

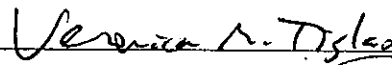
**Soil and Ground Water
Quality Evaluation
Grand Marina Village
Alameda, California**

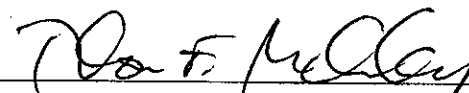
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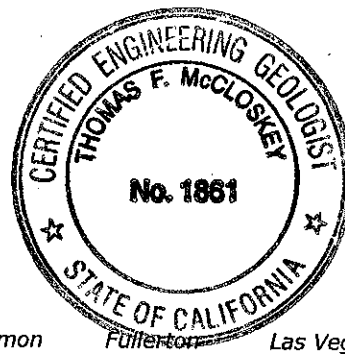
Ponderosa Homes
6671 Owens Drive, Pleasanton, California 94588

December 8, 2004

Project No. 247-23


Veronica M. Tiglao
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FIGURE 1 — VICINITY MAP

FIGURE 2 — SITE PLAN

APPENDIX A — SUBSURFACE INVESTIGATION AND SOIL AND GROUND WATER
SAMPLING PROTOCOL

APPENDIX B — ANALYTICAL RESULTS

APPENDIX C — GEOPHYSICAL SURVEY

Previous site investigation activities, by others, were conducted to investigate releases from the former 1,000-gallon gasoline UST and former AST farm. Cleanup activities at the site included removal of ASTs and USTs and over-excavation at the area of the former AST farm; no documentation was found reporting over-excavation activities at the former 1,000-gallon UST location. A Remedial Action Completion Report for remediation activities at the former AST farm recommending no further action was issued June 25, 1998. A Remedial Action Completion letter reporting completion of site investigation and remedial action activities at the former 1,000 gallon UST release was issued March 16, 1999. This letter and an April 3, 1988 Case Closure Summary Report documented concentrations in soil of up to 340 parts per million (ppm) total petroleum hydrocarbons in the gasoline range (TPHg), 4,700 ppm total petroleum hydrocarbons in the diesel range (TPHd), 0.15 ppm benzene, 0.87 ppm toluene, 1.0 ppm ethylbenzene, 5.8 ppm xylenes, and 12,000 ppm oil & grease. In ground water, reported concentrations were up to 110 parts per billion (ppb) TPHg, 300 ppb benzene, 15 ppb toluene, 7.6 ppb ethylbenzene, and 31 ppb xylenes in ground water. The closure summary recommended review of the closure action if future site-use changes were planned.

1.3 Scope of Work

The scope of work for this study included the following tasks.

- Drilling and logging of six exploratory borings.
- Collecting soil and ground water samples for laboratory analysis.
- Geophysical survey for undocumented UST.

2.0 SOIL AND GROUND WATER QUALITY EVALUATION**2.1 Subsurface Investigation**

On November 19, 2004, under the supervision of Principal Geologist Thomas McCloskey, R.G., C.H.G., Staff Environmental Engineer Veronica Tiglaio directed a subsurface exploration program and logged six borings (GWS-1 through GWS-6) to approximate depths of 8 to 16 feet at the locations shown on Figure 2. Exploratory boring GWS-1 was drilled generally down-gradient of the existing 12,000-gallon diesel UST and 12,000-gallon gasoline UST (assuming ground water flow is north/northwest toward the Alameda/Oakland Estuary), boring GWS-4 was drilled generally down-gradient of the former AST farm, boring GWS-6 was drilled at the former 1,000-gallon UST location, borings GWS-2 and GWS-3 were drilled on north/northwestern portions of the site, and boring GWS-5 was drilled near the site's western property boundary. Soil samples were obtained continuously from the borings for logging purposes. Ground water was encountered at approximate depths of 4 to 12 feet. Soil sampling protocol, boring logs, and permits are presented in Appendix A. Subsurface conditions encountered are presented on the boring logs.

2.3 Ground Water Sample Collection and Analyses

To evaluate ground water quality at the site, ground water grab samples were collected from each boring. A discussion of ground water sampling protocol is included in Appendix A. The ground water samples were analyzed for TPHg and TPHd (EPA Test Method 8015M) and VOCs, including BTEX compounds (EPA Test Method 8021B/8260B). These analyses were selected to help evaluate on-site ground water quality. Laboratory testing results are shown in Table 2, and the results are presented on Figure 3.

Table 2. Laboratory Results of Ground Water Samples
(concentrations in parts per billion)

Sample Number	Date	TPHg	TPHd	Benzene ¹	Toluene ¹	Ethylbenzene ²	Xylenes ²
GWS-1	11/19/04	210	55,000	<2.0	<2.0	<2.0	<4.0
GWS-2	11/19/04	400	400	<2.0	<2.0	<2.0	<4.0
GWS-3	11/19/04	79	140	<0.50	<0.50	<0.50	<1.0
GWS-4	11/19/04	<50	1,100	<2.0	<2.0	<2.0	<4.0
GWS-5	11/19/04	<50	220	<0.50	<0.50	<0.50	<1.0
GWS-6	11/19/04	5,800	4,700	<5.0	6.9	8.8	12
ESL*		500	640	46	40	30	13

¹ Other volatile organic compounds were not detected at or above their laboratory reporting limits

< Indicates that the compound was not detected at or above the stated laboratory reporting limit

* Environmental Screening Level for the protection of Estuarine surface water-bodies - San Francisco Bay California Regional Water Quality Control Board, July 2003.

2.4 Silica Gel Cleanup

The soil and ground water samples were passed through a silica gel column prior to the TPHd analysis (EPA Test method 8015) to help remove non-fuel hydrocarbons. The silica gel removes oxygenated organic compounds produced by biologic degradation of organic materials. Studies have shown that the silica gel filter does not significantly remove extractable range petroleum hydrocarbons, including diesel, because the petroleum hydrocarbons are composed of non-polar substances (Zemo, 1997). Performing the silica gel filtration prior to analysis is important where the samples are collected from organic rich environments common to the shallow ground water-bearing zones in the San Francisco Bay Area; these environments contain significant concentrations of naturally-occurring hydrocarbons that can be detected in the EPA 8015 analysis and falsely quantified by the laboratory as diesel.

3.0 GEOPHYSICAL SURVEY

To evaluate if an undocumented 550-gallon UST may be still present in the western area of the site, a registered geophysicist used a magnetometer to map the vertical magnetic gradient on accessible areas between Buildings B, C, D and I (Figure 2).

The magnetic gradient is uniform throughout a site free of ferrous metal. Metal objects, however, will produce magnetic anomalies with characteristic shapes and

magnitudes if not masked by overlying or nearby metallic debris. Magnetic data were collected on stations at 10-foot intervals along traverse lines spaced 10 feet apart. The data were downloaded to a computer and contoured.

The site contained numerous strong magnetic anomalies from surface metal and buried utilities. The magnetic anomalies will mask magnetic anomalies from buried metal structures in these areas. The geophysical survey did not locate any significant magnetic anomalies indicative of a UST in the area of investigation. Detailed results of the survey are presented in Appendix C.

4.0 CONCLUSIONS AND RECOMMENDATIONS

4.1 General Soil Quality

Laboratory analyses of soil samples did not detect benzene or toluene above laboratory reporting limits. Minor concentrations of ethylbenzene (0.051 ppm at GWS-6) and xylene (0.022 ppm at GWS-1 and 0.041 at GWS-6) were detected significantly below their residential ESLs of 3.3 and 1.5 ppm, respectively. Other VOCs were not detected above laboratory reporting limits. Therefore, the hydrocarbons detected do not pose a vapor intrusion health threat to future residential use of the site.

Concentrations of TPHg in soils were detected above the CRWQCB direct exposure residential ESLs of 100 ppm at borings GWS-2 (840 ppm) and GWS-6 (640 ppm). TPHd and TPHmo concentrations were detected above residential ESLs at GWS-1 (9,000 ppm TPHd and 23,000 ppm TPHmo) and GWS-6 (280 ppm TPHd and 350 ppm TPHmo). The residential ESLs for TPHd and TPHmo are 100 ppm and 500 ppm, respectively. The elevated concentrations were detected at least 4 to 6 feet below ground surface and therefore direct exposure to these soils is not likely to occur on a regular basis, if at all, given the proposed high-density proposed site redevelopment. Contaminated soil may be excavated during utility or foundation installation and would need to be handled appropriately to avoid future direct exposure. This can be controlled with a Soil Management Plan implemented during site redevelopment. Future deep excavations by homeowners, if any, would also need to be properly controlled to minimize direct exposure.

Soil sample GWS-6 was collected in the area of the former 1,000-gallon UST. A Remedial Action Completion letter issued March 16, 1999 and an April 3, 1988 Case Closure Summary Report documented concentrations of up to 340 ppm TPHg, 4,700 ppm TPHd, 0.15 ppm benzene, 0.87 ppm toluene, 1.0 ppm ethylbenzene, 5.8 ppm xylenes, and 12,000 ppm oil and grease in soil after cleanup events at the former 1,000-gallon UST location. Since the UST has been removed, the remaining residual petroleum hydrocarbon concentrations would be expected to naturally degrade over time. The concentrations present at depth do not appear to pose a significant threat to human health provided no direct exposure occurs over an extended period. Further evaluation of soil quality in this area does not appear required at this time.

However, elevated concentrations of TPHd and TPHmo concentrations detected in soil sample GWS-1, collected generally down-gradient of the existing USTs (Figure 2), may be indicative of a release from the existing USTs. No other documented source of

these elevated concentrations are known, though the site has a long history of industrial use. The CRWQCB will likely require additional investigation in this area, and possible remedial action of the estuary north of the site is threatened.

4.2 General Ground Water Quality

Based on laboratory analyses, concentrations of toluene (6.9 ppb), ethylbenzene (8.8 ppb), and xylene (12 ppb) were detected at GSW-6 below their respective ESLs of 40 ppb, 30 ppb, and 13 ppb. Toluene, ethylbenzene, and xylene were not detected in other ground water samples collected. A concentration of 1.3 ppb chloroform was detected at GWS-5, which is likely a laboratory contaminant. The ESL for chloroform is 100 ppb. Benzene and other VOCs were not detected above laboratory reporting limits.

TPHg was detected in four of six samples collected at concentrations ranging from 79 ppb (GWS-3) to 5,800 ppb (GWS-6). The estuary ESL for TPHg is 500 ppm. TPHd was detected in all six ground water samples, at concentrations ranging from 140 ppb (GWS-3) to 55,000 ppb (GWS-1). The estuary ESL for TPHd is 640 ppb.

Ground water grab sample GWS-6 was collected in the area of the former 1,000-gallon UST. The March 16, 1999 Remedial Action Completion letter and April 3, 1988 Case Closure Summary Report documented concentrations of up to 110 ppb TPHg, 300 ppb benzene, 15 ppb toluene, 7.6 ppb ethylbenzene, and 31 ppb xylenes in ground water after cleanup events. Since the UST has been removed, the remaining residual petroleum hydrocarbon concentrations would be expected to naturally degrade over time. The concentrations present do not appear to pose a significant threat to human health. Further evaluation of ground water quality in this area does not appear required at this time.

Elevated TPHd concentrations detected in ground water sample GWS-1, collected generally down-gradient of the existing USTs, may be indicative of a release from the existing USTs, or some other undocumented source. The CRWQCB will likely require additional investigation of this area to determine the likely source and to determine if the nearby estuary is threatened.

4.3 Regulatory Agency Submittal

We recommend that a copy of this report be sent to the CRWQCB for their review.

