: CAL-SITES list updated to January, 1993; Environmental Data Resources Radius Map Report, Report Number 29597-5, generated on July 18, 1993.

United States Environmental Protection Agency (USEPA), National Priorities List

The National Priorities List (NPL) identifies hazardous waste sites that are scheduled for cleanup actions utilizing federal funds. A site can be included in the NPL if: (1) the Agency for Toxic Substances and Disease Registry (ATSDR) of the U.S. Center for Disease Control (CDC) has issued a health advisory that recommends removing people from the site; (2) the EPA determines the site poses a significant threat to public health; and, (3) the EPA anticipates it will be more cost-effective to use its remedial authority than to use its emergency removal authority to respond to this site. The Project Area is not listed in the National Priorities List; nor are any sites within a one mile radius. Source: National Priorities List, as of October 15, 1992, Title 40 Code of Federal Regulations, Part 300 et. seq.

United States Environmental Protection Agency (USEPA), Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS)

The Environmental Protection Agency (EPA) Region 9 is responsible for EPA programs in California. CERCLIS is a database utilized by the EPA to track activities conducted under the Federal Superfund Program. CERCLIS contains those potential hazardous waste sites which have been brought to the attention of the EPA. Potential hazardous waste sites other than those listed on the EPA CERCLIS list may exist. Sites on the CERCLIS list may include one or more of the following: 1) sites which may be potentially hazardous and requires further investigation, 2) sites which have been investigated and based on the investigation findings no further investigation or remedial action is planned under the Federal Superfund Program or 3) final and proposed National Priorities List (NPL) sites which have been investigated and EPA has determined the sites may represent a long-term threat to public health or the environment. Neither the Project Site nor neighboring sites within a 1/2-mile radius of the Project Site were identified on the CERCLIS. Source: United States

ENVIRONMENTAL SITE ASSESSMENT
THE MACERICH COMPANY - THE MALL AT NORTHGATE - SAN RAFAEL, CALIFORNIA

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Environmental Protection Agency (USEPA), Comprehensive Environmental Response Compensation and Liability Information System (CERCLIS), as of April, 1993, Data Resources Radius Map Report, Report Number 29597-5, generated on July 18, 1993.

VI. FINDINGS

1. Exxon Gasoline Station, Shell Gasoline Station and Former Unocal Gasoline Station

ATC/DEI identified that the Exxon Gasoline Station located at 930 Del Presidio Boulevard, Shell Gasoline Station located at 950 Del Presidio Boulevard, and former Unocal Gasoline Station located at 929 Del Presidio Boulevard have leaking tanks and soil contamination problems. All sites have undergone varying degrees of remediation; however, none of them has successfully eliminated the contamination.

2. Sears Automotive Operations (Former Gasoline Station)

Sears formerly operated underground storage tanks at the facility from approximately 1971 to 1986. ATC/DEI interviewed various agencies and personnel familiar with the Project Area. To date, ATC/DEI does not have any information pertaining to the subsurface soils at, or immediately adjacent to, the former tank and piping zones. This site is located at the downgradient boundary of the Project Area and a petroleum release at the site would likely have a minimal impact to the Project Area.

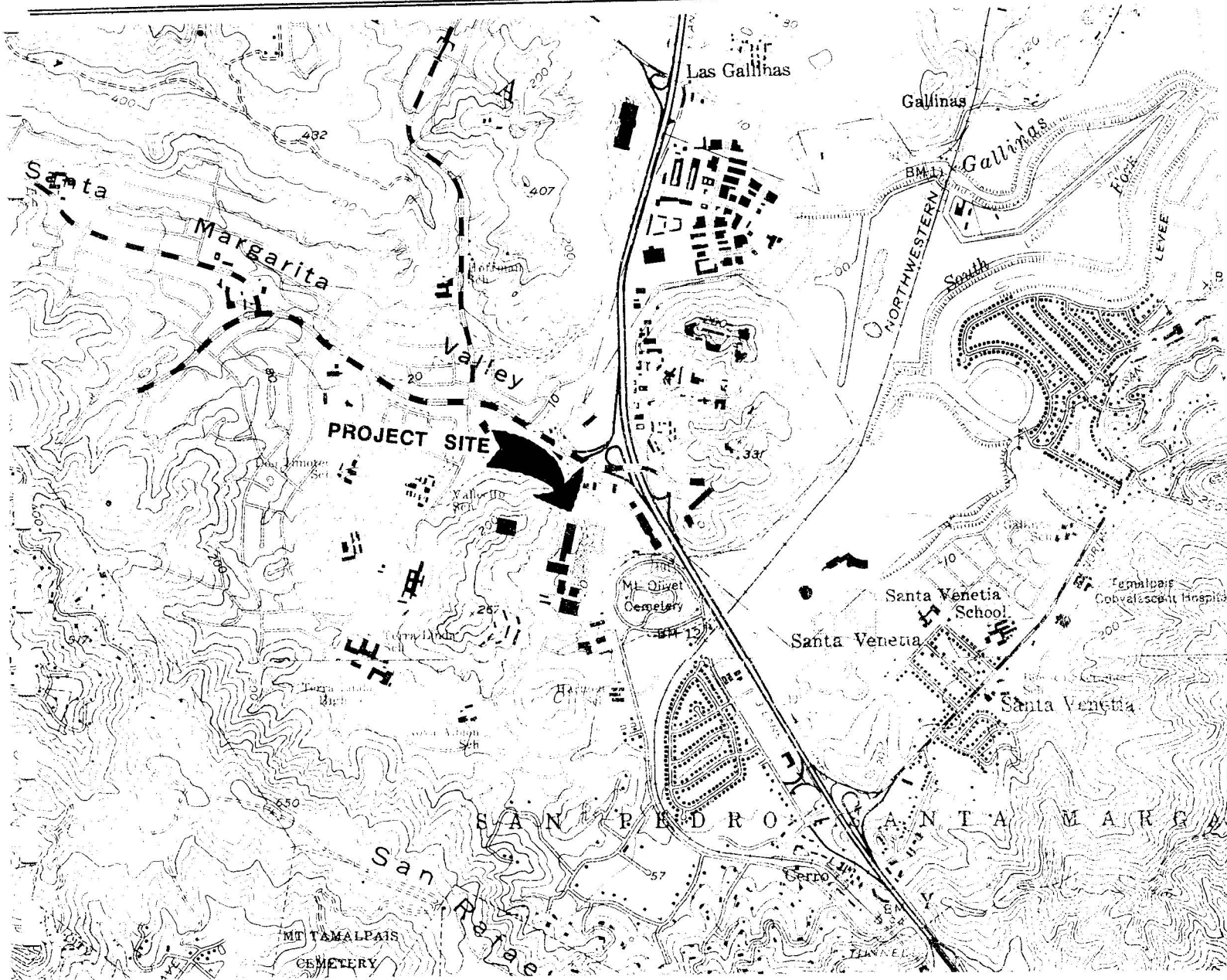
VII. LIMITATIONS

ATC/DEI has prepared this Environmental Site Assessment using reasonable efforts in each phase of its work to estimate the liabilities associated with environmentally regulated substances in the Project Area. The performance of this Environmental Site Assessment was in accordance with current professional standards for environmental assessments. Findings within this report are based on information collected from on-site observations and from available information obtained from governing public agencies/sources. The information contained within this report is limited to provided data and available documents.

This report is not definitive and should not be assumed to be a complete or specific definition of the conditions above or below grade. This report is not intended to be a construction document and should not be used for construction purposes. ATC/DEI makes no representation or warranty on any environmental concerns at or near the Project Area that were not readily accessible at the time of the site visit or available in the reviewed public records. ATC/DEI makes no representation or warranty that the operations at the Project Area are or have been in compliance with all applicable federal, state, and local laws, regulations and codes.

ENVIRONMENTAL SITE ASSESSMENT
THE MACERICH COMPANY - NORTHGATE MALL - SAN RAFAEL, CALIFORNIA

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NOT TO SCALE

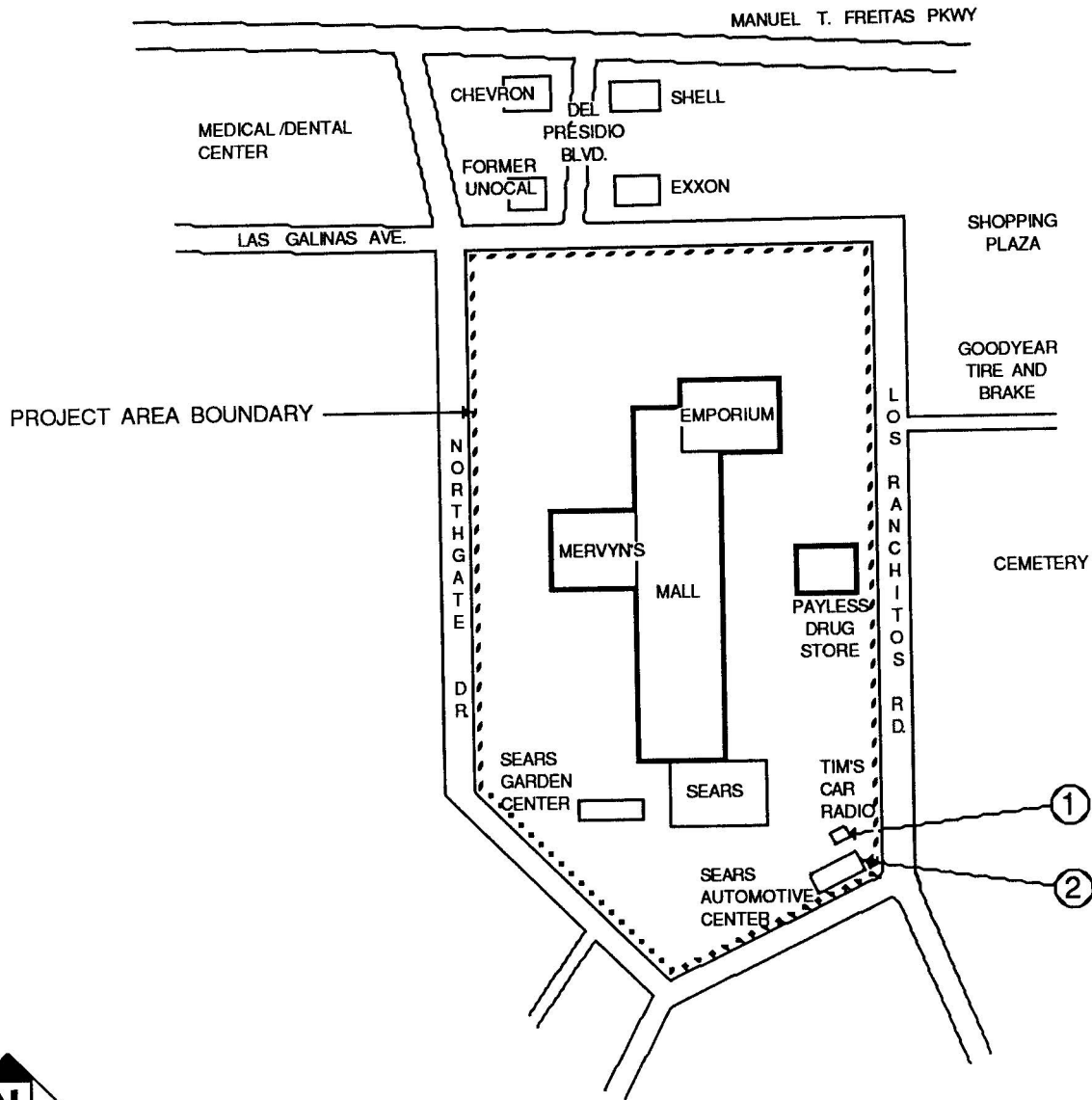
MAP SOURCE: SAN RAFAEL QUADRANGLE, CALIFORNIA, 7.5 MINUTE SERIES, UNITED STATES GEOLOGICAL SURVEY, 1954,
PHOTOREVISED 1980.

DIAGNOSTIC ENVIRONMENTAL INC.
PROJECT NO. D2088-0221

FIGURE 1 - SITE LOCATION

ENVIRONMENTAL SITE ASSESSMENT
THE MACERICH COMPANY - NORTHGATE MALL - SAN RAFAEL, CALIFORNIA

CONFIDENTIAL AND PRIVILEGED



**5800 NORTHGATE DRIVE
SAN RAFAEL, CALIFORNIA
SITE PLAN**

NOT TO SCALE

- 1: FORMER GAS STATION
- 2: OPERATING TBA



FLUOR DANIEL GTI

**DISPENSER ISLAND AND
PRODUCT LINE REMOVAL REPORT
SEARS STORE 1528
9000 NORTHGATE MALL
SAN RAFAEL, CALIFORNIA**

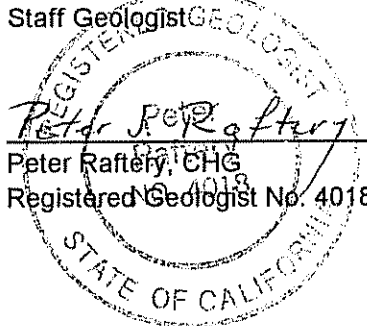
Fluor Daniel GTI Project 020200146

July 1, 1996

Prepared for:
Captain Forrest Craig
City of San Rafael Fire Department
1039 C Street
San Rafael, California 94901

Fluor Daniel GTI
Submitted by:

James L. Molesworth
Staff Geologist

Peter Raftery, CHG
Registered Geologist No. 4018

Fluor Daniel GTI
Approved by:

Mike Wray
Zone Project Manager

For:
David L. Backus
Vice President and General Manager
West Region

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2. Soil Analytical Results at Former Dispenser Islands
3. Soil Analytical Results at Former New and Used Oil USTs

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2. Former New and Used Oil Product Line Soil Analytical Results, Sears Store 1528, San Rafael, California, Sampled November 30, 1994
3. Former New and Used Oil Product Line CAM Metal Analytical Results, Sears Store 1528, San Rafael, California, Sampled November 30, 1994

Appendixes

- A. Soil Disposal Documentation
- B. Soil Sampling Techniques - Quality Assurance/Quality Control, TPH-g and BTEX, EPA Method 8020, Laboratory Reports
- C. Total Lead, EPA Method 6010, Laboratory Reports
- D. TPH-d, EPA Method Modified 8015, Laboratory Reports
- E. TRPH, EPA Method 418.1, Laboratory Reports
- F. Volatile Organics, EPA Method 8240, Laboratory Reports
- G. California Assessment Metals, STLC and TTLC, Laboratory Reports
- H. Chain of Custody Forms

1.0 INTRODUCTION

This report documents the removal of dispenser islands, gasoline product lines, vent lines, new oil supply lines, and used oil line from Sears Store 1528, located at 9000 Northgate Mall, San Rafael, California (figure 1). Removal activities were performed between November 29 and December 1, 1994. The demolition and removal activities were performed by Norm Wilson and Sons, Inc., Paramount, California. Fluor Daniel GTI collected soil samples during the excavation and removal activities to assess the soil conditions and characterize the stockpiled soil for disposal. Fluor Daniel GTI also coordinated soil disposal, and prepared this report. Submittal of this report was delayed due to internal reorganization at Sears.

2.0 SITE HISTORY AND USAGE

2.1 Summary of Previous Investigations

Information provided by Sears indicates that two underground storage tanks (USTs) containing gasoline, one UST containing used oil, an unknown number of new oil USTs, and the product dispensers were removed several years ago (figure 1). The exact dates of the UST removal is not known. Fluor Daniel GTI was not supplied with additional information relating to the UST removal and is not aware of any other subsurface investigations conducted at this site.

2.2 Adjacent Site Uses

Surrounding properties include Sears Retail Store and Northgate Mall parking to the north, Las Golinas Avenue and a cemetery to the east, Sears Auto Repair Center and parking to the south, and a parking lot and residential properties to the west.

2.3 Scope of Work

The scope of work included overseeing the dispenser island and product line removal activities, soil sampling, soil disposal coordination, and project reporting.

Individual grab soil samples were collected at locations beneath the dispenser islands and along the product line trenches. Soil sampling was performed by Fluor Daniel GTI and directed by Captain Forrest Craig of the City of San Rafael Fire Department (SRFD). The samples were collected to determine if hydrocarbons or lead were present in the soil. Composite soil samples were collected from the soil stock piles for soil characterization prior to transportation and treatment at a thermal treatment plant in Arizona.

3.0 FIELD INVESTIGATION

3.1 Site Safety

Fluor Daniel GTI developed a Site Safety Plan to provide a safe working environment and to comply with Occupational Safety and Health Administration Regulation 29 CFR 1910.120. The Health and Safety Plan for the site is on file at Fluor Daniel GTI in Martinez, California. The plan is required to be on site during field work. All Fluor Daniel GTI field personnel and subcontractors are required to sign and comply with the plan. The plan is designed to identify hazards associated with the scope of work including drilling, excavation, sample collection, and the related chemicals of concern, and action levels. The plan includes emergency data, hospital route, and contact numbers. Use of the plan is intended to prevent accidents and reduce the risk of exposure to chemicals.

3.2 Permitting

Permitting for the dispenser island and product line removal was performed by Norm Wilson and Sons Inc. Underground Service Alert (USA) was notified prior to excavation and an excavation permit was obtained by Norm Wilson and Sons from the local fire protection district.

3.3 Dispenser Island Removal and Soil Characterization

3.3.1 Dispenser Island and Product Line Removal

Initial demolition activities began on November 29, 1994, and were completed December 1, 1994. This work included demolition of the dispenser island canopy and the dispenser islands, and the removal of the product lines, vent lines and new and used oil lines.

Sears contractor Norm Wilson and Sons used a backhoe to uncover the product lines and remove the dispenser islands. The soil directly above the product lines was removed with a shovel to avoid damaging the lines. The excavated soil and pea gravel was stock-piled on site.

Product lines were oriented approximately north-south, parallel to the dispenser islands, and approximately east-west between the dispenser islands and the former gasoline USTs (figure 2). The oil supply lines and used oil line were oriented north-south, perpendicular to the Sears Auto Center building (figure 3). All piping was removed by Jim Thorpe Oil, Inc.

Residual gasoline, used oil and water were drained from the product lines prior to removal. The residual product was contained in DOT-approved 55-gallon drums. Removal of these drums was coordinated by Sears.

3.3.2 Soil Characterization

Fluor Daniel GTI personnel field screened excavated soil with a photoionization detector (PID) so the contractor could segregate clean soil from soil containing hydrocarbons. All soil was stockpiled on and covered with plastic sheeting as directed by Fluor Daniel GTI personnel. Soil was segregated based on visual observations and PID field screening results. Any soil releasing hydrocarbon vapor at concentrations above 10 parts per million on the PID or visually stained by hydrocarbons was stockpiled. Approximately 34 cubic yards of soil was sampled for disposal/treatment and securely covered with plastic. The soil stockpiles were transported from the site by Southwest Soil Remediation, Inc., and treated by thermal processing at Remat in Buckeye, Arizona. Disposal documentation is included in appendix A.

3.4 Soil Sampling

Fluor Daniel GTI sampling procedures and protocol are included in appendix B; samples were collected with SRFD oversight. Soil samples were field screened with a PID using headspace methodologies and were sent by overnight delivery to GTEL Environmental Laboratories in Concord, California, for analysis.

Seventeen soil samples were collected from underneath the dispenser islands, gasoline product lines and vent lines at depths of 2 to 4 feet beneath the piping (table 1, figure 2). The soil samples were analyzed for the following constituents:

- total petroleum hydrocarbons as gasoline (TPH-g) by EPA Method 8015 (modified)
- benzene, toluene, ethylbenzene, and total xylenes (BTEX) by EPA Method 8020
- total lead by EPA Method 6010

Five soil samples were collected from underneath the used oil line and oil supply lines at 2 to 5 feet below the piping (tables 2 and 3, figure 3). The soil samples were analyzed for the following constituents:

- TPH-g and total petroleum hydrocarbons as diesel (TPH-d) by EPA Method 8015 (modified)
- total recoverable petroleum hydrocarbons (TRPH) by EPA Method 418.1
- volatile organics by EPA Method 8240
- California Assessment Metals (CAM metals) by EPA 6000/7000 series analyses.

4.0 FINDINGS

Soil analytical results are summarized in tables 1, 2 and 3, and figures 2 and 3. The analytical reports are included in appendixes B through H.

4.1 Soil Sample Results Island A

Six soil samples were collected at dispenser island A (table 1 and figure 2). None of the soil samples contained detectable concentrations of TPH-g or BTEX. Concentrations of total lead ranged from 6 milligrams per kilogram (mg/kg) in sample ATW-2/3 to 10 mg/kg in sample ATW-1/3.

4.2 Soil Sample Results Island B

Six soil samples were collected at dispenser island B (table 1 and figure 2). None of the soil samples contained detectable concentrations of TPH-g or BTEX. Concentrations of total lead ranged from 7 mg/kg in sample BTW-1/3 to 11 mg/kg in sample BTE-1/3.

4.3 Soil Sample Results Main Product Line Trench

Five soil samples were collected at the main trench between the dispenser islands and the former gasoline USTs (table 1 and figure 2). None of the soil samples contained detectable concentrations of TPH-g or BTEX. Concentrations of total lead ranged from below the detection limit of 5 mg/kg in sample MT-5/4 to 9 mg/kg in three of the other samples.

4.4 Soil Sample Results Used Oil line Trench

Two soil samples were collected along the used oil line excavation trench. No concentrations of TPH-g, TPH-d, or volatile organics were detected. Concentrations of TRPH were 7 mg/kg in sample WO-1/2 and 19 mg/kg in sample WO-2/4. CAM metals results for the used oil supply line samples are summarized in table 3.

4.5 Soil Sample Results New Oil line Trench

Three soil samples were collected along the new oil line excavation trench. No concentrations of TPH-g, TPH-d, or volatile organics were detected. Concentrations of TRPH were below the detection limit in samples NO-1/2 and NO-3/5 and 11 mg/kg in sample NO-2/4. CAM metals results for the used oil line supply line samples are summarized in table 3.

5.0 ANALYTICAL REVIEW

Analytical results from the gasoline dispenser islands indicate gasoline hydrocarbons are not present in soil at the product line areas or the dispenser island areas.

Analytical results from the oil supply line and used oil UST areas indicate that very low levels of hydrocarbons are present in the soil in those two areas and that no volatile organics were present. Metals detected at concentrations above 100 mg/kg and below 211 mg/kg in the new and used oil product line areas include barium, total chromium and nickel.

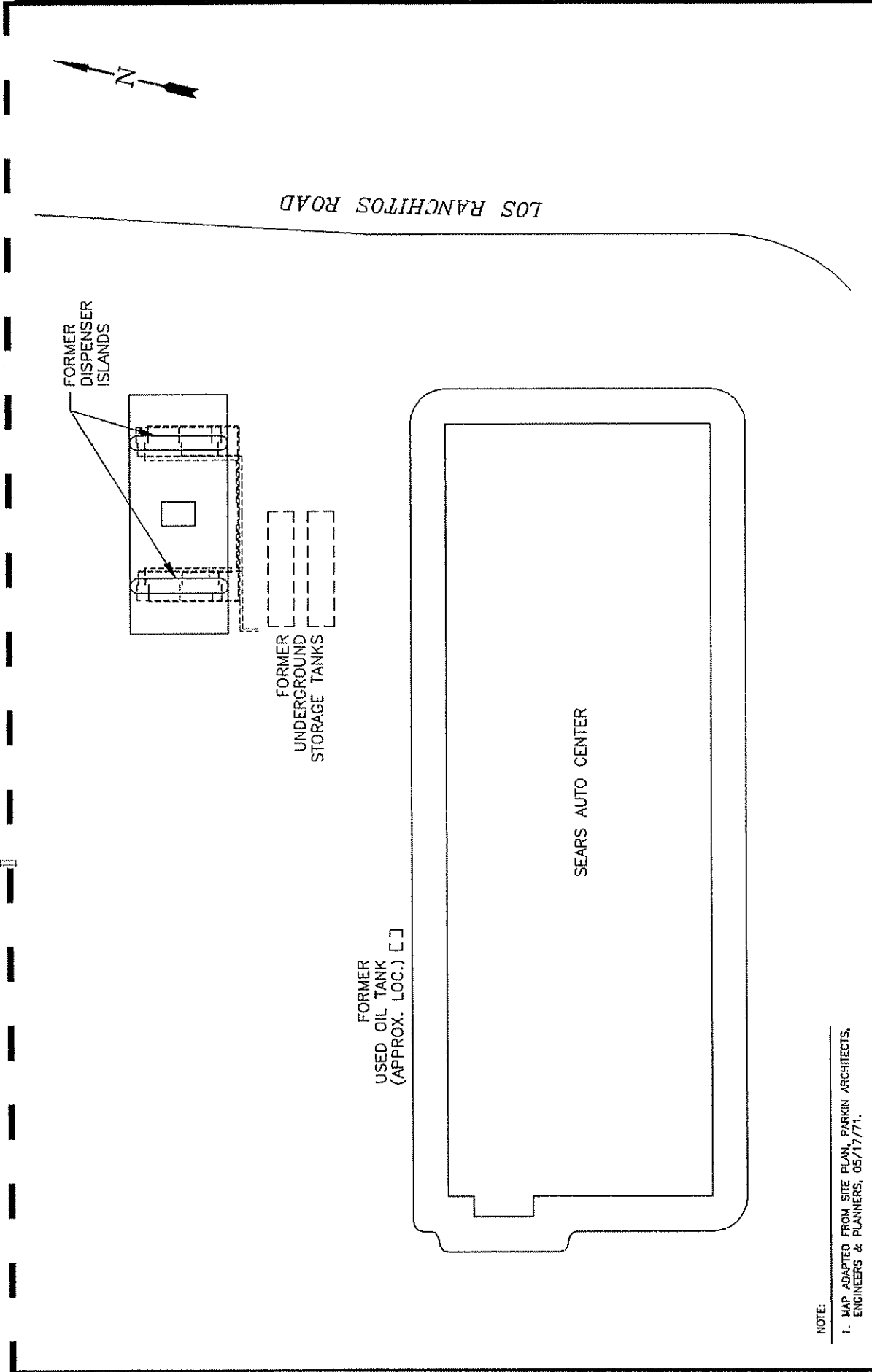
6.0 PETROLEUM HYDROCARBON EXPOSURE CONCERNS


The common exposure routes of petroleum hydrocarbons in humans and animals are inhalation of vapors, ingestion of hydrocarbon-containing material, and skin or eye contact with hydrocarbons. Currently there are no excavations or construction projects that would expose soil containing hydrocarbons on site or adjacent to the site. The site is covered with asphalt and concrete and there does not appear to be any potential risk to the public of contacting soil that contains hydrocarbons.

Based upon the findings of this investigation, Fluor Daniel GTI, on behalf of Sears, Roebuck and Co. proposes no further action at Sears Store 1528 in San Rafael, California.

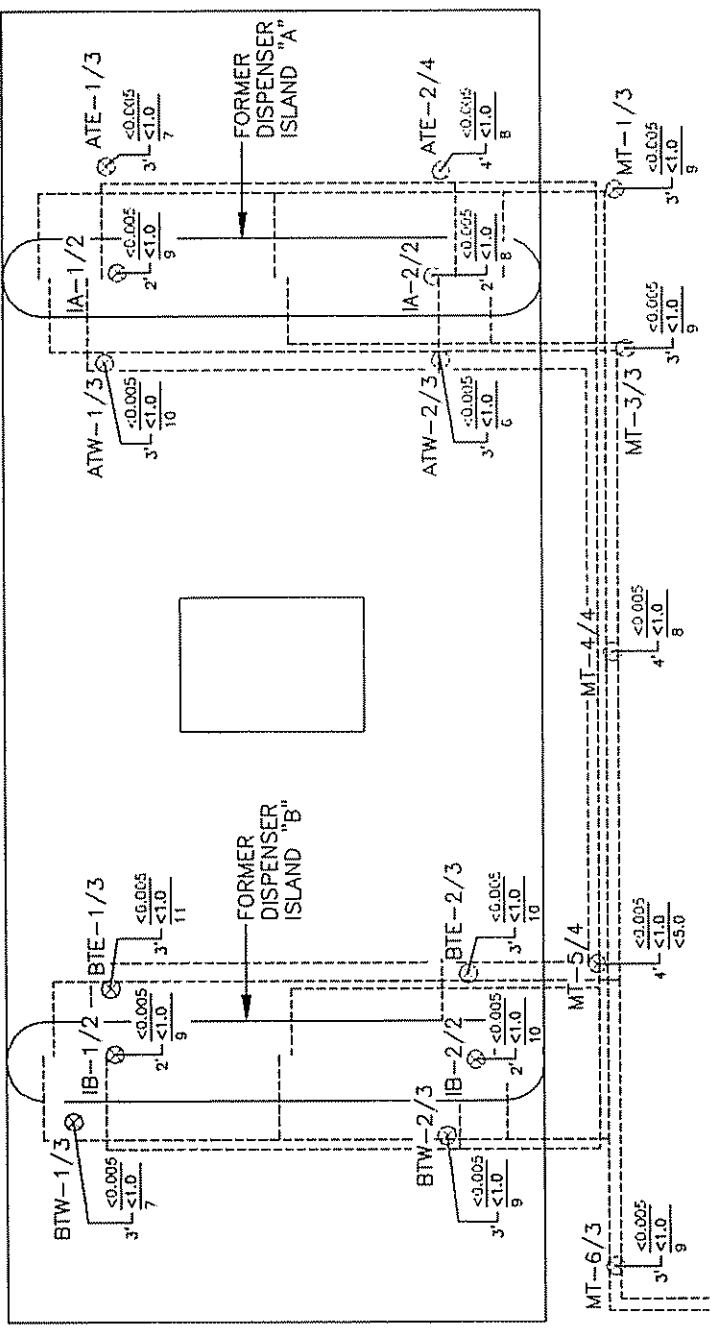
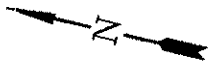
FIGURES

1. Site Plan
2. Soil Analytical Results at Former Dispenser Islands
3. Soil Analytical Results at Former New and Used Oil USTs



 FLUOR DANIEL GTI		CLIENT: SEARS MERCHANDISE GROUP STORE No. 1528		SITE PLAN	
		LOCATION: 9000 NORTHGATE MALL SAN RAFAEL, CA			
0 FEET SCALE	PROJECT NO.: 020200025	DES.: PM	DET.: PJWH	DATE: 12/20/94	FIGURE: 1
REV.:		PE/RG:		PM:	

NOTE:
 1. MAP ADAPTED FROM SITE PLAN, PARKIN ARCHITECTS, ENGINEERS & PLANNERS, 05/17/71.



EXPLANATION

- SOIL SAMPLE LOCATION
- BENZENE (mg/kg)
- TPH AS GASOLINE (mg/kg)
- TOTAL LEAD (mg/kg)
- BENZENE DETECTION LIMIT (mg/kg)
- TPH AS GASOLINE DETECTION LIMIT (mg/kg)
- TOTAL LEAD DETECTION LIMIT (mg/kg)

SAMPLED ON: 11/30/94 AND 12/01/94



FLUOR DANIEL GTI

PROJECT NO.: 020200146

REV.: 0025SRDI (1:120)

CLIENT: SEARS MERCHANDISE GROUP
STORE No. 1528

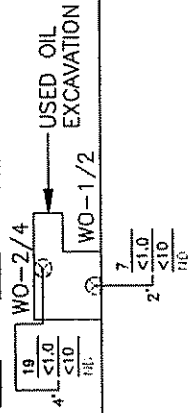
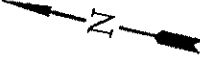
LOCATION: 9000 NORTHCATE MALL
SAN RAFAEL, CA

DES.: JM DET.: CCG DATE: 06/04/96

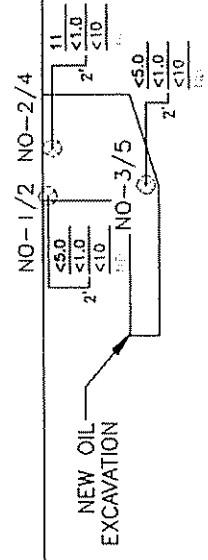
SOIL ANALYTICAL RESULTS AT FORMER DISPENSER ISLANDS

PM: PE/RG: FIGURE: 2

NOTE:
1. SAMPLE LOCATIONS PER FIELD MEASUREMENTS, OCT, 12/94.



SEARS AUTO CENTER



EXPLANATION

SOIL SAMPLE LOCATION

- 7 TRPH (mg/kg)
- 2 ≤ 1.0 (TRP AS GASOLINE) (mg/kg)
- 10 ≤ 1.0 (TRP AS DIESEL) (mg/kg)
- 10 VOLITILE ORGANICS (mg/kg)
- 2 ≤ 5.0 (TRPH DETECTION LIMIT) (mg/kg)
- 2 ≤ 1.0 (TRPH AS GASOLINE DETECTION LIMIT) (mg/kg)
- 10 ≤ 1.0 (TRPH AS DIESEL DETECTION LIMIT) (mg/kg)
- 10 VOLITILE ORGANICS DETECTION LIMIT (mg/kg)

SAMPLED ON: 11/30/94

NOTE:
1. SAMPLE LOCATIONS PER FIELD MEASUREMENTS, GTI, 12/94.



FLUOR DANIEL GTI

PROJECT NO.: 020200146

REV.:

CLIENT: SEARS MERCHANDISE GROUP
STORE No. 1528

LOCATION: 9000 NORTHGATE MALL
SAN RAFAEL, CA

DES.: JM DET.: CCG DATE: 06/04/96

**SOIL ANALYTICAL RESULTS
AT FORMER NEW AND USED OIL USTS**

PM: PE/RG: FIGURE: 3

TABLES

1. Former Dispenser Island Soil Analytical Results, Sears Store 1528, San Rafael, California, Sampled November 30, and December 1, 1994
2. Former New and Used Oil Product Line Soil Analytical Results, Sears Store 1528, San Rafael, California, Sampled November 30, 1994
3. Former New and Used Oil Product Line CAM Metal Analytical Results, Sears Store 1528, San Rafael, California, Sampled November 30, 1994

TABLE 1
Former Dispenser Island Soil Analytical Results
Sears Store 1528, San Rafael, California
Sampled November 30, and December 1, 1994

Gasoline Dispenser Island Samples							
Samples	Date	TPH-g	B	T	E	X	Total Lead
Island A soil samples							
IA-1/2	12/01/94	<1	<0.005	<0.005	<0.005	<0.015	9
IA-2/2	12/01/94	<1	<0.005	<0.005	<0.005	<0.015	8
ATE-1/3	12/01/94	<1	<0.005	<0.005	<0.005	<0.015	7
ATE-2/4	12/01/94	<1	<0.005	<0.005	<0.005	<0.015	8
ATW-1/3	11/30/94	<1	<0.005	<0.005	<0.005	<0.015	10
ATW-2/3	11/30/94	<1	<0.005	<0.005	<0.005	<0.015	6
Island B Soil Samples							
IB-1/2	12/01/94	<1	<0.005	<0.005	<0.005	<0.015	9
IB-2/2	12/01/94	<1	<0.005	<0.005	<0.005	<0.015	10
BTE-1/3	12/01/94	<1	<0.005	<0.005	<0.005	<0.015	11
BTE-2/3	12/01/94	<1	<0.005	<0.005	<0.005	<0.015	10
BTW-1/3	11/30/94	<1	<0.005	<0.005	<0.005	<0.015	7
BTW-2/3	11/30/94	<1	<0.005	<0.005	<0.005	<0.015	9
Main Trench Soil Samples							
MT-3/3	11/30/94	<1	<0.005	<0.005	<0.005	<0.015	9
MT-4/4	11/30/94	<1	<0.005	<0.005	<0.005	<0.015	8
MT-5/4	11/30/94	<1	<0.005	<0.005	<0.005	<0.015	<5
MT-1/3	12/01/94	<1	<0.005	<0.005	<0.005	<0.015	9
MT-6/3	12/01/94	<1	<0.005	<0.005	<0.005	<0.015	9

Notes:

- 1) All results expressed in milligrams per kilogram
- 2) Total lead analyzed using EPA Method 6010

TPH-g = total petroleum hydrocarbons as gasoline, B = benzene, T = toluene, E = ethylbenzene, X = total xylenes; analyzed using EPA Method 8020
 < Number = below reported detection limits

TABLE 2
Former New and Used Oil Product Line Soil Analytical Results

Sears Store 1528, San Rafael, California
Sampled November 30, and December 1, 1994

Samples	Date	TRPH	TPH-g	TPH-d	Volatile Organics
Used Oil Supply Line Soil Samples					
WO-1/2	11/30/94	7	<1	<10	ND
WO-2/4	11/30/94	19	<1	<10	ND
New Oil Supply Line Soil Samples					
NO-1/2	11/30/94	<5	<1	<10	ND
NO-2/4	11/30/94	11	<1	<10	ND
NO-3/5	11/30/94	<5	<1	<10	ND

Notes:

- 1) All results expressed in milligrams per kilogram
- 2) Volatile organics analyzed using EPA Method 8240A

TRPH = total recoverable petroleum hydrocarbons; analyzed using EPA Method 3550/418.1
 TPH-g = total petroleum hydrocarbons as gasoline, B = benzene, T = toluene, E = ethylbenzene, X = total xylenes; analyzed using EPA Method 8020
 TPH-d = total petroleum hydrocarbons as diesel; analyzed using EPA Method Modified 8015
 < Number = below reported detection limits
 ND = not detected

TABLE 3
Former New and Used Oil Product Line Soil CAM Metal Analytical Results

Sears Store 1528, San Rafael, California
Sampled November 30, 1994

Used Oil/Oil Supply Samples						
Analyte	Date	WO-1/2	WO-2/4	NO-1/2	NO-2/4	NO-3/5
Antimony	11/30/94	<5	<5	<5	<5	<5
Arsenic	11/30/94	5.5	2.5	4.0	9.3	7.5
Barium	11/30/94	150	55	100	130	170
Beryllium	11/30/94	0.6	<0.5	<0.5	<0.5	0.6
Cadmium	11/30/94	<0.5	<0.5	<0.5	<0.5	<0.5
Chromium, total	11/30/94	30	38	92	68	210
Cobalt	11/30/94	9	8	19	16	21
Copper	11/30/94	28	11	17	47	35
Lead	11/30/94	8	<5	6	6	8
Mercury	11/30/94	<0.1	<0.1	<0.1	0.1	0.1
Molybdenum	11/30/94	1	<1	<1	1	1
Nickel	11/30/94	41	59	100	110	180
Selenium	11/30/94	<5	<5	<5	<5	<5
Silver	11/30/94	<1	<1	<1	<1	<1
Thallium	11/30/94	<5	<5	<5	<5	<5
Vanadium	11/30/94	32	22	44	44	46
Zinc	11/30/94	58	34	35	69	70

Notes:

- 1) All results expressed in milligrams per kilogram
- 2) Analyzed using EPA Methods 6010, 7060, and 7470

<Number = Below reported detection limit

APPENDIXES

- A. Soil Disposal Documentation
- B. Soil Sampling Techniques - Quality Assurance/Quality Control, TPH-g and BTEX, EPA Method 8020, Laboratory Reports
- C. Total Lead, EPA Method 6010, Laboratory Reports
- D. TPH-d, EPA Method Modified 8015, Laboratory Reports
- E. TRPH, EPA Method 418.1, Laboratory Reports
- F. Volatile Organics, EPA Method 8240, Laboratory Reports
- G. California Assessment Metals, STLC and TTLC, Laboratory Reports
- H. Chain of Custody Forms

APPENDIX A
SOIL DISPOSAL DOCUMENTATION

REMAT

830 North Miller Road
Buckeye, Arizona 85326

Phone: (602) 386-6600

FAX: (602) 386-3300

WASTE DISPOSAL QUESTIONNAIRE

GENERATOR INFORMATION:

REMAT WASTE ID NO.

1. NAME: Sears Roebuck & Company Store # 1528
2. ADDRESS: 333 Beverly Rd., Dept. 824C, Bldg A2-~~200~~ 160B
3. CITY/STATE/ZIP: Hoffman Estates, IL 60179
4. CONTACT(S): Bernadine Palka 5. PHONE #: (708) 286-8864
6. GENERATOR'S STANDARD INDUSTRIAL CLASS CODE (SIC): 5311
7. FEDERAL/STATE EPA ID No. (If Hazardous): N/A
8. WASTE SITE LOCATION: 9000 Northgate Mall, San Rafael, CA

WASTE INFORMATION:

9. WASTE TYPE (common name by which waste is referred):
Stockpiled Soil Containing Petroleum Hydrocarbons
10. ACCURATE DESCRIPTION OF THE PROCESS WHICH GENERATES THE WASTE:
UST Removal activities
11. CONTAMINATION: Gasoline Diesel Fuel Jet Fuel Fuel Oil
 Waste Oil Other _____
12. Is the waste hazardous under FEDERAL REGULATIONS? YES NO
If yes, is the waste LISTED or CHARACTERISTIC?
N/A
What is the EPA HAZARDOUS WASTE NUMBER? _____
13. Is the waste hazardous under STATE REGULATIONS? YES NO If yes,
EXPLAIN: _____

(INITIAL PAGE)

BP

14. Is the waste regulated under the FEDERAL TOXIC SUBSTANCES CONTROL ACT (TUSCA)? () YES (X) NO
15. What is the physical state of the waste at room temperature?
 (X) SOLID () SEMISOLID (sludge) () LIQUID
16. What will be the minimum percent of solids of the waste? 70 (%)
17. Is the waste (X) HOMOGENEOUS or () STRATIFIED?
18. Will the waste contain any free standing liquids? () YES () NO
19. Is there any debris (i.e., WOOD, CONCRETE, BRICK, STEEL, PIPE, etc.) in the waste? () YES (X) NO If yes, what is the percentage? _____ (%)

DESCRIPTION: _____

20. Will the waste be disposed of in (X) BULK () DRUMS () OTHER? _____
21. Is the disposal of the waste () ONGOING or a (X) ONE-TIME clean-up?
22. What is the approximate volume of waste to be disposed? two (2)
 () TONS (X) YARDS () DRUMS per () DAY () WEEK () MONTH () YEAR
23. What volume of waste is currently stockpiled, if any? 2 yards
24. What is the maximum volume of waste which will be disposed in any one day? (Specify TONS, YARDS, DRUMS, etc.) 2 yards

TRANSPORTER INFORMATION:

25. NAME: Southwest Soil Remediation, Inc.
26. ADDRESS: 3951 E. Columbia Street
27. CITY/STATE/ZIP: Tucson, AZ
28. CONTACT(S): Bob Bonnert 29. PHONE NO.: (602) 571-7174
30. FEDERAL/STATE EPA ID. NO. (if applicable): 86066729

LABORATORY INFORMATION:

31. NAME: GTEL Environmental Laboratories
32. CONTACT(S): Don Rensner 33. PHONE NO.: 800-633-7936
34. Is the laboratory certified by the (X) STATE or () EPA? (X) YES () NO.
35. Please attach a recent (within six months) copy of the analysis conducted from a representative sample of the waste in question.

CERTIFICATION:

I, THE UNDERSIGNED, UNDER PENALTY OF LAW, DO HEREBY CERTIFY THAT ALL THE INFORMATION ON THIS FORM (INCLUDING ATTACHED DOCUMENTATION AND ANALYTICAL DATA) IS COMPLETE AND FACTUAL AND IS AN ACCURATE REPRESENTATION OF THE WASTE TO BE DISPOSED.