4.4 Geophysical Survey

The site contained several magnetic anomalies from surface metal and buried utilities. Such magnetic anomalies mask magnetic anomalies from buried metal structures. Therefore, it is possible that some ferrous objects will not produce an anomaly for several reasons, including if the object is buried too deep, is too small, is buried under something, or is near another ferrous object. As noted above, magnetic anomalies that did not appear to be caused by surface metal or buried utilities were not located within the geophysical investigation area. The reported but undocumented historical 550-gallon UST was not identified at the site.

5.0 LIMITATIONS

This report was prepared for the use of Ponderosa Homes in evaluating soil and ground water quality at the Grand Marina Village at the time of this study. We make no warranty, expressed or implied, except that our services have been performed in accordance with environmental principles generally accepted at this time and location. The chemical and other data presented in this report can change over time and are applicable only to the time this study was performed. We are not responsible for the data presented by others.

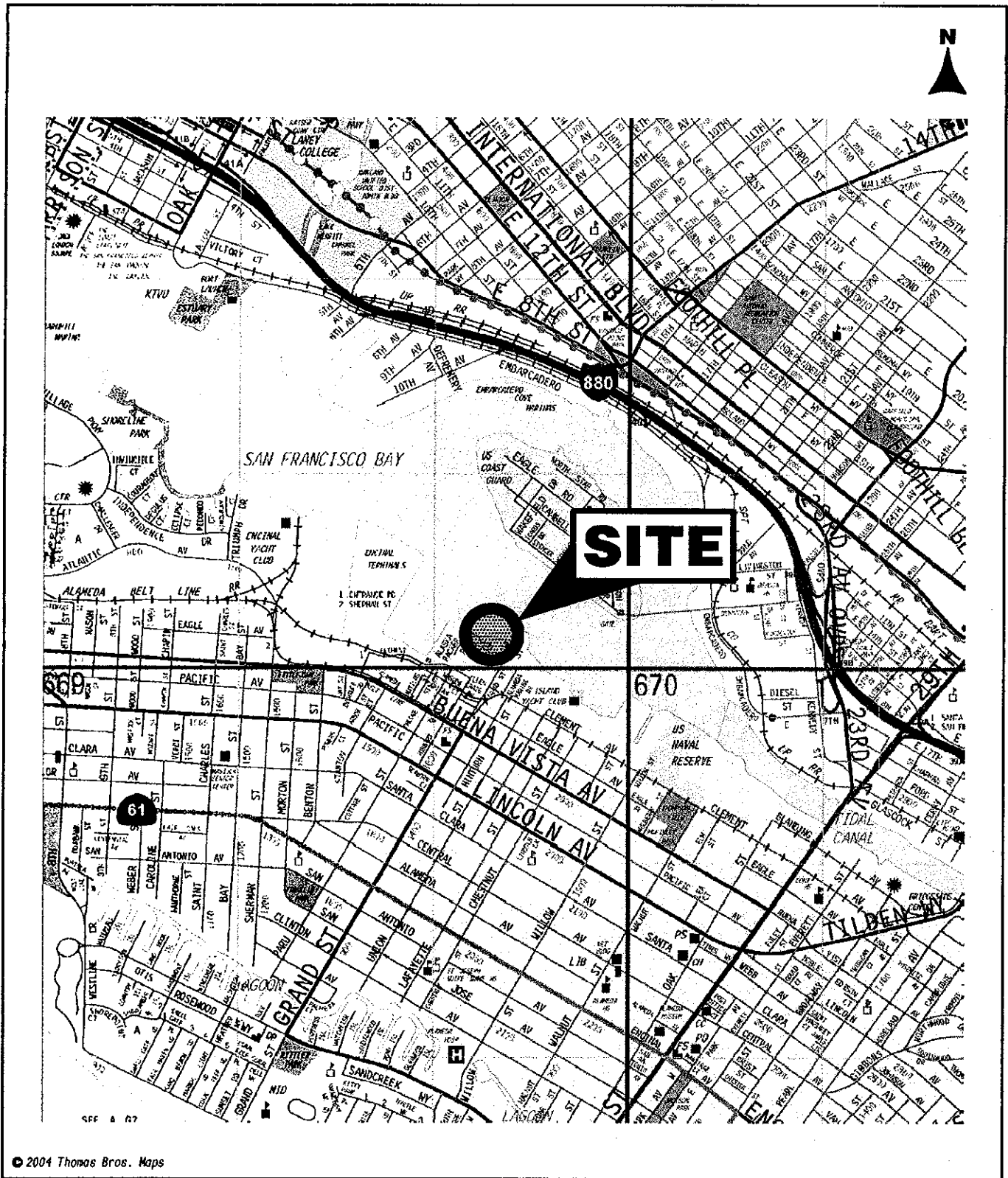
The accuracy and reliability of geo- or hydro-chemical studies are a reflection of the number and type of samples taken and extent of the analyses conducted, and are thus inherently limited and dependent upon the resources expended. Chemical analyses were performed for specific parameters during this investigation, as detailed in the scope of services. Please note that additional constituents not analyzed for during this evaluation may be present in soil and ground water at the site. Our sampling and analytical plan was designed using accepted environmental principles and our judgment for the performance of a soil and ground water quality evaluation and was based on the degree of investigation approved by you. It is possible to obtain a greater degree of certainty, if desired, by implementing a more rigorous soil and ground water sampling program or evaluating the risk posed by the contaminants detected, if any.

Magnetic methods locate ferrous objects from the anomalies they produce in the earth's magnetic field. Some ferrous objects may not produce an anomaly. Some possible reasons are that the object is buried too deep, the object is too small, the object is buried under or near another ferrous object, or an object is buried near a utility. The anomalies from metal on the ground surface can mask the anomalies from objects buried below them. It is possible buried objects were not detected due to interference from metal objects on the surface.

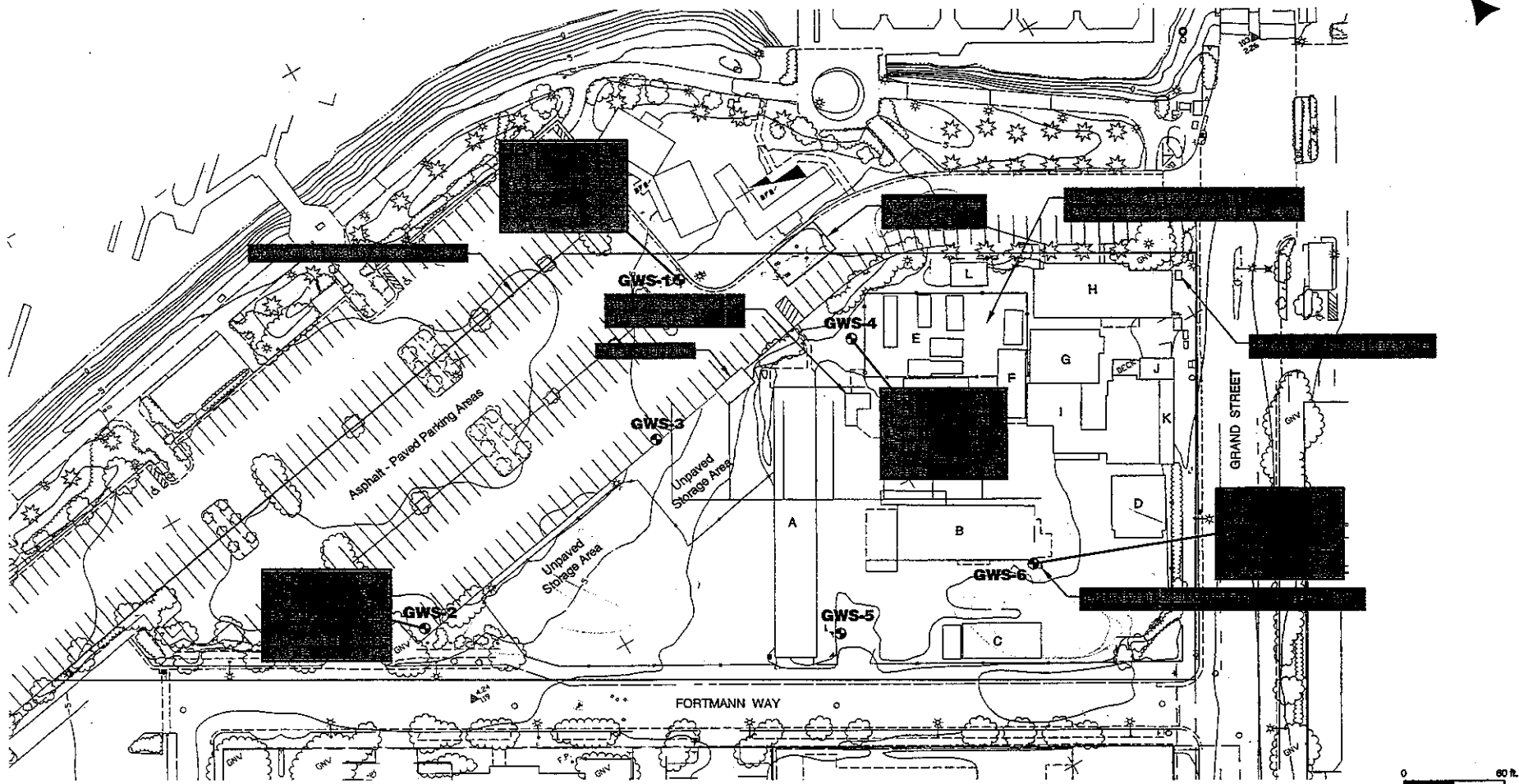
6.0 REFERENCES

- San Francisco Bay Regional Water Quality Control Board, July 2003, *Screening for Environmental Concerns at Sites with Contaminated Soil and Groundwater*.
- San Francisco Bay Regional Water Quality Control Board, June 1995, *Water Quality Control Plan for the San Francisco Bay Basin*.
- Lowney Associates, October 18, 2004, *Phase I Environmental Site Assessment, Grand Marina Village, Alameda, California*.
- Zemo, D.A., 1997, *Do Your Extractable TPH Concentrations Represent Dissolved Petroleum? An Update on Applied Research*, Proceedings of the Petroleum Hydrocarbons and Organic Chemicals in Ground Water, 1997 Conference, NGWA/API, pp. 640-654.

* * * * *



VICINITY MAP
GRAND MARINA VILLAGE
 Alameda, California



LEGEND

- ⊙ - Approximate location of exploratory boring
- * Concentrations shown in parts per million (ppm)

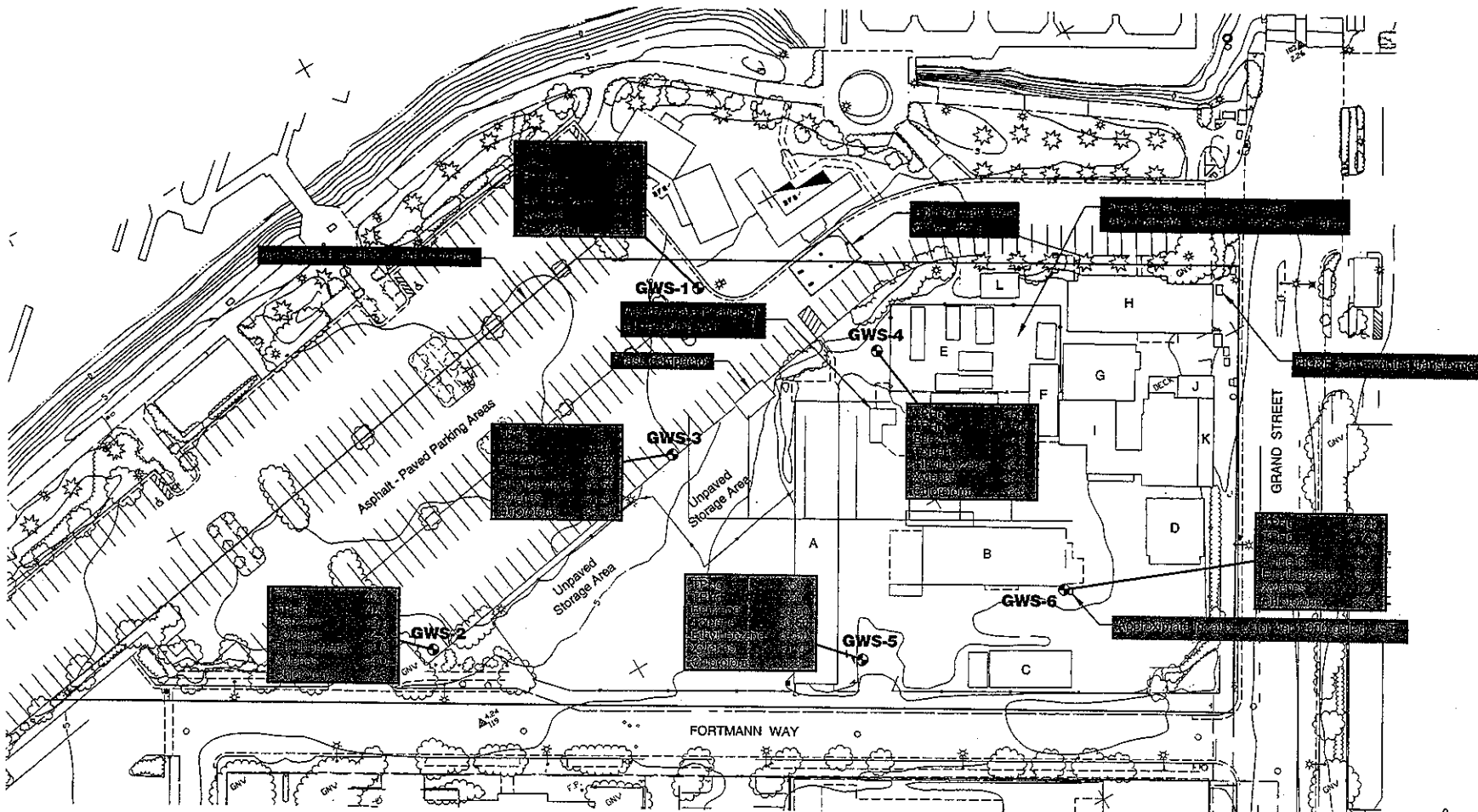
- A - Multiple tenants (offices and workshops)
- B - Joakim Jonsson Boat Builders
- C - Office spaces
- D - "Sew What" Marine Canvas Shop
- E - Mad Dog Drilling Company
- F - Storage building
- G - Locksmith
- H - Multiple tenants (offices and piano studio)
- I - Miscellaneous storage building
- J - Vacant
- K - Office spaces
- L - Miscellaneous storage

Base by Carlson, Barbee & Gibson, Inc., dated 9-8-04.

**SITE PLAN
WITH SOIL ANALYTICAL RESULTS.**
GRAND MARINA VILLAGE
Alameda, California

LOWNEY ASSOCIATES
Environmental/Geotechnical/Engineering Services

FIGURE 2
247-23



0 60 ft.
Scale: 1" = 60'

LEGEND

- ⊙ - Approximate location of exploratory boring
- * Concentrations shown in parts per billion (ppb)

- A - Multiple tenants (offices and workshops)
- B - Joakim Jonsson Boat Builders
- C - Office spaces
- D - "Sew What" Marine Canvas Shop
- E - Mad Dog Drilling Company
- F - Storage building
- G - Locksmith
- H - Multiple tenants (offices and piano studio)
- I - Miscellaneous storage building
- J - Vacant
- K - Office spaces
- L - Miscellaneous storage

**SITE PLAN WITH
GROUND WATER ANALYTICAL RESULTS**
GRAND MARINA VILLAGE
Alameda, California

LOWNEY ASSOCIATES
Environmental/Geotechnical/Engineering Services

FIGURE 3
247-23

Base by Carlson, Barbee & Gibson, Inc., dated 9-9-04.

**APPENDIX A
SUBSURFACE INVESTIGATION AND
SOIL AND GROUND WATER SAMPLING PROTOCOL**

Drilling: The subsurface investigation was performed on November 19, 2004, using a truck-mounted drill-rig equipped Direct Push Technology. Six soil borings (GWS-1 through GWS-6) were drilled to depths of approximately 8 to 16 feet.

Soils encountered in the borings were logged using the Unified Soil Classification System (ASTM D-2487). The logs of the borings, as well as a key to the classification of soil (Figure A-1), are included as part of this appendix. Permits obtained for the borings are also included.

Soil Sampling: Soil samples for laboratory analysis were collected in acetate or brass liners. The ends of the liners were covered in aluminum foil or Teflon film, fitted with plastic end caps, taped, and labeled with a unique identification number. The samples were then placed in an ice-chilled cooler, and transported to a state-certified analytical laboratory with chain of custody documentation. Soil vapors from each sample were also monitored with an OVM by first placing the soil in a Ziplock™ bag for several minutes. The OVM probe was then used to pierce the bag and record the organic vapor levels present.

Ground Water Sampling: Borings GWS-1 through GWS-6 were converted into "temporary" wells with the installation of 1-inch I.D. flush-threaded, Schedule 40 PVC casing. The casing in the lower portion of the well had 0.02-inch factory machined slots. Ground water grab samples were collected from the temporary wells with a bailer. Samples were collected in appropriate sampled bottles, labeled, and immediately placed into an ice-chilled chest for delivery to a state-certified analytical laboratory for analysis.

Equipment Decontamination: All drilling and sampling equipment was cleaned in a solution of laboratory grade detergent and distilled water or steam cleaned before use at each sampling point.



ALAMEDA COUNTY PUBLIC WORKS AGENCY

WATER RESOURCES SECTION
399 ELKHURST ST. EASTWARD CA. 94641-1328
PHONE (415) 670-6623 Jason Yee

FAX (415) 763-1839
WWW.ACPWA.ORG
APPLICANTS PLEASE ATTACH A SITE MAP FOR ALL DRILLING PERMIT APPLICATIONS
DETECTION OF WELLS OVER 40 FEET REQUIRES A SEPARATE PERMIT APPLICATION

DRILLING PERMIT APPLICATION

FOR APPLICANT TO COMPLETE

LOCATION OF PROJECT 2041, 2043, 2045
2047, and 2051 Grand St.,
Alameda

CLIENT Name Ponderosa Homes, Jeff Schneider
Address 6671 Grand Dr. Phone 925 440-0910
City Alameda, CA Zip 94502

APPLICANT Name LOWNEY ASSOCIATES - Tom Mcelroy
Address 7251 Central Expressway Phone 925-236-2200
City San Ramon Zip 94583-1223

TYPE OF PROJECT
Soil Characterization Geotechnical Investigation
Cathodic Protection C Remediation
Water Supply C Construction
Monitoring D Well Destruction

PROPOSED WATER SUPPLY WELL USE
New Domestic Replacement Domestic
Municipal Irrigation
Industrial Other

DRILLING METHOD:
Mud Rotary Air Rotary AUGER
Cable Casing DIRECT PUSH

DRILLER'S NAME VIERAUX

DRILLER'S LICENSE NO. CS2 305893

WELL PROFILES
Drill Hole Diameter _____ in. Maximum _____
Casing Diameter _____ in. Depth _____
Surface Steel Depth _____ ft. Owner's Well Number _____

GEO TECHNICAL/CONTAMINATION PROJECTS
Number of Borings 6 Maximum _____
Hole Diameter _____ in. Depth 30 ft.

START-UP DATE 11/19/04 5 borings

COMPLETION DATE 11/19/04 15-30ft deep

I hereby agree to comply with all requirements of this permit and Alameda County Ordinance No. 75-66.

APPLICANT'S SIGNATURE Tom Mcelroy DATE 11/15/04

PLEASE PRINT NAME Tom Mcelroy Rev. 5/11/04

FOR OFFICE USE

PERMIT NUMBER W04-1194
WELL NUMBER _____

- PERMIT CONDITIONS
City of Permit Requirements Apply
- A. GENERAL
1. A permit application should be submitted 20 to 30 days before the ACPWA office five days prior to proposed starting date.
 2. Submit to ACPWA, within 60 days after completion of permitted original Department of Water Resources Well Completion Report.
 3. Permit is void if project not begun within 90 days of approval date.
- B. WATER SUPPLY WELLS
1. Minimum surface soil thickness is two inches of compact granular fill by track.
 2. Minimum seal depth is 20 feet for municipal and industrial wells or 50 feet for domestic and irrigation wells unless a lesser depth is specially approved.
- C. GROUNDWATER MONITORING WELLS INCLUDING PIEZOMETERS
1. Minimum surface seal thickness is two inches of compact granular fill by track.
 2. Minimum seal depth for monitoring wells is the maximum depth penetrable to 20 feet.
- D. GEOTECHNICAL/CONTAMINATION
- Drift fill back hole by track with compact granular fill or with compacted sandstone. Upper two-thirds feet replaced in kind or with compacted sandstone.
- E. CATHODIC
- Fill hole in accordance with schematic placed by permit.
- F. WELL RESTRICTION
- Send a map of work rim. A separate permit is required for wells deeper than 40 feet.
- G. SPECIAL CONDITIONS -BAI
- NOTE: One application must be submitted for each well or well detection. Multiple borings on one application are not acceptable for geotechnical and contamination investigations.

APPROVED DATE 11-17-04

PRIMARY DIVISIONS		SOIL TYPE	SECONDARY DIVISIONS		
COARSE GRAINED SOILS <small>MORE THAN HALF OF MATERIAL IS LARGER THAN NO. 200 SIEVE SIZE</small>	GRAVELS <small>MORE THAN HALF OF COARSE FRACTION IS LARGER THAN NO. 4 SIEVE</small>	CLEAN GRAVELS <small>(Less than 5% Fines)</small>	GW	Well graded gravels, gravel-sand mixtures, little or no fines	
		GRAVEL WITH FINES	GP	Poorly graded gravels or gravel-sand mixtures, little or no fines	
		SANDS <small>MORE THAN HALF OF COARSE FRACTION IS SMALLER THAN NO. 4 SIEVE</small>	CLEAN SANDS <small>(Less than 5% Fines)</small>	GM	Silty gravels, gravel-sand-silt mixtures, plastic fines
			SANDS WITH FINES	GC	Clayey gravels, gravel-sand-clay mixtures, plastic fines
	FINE GRAINED SOILS <small>MORE THAN HALF OF MATERIAL IS SMALLER THAN NO. 200 SIEVE SIZE</small>	SILTS AND CLAYS <small>LIQUID LIMIT IS LESS THAN 50 %</small>	CLEAN SANDS <small>(Less than 5% Fines)</small>	SW	Well graded sands, gravelly sands, little or no fines
			SANDS WITH FINES	SP	Poorly graded sands or gravelly sands, little or no fines
		SANDS AND CLAYS <small>LIQUID LIMIT IS GREATER THAN 50 %</small>	SANDS WITH FINES	SM	Silty sands, sand-silt-mixtures, non-plastic fines
			SANDS WITH FINES	SC	Clayey sands, sand-clay mixtures, plastic fines
SANDS WITH FINES	ML		Inorganic silts and very fine sands, rock flour, silty or clayey fine sands or clayey silts with slight plasticity		
HIGHLY ORGANIC SOILS	SILTS AND CLAYS <small>LIQUID LIMIT IS LESS THAN 50 %</small>	CL	Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays		
		OL	Organic silts and organic silty clays of low plasticity		
	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			
PT	Peat and other highly organic soils				

DEFINITION OF TERMS

U.S. STANDARD SIEVE SIZE CLEAR SQUARE SIEVE OPENINGS

200 40 10 4 3/4" 3" 12"

SILTS AND CLAY	SAND			GRAVEL		COBBLES	BOULDERS
	FINE	MEDIUM	COARSE	FINE	COARSE		
0.08	0.4	2	5	19	75mm		

GRAIN SIZES

TERZAGHI SPLIT SPOON STANDARD PENETRATION	MODIFIED CALIFORNIA	DIRECT PUSH SAMPLER	BULK SAMPLE	NO RECOVERY

SAMPLERS

SAND AND GRAVEL	BLOWS/FOOT*
VERY LOOSE	0-4
LOOSE	4-10
MEDIUM DENSE	10-30
DENSE	30-50
VERY DENSE	OVER 50

SILTS AND CLAYS	STRENGTH+	BLOWS/FOOT*
VERY SOFT	0-1/4	0-2
SOFT	1/4-1/2	2-4
MEDIUM STIFF	1/2-1	4-8
STIFF	1-2	8-16
VERY STIFF	2-4	16-32
HARD	OVER 4	OVER 32

RELATIVE DENSITY

CONSISTENCY

*Number of blows of 140 pound hammer falling 30 inches to drive a 2-inch O.D. (1-3/8 inch I.D.) split spoon (ASTM D-1586).
 +Unconfined compressive strength in tons/sq.ft. as determined by laboratory testing or approximated by the standard penetration test (ASTM D-1586), pocket penetrometer, torvane, or visual observation.