NAME: Bernadine Palka (Print or Type) Bernadine Palka (Signature)

TITLE: Manager Environmental Engineering DATE: 31 May 95

15228 (9)
 11P



830 N. Miller Road
Buickaya, AZ 85326

Phone 602-386-6600
FAX 602-386-3300

ENVIRONMENTAL SERVICES • SOIL REMEDIATION • RECYCLED PRODUCTS

GENERATOR CERTIFICATIONS

NON-HAZARDOUS CERTIFICATION

I, the undersigned, under penalty of the law, do hereby certify that the waste material, from the location below, submitted for acceptance to REMAT is not a "RCRA" listed hazardous waste as defined in 40 CFR 261 and does not exhibit any of the characteristics of a hazardous waste as defined in 40 CFR 261 of the Toxicity Characteristic Revision Rules as specified in the March 29, 1990, Federal Register; and that I am authorized to execute this document on behalf of:

GENERATOR: Sears Roebuck & Company STORE # 1528

LOCATION: 9000 Northgate Mall, San Rafael, CA

SIGNATURE: Bernadine A Palka TITLE: Manager Envir. Engineering

NAME (Please Print) Bernadine Palka DATE: 31 May 95

HERBICIDE/PESTICIDE/PCB CERTIFICATION

I, the undersigned, under penalty of law, do hereby certify that the waste material, from the location below, submitted for acceptance to REMAT does not contain herbicides or pesticides at a concentration which would render it hazardous as defined in "RCRA" 40 CFR 261, and does not contain polychlorinated biphenyls at a level greater than 50 ppm as defined by 40 CFR 261; and that I am authorized to execute this document on behalf of:

GENERATOR: Sears Roebuck & Company STORE # 1528

LOCATION: 9000 Northgate Mall, San Rafael, CA

SIGNATURE: Bernadine A Palka TITLE: Manager Envir. Engineering

NAME (Please Print) Bernadine Palka DATE: 31 May 95

1528(9)
BPP



830 N. Miller Road
Buckeye, AZ 85326

Phone 602-386-6000
FAX 602-386-3300

ENVIRONMENTAL SERVICES • SOIL REMEDIATION • RECYCLED PRODUCTS

GENERATOR CERTIFICATIONS

U.S.T. EXEMPTION CERTIFICATION

I, the undersigned, under penalty of law, do hereby certify that the waste material (soil), from the location below, was contaminated by a petroleum fuel source regulated under the Federal Underground Storage Tank Rules, 40 CFR part 280; and that I am authorized to execute this document on behalf of:

GENERATOR: Sears Roebuck & Company STORE # 1528

LOCATION: 9000 Northgate Mall, San Rafael, CA

SIGNATURE: Bernadine A Palka TITLE: Manager Envir. Engineering

NAME (Please Print) Bernadine Palka DATE: 31 May 95

PETROLEUM CONSTITUENT CERTIFICATION

In lieu of submitting analytical data verifying that the above soil in question does not contain constituents other than those which would normally appear in an analysis of un-used petroleum products, I submit and certify that I am familiar with the source of contamination of the soil and further certify that the source contains no contaminants other than what is listed below:

Soil Contaminants Gasoline

GENERATOR: Sears Roebuck & Company STORE # 1528

SIGNATURE: Bernadine A Palka TITLE: Manager Envir. Engineering

NAME (Please Print) Bernadine Palka DATE: 31 May 95

BoP
152869

REMAT

830 North Miller Road
Buckeye, Arizona 85326

Phone: (602) 386-6600

FAX: (602) 386-3300

WASTE DISPOSAL QUESTIONNAIRE

GENERATOR INFORMATION:

REMAT WASTE ID NO. _____

1. NAME: Sears Roebuck & Company Store #1528
2. ADDRESS: 333 Beverly Rd., Dept. 824C, Bldg A2-~~200~~ 160B
3. CITY/STATE/ZIP: Hoffman Estates, IL 60179
4. CONTACT(S): Bernadine Palka 5. PHONE # (708) 286-8864
6. GENERATOR'S STANDARD INDUSTRIAL CLASS CODE (SIC): 5311
7. FEDERAL/STATE EPA ID No. (If Hazardous): N/A
8. WASTE SITE LOCATION: 9000 Northgate Mall, San Rafael, CA

WASTE INFORMATION:

9. WASTE TYPE (COMMON name by which waste is referred):
Stockpiled soil containing petroleum hydrocarbons
10. ACCURATE DESCRIPTION OF THE PROCESS WHICH GENERATES THE WASTE:
UST Removal activities
11. CONTAMINATION: () Gasoline! () Diesel Fuel! () Jet Fuel! () Fuel Oil # _____
(X) Waste Oil (X) Other Used Oil _____
12. Is the waste hazardous under FEDERAL REGULATIONS? () YES (X) NO
If yes, is the waste () LISTED or () CHARACTERISTIC?
What is the EPA HAZARDOUS WASTE NUMBER? N/A
13. Is the waste hazardous under STATE REGULATIONS? () YES (X) NO If yes,
EXPLAIN: _____

(INITIAL PAGE)

14. Is the waste regulated under the FEDERAL TOXIC SUBSTANCES CONTROL ACT (TOSCA)? () YES (X) NO
15. What is the physical state of the waste at room temperature?
 (X) SOLID () SEMISOLID (sludge) () LIQUID
16. What will be the minimum percent of solids of the waste? 70 (%)
17. Is the waste (X) HOMOGENEOUS or () STRATIFIED?
18. Will the waste contain any free standing liquids? () YES () NO
19. Is there any debris (i.e., WOOD, CONCRETE, BRICK, STEEL, PIPE, etc.) in the waste? () YES (X) NO If yes, what is the percentage? _____ (%)

DESCRIPTION: _____

20. Will the waste be disposed of in (X) BULK () DRUMS () OTHER? _____
21. Is the disposal of the waste () ONGOING or a (X) ONE-TIME clean-up?
22. What is the approximate volume of waste to be disposed? thirty-two (32)
 () TONS (X) YARDS () DRUMS per () DAY () WEEK () MONTH () YR
23. What volume of waste is currently stockpiled, if any? 32 yards
24. What is the maximum volume of waste which will be disposed in any one day? (Specify TONS, YARDS, DRUMS, etc.) _____

TRANSPORTER INFORMATION:

25. NAME: Southwest Soil Remediation, Inc.
26. ADDRESS: 3951 E. Columbia Street
27. CITY/STATE/ZIP: Tucson, AZ
28. CONTACT(S): Bob Bonnert
29. PHONE NO. (602) 571-7174
30. FEDERAL/STATE EPA ID. NO. (If Applicable): 86066729

LABORATORY INFORMATION:

31. NAME: GTEL Environmental Laboratories
32. CONTACT(S): Don Rensner
33. PHONE NO. 800-633-7936
34. Is the laboratory certified by the (X) STATE or () EPA? (X) YES () NO.
35. Please attach a recent (within six months) copy of the analysis conducted from a representative sample of the waste in question.

CERTIFICATION:

I, THE UNDERSIGNED, UNDER PENALTY OF LAW, DO HEREBY CERTIFY THAT ALL THE INFORMATION ON THIS FORM (INCLUDING ATTACHED DOCUMENTATION AND ANALYTICAL DATA) IS COMPLETE AND FACTUAL AND IS AN ACCURATE REPRESENTATION OF THE WASTE TO BE DISPOSED.

NAME: Bernadine Palka
 (Print or Type)

TITLE: Manager Environmental Engineering

Bernadine A Palka
 (Signature)

DATE: 31 May 95

15286



830 N. Miller Road
Buckeye, AZ 85326

Phone 602-386-6600
FAX 602-386-3300

ENVIRONMENTAL SERVICES • SOIL REMEDIATION • RECYCLED PRODUCTS

GENERATOR CERTIFICATIONS

NON-HAZARDOUS CERTIFICATION

I, the undersigned, under penalty of the law, do hereby certify that the waste material, from the location below, submitted for acceptance to REMAT is not a "RCRA" listed hazardous waste as defined in 40 CFR 261 and does not exhibit any of the characteristics of a hazardous waste as defined in 40 CFR 261 of the Toxicity Characteristic Revision Rules as specified in the March 29, 1990, Federal Register; and that I am authorized to execute this document on behalf of:

GENERATOR: Sears Roebuck & Company STORE # 1528

LOCATION: 9000 Northgate Mall, San Rafael, CA

SIGNATURE: Bernadine A Palka TITLE: Manager Envir. Engineering

NAME (Please Print) Bernadine Palka DATE: 31 May 95

HERBICIDE/PESTICIDE/PCB CERTIFICATION

I, the undersigned, under penalty of law, do hereby certify that the waste material, from the location below, submitted for acceptance to REMAT does not contain herbicides or pesticides at a concentration which would render it hazardous as defined in "RCRA" 40 CFR 261, and does not contain polychlorinated biphenyls at a level greater than 50 ppm as defined by 40 CFR 261; and that I am authorized to execute this document on behalf of:

GENERATOR: Sears Roebuck & Company STORE # 1528

LOCATION: 9000 Northgate Mall, San Rafael, CA

SIGNATURE: Bernadine A Palka TITLE: Manager Envir. Engineering

NAME (Please Print) Bernadine Palka DATE: 31 May 95

1528(6)



830 N. Miller Road
Buckeye, AZ 85326

Phone 602-386-6500
FAX 602-386-3300

ENVIRONMENTAL SERVICES • SOIL REMEDIATION • RECYCLED PRODUCTS

GENERATOR CERTIFICATIONS

U.S.T. EXEMPTION CERTIFICATION

I, the undersigned, under penalty of law, do hereby certify that the waste material (soil), from the location below, was contaminated by a petroleum fuel source regulated under the Federal Underground Storage Tank Rules, 40 CFR part 280; and that I am authorized to execute this document on behalf of:

GENERATOR: Sears Roebuck & Company STORE #1528
LOCATION: 9000 Northgate Mall, San Rafael, CA
SIGNATURE: Bernadine A Palka TITLE: Manager Envir. Engineering
NAME (Please Print) Bernadine Palka DATE: 31 May 95

PETROLEUM CONSTITUENT CERTIFICATION

In lieu of submitting analytical data verifying that the above soil in question does not contain constituents other than those which would normally appear in an analysis of un-used petroleum products, I submit and certify that I am familiar with the source of contamination of the soil and further certify that the source contains no contaminants other than what is listed below:

Soil Contaminants used oil/virgin oil

GENERATOR: Sears Roebuck & Company STORE # 1528
SIGNATURE: Bernadine A Palka TITLE: Manager Envir. Engineering
NAME (Please Print) Bernadine Palka DATE: 31 May 95

1528(6)



Western Region
4080 Pike Lane, Suite C
Concord, CA 94520
(510) 685-7852
(800) 544-3422 Inside CA
FAX (510) 825-0720

Client Number: 020200025
Project ID: Sears 1528
9000 Northgate
San Rafael
Work Order Number: CA-12-0018

December 13, 1994

Eileen Brennan
Groundwater Technology, Inc.
275 South Temple, Suite 321
Salt Lake City, UT 84111

Enclosed please find the analytical results for samples received by GTEL Environmental Laboratories, Inc. on 12/01/94, under chain of custody record 33582.

A formal Quality Assurance/Quality Control (QA/QC) program is maintained by GTEL, which is designed to meet or exceed the EPA requirements. Analytical work for this project met QA/QC criteria, unless otherwise stated in the footnotes. This report is to be reproduced only in full.

GTEL is certified by the California State Department of Health Services, Laboratory certification number E1075, to perform analyses for drinking water, wastewater, and hazardous waste materials according to EPA protocols.

If you have any questions concerning this analysis or if we can be of further assistance, please call our Customer Service Representative.

Sincerely,
GTEL Environmental Laboratories, Inc.

Rashmi Shah
for
Rashmi Shah
Laboratory Director

NO - waste oil samples
NO - gasoline samples

1528 (9)
BOP

Client Number: 020200025
 Project ID: Sears 1526
 9000 Northgate
 San Rafael, CA
 Work Order Number: C4-11-0454

ANALYTICAL RESULTS

Total Petroleum Hydrocarbons in Soil by Infrared Spectrometry¹

EPA 3550 (Mod.)/EPA 418.1 (SM 5520 FC)²

GTEL Sample Number		08	09	10	11
Client Identification		WO-1/2	WO-C	WO-2/4	NO-1/2
Date Sampled		11/30/94	11/30/94	11/30/94	11/30/94
Date Prepared		12/01/94	12/01/94	12/01/94	12/01/94
Date Analyzed		12/01/94	12/01/94	12/01/94	12/01/94
Analyte	Detection Limit, mg/Kg	Concentration, mg/Kg			
Total Petroleum Hydrocarbons	5	7	110	18	<5
Detection Limit Multiplier		1	2.5	1	1

- The sample is sonication extracted using a modification of EPA 3550. The extract is analyzed, as in EPA 418.1 (SM 5520 CF), to yield results reported as Total Petroleum Hydrocarbons. Results are reported on a wet weight basis.
- Standard Methods for the Examination of Water and Wastewater, 17th ed., American Public Health Association, 1989.

1528(9)
BDF

Client Number: 020200025
 Project ID: Sears 152B
 9000 Northgate
 San Rafael, CA
 Work Order Number: CA-11-0454

ANALYTICAL RESULTS

Total Petroleum Hydrocarbons in Soil
by Infrared Spectrometry¹EPA 3550 (Mod.)/EPA 418.1 (SM 5520 FC)²

GTEL Sample Number	12	13	14	120194 TPH
Client Identification	NO-2/4	NO-C	NO-3/5	METHOD BLANK
Date Sampled	11/30/94	11/30/94	11/30/94	--
Date Prepared	12/01/94	12/01/94	12/01/94	12/01/94
Date Analyzed	12/01/94	12/01/94	12/01/94	12/01/94
Analyte	Detection Limit, mg/Kg	Concentration, mg/Kg		
Total Petroleum Hydrocarbons	5	11	26	<5
Detection Limit Multiplier		1	1	1

- The sample is sonication extracted using a modification of EPA 3550. The extract is analyzed, as in EPA 418.1 (SM 5520 CF), to yield results reported as Total Petroleum Hydrocarbons. Results are reported on a wet weight basis.
- Standard Methods for the Examination of Water and Wastewater, 17th ed., American Public Health Association, 1989.

1528(F)
BOP

Client Number: 020200025
 Project ID: Sears 1528
 9000 Northgate
 San Rafael, CA
 Work Order Number: C4-11-0454

ANALYTICAL RESULTS

TPH as Diesel in Soil

Method: Modified EPA 8015a

GTEL Sample Number		08	09	10	11
Client Identification		WO-1/2	WO-C	WO-2/4	NO-1/2
Date Sampled		11/30/94	11/30/94	11/30/94	11/30/94
Date Extracted		12/02/94	12/02/94	12/02/94	12/02/94
Date Analyzed		12/02/94	12/02/94	12/03/94	12/03/94
Analyte	Detection Limit, mg/Kg	Concentration, mg/Kg			
TPH as diesel	10	<10	<10	<10	<10
Detection Limit Multiplier		1	1	1	1
OTP surrogate, % recovery		74.5	91.5	76.4	92.4

GTEL Sample Number		12	13	14	GCI 120294
Client Identification		NO-2/4	NO/C	NO-3/5	METHOD BLANK
Date Sampled		11/30/94	11/30/94	11/30/94	—
Date Extracted		12/02/94	12/02/94	12/02/94	12/02/94
Date Analyzed		12/02/94	12/02/94	12/03/94	12/02/94
Analyte	Detection Limit, mg/Kg	Concentration, mg/Kg			
TPH as diesel	10	<10	<10	<10	<10
Detection Limit Multiplier		1	1	1	1
OTP surrogate, % recovery		93.3	67.5	74.0	106

1. O-Terphenyl surrogate recovery acceptability limits are 50-150% Test Methods for Evaluating Solid Waste, SW-846, 3rd edition, Rev. 0, U.S. EPA, November, 1986.

15225(9)
 BOP

GTEL Client ID: 020200025 ANALYTICAL RESULTS
 Login Number: C4110454
 Project ID (number): 020200025
 Project ID (name): Sears/#1528/9000 Northgate Mall, San Rafael

Volatile Organics
 Method: EPA 8015
 Matrix: Solids

GTEL Sample Number	C4110454-08	C4110454-09	C4110454-10	C4110454-11
Client ID	40-172	40-3	40-2	40-172
Date Sampled	11/30/94	11/30/94	11/30/94	11/30/94
Date Analyzed	11/30/94	11/30/94	11/30/94	11/30/94
Dilution Factor	1.00	1.00	1.00	1.00

Analyte	Reporting Limit	Units	Concentration:Wet Weight			
TPH as Gasoline	1.0	mg/kg	< 1.0	< 1.0	< 1.0	< 1.0
BFB (surrogate)	--	%	88.9	87.9	93.3	82.3

Notes:

Dilution Factor:

Dilution factor indicates the adjustments made for sample dilution.

EPA 8015:

"Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", SW-846, Third Edition including promulgated Update 1. Modification for TPH as gasoline as per California State Water Resources Board LUFT Manual protocols, May 1988 revision. Acceptability limits for recovery in the Bromofluorobenzene (BFB) surrogate is 60-119%.

GTEL Concord, CA
 C4110454:1

1528(7)
 RSP



GTEL Client ID: 020200025
 Login Number: C4110454
 Project ID (number): 020200025
 Project ID (name): Sears/#1528/9000 Northgate Mall, San Rafael

ANALYTICAL RESULTS

Volatile Organics
 Method: EPA 8015
 Matrix: Solids

GTEL Sample Number	C4110454-12	C4110454-13	C4110454-14
Client ID	020200025	020200025	020200025
Date Sampled	11/30/94	11/30/94	11/30/94
Date Analyzed	12/01/94	12/01/94	12/01/94
Dilution Factor	1.00	1.00	1.00

Analyte	Reporting		Concentration:Wet Weight		
	Limit	Units			
TPH as Gasoline	1.0	mg/Kg	< 1.0	< 1.0	< 1.0
BFB (surrogate)	--	%	85.0	90.6	87.9

Notes:
 Dilution Factor:
 Dilution factor indicates the adjustments made for sample dilution.

EPA 8015:
 "Test Methods for Evaluating Solid Waste. Physical/Chemical Methods". SW-646. Third Edition including promulgated Update 1. Modification for TPH as gasoline as per California State Water Resources Board LUFT Manual protocols. May 1988 revision. Acceptability limits for recovery in the Bromofluorobenzene (BFB) surrogate is 60-119%.

1528(9)
 BFB

GTEL Concord, CA
 C4110454:2



Client Number: 020200025
Project ID: Sears #1528
Northgate Mall San Rafael
Work Order Number: CA-12-0011



Northwest Region
4080-C Pike Lane
Concord, CA 94520
(510) 685-7852
(800) 544-3422 from inside California
(800) 423-7143 from outside California
(510) 825-0720 (FAX)

December 13, 1994

Eileen Brennan
Groundwater Technology, Inc.
275 South Temple, Suite 321
Salt Lake City, UT 84111

Enclosed please find the analytical results for samples received by GTEL Environmental Laboratories, Inc. on 12/01/94, under chain of custody record 33111 and 33113.

A formal Quality Assurance/Quality Control (QA/QC) program is maintained by GTEL, which is designed to meet or exceed the EPA requirements. Analytical work for this project met QA/QC criteria, unless otherwise stated in the footnotes. This report is to be reproduced only in full.

GTEL is certified by the California State Department of Health Services, Laboratory certification number E1075, to perform analyses for drinking water, wastewater, and hazardous waste materials according to EPA protocols.

If you have any questions concerning this analysis or if we can be of further assistance, please call our Customer Service Representative.

Sincerely,
GTEL Environmental Laboratories, Inc.

Rashmi Shah
Laboratory Director

1528 (9)
BOP

Client Number: 020200025
 Project ID: Sears #1528
 Northgate Mall San Rafael
 Work Order Number: C4-12-0011

ANALYTICAL RESULTS

Volatile Organics in Soil

EPA Method 8240A^a

GTEL Sample Number		08	09	10	11
Client Identification		WO-1/2	WO-C	WO-2/4	NO-1/2
Date Sampled		11/30/94	11/30/94	11/30/94	11/30/94
Date Analyzed		12/05/94	12/05/94	12/05/94	12/06/94
Analyte	Detection Limit, ug/Kg	Concentration, ug/Kg			
Chloromethane	10	<10	<10	<10	<10
Bromomethane	10	<10	<10	<10	<10
Vinyl chloride	10	<10	<10	<10	<10
Chloroethane	10	<10	<10	<10	<10
Methylene chloride	5	<5	<5	<5	<5
Acetone	50	<50	<50	<50	<50
Carbon disulfide	5	<5	<5	<5	<5
1,1-Dichloroethene	5	<5	<5	<5	<5
1,1-Dichloroethane	5	<5	<5	<5	<5
1,2-Dichloroethene, total	5	<5	<5	<5	<5
Chloroform	5	<5	<5	<5	<5
1,2-Dichloroethane	5	<5	<5	<5	<5
2-Butanone	20	<20	<20	<20	<20
1,1,1-Trichloroethane	5	<5	<5	<5	<5
Carbon tetrachloride	5	<5	<5	<5	<5
Vinyl acetate	50	<50	<50	<50	<50
Bromodichloromethane	5	<5	<5	<5	<5
1,2-Dichloropropane	5	<5	<5	<5	<5
cis-1,3-Dichloropropene	5	<5	<5	<5	<5
Trichloroethene	5	<5	<5	<5	<5
Dibromochloromethane	5	<5	<5	<5	<5
1,1,2-Trichloroethane	5	<5	<5	<5	<5
Benzene	5	<5	<5	<5	<5

a. Test Methods for Evaluating Solid Waste, SW-846, Third Edition, including Update 1, US EPA July 1992 (method modified for additional compounds). Results reported on a wet weight basis.

1528(5)
BDF

Client Number: 020200025
 Project ID: Sears # 1528
 Northgate Mall San Rafael
 Work Order Number: C4-12-0011

ANALYTICAL RESULTS

Volatile Organics in Soil

EPA Method 8240A^a

GTEL Sample Number		08	09	10	11
Client Identification		WO-1/2	WO-C	WO-2/4	NO-1/2
Date Sampled		11/30/94	11/30/94	11/30/94	11/30/94
Date Analyzed		12/05/94	12/05/94	12/05/94	12/06/94
Analyte	Detection Limit, ug/Kg	Concentration, ug/Kg			
trans-1,3-Dichloropropene	5	<5	<5	<5	<5
2-Chloroethylvinyl ether	10	<10	<10	<10	<10
Bromoform	5	<5	<5	<5	<5
4-Methyl-2-pentanone	20	<20	<20	<20	<20
2-Hexanone	20	<20	<20	<20	<20
Tetrachloroethene	5	<5	<5	<5	<5
1,1,2,2-Tetrachloroethane	5	<5	<5	<5	<5
Toluene	5	<5	<5	<5	<5
Chlorobenzene	5	<5	<5	<5	<5
Ethylbenzene	5	<5	<5	<5	<5
Styrene	5	<5	<5	<5	<5
1,2-Dichlorobenzene	10	<10	<10	<10	<10
1,3-Dichlorobenzene	10	<10	<10	<10	<10
1,4-Dichlorobenzene	10	<10	<10	<10	<10
Xylene, total	10	<10	<10	<10	<10
Trichlorofluoromethane	5	<5	<5	<5	<5
Detection Limit Multiplier		1	1	1	1
DCE surrogate, % recovery		92.5	95.8	98.1	95.9
TOL surrogate, % recovery		101	110	107	110
BFB surrogate, % recovery		106	98.9	101	92.4

a. Test Methods for Evaluating Solid Waste, SW-846, Third Edition, including Update 1, US EPA July 1992 (method modified for additional compounds). Results reported on a wet weight basis.

1528(5)
BOP

Client Number: 020200025
 Project ID: Seare #1528
 Northgate Mall San Rafael
 Work Order Number: C4-12-0011

ANALYTICAL RESULTS

Volatile Organics in Soil

EPA Method 8240A^a

GTEL Sample Number		12	13	14	120594 MSC
Client Identification		NO-2/4	NO/C	NO-3/5	METHOD BLANK
Date Sampled		11/30/94	11/30/94	11/30/94	-
Date Analyzed		12/06/94	12/06/94	12/05/94	12/05/94
Analyte	Detection Limit, ug/Kg	Concentration, ug/Kg			
Chloromethane	10	<10	<10	<10	<10
Bromomethane	10	<10	<10	<10	<10
Vinyl chloride	10	<10	<10	<10	<10
Chloroethane	10	<10	<10	<10	<10
Methylene chloride	5	<5	<5	<5	<5
Acetone	50	<50	<50	<50	<50
Carbon disulfide	5	<5	<5	<5	<5
1,1-Dichloroethane	5	<5	<5	<5	<5
1,1-Dichloroethane	5	<5	<5	<5	<5
1,2-Dichloroethane, total	5	<5	<5	<5	<5
Chloroform	5	<5	<5	<5	<5
1,2-Dichloroethane	5	<5	<5	<5	<5
2-Butanone	20	<20	<20	<20	<20
1,1,1-Trichloroethane	5	<5	<5	<5	<5
Carbon tetrachloride	5	<5	<5	<5	<5
Vinyl acetate	50	<50	<50	<50	<50
Bromodichloromethane	5	<5	<5	<5	<5
1,2-Dichloropropane	5	<5	<5	<5	<5
cis-1,3-Dichloropropene	5	<5	<5	<5	<5
Trichloroethene	5	<5	<5	<5	<5
Dibromochloromethane	5	<5	<5	<5	<5
1,1,2-Trichloroethane	5	<5	<5	<5	<5
Benzene	5	<5	<5	<5	<5

^a Test Methods for Evaluating Solid Waste, SW-846, Third Edition, including Update 1, US EPA July 1992 (method modified for additional compounds). Results reported on a wet weight basis.

1528 (5)
BOP

Client Number: 020200025
 Project ID: Sears #1528
 Northgate Mall San Rafael
 Work Order Number: C4-12-0011

ANALYTICAL RESULTS

Volatile Organics in Soil

EPA Method 8240A^a

GTEL Sample Number	12	13	14	120594 MSC	
Client Identification	NO-2/4	NO/C	NO-3/5	METHOD BLANK	
Date Sampled	11/30/94	11/30/94	11/30/94	-	
Date Analyzed	12/06/94	12/06/94	12/05/94	12/05/94	
Analyte	Detection Limit, ug/Kg	Concentration, ug/Kg			
trans-1,3-Dichloropropene	5	<5	<5	<5	<5
2-Chloroethylvinyl ether	10	<10	<10	<10	<10
Bromoform	5	<5	<5	<5	<5
4-Methyl-2-pentanone	20	<20	<20	<20	<20
2-Hexanone	20	<20	<20	<20	<20
Tetrachloroethene	5	<5	<5	<5	<5
1,1,2,2-Tetrachloroethane	5	<5	<5	<5	<5
Toluene	5	<5	<5	<5	<5
Chlorobenzene	5	<5	<5	<5	<5
Ethylbenzene	5	<5	<5	<5	<5
Styrene	5	<5	<5	<5	<5
1,2-Dichlorobenzene	10	<10	<10	<10	<10
1,3-Dichlorobenzene	10	<10	<10	<10	<10
1,4-Dichlorobenzene	10	<10	<10	<10	<10
Xylene, total	10	<10	<10	<10	<10
Trichlorofluoromethane	5	<5	<5	<5	<5
Detection Limit Multiplier	1	1	1	1	1
DCE surrogate, % recovery	101	103	94.7	94.6	
TOL surrogate, % recovery	115	92.1	112	101	
BFB surrogate, % recovery	96.9	95.6	102	102	

a. Test Methods for Evaluating Solid Waste, SW-846, Third Edition, including Update 1, US EPA July 1992 (method modified for additional compounds). Results reported on a wet weight basis.

15328(9)
BOP?

Client Number: 02020025
 Project ID: Sears #1528
 Northgate Mall San Rafael
 Work Order Number: C4-12-0011

ANALYTICAL RESULTS

Volatile Organics in Soil

EPA Method 8240A^a

GTEL Sample Number		120694 MSC			
Client Identification		METHOD BLANK			
Date Sampled		--			
Date Analyzed		12/06/94			
Analyte	Detection Limit, ug/Kg	Concentration, ug/Kg			
Chloromethane	10	<10			
Bromomethane	10	<10			
Vinyl chloride	10	<10			
Chloroethane	10	<10			
Methylene chloride	5	<5			
Acetone	50	<50			
Carbon disulfide	5	<5			
1,1-Dichloroethene	5	<5			
1,1-Dichloroethane	5	<5			
1,2-Dichloroethene, total	5	<5			
Chloroform	5	<5			
1,2-Dichloroethane	5	<5			
2-Butanone	20	<20			
1,1,1-Trichloroethane	5	<5			
Carbon tetrachloride	5	<5			
Vinyl acetate	50	<50			
Bromodichloromethane	5	<5			
1,2-Dichloropropane	5	<5			
cis-1,3-Dichloropropene	5	<5			
Trichloroethene	5	<5			
Dibromochloromethane	5	<5			
1,1,2-Trichloroethane	5	<5			
Benzene	5	<5			

a. Test Methods for Evaluating Solid Waste, SW-846, Third Edition, including Update 1, US EPA July 1992 (method modified for additional compounds). Results reported on a wet weight basis.

15328(5)
1328

Client Number: 020200025
 Project ID: Sears # 1528
 Northgate Mall San Rafael
 Work Order Number: C4-12-0011

ANALYTICAL RESULTS

Volatile Organics in Soil

EPA Method 8240Aa

GTEL Sample Number		120694 MSC		
Client Identification		METHOD BLANK		
Date Sampled		-		
Date Analyzed		12/06/94		
Analyte	Detection Limit, ug/Kg	Concentration, ug/Kg		
trans-1,3-Dichloropropene	5	<5		
2-Chloroethylvinyl ether	10	<10		
Bromoform	5	<5		
4-Methyl-2-pentanone	20	<20		
2-Hexanone	20	<20		
Tetrachloroethene	5	<5		
1,1,2,2-Tetrachloroethane	5	<5		
Toluene	5	<5		
Chlorobenzene	5	<5		
Ethylbenzene	5	<5		
Styrene	5	<5		
1,2-Dichlorobenzene	10	<10		
1,3-Dichlorobenzene	10	<10		
1,4-Dichlorobenzene	10	<10		
Xylene, total	10	<10		
Trichlorofluoromethane	5	<5		
Detection Limit Multiplier		1		
DCE surrogate, % recovery		105		
TOL surrogate, % recovery		113		
BFB surrogate, % recovery		96.2		

a. Test Methods for Evaluating Solid Waste, SW-846, Third Edition, including Update 1, US EPA July 1992 (method modified for additional compounds). Results reported on a wet weight basis

1528(9)
BDF

Client Number: 020200025
 Project ID: Sears #1528
 Northgate Mall San Rafael
 Work Order Number: C4-12-0011

ANALYTICAL RESULTS

CAM List of Metals in Soil (TTLG)_B

GTEL Sample Number			08	09	10	11
Client Identification			WO-1/2	WC-C	WO-2/4	NO-1/2
Date Sampled			11/30/94	11/30/94	11/30/94	11/30/94
Date Prepared (Method 3055 ^b)			12/07/94	12/07/94	12/07/94	12/07/94
Date Analyzed (Method 6010)			12/08/94	12/08/94	12/08/94	12/08/94
Date Analyzed (Method 7060)			12/08/94	12/08/94	12/08/94	12/08/94
Date Prepared and Analyzed (Method 7470)			12/07/94	12/07/94	12/07/94	12/07/94
Analyte	EPA Method ^a	Detection Limit, mg/Kg	Concentration, mg/Kg			
Antimony	EPA 6010 ^c	5	<5	<5	<5	<5
Arsenic	EPA 7060 ^d	0.5	5.5	6.3	2.5	4.0
Barium	EPA 6010 ^c	1	150	180	55	100
Beryllium	EPA 6010 ^c	0.5	0.6	<0.5	<0.5	<0.5
Cadmium	EPA 6010 ^c	0.5	<0.5	<0.5	<0.5	<0.5
Chromium, total	EPA 6010 ^c	1	30	62	98	92
Cobalt	EPA 6010 ^c	1	9	15	8	19
Copper	EPA 6010 ^c	1	28	27	11	17
Lead	EPA 6010 ^c	5	8	9	<5	6
Mercury	EPA 7470 ^e	0.1	<0.1	<0.1	<0.1	<0.1
Molybdenum	EPA 6010 ^c	1	1	1	<1	<1
Nickel	EPA 6010 ^c	2	41	90	59	100
Selenium	EPA 6010 ^c	5	<5	<5	<5	<5
Silver	EPA 6010 ^c	1	<1	<1	<1	<1
Thallium	EPA 6010 ^d	5	<5	<5	<5	<5
Vanadium	EPA 6010 ^c	1	32	35	22	44
Zinc	EPA 6010 ^c	5	58	56	34	35
Detection Limit Multiplier			1	1	1	1

- a. Test Methods for Evaluating Solid Waste, SW-846, Third Edition, Revision 0, US EPA November 1986. Results reported on a wet weight basis.
- b. Draft EPA method 3055 SW-846 Third Addition Revision 1 Sept. 1991.
- c. Inductively Coupled Argon Plasma (ICP).
- d. Graphite Furnace Atomic Absorption (GFAA).
- e. Cold Vapor Atomic Absorption (CVAA).

1528(5)
BOP

Client Number: 020200025
 Project ID: Sears #1528
 Northgate Mall San Rafael
 Work Order Number: CA-12-0011

ANALYTICAL RESULTS

CAM List of Metals in Soil (TTL)_a

GTEL Sample Number	12	13	14	120794 MET		
Client Identification	NO-2/4	NO/C	NO-3/5	METHOD BLANK		
Date Sampled	11/30/94	11/30/94	11/30/94	-		
Date Prepared (Method 3055 ^b)	12/07/94	12/07/94	12/07/94	12/07/94		
Date Analyzed (Method 6010)	12/08/94	12/08/94	12/08/94	12/08/94		
Date Analyzed (Method 7060)	12/08/94	12/08/94	12/08/94	12/08/94		
Date Prepared and Analyzed (Method 7470)	12/07/94	12/07/94	12/07/94	12/07/94		
Analyte	EPA Method ^a	Detection Limit, mg/Kg	Concentration, mg/Kg			
Antimony	EPA 6010 ^c	5	<5	<5	<5	<5
Arsenic	EPA 7060 ^d	0.5	9.3	6.2	7.5	<0.5
Barium	EPA 6010 ^c	1	130	120	170	<1
Beryllium	EPA 6010 ^c	0.5	<0.5	<0.5	0.6	<0.5
Cadmium	EPA 6010 ^c	0.5	<0.5	<0.5	<0.5	<0.5
Chromium, total	EPA 6010 ^c	1	68	51	210	<1
Cobalt	EPA 6010 ^c	1	16	11	21	<1
Copper	EPA 6010 ^c	1	47	42	35	<1
Lead	EPA 6010 ^c	5	6	6	8	<5
Mercury	EPA 7470 ^e	0.1	0.1	0.1	0.1	<0.1
Molybdenum	EPA 6010 ^c	1	1	<1	1	<1
Nickel	EPA 6010 ^c	2	110	85	180	<2
Selenium	EPA 6010 ^c	5	<5	<5	<5	<5
Silver	EPA 6010 ^c	1	<1	<1	<1	<1
Thallium	EPA 6010 ^c	5	<5	<5	<5	<5
Vanadium	EPA 6010 ^c	1	44	40	46	<1
Zinc	EPA 6010 ^c	5	69	80	70	<5
Detection Limit Multiplier			1	1	1	1

- a. Test Methods for Evaluating Solid Waste, SW-846, Third Edition, Revision 0, US EPA November 1986. Results reported on a wet weight basis.
 b. Draft EPA method 3055 SW-846 Third Addition Revision 1 Sept. 1991.
 c. Inductively Coupled Argon Plasma (ICP).
 d. Graphite Furnace Atomic Absorption (GFAA).
 e. Cold Vapor Atomic Absorption (CVA).

1528(9)
 BOP

15328 (5)

MOTEL
 4070 PIKE LANE, SUITE C
 CONCORD, CA 94530
 (510) 885-7182
 (800) 426-7148

Company Name: **GTI**
 Company Address: **Northgate Mall, San Bruno, CA 94066**
 Project Manager: **Eileen Brennan**
 Client Project ID: **15328**
 Sampler Name: **TEVIN JONES**

Field Sample ID	Matrix	Method Preserved	GTEL Lab # (Lab Use only)	Sampling Date	Time
ATW-1/5	Water	X	01	10:54	10:54
ATW-2/5	Water	X	02	10:59	10:59
BTE 1/5	Water	X	03	11:05	11:05
BTE 2/5	Water	X	04	11:09	11:09
MT-3/5	Water	X	05	11:16	11:16
MT-4/4	Water	X	06	11:27	11:27
MT-5/4	Water	X	07	11:37	11:37
WO-1/2	Water	X	08	12:16	12:16
WO-C	Water	X	09	12:20	12:20
WO-2/4	Water	X	10	12:30	12:30
NO-1/8	Water	X	11	12:30	12:30

REMARKS:
 All samples for BTEX/GAS, GAS & Diesel,
 418.1 - 24 HOUR RUSH. All other analysis
 STD. INT.
 Lab Use Only List: **C412C011**

Post-It™ brand fax transmittal memo 7671 # of pages: **2**

To: **Sherry**
 From: **Eileen**
 Co. **GTI**
 Dept. **12/1**
 Phone # **245**
 Fax #

Special Handling: **Special Handling**
 GTEL Contract: **Special Handling**
 Quick Contract #
 Confirmation #
 P.O. #

Special Reporting Requirements: **FAK Eileen - SLO & AT - San Diego**

Relinquished by Sampler: **GTI**
 Relinquished by: **GTI**
 Relinquished by:

CUSTODY RECORD

Date	Time	Date	Time

APPENDIX B

**SOIL SAMPLING TECHNIQUES - QUALITY ASSURANCE/QUALITY CONTROL,
TPH-G AND BTEX, EPA METHOD 8020, LABORATORY REPORTS**

SOIL SAMPLING TECHNIQUES QUALITY ASSURANCE AND QUALITY CONTROL

To prevent cross contamination between samples, the sampler was washed prior to each sampling using the "three bucket" wash system. This system involves the following steps:

1. washing the split-spoon sampler in a detergent and water solution
2. rinsing the sampler in tap water
3. rinsing the sampler in distilled water

To maintain the integrity of the samples, all samples were collected using the following methods:

1. collected in 6-inch brass sample tubes
2. sealed with foil or Teflon caps
3. wrapped with duct tape
4. properly labeled and listed on completed custody forms
5. placed in plastic bags
6. placed in a cooler and chilled on ice
7. delivered to a State-certified laboratory

All soil samples were refrigerated and stored at the laboratory for 30 days in case subsequent analyses were required.

GTEL Client ID: 020200025
 Login Number: C4110454
 Project ID (number): 020200025
 Project ID (name): Sears/#1528/9000 Northgate Mall, San Rafael

ANALYTICAL RESULTS

Volatile Organics
 Method: EPA 8020
 Matrix: Solids

GTEL Sample Number	C4110454-01	C4110454-02	C4110454-03	C4110454-04
Client ID	ATH-2/3	ATH-2/3	ATH-2/3	ATH-2/3
Date Sampled	11/30/94	11/30/94	11/30/94	11/30/94
Date Analyzed	11/30/94	11/30/94	11/30/94	11/30/94
Dilution Factor	1.00	1.00	1.00	1.00

Analyte	Reporting Limit Units		Concentration:Wet Weight			
	Limit	Units				
Benzene	0.005	mg/kg	< 0.005	< 0.005	< 0.005	< 0.005
Toluene	0.005	mg/kg	< 0.005	< 0.005	< 0.005	< 0.005
Ethylbenzene	0.005	mg/kg	< 0.005	< 0.005	< 0.005	< 0.005
Xylenes (total)	0.015	mg/kg	< 0.015	< 0.015	< 0.015	< 0.015
TPH as GAS	1.0	mg/kg	< 1.0	< 1.0	< 1.0	< 1.0
BFB (Surrogate)	--	%	96.9	86.5	66.2	85.2

Notes:

Dilution Factor:

Dilution factor indicates the adjustments made for sample dilution.

EPA 8020:

"Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", SW-846, Third Edition including promulgated Update 1. Modification for TPH as gasoline as per California State Water Resources Board LUFT Manual protocols, May 1988 revision. Acceptability limits for recovery in the Bromofluorobenzene (BFB) surrogate is 60-119%.

GTel Client ID: 020200025
 Login Number: C4110454
 Project ID (number): 020200025
 Project ID (name): Sears/#1528/9000 Northgate Mall, San Rafael

ANALYTICAL RESULTS

Volatile Organic
 Method: EPA 8021
 Matrix: Solid

GTel Sample Number	C4110454-05	C4110454-06	C4110454-07
Client ID	KT-5/3	KT-5/4	KT-5/4
Date Sampled	11/30/94	11/30/94	11/30/94
Date Analyzed	11/30/94	11/30/94	11/30/94
Dilution Factor	1.00	1.00	1.00

Analyte	Reporting Limit		Concentration:Wet Weight			
	Limit	Units				
Benzene	0.005	mg/kg	< 0.005	< 0.005	< 0.005	
Toluene	0.005	mg/kg	< 0.005	< 0.005	< 0.005	--
Ethyl Benzene	0.005	mg/kg	< 0.005	< 0.005	< 0.005	
Xylenes (total)	0.015	mg/kg	< 0.015	< 0.015	< 0.015	--
TPH as GAS	1.0	mg/kg	< 1.0	< 1.0	< 1.0	
BFB (Surrogate)	--	%	82.6	88.9	66.7	--

Notes:

Dilution Factor:

Dilution factor indicates the adjustments made for sample dilution.

EPA 8020:

"Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", SW-846, Third Edition including promulgated Update 1. Modification for TPH as gasoline as per California State Water Resources Board LUFT Manual protocols, May 1988 revision. Acceptability limits for recovery in the Bromofluorobenzene (BFB) surrogate is 60-119%.

GTEL Client ID: 020200025
 Login Number: C4120017
 Project ID (number): 020200025
 Project ID (name): Sears/1528/9000 Northgate Mall, San Rafael

ANALYTICAL RESULTS

Volatile Organics
 Method: EPA 8020
 Matrix: Solids

GTEL Sample Number	C4120017-01	C4120017-02	C4120017-03	C4120017-04
Client ID	MT 1/3	MT 6/3	TA 1/2	TA 2/2
Date Sampled	12/01/94	12/01/94	12/01/94	12/01/94
Date Analyzed	12/01/94	12/01/94	12/01/94	12/01/94
Dilution Factor	1.00	1.00	1.00	1.00

Analyte	Reporting		Concentration:Wet Weight			
	Limit	Units				
Benzene	0.005	mg/kg	< 0.005	< 0.005	< 0.005	< 0.005
Toluene	0.005	mg/kg	< 0.005	< 0.005	< 0.005	< 0.005
Ethylbenzene	0.005	mg/kg	< 0.005	< 0.005	< 0.005	< 0.005
Xylenes (total)	0.015	mg/kg	< 0.015	< 0.015	< 0.015	< 0.015
TPH as GAS	1.0	mg/kg	< 1.0	< 1.0	< 1.0	< 1.0
BFB (Surrogate)	--	%	89.3	89.0	84.9	91.0

Notes:

Dilution Factor:

Dilution factor indicates the adjustments made for sample dilution.