KEY TO EXPLORATORY BORING LOGS

Unified Soil Classification System (ASTM D-2487)

EXPLORATORY BORING: GWS-1

Sheet 1 of 1

DRILL RIG: VIRONEX

PROJECT NO: 247-23

BORING TYPE: DIRECT PUSH

PROJECT: GRAND MARINA

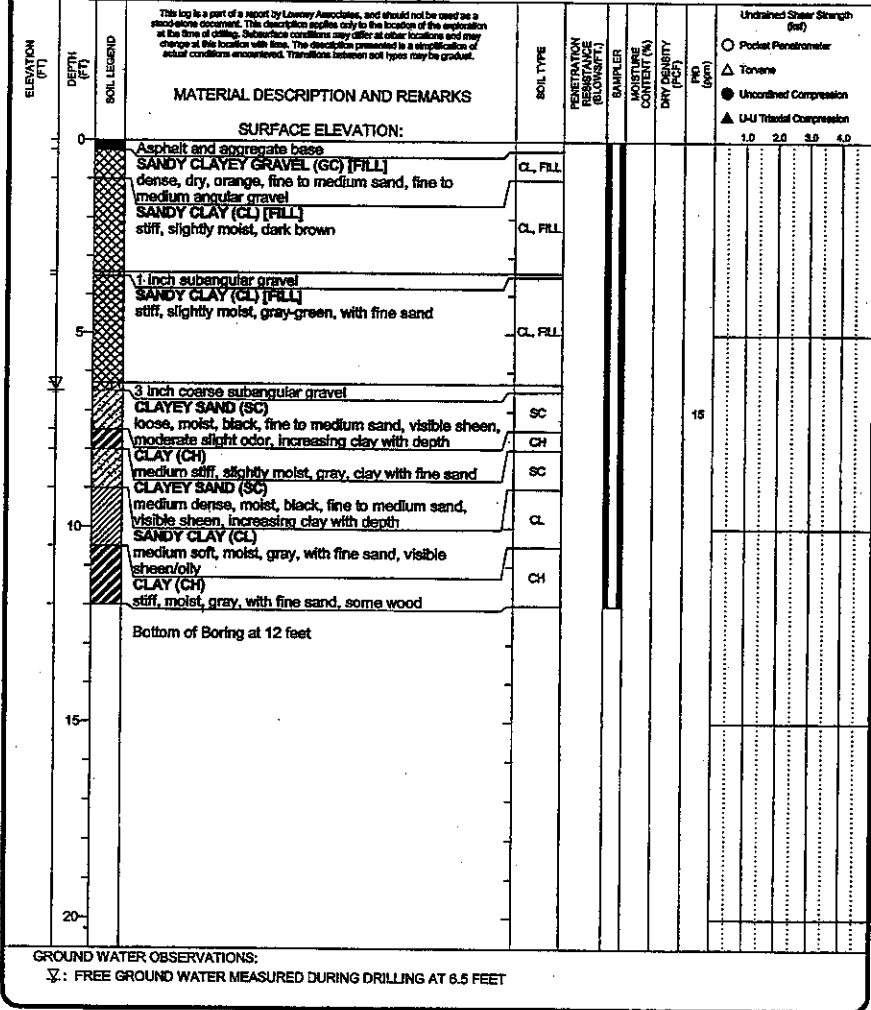
LOGGED BY: VMT

LOCATION: ALAMEDA, CA

START DATE: 11-19-04

FINISH DATE: 11-19-04

COMPLETION DEPTH: 12.0 FT.



EXPLORATORY BORING: GWS-2

Sheet 1 of 1

DRILL RIG: VIRONEX
BORING TYPE: DIRECT PUSH
LOGGED BY: VMT
START DATE: 11-19-04 FINISH DATE: 11-19-04

PROJECT NO: 247-23
PROJECT: GRAND MARINA
LOCATION: ALAMEDA, CA
COMPLETION DEPTH: 12.0 FT.

ELEVATION (FT)	DEPTH (FT)	SOIL LEGEND	MATERIAL DESCRIPTION AND REMARKS	SOIL TYPE	PENETRATION RESISTANCE (BLOWS/FT)	SAMPLER	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	PIV (psf)	Undrained Shear Strength (psf)			
										1.0	2.0	3.0	4.0
SURFACE ELEVATION:													
0	0		Asphalt and aggregate base										
			CLAYEY SAND WITH GRAVEL (GC) [FILL] stiff, slightly moist, brown, fine to medium angular gravel, fine to medium sand orange, dry, dense, medium to coarse angular gravel	GC, FILL									
			CLAYEY SAND (SC) dense, slightly moist, dark brown, fine to medium sand, slight odor	SC									
			SILTY CLAY (CL) medium stiff, gray, with some fine sand, slight odor	CL									
			CLAYEY SAND (SC) medium dense, moist, gray, medium to fine sand	SC									
			CLAY (CH) medium soft, moist, black, with some fine to medium sand, moderate odor	CH									
			CLAYEY SAND (SC) medium odor, moist, black, fine to medium sand	SC									
			CLAY (CH) soft, very moist, black, with fine to medium sand, moderate odor gray, moderate soft, moist	CH									
			Bottom of Boring at 12 feet										
GROUND WATER OBSERVATIONS: ∇: FREE GROUND WATER MEASURED DURING DRILLING AT 8.5 FEET													

LA CORP. GDT 12/20/04 REV

EXPLORATORY BORING: GWS-3

Sheet 1 of 1

DRILL RIG: VIRONEX
BORING TYPE: DIRECT PUSH
LOGGED BY: VMT
START DATE: 11-19-04 FINISH DATE: 11-19-04

PROJECT NO: 247-23
PROJECT: GRAND MARINA
LOCATION: ALAMEDA, CA
COMPLETION DEPTH: 16.0 FT.

ELEVATION (FT)	DEPTH (FT)	SOIL LEGEND	MATERIAL DESCRIPTION AND REMARKS	SOIL TYPE	PENETRATION RESISTANCE (BLOWS/FT)	SAMPLER	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	PIV (psf)	Undrained Shear Strength (psf)			
										1.0	2.0	3.0	4.0
SURFACE ELEVATION:													
0	0		Asphalt and aggregate base										
			SANDY CLAYEY GRAVEL (GC) [FILL] dense, dry, orange, with fine to medium sand and fine to medium angular gravel	GC, FILL									
			SANDY CLAY (CL) [FILL] medium stiff, slightly moist, gray/green, with fine sand, trace fine angular gravel	CL, FILL									
			wood at 3 to 3 3/4 feet trace odor										
			SANDY CLAYEY GRAVEL (GC) [FILL] dense, dry, orange, with fine to medium sand, fine to medium angular gravel	GC, FILL									
			CLAY (CL) [FILL] medium soft, moist, black and green mottled, with some fine sand	CL, FILL									
			SANDY CLAYEY GRAVEL (GC) [FILL] medium dense, slightly moist, orange, with fine to medium sand, fine to medium angular gravel	GC, FILL									
			2 inch layer, very moist, slightly dense, gray, medium to coarse sand	SP									
			CLAYEY SAND (SC) loose, very moist, gray, fine to medium sand	SC									
			SANDY CLAY (CL) soft, very moist, gray, with fine sand	CL									
			gray, medium soft, moist										
			Bottom of Boring at 16 feet										
GROUND WATER OBSERVATIONS: ∇: FREE GROUND WATER MEASURED DURING DRILLING AT 12.0 FEET													

LA CORP. GDT 12/20/04 REV

EXPLORATORY BORING: GWS-4

Sheet 1 of 1

DRILL RIG: VIRONEX PROJECT NO: 247-23
 BORING TYPE: DIRECT PUSH PROJECT: GRAND MARINA
 LOGGED BY: VMT LOCATION: ALAMEDA, CA
 START DATE: 11-19-04 FINISH DATE: 11-19-04 COMPLETION DEPTH: 8.0 FT.

This log is a part of a report by Lowney Associates, and should not be used as a stand-alone document. This description applies only to the location of the exploration at the time of drilling. Subsurface conditions may differ at other locations and may change at the location with time. The description presented is a specification of actual conditions encountered. Transitions between soil types may be gradual.

MATERIAL DESCRIPTION AND REMARKS

SURFACE ELEVATION:

ELEVATION (FT)	DEPTH (FT)	SOIL LEGEND	SOIL TYPE	PENETRATION RESISTANCE (BLOWS/FT)	SAMPLER	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	PIV (ppm)	Undrained Shear Strength (psf)
0	0	CLAY (CL) [FILL]	CL, FILL						
		medium stiff, slightly moist, dark brown							
		SANDY CLAYEY GRAVEL (GC) [FILL]	GC, FILL						
		stiff, slightly moist, with fine to medium angular gravel, fine to medium sand							
		CLAYEY SAND (SC)	SC						
		loose, very moist, green to black, fine to medium sand, slight odor							
		increasing clay with depth							
		SANDY CLAY (CH)	CH						
		soft, very moist, green, with fine to medium sand, slight odor							
		Bottom of Boring at 8 feet							

GROUND WATER OBSERVATIONS:
 ∇ : FREE GROUND WATER MEASURED DURING DRILLING AT 6.5 FEET

LA CORR: GWT: 12/28/04 MW

EXPLORATORY BORING: GWS-5

Sheet 1 of 1

DRILL RIG: VIRONEX PROJECT NO: 247-23
 BORING TYPE: DIRECT PUSH PROJECT: GRAND MARINA
 LOGGED BY: VMT LOCATION: ALAMEDA, CA
 START DATE: 11-19-04 FINISH DATE: 11-19-04 COMPLETION DEPTH: 8.0 FT.

This log is a part of a report by Lowney Associates, and should not be used as a stand-alone document. This description applies only to the location of the exploration at the time of drilling. Subsurface conditions may differ at other locations and may change at the location with time. The description presented is a specification of actual conditions encountered. Transitions between soil types may be gradual.

MATERIAL DESCRIPTION AND REMARKS

SURFACE ELEVATION:

ELEVATION (FT)	DEPTH (FT)	SOIL LEGEND	SOIL TYPE	PENETRATION RESISTANCE (BLOWS/FT)	SAMPLER	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	PIV (ppm)	Undrained Shear Strength (psf)
0	0	CLAYEY SANDY GRAVEL (GC) [FILL]	GC						
		dense, dry, gray, subangular gravel							
		orange, medium dense, dry							
		CLAYEY SAND (SC)	SC						
		medium loose, moist, brown, slightly fine to medium sand							
		dark brown							
		SANDY CLAY (CL)	CL						
		soft, very moist, gray, with fine sand							
		CLAYEY SAND (SC)	SC						
		medium loose, very moist, black, fine to medium sand							
		CLAY (CH)	CH						
		stiff, slightly moist, gray and black mottle, with fine sand							
		Bottom of Boring at 8 feet							

GROUND WATER OBSERVATIONS:
 ∇ : FREE GROUND WATER MEASURED DURING DRILLING AT 4.0 FEET

LA CORR: GWT: 12/28/04 MW

EXPLORATORY BORING: GWS-6

Sheet 1 of 1

DRILL RIG: VIRONEX

PROJECT NO: 247-23

BORING TYPE: DIRECT PUSH

PROJECT: GRAND MARINA

LOGGED BY: VMT

LOCATION: ALAMEDA, CA

START DATE: 11-19-04 FINISH DATE: 11-19-04

COMPLETION DEPTH: 8.0 FT.

This log is a part of a report by Lowney Associates, and should not be used as a stand-alone document. This description applies only to the location of the exploration at the time of drilling. Surface conditions may differ at other locations and may change at this location with time. The description presented is a simplification of actual conditions encountered. Transitions between soil types may be gradual.

ELEVATION (FT)	DEPTH (FT)	SOIL LEGEND	MATERIAL DESCRIPTION AND REMARKS	SOIL TYPE	PENETRATION RESISTANCE (BLOWS/FT.)	SAMPLER	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	PD (psf)	Undrained Shear Strength (psf)					
										1.0	2.0	3.0	4.0		
SURFACE ELEVATION:															
	0		CLAYEY SANDY GRAVEL (GC) [FILL] dense, dry, brown, subangular gravel	GC, FILL											
			SANDY CLAY (CL) [FILL] medium stiff, slightly moist, brown, with fine to medium sand	CL, FILL											
			CLAYEY SAND (SC) [FILL] medium dense, moist, brown, medium to coarse sand	SC, FILL											
			SANDY GRAVEL (GC) [FILL] loose, moist, black	GC, FILL											
			CLAYEY SAND (SC)	SC					13						
			CLAYEY SAND (SC)	CL					51						
	5		loose, very moist, gray, fine to medium sand with some silty clay, slight odor						410						
			CLAY (CL)												
			medium stiff, moist, brown, with some coarse subangular gravel	SC											
			CLAYEY SAND (SC)												
			loose, very moist, gray, fine to medium sand, sheen						420						
			SANDY CLAY (CH)	CH											
			medium soft, moist, gray, with fine sand												
			Bottom of Boring at 8 feet												
	10														
	15														
	20														

GROUND WATER OBSERVATIONS:

∇: FREE GROUND WATER MEASURED DURING DRILLING AT 4.5 FEET

LA 0088-037-128804.MXD

**APPENDIX B
ANALYTICAL RESULTS**

The chilled samples were delivered to a state-certified analytical laboratory. Chain of custody documentation was maintained for all samples. Attached are copies of the analytical results and the chain of custody forms.

Lowney & Associates Oakland

167 Filbert Street
Oakland, CA 94607

Attn.: Tom McCloskey

Project#: 247-23

Project: Grand Marina

November 29, 2004

Volatile Organic Compounds by 8021B/8260B

Lowney & Associates Oakland

Attn.: Tom McCloskey

167 Filbert Street
Oakland, CA 94607

Phone: (510) 267-1970 Fax: (510) 267-1972

Project: 247-23
Grand Marina

Received: 11/22/2004 12:40

Samples Reported

Sample ID	Collection Date	Matrix	Page
GWS-1@6 1/2-7	11/19/2004	Soil	7
GWS-2@7 1/2-8	11/19/2004	Soil	8
GWS-4@6-6 1/2	11/19/2004	Soil	9
GWS-6@6 1/2-7	11/19/2004	Soil	11

Attached is our report for your samples received on 11/22/2004 12:40
This report has been reviewed and approved for release. Reproduction of this report
is permitted only in its entirety.

Please note that any unused portion of the samples will be discarded after
01/06/2005 unless you have requested otherwise.

We appreciate the opportunity to be of service to you. If you have any questions,
please call me at (925) 484-1919.

You can also contact me via email. My email address is: asalimpour@stl-inc.com

Sincerely,



Afsaneh Salimpour
Project Manager

Volatile Organic Compounds by 8021B/8260B

Lowney & Associates Oakland

Attn.: Tom McCloskey

167 Filbert Street
Oakland, CA 94607
Phone: (510) 267-1970 Fax: (510) 267-1972

Project: 247-23
Grand Marina

Received: 11/22/2004 12:40

Prep(s): 8260B
Sample ID: GWS-106-112-7
Sampled: 11/19/2004
Matrix: Soil
Test(s): 8260B
Lab ID: 2004-11-0682-7
Extracted: 11/22/2004 22:53
QC Batch#: 2004-11-22-16-71

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Benzene	ND	5.0	ug/Kg	1.00	11/22/2004 22:53	
Bromodichloromethane	ND	20	ug/Kg	1.00	11/22/2004 22:53	
Bromoform	ND	5.0	ug/Kg	1.00	11/22/2004 22:53	
Bromomethane	ND	10	ug/Kg	1.00	11/22/2004 22:53	
Carbon tetrachloride	ND	5.0	ug/Kg	1.00	11/22/2004 22:53	
Chlorobenzene	ND	5.0	ug/Kg	1.00	11/22/2004 22:53	
Chloroethane	ND	10	ug/Kg	1.00	11/22/2004 22:53	
Chloroform	ND	5.0	ug/Kg	1.00	11/22/2004 22:53	
Chloromethane	ND	10	ug/Kg	1.00	11/22/2004 22:53	
Dibromochloromethane	ND	5.0	ug/Kg	1.00	11/22/2004 22:53	
1,2-Dichlorobenzene	ND	5.0	ug/Kg	1.00	11/22/2004 22:53	
1,3-Dichlorobenzene	ND	5.0	ug/Kg	1.00	11/22/2004 22:53	
1,4-Dichlorobenzene	ND	5.0	ug/Kg	1.00	11/22/2004 22:53	
1,2-Dibromo-3-chloropropane	ND	50	ug/Kg	1.00	11/22/2004 22:53	
1,2-Dibromoethane (EDB)	ND	10	ug/Kg	1.00	11/22/2004 22:53	
Dichlorodifluoromethane	ND	10	ug/Kg	1.00	11/22/2004 22:53	
1,1-Dichloroethane	ND	5.0	ug/Kg	1.00	11/22/2004 22:53	
1,2-Dichloroethane	ND	5.0	ug/Kg	1.00	11/22/2004 22:53	
1,1-Dichloroethene	ND	5.0	ug/Kg	1.00	11/22/2004 22:53	
cis-1,2-Dichloroethene	ND	5.0	ug/Kg	1.00	11/22/2004 22:53	
trans-1,2-Dichloroethene	ND	5.0	ug/Kg	1.00	11/22/2004 22:53	
1,2-Dichloropropane	ND	5.0	ug/Kg	1.00	11/22/2004 22:53	
Ethylbenzene	ND	5.0	ug/Kg	1.00	11/22/2004 22:53	
Methylene chloride	ND	5.0	ug/Kg	1.00	11/22/2004 22:53	
1,1,2,2-Tetrachloroethane	ND	5.0	ug/Kg	1.00	11/22/2004 22:53	
Tetrachloroethene	ND	5.0	ug/Kg	1.00	11/22/2004 22:53	
Toluene	ND	5.0	ug/Kg	1.00	11/22/2004 22:53	
1,1,1-Trichloroethane	ND	5.0	ug/Kg	1.00	11/22/2004 22:53	
1,1,2-Trichloroethane	ND	5.0	ug/Kg	1.00	11/22/2004 22:53	
Trichloroethene	ND	5.0	ug/Kg	1.00	11/22/2004 22:53	

Severn Trent Laboratories, Inc.

STL San Francisco * 1220 Quarry Lane, Pleasanton, CA 94566
Tel 925 484 1919 Fax 925 484 1096 * www.stl-inc.com * CA DHS ELAP# 2496

11/24/2004

Volatile Organic Compounds by 8021B/8260B

Lowney & Associates Oakland

Attn.: Tom McCloskey

167 Filbert Street
Oakland, CA 94607
Phone: (510) 267-1970 Fax: (510) 267-1972

Project: 247-23
Grand Marina

Received: 11/22/2004 12:40

Prep(s): 8260B
Sample ID: GWS-106-112-7
Sampled: 11/19/2004
Matrix: Soil
Test(s): 8260B
Lab ID: 2004-11-0682-7
Extracted: 11/22/2004 22:53
QC Batch#: 2004-11-22-16-71

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Trichlorofluoromethane	ND	5.0	ug/Kg	1.00	11/22/2004 22:53	
Trichlorotrifluoroethane	ND	5.0	ug/Kg	1.00	11/22/2004 22:53	
Vinyl chloride	ND	5.0	ug/Kg	1.00	11/22/2004 22:53	
Total xylenes	22	5.0	ug/Kg	1.00	11/22/2004 22:53	
Surrogate(s)						
4-Bromofluorobenzene	89.0	74-121	%	1.00	11/22/2004 22:53	
1,2-Dichloroethane-d4	154.7	70-121	%	1.00	11/22/2004 22:53	S4
Toluene-d8	87.6	81-117	%	1.00	11/22/2004 22:53	

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11/24/2004

Volatile Organic Compounds by 8021B/8260B

Lowney & Associates Oakland

Attn.: Tom McCloskey

167 Filbert Street
Oakland, CA 94607
Phone: (510) 267-1970 Fax: (510) 267-1972

Project: 247-23
Grand Marina

Received: 11/22/2004 12:40

Project: 247-23
Sample ID: GWS-2007-1123
Site: 11/22/2004
Matrix: Soil
Analysis Flag: L1 (See Legend for Note Section)

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Benzene	ND	25	ug/Kg	4.95	11/24/2004 14:36	
Bromodichloromethane	ND	99	ug/Kg	4.95	11/24/2004 14:36	
Bromoform	ND	25	ug/Kg	4.95	11/24/2004 14:36	
Bromomethane	ND	50	ug/Kg	4.95	11/24/2004 14:36	
Carbon tetrachloride	ND	25	ug/Kg	4.95	11/24/2004 14:36	
Chlorobenzene	ND	25	ug/Kg	4.95	11/24/2004 14:36	
Chloroethane	ND	50	ug/Kg	4.95	11/24/2004 14:36	
Chloroform	ND	25	ug/Kg	4.95	11/24/2004 14:36	
Chloromethane	ND	50	ug/Kg	4.95	11/24/2004 14:36	
Dibromochloromethane	ND	25	ug/Kg	4.95	11/24/2004 14:36	
1,2-Dichlorobenzene	ND	25	ug/Kg	4.95	11/24/2004 14:36	
1,3-Dichlorobenzene	ND	25	ug/Kg	4.95	11/24/2004 14:36	
1,4-Dichlorobenzene	ND	25	ug/Kg	4.95	11/24/2004 14:36	
1,2-Dibromo-3-chloropropane	ND	250	ug/Kg	4.95	11/24/2004 14:36	
1,2-Dibromoethane (EDB)	ND	50	ug/Kg	4.95	11/24/2004 14:36	
Dichlorodifluoromethane	ND	50	ug/Kg	4.95	11/24/2004 14:36	
1,1-Dichloroethane	ND	25	ug/Kg	4.95	11/24/2004 14:36	
1,2-Dichloroethane	ND	25	ug/Kg	4.95	11/24/2004 14:36	
1,1-Dichloroethene	ND	25	ug/Kg	4.95	11/24/2004 14:36	
cis-1,2-Dichloroethene	ND	25	ug/Kg	4.95	11/24/2004 14:36	
trans-1,2-Dichloroethene	ND	25	ug/Kg	4.95	11/24/2004 14:36	
1,2-Dichloropropane	ND	25	ug/Kg	4.95	11/24/2004 14:36	
Ethylbenzene	ND	25	ug/Kg	4.95	11/24/2004 14:36	
Methylene chloride	ND	25	ug/Kg	4.95	11/24/2004 14:36	
1,1,2,2-Tetrachloroethane	ND	25	ug/Kg	4.95	11/24/2004 14:36	
Tetrachloroethene	ND	25	ug/Kg	4.95	11/24/2004 14:36	
Toluene	ND	25	ug/Kg	4.95	11/24/2004 14:36	
1,1,1-Trichloroethane	ND	25	ug/Kg	4.95	11/24/2004 14:36	
1,1,2-Trichloroethane	ND	25	ug/Kg	4.95	11/24/2004 14:36	