EPA 8020:

"Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", SW-846, Third Edition including promulgated Update 1. Modification for TPH as gasoline as per California State Water Resources Board LUFT Manual protocols, May 1988 revision. Acceptability limits for recovery in the Bromofluorobenzene (BFB) surrogate is 60-119%.

GTEL Concord, CA
 C4120017:1



GTEL Client ID: 020200025
 Login Number: C4120017
 Project ID (number): 020200025
 Project ID (name): Sears/1528/9000 Northgate Mall, San Rafael

ANALYTICAL RESULTS

Volatile Organics
 Method: EPA 8020
 Matrix: Solids

GTEL Sample Number	C4120017-05	C4120017-06	C4120017-07	C4120017-08
Client ID	IB 1/2	IB 2/2	BTE 1/3	BTE 2/3
Date Sampled	12/01/94	12/01/94	12/01/94	12/01/94
Date Analyzed	12/01/94	12/01/94	12/01/94	12/01/94
Dilution Factor	1.00	1.00	1.00	1.00

Analyte	Reporting		Concentration:Wet Weight			
	Limit	Units				
Benzene	0.005	mg/kg	< 0.005	< 0.005	< 0.005	< 0.005
Toluene	0.005	mg/kg	< 0.005	< 0.005	< 0.005	< 0.005
Ethylbenzene	0.005	mg/kg	< 0.005	< 0.005	< 0.005	< 0.005
Xylenes (total)	0.015	mg/kg	< 0.015	< 0.015	< 0.015	< 0.015
TPH as GAS	1.0	mg/kg	< 1.0	< 1.0	< 1.0	< 1.0
BFB (Surrogate)	--	%	72.1	62.9	82.4	83.2

Notes:

Dilution Factor:

Dilution factor indicates the adjustments made for sample dilution.

EPA 8020:

"Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", SW-846, Third Edition including promulgated Update 1. Modification for TPH as gasoline as per California State Water Resources Board LUFT Manual protocols, May 1988 revision. Acceptability limits for recovery in the Bromofluorobenzene (BFB) surrogate is 60-119%.

GTEL Concord, CA
 C4120017:2



GTEL Client ID: 020200025
 Login Number: C4120017
 Project ID (number): 020200025
 Project ID (name): Sears/1528/9000 Northgate Mall, San Rafael

ANALYTICAL RESULTS

Volatile Organics
 Method: EPA 8020
 Matrix: Solids

GTEL Sample Number	C4120017-09	C4120017-10	--	--
Client ID	ATE 1/3	ATE 2/4	--	--
Date Sampled	12/01/94	12/01/94	--	--
Date Analyzed	12/02/94	12/01/94	--	--
Dilution Factor	1.00	1.00	--	--

Analyte	Reporting		Concentration:Wet Weight		
	Limit	Units			
Benzene	0.005	mg/kg	< 0.005	< 0.005	--
Toluene	0.005	mg/kg	< 0.005	< 0.005	--
Ethylbenzene	0.005	mg/kg	< 0.005	< 0.005	--
Xylenes (total)	0.015	mg/kg	< 0.015	< 0.015	--
TPH as GAS	1.0	mg/kg	< 1.0	< 1.0	--
BFB (Surrogate)	--	%	90.5	84.1	--

Notes:

Dilution Factor:

Dilution factor indicates the adjustments made for sample dilution.

EPA 8020:

"Test Methods for Evaluating Solid Waste. Physical/Chemical Methods", SW-846, Third Edition including promulgated Update 1. Modification for TPH as gasoline as per California State Water Resources Board LUFT Manual protocols, May 1988 revision. Acceptability limits for recovery in the Bromofluorobenzene (BFB) surrogate is 60-119%.

GTEL Concord, CA
 C4120017:3



GTel Client ID: 020200025
 Login Number: C4110454
 Project ID (number): 020200025
 Project ID (name): Sears/#1528/9000 Northgate Mall, San Rafael

ANALYTICAL RESULTS

Volatile Organics
 Method: EPA 8015
 Matrix: Solids

GTel Sample Number	C4110454-08	C4110454-09	C4110454-25	C4110454-11
Client ID	NC-172	NC-0	NC-274	NC-172
Date Sampled	11/30/94	11/30/94	11/30/94	11/30/94
Date Analyzed	11/01/94	11/30/94	11/30/94	11/30/94
Dilution Factor	1.00	1.00	1.00	1.00

Analyte	Reporting Limit	Units	Concentration:Wet Weight			
TPH as Gasoline	1.0	mg/kg	< 1.0	< 1.0	< 1.0	< 1.0
BFB (surrogate)	--	%	88.9	87.9	93.3	82.3

Notes:

Dilution Factor:

Dilution factor indicates the adjustments made for sample dilution.

EPA 8015:

"Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", SW-846, Third Edition including promulgated Update 1. Modification for TPH as gasoline as per California State Water Resources Board LUFT Manual protocols, May 1988 revision. Acceptability limits for recovery in the Bromofluorobenzene (BFB) surrogate is 60-119%.

GTEL Client ID: 020200025
 Login Number: C4110454
 Project ID (number): 020200025
 Project ID (name): Sears/#1528/9000 Northgate Mall, San Rafael

ANALYTICAL RESULTS

Volatile Organics
 Method: EPA 8015
 Matrix: Solids

GTEL Sample Number	C4110454-12	C4110454-31	C4110454-04
Client ID	NO-2/4	NO-3/5	NO-3/5
Date Sampled	11/30/94	11/30/94	11/30/94
Date Analyzed	12/01/94	12/01/94	12/01/94
Dilution Factor	1.00	1.00	1.00

Analyte	Reporting Limit	Units	Concentration:Wet Weight		
TPH as Gasoline	1.0	mg/kg	<1.0	<1.0	<1.0
BFB (surrogate)	--	%	85.0	90.6	87.9

Notes:

Dilution Factor:

Dilution factor indicates the adjustments made for sample dilution.

EPA 8015:

"Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", SW-846, Third Edition including promulgated Update 1. Modification for TPH as gasoline as per California State Water Resources Board LUFT Manual protocols, May 1988 revision. Acceptability limits for recovery in the Bromofluorobenzene (BFB) surrogate is 60-119%.



GTEL Client ID: 020200025
Login Number: C4110454
Project ID (number): 020200025
Project ID (name): Sears/#1528/9000 Northgate Mall, San Rafael

QUALITY CONTROL RESULTS

Volatile Organics
Method: EPA 8020
Matrix: Solids

Method Blank Results

QC Batch No: A113094-1
Date Analyzed: 30-NOV-94

Analyte	Method: EPA 8020	Concentration: mg/kg
Benzene	< 0.0050	
Toluene	< 0.0050	
Ethylbenzene	< 0.0050	
Xylenes (Total)	< 0.015	
TPH as Gasoline	< 1.0	

Notes:

APPENDIX C

TOTAL LEAD, EPA METHOD 6010, LABORATORY REPORTS

Client Number: 020200025
 Project ID: Sears #1528
 Northgate Mall San Rafael
 Work Order Number: C4-12-0011

ANALYTICAL RESULTS

Lead in Soil

EPA Method 6010^a

a. Test Methods for Evaluating Solid Waste, SW-846, Third Edition, Revision 0, US EPA November 1988. Sample preparation by Method 3050. Results reported on a wet weight basis.

GTEL Sample Number		01	2	BTW 03	BTW 04
Client Identification		ATW-1/3	ATW-2/3	BFE-1/3	BFE-2/3
Date Sampled		11/30/94	11/30/94	11/30/94	11/30/94
Date Prepared		12/02/94	12/02/94	12/02/94	12/02/94
Date Analyzed		12/06/94	12/06/94	12/06/94	12/06/94
Analyte	Detection Limit, mg/Kg	Concentration, mg/Kg			
Lead, total	5	10	6	7	9
Detection Limit Multiplier		1	1	1	1

lab errors

GTEL Sample Number		05	06	07	120294 MET
Client Identification		MT-3/3	MT-4/4	MT-5/4	METHOD BLANK
Date Sampled		11/30/94	11/30/94	11/30/94	-
Date Prepared		12/02/94	12/02/94	12/02/94	12/02/94
Date Analyzed		12/06/94	12/06/94	12/06/94	12/06/94
Analyte	Detection Limit, mg/Kg	Concentration, mg/Kg			
Lead, total	5	9	8	<5	<5
Detection Limit Multiplier		1	1	1	1

Client Number: 00000005
 Project ID: 8888 1000
 8000 Northgate
 San Rafael
 Work Order Number: 04-12-0018

ANALYTICAL RESULTS

Lead in Soil

EPA Method 8010*

* Test Methods for Evaluating Solid Waste, SW-846, Third Edition, Revision 0, US EPA November 1988. Sample preparation by Method 3050. Results reported on a wet weight basis.

GTEL Sample Number		01	02	03	04
Client Identification		MT 1/3	MT 6/3	IA 1/2	IA 2/2
Date Sampled		12/01/94	12/01/94	12/01/94	12/01/94
Date Prepared		12/02/94	12/02/94	12/02/94	12/02/94
Date Analyzed		12/06/94	12/06/94	12/06/94	12/06/94
Analyte	Detection Limit, mg/Kg	Concentration, mg/Kg			
Lead, total	5	9	9	9	8
Detection Limit Multiplier		1	1	1	1

GTEL Sample Number		05	06	07	08
Client Identification		IB 1/2	IB 2/2	BTE 1/3	BTE 2/3
Date Sampled		12/01/94	12/01/94	12/01/94	12/01/94
Date Prepared		12/02/94	12/02/94	12/02/94	12/02/94
Date Analyzed		12/06/94	12/06/94	12/06/94	12/06/94
Analyte	Detection Limit, mg/Kg	Concentration, mg/Kg			
Lead, total	5	9	10	11	10
Detection Limit Multiplier		1	1	1	1

Client Number: 00000000
 Project ID: 0000 9028
 0000 Marygate
 San Rafael
 Work Order Number: CA-42-0098

ANALYTICAL RESULTS

Lead in Soil

EPA Method 6010^a

^a Test Methods for Evaluating Solid Waste, SW-846, Third Edition, Revision 1, US EPA November 1988. Sample preparation by Method 3050. Results reported on a wet weight basis.

GTEL Sample Number		09	10	120294 MET
Client Identification		ATE 1/3	ATE 2/4	METHOD BLANK
Date Sampled		12/01/94	12/01/94	-
Date Prepared		12/02/94	12/02/94	12/02/94
Date Analyzed		12/06/94	12/06/94	12/06/94
Analyte	Detection Limit, mg/Kg	Concentration, mg/Kg		
Lead, total	5	7	8	<5
Detection Limit Multiplier		1	1	1



APPENDIX D

TPH-D, EPA METHOD MODIFIED 8015, LABORATORY REPORTS

Client Number: 020200025
 Project ID: Sears 1528
 9000 Northgate
 San Rafael, CA
 Work Order Number: CA-11-0454

ANALYTICAL RESULTS

TPH as Diesel in Soil

Method: Modified EPA 8015^a

GTEL Sample Number		08	09	10	11
Client Identification		WO-1/2	WO-C	WO-2/4	NO-1/2
Date Sampled		11/30/94	11/30/94	11/30/94	11/30/94
Date Extracted		12/02/94	12/02/94	12/02/94	12/02/94
Date Analyzed		12/02/94	12/02/94	12/03/94	12/03/94
Analyte	Detection Limit, mg/Kg	Concentration, mg/Kg			
TPH as diesel	10	<10	<10	<10	<10
Detection Limit Multiplier		1	1	1	1
OTP surrogate, % recovery		74.5	91.5	76.4	92.4

GTEL Sample Number		12	13	14	GCI 120294
Client Identification		NO-2/4	NO/C	NO-3/5	METHOD BLANK
Date Sampled		11/30/94	11/30/94	11/30/94	--
Date Extracted		12/02/94	12/02/94	12/02/94	12/02/94
Date Analyzed		12/02/94	12/02/94	12/03/94	12/02/94
Analyte	Detection Limit, mg/Kg	Concentration, mg/Kg			
TPH as diesel	10	<10	<10	<10	<10
Detection Limit Multiplier		1	1	1	1
OTP surrogate, % recovery		93.3	67.5	74.0	106

^a O-Terphenyl surrogate recovery acceptability limits are 50-150%. Test Methods for Evaluating Solid Waste, SW-846, 3rd edition, Rev. O, U.S. EPA, November, 1986.

APPENDIX E

TRPH, EPA METHOD 418.1, LABORATORY REPORTS

Client Number: 020200025
 Project ID: Sears 1528
 9000 Northgate
 San Rafael, CA
 Work Order Number: C4-11-0454

ANALYTICAL RESULTS

Total Petroleum Hydrocarbons in Soil by Infrared Spectrometry¹

EPA 3550 (Mod.)/EPA 418.1 (SM 5520 FC)²

GTEL Sample Number		08	09	10	11
Client Identification		WO-1/2	WO-C	WO-2/4	NO-1/2
Date Sampled		11/30/94	11/30/94	11/30/94	11/30/94
Date Prepared		12/01/94	12/01/94	12/01/94	12/01/94
Date Analyzed		12/01/94	12/01/94	12/01/94	12/01/94
Analyte	Detection Limit, mg/Kg	Concentration, mg/Kg			
Total Petroleum Hydrocarbons	5	7	110	19	<5
Detection Limit Multiplier		1	2.5	1	1

1. The sample is sonication extracted using a modification of EPA 3550. The extract is analyzed, as in EPA 418.1 (SM 5520 CF), to yield results reported as Total Petroleum Hydrocarbons. Results are reported on a wet weight basis.
2. Standard Methods for the Examination of Water and Wastewater, 17th ed., American Public Health Association, 1989.

Client Number: 020200025
 Project ID: Sears 1528
 9000 Northgate
 San Rafael, CA
 Work Order Number: C4-11-0454

ANALYTICAL RESULTS

Total Petroleum Hydrocarbons in Soil by Infrared Spectrometry¹

EPA 3550 (Mod.)/EPA 418.1 (SM 5520 FC)²

GTEL Sample Number	12	13	14	120194 TPH
Client Identification	NO-2/4	NO-C	NO-3/5	METHOD BLANK
Date Sampled	11/30/94	11/30/94	11/30/94	-
Date Prepared	12/01/94	12/01/94	12/01/94	12/01/94
Date Analyzed	12/01/94	12/01/94	12/01/94	12/01/94
Analyte	Detection Limit, mg/Kg	Concentration, mg/Kg		
Total Petroleum Hydrocarbons	5	11	26	<5
Detection Limit Multiplier		1	1	1

1. The sample is sonication extracted using a modification of EPA 3550. The extract is analyzed, as in EPA 418.1 (SM 5520 CF), to yield results reported as Total Petroleum Hydrocarbons. Results are reported on a wet weight basis.
2. Standard Methods for the Examination of Water and Wastewater, 17th ed., American Public Health Association, 1989.

APPENDIX F

VOLATILE ORGANICS, EPA METHOD 8240, LABORATORY REPORTS

Client Number: 020200025
 Project ID: Sears #1528
 Northgate Mall San Rafael
 Work Order Number: C4-12-0011

ANALYTICAL RESULTS

Volatile Organics in Soil

EPA Method 8240A^a

GTEL Sample Number		08	09	10	11
Client Identification		WO-1/2	WO-C	WO-2/4	NO-1/2
Date Sampled		11/30/94	11/30/94	11/30/94	11/30/94
Date Analyzed		12/05/94	12/05/94	12/05/94	12/06/94
Analyte	Detection Limit, ug/Kg	Concentration, ug/Kg			
Chloromethane	10	<10	<10	<10	<10
Bromomethane	10	<10	<10	<10	<10
Vinyl chloride	10	<10	<10	<10	<10
Chloroethane	10	<10	<10	<10	<10
Methylene chloride	5	<5	<5	<5	<5
Acetone	50	<50	<50	<50	<50
Carbon disulfide	5	<5	<5	<5	<5
1,1-Dichloroethene	5	<5	<5	<5	<5
1,1-Dichloroethane	5	<5	<5	<5	<5
1,2-Dichloroethene, total	5	<5	<5	<5	<5
Chloroform	5	<5	<5	<5	<5
1,2-Dichloroethane	5	<5	<5	<5	<5
2-Butanone	20	<20	<20	<20	<20
1,1,1-Trichloroethane	5	<5	<5	<5	<5
Carbon tetrachloride	5	<5	<5	<5	<5
Vinyl acetate	50	<50	<50	<50	<50
Bromodichloromethane	5	<5	<5	<5	<5
1,2-Dichloropropane	5	<5	<5	<5	<5
cis-1,3-Dichloropropene	5	<5	<5	<5	<5
Trichloroethene	5	<5	<5	<5	<5
Dibromochloromethane	5	<5	<5	<5	<5
1,1,2-Trichloroethane	5	<5	<5	<5	<5
Benzene	5	<5	<5	<5	<5

^a Test Methods for Evaluating Solid Waste, SW-846, Third Edition, including Update 1, US EPA July 1992 (method modified for additional compounds). Results reported on a wet weight basis.

Client Number: 020200025
 Project ID: Sears #1528
 Northgate Mall San Rafael
 Work Order Number: C4-12-0011

ANALYTICAL RESULTS

Volatile Organics in Soil

EPA Method 8240A^a

GTEL Sample Number		08	09	10	11
Client Identification		WO-1/2	WO-C	WO-2/4	NO-1/2
Date Sampled		11/30/94	11/30/94	11/30/94	11/30/94
Date Analyzed		12/05/94	12/05/94	12/05/94	12/06/94
Analyte	Detection Limit, ug/Kg	Concentration, ug/Kg			
trans-1,3-Dichloropropene	5	<5	<5	<5	<5
2-Chloroethylvinyl ether	10	<10	<10	<10	<10
Bromoform	5	<5	<5	<5	<5
4-Methyl-2-pentanone	20	<20	<20	<20	<20
2-Hexanone	20	<20	<20	<20	<20
Tetrachloroethene	5	<5	<5	<5	<5
1,1,2,2-Tetrachloroethane	5	<5	<5	<5	<5
Toluene	5	<5	<5	<5	<5
Chlorobenzene	5	<5	<5	<5	<5
Ethylbenzene	5	<5	<5	<5	<5
Styrene	5	<5	<5	<5	<5
1,2-Dichlorobenzene	10	<10	<10	<10	<10
1,3-Dichlorobenzene	10	<10	<10	<10	<10
1,4-Dichlorobenzene	10	<10	<10	<10	<10
Xylene, total	10	<10	<10	<10	<10
Trichlorofluoromethane	5	<5	<5	<5	<5
Detection Limit Multiplier		1	1	1	1
DCE surrogate, % recovery		92.5	95.8	98.1	95.9
TOL surrogate, % recovery		101	110	107	110
BFB surrogate, % recovery		106	98.9	101	92.4

^a Test Methods for Evaluating Solid Waste, SW-846, Third Edition, Including Update 1, US EPA July 1992 (method modified for additional compounds). Results reported on a wet weight basis.

Client Number: 02020025
 Project ID: Sears #1528
 Northgate Mall San Rafael
 Work Order Number: C4-12-0011

ANALYTICAL RESULTS

Volatile Organics in Soil

EPA Method 8240A^a

GTEL Sample Number		12	13	14	120594 MSC
Client Identification		NO-2/4	NO/C	NO-3/5	METHOD BLANK
Date Sampled		11/30/94	11/30/94	11/30/94	—
Date Analyzed		12/06/94	12/06/94	12/05/94	12/05/94
Analyte	Detection Limit, ug/Kg	Concentration, ug/Kg			
Chloromethane	10	<10	<10	<10	<10
Bromomethane	10	<10	<10	<10	<10
Vinyl chloride	10	<10	<10	<10	<10
Chloroethane	10	<10	<10	<10	<10
Methylene chloride	5	<5	<5	<5	<5
Acetone	50	<50	<50	<50	<50
Carbon disulfide	5	<5	<5	<5	<5
1,1-Dichloroethene	5	<5	<5	<5	<5
1,1-Dichloroethane	5	<5	<5	<5	<5
1,2-Dichloroethene, total	5	<5	<5	<5	<5
Chloroform	5	<5	<5	<5	<5
1,2-Dichloroethane	5	<5	<5	<5	<5
2-Butanone	20	<20	<20	<20	<20
1,1,1-Trichloroethane	5	<5	<5	<5	<5
Carbon tetrachloride	5	<5	<5	<5	<5
Vinyl acetate	50	<50	<50	<50	<50
Bromodichloromethane	5	<5	<5	<5	<5
1,2-Dichloropropane	5	<5	<5	<5	<5
cis-1,3-Dichloropropene	5	<5	<5	<5	<5
Trichloroethene	5	<5	<5	<5	<5
Dibromochloromethane	5	<5	<5	<5	<5
1,1,2-Trichloroethane	5	<5	<5	<5	<5
Benzene	5	<5	<5	<5	<5

a. Test Methods for Evaluating Solid Waste, SW-846, Third Edition, including Update 1, US EPA July 1992 (method modified for additional compounds). Results reported on a wet weight basis.

Client Number: 020200025
 Project ID: Sears #1528
 Northgate Mall San Rafael
 Work Order Number: C4-12-0011

ANALYTICAL RESULTS

Volatile Organics in Soil

EPA Method 8240A^a

GTEL Sample Number		12	13	14	120594 MSC
Client Identification		NO-2/4	NO/C	NO-3/5	METHOD BLANK
Date Sampled		11/30/94	11/30/94	11/30/94	-
Date Analyzed		12/06/94	12/06/94	12/05/94	12/05/94
Analyte	Detection Limit, ug/Kg	Concentration, ug/Kg			
trans-1,3-Dichloropropene	5	<5	<5	<5	<5
2-Chloroethylvinyl ether	10	<10	<10	<10	<10
Bromoform	5	<5	<5	<5	<5
4-Methyl-2-pentanone	20	<20	<20	<20	<20
2-Hexanone	20	<20	<20	<20	<20
Tetrachloroethene	5	<5	<5	<5	<5
1,1,2,2-Tetrachloroethane	5	<5	<5	<5	<5
Toluene	5	<5	<5	<5	<5
Chlorobenzene	5	<5	<5	<5	<5
Ethylbenzene	5	<5	<5	<5	<5
Styrene	5	<5	<5	<5	<5
1,2-Dichlorobenzene	10	<10	<10	<10	<10
1,3-Dichlorobenzene	10	<10	<10	<10	<10
1,4-Dichlorobenzene	10	<10	<10	<10	<10
Xylene, total	10	<10	<10	<10	<10
Trichlorofluoromethane	5	<5	<5	<5	<5
Detection Limit Multiplier		1	1	1	1
DCE surrogate, % recovery		101	103	94.7	94.6
TOL surrogate, % recovery		115	92.1	112	101
BFB surrogate, % recovery		96.9	95.6	102	102

- a. Test Methods for Evaluating Solid Waste, SW-846, Third Edition, Including Update 1, US EPA July 1992 (method modified for additional compounds). Results reported on a wet weight basis.

Client Number: 020200025
 Project ID: Sears #1528
 Northgate Mall San Rafael
 Work Order Number: C4-12-0011

ANALYTICAL RESULTS

Volatile Organics in Soil

EPA Method 8240A^a

GTEL Sample Number		120694 MSC			
Client Identification		METHOD BLANK			
Date Sampled		--			
Date Analyzed		12/06/94			
Analyte	Detection Limit, ug/Kg	Concentration, ug/Kg			
Chloromethane	10	<10			
Bromomethane	10	<10			
Vinyl chloride	10	<10			
Chloroethane	10	<10			
Methylene chloride	5	<5			
Acetone	50	<50			
Carbon disulfide	5	<5			
1,1-Dichloroethene	5	<5			
1,1-Dichloroethane	5	<5			
1,2-Dichloroethene, total	5	<5			
Chloroform	5	<5			
1,2-Dichloroethane	5	<5			
2-Butanone	20	<20			
1,1,1-Trichloroethane	5	<5			
Carbon tetrachloride	5	<5			
Vinyl acetate	50	<50			
Bromodichloromethane	5	<5			
1,2-Dichloropropane	5	<5			
cis-1,3-Dichloropropene	5	<5			
Trichloroethene	5	<5			
Dibromochloromethane	5	<5			
1,1,2-Trichloroethane	5	<5			
Benzene	5	<5			

a. Test Methods for Evaluating Solid Waste, SW-846, Third Edition, including Update 1, US EPA July 1992 (method modified for additional compounds). Results reported on a wet weight basis.

Client Number: 020200025
 Project ID: Sears #1528
 Northgate Mall San Rafael
 Work Order Number: C4-12-0011

ANALYTICAL RESULTS

Volatile Organics in Soil

EPA Method 8240A^a

GTEL Sample Number		120694 MSC			
Client Identification		METHOD BLANK			
Date Sampled		--			
Date Analyzed		12/06/94			
Analyte	Detection Limit, ug/Kg	Concentration, ug/Kg			
trans-1,3-Dichloropropene	5	<5			
2-Chloroethylvinyl ether	10	<10			
Bromoform	5	<5			
4-Methyl-2-pentanone	20	<20			
2-Hexanone	20	<20			
Tetrachloroethene	5	<5			
1,1,2,2-Tetrachloroethane	5	<5			
Toluene	5	<5			
Chlorobenzene	5	<5			
Ethylbenzene	5	<5			
Styrene	5	<5			
1,2-Dichlorobenzene	10	<10			
1,3-Dichlorobenzene	10	<10			
1,4-Dichlorobenzene	10	<10			
Xylene, total	10	<10			
Trichlorofluoromethane	5	<5			
Detection Limit Multiplier		1			
DCE surrogate, % recovery		105			
TOL surrogate, % recovery		113			
BFB surrogate, % recovery		96.2			

- a. Test Methods for Evaluating Solid Waste, SW-846, Third Edition, including Update 1, US EPA July 1992 (method modified for additional compounds). Results reported on a wet weight basis.

APPENDIX G

CALIFORNIA ASSESSMENT METALS, STLC AND TTLC, LABORATORY REPORTS

Client Number: 020200025
 Project ID: Sears #1528
 Northgate Mall San Rafael
 Work Order Number: C4-12-0011

ANALYTICAL RESULTS

CAM List of Metals in Soil (TTLC)_a

GTEL Sample Number			08	09	10	11
Client Identification			WO-1/2	WO-C	WO-2/4	NO-1/2
Date Sampled			11/30/94	11/30/94	11/30/94	11/30/94
Date Prepared (Method 3055 ^b)			12/07/94	12/07/94	12/07/94	12/07/94
Date Analyzed (Method 6010)			12/08/94	12/08/94	12/08/94	12/08/94
Date Analyzed (Method 7060)			12/08/94	12/08/94	12/08/94	12/08/94
Date Prepared and Analyzed (Method 7470)			12/07/94	12/07/94	12/07/94	12/07/94
Analyte	EPA Method ^a	Detection Limit, mg/Kg	Concentration, mg/Kg			
Antimony	EPA 6010 ^c	5	<5	<5	<5	<5
Arsenic	EPA 7060 ^d	0.5	5.5	6.3	2.5	4.0
Barium	EPA 6010 ^c	1	150	180	55	100
Beryllium	EPA 6010 ^c	0.5	0.6	<0.5	<0.5	<0.5
Cadmium	EPA 6010 ^c	0.5	<0.5	<0.5	<0.5	<0.5
Chromium, total	EPA 6010 ^c	1	30	62	38	92
Cobalt	EPA 6010 ^c	1	9	15	8	19
Copper	EPA 6010 ^c	1	28	27	11	17
Lead	EPA 6010 ^c	5	8	9	<5	6
Mercury	EPA 7470 ^e	0.1	<0.1	<0.1	<0.1	<0.1
Molybdenum	EPA 6010 ^c	1	1	1	<1	<1
Nickel	EPA 6010 ^c	2	41	90	59	100
Selenium	EPA 6010 ^c	5	<5	<5	<5	<5
Silver	EPA 6010 ^c	1	<1	<1	<1	<1
Thallium	EPA 6010 ^d	5	<5	<5	<5	<5
Vanadium	EPA 6010 ^c	1	32	35	22	44
Zinc	EPA 6010 ^c	5	58	56	34	35
Detection Limit Multiplier			1	1	1	1

- a. Test Methods for Evaluating Solid Waste, SW-848, Third Edition, Revision 0, US EPA November 1988. Results reported on a wet weight basis.
- b. Draft EPA method 3055 SW-846 Third Addition Revision 1 Sept. 1991.
- c. Inductively Coupled Argon Plasma (ICP).
- d. Graphite Furnace Atomic Absorption (GFAA).
- e. Cold Vapor Atomic Absorption (CVAA).

Client Number: 020200025
 Project ID: Sears #1528
 Northgate Mall San Rafael
 Work Order Number: C4-12-0011

ANALYTICAL RESULTS
CAM List of Metals in Soil (TTLC)_a

GTEL Sample Number			12	13	14	120794 MET
Client Identification			NO-2/4	NO/C	NO-3/5	METHOD BLANK
Date Sampled			11/30/94	11/30/94	11/30/94	-
Date Prepared (Method 3055 ^b)			12/07/94	12/07/94	12/07/94	12/07/94
Date Analyzed (Method 6010)			12/08/94	12/08/94	12/08/94	12/08/94
Date Analyzed (Method 7060)			12/08/94	12/08/94	12/08/94	12/08/94
Date Prepared and Analyzed (Method 7470)			12/07/94	12/07/94	12/07/94	12/07/94
Analyte	EPA Method ^a	Detection Limit, mg/Kg	Concentration, mg/Kg			
Antimony	EPA 6010 ^c	5	<5	<5	<5	<5
Arsenic	EPA 7060 ^d	0.5	9.3	6.2	7.5	<0.5
Barium	EPA 6010 ^c	1	130	120	170	<1
Beryllium	EPA 6010 ^c	0.5	<0.5	<0.5	0.6	<0.5
Cadmium	EPA 6010 ^c	0.5	<0.5	<0.5	<0.5	<0.5
Chromium, total	EPA 6010 ^c	1	68	51	210	<1
Cobalt	EPA 6010 ^c	1	16	11	21	<1
Copper	EPA 6010 ^c	1	47	42	35	<1
Lead	EPA 6010 ^c	5	6	6	8	<5
Mercury	EPA 7470 ^e	0.1	0.1	0.1	0.1	<0.1
Molybdenum	EPA 6010 ^c	1	1	<1	1	<1
Nickel	EPA 6010 ^c	2	110	85	180	<2
Selenium	EPA 6010 ^c	5	<5	<5	<5	<5
Silver	EPA 6010 ^c	1	<1	<1	<1	<1
Thallium	EPA 6010 ^d	5	<5	<5	<5	<5
Vanadium	EPA 6010 ^c	1	44	40	46	<1
Zinc	EPA 6010 ^c	5	69	80	70	<5
Detection Limit Multiplier			1	1	1	1

- a. Test Methods for Evaluating Solid Waste, SW-846, Third Edition, Revision 0, US EPA November 1986. Results reported on a wet weight basis.
 b. Draft EPA method 3055 SW-846 Third Addition Revision 1 Sept. 1991.
 c. Inductively Coupled Argon Plasma (ICP).
 d. Graphite Furnace Atomic Absorption (GFAA).
 e. Cold Vapor Atomic Absorption (CVAA).

APPENDIX H
CHAIN OF CUSTODY FORMS



4080 MIKE LAINE, SUITE C
CONCORD, CA 94520
(510) 685-7852
(800) 423-7143

CHAIN-OF-CUSTODY RECORD
AND ANALYSIS REQUEST

33111

Revised # 30200

ANALYSIS REQUEST

OTHER

Company Name: **GTEL**
 Phone #: _____
 Company Address: **Santa Lake City office**
 Site Location: **Northgate Mall San Rafael**
 Project Manager: **Eileen Brennan**
 Client Project ID: **002000035**
 INAMI: **SAWS # 1528**
 Sampler Name (Print): **Terry James**
 Date: **081839**

Field Sample ID	GTEL Lab # (Lab Use only)	# CONTAINERS	Matrix				Method Preserved				Sampling	
			WATER	AIR	SLUDGE	PRODUCT	OTHER	HCl	H ₂ SO ₄	ICR	OTHER	DATE
ATW-1/3	01	1	X						X	X	11/30	10:41
ATW-2/3	02										10:59	
BTW-1/3	03										11:05	
BTW-2/3	04										11:09	
MT-3/3	05										11:18	
MT-4/4	06										11:27	
MT-5/4	07										11:37	
WO-1/2	08										12:15	
WO-C	09										12:30	
WO-2/4	10										12:30	
NO-1/2	11										12:40	

SPECIAL DETECTION LIMITS

SPECIAL REPORTING REQUIREMENTS

QA/QC Level: **Standards**
 Other: **Standards**

Relinquished by Sampler: **[Signature]**
 Relinquished by: **[Signature]**
 Relinquished by:

Field	Lab #	Matrix	Method Preserved	Sampling DATE	TIME
TAT	X	Special Handling			
Priority (24 hr)		GTEL Contact			
Expedited (48 hr)		Quire/Contract #			
7 Business Days		Confirmation #			
Other	X	P.O. #			
Business Days					

BTX Gas Hydrocarbons PID #	Hydrocarbons GC FID Gas	Hydrocarbon Profile (SMDS)	Oil and Grease #1,1	TPH in 418.1	EDS by 504	EPA 503.1	EPA 501	EPA 602	EPA 608	EPA 623 PPL	EPA 610	EPA TOX Metals	TCLP Metals	EPA Metals - Poly	Cadmium	Lead 239.2	Organic Lead	Corrosivity
X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

REMARKS:
 All samples for BTX/GAS, GAS & Diesel
 418.1 - 24 HOUR RUSH. All other Analysis
 STD. TAT.

Lab Use Only Lot #: _____

Work Order #: **C4110454-24 HR RUSH**

Received by: _____
 Date: **12/16/14**

Received by: _____
 Date: _____

Received by Laboratory: _____
 Waybill # _____

CUSTODY RECORD



4080 PIKE LANE, SUITE C
CONCORD, CA 94520
(510) 685-7852
(800) 423-7143

CHAIN-OF-CUSTODY RECORD
AND ANALYSIS REQUEST

33582

Company Name: Groundwater Tech
 Phone #: 510 671-2387
 Company Address: 4057 Port Chicago Hwy
 Site Location: 9000 Northgate
 Project Manager: Erin Brennan
 Client Project ID: (#) 02000025
 Sampler Name (Print): Terry James
 (NAME) Sears 1528

Field Sample ID	GTEL Lab # (Lab Use only)	# CONTAINERS	Matrix				Method Preserved				Sampling		
			WATER	SOIL	AIR	SLUDGE	PRODUCT	OTHER	HCl	HNO3	H2SO4	ICE	DATE
MT1/3	01	1	X							X		12/1	10:45
MT6/3	02	1										10:55	
IA1/2	03	1										11:05	
IA2/2	04	1										11:10	
IB1/2	05	1										11:20	
IB2/2	06	1										11:30	
BT1/3	07	1										10:05	
BT2/3	08	1										10:15	
AT1/3	09	1										10:30	
AT2/4	10	1										10:40	

TAT Priority (24 hr)
 Expedited (48 hr)
 7 Business Days
 Other Business Days

Special Handling
 GTEL Contact _____
 Quoter/Contract # _____
 Confirmation # _____
 PO # _____

QA/QC Level
 Other _____

REMARKS: BTEX/TPH-6 - 2015 Modified
Level 8020 24hr TAT
Level 51d.

Lab Use Only Lot #: C4120018 -
 Storage Location

Work Order #: C4120017 - 24 hr

SPECIAL DETECTION LIMITS		SPECIAL REPORTING REQUIREMENTS	
Date	Time	Date	Time
12/1/94	17:09	12/1/94	14:10
Received by:	<u>John Weber</u>	Received by:	<u>John Weber</u>
Relinquished by:	<u>Terry James</u>	Relinquished by:	<u>John Weber</u>
Relinquished by:	<u>John Weber</u>	Relinquished by:	<u>John Weber</u>
Received by Laboratory:	<u>John Weber</u>	Received by Laboratory:	<u>John Weber</u>
Waybill #	<u>33582</u>	Waybill #	<u>33582</u>

CUSTODY RECORD

Client Number: 020200025
Project ID: Sears #1528
Northgate Mall San Rafael
Work Order Number: C4-12-0011



Northwest Region
4080-C Pike Lane
Concord, CA 94520
(510) 685-7852
(800) 544-3422 from inside California
(800) 423-7143 from outside California
(510) 825-0720 (FAX)

December 13, 1994

Eileen Brennan
Groundwater Technology, Inc.
275 South Temple, Suite 321
Salt Lake City, UT 84111

Enclosed please find the analytical results for samples received by GTEL Environmental Laboratories, Inc. on 12/01/94, under chain of custody record 33111 and 33113.

A formal Quality Assurance/Quality Control (QA/QC) program is maintained by GTEL, which is designed to meet or exceed the EPA requirements. Analytical work for this project met QA/QC criteria, unless otherwise stated in the footnotes. This report is to be reproduced only in full.

GTEL is certified by the California State Department of Health Services, Laboratory certification number E1075, to perform analyses for drinking water, wastewater, and hazardous waste materials according to EPA protocols.

If you have any questions concerning this analysis or if we can be of further assistance, please call our Customer Service Representative.

Sincerely,
GTEL Environmental Laboratories, Inc.



Rashmi Shah
Laboratory Director



Northwest Region
 4080-C Pike Lane
 Concord, CA 94520
 (510) 685-7852
 (800) 544-3422 from inside California
 (800) 423-7143 from outside California
 (510) 825-0720 (FAX)

Client Number: 020200025
 Project ID: Sears 1528
 9000 Northgate
 San Rafael, CA
 Work Order Number: C4-11-0454

December 6, 1994

Eileen Brennan
 Groundwater Technology, Inc.
 275 South Temple, Suite 321
 Salt Lake City, UT 84111

Enclosed please find the analytical results for samples received by GTEL Environmental Laboratories, Inc. on 11/30/94, under chain of custody records 30200 and 33586.

A formal Quality Assurance/Quality Control (QA/QC) program is maintained by GTEL, which is designed to meet or exceed the EPA requirements. Analytical work for this project met QA/QC criteria, unless otherwise stated in the footnotes. This report is to be reproduced only in full.

GTEL is certified by the California State Department of Health Services, Laboratory certification number E1075, to perform analyses for drinking water, wastewater, and hazardous waste materials according to EPA protocols.

If you have any questions concerning this analysis or if we can be of further assistance, please call our Customer Service Representative.

Sincerely,
 GTEL Environmental Laboratories, Inc.

Rashmi Shah
 Laboratory Director

Post-It™ brand fax transmittal memo 7571 # of pages ▶

To	From
Co.	Co.
Dept.	Phone #
Fax #	Fax #

Handwritten in the 'To' field: pat (with a smiley face)



Western Region
4080 Price Lane, Suite C
Concord, CA 94520
(510) 685-7852
(800) 544-3422 Inside CA
FAX (510) 825-0720

Client Number: 000000005
Project ID: 0000 1000
0000 10000000
San Rafael
Work Order Number: 04-12-0010

December 13, 1994

Eileen Brennan
Groundwater Technology, Inc.
275 South Temple, Suite 321
Salt Lake City, UT 84111

Enclosed please find the analytical results for samples received by GTEL Environmental Laboratories, Inc. on 12/01/94, under chain of custody record 33582.

A formal Quality Assurance/Quality Control (QA/QC) program is maintained by GTEL, which is designed to meet or exceed the EPA requirements. Analytical work for this project met QA/QC criteria, unless otherwise stated in the footnotes. This report is to be reproduced only in full.

GTEL is certified by the California State Department of Health Services, Laboratory certification number E1075, to perform analyses for drinking water, wastewater, and hazardous waste materials according to EPA protocols.

If you have any questions concerning this analysis or if we can be of further assistance, please call our Customer Service Representative.

Sincerely,
GTEL Environmental Laboratories, Inc.

Rashmi Shah
for
Rashmi Shah
Laboratory Director

Post-it® Fax Note	7671	Date	12/16	# of pages	3
To	PAT MCCONNELL		From	EBRENNAN	
Co./Dept.			Co.		
Phone #			Phone #		
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Western Region
4080 Pike Lane, Suite C
Concord, CA 94520
(510) 685-7852
(800) 544-3422 Inside CA
FAX (510) 825-0720

Client Number: 020200025
Project ID: Sears 1528
9000 Northgate
San Rafael
CA-12-0018
Work Order Number:

December 13, 1994

Eileen Brennan
Groundwater Technology, Inc.
275 South Temple, Suite 321
Salt Lake City, UT 84111

Enclosed please find the analytical results for samples received by GTEL Environmental Laboratories, Inc. on 12/01/94, under chain of custody record 33582.

A formal Quality Assurance/Quality Control (QA/QC) program is maintained by GTEL, which is designed to meet or exceed the EPA requirements. Analytical work for this project met QA/QC criteria, unless otherwise stated in the footnotes. This report is to be reproduced only in full.

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If you have any questions concerning this analysis or if we can be of further assistance, please call our Customer Service Representative.

Sincerely,
GTEL Environmental Laboratories, Inc.

Rashmi Shah
for
Rashmi Shah
Laboratory Director

WO - waste oil samples
NO - gasoline samples

1528(6)
BDF



DAMES & MOORE

A DAMES & MOORE GROUP COMPANY

**Hydraulic Lift Removal,
Assessment, and Site Remediation
Activities**

**Sears Store #1528
9000 Northgate Drive
San Rafael, California**

Prepared for :

**Sears, Roebuck and Co.
Job No. 00188-166-043
February 7, 1997**

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**HYDRAULIC LIFT REMOVAL,
ASSESSMENT, AND SITE REMEDIATION ACTIVITIES
SEARS STORE #1528
9000 Northgate Drive
San Rafael, California**

**Prepared For:
Sears, Roebuck and Co.
D&M Job No. 00188-166-043
February 7, 1997**

1.0 INTRODUCTION

This report presents the results of Dames & Moore's environmental oversight related to the removal of three hydraulic lifts at the Automotive Center of Sears Store #1528 located at 9000 Northgate Drive in San Rafael, California (Figure 1). The environmental oversight was conducted for Sears, Roebuck and Co. (Sears) in accordance with Dames & Moore's Request for Authorization dated February 5, 1996. Lift removals were performed as part of a Site remodel. Field activities were performed on March 7, 1996. Following field and disposal activities, Dames & Moore prepared this report outlining the field procedures used, laboratory analytical results, and remedial measures performed at the Site.

2.0 SITE DESCRIPTION

2.1 SITE FEATURES

Sears Store #1528 is located at the southwestern end of the Northgate Mall in San Rafael, California. The Automotive Center (Site) is a two-story building that houses a service counter and display area, and a garage area on the first floor with 19 service bays for automotive service and maintenance. The second floor contains an employee break room, bathrooms and lockers, and a large storage area. For purposes of this remodel, Lifts 1, 2, and 3 needed to be removed. These bays were located in the southwest corner of the Automobile Center (Figure 2). Lifts 1, 2, and 3 were single-post lifts. Photographs of the field activities are provided in Appendix A.