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11/24/2004

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Volatile Organic Compounds by 8021B/8260B

Lowney & Associates Oakland

Attn.: Tom McCloskey

167 Filbert Street
Oakland, CA 94607
Phone: (510) 267-1970 Fax: (510) 267-1972

Project: 247-23
Grand Marina

Received: 11/22/2004 12:40

Project: 247-23
Sample ID: GWS-2007-1123
Site: 11/22/2004
Matrix: Soil
Analysis Flag: L1 (See Legend for Note Section)

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Trichloroethene	ND	25	ug/Kg	4.95	11/24/2004 14:36	
Trichlorofluoromethane	ND	25	ug/Kg	4.95	11/24/2004 14:36	
Trichlorotrifluoroethane	ND	25	ug/Kg	4.95	11/24/2004 14:36	
Vinyl chloride	ND	25	ug/Kg	4.95	11/24/2004 14:36	
Total xylenes	ND	25	ug/Kg	4.95	11/24/2004 14:36	
<i>Surrogate(s)</i>						
4-Bromofluorobenzene	115.1	74-121	%	4.95	11/24/2004 14:36	
1,2-Dichloroethane-d4	108.4	70-121	%	4.95	11/24/2004 14:36	
Toluene-d8	110.6	81-117	%	4.95	11/24/2004 14:36	

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11/24/2004

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Volatile Organic Compounds by 8021B/8260B

Lowney & Associates Oakland
Attn.: Tom McCloskey

167 Filbert Street
Oakland, CA 94607
Phone: (510) 267-1970 Fax: (510) 267-1972

Project: 247-23
Grand Marina

Received: 11/22/2004 12:40

Prep(s): 8260B
Sample ID: GWS-4@6-6 1/2
Sampled: 11/19/2004
Matrix: Soil
Analysis Flag: N1 (See Legend and Note Section)

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Benzene	ND	5.0	ug/Kg	1.00	11/23/2004	
Bromodichloromethane	ND	20	ug/Kg	1.00	11/23/2004	
Bromoform	ND	5.0	ug/Kg	1.00	11/23/2004	
Bromomethane	ND	10	ug/Kg	1.00	11/23/2004	
Carbon tetrachloride	ND	5.0	ug/Kg	1.00	11/23/2004	
Chlorobenzene	ND	5.0	ug/Kg	1.00	11/23/2004	
Chloroethane	ND	10	ug/Kg	1.00	11/23/2004	
Chloroform	ND	5.0	ug/Kg	1.00	11/23/2004	
Chloromethane	ND	10	ug/Kg	1.00	11/23/2004	
Dibromochloromethane	ND	5.0	ug/Kg	1.00	11/23/2004	
1,2-Dichlorobenzene	ND	5.0	ug/Kg	1.00	11/23/2004	
1,3-Dichlorobenzene	ND	5.0	ug/Kg	1.00	11/23/2004	
1,4-Dichlorobenzene	ND	5.0	ug/Kg	1.00	11/23/2004	
1,2-Dibromo-3-chloropropane	ND	50	ug/Kg	1.00	11/23/2004	
1,2-Dibromoethane (EDB)	ND	10	ug/Kg	1.00	11/23/2004	
Dichlorodifluoromethane	ND	10	ug/Kg	1.00	11/23/2004	
1,1-Dichloroethane	ND	5.0	ug/Kg	1.00	11/23/2004	
1,2-Dichloroethane	ND	5.0	ug/Kg	1.00	11/23/2004	
1,1-Dichloroethene	ND	5.0	ug/Kg	1.00	11/23/2004	
cis-1,2-Dichloroethene	ND	5.0	ug/Kg	1.00	11/23/2004	
trans-1,2-Dichloroethene	ND	5.0	ug/Kg	1.00	11/23/2004	
1,2-Dichloropropane	ND	5.0	ug/Kg	1.00	11/23/2004	
Ethylbenzene	ND	5.0	ug/Kg	1.00	11/23/2004	
Methylene chloride	ND	5.0	ug/Kg	1.00	11/23/2004	
1,1,2,2-Tetrachloroethane	ND	5.0	ug/Kg	1.00	11/23/2004	
Tetrachloroethene	ND	5.0	ug/Kg	1.00	11/23/2004	
Toluene	ND	5.0	ug/Kg	1.00	11/23/2004	
1,1,1-Trichloroethane	ND	5.0	ug/Kg	1.00	11/23/2004	
1,1,2-Trichloroethane	ND	5.0	ug/Kg	1.00	11/23/2004	

Volatile Organic Compounds by 8021B/8260B

Lowney & Associates Oakland
Attn.: Tom McCloskey

167 Filbert Street
Oakland, CA 94607
Phone: (510) 267-1970 Fax: (510) 267-1972

Project: 247-23
Grand Marina

Received: 11/22/2004 12:40

Prep(s): 8260B
Sample ID: GWS-4@6-6 1/2
Sampled: 11/19/2004
Matrix: Soil
Analysis Flag: N1 (See Legend and Note Section)

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Trichloroethene	ND	5.0	ug/Kg	1.00	11/23/2004	
Trichlorofluoromethane	ND	5.0	ug/Kg	1.00	11/23/2004	
Trichlorotrifluoroethane	ND	5.0	ug/Kg	1.00	11/23/2004	
Vinyl chloride	ND	5.0	ug/Kg	1.00	11/23/2004	
Total xylenes	ND	5.0	ug/Kg	1.00	11/23/2004	
<i>Surrogate(s)</i>						
4-Bromofluorobenzene	103.9	74-121	%	1.00	11/23/2004	
1,2-Dichloroethane-d4	143.2	70-121	%	1.00	11/23/2004	S
Toluene-d8	89.4	81-117	%	1.00	11/23/2004	

Volatile Organic Compounds by 8021B/8260B

Lowney & Associates Oakland
Attn.: Tom McCloskey

167 Filbert Street
Oakland, CA 94607
Phone: (510) 267-1970 Fax: (510) 267-1972

Project: 247-23
Grand Marina

Received: 11/22/2004 12:40

Client: STS
Sample ID: STS-8021B-11-27
Sampled: 11/22/2004
Matrix: Soil
Analysis Flag: M111 (See Legend and Note Section)

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Benzene	ND	24	ug/Kg	4.85	11/24/2004 15:10	
Bromodichloromethane	ND	97	ug/Kg	4.85	11/24/2004 15:10	
Bromoform	ND	24	ug/Kg	4.85	11/24/2004 15:10	
Bromomethane	ND	49	ug/Kg	4.85	11/24/2004 15:10	
Carbon tetrachloride	ND	24	ug/Kg	4.85	11/24/2004 15:10	
Chlorobenzene	ND	24	ug/Kg	4.85	11/24/2004 15:10	
Chloroethane	ND	49	ug/Kg	4.85	11/24/2004 15:10	
Chloroform	ND	24	ug/Kg	4.85	11/24/2004 15:10	
Chloromethane	ND	49	ug/Kg	4.85	11/24/2004 15:10	
Dibromochloromethane	ND	24	ug/Kg	4.85	11/24/2004 15:10	
1,2-Dichlorobenzene	ND	24	ug/Kg	4.85	11/24/2004 15:10	
1,3-Dichlorobenzene	ND	24	ug/Kg	4.85	11/24/2004 15:10	
1,4-Dichlorobenzene	ND	24	ug/Kg	4.85	11/24/2004 15:10	
1,2-Dibromo-3-chloropropane	ND	240	ug/Kg	4.85	11/24/2004 15:10	
1,2-Dibromoethane (EDB)	ND	49	ug/Kg	4.85	11/24/2004 15:10	
Dichlorodifluoromethane	ND	49	ug/Kg	4.85	11/24/2004 15:10	
1,1-Dichloroethane	ND	24	ug/Kg	4.85	11/24/2004 15:10	
1,2-Dichloroethane	ND	24	ug/Kg	4.85	11/24/2004 15:10	
1,1-Dichloroethene	ND	24	ug/Kg	4.85	11/24/2004 15:10	
cis-1,2-Dichloroethene	ND	24	ug/Kg	4.85	11/24/2004 15:10	
trans-1,2-Dichloroethene	ND	24	ug/Kg	4.85	11/24/2004 15:10	
1,2-Dichloropropane	ND	24	ug/Kg	4.85	11/24/2004 15:10	
Ethylbenzene	51	24	ug/Kg	4.85	11/24/2004 15:10	
Methylene chloride	ND	24	ug/Kg	4.85	11/24/2004 15:10	
1,1,2,2-Tetrachloroethane	ND	24	ug/Kg	4.85	11/24/2004 15:10	
Tetrachloroethene	ND	24	ug/Kg	4.85	11/24/2004 15:10	
Toluene	ND	24	ug/Kg	4.85	11/24/2004 15:10	
1,1,1-Trichloroethane	ND	24	ug/Kg	4.85	11/24/2004 15:10	
1,1,2-Trichloroethane	ND	24	ug/Kg	4.85	11/24/2004 15:10	

Volatile Organic Compounds by 8021B/8260B

Lowney & Associates Oakland
Attn.: Tom McCloskey

167 Filbert Street
Oakland, CA 94607
Phone: (510) 267-1970 Fax: (510) 267-1972

Project: 247-23
Grand Marina

Received: 11/22/2004 12:40

Client: STS
Sample ID: STS-8021B-11-27
Sampled: 11/22/2004
Matrix: Soil
Analysis Flag: M111 (See Legend and Note Section)

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Trichloroethene	ND	24	ug/Kg	4.85	11/24/2004 15:10	
Trichlorofluoromethane	ND	24	ug/Kg	4.85	11/24/2004 15:10	
Trichlorotrifluoroethane	ND	24	ug/Kg	4.85	11/24/2004 15:10	
Vinyl chloride	ND	24	ug/Kg	4.85	11/24/2004 15:10	
Total xylenes	41	24	ug/Kg	4.85	11/24/2004 15:10	
Surrogate(s)						
4-Bromofluorobenzene	0.0	74-121	%	4.85	11/24/2004 15:10	SE
1,2-Dichloroethane-d4	74.1	70-121	%	4.85	11/24/2004 15:10	
Toluene-d8	104.1	81-117	%	4.85	11/24/2004 15:10	

Volatile Organic Compounds by 8021B/8260B

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Project: 247-23
Grand Marina

Received: 11/22/2004 12:40

Batch ID: Report	
Project: 247-23	Test ID: 8260B
Matrix: Soil	GC Batch #: 20041122-1B7
MB: 20041122-1B71-001	Date Extracted: 11/22/2004 17:31

Compound	Conc.	RL	Unit	Analyzed	Flag
Benzene	ND	5.0	ug/Kg	11/22/2004 17:31	
Bromodichloromethane	ND	20	ug/Kg	11/22/2004 17:31	
Bromoform	ND	5.0	ug/Kg	11/22/2004 17:31	
Bromomethane	ND	10	ug/Kg	11/22/2004 17:31	
Carbon tetrachloride	ND	5.0	ug/Kg	11/22/2004 17:31	
Chlorobenzene	ND	5.0	ug/Kg	11/22/2004 17:31	
Chloroethane	ND	10	ug/Kg	11/22/2004 17:31	
Chloroform	ND	5.0	ug/Kg	11/22/2004 17:31	
Chloromethane	ND	10	ug/Kg	11/22/2004 17:31	
Dibromochloromethane	ND	5.0	ug/Kg	11/22/2004 17:31	
1,2-Dichlorobenzene	ND	5.0	ug/Kg	11/22/2004 17:31	
1,3-Dichlorobenzene	ND	5.0	ug/Kg	11/22/2004 17:31	
1,4-Dichlorobenzene	ND	5.0	ug/Kg	11/22/2004 17:31	
1,2-Dibromo-3-chloropropane	ND	50	ug/Kg	11/22/2004 17:31	
1,2-Dibromoethane	ND	10	ug/Kg	11/22/2004 17:31	
Dichlorodifluoromethane	ND	10	ug/Kg	11/22/2004 17:31	
1,1-Dichloroethane	ND	5.0	ug/Kg	11/22/2004 17:31	
1,2-Dichloroethane	ND	5.0	ug/Kg	11/22/2004 17:31	
1,1-Dichloroethene	ND	5.0	ug/Kg	11/22/2004 17:31	
cis-1,2-Dichloroethene	ND	5.0	ug/Kg	11/22/2004 17:31	
trans-1,2-Dichloroethene	ND	5.0	ug/Kg	11/22/2004 17:31	
1,2-Dichloropropane	ND	5.0	ug/Kg	11/22/2004 17:31	
Ethylbenzene	ND	5.0	ug/Kg	11/22/2004 17:31	
Methylene chloride	ND	5.0	ug/Kg	11/22/2004 17:31	
1,1,2,2-Tetrachloroethane	ND	5.0	ug/Kg	11/22/2004 17:31	
Tetrachloroethene	ND	5.0	ug/Kg	11/22/2004 17:31	
Toluene	ND	5.0	ug/Kg	11/22/2004 17:31	
1,1,1-Trichloroethane	ND	5.0	ug/Kg	11/22/2004 17:31	
1,1,2-Trichloroethane	ND	5.0	ug/Kg	11/22/2004 17:31	
Trichloroethene	ND	5.0	ug/Kg	11/22/2004 17:31	

Volatile Organic Compounds by 8021B/8260B

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Phone: (510) 267-1970 Fax: (510) 267-1972
Project: 247-23
Grand Marina

Received: 11/22/2004 12:40

Batch ID: Report	
Project: 247-23	Test ID: 8260B
Matrix: Soil	GC Batch #: 20041122-1B7
MB: 20041122-1B71-001	Date Extracted: 11/22/2004 17:31

Compound	Conc.	RL	Unit	Analyzed	Flag
Trichlorofluoromethane	ND	5.0	ug/Kg	11/22/2004 17:31	
Trichlorotrifluoroethane	ND	5.0	ug/Kg	11/22/2004 17:31	
Vinyl chloride	ND	5.0	ug/Kg	11/22/2004 17:31	
Total xylenes	ND	5.0	ug/Kg	11/22/2004 17:31	
Surrogates(s)					
4-Bromofluorobenzene	90.2	74-121	%	11/22/2004 17:31	
1,2-Dichloroethane-d4	113.1	70-121	%	11/22/2004 17:31	
Toluene-d8	96.0	81-117	%	11/22/2004 17:31	

Volatile Organic Compounds by 8021B/8260B

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Phone: (510) 267-1970 Fax: (510) 267-1972
Project: 247-23
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Received: 11/22/2004 12:40

Data: GC Report	
Project: 2004-11-0	30E
Method: Blank	GC Batch: 11/22/04 11:34
File: 2004/11/24/1A/71034	Date Acquired: 11/24/2004 11:34

Compound	Conc.	RL	Unit	Analyzed	Flag
Benzene	ND	5.0	ug/Kg	11/24/2004 11:34	
Bromodichloromethane	ND	20	ug/Kg	11/24/2004 11:34	
Bromoform	ND	5.0	ug/Kg	11/24/2004 11:34	
Bromomethane	ND	10	ug/Kg	11/24/2004 11:34	
Carbon tetrachloride	ND	5.0	ug/Kg	11/24/2004 11:34	
Chlorobenzene	ND	5.0	ug/Kg	11/24/2004 11:34	
Chloroethane	ND	10	ug/Kg	11/24/2004 11:34	
Chloroform	ND	5.0	ug/Kg	11/24/2004 11:34	
Chloromethane	ND	10	ug/Kg	11/24/2004 11:34	
Dibromochloromethane	ND	5.0	ug/Kg	11/24/2004 11:34	
1,2-Dichlorobenzene	ND	5.0	ug/Kg	11/24/2004 11:34	
1,3-Dichlorobenzene	ND	5.0	ug/Kg	11/24/2004 11:34	
1,4-Dichlorobenzene	ND	5.0	ug/Kg	11/24/2004 11:34	
1,2-Dibromo-3-chloropropane	ND	50	ug/Kg	11/24/2004 11:34	
1,2-Dibromoethane	ND	10	ug/Kg	11/24/2004 11:34	
Dichlorodifluoromethane	ND	10	ug/Kg	11/24/2004 11:34	
1,1-Dichloroethane	ND	5.0	ug/Kg	11/24/2004 11:34	
1,2-Dichloroethane	ND	5.0	ug/Kg	11/24/2004 11:34	
1,1-Dichloroethene	ND	5.0	ug/Kg	11/24/2004 11:34	
cis-1,2-Dichloroethene	ND	5.0	ug/Kg	11/24/2004 11:34	
trans-1,2-Dichloroethene	ND	5.0	ug/Kg	11/24/2004 11:34	
1,2-Dichloropropane	ND	5.0	ug/Kg	11/24/2004 11:34	
Ethylbenzene	ND	5.0	ug/Kg	11/24/2004 11:34	
Methylene chloride	ND	5.0	ug/Kg	11/24/2004 11:34	
1,1,2,2-Tetrachloroethane	ND	5.0	ug/Kg	11/24/2004 11:34	
Tetrachloroethene	ND	5.0	ug/Kg	11/24/2004 11:34	
Toluene	ND	5.0	ug/Kg	11/24/2004 11:34	
1,1,1-Trichloroethane	ND	5.0	ug/Kg	11/24/2004 11:34	
1,1,2-Trichloroethane	ND	5.0	ug/Kg	11/24/2004 11:34	
Trichloroethene	ND	5.0	ug/Kg	11/24/2004 11:34	
Trichlorofluoromethane	ND	5.0	ug/Kg	11/24/2004 11:34	

Volatile Organic Compounds by 8021B/8260B

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Phone: (510) 267-1970 Fax: (510) 267-1972
Project: 247-23
Grand Marina

Received: 11/22/2004 12:40

Data: GC Report	
Project: 2004-11-0	30E
Method: Blank	GC Batch: 11/22/04 11:34
File: 2004/11/24/1A/71034	Date Acquired: 11/24/2004 11:34

Compound	Conc.	RL	Unit	Analyzed	Flag
Trichlorotrifluoroethane	ND	5.0	ug/Kg	11/24/2004 11:34	
Vinyl chloride	ND	5.0	ug/Kg	11/24/2004 11:34	
Total xylenes	ND	5.0	ug/Kg	11/24/2004 11:34	
<i>Surrogates(s)</i>					
4-Bromofluorobenzene	110.6	74-121	%	11/24/2004 11:34	
1,2-Dichloroethane-d4	104.1	70-121	%	11/24/2004 11:34	
Toluene-d8	116.0	81-117	%	11/24/2004 11:34	

Volatile Organic Compounds by 8021B/8260B

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Received: 11/22/2004 12:40

Batch QC Report			
Project: 247-23	Test(s): 8260B		
Laboratory Control Spike	Soil	QC Batch # 2004/11/22-1B-7	
LCS: 2004/11/22-1B-7-001	Extracted: 11/22/2004	Analyzed: 11/22/2004 16:2	
LCSD:			

Compound	Conc. ug/Kg		Exp. Conc.	Recovery %		RPD	Ctrl.Limits %		Flags	
	LCS	LCSD		LCS	LCSD		%	Rec.	RPD	LCS
Benzene	92.7		100	92.7			69-129	20		
Chlorobenzene	104		100	104.0			61-121	20		
1,1-Dichloroethene	91.6		100	91.6			65-125	20		
Toluene	94.8		100	94.8			70-130	20		
Trichloroethene	104		100	104.0			74-134	20		
Surrogates(s)										
4-Bromofluorobenzene	442		500	88.4			74-121			
1,2-Dichloroethane-d4	580		500	116.0			70-121			
Toluene-d8	471		500	94.2			81-117			

Volatile Organic Compounds by 8021B/8260B

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Project: 247-23
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Received: 11/22/2004 12:40

Batch QC Report			
Project: 247-23	Test(s): 8260B		
Laboratory Control Spike	Soil	QC Batch # 2004/11/22-1B-7	
LCS: 2004/11/22-1B-7-001	Extracted: 11/22/2004	Analyzed: 11/22/2004 11:1	
LCSD:			

Compound	Conc. ug/Kg		Exp. Conc.	Recovery %		RPD	Ctrl.Limits %		Flags	
	LCS	LCSD		LCS	LCSD		%	Rec.	RPD	LCS
Benzene	90.9		100	90.9			69-129	20		
Chlorobenzene	107		100	107.0			61-121	20		
1,1-Dichloroethene	81.0		100	81.0			65-125	20		
Toluene	103		100	103.0			70-130	20		
Trichloroethene	96.0		100	96.0			74-134	20		
Surrogates(s)										
4-Bromofluorobenzene	537		500	107.4			74-121			
1,2-Dichloroethane-d4	550		500	110.0			70-121			
Toluene-d8	573		500	114.6			81-117			

Volatile Organic Compounds by 8021B/8260B

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Project: 247-23
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Received: 11/22/2004 12:40

Batch QC Report											
Project:	8023										
Matrix Spike (MS / MSD)	Soil										
MS/MSD	Q.C. Batch # 2004-11-22-1B-7										
MS:	2004/11/22-1B-71-058	Extracted:	11/22/2004	Lab ID:	2004-11-8608-100	Analyst:	3/12/2004 10:51	Volume:	1.01	Sample:	1.01
MSD:	2004/11/22-1B-71-056	Extracted:	11/22/2004	Analyst:	11/22/2004 10:01	Volume:	1.01	Sample:	1.01		

Compound	Conc.		Spk Level	Recovery %			Limits %		Flags		
	MS	MSD		Sample	MS	MSD	RPD	Rec.	RPD	MS	MSD
Benzene	82.0	82.4	ND	88.6525	92.4	92.5	0.1	69-129	20		
Chlorobenzene	79.1	79.8	ND	88.6525	89.2	89.6	0.4	61-121	20		
1,1-Dichloroethene	84.6	87.1	ND	88.6525	95.4	97.8	2.5	65-125	20		
Toluene	86.6	84.6	ND	88.6525	97.6	94.9	2.8	70-130	20		
Trichloroethene	91.5	91.2	ND	88.6525	103.2	102.4	0.8	74-134	20		
Surrogate(s)											
4-Bromofluorobenzene	497	490		500	99.3	98.0		74-121			
1,2-Dichloroethane-d4	575	605		500	115.0	121.0		70-121			
Toluene-d8	480	468		500	96.1	93.5		81-117			

Volatile Organic Compounds by 8021B/8260B

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Project: 247-23
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Received: 11/22/2004 12:40

Batch QC Report											
Project:	8023										
Matrix Spike (MS / MSD)	Soil										
MS/MSD	Q.C. Batch # 2004-11-22-1B-7										
MS:	2004/11/22-1B-71-058	Extracted:	11/22/2004	Lab ID:	2004-11-8608-100	Analyst:	3/12/2004 10:51	Volume:	1.01	Sample:	1.01
MSD:	2004/11/22-1B-71-056	Extracted:	11/22/2004	Analyst:	11/22/2004 10:01	Volume:	1.01	Sample:	1.01		

Compound	Conc.		Spk Level	Recovery %			Limits %		Flags		
	MS	MSD		Sample	MS	MSD	RPD	Rec.	RPD	MS	MSD
Benzene	82.6	86.6	ND	94.518	87.4	88.7	1.5	69-129	20		
Chlorobenzene	101	103	ND	94.518	106.9	105.4	1.4	61-121	20		
1,1-Dichloroethene	74.9	74.5	ND	94.518	79.3	76.3	3.9	65-125	20		
Toluene	93.9	94.2	ND	94.518	99.4	96.4	3.1	70-130	20		
Trichloroethene	84.8	87.6	ND	94.518	89.7	89.7	0.0	74-134	20		
Surrogate(s)											
4-Bromofluorobenzene	581	601		500	116.1	120.2		74-121			
1,2-Dichloroethane-d4	519	498		500	103.7	99.6		70-121			
Toluene-d8	550	544		500	110.0	108.7		81-117			

Volatile Organic Compounds by 8021B/8260B

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Project: 247-23
Grand Marina

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Legend and Notes

Analysis Flag

L1 Reporting limits raised due to high level of non-target analyte materials.