2.2 LOCAL HYDROGEOLOGY

The assumed local groundwater flow direction, based on surface topography, is to the north towards Santa Margarita Valley. Regionally, groundwater is assumed to flow northeast toward Gallinas Creek and San Francisco Bay. United States Geologic Survey Professional Paper 943, titled Flatland Deposits-Their Geology and Engineering Importance to Comprehensive Planning (Halley and LaJoie, 1979), indicates that the Site is underlain by bedrock. Bedrock in the San Rafael area consists of a complex assemblage of sedimentary, igneous, and metamorphic rocks of Jurassic and Cretaceous age.

3.0 FIELD ACTIVITIES

3.1 WORK PARAMETERS DETERMINATION

In accordance with California State Senate Bill SB 1191, hydraulic lift tanks are exempt from underground storage tank regulations with regards to operating permits and associated reporting requirements. Any releases to the environment, however, must be remediated to the extent that there is no significant adverse effect to human health or the environment. Currently, the State of California does not have strict cleanup standards for hydraulic oils in soil. Cleanup guidance criteria are normally provided by the Regional Water Quality Control Boards (RWQCB) and/or local oversight agencies. The RWQCB-recommended cleanup criteria for petroleum hydrocarbons in soil is generally 100 milligrams per kilogram (mg/kg) for total petroleum hydrocarbons (TPH) as gasoline and 1,000 mg/kg for TPH as oil. Active cleanup is typically required of soils impacted by volatile and semi-volatile hydrocarbon compounds if concentrations exceed about 10 times the equivalent Maximum Contaminant Level (MCL) concentrations for drinking water listed in Title 22 of the California Code of Regulations. Additional guidance for cleanup criteria of individual hydrocarbon compounds is provided by the US EPA Region 9 Preliminary Remedial Goals (PRGs) and Soil Screening Levels.

In accordance with the above criteria, Dames & Moore collected samples for hydrocarbon analysis during the lift removal process. Soil samples were initially analyzed for TPH by a Hydrocarbon Semi-Quantitative Fuel Scan [C4-C12 (gasoline range), C13-C22 (diesel range), and C23+(oil range)] using modified EPA Method 8015. If concentrations exceeded 100 mg/kg, then the soil sample with the highest TPH value was also analyzed for semi-volatile organic compounds (SVOCs) by EPA Method 8270, volatile organic compounds (VOCs) by EPA Method 8240, and polychlorinated biphenyls (PCBs) by EPA Method 8080. Remedial excavation would be implemented if concentrations exceeded the guidance criteria stated above.

3.2 INITIAL SOILS ASSESSMENT

As part of the field activities, Dames & Moore field personnel were required to review and sign a Health and Safety Plan (HSP) that was prepared for the Site. The HSP was prepared to aid in the safe handling of materials potentially containing elevated levels of chemicals. During the investigation, requirements of the HSP were met, including daily site safety briefings.

Prior to the startup of Dames & Moore's field activities, Walker Hydraulic (Contractor) cut and removed the concrete slab around each of the lifts. The lifts did not have associated hydraulic lines. Following removal of the concrete slabs and hydraulic lifts, Dames & Moore personnel collected soil samples from three locations at the lift cylinders: one at the surface, one at three feet below ground surface (bgs), and one at the base of the post (approximately seven feet bgs). However, a sample was not collected at the 3-foot depth at Lift 1.

All samples up to 7 feet bgs were collected using a hand auger. Sample material was placed into 4-ounce jars supplied by the analytical laboratory and sealed with Teflon-lined lids. Sample collection was performed following strict environmental protocol to avoid cross-contamination. Soils observed during sample collection consisted of sandy fill materials immediately around the lifts. Native soils beyond the fill material are primarily silt and clay.

Soil samples were submitted to an onsite mobile laboratory and analyzed for total petroleum hydrocarbons as gasoline (TPH-g; C4-C12), as diesel (TPH-d; C13-C22), and as hydraulic oil (TPH-h; C23+) by modified EPA Method 8015. The samples collected from three feet bgs were held pending analysis of surface samples. Results of the sample analyses indicated the following:

- TPH-g and TPH-d were not detected in any of the samples.

Lift 1:

- TPH-h was detected at 87 mg/kg in the surface sample at Lift 1 and at 320 mg/kg in the 7-foot sample.

Lift 2:

- TPH-h was detected at 5,500 mg/kg in the surface sample at Lift 2, at 270 mg/kg in the 3-foot sample, and at 220 mg/kg in the 7-foot sample.

Lift 3:

- TPH-d was detected at 11,000 mg/kg in the surface sample at Lift 3, at 43 mg/kg in the 3-foot sample, and at 830 mg/kg in the 7-foot sample.

In general accordance with the Work Parameters Determination (Section 3.1), one of the samples with the highest concentration of hydraulic oil, in this case the surface sample from Lift 2 (5,500 mg/kg TPH-h), was also analyzed for volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), and polychlorinated biphenyls (PCBs), by EPA Methods 8240, 8270, and 8080, respectively. Analytical results showed no detectable VOCs, but did indicate detection of 0.48 mg/kg PCB aroclor 1260 and 2.5 mg/kg of the SVOC bis (2-ethylhexyl) phthalate. Results of soil sample analyses are listed in Table 1, and laboratory reports are included as Appendix B.

In summary, results of the initial soils assessment indicated that a number of soil samples exceeded the cleanup guidance criteria for hydraulic oil (1,000 mg/kg) as outlined in the Work Parameters Determination (Section 3.1). These sample areas included the Lift 2 and 3 cylinder areas.

3.3 HYDRAULIC LIFT REMOVAL AND REMEDIAL ACTION

Following the initial soils assessment, the hydraulic lifts were removed and a remedial excavation was performed in areas where hydrocarbon concentrations exceeded the cleanup criteria. The cylinders from Lifts 1, 2, and 3 were completely removed on March 7, 1996, prior to the remedial excavation. Impacted soils were excavated on March 7, 1996. Soils containing concentrations of hydraulic oil above 1,000 mg/kg were excavated from around Lifts 2 and 3. Because analytical results from the 3-foot samples at Lifts 2 and 3 were below cleanup guidance levels, additional confirmatory samples were not collected by Dames & Moore from the excavation.

A summary of remediation activities by lift is provided below.

Lift 2

The Lift 2 cylinder area was excavated to a depth of 3 feet bgs. TPH-h was detected at 270 mg/kg (below the 1,000 mg/kg cleanup guidance) in the 3-foot sample collected during the prior soils assessment at Lift 2.

Lift 3

The Lift 3 cylinder area was excavated to a depth of 3 feet bgs. TPH-h was detected at 43 mg/kg (below the 1,000 mg/kg cleanup guidance) in the 3-foot sample collected during the prior soils assessment at Lift 2.

Excavated soil was stored on, and covered by, plastic sheeting in the Sears Automotive Center parking lot. Following excavation activities, the areas were backfilled with clean, imported soil and resurfaced with concrete.

3.4 WASTE MANAGEMENT

Excavated material from Lifts 1, 2, and 3 were stored on, and covered by, plastic sheeting in the Sears Automotive Center parking lot. One small stockpile was created during the soil excavation. On March 7, 1996, a Dames & Moore representative collected four soil samples from the stockpile. The four samples were composited by the onsite mobile laboratory and the four-point composite sample was analyzed for total recoverable petroleum hydrocarbons (TRPH) by EPA Method 418.1, and for metals by EPA Method 6010. Analytical results indicated 1,500 mg/kg of TRPH, 43 mg/kg of chromium, 57 mg/kg of nickel, and 33 mg/kg of zinc. On the basis of these results, the soil (approximately one cubic yard) was transported as non-hazardous waste to Remedial Environmental Marketing Company (REMCO) in Richmond, California, for thermal treatment and recycling as road base. A copy of the Non-Hazardous Waste Manifest is included in Appendix C.

Hydraulic oil associated with the lifts was drained from the equipment and stored in 55-gallon drums. The hydraulic oil was managed as recyclable waste by Sears Automotive Center personnel.

4.0 SUMMARY AND CONCLUSIONS

A total of three hydraulic lifts (Lifts 1, 2, and 3) were removed from the Automotive Center at Sears Store #1528. The three lifts were single-post lifts. Results of an initial soils assessment indicated that hydraulic oil concentrations exceeded cleanup guidance criteria (1,000 mg/kg) within certain areas. On the basis of these results, soils beneath Lifts 2 and 3 were overexcavated to a depth of 3 feet bgs.

Surface piping, supports, and associated equipment were removed from each of the three lifts. Hydraulic oil associated with the lifts was drained from the equipment and stored in 55-gallon drums.

Soil surrounding the lifts was excavated as needed to remove the lifts and stockpiled on site. The casings and surrounding excavations were backfilled with imported fill and resurfaced with concrete.

Approximately one cubic yard of excavated soil impacted with petroleum hydrocarbons were transported as non-hazardous waste to Remedial Environmental Marketing Company (REMCO) in Richmond, California, for thermal treatment and recycling as road base. The hydraulic oil was managed as recyclable waste by Sears Automotive Center personnel.

On the basis of State and Federal regulations governing hydraulic oil contamination in soils, it is Dames & Moore's opinion that subsurface soils surrounding the former Lifts 1, 2, and 3 (removed during this remodel) have been remediated to environmentally acceptable conditions.

5.0 LIMITATIONS

The conclusions presented in this report are professional opinions based solely upon visual observations of the Site and our interpretation of the analytical data obtained. They are intended for the purpose outlined herein and at the Site location and project indicated. This report is for the sole use of Sears. The scope of the services performed in the execution of this investigation may not be appropriate to satisfy the needs of other users, and any re-use of this document or the findings, conclusions, or recommendations presented herein is at the sole risk of the said user.

It should be recognized that this study was not intended to be a definitive investigation of contamination of the subject property, but is limited to the scope of hydraulic lift removal stated in this report. Opinions and conclusions presented herein apply to Site conditions existing at the time of the investigation. They cannot necessarily apply to changes at the Site of which this office is not aware and has not had the opportunity to evaluate. This report is intended for the use in its entirety; no excerpt may be taken to be representative of the findings of this investigation.

-000-

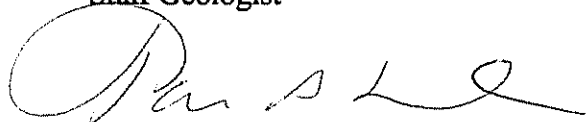
Please feel free to contact us if you have questions or require further assistance.

Respectfully submitted,

DAMES & MOORE

A handwritten signature in cursive script, appearing to read "Melissa Swartz".

Melissa Swartz
Staff Geologist

A handwritten signature in cursive script, appearing to read "Taras B. Kruk".

Taras B. Kruk, R.G.
Senior Geologist
Project Manager

Table 1
Soil Analytical Results
Former Sears Site #1528
San Rafael, California

Sample Location	Sample I.D.	Sample Depth (ft)	Sample Date	Notes	LABORATORY ANALYTICAL RESULTS*															
					TOTAL PETROLEUM HYDROCARBONS				AROMATIC HYDROCARBONS				PCBs	SVOCs	Metals					
					TPH-g (mg/kg)	TPH-d (mg/kg)	TPH-h (mg/kg)	TRPH (mg/kg)	B (mg/kg)	T (mg/kg)	E (mg/kg)	X (mg/kg)	Aroclor 1260 (mg/kg)	bis-phthalate (mg/kg)	Lead (mg/kg)	Cadmium (mg/kg)	Chromium (mg/kg)	Nickel (mg/kg)	Zinc (mg/kg)	
1	1-0	0	3/7/96	2	< 200	< 200	87	--	--	--	--	--	--	--	--	--	--	--	--	
1	1-7	7	3/7/96	2	< 200	< 200	320	--	--	--	--	--	--	--	--	--	--	--	--	
2	2-0	0	3/7/96	1,4	< 200	< 200	5,500	--	< 0.03	< 0.03	< 0.03	< 0.1	0.48	2.5	--	--	--	--	--	
2	2-3	3	3/7/96	2	< 200	< 200	270	--	--	--	--	--	--	--	--	--	--	--	--	
2	2-7	7	3/7/96	2	< 200	< 200	220	--	--	--	--	--	--	--	--	--	--	--	--	
3	3-0	0	3/7/96	1	< 200	< 200	11,000	--	--	--	--	--	--	--	--	--	--	--	--	
3	3-3	3	3/7/96	2	< 200	< 200	43	--	--	--	--	--	--	--	--	--	--	--	--	
3	3-7	7	3/7/96	2	< 200	< 200	830	--	--	--	--	--	--	--	--	--	--	--	--	
SP	SP-1	--	3/7/96	5	--	--	--	1500	--	--	--	--	--	--	--	< 5	< 1	43	57	33

Explanation / Notes:

- * = Only detected compounds within the Bay Area sites are listed
- 1. = Surrounding soils excavated and removed offsite.
- 2. = Sample of soils remaining in place.
- 3. = No Sample Recovery
- 4. = Duplicate sample analysis.
- 5. = Four point composite stockpile sample

< = Analytical result less than the detection limit indicated.
-- = Either not sampled and/or not tested for given parameter

TPH-g = Total Petroleum Hydrocarbons as gasoline by EPA Method 8015 (modified)
TPH-d = Total Petroleum Hydrocarbons as diesel by EPA Method 8015 (modified)
TPH-h = Total Petroleum Hydrocarbons as hydraulic fluid by EPA Method 8015 (modified)
TRPH = Total Recoverable Petroleum Hydrocarbons by EPA Method 418.1
BTEX = Volatile aromatic constituents Benzene, Toluene, Ethylbenzene, and Xylenes by EPA Method 8020 or 8240
Aroclor 1260 = polychlorinated biphenyl (PCB) by EPA Method 8080
Metals analyzed by EPA Method 6010
bis-phthalate = bis(2ethylhexyl)phthalate by EPA Method 8270

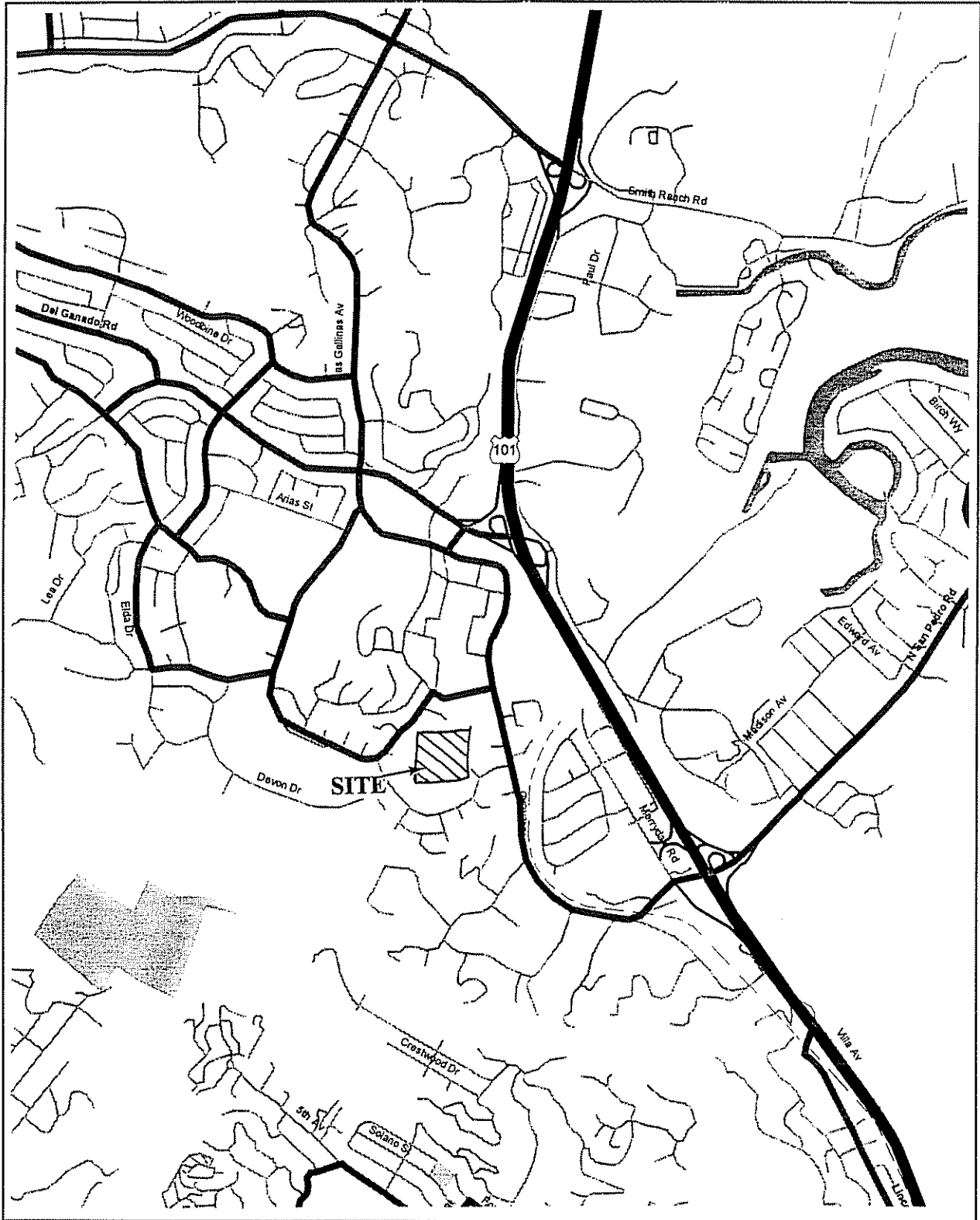
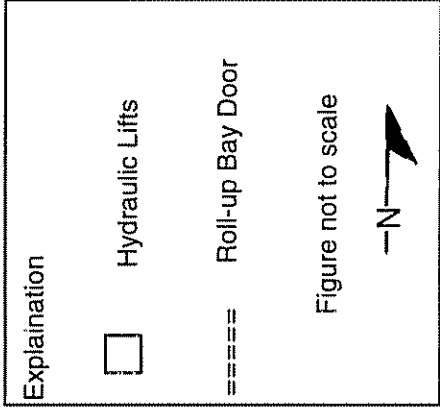
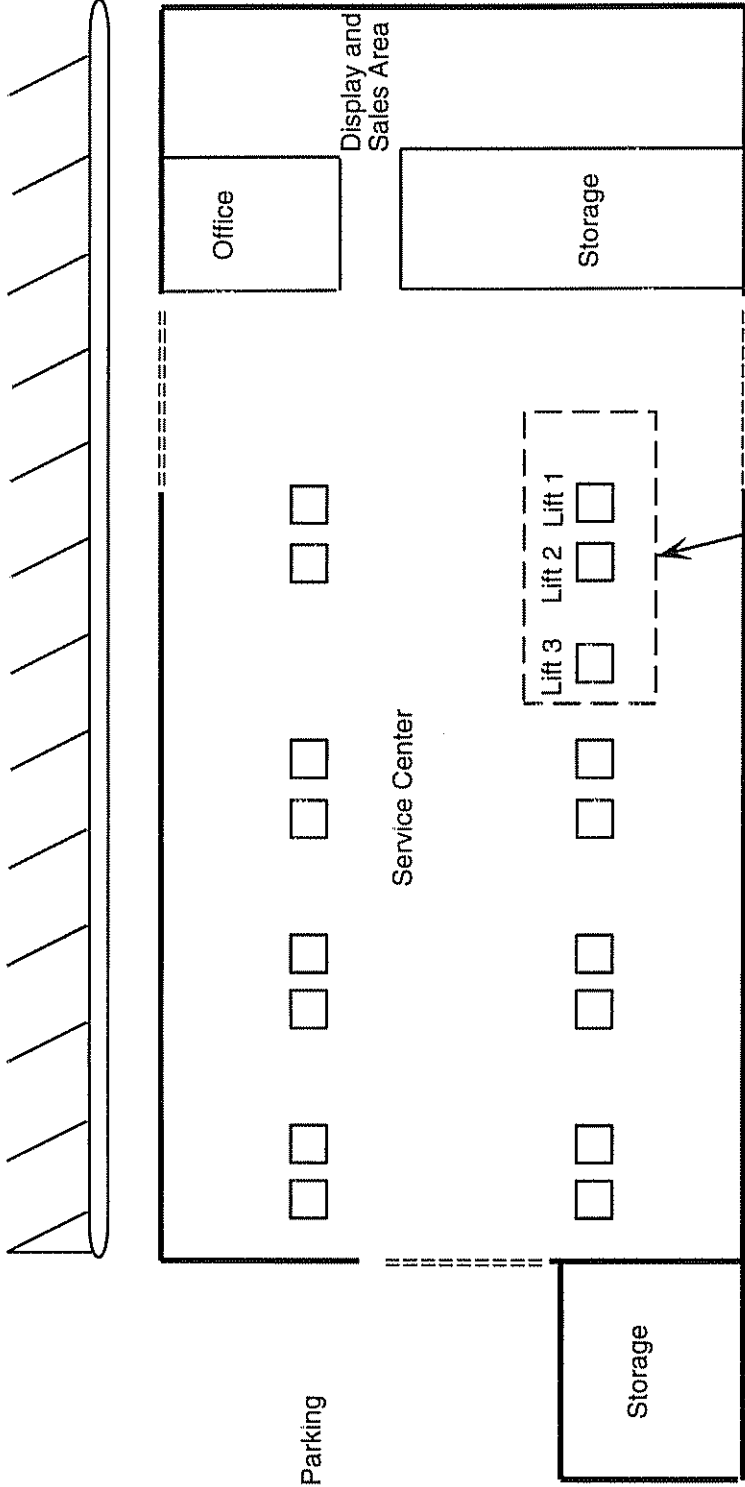


Figure 1
SITE VICINITY MAP
 Sears Automotive Center #1528
 San Rafael, CA



DAMES & MOORE

Parking



See Figure 3 for discreet sampling locations

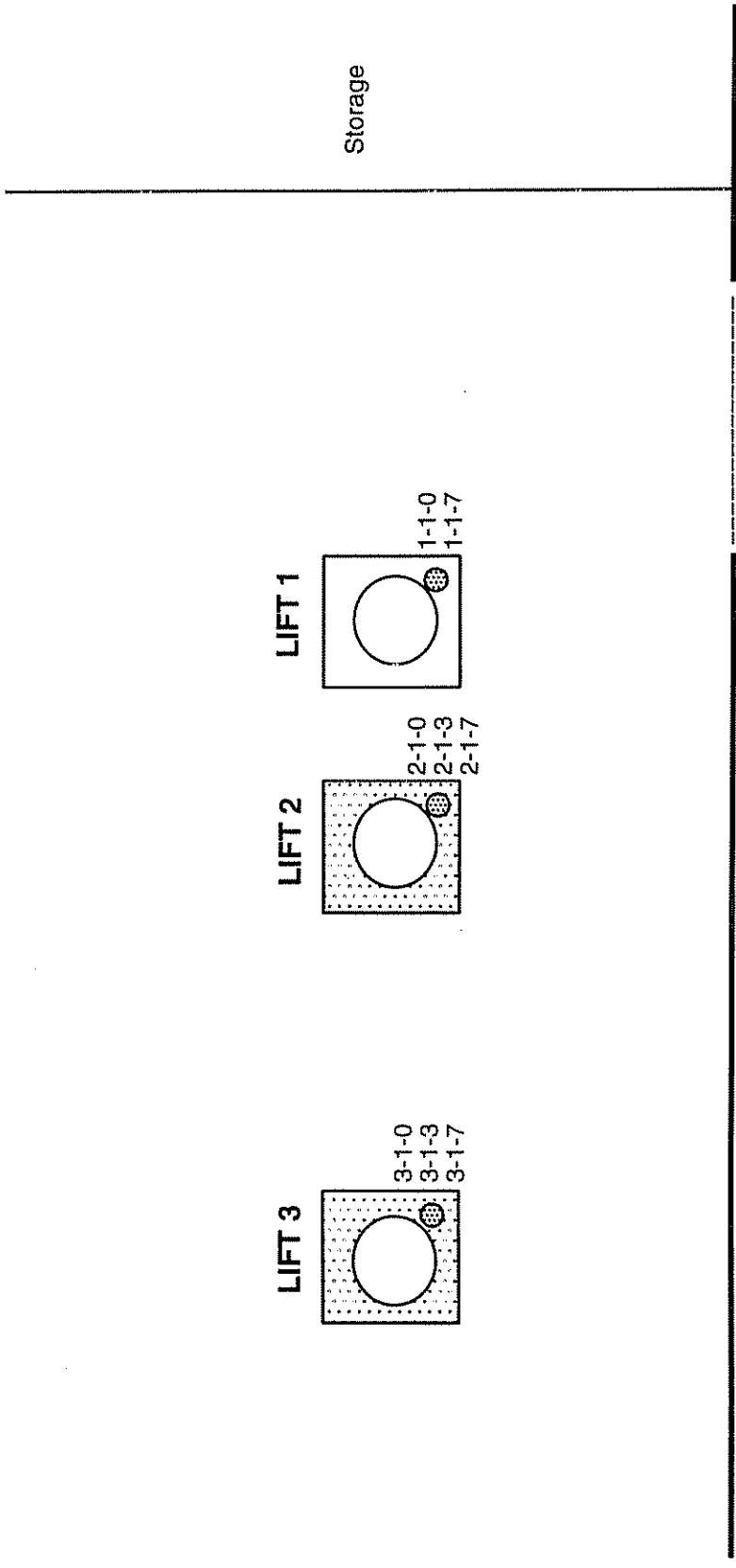
Site Plan

Dec 1996
00188-166-043


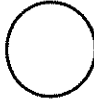




Sears, Roebuck & Company
Sears Automotive Center #1528
San Rafael, California



Figure 2



Explanation

-  Hydraulic Lift
 -  Lift cylinder
 -  Roll-up bay door
 -  Area of Remedial Excavation
 -  3-1-0 Sample location showing sample number
- Figure not to scale
- N 

Sample Location Map

Dec 1996
 00188-166-043

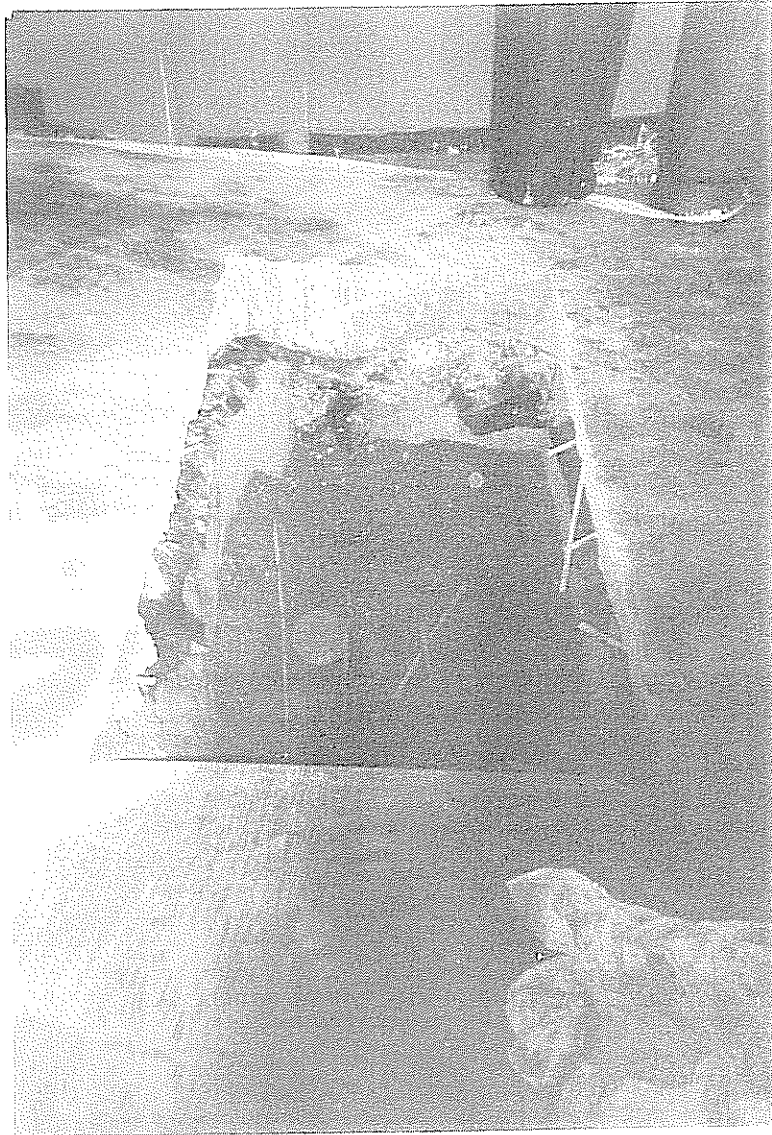
Sears, Roebuck & Company
 Sears Automotive Center #1528
 San Rafael, California

APPENDIX A

SITE PHOTOGRAPHS



Photograph 1. Lift 3 after cylinder has been removed



Photograph 2. Lift 2 after cylinder has been removed

APPENDIX B

LABORATORY REPORTS

ANALYTICAL REPORT

B C Analytical

1085 Shary Circle
 Concord, CA 94518
 510/825-3894
 Fax: 510/825-3924

LOG NO: G96-02-506

Received: 07 MAR 96
 Mailed : 26 APR 96

Mr. Branden Born
 Dames and Moore
 221 Main Street, Suite 600
 San Francisco, CA 94105-1917

Project: SEARS.SANRAFAEL

REPORT OF ANALYTICAL RESULTS

Page 1

LOG NO	SAMPLE DESCRIPTION, NON-AQUEOUS SAMPLES	DATE SAMPLED
02-506-1	2-0'	07 MAR 96
PARAMETER		02-506-1
Semi-volatiles (8270)		
Date Analyzed		03/12/96
Date Extracted		03/12/96
Dilution Factor, Times		5
1,2,4-Trichlorobenzene, mg/kg		<1
1,2-Dichlorobenzene, mg/kg		<1
1,2-Diphenylhydrazine, mg/kg		<1
1,3-Dichlorobenzene, mg/kg		<1
1,4-Dichlorobenzene, mg/kg		<1
2,4,5-Trichlorophenol, mg/kg		<1
2,4,6-Trichlorophenol, mg/kg		<1
2,4-Dichlorophenol, mg/kg		<1
2,4-Dimethylphenol, mg/kg		<1
2,4-Dinitrophenol, mg/kg		<2
2,4-Dinitrotoluene, mg/kg		<1
2,6-Dinitrotoluene, mg/kg		<1
2-Chloronaphthalene, mg/kg		<1
2-Chlorophenol, mg/kg		<1
2-Methyl-4,6-dinitrophenol, mg/kg		<2
2-Methylnaphthalene, mg/kg		<1
2-Methylphenol (o-Cresol), mg/kg		<1
2-Nitroaniline, mg/kg		<1
2-Nitrophenol, mg/kg		<1
3,3'-Dichlorobenzidine, mg/kg		<2
3-Nitroaniline, mg/kg		<1
4-Bromophenylphenylether, mg/kg		<1
4-Chloro-3-methylphenol, mg/kg		<1
4-Chloroaniline, mg/kg		<1



LOG NO: G96-02-506

Received: 07 MAR 96

Mailed : 26 APR 96

Mr. Branden Born
Dames and Moore
221 Main Street, Suite 600
San Francisco, CA 94105-1917

Project: SEARS.SANRAFAEL

REPORT OF ANALYTICAL RESULTS

Page 2

LOG NO	SAMPLE DESCRIPTION, NON-AQUEOUS SAMPLES	DATE SAMPLED
02-506-1	2-0'	07 MAR 96
PARAMETER	02-506-1	
4-Chlorophenylphenylether, mg/kg	<1	
4-Methylphenol (p-Cresol), mg/kg	<2	
4-Nitroaniline, mg/kg	<1	
4-Nitrophenol, mg/kg	<2	
Acenaphthene, mg/kg	<1	
Acenaphthylene, mg/kg	<1	
Aniline, mg/kg	<1	
Anthracene, mg/kg	<1	
Benzidine, mg/kg	<20	
Benzo(a)anthracene, mg/kg	<1	
Benzo(a)pyrene, mg/kg	<1	
Benzo(b)fluoranthene, mg/kg	<1	
Benzo(g,h,i)perylene, mg/kg	<1	
Benzo(k)fluoranthene, mg/kg	<1	
Benzyl Alcohol, mg/kg	<2	
Benzoic acid, mg/kg	<10	
Butylbenzylphthalate, mg/kg	<1	
Chrysene, mg/kg	<1	
Di-n-octylphthalate, mg/kg	<1	
Dibenzo(a,h)anthracene, mg/kg	<1	
Dibenzofuran, mg/kg	<1	
Dibutylphthalate, mg/kg	<1	
Diethylphthalate, mg/kg	<1	
Dimethylphthalate, mg/kg	<1	
Fluoranthene, mg/kg	<1	
Fluorene, mg/kg	<1	
Hexachlorobenzene, mg/kg	<1	

LOG NO: G96-02-506

Received: 07 MAR 96
Mailed : 26 APR 96

Mr. Branden Born
Dames and Moore
221 Main Street, Suite 600
San Francisco, CA 94105-1917

Project: SEARS.SANRAFAEL

REPORT OF ANALYTICAL RESULTS

Page 3

LOG NO	SAMPLE DESCRIPTION, NON-AQUEOUS SAMPLES	DATE SAMPLED
02-506-1	2-0'	07 MAR 96
PARAMETER	02-506-1	
Hexachlorobutadiene, mg/kg	<1	
Hexachlorocyclopentadiene, mg/kg	<2	
Hexachloroethane, mg/kg	<1	
Indeno(1,2,3-c,d)pyrene, mg/kg	<1	
Isophorone, mg/kg	<1	
N-Nitrosodimethylamine, mg/kg	<1	
N-Nitrosodiphenylamine, mg/kg	<1	
N-Nitrosodi-n-propylamine, mg/kg	<1	
Nitrobenzene, mg/kg	<1	
Naphthalene, mg/kg	<1	
Phenanthrene, mg/kg	<1	
Phenol, mg/kg	<1	
Pentachlorophenol, mg/kg	<2	
Pyrene, mg/kg	<1	
Pyridine, mg/kg	<2	
Bis(2-chloroethoxy)methane, mg/kg	<1	
Bis(2-chloroethyl)ether, mg/kg	<1	
Bis(2-chloroisopropyl)ether, mg/kg	<1	
Bis(2-ethylhexyl)phthalate, mg/kg	2.5	
Surrogates **		
2-Fluorobiphenyl Reported, mg/kg	2.18	
2-Fluorobiphenyl Theo., mg/kg	1.67	
2-Fluorophenol Reported, mg/kg	2.37	
2-Fluorophenol Theoretical, mg/kg	2.50	
2,4,6-Tribromophenol Rep., mg/kg	2.14	
2,4,6-Tribromophenol Theo., mg/kg	2.50	
Nitrobenzene-d5 Reported, mg/kg	1.88	

LOG NO: G96-02-506

Received: 07 MAR 96

Mailed : 26 APR 96

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REPORT OF ANALYTICAL RESULTS

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LOG NO	SAMPLE DESCRIPTION, NON-AQUEOUS SAMPLES	DATE SAMPLED
02-506-1	2-0'	07 MAR 96
PARAMETER	02-506-1	
Nitrobenzene-d5 Theoretical, mg/kg	1.67	
Phenol-d5 Reported, mg/kg	3.33	
Phenol-d5 Theoretical, mg/kg	2.50	
Terphenyl-d14 Reported, mg/kg	2.06	
Terphenyl-d14 Theoretical, mg/kg	1.67	
PCBs (8080)		
Date Analyzed	03/12/96	
Date Extracted	03/12/96	
Dilution Factor, Times	5	
Aroclor 1016, mg/kg	<0.2	
Aroclor 1221, mg/kg	<0.2	
Aroclor 1232, mg/kg	<0.2	
Aroclor 1242, mg/kg	<0.2	
Aroclor 1248, mg/kg	<0.2	
Aroclor 1254, mg/kg	<0.2	
Aroclor 1260, mg/kg	0.48	
Surrogates **		
Decachlorobiphenyl Reported, mg/kg	0.0113	
Decachlorobiphenyl Theoretical, mg/kg	0.0083	
Tetrachloro-meta-xylene Rpt., mg/kg	0.0090	
Tetrachloro-meta-xylene Theor., mg/kg	0.0083	

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LOG NO	SAMPLE DESCRIPTION, NON-AQUEOUS SAMPLES	DATE SAMPLED
02-506-1	2~0'	07 MAR 96
PARAMETER	02-506-1	
Diesel/Hydraulic Oil (8015M)		
Date Analyzed	03/07/96	
Date Extracted	03/07/96	
Dilution Factor, Times	10	
Carbon Range, .	C23-C40	
Hydraulic Oil, mg/kg	5500	
Carbon Range, .	C13-C22	
Diesel, mg/kg	<200	
Other Diesel/Hydraulic Oil (8015M)	---	
Surrogates **		
Naphthalene Reported, mg/kg	37.4	
Naphthalene Theoretical, mg/kg	50.0	
Gasoline (8015M)		
Date Analyzed	03/07/96	
Date Extracted	03/07/96	
Dilution Factor, Times	10	
Gasoline, mg/kg	<200	
Carbon Range, .	C4-C12	
Other Gasoline (8015M)	---	
Surrogates **		
Naphthalene Reported, mg/kg	53.6	
Naphthalene Theoretical, mg/kg	50.0	

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LOG NO	SAMPLE DESCRIPTION, NON-AQUEOUS SAMPLES	DATE SAMPLED
02-506-1	2-0'	07 MAR 96
PARAMETER	02-506-1	
Vol.Pri.Poll. (8240)		
Date Analyzed	03/13/96	
Dilution Factor, Times	1	
1,1,1-Trichloroethane, mg/kg	<0.005	
1,1,2,2-Tetrachloroethane, mg/kg	<0.005	
1,1,2-Trichloroethane, mg/kg	<0.005	
1,1-Dichloroethane, mg/kg	<0.005	
1,1-Dichloroethene, mg/kg	<0.005	
1,2-Dichloroethane, mg/kg	<0.005	
1,2-Dichlorobenzene, mg/kg	<0.005	
1,2-Dichloropropane, mg/kg	<0.005	
1,3-Dichlorobenzene, mg/kg	<0.005	
1,4-Dichlorobenzene, mg/kg	<0.005	
2-Chloroethylvinylether, mg/kg	<0.005	
2-Hexanone, mg/kg	<0.03	
Acetone, mg/kg	<0.1	
Acrolein, mg/kg	<0.3	
Acrylonitrile, mg/kg	<0.3	
Bromodichloromethane, mg/kg	<0.005	
Bromomethane, mg/kg	<0.005	
Benzene, mg/kg	<0.005	
Bromoform, mg/kg	<0.005	
Chlorobenzene, mg/kg	<0.005	
Carbon Tetrachloride, mg/kg	<0.005	
Chloroethane, mg/kg	<0.005	
Chloroform, mg/kg	<0.005	
Chloromethane, mg/kg	<0.005	

LOG NO: G96-02-506

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LOG NO	SAMPLE DESCRIPTION, NON-AQUEOUS SAMPLES	DATE SAMPLED
02-506-1	2-0'	07 MAR 96
PARAMETER	02-506-1	
Carbon Disulfide, mg/kg	<0.01	
Dibromochloromethane, mg/kg	<0.005	
Ethylbenzene, mg/kg	<0.005	
Freon 113, mg/kg	<0.01	
Methyl ethyl ketone, mg/kg	<0.03	
Methyl isobutyl ketone, mg/kg	<0.03	
Methylene chloride, mg/kg	<0.005	
Styrene, mg/kg	<0.005	
Trichloroethene, mg/kg	<0.005	
Trichlorofluoromethane, mg/kg	<0.005	
Toluene, mg/kg	<0.005	
Tetrachloroethene, mg/kg	<0.005	
Vinyl acetate, mg/kg	<0.05	
Vinyl chloride, mg/kg	<0.005	
Total Xylene Isomers, mg/kg	<0.02	
cis-1,2-Dichloroethene, mg/kg	<0.005	
cis-1,3-Dichloropropene, mg/kg	<0.005	
trans-1,2-Dichloroethene, mg/kg	<0.005	
trans-1,3-Dichloropropene, mg/kg	<0.005	
Other Vol.Pri.Poll. (8240)	---	
Surrogates **		
1,2-Dichloroethane-d4 Rep., mg/kg	0.0488	
1,2-Dichloroethane-d4 Theo., mg/kg	0.0500	
4-Bromofluorobenzene Rep., mg/kg	0.0475	
4-Bromofluorobenzene Theo., mg/kg	0.0500	
Toluene-d8 Reported, mg/kg	0.0478	
Toluene-d8 Theo., mg/kg	0.0500	

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LOG NO	SAMPLE DESCRIPTION, NON-AQUEOUS SAMPLES					DATE SAMPLED
02-506-2	3-0'					07 MAR 96
02-506-3	1-0'					07 MAR 96
02-506-4	3-7'					07 MAR 96
02-506-5	1-7'					07 MAR 96
02-506-6	3-3'					07 MAR 96
PARAMETER	02-506-2	02-506-3	02-506-4	02-506-5	02-506-6	
Diesel/Hydraulic Oil (8015M)						
Date Analyzed	03/07/96	03/07/96	03/07/96	03/07/96	03/07/96	
Date Extracted	03/07/96	03/07/96	03/07/96	03/07/96	03/07/96	
Dilution Factor, Times	10	1	1	1	1	
Carbon Range, .	C23-C40	C23-C40	C23-C40	C23-C40	C23-C40	
Hydraulic Oil, mg/kg	11000	87	830	320	43	
Carbon Range, .	C13-C22	C13-C22	C13-C22	C13-C22	C13-C22	
Diesel, mg/kg	<200	<20	<20	<20	<20	
Other Diesel/Hydraulic Oil (8015M)	---	---	---	---	---	
Surrogates **						
Naphthalene Reported, mg/kg	50.2	50.4	60.6	59.3	55.9	
Naphthalene Theoretical, mg/kg	50.0	50.0	50.0	50.0	50.0	

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LOG NO	SAMPLE DESCRIPTION, NON-AQUEOUS SAMPLES	DATE SAMPLED			
02-506-2	3-0'	07 MAR 96			
02-506-3	1-0'	07 MAR 96			
02-506-4	3-7'	07 MAR 96			
02-506-5	1-7'	07 MAR 96			
02-506-6	3-3'	07 MAR 96			
PARAMETER	02-506-2	02-506-3	02-506-4	02-506-5	02-506-6
Gasoline (8015M)					
Date Analyzed	03/07/96	03/07/96	03/07/96	03/07/96	03/07/96
Date Extracted	03/07/96	03/07/96	03/07/96	03/07/96	03/07/96
Dilution Factor, Times	10	1	1	1	1
Gasoline, mg/kg	<200	<20	<20	<20	<20
Carbon Range, .	C4-C12	C4-C12	C4-C12	C4-C12	C4-C12
Other Gasoline (8015M)	---	---	---	---	---
Surrogates **					
Naphthalene Reported, mg/kg	62.9	67.8	76.8	77.8	75.5
Naphthalene Theoretical, mg/kg	50.0	50.0	50.0	50.0	50.0

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LOG NO	SAMPLE DESCRIPTION, NON-AQUEOUS SAMPLES	DATE SAMPLED	
02-506-7	2-7'	07 MAR 96	
02-506-8	2-3'	07 MAR 96	
PARAMETER		02-506-7	02-506-8
Diesel/Hydraulic Oil (8015M)			
Date Analyzed		03/07/96	03/07/96
Date Extracted		03/07/96	03/07/96
Dilution Factor, Times		1	1
Carbon Range, .		C23-C40	C23-C40
Hydraulic Oil, mg/kg		220	270
Carbon Range, .		C13-C22	C13-C22
Diesel, mg/kg		<20	<20
Other Diesel/Hydraulic Oil (8015M)		---	---
Surrogates **			
Naphthalene Reported, mg/kg		56.4	58.4
Naphthalene Theoretical, mg/kg		50.0	50.0
Gasoline (8015M)			
Date Analyzed		03/07/96	03/07/96
Date Extracted		03/07/96	03/07/96
Dilution Factor, Times		1	1
Gasoline, mg/kg		<20	<20
Carbon Range, .		C4-C12	C4-C12
Other Gasoline (8015M)		---	---
Surrogates **			
Naphthalene Reported, mg/kg		69.5	73.3
Naphthalene Theoretical, mg/kg		50.0	50.0

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Dick Swenson, Laboratory Director

The analytical results within this report relate only to the specific compounds and samples investigated and may not necessarily reflect other apparently similar material from the same or a similar location.

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SAMPLES...	SAMPLE DESCRIPTION..	DETERM.....	DATE.....	METHOD.....	EQUIP.	BATCH..	ID.NO
			ANALYZED				
9602506*1	2-0'	8270.HSL	03.12.96	8270	537-11	9645	6750
		8080.PCB	03.12.96	8080	536-26	9640	7616
		FUEL.TOT.OIL	03.07.96	8015M	516-07	963008	8171
		FUEL.TOT.GAS	03.07.96	8015M	516-07	963008	8171
		8240.HSL	03.13.96	8240	537-01	9650187	8659
9602506*2	3-0'	FUEL.TOT.OIL	03.07.96	8015M	516-07	963008	8171
		FUEL.TOT.GAS	03.07.96	8015M	516-07	963008	8171
9602506*3	1-0'	FUEL.TOT.OIL	03.07.96	8015M	516-07	963008	8171
		FUEL.TOT.GAS	03.07.96	8015M	516-07	963008	8171
9602506*4	3-7'	FUEL.TOT.OIL	03.07.96	8015M	516-07	963008	8171
		FUEL.TOT.GAS	03.07.96	8015M	516-07	963008	8171
9602506*5	1-7'	FUEL.TOT.OIL	03.07.96	8015M	516-07	963008	8171
		FUEL.TOT.GAS	03.07.96	8015M	516-07	963008	8171
9602506*6	3-3'	FUEL.TOT.OIL	03.07.96	8015M	516-07	963008	8171
		FUEL.TOT.GAS	03.07.96	8015M	516-07	963008	8171
9602506*7	2-7'	FUEL.TOT.OIL	03.07.96	8015M	516-07	963008	8171
		FUEL.TOT.GAS	03.07.96	8015M	516-07	963008	8171
9602506*8	2-3'	FUEL.TOT.OIL	03.07.96	8015M	516-07	963008	8171
		FUEL.TOT.GAS	03.07.96	8015M	516-07	963008	8171

Notes: Equipment = BC Analytical identification number for a particular piece of analytical equipment.
 ID.NO = BC Analytical employee identification number of analyst.

BC ANALYTICAL

ORDER QC REPORT FOR G9602506

DATE REPORTED : 05/06/96

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LABORATORY CONTROL STANDARDS
FOR BATCHES WHICH INCLUDE THIS ORDER

PARAMETER	DATE ANALYZED	BATCH NUMBER	LC RESULT	LT RESULT	UNIT	PERCENT RECOVERY
Semi-volatiles	C6031257*1					
Date Analyzed	03.12.96	9645	03/12/96	03/12/96	Date	N/A
Date Extracted	03.12.96	9645	03/12/96	03/12/96	Date	N/A
1,2,4-Trichlorobenzene	03.12.96	9645	2.72	3.33	mg/kg	82
1,2-Dichlorobenzene	03.12.96	9645	3.09	3.33	mg/kg	93
1,2-Diphenylhydrazine	03.12.96	9645	3.00	3.33	mg/kg	90
1,3-Dichlorobenzene	03.12.96	9645	2.70	3.33	mg/kg	81
1,4-Dichlorobenzene	03.12.96	9645	2.70	3.33	mg/kg	81
2,4,5-Trichlorophenol	03.12.96	9645	3.39	3.33	mg/kg	102
2,4,6-Trichlorophenol	03.12.96	9645	2.69	3.33	mg/kg	81
2,4-Dichlorophenol	03.12.96	9645	2.38	3.33	mg/kg	71
2,4-Dimethylphenol	03.12.96	9645	2.32	3.33	mg/kg	70
2,4-Dinitrophenol	03.12.96	9645	2.22	3.33	mg/kg	67
2,4-Dinitrotoluene	03.12.96	9645	2.80	3.33	mg/kg	84
2,6-Dinitrotoluene	03.12.96	9645	2.61	3.33	mg/kg	78
2-Chloronaphthalene	03.12.96	9645	2.43	3.33	mg/kg	73
2-Chlorophenol	03.12.96	9645	2.51	3.33	mg/kg	75
2-Methyl-4,6-dinitrophenol	03.12.96	9645	1.96	3.33	mg/kg	59
2-Methylnaphthalene	03.12.96	9645	2.27	3.33	mg/kg	68
2-Methylphenol (o-Cresol)	03.12.96	9645	2.80	3.33	mg/kg	84
2-Nitroaniline	03.12.96	9645	2.42	3.33	mg/kg	73
2-Nitrophenol	03.12.96	9645	2.55	3.33	mg/kg	77
3,3'-Dichlorobenzidine	03.12.96	9645	2.58	6.67	mg/kg	39
3-Nitroaniline	03.12.96	9645	2.18	3.33	mg/kg	65
4-Bromophenylphenylether	03.12.96	9645	2.55	3.33	mg/kg	77
4-Chloro-3-methylphenol	03.12.96	9645	2.59	3.33	mg/kg	78
4-Chloroaniline	03.12.96	9645	2.37	3.33	mg/kg	71
4-Chlorophenylphenylether	03.12.96	9645	2.61	3.33	mg/kg	78
4-Methylphenol (p-Cresol)	03.12.96	9645	2.63	3.33	mg/kg	79
4-Nitroaniline	03.12.96	9645	2.16	3.33	mg/kg	65
4-Nitrophenol	03.12.96	9645	2.54	3.33	mg/kg	76
Acenaphthene	03.12.96	9645	2.72	3.33	mg/kg	82
Acenaphthylene	03.12.96	9645	2.62	3.33	mg/kg	79
Aniline	03.12.96	9645	1.73	3.33	mg/kg	52
Anthracene	03.12.96	9645	2.38	3.33	mg/kg	71
Benzidine	03.12.96	9645	0	6.67	mg/kg	0 Q
Benzo(a)anthracene	03.12.96	9645	2.59	3.33	mg/kg	78
Benzo(a)pyrene	03.12.96	9645	2.51	3.33	mg/kg	75
Benzo(b)fluoranthene	03.12.96	9645	2.01	3.33	mg/kg	60
Benzo(g,h,i)perylene	03.12.96	9645	2.61	3.33	mg/kg	78
Benzo(k)fluoranthene	03.12.96	9645	2.68	3.33	mg/kg	80
Benzyl Alcohol	03.12.96	9645	2.46	3.33	mg/kg	74
Benzoic acid	03.12.96	9645	2.11	6.67	mg/kg	32
Butylbenzylphthalate	03.12.96	9645	3.25	3.33	mg/kg	98
Chrysene	03.12.96	9645	2.58	3.33	mg/kg	77

BC ANALYTICAL

ORDER QC REPORT FOR G9602506

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LABORATORY CONTROL STANDARDS
FOR BATCHES WHICH INCLUDE THIS ORDER

PARAMETER	DATE ANALYZED	BATCH NUMBER	LC RESULT	LT RESULT	UNIT	PERCENT RECOVERY
Di-n-octylphthalate	03.12.96	9645	2.92	3.33	mg/kg	88
Dibenzo(a,h)anthracene	03.12.96	9645	2.43	3.33	mg/kg	73
Dibenzofuran	03.12.96	9645	2.42	3.33	mg/kg	73
Dibutylphthalate	03.12.96	9645	2.71	3.33	mg/kg	81
Diethylphthalate	03.12.96	9645	2.46	3.33	mg/kg	74
Dimethylphthalate	03.12.96	9645	2.57	3.33	mg/kg	77
Fluoranthene	03.12.96	9645	2.47	3.33	mg/kg	74
Fluorene	03.12.96	9645	2.67	3.33	mg/kg	80
Hexachlorobenzene	03.12.96	9645	2.76	3.33	mg/kg	83
Hexachlorobutadiene	03.12.96	9645	2.89	3.33	mg/kg	87
Hexachlorocyclopentadiene	03.12.96	9645	3.98	3.33	mg/kg	120
Hexachloroethane	03.12.96	9645	3.02	3.33	mg/kg	91
Indeno(1,2,3-c,d)pyrene	03.12.96	9645	2.31	3.33	mg/kg	69
Isophorone	03.12.96	9645	2.65	3.33	mg/kg	80
N-Nitrosodimethylamine	03.12.96	9645	3.97	3.33	mg/kg	119
N-Nitrosodiphenylamine	03.12.96	9645	1.73	3.33	mg/kg	52
N-Nitrosodi-n-propylamine	03.12.96	9645	2.79	3.33	mg/kg	84
Nitrobenzene	03.12.96	9645	2.89	3.33	mg/kg	87
Naphthalene	03.12.96	9645	2.37	3.33	mg/kg	71
Phenanthrene	03.12.96	9645	2.54	3.33	mg/kg	76
Phenol	03.12.96	9645	1.68	3.33	mg/kg	50
Pentachlorophenol	03.12.96	9645	2.23	3.33	mg/kg	67
Pyrene	03.12.96	9645	2.86	3.33	mg/kg	86
Bis(2-chloroethoxy)methane	03.12.96	9645	2.22	3.33	mg/kg	67
Bis(2-chloroethyl)ether	03.12.96	9645	3.27	3.33	mg/kg	98
Bis(2-chloroisopropyl)ether	03.12.96	9645	2.92	3.33	mg/kg	88
Bis(2-ethylhexyl)phthalate	03.12.96	9645	2.92	3.33	mg/kg	88
2-Fluorobiphenyl Reported	03.12.96	9645	1.82	1.67	mg/kg	109
2-Fluorobiphenyl Theo.	03.12.96	9645	1.67	1.67	mg/kg	100
2-Fluorophenol Reported	03.12.96	9645	2.57	2.50	mg/kg	103 Q
2-Fluorophenol Theoretical	03.12.96	9645	2.50	2.50	mg/kg	100
2,4,6-Tribromophenol Rep.	03.12.96	9645	2.91	2.50	mg/kg	116
2,4,6-Tribromophenol Theo.	03.12.96	9645	2.50	2.50	mg/kg	100
Nitrobenzene-d5 Reported	03.12.96	9645	1.78	1.67	mg/kg	107
Nitrobenzene-d5 Theoretical	03.12.96	9645	1.67	1.67	mg/kg	100
Phenol-d5 Reported	03.12.96	9645	3.05	2.50	mg/kg	122 Q
Phenol-d5 Theoretical	03.12.96	9645	2.50	2.50	mg/kg	100
Terphenyl-d14 Reported	03.12.96	9645	1.63	1.67	mg/kg	98
Terphenyl-d14 Theoretical	03.12.96	9645	1.67	1.67	mg/kg	100
Semi-volatiles	C6031258*1					
Date Analyzed	03.12.96	9645	03/12/96	03/12/96	Date	N/A
Date Extracted	03.12.96	9645	03/12/96	03/12/96	Date	N/A
1,2,4-Trichlorobenzene	03.12.96	9645	2.75	3.33	mg/kg	83
1,2-Dichlorobenzene	03.12.96	9645	3.16	3.33	mg/kg	95
1,2-Diphenylhydrazine	03.12.96	9645	2.97	3.33	mg/kg	89

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LABORATORY CONTROL STANDARDS
FOR BATCHES WHICH INCLUDE THIS ORDER

PARAMETER	DATE ANALYZED	BATCH NUMBER	LC RESULT	LT RESULT	UNIT	PERCENT RECOVERY
1,3-Dichlorobenzene	03.12.96	9645	2.81	3.33	mg/kg	84
1,4-Dichlorobenzene	03.12.96	9645	2.78	3.33	mg/kg	83
2,4,5-Trichlorophenol	03.12.96	9645	3.36	3.33	mg/kg	101
2,4,6-Trichlorophenol	03.12.96	9645	2.59	3.33	mg/kg	78
2,4-Dichlorophenol	03.12.96	9645	2.33	3.33	mg/kg	70
2,4-Dimethylphenol	03.12.96	9645	2.25	3.33	mg/kg	68
2,4-Dinitrophenol	03.12.96	9645	2.24	3.33	mg/kg	67
2,4-Dinitrotoluene	03.12.96	9645	2.95	3.33	mg/kg	89
2,6-Dinitrotoluene	03.12.96	9645	2.72	3.33	mg/kg	82
2-Chloronaphthalene	03.12.96	9645	2.45	3.33	mg/kg	74
2-Chlorophenol	03.12.96	9645	2.50	3.33	mg/kg	75
2-Methyl-4,6-dinitrophenol	03.12.96	9645	1.99	3.33	mg/kg	60
2-Methylnaphthalene	03.12.96	9645	2.29	3.33	mg/kg	69
2-Methylphenol (o-Cresol)	03.12.96	9645	2.77	3.33	mg/kg	83
2-Nitroaniline	03.12.96	9645	2.45	3.33	mg/kg	74
2-Nitrophenol	03.12.96	9645	2.44	3.33	mg/kg	73
3,3'-Dichlorobenzidine	03.12.96	9645	2.47	6.67	mg/kg	37
3-Nitroaniline	03.12.96	9645	2.24	3.33	mg/kg	67
4-Bromophenylphenylether	03.12.96	9645	2.58	3.33	mg/kg	77
4-Chloro-3-methylphenol	03.12.96	9645	2.55	3.33	mg/kg	77
4-Chloroaniline	03.12.96	9645	2.35	3.33	mg/kg	71
4-Chlorophenylphenylether	03.12.96	9645	2.94	3.33	mg/kg	88
4-Methylphenol (p-Cresol)	03.12.96	9645	2.61	3.33	mg/kg	78
4-Nitroaniline	03.12.96	9645	2.22	3.33	mg/kg	67
4-Nitrophenol	03.12.96	9645	2.47	3.33	mg/kg	74
Acenaphthene	03.12.96	9645	2.84	3.33	mg/kg	85
Acenaphthylene	03.12.96	9645	2.65	3.33	mg/kg	80
Aniline	03.12.96	9645	1.63	3.33	mg/kg	49
Anthracene	03.12.96	9645	2.41	3.33	mg/kg	72
Benzidine	03.12.96	9645	0	6.67	mg/kg	0 Q
Benzo(a)anthracene	03.12.96	9645	2.65	3.33	mg/kg	80
Benzo(a)pyrene	03.12.96	9645	2.54	3.33	mg/kg	76
Benzo(b)fluoranthene	03.12.96	9645	2.11	3.33	mg/kg	63
Benzo(g,h,i)perylene	03.12.96	9645	2.55	3.33	mg/kg	77
Benzo(k)fluoranthene	03.12.96	9645	2.81	3.33	mg/kg	84
Benzyl Alcohol	03.12.96	9645	2.48	3.33	mg/kg	74
Benzoic acid	03.12.96	9645	3.13	6.67	mg/kg	47
Butylbenzylphthalate	03.12.96	9645	3.37	3.33	mg/kg	101
Chrysene	03.12.96	9645	2.67	3.33	mg/kg	80
Di-n-octylphthalate	03.12.96	9645	2.99	3.33	mg/kg	90
Dibenzo(a,h)anthracene	03.12.96	9645	2.48	3.33	mg/kg	74
Dibenzofuran	03.12.96	9645	2.48	3.33	mg/kg	74
Dibutylphthalate	03.12.96	9645	2.79	3.33	mg/kg	84
Diethylphthalate	03.12.96	9645	2.54	3.33	mg/kg	76
Dimethylphthalate	03.12.96	9645	2.67	3.33	mg/kg	80

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LABORATORY CONTROL STANDARDS
FOR BATCHES WHICH INCLUDE THIS ORDER

PARAMETER	DATE ANALYZED	BATCH NUMBER	LC RESULT	LT RESULT	UNIT	PERCENT RECOVERY
Fluoranthene	03.12.96	9645	2.52	3.33	mg/kg	76
Fluorene	03.12.96	9645	2.71	3.33	mg/kg	81
Hexachlorobenzene	03.12.96	9645	2.74	3.33	mg/kg	82
Hexachlorobutadiene	03.12.96	9645	2.90	3.33	mg/kg	87
Hexachlorocyclopentadiene	03.12.96	9645	4.07	3.33	mg/kg	122
Hexachloroethane	03.12.96	9645	3.14	3.33	mg/kg	94
Indeno(1,2,3-c,d)pyrene	03.12.96	9645	2.63	3.33	mg/kg	79
Isophorone	03.12.96	9645	2.66	3.33	mg/kg	80
N-Nitrosodimethylamine	03.12.96	9645	4.10	3.33	mg/kg	123
N-Nitrosodiphenylamine	03.12.96	9645	1.76	3.33	mg/kg	53
N-Nitrosodi-n-propylamine	03.12.96	9645	3.01	3.33	mg/kg	90
Nitrobenzene	03.12.96	9645	2.93	3.33	mg/kg	88
Naphthalene	03.12.96	9645	2.40	3.33	mg/kg	72
Phenanthrene	03.12.96	9645	2.56	3.33	mg/kg	77
Phenol	03.12.96	9645	2.44	3.33	mg/kg	73
Pentachlorophenol	03.12.96	9645	2.19	3.33	mg/kg	66
Pyrene	03.12.96	9645	2.99	3.33	mg/kg	90
Bis(2-chloroethoxy)methane	03.12.96	9645	2.28	3.33	mg/kg	68
Bis(2-chloroethyl)ether	03.12.96	9645	3.03	3.33	mg/kg	91
Bis(2-chloroisopropyl)ether	03.12.96	9645	2.91	3.33	mg/kg	87
Bis(2-ethylhexyl)phthalate	03.12.96	9645	2.96	3.33	mg/kg	89
2-Fluorobiphenyl Reported	03.12.96	9645	1.76	1.67	mg/kg	105
2-Fluorobiphenyl Theo.	03.12.96	9645	1.67	1.67	mg/kg	100
2-Fluorophenol Reported	03.12.96	9645	2.56	2.50	mg/kg	102 Q
2-Fluorophenol Theoretical	03.12.96	9645	2.50	2.50	mg/kg	100
2,4,6-Tribromophenol Rep.	03.12.96	9645	2.66	2.50	mg/kg	106
2,4,6-Tribromophenol Theo.	03.12.96	9645	2.50	2.50	mg/kg	100
Nitrobenzene-d5 Reported	03.12.96	9645	1.74	1.67	mg/kg	104
Nitrobenzene-d5 Theoretical	03.12.96	9645	1.67	1.67	mg/kg	100
Phenol-d5 Reported	03.12.96	9645	2.99	2.50	mg/kg	120 Q
Phenol-d5 Theoretical	03.12.96	9645	2.50	2.50	mg/kg	100
Terphenyl-d14 Reported	03.12.96	9645	1.61	1.67	mg/kg	96
Terphenyl-d14 Theoretical	03.12.96	9645	1.67	1.67	mg/kg	100
PCBs	C6031252*1					
Date Analyzed	03.13.96	9640	03/13/96	03/13/96	Date	N/A
Date Extracted	03.13.96	9640	03/12/96	03/12/96	Date	N/A
Aroclor 1260	03.13.96	9640	0.291	0.333	mg/kg	87
Decachlorobiphenyl Reported	03.13.96	9640	0.0095	0.0083	mg/kg	114
Decachlorobiphenyl Theoretical	03.13.96	9640	0.0083	0.0083	mg/kg	100
Tetrachloro-meta-xylene Rpt.	03.13.96	9640	0.0077	0.0083	mg/kg	93
Tetrachloro-meta-xylene Theor.	03.13.96	9640	0.0083	0.0083	mg/kg	100
4. PCBs	C6031253*1					
Date Analyzed	03.13.96	9640	03/13/96	03/13/96	Date	N/A
Date Extracted	03.13.96	9640	03/12/96	03/12/96	Date	N/A
Aroclor 1260	03.13.96	9640	0.260	0.333	mg/kg	78

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Decachlorobiphenyl Reported	03.13.96	9640	0.0102	0.0083	mg/kg	123
Decachlorobiphenyl Theoretical	03.13.96	9640	0.0083	0.0083	mg/kg	100
Tetrachloro-meta-xylene Rpt.	03.13.96	9640	0.0090	0.0083	mg/kg	108
Tetrachloro-meta-xylene Theor.	03.13.96	9640	0.0083	0.0083	mg/kg	100
Gasoline C6031254*1						
Date Analyzed	03.07.96	963008	03/07/96	03/07/96	Date	N/A
Date Extracted	03.07.96	963008	03/07/96	03/07/96	Date	N/A
Gasoline	03.07.96	963008	291	250	mg/kg	116
Naphthalene Reported	03.07.96	963008	67.6	50.0	mg/kg	135 Q
Naphthalene Theoretical	03.07.96	963008	50.0	50.0	mg/kg	100
Diesel/Hydraulic Oil C6031255*1						
Date Analyzed	03.07.96	963008	03/07/96	03/07/96	Date	N/A
Date Extracted	03.07.96	963008	03/07/96	03/07/96	Date	N/A
Hydraulic Oil	03.07.96	963008	473	500	mg/kg	95
Diesel	03.07.96	963008	505	500	mg/kg	101
Naphthalene Reported	03.07.96	963008	81.2	50.0	mg/kg	162 Q
Naphthalene Theoretical	03.07.96	963008	50.0	50.0	mg/kg	100
Vol.Pri.Poll. C6031387*1						
Date Analyzed	03.14.96	9650187	03/14/96	03/14/96	Date	N/A
1,1,1-Trichloroethane	03.14.96	9650187	0.0459	0.0500	mg/kg	92
1,1,2,2-Tetrachloroethane	03.14.96	9650187	0.0438	0.0500	mg/kg	88
1,1,2-Trichloroethane	03.14.96	9650187	0.0446	0.0500	mg/kg	89
1,1-Dichloroethane	03.14.96	9650187	0.0414	0.0500	mg/kg	83
1,1-Dichloroethene	03.14.96	9650187	0.0395	0.0500	mg/kg	79
1,2-Dichloroethane	03.14.96	9650187	0.0358	0.0500	mg/kg	72 Q
1,2-Dichlorobenzene	03.14.96	9650187	0.0468	0.0500	mg/kg	94
1,2-Dichloropropane	03.14.96	9650187	0.0404	0.0500	mg/kg	81
1,3-Dichlorobenzene	03.14.96	9650187	0.0475	0.0500	mg/kg	95
1,4-Dichlorobenzene	03.14.96	9650187	0.0463	0.0500	mg/kg	93
2-Chloroethylvinylether	03.14.96	9650187	0.0152	0.0500	mg/kg	30
2-Hexanone	03.14.96	9650187	0.0377	0.0500	mg/kg	75
Acetone	03.14.96	9650187	0.0255	0.0500	mg/kg	51
Acrolein	03.14.96	9650187	0.0818	0.500	mg/kg	16 Q
Acrylonitrile	03.14.96	9650187	0.324	0.500	mg/kg	65
Bromodichloromethane	03.14.96	9650187	0.0463	0.0500	mg/kg	93
Bromomethane	03.14.96	9650187	0.0542	0.0500	mg/kg	108
Benzene	03.14.96	9650187	0.0407	0.0500	mg/kg	81
Bromoform	03.14.96	9650187	0.0433	0.0500	mg/kg	87
Chlorobenzene	03.14.96	9650187	0.0470	0.0500	mg/kg	94
Carbon Tetrachloride	03.14.96	9650187	0.0440	0.0500	mg/kg	88
Chloroethane	03.14.96	9650187	0.0675	0.0500	mg/kg	135
Chloroform	03.14.96	9650187	0.0395	0.0500	mg/kg	79
Chloromethane	03.14.96	9650187	0.0480	0.0500	mg/kg	96
Carbon Disulfide	03.14.96	9650187	0.0388	0.0500	mg/kg	78
Dibromochloromethane	03.14.96	9650187	0.0448	0.0500	mg/kg	90

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PARAMETER	DATE ANALYZED	BATCH NUMBER	LC RESULT	LT RESULT	UNIT	PERCENT RECOVERY
Ethylbenzene	03.14.96	9650187	0.0480	0.0500	mg/kg	96
Freon 113	03.14.96	9650187	0.0536	0.0500	mg/kg	107
Methyl ethyl ketone	03.14.96	9650187	0.0271	0.0500	mg/kg	54
Methyl isobutyl ketone	03.14.96	9650187	0.0332	0.0500	mg/kg	66
Methylene chloride	03.14.96	9650187	0.0396	0.0500	mg/kg	79
Styrene	03.14.96	9650187	0.0466	0.0500	mg/kg	93
Trichloroethene	03.14.96	9650187	0.0391	0.0500	mg/kg	78
Trichlorofluoromethane	03.14.96	9650187	0.0575	0.0500	mg/kg	115
Toluene	03.14.96	9650187	0.0450	0.0500	mg/kg	90
Tetrachloroethene	03.14.96	9650187	0.0470	0.0500	mg/kg	94
Vinyl acetate	03.14.96	9650187	0.0226	0.0500	mg/kg	45
Vinyl chloride	03.14.96	9650187	0.0591	0.0500	mg/kg	118
Total Xylene Isomers	03.14.96	9650187	0.145	0.150	mg/kg	97
cis-1,2-Dichloroethene	03.14.96	9650187	0.0421	0.0500	mg/kg	84
cis-1,3-Dichloropropene	03.14.96	9650187	0.0428	0.0500	mg/kg	86
trans-1,2-Dichloroethene	03.14.96	9650187	0.0415	0.0500	mg/kg	83
trans-1,3-Dichloropropene	03.14.96	9650187	0.0417	0.0500	mg/kg	83
1,2-Dichloroethane-d4 Rep.	03.14.96	9650187	0.0480	0.0500	mg/kg	96
1,2-Dichloroethane-d4 Theo.	03.14.96	9650187	0.0500	0.0500	mg/kg	100
4-Bromofluorobenzene Rep.	03.14.96	9650187	0.0481	0.0500	mg/kg	96
4-Bromofluorobenzene Theo.	03.14.96	9650187	0.0500	0.0500	mg/kg	100
Toluene-d8 Reported	03.14.96	9650187	0.0511	0.0500	mg/kg	102
Toluene-d8 Theo.	03.14.96	9650187	0.0500	0.0500	mg/kg	100
Vol.Pri.Poll.	C6031390*1					
Date Analyzed	03.13.96	9650187	03/13/96	03/13/96	Date	N/A
1,1,1-Trichloroethane	03.13.96	9650187	0.0395	0.0500	mg/kg	79
1,1,2,2-Tetrachloroethane	03.13.96	9650187	0.0504	0.0500	mg/kg	101
1,1,2-Trichloroethane	03.13.96	9650187	0.0497	0.0500	mg/kg	99
1,1-Dichloroethane	03.13.96	9650187	0.0407	0.0500	mg/kg	81
1,1-Dichloroethene	03.13.96	9650187	0.0411	0.0500	mg/kg	82
1,2-Dichloroethane	03.13.96	9650187	0.0370	0.0500	mg/kg	74 Q
1,2-Dichlorobenzene	03.13.96	9650187	0.0473	0.0500	mg/kg	95
1,2-Dichloropropane	03.13.96	9650187	0.0424	0.0500	mg/kg	85
1,3-Dichlorobenzene	03.13.96	9650187	0.0473	0.0500	mg/kg	95
1,4-Dichlorobenzene	03.13.96	9650187	0.0467	0.0500	mg/kg	93
2-Chloroethylvinylether	03.13.96	9650187	0.0268	0.0500	mg/kg	54
2-Hexanone	03.13.96	9650187	0.0493	0.0500	mg/kg	99
Acetone	03.13.96	9650187	0.0376	0.0500	mg/kg	75
Acrolein	03.13.96	9650187	0.126	0.500	mg/kg	25 Q
Acrylonitrile	03.13.96	9650187	0.432	0.500	mg/kg	86
Bromodichloromethane	03.13.96	9650187	0.0497	0.0500	mg/kg	99
Bromomethane	03.13.96	9650187	0.0461	0.0500	mg/kg	92
Benzene	03.13.96	9650187	0.0405	0.0500	mg/kg	81
Bromoform	03.13.96	9650187	0.0475	0.0500	mg/kg	95
Chlorobenzene	03.13.96	9650187	0.0492	0.0500	mg/kg	98

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PARAMETER	DATE ANALYZED	BATCH NUMBER	LC RESULT	LT RESULT	UNIT	PERCENT RECOVERY
Carbon Tetrachloride	03.13.96	9650187	0.0422	0.0500	mg/kg	84
Chloroethane	03.13.96	9650187	0.0538	0.0500	mg/kg	108
Chloroform	03.13.96	9650187	0.0373	0.0500	mg/kg	75
Chloromethane	03.13.96	9650187	0.0491	0.0500	mg/kg	98
Carbon Disulfide	03.13.96	9650187	0.0401	0.0500	mg/kg	80
Dibromochloromethane	03.13.96	9650187	0.0476	0.0500	mg/kg	95
Ethylbenzene	03.13.96	9650187	0.0497	0.0500	mg/kg	99
Freon 113	03.13.96	9650187	0.0487	0.0500	mg/kg	97
Methyl ethyl ketone	03.13.96	9650187	0.0366	0.0500	mg/kg	73
Methyl isobutyl ketone	03.13.96	9650187	0.0477	0.0500	mg/kg	95
Methylene chloride	03.13.96	9650187	0.0410	0.0500	mg/kg	82
Styrene	03.13.96	9650187	0.0476	0.0500	mg/kg	95
Trichloroethene	03.13.96	9650187	0.0382	0.0500	mg/kg	76
Trichlorofluoromethane	03.13.96	9650187	0.0526	0.0500	mg/kg	105
Toluene	03.13.96	9650187	0.0484	0.0500	mg/kg	97
Tetrachloroethene	03.13.96	9650187	0.0504	0.0500	mg/kg	101
Vinyl acetate	03.13.96	9650187	0.0466	0.0500	mg/kg	93
Vinyl chloride	03.13.96	9650187	0.0471	0.0500	mg/kg	94
Total Xylene Isomers	03.13.96	9650187	0.149	0.150	mg/kg	99
cis-1,2-Dichloroethene	03.13.96	9650187	0.0419	0.0500	mg/kg	84
cis-1,3-Dichloropropene	03.13.96	9650187	0.0494	0.0500	mg/kg	99
trans-1,2-Dichloroethene	03.13.96	9650187	0.0415	0.0500	mg/kg	83
trans-1,3-Dichloropropene	03.13.96	9650187	0.0489	0.0500	mg/kg	98
1,2-Dichloroethane-d4 Rep.	03.13.96	9650187	0.0486	0.0500	mg/kg	97
1,2-Dichloroethane-d4 Theo.	03.13.96	9650187	0.0500	0.0500	mg/kg	100
4-Bromofluorobenzene Rep.	03.13.96	9650187	0.0473	0.0500	mg/kg	95
4-Bromofluorobenzene Theo.	03.13.96	9650187	0.0500	0.0500	mg/kg	100
Toluene-d8 Reported	03.13.96	9650187	0.0499	0.0500	mg/kg	100
Toluene-d8 Theo.	03.13.96	9650187	0.0500	0.0500	mg/kg	100

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ADDITIONAL LCS PRECISION (DUPLICATES)
BATCH QC REPORT

PARAMETER	SAMPLE NUMBER	DATE ANALYZED	BATCH NUMBER	LC1 RESULT	LC2 RESULT	UNIT	RELATIVE % DIFF
Semi-volatiles							
Date Analyzed		03.12.96	9645	03/12/96	03/12/96	Date	N/A
Date Extracted		03.12.96	9645	03/12/96	03/12/96	Date	N/A
1,2,4-Trichlorobenzene		03.12.96	9645	2.72	2.75	mg/kg	1
1,2-Dichlorobenzene		03.12.96	9645	3.09	3.16	mg/kg	2
1,2-Diphenylhydrazine		03.12.96	9645	3.00	2.97	mg/kg	1
1,3-Dichlorobenzene		03.12.96	9645	2.70	2.81	mg/kg	4
1,4-Dichlorobenzene		03.12.96	9645	2.70	2.78	mg/kg	3
2,4,5-Trichlorophenol		03.12.96	9645	3.39	3.36	mg/kg	1
2,4,6-Trichlorophenol		03.12.96	9645	2.69	2.59	mg/kg	4
2,4-Dichlorophenol		03.12.96	9645	2.38	2.33	mg/kg	2
2,4-Dimethylphenol		03.12.96	9645	2.32	2.25	mg/kg	3
2,4-Dinitrophenol		03.12.96	9645	2.22	2.24	mg/kg	1
2,4-Dinitrotoluene		03.12.96	9645	2.80	2.95	mg/kg	5
2,6-Dinitrotoluene		03.12.96	9645	2.61	2.72	mg/kg	4
2-Chloronaphthalene		03.12.96	9645	2.43	2.45	mg/kg	1
2-Chlorophenol		03.12.96	9645	2.51	2.50	mg/kg	0
2-Methyl-4,6-dinitrophenol		03.12.96	9645	1.96	1.99	mg/kg	2
2-Methylnaphthalene		03.12.96	9645	2.27	2.29	mg/kg	1
2-Methylphenol (o-Cresol)		03.12.96	9645	2.80	2.77	mg/kg	1
2-Nitroaniline		03.12.96	9645	2.42	2.45	mg/kg	1
2-Nitrophenol		03.12.96	9645	2.55	2.44	mg/kg	4
3,3'-Dichlorobenzidine		03.12.96	9645	2.58	2.47	mg/kg	4
3-Nitroaniline		03.12.96	9645	2.18	2.24	mg/kg	3
4-Bromophenylphenylether		03.12.96	9645	2.55	2.58	mg/kg	1
4-Chloro-3-methylphenol		03.12.96	9645	2.59	2.55	mg/kg	2
4-Chloroaniline		03.12.96	9645	2.37	2.35	mg/kg	1
4-Chlorophenylphenylether		03.12.96	9645	2.61	2.94	mg/kg	12
4-Methylphenol (p-Cresol)		03.12.96	9645	2.63	2.61	mg/kg	1
4-Nitroaniline		03.12.96	9645	2.16	2.22	mg/kg	3
4-Nitrophenol		03.12.96	9645	2.54	2.47	mg/kg	3
Acenaphthene		03.12.96	9645	2.72	2.84	mg/kg	4
Acenaphthylene		03.12.96	9645	2.62	2.65	mg/kg	1
Aniline		03.12.96	9645	1.73	1.63	mg/kg	6
Anthracene		03.12.96	9645	2.38	2.41	mg/kg	1
Benzidine		03.12.96	9645	0	0	mg/kg	N/A
Benzo(a)anthracene		03.12.96	9645	2.59	2.65	mg/kg	2
Benzo(a)pyrene		03.12.96	9645	2.51	2.54	mg/kg	1
Benzo(b)fluoranthene		03.12.96	9645	2.01	2.11	mg/kg	5
Benzo(g,h,i)perylene		03.12.96	9645	2.61	2.55	mg/kg	2
Benzo(k)fluoranthene		03.12.96	9645	2.68	2.81	mg/kg	5
Benzyl Alcohol		03.12.96	9645	2.46	2.48	mg/kg	1
Benzoic acid		03.12.96	9645	2.11	3.13	mg/kg	39
Butylbenzylphthalate		03.12.96	9645	3.25	3.37	mg/kg	4
Chrysene		03.12.96	9645	2.58	2.67	mg/kg	3

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ADDITIONAL LCS PRECISION (DUPLICATES)
BATCH QC REPORT

PARAMETER	SAMPLE NUMBER	DATE ANALYZED	BATCH NUMBER	LC1 RESULT	LC2 RESULT	UNIT	RELATIVE % DIFF
Di-n-octylphthalate		03.12.96	9645	2.92	2.99	mg/kg	2
Dibenzo(a,h)anthracene		03.12.96	9645	2.43	2.48	mg/kg	2
Dibenzofuran		03.12.96	9645	2.42	2.48	mg/kg	2
Dibutylphthalate		03.12.96	9645	2.71	2.79	mg/kg	3
Diethylphthalate		03.12.96	9645	2.46	2.54	mg/kg	3
Dimethylphthalate		03.12.96	9645	2.57	2.67	mg/kg	4
Fluoranthene		03.12.96	9645	2.47	2.52	mg/kg	2
Fluorene		03.12.96	9645	2.67	2.71	mg/kg	1
Hexachlorobenzene		03.12.96	9645	2.76	2.74	mg/kg	1
Hexachlorobutadiene		03.12.96	9645	2.89	2.90	mg/kg	0
Hexachlorocyclopentadiene		03.12.96	9645	3.98	4.07	mg/kg	2
Hexachloroethane		03.12.96	9645	3.02	3.14	mg/kg	4
Indeno(1,2,3-c,d)pyrene		03.12.96	9645	2.31	2.63	mg/kg	13
Isophorone		03.12.96	9645	2.65	2.66	mg/kg	0
N-Nitrosodimethylamine		03.12.96	9645	3.97	4.10	mg/kg	3
N-Nitrosodiphenylamine		03.12.96	9645	1.73	1.76	mg/kg	2
N-Nitrosodi-n-propylamine		03.12.96	9645	2.79	3.01	mg/kg	8
Nitrobenzene		03.12.96	9645	2.89	2.93	mg/kg	1
Naphthalene		03.12.96	9645	2.37	2.40	mg/kg	1
Phenanthrene		03.12.96	9645	2.54	2.56	mg/kg	1
Phenol		03.12.96	9645	1.68	2.44	mg/kg	37
Pentachlorophenol		03.12.96	9645	2.23	2.19	mg/kg	2
Pyrene		03.12.96	9645	2.86	2.99	mg/kg	4
Bis(2-chloroethoxy)methane		03.12.96	9645	2.22	2.28	mg/kg	3
Bis(2-chloroethyl)ether		03.12.96	9645	3.27	3.03	mg/kg	8
Bis(2-chloroisopropyl)ether		03.12.96	9645	2.92	2.91	mg/kg	0
Bis(2-ethylhexyl)phthalate		03.12.96	9645	2.92	2.96	mg/kg	1
2-Fluorobiphenyl Reported		03.12.96	9645	1.82	1.76	mg/kg	3
2-Fluorobiphenyl Theo.		03.12.96	9645	1.67	1.67	mg/kg	0
2-Fluorophenol Reported		03.12.96	9645	2.57	2.56	mg/kg	0
2-Fluorophenol Theoretical		03.12.96	9645	2.50	2.50	mg/kg	0
2,4,6-Tribromophenol Rep.		03.12.96	9645	2.91	2.66	mg/kg	9
2,4,6-Tribromophenol Theo.		03.12.96	9645	2.50	2.50	mg/kg	0
Nitrobenzene-d5 Reported		03.12.96	9645	1.78	1.74	mg/kg	2
Nitrobenzene-d5 Theoretical		03.12.96	9645	1.67	1.67	mg/kg	0
Phenol-d5 Reported		03.12.96	9645	3.05	2.99	mg/kg	2
Phenol-d5 Theoretical		03.12.96	9645	2.50	2.50	mg/kg	0
Terphenyl-d14 Reported		03.12.96	9645	1.63	1.61	mg/kg	1
Terphenyl-d14 Theoretical		03.12.96	9645	1.67	1.67	mg/kg	0
2 PCBs							
Date Analyzed		03.13.96	9640	03/13/96	03/13/96	Date	N/A
Date Extracted		03.13.96	9640	03/12/96	03/12/96	Date	N/A
Aroclor 1260		03.13.96	9640	0.291	0.260	mg/kg	11
Decachlorobiphenyl Reported		03.13.96	9640	0.0095	0.0102	mg/kg	7
Decachlorobiphenyl Theoretical		03.13.96	9640	0.0083	0.0083	mg/kg	0

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ADDITIONAL LCS PRECISION (DUPLICATES)
BATCH QC REPORT

PARAMETER	SAMPLE NUMBER	DATE ANALYZED	BATCH NUMBER	LC1 RESULT	LC2 RESULT	UNIT	RELATIVE % DIFF
Tetrachloro-meta-xylene Rpt.		03.13.96	9640	0.0077	0.0090	mg/kg	16
Tetrachloro-meta-xylene Theor.		03.13.96	9640	0.0083	0.0083	mg/kg	0
3. Diesel/Hydraulic Oil							
Date Analyzed		03.07.96	963008	03/07/96	03/07/96	Date	N/A
Date Extracted		03.07.96	963008	03/07/96	03/07/96	Date	N/A
Naphthalene Reported		03.07.96	963008	67.6	81.2	mg/kg	18
Naphthalene Theoretical		03.07.96	963008	50.0	50.0	mg/kg	0
Vol.Pri.Poll.							
Date Analyzed		03.14.96	9650187	03/14/96	03/13/96	Date	N/A
1,1,1-Trichloroethane		03.14.96	9650187	0.0459	0.0395	mg/kg	15
1,1,2,2-Tetrachloroethane		03.14.96	9650187	0.0438	0.0504	mg/kg	14
1,1,2-Trichloroethane		03.14.96	9650187	0.0446	0.0497	mg/kg	11
1,1-Dichloroethane		03.14.96	9650187	0.0414	0.0407	mg/kg	2
1,1-Dichloroethene		03.14.96	9650187	0.0395	0.0411	mg/kg	4
1,2-Dichloroethane		03.14.96	9650187	0.0358	0.0370	mg/kg	3
1,2-Dichlorobenzene		03.14.96	9650187	0.0468	0.0473	mg/kg	1
1,2-Dichloropropane		03.14.96	9650187	0.0404	0.0424	mg/kg	5
1,3-Dichlorobenzene		03.14.96	9650187	0.0475	0.0473	mg/kg	0
1,4-Dichlorobenzene		03.14.96	9650187	0.0463	0.0467	mg/kg	1
2-Chloroethyl vinyl ether		03.14.96	9650187	0.0152	0.0268	mg/kg	55
2-Hexanone		03.14.96	9650187	0.0377	0.0493	mg/kg	27
Acetone		03.14.96	9650187	0.0255	0.0376	mg/kg	38
Acrolein		03.14.96	9650187	0.0818	0.126	mg/kg	43
Acrylonitrile		03.14.96	9650187	0.324	0.432	mg/kg	29
Bromodichloromethane		03.14.96	9650187	0.0463	0.0497	mg/kg	7
Bromomethane		03.14.96	9650187	0.0542	0.0461	mg/kg	16
Benzene		03.14.96	9650187	0.0407	0.0405	mg/kg	0
Bromoform		03.14.96	9650187	0.0433	0.0475	mg/kg	9
Chlorobenzene		03.14.96	9650187	0.0470	0.0492	mg/kg	5
Carbon Tetrachloride		03.14.96	9650187	0.0440	0.0422	mg/kg	4
Chloroethane		03.14.96	9650187	0.0675	0.0538	mg/kg	23
Chloroform		03.14.96	9650187	0.0395	0.0373	mg/kg	6
Chloromethane		03.14.96	9650187	0.0480	0.0491	mg/kg	2
Carbon Disulfide		03.14.96	9650187	0.0388	0.0401	mg/kg	3
Dibromochloromethane		03.14.96	9650187	0.0448	0.0476	mg/kg	6
Ethylbenzene		03.14.96	9650187	0.0480	0.0497	mg/kg	3
Freon 113		03.14.96	9650187	0.0536	0.0487	mg/kg	10
Methyl ethyl ketone		03.14.96	9650187	0.0271	0.0366	mg/kg	30
Methyl isobutyl ketone		03.14.96	9650187	0.0332	0.0477	mg/kg	36
Methylene chloride		03.14.96	9650187	0.0396	0.0410	mg/kg	3
Styrene		03.14.96	9650187	0.0466	0.0476	mg/kg	2
Trichloroethene		03.14.96	9650187	0.0391	0.0382	mg/kg	2
Trichlorofluoromethane		03.14.96	9650187	0.0575	0.0526	mg/kg	9
Toluene		03.14.96	9650187	0.0450	0.0484	mg/kg	7
Tetrachloroethene		03.14.96	9650187	0.0470	0.0504	mg/kg	7

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ADDITIONAL LCS PRECISION (DUPLICATES)
BATCH QC REPORT

PARAMETER	SAMPLE NUMBER	DATE ANALYZED	BATCH NUMBER	LC1 RESULT	LC2 RESULT	UNIT	RELATIVE % DIFF
Vinyl acetate		03.14.96	9650187	0.0226	0.0466	mg/kg	69 Q
Vinyl chloride		03.14.96	9650187	0.0591	0.0471	mg/kg	23
Total Xylene Isomers		03.14.96	9650187	0.145	0.149	mg/kg	3
cis-1,2-Dichloroethene		03.14.96	9650187	0.0421	0.0419	mg/kg	0
cis-1,3-Dichloropropene		03.14.96	9650187	0.0428	0.0494	mg/kg	14
trans-1,2-Dichloroethene		03.14.96	9650187	0.0415	0.0415	mg/kg	0
trans-1,3-Dichloropropene		03.14.96	9650187	0.0417	0.0489	mg/kg	16
1,2-Dichloroethane-d4 Rep.		03.14.96	9650187	0.0480	0.0486	mg/kg	1
1,2-Dichloroethane-d4 Theo.		03.14.96	9650187	0.0500	0.0500	mg/kg	0
4-Bromofluorobenzene Rep.		03.14.96	9650187	0.0481	0.0473	mg/kg	2
4-Bromofluorobenzene Theo.		03.14.96	9650187	0.0500	0.0500	mg/kg	0
Toluene-d8 Reported		03.14.96	9650187	0.0511	0.0499	mg/kg	2
Toluene-d8 Theo.		03.14.96	9650187	0.0500	0.0500	mg/kg	0

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MATRIX QC ACCURACY (SPIKES)
BATCH QC REPORT

PARAMETER	SAMPLE NUMBER	DATE ANALYZED	BATCH NUMBER	MS %	MSD %	TRUE RESULT	UNIT	
PCBs	9602506*1							
Aroclor 1260		03.12.96	9640	NC	NC	0.48	mg/kg	NC
Decachlorobiphenyl Reported		03.12.96	9640	100	100	0.0113	mg/kg	
Decachlorobiphenyl Theoretical		03.12.96	9640	100	100	0.0083	mg/kg	
Tetrachloro-meta-xylene Rpt.		03.12.96	9640	100	100	0.0090	mg/kg	
Tetrachloro-meta-xylene Theor.		03.12.96	9640	100	100	0.0083	mg/kg	
Diesel/Hydraulic Oil	9602506*3							
Hydraulic Oil		03.07.96	963008	111	105	587	mg/kg	
Diesel		03.07.96	963008	126	121	500	mg/kg	
Naphthalene Reported		03.07.96	963008	186 Q	199 Q	50.0	mg/kg	Q
Naphthalene Theoretical		03.07.96	963008	100	100	50.0	mg/kg	
Gasoline	9602506*3							
Gasoline		03.07.96	963008	170	156	500	mg/kg	
Naphthalene Reported		03.07.96	963008	172 Q	165 Q	50.0	mg/kg	Q
Naphthalene Theoretical		03.07.96	963008	100	100	50.0	mg/kg	

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MATRIX QC PRECISION (DUPLICATE SPIKES)
BATCH QC REPORT

PARAMETER	SAMPLE NUMBER	DATE ANALYZED	BATCH NUMBER	MS RESULT	MSD RESULT	UNIT	RELATIVE % DIFF
1. PCBs 9602506*1							
Date Analyzed		03.12.96	9640	03/12/96	03/12/96	Date	N/A
Date Extracted		03.12.96	9640	03/12/96	03/12/96	Date	N/A
Aroclor 1260		03.12.96	9640	0.48	0.48	mg/kg	0
Decachlorobiphenyl Reported		03.12.96	9640	0.0113	0.0113	mg/kg	0
Decachlorobiphenyl Theoretical		03.12.96	9640	0.0083	0.0083	mg/kg	0
Tetrachloro-meta-xylene Rpt.		03.12.96	9640	0.0090	0.0090	mg/kg	0
Tetrachloro-meta-xylene Theor.		03.12.96	9640	0.0083	0.0083	mg/kg	0
2. Diesel/Hydraulic Oil 9602506*3							
Date Analyzed		03.07.96	963008	03/07/96	03/07/96	Date	N/A
Date Extracted		03.07.96	963008	03/07/96	03/07/96	Date	N/A
Hydraulic Oil		03.07.96	963008	640	614	mg/kg	4
Diesel		03.07.96	963008	628	603	mg/kg	4
Naphthalene Reported		03.07.96	963008	92.8	99.4	mg/kg	7
Naphthalene Theoretical		03.07.96	963008	50.0	50.0	mg/kg	0
3. Gasoline 9602506*3							
Date Analyzed		03.07.96	963008	03/07/96	03/07/96	Date	N/A
Date Extracted		03.07.96	963008	03/07/96	03/07/96	Date	N/A
Gasoline		03.07.96	963008	851	778	mg/kg	9
Naphthalene Reported		03.07.96	963008	86.2	82.3	mg/kg	5
Naphthalene Theoretical		03.07.96	963008	50.0	50.0	mg/kg	0

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METHOD BLANKS AND REPORTING DETECTION LIMIT (RDL)
FOR BATCHES WHICH INCLUDE THIS ORDER

PARAMETER	DATE ANALYZED	BATCH NUMBER	BLANK RESULT	RDL	UNIT	METHOD
Semi-volatiles	B603671*1					
Date Analyzed	03.12.96	9645	03/12/96	NA	Date	8270
Date Extracted	03.12.96	9645	03/12/96	NA	Date	8270
1,2,4-Trichlorobenzene	03.12.96	9645	0	0.2	mg/kg	8270
1,2-Dichlorobenzene	03.12.96	9645	0	0.2	mg/kg	8270
1,2-Diphenylhydrazine	03.12.96	9645	0	0.2	mg/kg	8270
1,3-Dichlorobenzene	03.12.96	9645	0	0.2	mg/kg	8270
1,4-Dichlorobenzene	03.12.96	9645	0	0.2	mg/kg	8270
2,4,5-Trichlorophenol	03.12.96	9645	0	0.2	mg/kg	8270
2,4,6-Trichlorophenol	03.12.96	9645	0	0.2	mg/kg	8270
2,4-Dichlorophenol	03.12.96	9645	0	0.2	mg/kg	8270
2,4-Dimethylphenol	03.12.96	9645	0	0.2	mg/kg	8270
2,4-Dinitrophenol	03.12.96	9645	0	0.4	mg/kg	8270
2,4-Dinitrotoluene	03.12.96	9645	0	0.2	mg/kg	8270
2,6-Dinitrotoluene	03.12.96	9645	0	0.2	mg/kg	8270
2-Chloronaphthalene	03.12.96	9645	0	0.2	mg/kg	8270
2-Chlorophenol	03.12.96	9645	0	0.2	mg/kg	8270
2-Methyl-4,6-dinitrophenol	03.12.96	9645	0	0.2	mg/kg	8270
2-Methylnaphthalene	03.12.96	9645	0	0.2	mg/kg	8270
2-Methylphenol (o-Cresol)	03.12.96	9645	0	0.2	mg/kg	8270
2-Nitroaniline	03.12.96	9645	0	0.2	mg/kg	8270
2-Nitrophenol	03.12.96	9645	0	0.2	mg/kg	8270
3,3'-Dichlorobenzidine	03.12.96	9645	0	0.4	mg/kg	8270
3-Nitroaniline	03.12.96	9645	0	0.2	mg/kg	8270
4-Bromophenylphenylether	03.12.96	9645	0	0.2	mg/kg	8270
4-Chloro-3-methylphenol	03.12.96	9645	0	0.2	mg/kg	8270
4-Chloroaniline	03.12.96	9645	0	0.2	mg/kg	8270
4-Chlorophenylphenylether	03.12.96	9645	0	0.2	mg/kg	8270
4-Methylphenol (p-Cresol)	03.12.96	9645	0	0.4	mg/kg	8270
4-Nitroaniline	03.12.96	9645	0	0.2	mg/kg	8270
4-Nitrophenol	03.12.96	9645	0	0.2	mg/kg	8270
Acenaphthene	03.12.96	9645	0	0.2	mg/kg	8270
Acenaphthylene	03.12.96	9645	0	0.2	mg/kg	8270
Aniline	03.12.96	9645	0	0.2	mg/kg	8270
Anthracene	03.12.96	9645	0	0.2	mg/kg	8270
Benzidine	03.12.96	9645	0	4	mg/kg	8270
Benzo(a)anthracene	03.12.96	9645	0	0.2	mg/kg	8270
Benzo(a)pyrene	03.12.96	9645	0	0.2	mg/kg	8270
Benzo(b)fluoranthene	03.12.96	9645	0	0.2	mg/kg	8270
Benzo(g,h,i)perylene	03.12.96	9645	0	0.2	mg/kg	8270
Benzo(k)fluoranthene	03.12.96	9645	0	0.2	mg/kg	8270
Benzyl Alcohol	03.12.96	9645	0	0.4	mg/kg	8270
Benzoic acid	03.12.96	9645	0	2	mg/kg	8270
Butylbenzylphthalate	03.12.96	9645	0	0.2	mg/kg	8270
Chrysene	03.12.96	9645	0	0.2	mg/kg	8270

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METHOD BLANKS AND REPORTING DETECTION LIMIT (RDL)
FOR BATCHES WHICH INCLUDE THIS ORDER

PARAMETER	DATE ANALYZED	BATCH NUMBER	BLANK RESULT	RDL	UNIT	METHOD
Di-n-octylphthalate	03.12.96	9645	0	0.2	mg/kg	8270
Dibenzo(a,h)anthracene	03.12.96	9645	0	0.2	mg/kg	8270
Dibenzofuran	03.12.96	9645	0	0.2	mg/kg	8270
Dibutylphthalate	03.12.96	9645	0.0057	0.2	mg/kg	8270
Diethylphthalate	03.12.96	9645	0	0.2	mg/kg	8270
Dimethylphthalate	03.12.96	9645	0	0.2	mg/kg	8270
Fluoranthene	03.12.96	9645	0	0.2	mg/kg	8270
Fluorene	03.12.96	9645	0	0.2	mg/kg	8270
Hexachlorobenzene	03.12.96	9645	0	0.2	mg/kg	8270
Hexachlorobutadiene	03.12.96	9645	0	0.2	mg/kg	8270
Hexachlorocyclopentadiene	03.12.96	9645	0	0.2	mg/kg	8270
Hexachloroethane	03.12.96	9645	0	0.2	mg/kg	8270
Indeno(1,2,3-c,d)pyrene	03.12.96	9645	0	0.2	mg/kg	8270
Isophorone	03.12.96	9645	0	0.2	mg/kg	8270
N-Nitrosodimethylamine	03.12.96	9645	0	0.2	mg/kg	8270
N-Nitrosodiphenylamine	03.12.96	9645	0	0.2	mg/kg	8270
N-Nitrosodi-n-propylamine	03.12.96	9645	0	0.2	mg/kg	8270
Nitrobenzene	03.12.96	9645	0	0.2	mg/kg	8270
Naphthalene	03.12.96	9645	0	0.2	mg/kg	8270
Phenanthrene	03.12.96	9645	0	0.2	mg/kg	8270
Phenol	03.12.96	9645	0	0.2	mg/kg	8270
Pentachlorophenol	03.12.96	9645	0	0.2	mg/kg	8270
Pyrene	03.12.96	9645	0	0.2	mg/kg	8270
Pyridine	03.12.96	9645	0	0.4	mg/kg	8270
Bis(2-chloroethoxy)methane	03.12.96	9645	0	0.2	mg/kg	8270
Bis(2-chloroethyl)ether	03.12.96	9645	0	0.2	mg/kg	8270
Bis(2-chloroisopropyl)ether	03.12.96	9645	0	0.2	mg/kg	8270
Bis(2-ethylhexyl)phthalate	03.12.96	9645	0.0070	0.4	mg/kg	8270
2-Fluorobiphenyl Reported	03.12.96	9645	1.36	0.2	mg/kg	8270
2-Fluorobiphenyl Theo.	03.12.96	9645	1.67	NA	mg/kg	8270
2-Fluorophenol Reported	03.12.96	9645	1.87	0.2	mg/kg	8270
2-Fluorophenol Theoretical	03.12.96	9645	2.50	NA	mg/kg	8270
2,4,6-Tribromophenol Rep.	03.12.96	9645	1.71	0.2	mg/kg	8270
2,4,6-Tribromophenol Theo.	03.12.96	9645	2.50	NA	mg/kg	8270
Nitrobenzene-d5 Reported	03.12.96	9645	1.27	0.2	mg/kg	8270
Nitrobenzene-d5 Theoretical	03.12.96	9645	1.67	NA	mg/kg	8270
Phenol-d5 Reported	03.12.96	9645	2.40	0.2	mg/kg	8270
Phenol-d5 Theoretical	03.12.96	9645	2.50	NA	mg/kg	8270
Terphenyl-d14 Reported	03.12.96	9645	1.27	0.2	mg/kg	8270
Terphenyl-d14 Theoretical	03.12.96	9645	1.67	NA	mg/kg	8270
PCBs		B603666*1				
Date Analyzed	03.12.96	9640	03/12/96	NA	Date	8080
Date Extracted	03.12.96	9640	03/12/96	NA	Date	8080
Aroclor 1016	03.12.96	9640	0	0.03	mg/kg	8080
Aroclor 1221	03.12.96	9640	0	0.03	mg/kg	8080

BC ANALYTICAL

ORDER QC REPORT FOR G9602506

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DATE REPORTED : 05/06/96

METHOD BLANKS AND REPORTING DETECTION LIMIT (RDL)
FOR BATCHES WHICH INCLUDE THIS ORDER

PARAMETER	DATE ANALYZED	BATCH NUMBER	BLANK RESULT	RDL	UNIT	METHOD
Aroclor 1232	03.12.96	9640	0	0.03	mg/kg	8080
Aroclor 1242	03.12.96	9640	0	0.03	mg/kg	8080
Aroclor 1248	03.12.96	9640	0	0.03	mg/kg	8080
Aroclor 1254	03.12.96	9640	0	0.03	mg/kg	8080
Aroclor 1260	03.12.96	9640	0	0.03	mg/kg	8080
Decachlorobiphenyl Reported	03.12.96	9640	0.0085	0.002	mg/kg	8080
Decachlorobiphenyl Theoretical	03.12.96	9640	0.0083	NA	mg/kg	8080
Tetrachloro-meta-xylene Rpt.	03.12.96	9640	0.0082	0.002	mg/kg	8080
Tetrachloro-meta-xylene Theor.	03.12.96	9640	0.0083	NA	mg/kg	8080
3. Gasoline	B603667*1					
Date Analyzed	03.07.96	963008	03/07/96	NA	Date	8015M
Date Extracted	03.07.96	963008	03/07/96	NA	Date	8015M
Gasoline	03.07.96	963008	0	NA	mg/kg	8015M
Naphthalene Reported	03.07.96	963008	60.3	1	mg/kg	8015M
Naphthalene Theoretical	03.07.96	963008	50.0	NA	mg/kg	8015M
4. Diesel/Hydraulic Oil	B603668*1					
Date Analyzed	03.07.96	963008	03/07/96	NA	Date	8015M
Date Extracted	03.07.96	963008	03/07/96	NA	Date	8015M
Hydraulic Oil	03.07.96	963008	0	NA	mg/kg	8015M
Diesel	03.07.96	963008	0	10	mg/kg	8015M
Naphthalene Reported	03.07.96	963008	42.9	1	mg/kg	8015M
Naphthalene Theoretical	03.07.96	963008	50.0	NA	mg/kg	8015M
5. Vol.Pri.Poll.	B603724*1					
Date Analyzed	03.13.96	9650187	03/13/96	NA	Date	8240
1,1,1-Trichloroethane	03.13.96	9650187	0	0.005	mg/kg	8240
1,1,2,2-Tetrachloroethane	03.13.96	9650187	0	0.005	mg/kg	8240
1,1,2-Trichloroethane	03.13.96	9650187	0	0.005	mg/kg	8240
1,1-Dichloroethane	03.13.96	9650187	0	0.005	mg/kg	8240
1,1-Dichloroethene	03.13.96	9650187	0	0.005	mg/kg	8240
1,2-Dichloroethane	03.13.96	9650187	0	0.005	mg/kg	8240
1,2-Dichlorobenzene	03.13.96	9650187	0	0.005	mg/kg	8240
1,2-Dichloropropane	03.13.96	9650187	0	0.005	mg/kg	8240
1,3-Dichlorobenzene	03.13.96	9650187	0	0.005	mg/kg	8240
1,4-Dichlorobenzene	03.13.96	9650187	0	0.005	mg/kg	8240
2-Chloroethylvinylether	03.13.96	9650187	0	0.005	mg/kg	8240
2-Hexanone	03.13.96	9650187	0	0.03	mg/kg	8240
Acetone	03.13.96	9650187	0.012	0.1	mg/kg	8240
Acrolein	03.13.96	9650187	0	0.3	mg/kg	8240
Acrylonitrile	03.13.96	9650187	0	0.3	mg/kg	8240
Bromodichloromethane	03.13.96	9650187	0	0.005	mg/kg	8240
Bromomethane	03.13.96	9650187	0	0.005	mg/kg	8240
Benzene	03.13.96	9650187	0	0.005	mg/kg	8240
Bromoform	03.13.96	9650187	0	0.005	mg/kg	8240
Chlorobenzene	03.13.96	9650187	0	0.005	mg/kg	8240
Carbon Tetrachloride	03.13.96	9650187	0	0.005	mg/kg	8240

BC ANALYTICAL

ORDER QC REPORT FOR G9602506

DATE REPORTED : 05/06/96

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METHOD BLANKS AND REPORTING DETECTION LIMIT (RDL)
FOR BATCHES WHICH INCLUDE THIS ORDER

PARAMETER	DATE ANALYZED	BATCH NUMBER	BLANK RESULT	RDL	UNIT	METHOD
Chloroethane	03.13.96	9650187	0	0.005	mg/kg	8240
Chloroform	03.13.96	9650187	0	0.005	mg/kg	8240
Chloromethane	03.13.96	9650187	0	0.005	mg/kg	8240
Carbon Disulfide	03.13.96	9650187	0	0.01	mg/kg	8240
Dibromochloromethane	03.13.96	9650187	0	0.005	mg/kg	8240
Ethylbenzene	03.13.96	9650187	0	0.005	mg/kg	8240
Freon 113	03.13.96	9650187	0	0.01	mg/kg	8240
Methyl ethyl ketone	03.13.96	9650187	0	0.03	mg/kg	8240
Methyl isobutyl ketone	03.13.96	9650187	0	0.03	mg/kg	8240
Methylene chloride	03.13.96	9650187	0.0016	0.005	mg/kg	8240
Styrene	03.13.96	9650187	0	0.005	mg/kg	8240
Trichloroethene	03.13.96	9650187	0	0.005	mg/kg	8240
Trichlorofluoromethane	03.13.96	9650187	0	0.005	mg/kg	8240
Toluene	03.13.96	9650187	0	0.005	mg/kg	8240
Tetrachloroethene	03.13.96	9650187	0	0.005	mg/kg	8240
Vinyl acetate	03.13.96	9650187	0	0.05	mg/kg	8240
Vinyl chloride	03.13.96	9650187	0	0.005	mg/kg	8240
Total Xylene Isomers	03.13.96	9650187	0	0.02	mg/kg	8240
cis-1,2-Dichloroethene	03.13.96	9650187	0	0.005	mg/kg	8240
cis-1,3-Dichloropropene	03.13.96	9650187	0	0.005	mg/kg	8240
trans-1,2-Dichloroethene	03.13.96	9650187	0	0.005	mg/kg	8240
trans-1,3-Dichloropropene	03.13.96	9650187	0	0.005	mg/kg	8240
1,2-Dichloroethane-d4 Rep.	03.13.96	9650187	0.0472	0.005	mg/kg	8240
1,2-Dichloroethane-d4 Theo.	03.13.96	9650187	0.0500	NA	mg/kg	8240
4-Bromofluorobenzene Rep.	03.13.96	9650187	0.0478	0.005	mg/kg	8240
4-Bromofluorobenzene Theo.	03.13.96	9650187	0.0500	NA	mg/kg	8240
Toluene-d8 Reported	03.13.96	9650187	0.0476	0.005	mg/kg	8240
Toluene-d8 Theo.	03.13.96	9650187	0.0500	NA	mg/kg	8240

CHAIN OF CUSTODY RECORD

BCA Log Number

02000101

Client name: <u>MAJES & Associates</u>		Project or PO#		185 101 013							
Address: <u>221 Main St, 92400</u>		Phone #		<u>951 213 2985</u>							
City, State, Zip: <u>SF, CA 94102</u>		Report attention: <u>FORANEN PERI</u>									
Lab Sample number	Date sampled	Time sampled	Type See key below	Sampled by	Sample description	Number of containers	Analyses required		Remarks		
				MC			HAZARDOUS	Hazardous sample Special handling required			
1	3/1/96	1136	SL	MC	20'	1					
2		1150			3-0'	1					
3		1223			1-0'	1					
4		1351			3-3'	1					
5		1421			1-1'	1					
6		1558			3-3'	1					
7		1536			2-1'	1					
8		1600			2-3'	1					
Relinquished by		Signature		Print Name		Company		Date		Time	
Received by		Signature		Print Name		Company		Date		Time	
Relinquished by		Signature		Print Name		Company		Date		Time	
Received by		Signature		Print Name		Company		Date		Time	
Relinquished by		Signature		Print Name		Company		Date		Time	
Received by		Signature		Print Name		Company		Date		Time	
Relinquished by		Signature		Print Name		Company		Date		Time	
Received by		Signature		Print Name		Company		Date		Time	
Relinquished by		Signature		Print Name		Company		Date		Time	

BC ANALYTICAL

1085 Shary Circle, Concord, CA 94518 (510) 825-3894
 801 Western Avenue, Glendale, CA 91201 (818) 247-5737
 1000 Gene ... Way, Ar ... CA 90009 (714) 9...

Note: Samples are discarded 30 days after results are reported unless other arrangements are made.
 Hazardous samples will be returned to client or disposed of at client's expense.
 Disposal arrangements: _____

*KEY: AG—Aqueous NA—Nonaqueous SL—Sludge
 GW—Groundwater SO—Soil PE—Petroleum

APPENDIX C

NON-HAZARDOUS WASTE MANIFEST

WITH #001713

NON-HAZARDOUS

001716
1.0T

MATERIALS MANIFEST

GENERATOR

Scars

Site Address: 9000 Northgate San Rafael CA
Mailing: Dept 824 C 3333 Beverly Rd, Hallman Estates IL 60179
Phone: (817) 286-8686 Contact: Gary Taylor

TRANSPORTER

Dem Beste Transportation

Address: 930 Shulah Rd Bldg 44
Windsor CA 95492
Phone: (707) 838-1407 Contact: Lori Dem Beste

I hereby certify that the above named material was picked up at the generator site listed above.

Driver Name: Steve Moran Signature: [Signature]
Truck No: 15 Ship Date: 4-30-96
Time of Pick-Up: 11:00 Am Time of Delivery:

Consultant/Owner

Dames + Moore

Address: 221 Main St Ste 600
SE CA 94105
Phone: (415) 896-5858 Contact: Branden Born

I hereby certify that the above named material is consistent with the information presented in the Waste Characterization Form and Contaminated Soil Description Form, and has been properly described, classified and packaged, and is in proper condition for transport according to applicable regulation.

Name: [Signature] Date: 4/24/96

Recycling Facility

REMEDIAL ENVIRONMENTAL MARKETING CO. INC.
2717 GOODRICK AVENUE RICHMOND, CA 94801

RECEIVED BY: [Signature]
DATE: 4/30/96
Control No: P 180

A COPY OF THIS SHEET MUST ACCOMPANY EVERY LOAD, AND MUST BE SUBMITTED AT THE GATE FOR ENTRY. ALL LOADS MUST BE SCHEDULED AT LEAST 24 HOURS IN ADVANCE. DELIVERIES MUST BE SCHEDULED ON A DAILY BASIS. ANY UNSCHEDULED LOADS MAY BE REFUSED AT THE GATE.



LEGAL DEPARTMENT

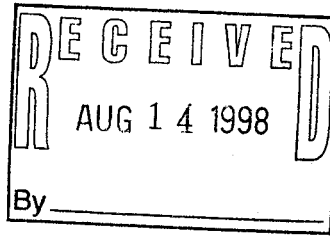
I. Lawrence Gelman
Vice President - Real Estate Law

August 13, 1998

Via Federal Express

MAIN OFFICE:

30 Hunter Lane, Camp Hill, PA 17011
Telephone No.: (717) 761-2633
Fax No.: (717) 975-5952 Fax



✓ Macerich Northwestern Associates
c/o The Macerich Company
P.O. Box 2172
401 Wilshire Boulevard #700
Santa Monica, CA 90407
Attn: Chet A. Cramin, Legal Department

Macerich Northwestern Associates
Broadway Plaza
1275 Broadway Plaza
Walnut Creek, CA 94596
Attn: Manager

RE: Las Gallinas & Northgate Drive, San Rafael, CA/Proposed RA#5958-relo
Lease dated February 23, 1984 as amended (the "Lease") for premises located at
1500 Northgate Mall, San Rafael, CA (the "Premises")

Gentlemen:

Pursuant to Paragraph 44(g) of that certain Lease Amendment Agreement dated December 29, 1997 regarding the New Premises, please find a copy of a Geotechnical Investigation Report prepared by Tong & Chang Consultants, Inc. dated August 4, 1998 and an Environmental Site Assessment Report prepared by Faultline Associates, Inc. dated August 4, 1998 (the "Environmental Report").

The Environmental Report recommends further subsurface investigation to determine whether the off-site sources of Hazardous Materials have migrated to the Land. For this reason, we are requesting your approval to conduct a limited Phase II assessment. However, due to the fact that the Land Approval Period expires 60 days from receipt of Landlord's Notice of Relocation of Premises, which is dated June 18, 1998, we are obliged to preserve our rights under the Lease as amended and accordingly, this will serve as our Notice of Disapproval of the environmental condition of the Land.

We would like to extend the Land Approval Period for a short period to conduct a limited Phase II assessment of the condition identified herein. Upon your receipt and review of the enclosures, please contact the undersigned to discuss our request further. This will serve to confirm our telephone conversation this afternoon with Chet Cramin of the Macerich Company wherein he agreed that our Federal Express mailing satisfies the notice requirements under the Lease with regard to the foregoing.

Sincerely,
Thrifty Pay Less, Inc.

Robert B. Sari
Associate Counsel
encl.

P.O. Box 3165
Harrisburg, PA 17105
(717) 761-2633
(717) 975-5952 Fax

7 Neshaminy Interplex,
Suite 209
Trevose, PA 19053
(215) 245-6553
(215) 245-4275 Fax

18500 Von Karman Avenue,
Suite 390
Irvine, CA 92612
(949) 863-1032
(949) 863-1047 Fax

**ENVIRONMENTAL
SITE ASSESSMENT
REPORT**

FOR

**RITE AID STORE SITE
NORTHGATE @ LAS GALLINAS
SAN RAFAEL, CA**

August 4, 1998

FAULTLINE ASSOCIATES, INC.

FAULTLINE ASSOCIATES, INC.

1630 N. MAIN STREET #331
WALNUT CREEK, CA 94596
PHONE: 888-258-4760
FAX: 925-280-9609

August 4, 1998

Reference: File No. SF075-050

Mr. Ted Aquino
Tait & Associates, Inc.
1001 Galaxy Way, Suite 304
Concord, CA 94520

**Subject: Phase I Environmental Site Assessment Report
Rite Aid Store Site
Northgate Dr. @ Las Gallinas Ave., San Rafael, CA**

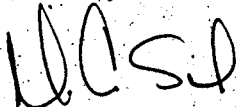
Dear Mr. Aquino:

Pursuant to your request, FAULTLINE Associates, Inc., is pleased to submit for your review and consideration, the attached Phase I Site Assessment Report for the Rite Aid, San Rafael site.

The attached report presents the activities performed and includes data pertaining to on-site inspection and evaluation activities, regulatory file review, and conclusions and recommendations.

Please contact us at your earliest convenience if you have any questions concerning the information provided or if you require any additional assistance.

Sincerely,



David C. Solis, J.D., P.E.
Principal

Attachment

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FIGURE 1 Site Location Map

FIGURE 2 Site Plan

APPENDIX A VISTA Site Assessment Plus Report

APPENDIX B Photolog

PHASE I ENVIRONMENTAL SITE ASSESSMENT

RITE AID STORE SITE

LAS GALLINAS @ NORTHGATE

SAN RAFAEL, CALIFORNIA

I. INTRODUCTION AND PURPOSE

This report presents the results of a Phase I Environmental Site Assessment conducted at the above mentioned site near the intersection of Northgate Drive and Las Gallinas Avenue, San Rafael, California. At the request of Tait & Associates, Inc., the subject site is covered in this Phase I Environmental Site Assessment and will be referred to as (the subject site).

FAULTLINE Associates, Inc. (FAI) has prepared this Phase I Environmental Site Assessment (PI-ESA), as authorized by Tait & Associates, Inc., in accordance with the current standard environmental assessment practices in the region.

The purpose of the ESA is to identify the potential presence of hazardous wastes or substances and/or related present or past activities which might be a source of contamination on the subject site or in the site vicinity.

II. SCOPE OF WORK

In accordance with our proposal dated June 29, 1998, this PI-ESA consists of the following tasks:

1. Provide a site overview to include location, description of adjacent properties, and a general description of the subject site.
2. Provide available data on the history and operations of the subject site.
3. Present reference data on the environmental setting including general information on surface topography, soil conditions, groundwater conditions, and any pertinent data from third party consultants or agencies.
4. Provide results of the following investigation activities:
 - a. Investigate waste site database (VISTA) or other published information regarding waste sites in the area of the subject site.
 - b. Perform reconnaissance and traverses of the parcels and the surrounding areas.

Observe site conditions for evidence of past activities which suggest the handling of hazardous wastes or hazardous substances.

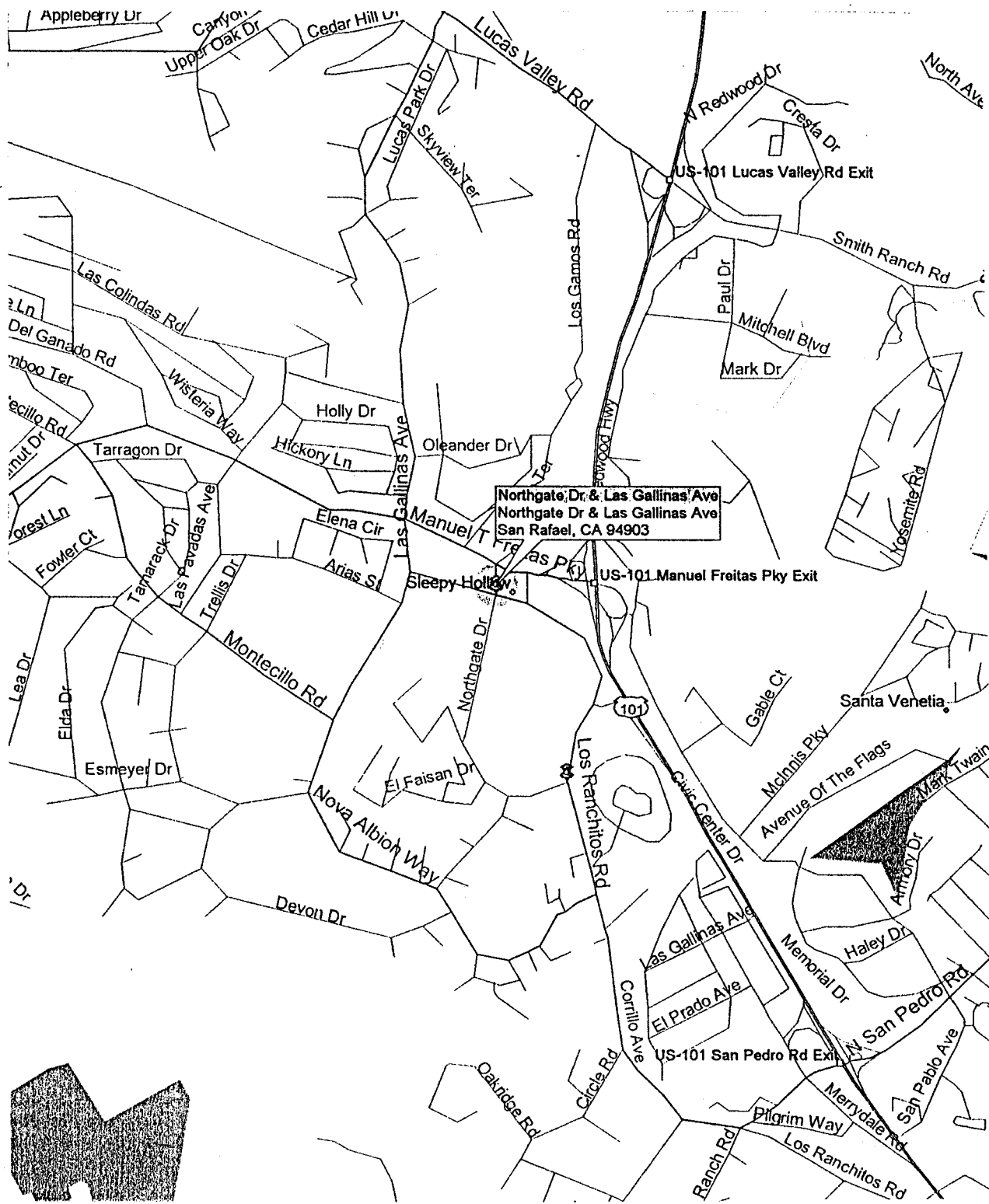
- c. Review available aerial photographs of the site over the past history of site activity.
 - d. Contact regulatory agencies and other parties with knowledge of past site and site area activities. Review agency files as appropriate.
5. Prepare a discussion focusing on potential pollutant sources and hazardous material/waste activities on or near the project site.
6. Prepare this report upon the completion of the five previous tasks and include our findings and conclusions regarding the potential for contamination of each site and/or site area from the information collected.

III. SITE OVERVIEW

A. Location and Description

The subject site is located approximately 0.25- miles east of US 101 and 0.1-miles south of Freitas Parkway at the southwestern fringe of the Tera Linda district of San Rafael in Marin County California. The site, located at the intersection of Northgate Dr. and Las Gallinas Ave. consists of a rectangular shaped parcel totaling approximately 50,000 square feet. The site rests at an elevation of approximately 70-feet above mean sea level (U.S. Geological Survey, 1978). Development in the direct vicinity of the subject site vary from residential to commercial buildings, however, the predominant local development is commercial. The subject site is bounded to the north by Las Gallinas Ave., the south by Northgate Mall, the east by surplus mall parking, and the west by Northgate Dr. There are no current structures maintained on the subject parcel.

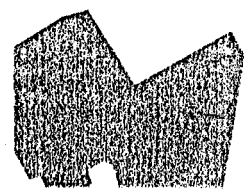
Surface water at the site drains into several catch basins located throughout the parcel. The catch basins are drained by several storm drains located on both Northgate Dr. and Las Gallinas Ave. and eventually to the San Pablo Bay. The topography of the site is relatively flat with a slight grade toward the north.



Northgate Dr & Las Gallinas Ave
 Northgate Dr & Las Gallinas Ave
 San Rafael, CA 94903

US-101 Manuel Freitas Pky Exit

US-101 San Pedro Rd Exit



FAULTLINE
 Associates, Inc.

1630 N. Main St., Walnut Creek, CA 94596

Project Name: Northgate @ Las Galinas,
 San Rafael, CA

Project Number:
 SF075-050

Date:
 AUG 4, 1998

Drawn By:
 TLJ

Reviewed By:

FIGURE:1

SITE LOCATION MAP



B. Project Area History

This area of north-central Marin County had been primarily agricultural of an unknown nature and residential from the late 1800's to the late 1960's. Both residential and commercial development in the general vicinity has rapidly accelerated since the early 1970's. The subject site was initially developed sometime between 1963 and 1970 to be, and has remained as, the northwest parking area for the Northgate Mall.

C. Regional Geologic Setting

The general Tera Linda and San Rafael area lie on the east side of the San Andreas Fault and rests between Big Rock Ridge to the northwest, Mt. Tamalpais to the southwest and the San Francisco Bay to the east. It is situated upon the Franciscan assemblage which underlies a large portion of Marin County. The Franciscan assemblage is a heterogeneous assemblage of rocks including graywacke, arkoxic sandstone, shale, altered volcanics, chert, and serpentinite that are sheared and intermixed to various degrees. The rocks are considered sedimentary, metamorphic and igneous.

Subsurface soils within the area have been characterized as deposits of sand, sandstone, greenstone, and serpentine.

D. Site Hydrologic Setting

The subject site rests at an elevation of approximately 70-feet above mean sea level. The site was observed to be generally flat with a slight grade to the north. Surface runoff and storm water on the site in the general community drains into several catch basins located on the subject property and surrounding thoroughfares. The catch basins and storm drains are drained to the San Pablo Bay. Local waterways or tributaries in the area are the Miller Creek, located approximately 1.5-miles north of the site and the south fork of the Gallinas Creek, located .75-miles east of the subject site.

Available data pertaining to the groundwater conditions in the immediate area of the subject site indicate a depth to the first groundwater table of approximately 24 to 30- feet below ground surface. Regional groundwater flow direction is assumed to be toward the south/southeast.

E. Environmental Setting

The subject site is located in a mixed commercial/residential area. The site is relatively level with a slight grade toward the north. The site is predominantly surrounded by commercial buildings. The site is completely paved with asphaltic materials. Sporadic vegetation in the form of trees planted in planter type boxes are found throughout the site.

DEL PRESIDIO

LAS GALLINAS

SUBJECT PARCEL

NORTHGATE MALL

N
O
R
T
H
G
A
T
E

D
R
I
V
E

NOT TO SCALE

FAULTLINE

Associates, Inc.

1630 N. Main St., Walnut Creek, CA 94596

Project Name: Northgate @ Las Galinas,
San Rafael, CA

Project Number:
SF075-050

Date:
AUG 4, 1998

Drawn By:
TLJ

Reviewed By:

FIGURE: 2

SITE PLAN



IV. RESULTS OF FIELD INVESTIGATIONS

A. Site Reconnaissance

Reconnaissance of the subject site was conducted on July 17, 1998. Inspection of the subject site was conducted by site reconnaissance and aerial photograph review. The subject site consists of a single rectangular parcel totaling approximately 50,000 square feet. This Phase I Environmental Site Assessment did not include soil, water, or Asbestos Containing Materials (ACM) sampling.

B. Site Audit/Inspection Findings

Potential environmental risk observations were made during the site inspection that took place on July 17, 1998. The following is a list of environmental hazards that are commonly addressed in a Phase I Environmental Site Assessment. Their presence in this section does not necessarily imply their presence on the subject site unless otherwise noted.

Asbestos

Any structure built before 1978 has the potential to contain asbestos as an insulating component. No structures were encountered at the subject site.

PCB's

Electrical transformer boxes are the primary source of PCB's as a contaminant source. No overhead electrical lines with electrical transformer boxes or underground transformer vaults were observed at or near the subject site.

Underground Structures

No historical usage of any subsurface structures such as underground tanks (UST) or sumps was revealed during the site historical use review. Additionally, no evidence of fill pipes, vent lines or other apparatus which may be associated with the usage of UST or sumps was observed or noted during site inspection activities.

Groundwater Wells

No groundwater wells either domestic or industrial were observed at the subject site. However, several environmental groundwater monitoring wells were observed at several sites located within 500 feet of the subject parcel.

Spills

No signs of surface spills or stressed vegetation were noted during the site inspection.

Air Emissions

No obvious environmentally hazardous air emitters were noted near the subject site during the site inspection. No evidence of documented fugitive air emission violations was found during file research activities.

Water Supplies

Water is currently supplied by the Marin Municipal Water District

Hazardous Materials

A visual inspection of the subject site did not discover any signs of stressed vegetation related to hazardous material exposure. No indications of hazardous material storage was noted during the site inspection.

Radon

Radon is a radioactive gas released during the decay of uranium. It can build up in homes and other structures underlain by uranium-bearing rocks. These rocks are commonly associated with granitic plutons such as the Sierra Nevada Batholith. Occurrences in a sedimentary basin such as the San Rafael area have not been identified and the risk is therefore minimal. There has been uranite found in gold-bearing sedimentary deposits, although it is not common.

Lead

Any structure built before 1978 has the potential to contain lead based paint. No structures were encountered at the subject site.

Formaldehyde

There was no evidence of the use or storage of any formaldehyde containing materials at the subject sites.

Pesticides

The site does have known historical agricultural usage prior to 1960. Although application of both pesticide and herbicidal chemicals was common practice during this era, it is highly unlikely that residual concentrations of these chemicals which would present a human health risk would be encountered at the site. Further assessment of the native soils would be required to confirm any potential impact to the subsurface soils and/or groundwater by pesticides.

Sewer System

Sanitary sewage services are supplied to the site by the Marin County Sanitary District.

Surface Drainage

Surface runoff and storm water on the site in the general community drains into several catch basins and storm drains located on the subject property and surrounding thoroughfares. The catch basins and storm drains are drained eventually to the San Pablo Bay.

V. REGULATORY AGENCY CONTACTS, LIST AND FILE REVIEW

Agency contacts were made and available lists of known active and abandoned hazardous waste/material sites were reviewed in order to compile a list of potential sources of contamination in the vicinity of the sites. The lists reviewed and sites identified within one mile of the subject sites are in the VISTA database report presented in Appendix A. In addition to the VISTA database search, we reviewed site area files and lists at the Marin Fire District Headquarters. This section presents information gathered as a result of the list review and file inspection.

A. List Review

The following are the lists reviewed during this phase of investigation and the corresponding sites within approximately one mile of the subject site.

CERCLIS	Contaminated sites under CERCLA (1980)
NPL	Federal Superfund Sites List
TSD	Facilities that treat, store, or dispose of hazardous waste
CORRACTS	Facilities under RCRA corrective actions
SPL	Sites prioritized by the State for cleanup
SCL	Sites under review by the State
SWLF	Sites permitted as solid waste landfills, incinerators, or transfer stations
TOXIC PITS	Toxic Pits cleanup list
TRIS	Facilities with toxic chemical releases, and inventories
UST/AST	Sites with registered underground or aboveground storage tanks
CORTESE	Hazardous Waste and Substances Site List
ERNS	Sites with previous hazardous materials spills
GNRTR	Sites that generate large or small quantities of hazardous waste
LUST	Leaking Underground Storage Tanks - SF Bay Region 1, Leaking Underground Tank List
LUFT	Leaking Underground Fuel Tank List, Marin Fire District

B. Regulatory and Public Entity Contacts

Review of the Vista Data Base which identifies several Leaking Underground Storage Tank (LUST) sites within the general community of the subject site and evaluation of the relationship to the location of the subject site to the LUST sites, indicates that a majority of the listed LUST sites are either up or cross-gradient from the subject site. This would indicate that the subject site may be considered a moderate risk as a recipient of migratory contamination from any of the nearby impacted facilities. Although this claim is substantiated by regional groundwater flow data, for purposes of validation, several contacts were made to locate past records and information, and to determine the current status of the closest active impacted sites shown on the hazardous waste materials site lists described above. Selected regulatory files were reviewed and are discussed below.

Site & Distance from subject site	UST Removed	Type of Contaminant	Site Investigation	Site Remedial Status	Closure
4244 Redwood, 0.37-miles, NE	UST removed 9-95	Gas, diesel	Complete 4-96	Remediation by excavation complete 5-96.	10-96
99 Monticello, 0.40- miles, E	UST removed 11-97	Diesel	No impact identified.		NA
1005 Northgate, 0.01- miles, N	UST removed 7-96	Waste Oil	Complete 3-97. Monitoring is on-going.		
949 Del Presidio, 0.01- miles, N	Tanks installed 1983	Gas, diesel	Wells installed 5-98. Monitoring is on-going.		
930 Del Presidio, 0.01- miles, N	1990	Gas, diesel	NA	Active groundwater remediation has been on-going since 1992.	
4300 Redwood, 0.00-miles, NE	NA	Solvents	Complete 1983	Active groundwater remediation has been on-going since 1984.	
950 Del Presidio, 0.01-miles, N	NA	Gas, diesel	Wells installed 1997. Monitoring is on-going.		
929 Del Presidio, 0.01-miles, N	UST removed 1991	Gas, diesel	Complete 1991	Remediation by excavation complete 5-91.	4-96

VI. AERIAL PHOTOGRAPH REVIEW

Aerial photographs taken in 1950, 1963, 1970, 1980, 1990, and 1996 were reviewed at Pacific Aerial Survey in Oakland, California. The following section summarizes the pertinent details of site and adjacent area activities as they appeared on these photographs.

1950, October 10, Photo ID #AV41-03-06

The subject site is undeveloped as is the surrounding community. The general vicinity is comprised primarily of agricultural fields and farm houses. The Old Redwood Hwy is the main thoroughfare in the area.

1963, July 9, Photo ID #AV550-03-14

The subject site is undeveloped as are the adjacent commercial sites. Residential development in the general vicinity is expanding, however sparse. No significant industrial development is identified.

1970, July 2, Photo ID #AV957-04-19

The subject site has been developed as a large complex and is modified slightly from it's current state. Del Presidio Ave. which currently dead ends at the mall parking lot extends through the lot and proceeds to the mall. The development in the area is still predominantly residential although commercial construction is visible. Residential and commercial development in the general community has increased at an accelerated rate. Several gas stations have been constructed on Del Presidio Ave. at the north side of the subject site. No other significant industrial development in the general vicinity is identified.

1980, July 17, Photo ID #AV1840-05-18, (1:12,000)

The subject site appears as it does today. Commercial and residential development in the general community is continuing to expand. All previously identified gas stations are intact and appear to be operational. No significant industrial development in the general vicinity is identified.

1990, March 15, Photo ID #AV3766-10-53, (1:12,000)

The subject site appears as it does today. All previously identified gas stations are intact and appear to be operational. No significant industrial development in the general vicinity is identified.

1996, March 15, Photo ID #KAV5132-112-12, (1:24,000)

The site and adjacent lots appear as they do today. The UNOCAL station located on the north side of the site is under renovation. The gas station located on the north side of Freitas Pkwy has been abandoned. No significant industrial development in the general vicinity is identified.

VII. CONCLUSIONS AND RECOMMENDATIONS

The summary and conclusions presented in this section are based on observations, field investigation descriptions, analytical results, and interpretations delineated and developed in the body of this report. The following are key conclusions for the site inspection activities performed:

- The record search from local, state, and federal agencies revealed no indications of fuel or hazardous material spills, leaks, or disposal on the subject site.
- Our site survey detected no visual or olfactory evidence of hazardous material/waste disposal to the surfaces of the subject site.
- Review and evaluation of identified neighboring impacted sites indicates a potential risk, although minimal, of contaminant migration to the subject site.

Definitive conclusions regarding the subsurface conditions related to environmental concerns at the subject sites are beyond the scope of this project as no soil or water sampling was included in this scope of work.

RECOMMENDATIONS

The following recommendations are made based upon review and evaluation of the above-discussed conclusions:

- ✓ As three up-gradient sites which are in close proximity to the subject site have been identified to have impact to the localized groundwater by petroleum hydrocarbons, consideration should be given to the collection of water samples to validate the water quality at the subject parcel.

VIII. REPORT LIMITATIONS

This report has been prepared for the exclusive use of Rite Aid Corporation and Tait & Associates, Inc. with specific application to the subject site in San Rafael, California. The use of this report, its contents, or any part of it, or its agents, other than the ones for whom this report is prepared, is herewith disallowed.

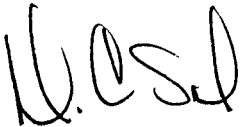
In part, these findings, conclusions, and recommendations are based on the best available information known or made available by regulators, other consultants, or other sources. Over time, the surficial evidence of some activities are obscured or obliterated entirely. It is possible that certain adverse conditions could exist at the sites 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 performed according to generally accepted assessment practices. The opinions and conclusions contained in this report are typically based on information obtained from:

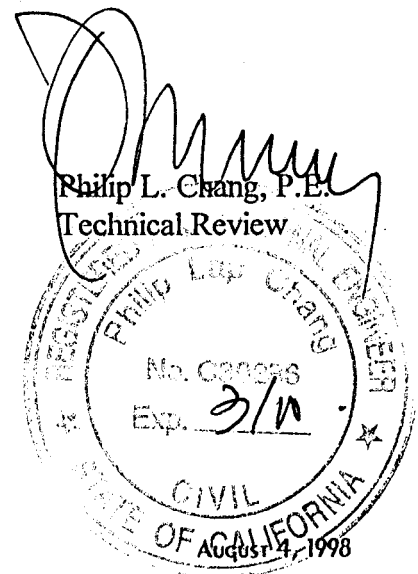
1. Observations and measurements by field staff
2. Contacts and discussions with regulatory agencies and others
3. Review of available hazardous substance or solid waste site lists
4. Opinions and judgements of our personnel based on available information.

The Client has retained FAI for the sole purpose of assisting the Client in evaluating the environmental liability associated with the project site. It is recognized and agreed that FAI has assumed responsibility only for performing this investigation and presenting this report and conclusions to the Client. The responsibility for making any further evaluation, disclosure, or report to any third party or for the taking of corrective, remedial, and/or mitigative action shall be solely that of the Client. The Client agrees to hold FAI harmless from any and all liability, damage, loss, cost, or expense, including attorney fees, in any way arising from the claim of any third party. FAI agrees not to make, except at the clients request, any report to any third party not legally required of it.

Respectfully Submitted,
Faultline Associates, Inc.



David C. Solis, J.D., P.E.
Principal/Sr. Project Manager



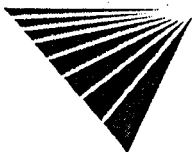
Appendix A

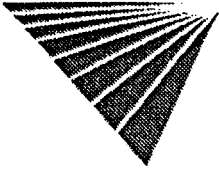
VISTA SITE ASSESSMENT PLUS REPORT
July 9, 1998

SITE ASSESSMENT PLUS REPORT

PROPERTY INFORMATION	CLIENT INFORMATION
Project Name/Ref #: Not Provided RITE AID NORTHGATE DR AT LAS GALINAS AVE SAN RAFAEL, CA 94903 Cross Street: LAS GALINAS Latitude/Longitude: (38.008839, 122.544592)	DAVID C. SOLIS FAULTLINE ASSOCIATES-WALNUT CR 1630 N MAIN ST WALNUT CREEK, CA 94596

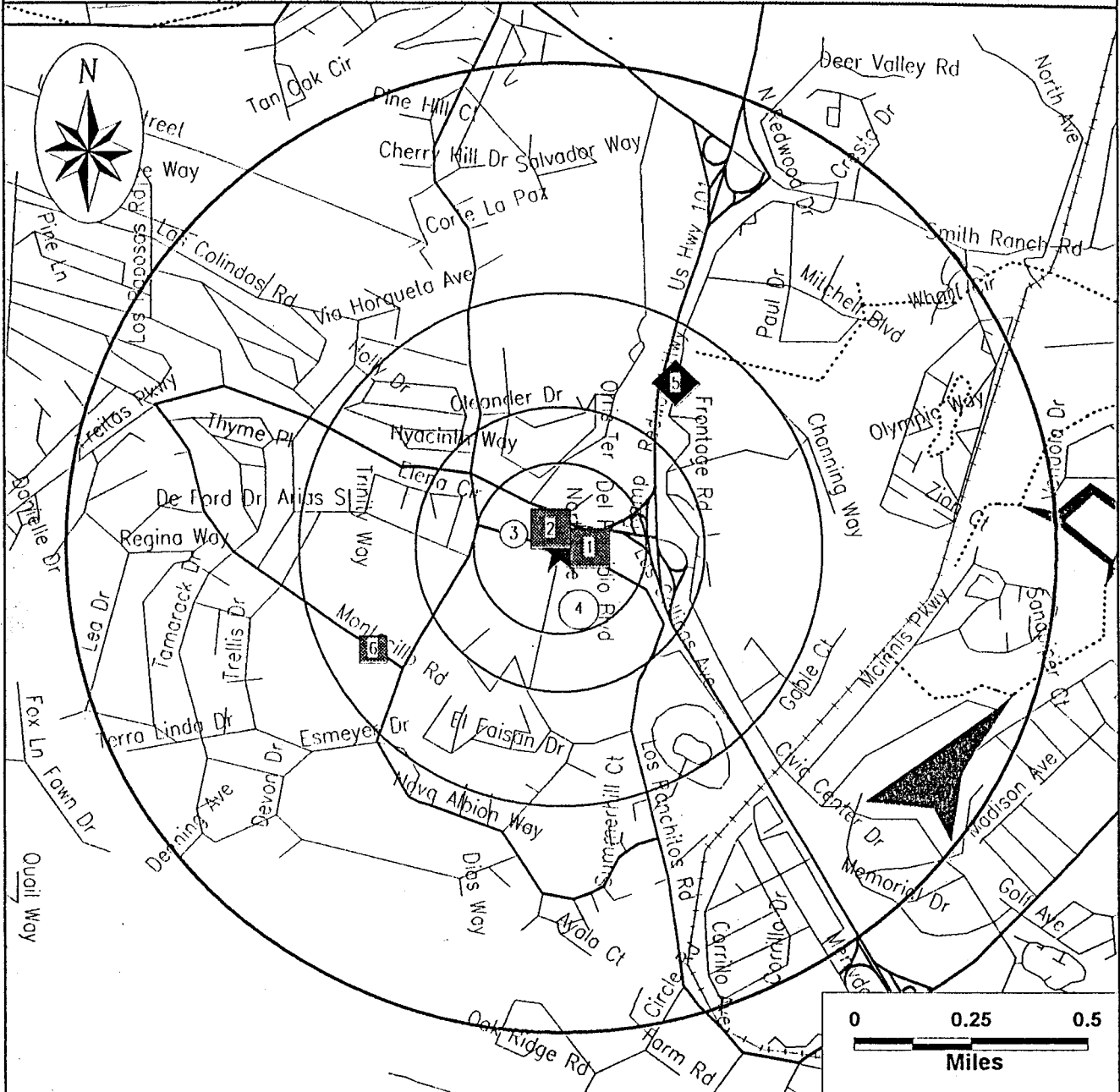
Site Distribution Summary	within 1/8 mile	1/8 to 1/4 mile	1/4 to 1/2 mile	1/2 to 1 mile
Agency / Database - Type of Records				
A) Databases searched to 1 mile:				
US EPA NPL National Priority List	0	0	0	0
US EPA CORRACTS RCRA Corrective Actions and associated TSD (TSD)	0	0	1	0
STATE SPL State equivalent priority list	0	0	0	0
B) Databases searched to 1/2 mile:				
US EPA CERCLIS / NFRAP Sites currently or formerly under review by US EPA	0	0	1	-
US EPA TSD RCRA permitted treatment, storage, disposal facilities	0	0	0	-
STATE SCL State equivalent CERCLIS list	0	0	1	-
STATE REG CO LUST Leaking Underground Storage Tanks	5	0	3	-
STATE/REG/CO SWLF Permitted as solid waste landfills, incinerators, or transfer stations	0	0	0	-
STATE DEED RSTR Sites with deed restrictions	0	0	0	-
REGIONAL NORTH BAY Sites on North Bay Toxic List	0	0	1	-
STATE CORTESE State index of properties with hazardous waste	4	0	1	-
STATE TOXIC PITS Toxic Pits cleanup facilities	0	0	0	-
C) Databases searched to 1/4 mile:				
US EPA RCRA Viol RCRA violations/enforcement actions	0	0	-	-
US EPA TRIS Toxic Release Inventory database	0	0	-	-
STATE UST/AST Registered underground or aboveground storage tanks	5	0	-	-





SITE ASSESSMENT PLUS REPORT

Map of Sites within One Mile



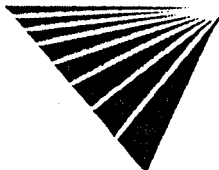
Subject Site	Category:	A	B	C	D
★	Databases Searched to:	1 mi.	1/2 mi.	1/4 mi.	1/8 mi.
	Single Sites	◆	■	▲	○
	Multiple Sites	◆	■	▲	○
	Highways and Major Roads	NPL, SPL, CORRACTS, (TSD),	CERCLIS, NFRAP, TSD, SCL, LUST, SWLF	TRIS, UST	ERNS, GENERATORS
	Roads	If additional dalabases are listed in the cover page of the report they are also displayed on this map. The map symbol used corresponds to the dalabase category letter A,B,C,D.			
	Railroads				
	Rivers or Water Bodies				
	Utilities				

For More Information Call VISTA Information Solutions, Inc. at 1 - 800 - 767 - 0403

Report ID: 214432001

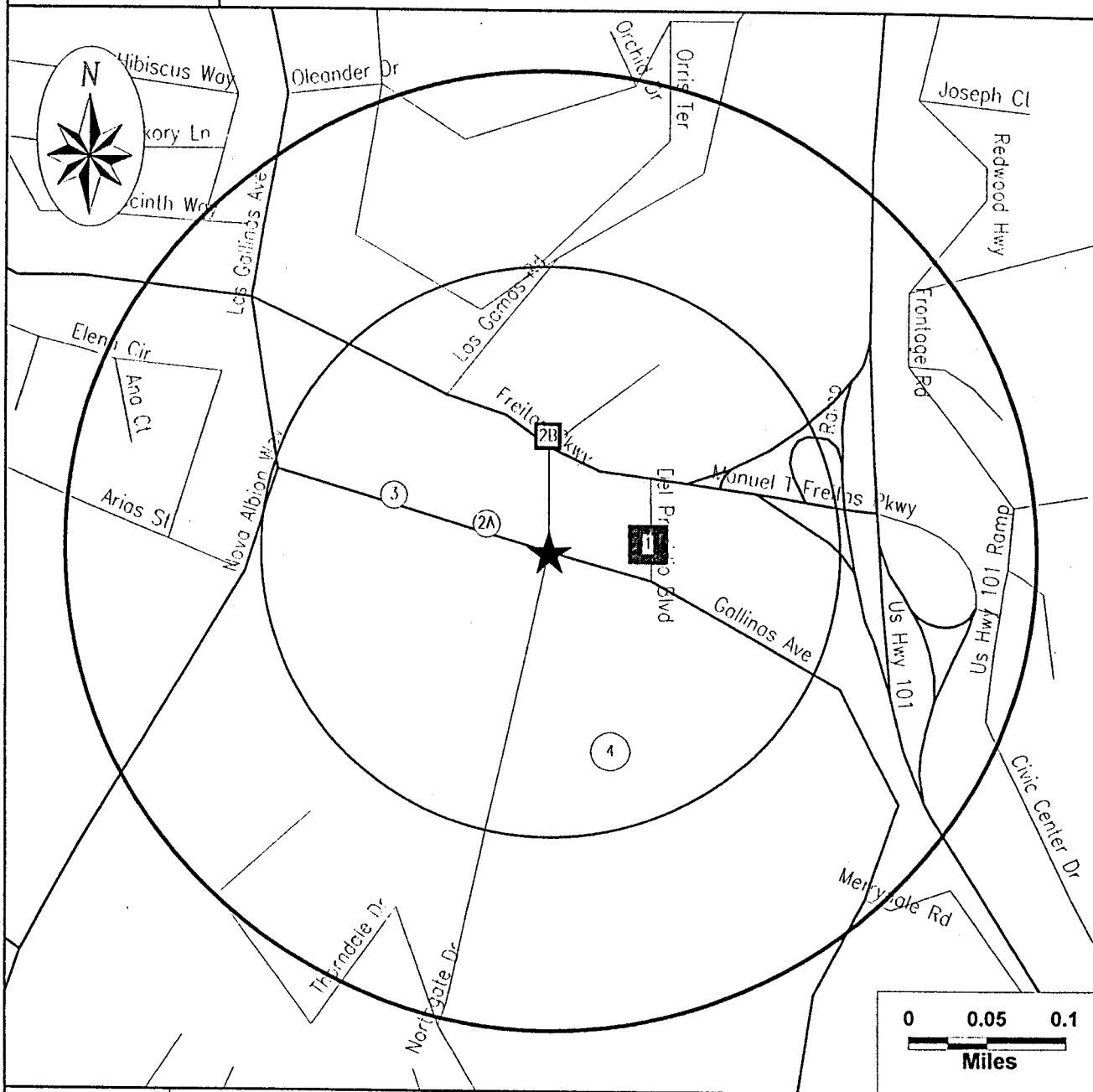
Date of Report: July 9, 1998

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SITE ASSESSMENT PLUS REPORT

Map of Sites within Quarter Mile



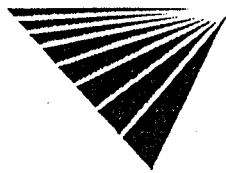
Subject Site	Category:	A	B	C	D
★	Databases Searched to:	1 mi.	1/2 mi.	1/4 mi.	1/8 mi.
	Single Sites	◆	■	▲	○
	Multiple Sites	◆	■	▲	○
Highways and Major Roads Roads Railroads Rivers or Water Bodies Utilities		NPL, SPL, CORRACTS, (TSD),	CERCLIS, NFRAP, TSD, SCL, LUST, SWLF	TRIS, UST	ERNS, GENERATORS
<p>If additional databases are listed in the cover page of the report they are also displayed on this map. The map symbol used corresponds to the database category letter A,B,C,D.</p>					

For More Information Call VISTA Information Solutions, Inc. at 1 - 800 - 767 - 0403

Report ID: 214432001

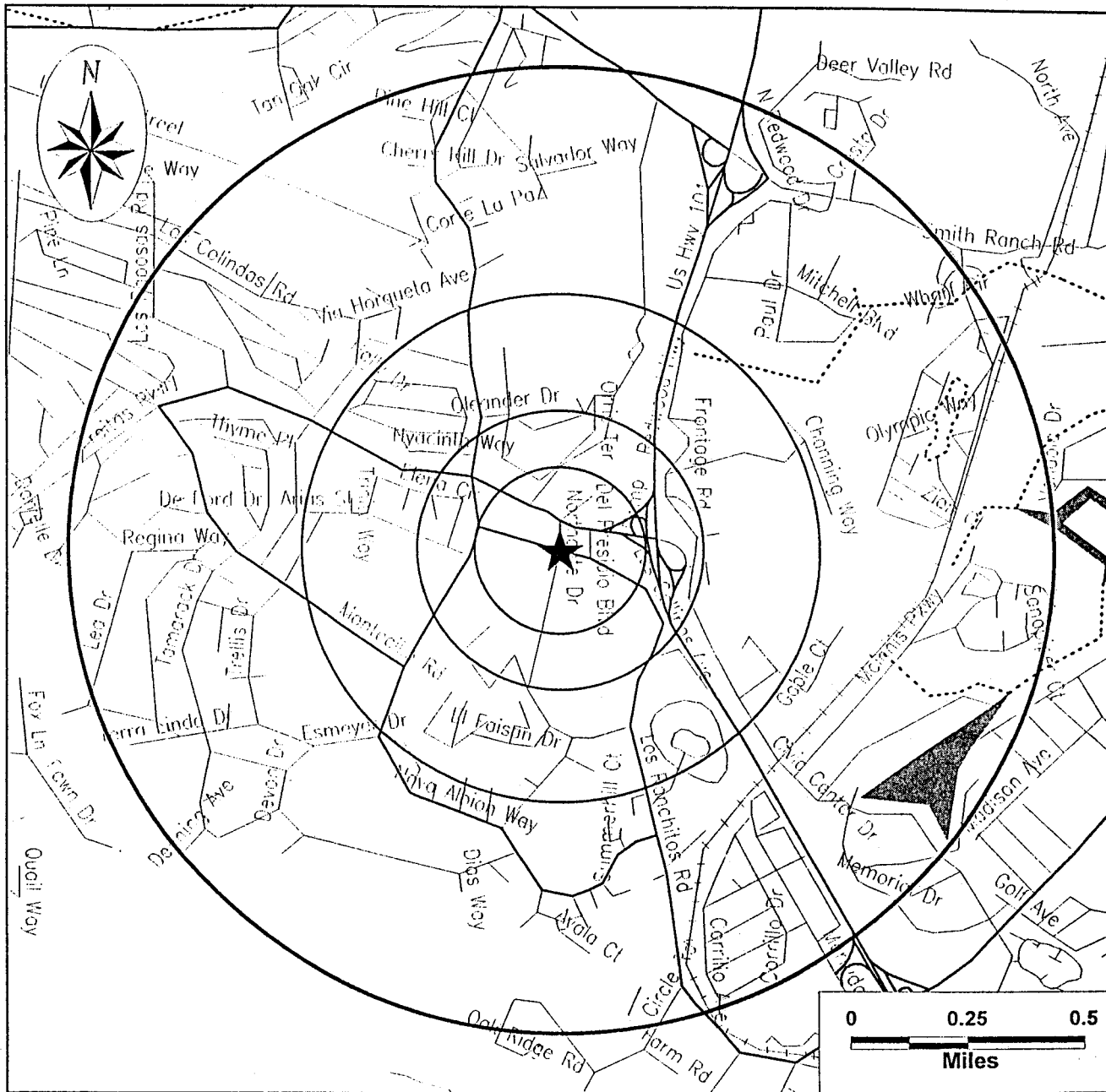
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SITE ASSESSMENT PLUS REPORT

Street Map



Subject Site



Highways and Major Roads

Roads

Railroads

Rivers or Water Bodies

Utilities

SITE ASSESSMENT PLUS REPORT

SITE INVENTORY

MAP ID	PROPERTY AND THE ADJACENT AREA (within 1/8 mile)	VISTA ID DISTANCE DIRECTION	A		B							C		D					
			NPL	CORRACTS(TSD)	SPL	CERCLIS/NFRAP	TSD	SCL	LUST	SWLF	DEED RSTR	NORTH BAY	CORTESE	TOXIC PITS	RCRA VIOL	TRIS	UST/AST	ERNS	GNRTR
1	UNION OIL SS# 4774 929 DEL PRESIDIO SAN RAFAEL, CA 94903	1253585 0.00 MI NA													X				
1	UNOCAL 929 DEL PRESIDIO BLVD SAN RAFAEL, CA 94903	5354072 0.00 MI NA										X							
1	UNOCAL 929 DEL PRESIDIO BLVD SAN RAFAEL, CA 94903	2745802 0.00 MI NA							X										
1	93553 CHEVRON 949 DEL PRESIDIO SAN RAFAEL, CA 94903	932624 <0.01 MI E							X			X			X				
1	EXXON SERVICE STATION 7-7067 930 DEL PRESIDIO SAN RAFAEL, CA 94903	1583911 0.01 MI E							X			X			X				
1	NORTHGATE SHELL 950 DEL PRESIDIO SAN RAFAEL, CA 94903	377355 0.01 MI E							X			X			X				
2A	PAUL D SATHER M D RADIOLOGY OFFICE 750 LAS GALLINOS 101 SAN RAFAEL, CA 94903	18457 0.00 MI NA																	X
2B	ARTS AUTO CARE 1005 NORTHGATE SAN RAFAEL, CA 94903	4036181 0.01 MI N							X						X				
3	PACIFIC BELL 820 LAS GALLINAS AVE SAN RAFAEL, CA 94903	315567 0.05 MI W																	X
4	NORTHGATE MALL 5800 NORTHGATE MALL SAN RAFAEL, CA 94903	300623 0.07 MI S																	X
4	EXPRESSLY PORTRAITS INC 5600 NORTHGATE MALL SAN RAFAEL, CA 94903	4062708 0.07 MI S																	X
4	PAYLESS 4372 1500 NORTHGATE MALL SAN RAFAEL, CA 94903	5356395 0.07 MI S																	X



X = search criteria; • = tag-along (beyond search criteria).

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MAP ID	SITES IN THE SURROUNDING AREA (within 1/8 - 1/4 mile)	A			B							C		D					
		VISTA ID DISTANCE DIRECTION	NPL	CORRACTS(TSD)	SPL	CERCLIS/NFRAP	TSD	SCL	LUST	SWLF	DEED RSTR	NORTH BAY	CORTESE	TOXIC PITS	RCRA VIOL	TRIS	UST/AST	ERNS	GNRTR
No Records Found																			

MAP ID	SITES IN THE SURROUNDING AREA (within 1/4 - 1/2 mile)	A			B							C		D						
		VISTA ID DISTANCE DIRECTION	NPL	CORRACTS(TSD)	SPL	CERCLIS/NFRAP	TSD	SCL	LUST	SWLF	DEED RSTR	NORTH BAY	CORTESE	TOXIC PITS	RCRA VIOL	TRIS	UST/AST	ERNS	GNRTR	SPILLS
5	TESTA PLUMBING, INC 4244 REDWOOD SAN RAFAEL, CA 94903	3201517 0.37 MI NE							X							•				
5	FAIRCHILD CAMERA INSTRUMENT 4300 REDWOOD HWY SAN RAFAEL, CA 94903	147438 0.40 MI NE		X	X		X	X				X	X		•				•	
6	KAISER MEDICAL CENTER 99 MONTICELLO SAN RAFAEL, CA 94903	3199375 0.40 MI SW							X							•				

MAP ID	SITES IN THE SURROUNDING AREA (within 1/2 - 1 mile)	A			B							C		D					
		VISTA ID DISTANCE DIRECTION	NPL	CORRACTS(TSD)	SPL	CERCLIS/NFRAP	TSD	SCL	LUST	SWLF	DEED RSTR	NORTH BAY	CORTESE	TOXIC PITS	RCRA VIOL	TRIS	UST/AST	ERNS	GNRTR
No Records Found																			



X = search criteria; • = tag-along (beyond search criteria).

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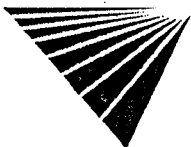
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UNMAPPED SITES	A			B							C		D					
	NPL	CORRACTS(TSD)	SPL	CERCLIS/INFRAP	TSD	SCL	LUST	SWLF	DEED RSTR	NORTH BAY	CORTESE	TOXIC PITS	RCRA VIOL	TRIS	UST/AST	ERNS	GNRTR	SPILLS
JIFFY LUBE #1590 9000 NORTHGATE MALL SAN RAFAEL, CA 94903	VISTA ID 7240597														X			
MARIN COUNTY CIVIC CENTER CIVIC CENTER SAN RAFAEL, CA 94903	1233232						X								X			
MARIN COUNTY CIVIC CENTER CIVIC CENTER DR SAN RAFAEL, CA 94903	5353902									X								
LUCASFILM. LTD. LUCAS VALLEY RD SAN RAFAEL, CA 94903	5355507									X								
CECCOTI NEXT TO GHILOTTI SAN RAFAEL, CA	6831390							X										



X = search criteria; • = tag-along (beyond search criteria).

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SITE ASSESSMENT PLUS REPORT

DETAILS

PROPERTY AND THE ADJACENT AREA (within 1/8 mile)

VISTA Address*:	UNION OIL SS# 4774 929 DEL PRESIDIO SAN RAFAEL, CA 94903	VISTA ID#:	1253585
		Distance/Direction:	0.00 MI / NA
		Plotted as:	Point
STATE UST - State Underground Storage Tank / SRC# 1612		EPA/Agency ID:	N/A

Map ID
1

Agency Address:		SAME AS ABOVE	
Underground Tanks:		4	
Aboveground Tanks:		NOT REPORTED	
Tanks Removed:		NOT REPORTED	
Tank ID:	1U	Tank Status:	ACTIVE/IN SERVICE
Tank Contents:	UNLEADED GAS	Leak Monitoring:	UNKNOWN
Tank Age:	NOT REPORTED	Tank Piping:	UNKNOWN
Tank Size (Units):	4000 (GALLONS)	Tank Material:	BARE STEEL
Tank ID:	2U	Tank Status:	ACTIVE/IN SERVICE
Tank Contents:	UNLEADED GAS	Leak Monitoring:	UNKNOWN
Tank Age:	NOT REPORTED	Tank Piping:	UNKNOWN
Tank Size (Units):	5000 (GALLONS)	Tank Material:	BARE STEEL
Tank ID:	3U	Tank Status:	ACTIVE/IN SERVICE
Tank Contents:	UNLEADED GAS	Leak Monitoring:	UNKNOWN
Tank Age:	NOT REPORTED	Tank Piping:	UNKNOWN
Tank Size (Units):	6000 (GALLONS)	Tank Material:	BARE STEEL
Tank ID:	4U	Tank Status:	ACTIVE/IN SERVICE
Tank Contents:	OIL (NOT SPECIFIED)	Leak Monitoring:	UNKNOWN
Tank Age:	NOT REPORTED	Tank Piping:	UNKNOWN
Tank Size (Units):	280 (GALLONS)	Tank Material:	BARE STEEL

VISTA Address*:	UNOCAL 929 DEL PRESIDIO BLVD SAN RAFAEL, CA 94903	VISTA ID#:	5354072
		Distance/Direction:	0.00 MI / NA
		Plotted as:	Point
CORTESE / SRC# 2298		EPA/Agency ID:	N/A

Map ID
1

Agency Address:		UNOCAL 929 DEL PRESIDIO BLVD SAN RAFAEL, CA	
List Name:		LEAKING TANK	
Site ID:		INV-ID21-000163	



* VISTA address includes enhanced city and ZIP.

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PROPERTY AND THE ADJACENT AREA (within 1/8 mile) CONT.

Map ID

1

VISTA Address*:	UNOCAL 929 DEL PRESIDIO BLVD SAN RAFAEL, CA 94903	VISTA ID#:	2745802
		Distance/Direction:	0.00 MI / NA
		Plotted as:	Point
		EPA/Agency ID:	N/A

STATE LUST - State Leaking Underground Storage Tank / SRC# 4440	
Agency Address:	UNOCAL 929 DEL PRESIDIO BLVD SAN RAFAEL, CA 94901
Leak ID#:	21-0157
Leak Date:	19910214
Leak Report Date:	19910214
Remediation Start Date:	000001.)
Leak Detection Method:	TC
Leak Cause:	U
Leak Source:	U
Substance:	12035
Substance:	8006619
Remediation Event:	0
Remediation Event:	EDGT
Remediation Status:	9
Priority:	1C3
Media Affected:	O
Funding:	F
Description / Comment:	ARCHIVED 11/1/96 CONTROL NO 120-110

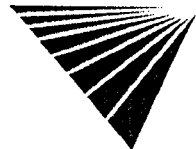
STATE LUST - State Leaking Underground Storage Tank / SRC# 4548		EPA/Agency ID:	N/A
Agency Address:	UNOCAL 929 DEL PRESIDIO BLVD SAN RAFAEL, CA 94901		
Leak ID#:	21-0157		
Leak Report Date:	19910214		
Substance:	WASTE OIL		
Remediation Event:	EDGT		
Remediation Status:	CASE CLOSED		
Media Affected:	OTHER GROUND WATER		

Map ID

1

VISTA Address*:	93553 CHEVRON 949 DEL PRESIDIO SAN RAFAEL, CA 94903	VISTA ID#:	932624
		Distance/Direction:	<0.01 MI / E
		Plotted as:	Point

STATE UST - State Underground Storage Tank / SRC# 1612		EPA/Agency ID:	N/A
Agency Address:	SAME AS ABOVE		
Underground Tanks:	3		
Aboveground Tanks:	NOT REPORTED		
Tanks Removed:	NOT REPORTED		
Tank ID:	1U	Tank Status:	ACTIVE/IN SERVICE
Tank Contents:	UNKNOWN	Leak Monitoring:	UNKNOWN
Tank Age:	NOT REPORTED	Tank Piping:	UNKNOWN
Tank Size (Units):	10000 (GALLONS)	Tank Material:	OTHER DESCRIPTIONS



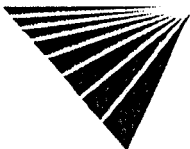
PROPERTY AND THE ADJACENT AREA (within 1/8 mile) CONT.

Tank ID:	2U	Tank Status:	ACTIVE/IN SERVICE
Tank Contents:	UNKNOWN	Leak Monitoring:	UNKNOWN
Tank Age:	NOT REPORTED	Tank Piping:	UNKNOWN
Tank Size (Units):	10000 (GALLONS)	Tank Material:	OTHER DESCRIPTIONS
Tank ID:	3U	Tank Status:	ACTIVE/IN SERVICE
Tank Contents:	UNKNOWN	Leak Monitoring:	UNKNOWN
Tank Age:	NOT REPORTED	Tank Piping:	UNKNOWN
Tank Size (Units):	10000 (GALLONS)	Tank Material:	OTHER DESCRIPTIONS

CORTESE / SRC# 2298		EPA/Agency ID:	N/A
Agency Address:	CHEVRON 949 DEL PRESIDIO BLVD SAN RAFAEL, CA		
List Name:	LEAKING TANK		
Site ID:	INV-ID21-000033		

STATE LUST - State Leaking Underground Storage Tank / SRC# 4440		EPA/Agency ID:	N/A
Agency Address:	CHEVRON 949 DEL PRESIDIO BLVD SAN RAFAEL, CA 94901		
Leak ID#:	21-0166		
Leak Date:	19870817		
Leak Report Date:	19870817		
Remediation Start Date:	000001.)		
Leak Detection Method:	TC		
Leak Cause:	F		
Leak Source:	T		
Substance:	8006619		
Remediation Event:	0		
Remediation Event:	NA		
Remediation Status:	0		
Media Affected:	U		
Funding:	F		
Description / Comment:	DISPENSER FILTER BROKE 15 GL SPILLED, NOT A UST CASE		

STATE LUST - State Leaking Underground Storage Tank / SRC# 4548		EPA/Agency ID:	N/A
Agency Address:	CHEVRON 949 DEL PRESIDIO BLVD SAN RAFAEL, CA 94901		
Leak ID#:	21-0166		
Leak Report Date:	19870817		
Substance:	GASOLINE		
Remediation Event:	NA		
Remediation Status:	NO ACTION		
Media Affected:	UNDEFINED		



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PROPERTY AND THE ADJACENT AREA (within 1/8 mile) CONT.

Map ID

1

VISTA Address*:	EXXON SERVICE STATION 7-7067 930 DEL PRESIDIO SAN RAFAEL, CA 94903	VISTA ID#:	1583911
		Distance/Direction:	0.01 MI / E
		Plotted as:	Point

STATE UST - State Underground Storage Tank / SRC# 1612	EPA/Agency ID:	N/A
--	----------------	-----

Agency Address:	SAME AS ABOVE
Underground Tanks:	5
Aboveground Tanks:	NOT REPORTED
Tanks Removed:	NOT REPORTED

Tank ID:	1U	Tank Status:	ACTIVE/IN SERVICE
Tank Contents:	UNLEADED GAS	Leak Monitoring:	UNKNOWN
Tank Age:	NOT REPORTED	Tank Piping:	UNKNOWN
Tank Size (Units):	12000 (GALLONS)	Tank Material:	FIBERGLASS

Tank ID:	2U	Tank Status:	ACTIVE/IN SERVICE
Tank Contents:	LEADED GAS	Leak Monitoring:	UNKNOWN
Tank Age:	NOT REPORTED	Tank Piping:	UNKNOWN
Tank Size (Units):	10000 (GALLONS)	Tank Material:	FIBERGLASS

Tank ID:	3U	Tank Status:	ACTIVE/IN SERVICE
Tank Contents:	DIESEL	Leak Monitoring:	UNKNOWN
Tank Age:	NOT REPORTED	Tank Piping:	UNKNOWN
Tank Size (Units):	10000 (GALLONS)	Tank Material:	FIBERGLASS

Tank ID:	4U	Tank Status:	ACTIVE/IN SERVICE
Tank Contents:	UNLEADED GAS	Leak Monitoring:	UNKNOWN
Tank Age:	NOT REPORTED	Tank Piping:	UNKNOWN
Tank Size (Units):	8000 (GALLONS)	Tank Material:	FIBERGLASS

Tank ID:	5U	Tank Status:	ACTIVE/IN SERVICE
Tank Contents:	OIL(NOT SPECIFIED)	Leak Monitoring:	UNKNOWN
Tank Age:	NOT REPORTED	Tank Piping:	UNKNOWN
Tank Size (Units):	1000 (GALLONS)	Tank Material:	FIBERGLASS

CORTESE / SRC# 2298	EPA/Agency ID:	N/A
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Agency Address:	EXXON 930 DEL PRESIDIO BLVD SAN RAFAEL, CA
List Name:	LEAKING TANK
Site ID:	INV-ID21-000052

STATE LUST - State Leaking Underground Storage Tank / SRC# 4440	EPA/Agency ID:	N/A
---	----------------	-----

Agency Address:	EXXON 930 DEL PRESIDIO BLVD SAN RAFAEL, CA 94901
Leak ID#:	21-0048
Leak Date:	19880616
Leak Report Date:	19880616
Remediation Start Date:	000001.)
Leak Detection Method:	TC
Leak Cause:	U
Leak Source:	U
Substance:	12036
Substance:	12035
Remediation Event:	0
Remediation Event:	GT



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PROPERTY AND THE ADJACENT AREA (within 1/8 mile) CONT.

Remediation Status:	5C
Media Affected:	O
Funding:	F
Description / Comment:	EXTRACTION TRENCHES IN OPERATION.
STATE LUST - State Leaking Underground Storage Tank / SRC# 4548	EPA/Agency ID: N/A
Agency Address:	EXXON 930 DEL PRESIDIO BLVD SAN RAFAEL, CA 94901
Leak ID#:	21-0048
Leak Report Date:	19880616
Substance:	MISC MOTOR VEHICLE FUELS
Remediation Event:	GT
Remediation Status:	FURTHER SITE ASSESSMENT UNDERWAY
Media Affected:	OTHER GROUND WATER

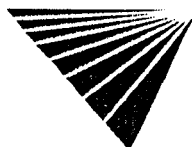
VISTA Address*:	NORTHGATE SHELL 950 DEL PRESIDIO SAN RAFAEL, CA 94903	VISTA ID#:	377355
		Distance/Direction:	0.01 MI / E
		Plotted as:	Point

Map ID

1

STATE UST - State Underground Storage Tank / SRC# 1612	EPA/Agency ID:	N/A	
Agency Address:	NORTHGATE SHELL 950 DEL PRESIDIO SAN RAFAEL, CA 94901		
Underground Tanks:	4		
Aboveground Tanks:	NOT REPORTED		
Tanks Removed:	NOT REPORTED		
Tank ID:	1U	Tank Status:	ACTIVE/IN SERVICE
Tank Contents:	OIL(NOT SPECIFIED)	Leak Monitoring:	MONITOR PRESENT
Tank Age:	NOT REPORTED	Tank Piping:	UNKNOWN
Tank Size (Units):	550 (GALLONS)	Tank Material:	BARE STEEL
Tank ID:	2U	Tank Status:	ACTIVE/IN SERVICE
Tank Contents:	UNLEADED GAS	Leak Monitoring:	MONITOR PRESENT
Tank Age:	NOT REPORTED	Tank Piping:	FIBERGLASS
Tank Size (Units):	10000 (GALLONS)	Tank Material:	FIBERGLASS
Tank ID:	3U	Tank Status:	ACTIVE/IN SERVICE
Tank Contents:	LEADED GAS	Leak Monitoring:	MONITOR PRESENT
Tank Age:	NOT REPORTED	Tank Piping:	FIBERGLASS
Tank Size (Units):	10000 (GALLONS)	Tank Material:	FIBERGLASS
Tank ID:	4U	Tank Status:	ACTIVE/IN SERVICE
Tank Contents:	UNLEADED GAS	Leak Monitoring:	MONITOR PRESENT
Tank Age:	NOT REPORTED	Tank Piping:	FIBERGLASS
Tank Size (Units):	10000 (GALLONS)	Tank Material:	FIBERGLASS

CORTESE / SRC# 2298	EPA/Agency ID:	N/A
Agency Address:	SHELL 950 DEL PRESIDIO BLVD SAN RAFAEL, CA	
List Name:	LEAKING TANK	
Site ID:	INV-ID21-000139	



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PROPERTY AND THE ADJACENT AREA (within 1/8 mile) CONT.

STATE LUST - State Leaking Underground Storage Tank / SRC# 4440		EPA/Agency ID:	N/A
Agency Address:	SHELL 950 DEL PRESIDIO BLVD SAN RAFAEL, CA 94901		
Leak ID#:	21-0133		
Leak Date:	19871105		
Leak Report Date:	19871211		
Remediation Start Date:	000001.)		
Leak Detection Method:	TC		
Leak Cause:	F		
Leak Source:	T		
Substance:	12035		
Remediation Event:	0		
Remediation Event:	ED		
Remediation Status:	3B		
Priority:	2A4		
Media Affected:	O		
Funding:	F		
Description / Comment:	NFA PROPOSED		

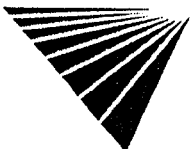
STATE LUST - State Leaking Underground Storage Tank / SRC# 4548		EPA/Agency ID:	N/A
Agency Address:	SHELL 950 DEL PRESIDIO BLVD SAN RAFAEL, CA 94901		
Leak ID#:	21-0133		
Leak Report Date:	19871211		
Substance:	WASTE OIL		
Remediation Event:	ED		
Remediation Status:	PRELIMINARY SITE ASSESSMENT UNDERWAY		
Media Affected:	OTHER GROUND WATER		

VISTA Address*:	PAUL D SATHER M D RADIOLOGY OFFICE 750 LAS GALLINOS 101 SAN RAFAEL, CA 94903	VISTA ID#:	3198457
		Distance/Direction:	0.00 MI / NA
		Plotted as:	Point
RCRA-SmGen - RCRA-Small Generator / SRC# 4467		EPA ID:	CAD983624941
Agency Address:	PAUL O SATHER RADIOLOGY OFFICE 750 LAS GALLINAS NO 101 SAN RAFAEL, CA 94903		
Generator Class:	Generates 100 kg./month but less than 1000 kg./month of non-acutely hazardous waste		

Map ID
2A

VISTA Address*:	ARTS AUTO CARE 1005 NORTHGATE SAN RAFAEL, CA 94903	VISTA ID#:	4036181
		Distance/Direction:	0.01 MI / N
		Plotted as:	Point
STATE UST - State Underground Storage Tank / SRC# 1612		EPA/Agency ID:	N/A
Agency Address:	SAME AS ABOVE		
Underground Tanks:	5		
Aboveground Tanks:	NOT REPORTED		
Tanks Removed:	NOT REPORTED		

Map ID
2B



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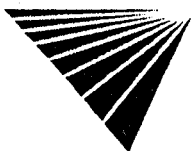
Tank ID:	1U	Tank Status:	ACTIVE/IN SERVICE
Tank Contents:	UNLEADED GAS	Leak Monitoring:	UNKNOWN
Tank Age:	NOT REPORTED	Tank Piping:	UNKNOWN
Tank Size (Units):	6000 (GALLONS)	Tank Material:	BARE STEEL
Tank ID:	2U	Tank Status:	ACTIVE/IN SERVICE
Tank Contents:	LEADED GAS	Leak Monitoring:	UNKNOWN
Tank Age:	NOT REPORTED	Tank Piping:	UNKNOWN
Tank Size (Units):	6000 (GALLONS)	Tank Material:	BARE STEEL
Tank ID:	3U	Tank Status:	ACTIVE/IN SERVICE
Tank Contents:	UNLEADED GAS	Leak Monitoring:	UNKNOWN
Tank Age:	NOT REPORTED	Tank Piping:	UNKNOWN
Tank Size (Units):	6000 (GALLONS)	Tank Material:	BARE STEEL
Tank ID:	4U	Tank Status:	ACTIVE/IN SERVICE
Tank Contents:	UNLEADED GAS	Leak Monitoring:	MONITOR PRESENT
Tank Age:	NOT REPORTED	Tank Piping:	UNKNOWN
Tank Size (Units):	6000 (GALLONS)	Tank Material:	BARE STEEL
Tank ID:	5U	Tank Status:	ACTIVE/IN SERVICE
Tank Contents:	OIL(NOT SPECIFIED)	Leak Monitoring:	UNKNOWN
Tank Age:	NOT REPORTED	Tank Piping:	UNKNOWN
Tank Size (Units):	550 (GALLONS)	Tank Material:	BARE STEEL

STATE LUST - State Leaking Underground Storage Tank / SRC# 4440	EPA/Agency ID:	N/A
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Agency Address:	ART'S AUTO CARE 1005 NORTHGATE DR SAN RAFAEL, CA 94901
Leak ID#:	21-0275
Leak Date:	19891117
Leak Report Date:	19930126
Remediation Start Date:	000001.)
Leak Detection Method:	TC
Leak Cause:	U
Leak Source:	U
Substance:	12031
Remediation Event:	0
Remediation Event:	NT
Remediation Status:	1
Priority:	2A4
Media Affected:	0
Funding:	F
Description / Comment:	SRFD ORDERS REMOVAL OF ALL UST'S 1/26/93;MAXSL TPH-G

STATE LUST - State Leaking Underground Storage Tank / SRC# 4548	EPA/Agency ID:	N/A
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Agency Address:	ART'S AUTO CARE 1005 NORTHGATE DR SAN RAFAEL, CA 94901
Leak ID#:	21-0275
Leak Report Date:	19930126
Substance:	UNLEADED GASOLINE
Remediation Event:	NT
Remediation Status:	LEAK IS SUSPECTED AT SIGHT, BUT NOT CONF



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PROPERTY AND THE ADJACENT AREA (within 1/8 mile) CONT.

Media Affected: OTHER GROUND WATER

VISTA Address*:	PACIFIC BELL 820 LAS GALLINAS AVE SAN RAFAEL, CA 94903	VISTA ID#:	315567
		Distance/Direction:	0.05 MI / W
RCRA-LgGen - RCRA-Large Generator / SRC# 4467		Plotted as:	Point
Agency Address:		EPA ID:	CAT080015779
Generator Class:		PACIFIC BELL 820 LAS GALLINAS AVENUE SAN RAFAEL, CA 94903 Generates at least 1000 kg./month of non-acutely hazardous waste (or 1 kg./month of acutely hazardous waste).	

Map ID
3

VISTA Address*:	NORTHGATE MALL 5800 NORTHGATE MALL SAN RAFAEL, CA 94903	VISTA ID#:	300623
		Distance/Direction:	0.07 MI / S
RCRA-SmGen - RCRA-Small Generator / SRC# 4467		Plotted as:	Point
Agency Address:		EPA ID:	CAD981422736
Generator Class:		NORTHGATE MALL 5800 NORTHGATE MALL SAN RAFAEL, CA 94901 Generates 100 kg./month but less than 1000 kg./month of non-acutely hazardous waste	

Map ID
4

VISTA Address*:	EXPRESSLY PORTRAITS INC 5600 NORTHGATE MALL SAN RAFAEL, CA 94903	VISTA ID#:	4062708
		Distance/Direction:	0.07 MI / S
RCRA-SmGen - RCRA-Small Generator / SRC# 4467		Plotted as:	Point
Agency Address:		EPA ID:	CAD983667429
Generator Class:		EXPRESSLY PORTRAITS INC 5600 NORTHGATE MALL SAN RAFAEL, CA 94903 Generates 100 kg./month but less than 1000 kg./month of non-acutely hazardous waste	

Map ID
4

VISTA Address*:	PAYLESS 4372 1500 NORTHGATE MALL SAN RAFAEL, CA 94903	VISTA ID#:	5356395
		Distance/Direction:	0.07 MI / S
RCRA-SmGen - RCRA-Small Generator / SRC# 4467		Plotted as:	Point
Agency Address:		EPA ID:	CA0001007533
Generator Class:		RITE AID NO 5958 1500 NORTHGATE MALL SAN RAFAEL, CA 94903 Generates 100 kg./month but less than 1000 kg./month of non-acutely hazardous waste	

Map ID
4

SITES IN THE SURROUNDING AREA (within 1/8 - 1/4 mile)

No Records Found



SITES IN THE SURROUNDING AREA (within 1/4 - 1/2 mile)

VISTA Address*:	TESTA PLUMBING, INC 4244 REDWOOD SAN RAFAEL, CA 94903	VISTA ID#:	3201517
		Distance/Direction:	0.37 MI / NE
		Plotted as:	Point
STATE LUST - State Leaking Underground Storage Tank / SRC# 4440		EPA/Agency ID:	N/A

Map ID

5

Agency Address:	TESTA PLUMBING 4244 REDWOOD HWY SAN RAFAEL, CA 94903
Leak ID#:	21-0312
Leak Date:	19950926
Leak Report Date:	19950926
Leak Detection Method:	TC
Leak Cause:	U
Leak Source:	U
Substance:	8006619
Remediation Event:	0
Remediation Event:	EDGT
Remediation Status:	9
Priority:	1C1
Media Affected:	0
Description / Comment:	ARCHIVED 11/1/96 CONTROL NO 120-096

STATE LUST - State Leaking Underground Storage Tank / SRC# 4548		EPA/Agency ID:	N/A
Agency Address:	TESTA PLUMBING 4244 REDWOOD HWY SAN RAFAEL, CA 94903		
Leak ID#:	21-0312		
Leak Report Date:	19950926		
Substance:	GASOLINE		
Remediation Event:	EDGT		
Remediation Status:	CASE CLOSED		
Media Affected:	OTHER GROUND WATER		

VISTA Address*:	FAIRCHILD CAMERA INSTRUMENT 4300 REDWOOD HWY SAN RAFAEL, CA 94903	VISTA ID#:	147438
		Distance/Direction:	0.40 MI / NE
		Plotted as:	Point
CORTESE / SRC# 2298		EPA/Agency ID:	N/A

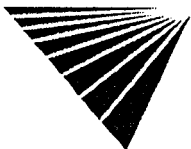
Map ID

5

Agency Address:	FAIRCHILD SEMICONDUCTOR 4300 REDWOOD HWY SAN RAFAEL, CA 949030000
List Name:	LEAKING TANK
Site ID:	INV-ID21-000530

Regional CERCLIS / SRC# 2462		EPA ID:	CAD009144619
Agency Address:	SAME AS ABOVE		
Regional Utility Description: NEW CERCLIS SITE			

STATE LUST - State Leaking Underground Storage Tank / SRC# 4440		EPA/Agency ID:	N/A
Agency Address:	FAIRCHILD SEMICONDUCTOR 4300 REDWOOD RD SAN RAFAEL, CA 94901		
Leak Date:	19820601		
Leak Report Date:	19820601		
Remediation Start Date:	000001.)		



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SITES IN THE SURROUNDING AREA (within 1/4 - 1/2 mile) CONT.

Leak Detection Method:	TC
Leak Cause:	F
Leak Source:	T
Substance:	79016
Remediation Event:	0
Remediation Event:	GT
Remediation Status:	7
Media Affected:	0
Funding:	F
Description / Comment:	SLL
NFRAP / SRC# 4466	
Agency Address:	SAME AS ABOVE
EPA ID:	CAD009144619
EPA Region:	9
Congressional District:	6
Federal Facility:	NOT A FEDERAL FACILITY
Facility Ownership:	PRIVATE
Site Incident Category:	unknown
Federal Facility Docket:	SITE IS NOT INCLUDED ON THE DOCKET
NPL Status:	NOT ON NPL
Incident Type:	Unknown
Proposed NPL Update #:	0
Final NPL Update #:	0
Financial Management System ID:	NOT REPORTED
Latitude:	3800420
Longitude:	12232300
Lat/Long Source:	GENERATED BY THE GEOGRAPH DATABASE
Lat/Long Accuracy:	Unknown
Dioxin Tier:	Unknown
USGS Hydro Unit:	18050002
RCRA Indicator:	ENVIRONMENTAL PRIORITY INITIATIVE
Unit Id:	0
Unit Name:	ENTIRE SITE
Type:	DISCOVERY
Lead Agency:	EPA FUND-FINANCED
Qualifier:	UNKNOWN
Category:	Unknown
Name:	DISCOVERY
Actual Start Date:	NOT REPORTED
Plan Status:	Unknown
Actual Completion Date:	UNKNOWN
Type:	PRELIMINARY ASSESSMENT
Lead Agency:	EPA FUND-FINANCED
Qualifier:	DEFERRED TO RCRA (SUBTITLE C) OR NRC
Category:	Unknown
Name:	PRELIMINARY ASSESSMENT
Actual Start Date:	NOT REPORTED
Plan Status:	Unknown
Actual Completion Date:	UNKNOWN



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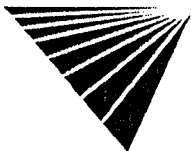
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SITES IN THE SURROUNDING AREA (within 1/4 - 1/2 mile) CONT.

CORRACTS / SRC# 4467		EPA ID:	CAD009144619
Agency Address:	SAME AS ABOVE		
Prioritization Status:	MEDIUM		
RCRA Facility Assessment Completed:	YES		
Notice of Contamination:	NO		
Determination of need For a RFI (RCRA Facility Investigation):	NO		
RFI Imposed:	NO		
RFI Workplan Notice of Deficiency Issued:	NO		
RFI Workplan Approved:	NO		
RFI Report Received:	NO		
RFI Approved:	NO		
No Further Corrective Action at this Time:	NO		
Stabilization Mesaures Evaluation:	NO		
CMS (Corrective Measure Study) Imposition:	NO		
CMS Workplan Approved:	NO		
CMS Report Received:	NO		
CMS Approved:	NO		
Date for Remedy Selection (CM Imposed):	NO		
Corrective Measures Design Approved:	NO		
Corrective Measures Investigation Workplan Approved:	NO		
Certification of Remedy Completion:	NO		
Stabilization Measures Implementation:	NO		
Stabilization Measures Completed:	NO		
Corrective Action Process Termination:	NO		
RCRA-TSD CORRACTS / SRC# 4467		EPA ID:	CAD009144619
Agency Address:	SAME AS ABOVE		
Off-Site Waste Received:	NO		
Land Disposal:	NO		
Incinerator:	NO		
Storage/Treatment:	YES		
SCL - State Equivalent CERCLIS List / SRC# 4543		Agency ID:	21360001
Agency Address:	FAIRCHILD DISCRETE DIVISION 4300 REDWOOD HIGHWAY SAN RAFAEL, CA 94903		
Status:	UNKNOWN		
Facility Type:	NOT AVAILABLE		
Lead Agency:	UNKNOWN		
State Status:	FORMER ANNUAL WORKPLAN SITE, REFERRED TO RWQCB		
Pollutant 1:	UNKNOWN		
Pollutant 2:	UNKNOWN		
Pollutant 3:	UNKNOWN		



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SITES IN THE SURROUNDING AREA (within 1/4 - 1/2 mile) CONT.

STATE LUST - State Leaking Underground Storage Tank / SRC# 4548	EPA/Agency ID:	N/A
Agency Address:	FAIRCHILD SEMICONDUCTOR 4300 REDWOOD RD SAN RAFAEL, CA 94901	
Leak Report Date:	19820601	
Substance:	TCE	
Remediation Event:	GT	
Remediation Status:	REMEDIAL ACTION UNDERWAY	
Media Affected:	OTHER GROUND WATER	

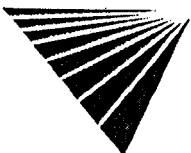
STATE LUST - State Leaking Underground Storage Tank / SRC# 4579	EPA/Agency ID:	N/A
Agency Address:	FAIRCHILD SEMICONDUCTOR CORP 4300 REDWOOD RD SAN RAFAEL, CA 94901	
Facility ID:	21S0001	
Leak Report Date:	19920909	
Contamination Confirmed Date:	000003.*	
Leak Source:	SPILLS	
Wells Impacted:	0	
Remediation Status:	INACTIVE	
Priority:	N	
Media Affected:	NO	
Lead Agency Contact:	RWQCB	
Agency Contact:	JMJ	
Description / Comment:	MANUFACTURED ELECTRONIC CIRCUITS	

VISTA Address*:	KAISER MEDICAL CENTER 99 MONTICELLO SAN RAFAEL, CA 94903	VISTA ID#:	3199375
		Distance/Direction:	0.40 MI / SW
		Plotted as:	Point
STATE LUST - State Leaking Underground Storage Tank / SRC# 4440	EPA/Agency ID:	N/A	

Map ID

6

Agency Address:	KAISER MEDICAL CENTER 99 MONTECILLO RD SAN RAFAEL, CA 94901		
Leak ID#:	21-0199		
Leak Date:	19930617		
Leak Report Date:	19930618		
Remediation Start Date:	000001.)		
Leak Detection Method:	SM		
Leak Cause:	U		
Leak Source:	U		
Substance:	12034		
Remediation Event:	0		
Remediation Event:	NT		
Remediation Status:	1		
Priority:	2A4		
Media Affected:	0		
Funding:	F		
Description / Comment:	DISCHARGE HAS NOT YET BEEN STOPPED - 7/26/63 WRKPLN FOR SITE INVESTIGATION		



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SITES IN THE SURROUNDING AREA (within 1/4 - 1/2 mile) CONT.

STATE LUST - State Leaking Underground Storage Tank / SRC# 4548	EPA/Agency ID:	N/A
Agency Address:	KAISER MEDICAL CENTER 99 MONTECILLO RD SAN RAFAEL, CA 94901	
Leak ID#:	21-0199	
Leak Report Date:	19930618	
Substance:	DIESEL	
Remediation Event:	NT	
Remediation Status:	LEAK IS SUSPECTED AT SIGHT, BUT NOT CONF	
Media Affected:	OTHER GROUND WATER	

SITES IN THE SURROUNDING AREA (within 1/2 - 1 mile)

No Records Found



* VISTA address includes enhanced city and ZIP.

For more information call VISTA Information Solutions, Inc. at 1 - 800 - 767 - 0403.

Report ID: 214432-001

Date of Report: July 9, 1998

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UNMAPPED SITES

VISTA Address*:	CECCOTI NEXT TO GHILOTTI SAN RAFAEL, CA	VISTA ID#:	6831390
STATE SWLF - Solid Waste Landfill / SRC# 4705		Agency ID:	21-CR-0002
Agency Address:	SAME AS ABOVE		
Facility Type:	SOLID WASTE DISPOSAL FACILITY		
Facility Status:	CLOSED		
Permit Status:	UNDER REVIEW		



SITE ASSESSMENT PLUS REPORT

DESCRIPTION OF DATABASES SEARCHED

A) DATABASES SEARCHED TO 1 MILE

NPL
SRC#: 4584

VISTA conducts a database search to identify all sites within 1 mile of your property.
The agency release date for NPL was April, 1998.

The National Priorities List (NPL) is the EPA's database of uncontrolled or abandoned hazardous waste sites identified for priority remedial actions under the Superfund program. A site must meet or surpass a predetermined hazard ranking system score, be chosen as a state's top priority site, or meet three specific criteria set jointly by the US Dept of Health and Human Services and the US EPA in order to become an NPL site.

SPL
SRC#: 4544

VISTA conducts a database search to identify all sites within 1 mile of your property.
The agency release date for Calsites Database: Annual Workplan Sites was January, 1998.

This database is provided by the Cal. Environmental Protection Agency, Dept. of Toxic Substances Control. The agency may be contacted at: 916-323-3400.

CORRACTS
SRC#: 4467

VISTA conducts a database search to identify all sites within 1 mile of your property.
The agency release date for HWDMS/RCRIS was February, 1998.

The EPA maintains this database of RCRA facilities which are undergoing "corrective action". A "corrective action order" is issued pursuant to RCRA Section 3008 (h) when there has been a release of hazardous waste or constituents into the environment from a RCRA facility. Corrective actions may be required beyond the facility's boundary and can be required regardless of when the release occurred, even if it predates RCRA.

B) DATABASES SEARCHED TO 1/2 MILE

CERCLIS
SRC#: 4465

VISTA conducts a database search to identify all sites within 1/2 mile of your property.
The agency release date for CERCLIS was February, 1998.

The CERCLIS List contains sites which are either proposed to or on the National Priorities List (NPL) and sites which are in the screening and assessment phase for possible inclusion on the NPL. The information on each site includes a history of all pre-remedial, remedial, removal and community relations activities or events at the site, financial funding information for the events, and unrestricted enforcement activities.

Cal Cerclis
SRC#: 2462

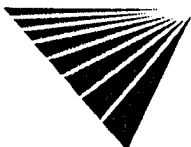
VISTA conducts a database search to identify all sites within 1/2 mile of your property.
The agency release date for Ca Cerclis w/Regional Utility Description was June, 1995.

This database is provided by the U.S. Environmental Protection Agency, Region 9. The agency may be contacted at: . These are regional utility descriptions for California CERCLIS sites.

NFRAP
SRC#: 4466

VISTA conducts a database search to identify all sites within 1/2 mile of your property.
The agency release date for CERCLIS-NFRAP was February, 1998.

NFRAP sites may be sites where, following an initial investigation, no contamination was found, contamination was removed quickly, or the contamination was not serious enough to require Federal Superfund action or NPL consideration.



SCL
SRC#: 4543

VISTA conducts a database search to identify all sites within 1/2 mile of your property.
The agency release date for Calsites Database: All Sites except Annual Workplan Sites (incl. ASPIS) was January, 1998.

This database is provided by the Department of Toxic Substances Control. The agency may be contacted at:

The CalSites database includes both known and potential sites. Two-thirds of these sites have been classified, based on available information, as needing "No Further Action" (NFA) by the Department of Toxic Substances Control. The remaining sites are in various stages of review and remediation to determine if a problem exists at the site. Several hundred sites have been remediated and are considered certified. Some of these sites may be in long term operation and maintenance.

RCRA-TSD
SRC#: 4467

VISTA conducts a database search to identify all sites within 1/2 mile of your property.
The agency release date for HWDMS/RCRIS was February, 1998.

The EPA's Resource Conservation and Recovery Act (RCRA) Program identifies and tracks hazardous waste from the point of generation to the point of disposal. The RCRA Facilities database is a compilation by the EPA of facilities which report generation, storage, transportation, treatment or disposal of hazardous waste. RCRA TSDs are facilities which treat, store and/or dispose of hazardous waste.

SWLF
SRC#: 4705

VISTA conducts a database search to identify all sites within 1/2 mile of your property.
The agency release date for Ca Solid Waste Information System (SWIS) was April, 1998.

This database is provided by the Integrated Waste Management Board. The agency may be contacted at: 916-255-4021.

The California Solid Waste Information System (SWIS) database consists of both open as well as closed and inactive solid waste disposal facilities and transfer stations pursuant to the Solid Waste Management and Resource Recovery Act of 1972, Government Code Section 2.66790(b). Generally, the California Integrated Waste Management Board learns of locations of disposal facilities through permit applications and from local enforcement agencies.

WMUDS
SRC#: 3938

VISTA conducts a database search to identify all sites within 1/2 mile of your property.
The agency release date for Waste Management Unit Database System (WMUDS) was May, 1997.

This database is provided by the State Water Resources Control Board. The agency may be contacted at: 916-892-0323. This is used for program tracking and inventory of waste management units. This system contains information from the following eight main databases: Facility, Waste Management Unit, SWAT Program Information, SWAT Report Summary Information, Chapter 15 (formerly Subchapter 15), TPCA Program Information, RCRA Program Information, Closure Information; also some information from the WDS (Waste Discharge System). This database con

The WMUDS system also accesses information from the following databases from the Waste Discharger System (WDS): Inspections, Violations, and Enforcements. The sites contained in these databases are subject to the California Code of Regulations - Title 23. Waters.

LUST
SRC#: 4548

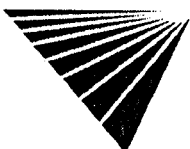
VISTA conducts a database search to identify all sites within 1/2 mile of your property.
The agency release date for Lust Information System (LUSTIS) was February, 1998.

This database is provided by the California Environmental Protection Agency. The agency may be contacted at: 916-445-6532.

LUST
SRC#: 4579

VISTA conducts a database search to identify all sites within 1/2 mile of your property.
The agency release date for Region #2-North and South Bay SLIC Report was January, 1998.

This database is provided by the Regional Water Quality Control Board, Region #2. The agency may be contacted at: 510-286-0838.



LUST RG2
SRC#: 4440

VISTA conducts a database search to identify all sites within 1/2 mile of your property. The agency release date for Region #2-San Francisco Bay Fuel Leaks List was December, 1997.

This database is provided by the Regional Water Quality Control Board, Region #2. The agency may be contacted at: 510-286-0838.

CORTESE
SRC#: 2298

VISTA conducts a database search to identify all sites within 1/2 mile of your property. The agency release date for Cortese List-Hazardous Waste Substance Site List was February, 1995.

This database is provided by the Office of Environmental Protection, Office of Hazardous Materials. The agency may be contacted at: 916-445-6532.

The California Governor's Office of Planning and Research annually publishes a listing of potential and confirmed hazardous waste sites throughout the State of California under Government Code Section 65962.5. This database (CORTESE) is based on input from the following: (1)CALSITES-Department of Toxic Substances Control, Abandoned Sites Program Information Systems; (2)SARA Title III Section III Toxic Chemicals Release Inventory for 1987, 1988, 1989, and 1990; (3)FINDS; (4)HWIS-Department of Toxic Substances Control, Hazardous Waste Information System. Vista has not included one time generator facilities from Cortese in our database.; (5)SWRCB-State Water Resources Control Board; (6)SWIS-Integrated Waste Management Control Board (solid waste facilities); (7)AGT25-Air Resources Board, dischargers of greater than 25 tons of criteria pollutants to the air; (8)A1025-Air Resources Board, dischargers of greater than 10 and less than 25 tons of criteria pollutants to the air; (9)LTANK-SWRCB Leaking Underground Storage Tanks; (10)UTANK-SWRCB Underground tanks reported to the SWEEPS systems; (11)IUR-Inventory Update Rule (Chemical Manufacturers); (12)WB-LF- Waste Board - Leaking Facility, site has known migration; (13)WDSE-Waste Discharge System - Enforcement Action; (14)DTSCD-Department of Toxic Substance Control Docket.

Deed
Restrictions
SRC#: 1703

VISTA conducts a database search to identify all sites within 1/2 mile of your property. The agency release date for Deed Restriction Properties Report was April, 1994.

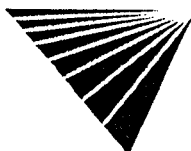
This database is provided by the Department of Health Services-Land Use and Air Assessment. The agency may be contacted at: 916-323-3376. These are voluntary deed restriction agreements with owners of property who propose building residences, schools, hospitals, or day care centers on property that is "on or within 2,000 feet of a significant disposal of hazardous waste".

California has a statutory and administrative procedure under which the California Department of Health Services (DHS) may designate real property as either a "Hazardous Waste Property" or a "Border Zone Property" pursuant to California Health Safety Code Sections 25220-25241. Hazardous Waste Property is land at which hazardous waste has been deposited, creating a significant existing or potential hazard to public health and safety. A Border Zone Property is one within 2,000 feet of a hazardous waste deposit. Property within either category is restricted in use, unless a written variance is obtained from DHS. A Hazardous Waste Property designation results in a prohibition of new uses, other than a modification or expansion of an industrial or manufacturing facility on land previously owned by the facility prior to January 1, 1981. A Border Zone Property designation results in prohibition of a variety of uses involving human habitation, hospitals, schools and day care center.

Toxic Pits
SRC#: 2229

VISTA conducts a database search to identify all sites within 1/2 mile of your property. The agency release date for Summary of Toxic Pits Cleanup Facilities was February, 1995.

This database is provided by the Water Quality Control Board, Division of Loans Grants. The agency may be contacted at: 916-227-4396.



North Bay
SRC#: 1718

VISTA conducts a database search to identify all sites within 1/2 mile of your property.
The agency release date for North Bay County Toxic List-Region #2 Surface Spills was April, 1994.

This database is provided by the Regional Water Quality Control Board, Region #2. The agency may be contacted at:

C) DATABASES SEARCHED TO 1/4 MILE

RCRA-Viols/Enf VISTA conducts a database search to identify all sites within 1/4 mile of your property.
The agency release date for HWDMS/RCRIS was February, 1998.

The EPA's Resource Conservation and Recovery Act (RCRA) Program identifies and tracks hazardous waste from the point of generation to the point of disposal. The RCRA Facilities database is a compilation by the EPA of facilities which report generation, storage, transportation, treatment or disposal of hazardous waste. RCRA Violators are facilities which have been cited for RCRA Violations at least once since 1980. RCRA Enforcements are enforcement actions taken against RCRA violators.

UST's
SRC#: 1612

VISTA conducts a database search to identify all sites within 1/4 mile of your property.
The agency release date for Underground Storage Tank Registrations Database was January, 1994.

This database is provided by the State Water Resources Control Board, Office of Underground Storage Tanks. The agency may be contacted at: 916-227-4337; Caution-Many states do not require registration of heating oil tanks, especially those used for residential purposes.

AST's
SRC#: 4320

VISTA conducts a database search to identify all sites within 1/4 mile of your property.
The agency release date for Aboveground Storage Tank Database was December, 1997.

This database is provided by the State Water Resources Control Board. The agency may be contacted at: 916-227-4364.

TRIS
SRC#: 3716

VISTA conducts a database search to identify all sites within 1/4 mile of your property.
The agency release date for TRIS was December, 1996.

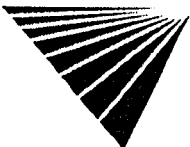
Section 313 of the Emergency Planning and Community Right-to-Know Act (also known as SARA Title III) of 1986 requires the EPA to establish an inventory of Toxic Chemicals emissions from certain facilities(Toxic Release Inventory System). Facilities subject to this reporting are required to complete a Toxic Chemical Release Form(Form R) for specified chemicals.

D) DATABASES SEARCHED TO 1/8 MILE

ERNS
SRC#: 4583

VISTA conducts a database search to identify all sites within 1/8 mile of your property.
The agency release date for was January, 1998.

The Emergency Response Notification System (ERNS) is a national database used to collect information on reported releases of oil and hazardous substances. The database contains information from spill reports made to federal authorities including the EPA, the US Coast Guard, the National Response Center and the Department of transportation. A search of the database records for the period October 1986 through January 1998 revealed information regarding reported spills of oil or hazardous substances in the stated area.



RCRA-LgGen
SRC#: 4467

VISTA conducts a database search to identify all sites within 1/8 mile of your property.
The agency release date for HWDMS/RCRIS was February, 1998.

The EPA's Resource Conservation and Recovery Act (RCRA) Program identifies and tracks hazardous waste from the point of generation to the point of disposal. The RCRA Facilities database is a compilation by the EPA of facilities which report generation, storage, transportation, treatment or disposal of hazardous waste. RCRA Large Generators are facilities which generate at least 1000 kg./month of non-acutely hazardous waste (or 1 kg./month of acutely hazardous waste).

RCRA-SmGen
SRC#: 4467

VISTA conducts a database search to identify all sites within 1/8 mile of your property.
The agency release date for HWDMS/RCRIS was February, 1998.

The EPA's Resource Conservation and Recovery Act (RCRA) Program identifies and tracks hazardous waste from the point of generation to the point of disposal. The RCRA Facilities database is a compilation by the EPA of facilities which report generation, storage, transportation, treatment or disposal of hazardous waste. RCRA Small and Very Small generators are facilities which generate less than 1000 kg./month of non-acutely hazardous waste.

SPILL
SRC#: 161

VISTA conducts a database search to identify all sites within 1/8 mile of your property.
The agency release date for California Hazardous Materials Incident Report was December, 1990.

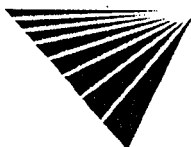
This database is provided by the Office of Emergency Services. The agency may be contacted at:

SPILL
SRC#: 4642

VISTA conducts a database search to identify all sites within 1/8 mile of your property.
The agency release date for Region #1-Active Toxic Site Investigations-Spills was March, 1998.

This database is provided by the Regional Water Quality Control Board, Region #1 (North Coast Region). The agency may be contacted at: 707-576-2220.

End of Report



For more information call VISTA Information Solutions, Inc. at 1 - 800 - 767 - 0403.

Report ID: 214432-001

Date of Report: July 9, 1998

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Appendix B

PHOTOGRAPH LOG



SITE: Northgate @ Las Galinas, San Rafael, CA

COMMENTS: Front of site looking south. Northgate Mall is in background. Intersection of Las Galinas and Northgate is in foreground.

PROJECT#: SF075-050

DATE: July 18, 1998

PHOTO #: 1



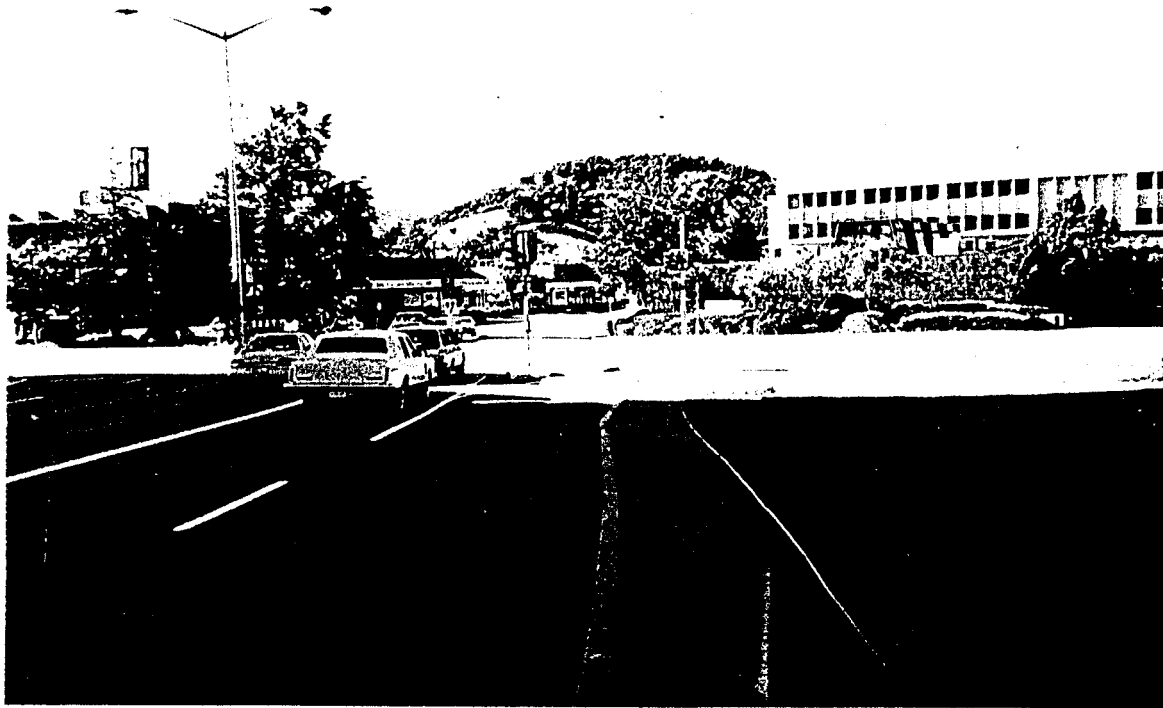
SITE: Northgate @ Las Galinas, San Rafael, CA

COMMENTS: Front of site looking at west side of parcel. Northgate Mall is in background. Intersection of Northgate and Las Galinas is in foreground. Neighboring office building is on right side of photo.

PROJECT#: SF075-050

DATE: July 18, 1998

PHOTO# : 2



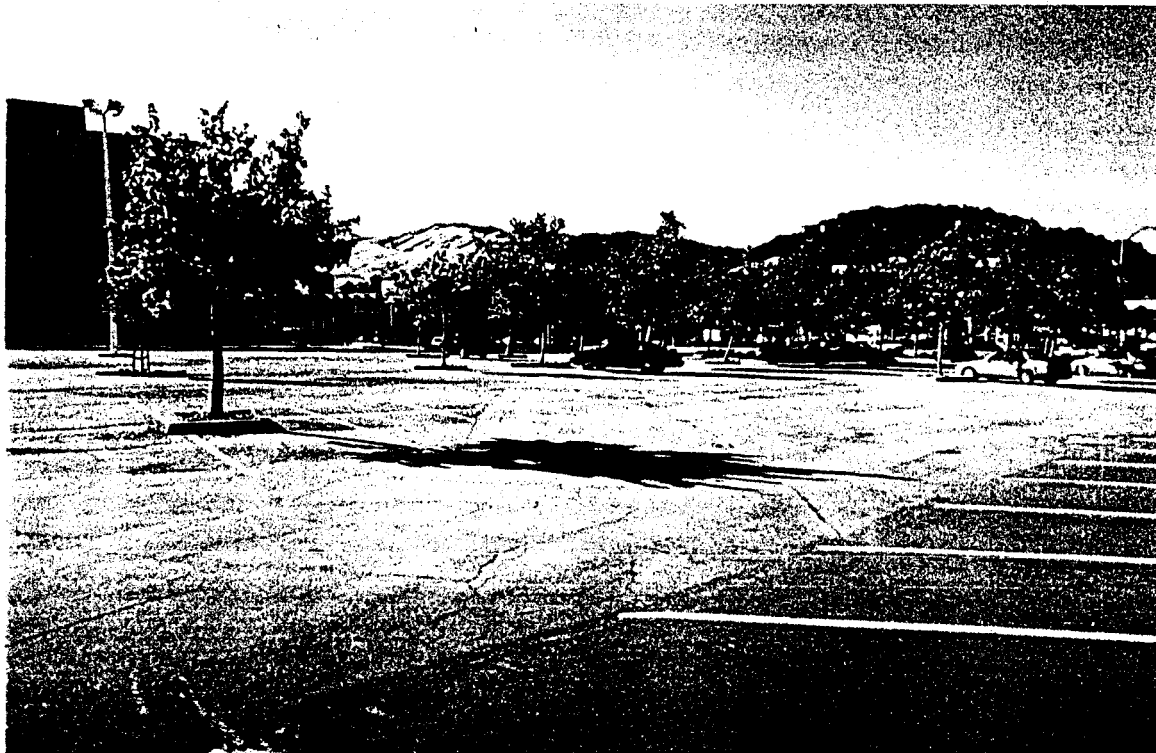
SITE: Northgate @ Las Galinas, San Rafael, CA

COMMENTS: West side of parcel looking north. Neighboring commercial facilities are visible in background.

PROJECT#: SF075-050

DATE: July 18, 1998

PHOTO #: 3



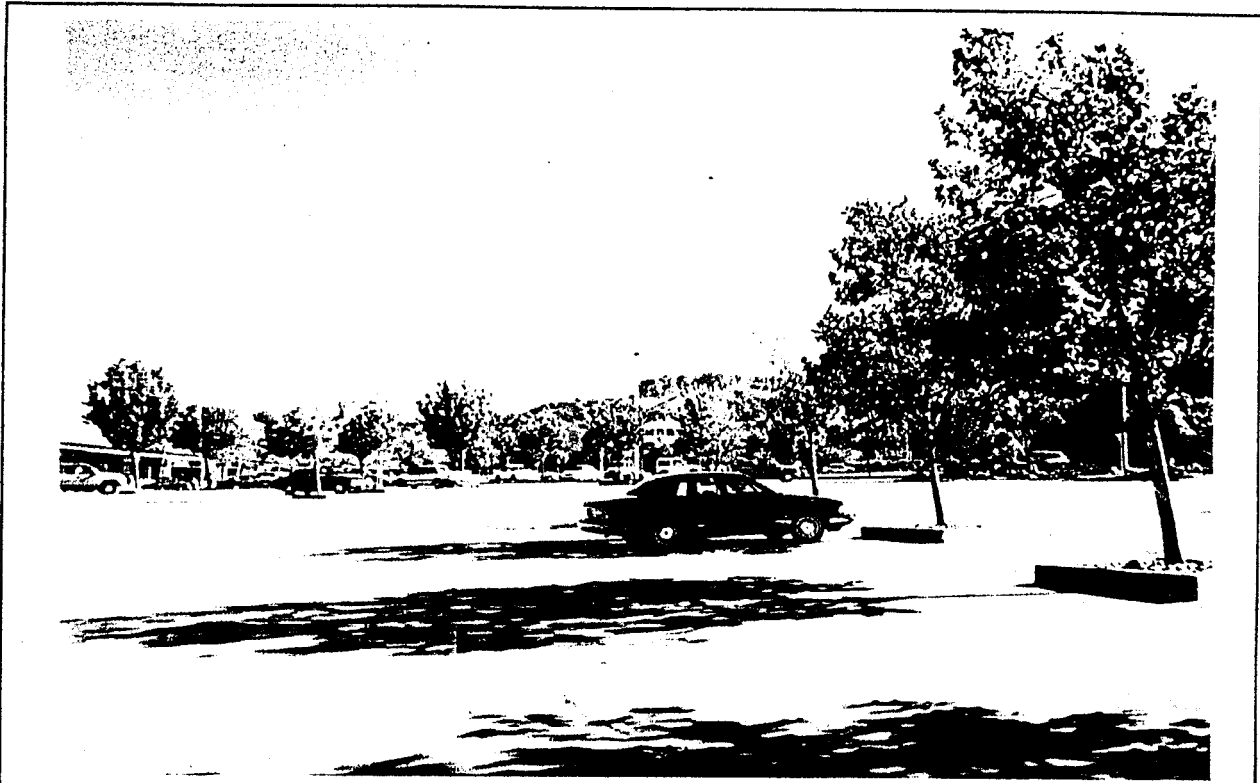
SITE: Northgate @ Las Galinas, San Rafael, CA

COMMENTS: Standing on the subject site looking northwest. Local foothills are in background.

PROJECT#: SF075-050

DATE: July 18, 1998

PHOTO# : 4



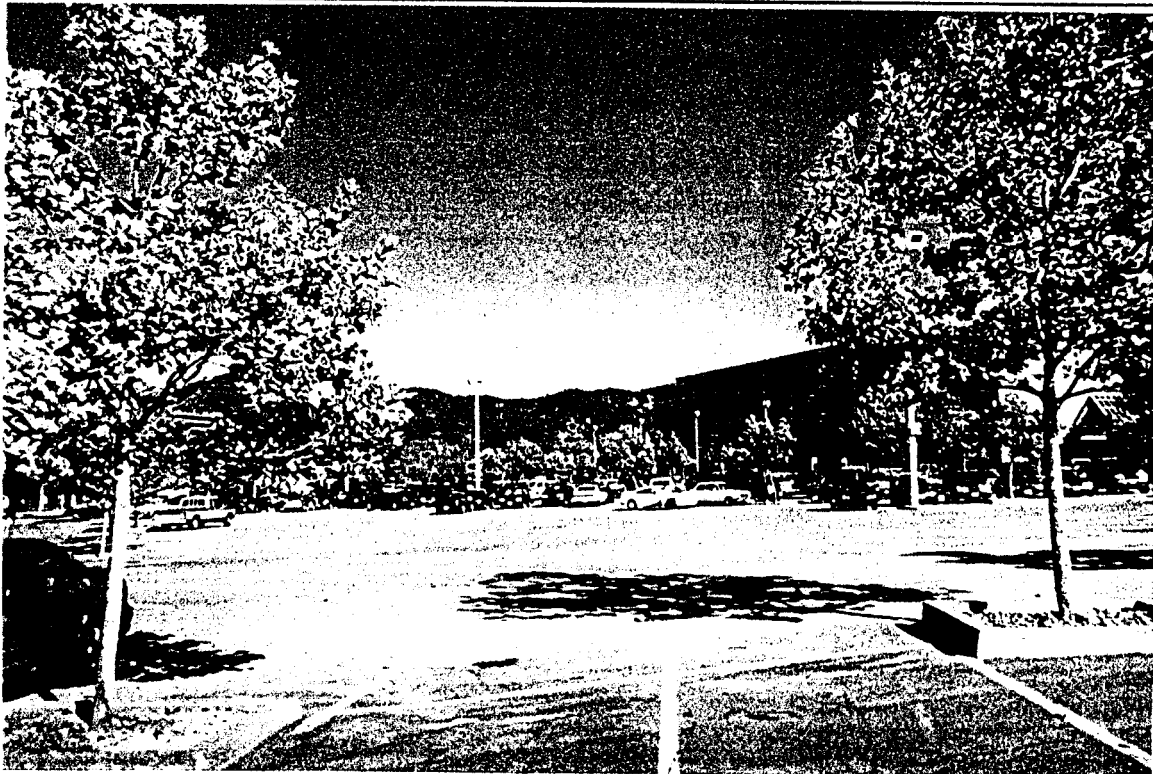
SITE: Northgate @ Las Galinas, San Rafael, CA

COMMENTS: Standing on the subject site looking south. Northgate Mall is in background.

PROJECT#: SF075-050

DATE: July 18, 1998

PHOTO #: 5



SITE: Northgate @ Las Galinas, San Rafael, CA

COMMENTS: Standing on-site looking southeast. Northgate Mall is in background on right. Local foothills are visible in background on the left.

PROJECT#: SF075-050

DATE: July 18, 1998

PHOTO# : 6