N1 Internal standard out of range.

Result Flag

S4 Surrogate recovery was higher than QC limit due to matrix interference.

S6 Surrogate recoveries lower than acceptance limits.

Volatile Organic Compounds by 8021B/8260B

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Project: 247-23
Grand Marina

Received: 11/22/2004 12:40

Samples Reported

Sample Name	Date Sampled	Matrix	Lab
GWS-1	11/19/2004	Water	1
GWS-2	11/19/2004	Water	2
GWS-3	11/19/2004	Water	3
GWS-4	11/19/2004	Water	4
GWS-5	11/19/2004	Water	5
GWS-6	11/19/2004	Water	6

Volatile Organic Compounds by 8021B/8260B

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Attn.: Tom McCloskey
167 Filbert Street
Oakland, CA 94607
Phone: (510) 267-1970 Fax: (510) 267-1972
Project: 247-23
Grand Marina

Received: 11/22/2004 12:40

Project: 8020B
Sample ID: GWS-1
Sample Date: 11/23/2004
Matrix: Water
Analysis Flag: L5 (See Legend and Note Section)

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Benzene	ND	2.0	ug/L	4.00	11/23/2004 08:43	
Bromodichloromethane	ND	2.0	ug/L	4.00	11/23/2004 08:43	
Bromoform	ND	2.0	ug/L	4.00	11/23/2004 08:43	
Bromomethane	ND	4.0	ug/L	4.00	11/23/2004 08:43	
Carbon tetrachloride	ND	2.0	ug/L	4.00	11/23/2004 08:43	
Chlorobenzene	ND	2.0	ug/L	4.00	11/23/2004 08:43	
Chloroethane	ND	4.0	ug/L	4.00	11/23/2004 08:43	
Chloroform	ND	2.0	ug/L	4.00	11/23/2004 08:43	
Chloromethane	ND	4.0	ug/L	4.00	11/23/2004 08:43	
Dibromochloromethane	ND	2.0	ug/L	4.00	11/23/2004 08:43	
1,2-Dichlorobenzene	ND	2.0	ug/L	4.00	11/23/2004 08:43	
1,3-Dichlorobenzene	ND	2.0	ug/L	4.00	11/23/2004 08:43	
1,4-Dichlorobenzene	ND	2.0	ug/L	4.00	11/23/2004 08:43	
1,2-Dibromo-3-chloropropane	ND	4.0	ug/L	4.00	11/23/2004 08:43	
1,2-Dibromoethane (EDB)	ND	2.0	ug/L	4.00	11/23/2004 08:43	
Dichlorodifluoromethane	ND	2.0	ug/L	4.00	11/23/2004 08:43	
1,1-Dichloroethane	ND	2.0	ug/L	4.00	11/23/2004 08:43	
1,2-Dichloroethane	ND	2.0	ug/L	4.00	11/23/2004 08:43	
1,1-Dichloroethene	ND	2.0	ug/L	4.00	11/23/2004 08:43	
cis-1,2-Dichloroethene	ND	2.0	ug/L	4.00	11/23/2004 08:43	
trans-1,2-Dichloroethene	ND	2.0	ug/L	4.00	11/23/2004 08:43	
1,2-Dichloropropane	ND	2.0	ug/L	4.00	11/23/2004 08:43	
Ethylbenzene	ND	2.0	ug/L	4.00	11/23/2004 08:43	
Methylene chloride	ND	20	ug/L	4.00	11/23/2004 08:43	
1,1,2,2-Tetrachloroethane	ND	2.0	ug/L	4.00	11/23/2004 08:43	
Tetrachloroethene	ND	2.0	ug/L	4.00	11/23/2004 08:43	
Toluene	ND	2.0	ug/L	4.00	11/23/2004 08:43	
1,1,1-Trichloroethane	ND	2.0	ug/L	4.00	11/23/2004 08:43	
1,1,2-Trichloroethane	ND	2.0	ug/L	4.00	11/23/2004 08:43	

Volatile Organic Compounds by 8021B/8260B

Lowney & Associates Oakland
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Phone: (510) 267-1970 Fax: (510) 267-1972
Project: 247-23
Grand Marina

Received: 11/22/2004 12:40

Project: 8020B
Sample ID: GWS-1
Sample Date: 11/23/2004
Matrix: Water
Analysis Flag: L5 (See Legend and Note Section)

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Trichloroethene	ND	2.0	ug/L	4.00	11/23/2004 08:43	
Trichlorofluoromethane	ND	4.0	ug/L	4.00	11/23/2004 08:43	
Trichlorotrifluoroethane	ND	2.0	ug/L	4.00	11/23/2004 08:43	
Vinyl chloride	ND	2.0	ug/L	4.00	11/23/2004 08:43	
Total xylenes	ND	4.0	ug/L	4.00	11/23/2004 08:43	
Surrogate(s)						
4-Bromofluorobenzene	103.1	79-118	%	4.00	11/23/2004 08:43	
1,2-Dichloroethane-d4	100.1	78-117	%	4.00	11/23/2004 08:43	
Toluene-d8	103.1	77-121	%	4.00	11/23/2004 08:43	

Volatile Organic Compounds by 8021B/8260B

Lowney & Associates Oakland
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Project: 247-23
Grand Marina

Received: 11/22/2004 12:40

Prep(s): 8021B
Sample ID: GWS2
Sample: 11/23/2004
Matrix: Water
Analysis Flag: CA (See Legend and Note Section)

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Benzene	ND	2.0	ug/L	4.00	11/23/2004 09:14	
Bromodichloromethane	ND	2.0	ug/L	4.00	11/23/2004 09:14	
Bromoform	ND	2.0	ug/L	4.00	11/23/2004 09:14	
Bromomethane	ND	4.0	ug/L	4.00	11/23/2004 09:14	
Carbon tetrachloride	ND	2.0	ug/L	4.00	11/23/2004 09:14	
Chlorobenzene	ND	2.0	ug/L	4.00	11/23/2004 09:14	
Chloroethane	ND	4.0	ug/L	4.00	11/23/2004 09:14	
Chloroform	ND	2.0	ug/L	4.00	11/23/2004 09:14	
Chloromethane	ND	4.0	ug/L	4.00	11/23/2004 09:14	
Dibromochloromethane	ND	2.0	ug/L	4.00	11/23/2004 09:14	
1,2-Dichlorobenzene	ND	2.0	ug/L	4.00	11/23/2004 09:14	
1,3-Dichlorobenzene	ND	2.0	ug/L	4.00	11/23/2004 09:14	
1,4-Dichlorobenzene	ND	2.0	ug/L	4.00	11/23/2004 09:14	
1,2-Dibromo-3-chloropropane	ND	4.0	ug/L	4.00	11/23/2004 09:14	
1,2-Dibromothane (EDB)	ND	2.0	ug/L	4.00	11/23/2004 09:14	
Dichlorodifluoromethane	ND	2.0	ug/L	4.00	11/23/2004 09:14	
1,1-Dichloroethane	ND	2.0	ug/L	4.00	11/23/2004 09:14	
1,2-Dichloroethane	ND	2.0	ug/L	4.00	11/23/2004 09:14	
1,1-Dichloroethene	ND	2.0	ug/L	4.00	11/23/2004 09:14	
cis-1,2-Dichloroethene	ND	2.0	ug/L	4.00	11/23/2004 09:14	
trans-1,2-Dichloroethene	ND	2.0	ug/L	4.00	11/23/2004 09:14	
1,2-Dichloropropane	ND	2.0	ug/L	4.00	11/23/2004 09:14	
Ethylbenzene	ND	2.0	ug/L	4.00	11/23/2004 09:14	
Methylene chloride	ND	20	ug/L	4.00	11/23/2004 09:14	
1,1,2,2-Tetrachloroethane	ND	2.0	ug/L	4.00	11/23/2004 09:14	
Tetrachloroethene	ND	2.0	ug/L	4.00	11/23/2004 09:14	
Toluene	ND	2.0	ug/L	4.00	11/23/2004 09:14	
1,1,1-Trichloroethane	ND	2.0	ug/L	4.00	11/23/2004 09:14	
1,1,2-Trichloroethane	ND	2.0	ug/L	4.00	11/23/2004 09:14	

Volatile Organic Compounds by 8021B/8260B

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Received: 11/22/2004 12:40

Prep(s): 8021B
Sample ID: GWS2
Sample: 11/23/2004
Matrix: Water
Analysis Flag: LS (See Legend and Note Section)

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Trichloroethene	ND	2.0	ug/L	4.00	11/23/2004 09:14	
Trichlorofluoromethane	ND	4.0	ug/L	4.00	11/23/2004 09:14	
Trichlorotrifluoroethane	ND	2.0	ug/L	4.00	11/23/2004 09:14	
Vinyl chloride	ND	2.0	ug/L	4.00	11/23/2004 09:14	
Total xylenes	ND	4.0	ug/L	4.00	11/23/2004 09:14	
<i>Surrogate(s)</i>						
4-Bromofluorobenzene	103.2	79-118	%	4.00	11/23/2004 09:14	
1,2-Dichloroethane-d4	104.5	78-117	%	4.00	11/23/2004 09:14	
Toluene-d8	104.6	77-121	%	4.00	11/23/2004 09:14	

Volatile Organic Compounds by 8021B/8260B

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Received: 11/22/2004 12:40

Project:	8021B	Test(s):	8260B
Sample ID:	EW533	Lab ID:	200411230945
Sample:	11/23/2004	Entered:	11/23/2004 09:45
Matrix:	Water	QC Path#:	200411231A07

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Benzene	ND	0.50	ug/L	1.00	11/23/2004 09:45	
Bromodichloromethane	ND	0.50	ug/L	1.00	11/23/2004 09:45	
Bromoform	ND	0.50	ug/L	1.00	11/23/2004 09:45	
Bromomethane	ND	1.0	ug/L	1.00	11/23/2004 09:45	
Carbon tetrachloride	ND	0.50	ug/L	1.00	11/23/2004 09:45	
Chlorobenzene	ND	0.50	ug/L	1.00	11/23/2004 09:45	
Chloroethane	ND	1.0	ug/L	1.00	11/23/2004 09:45	
Chloroform	ND	0.50	ug/L	1.00	11/23/2004 09:45	
Chloromethane	ND	1.0	ug/L	1.00	11/23/2004 09:45	
Dibromochloromethane	ND	0.50	ug/L	1.00	11/23/2004 09:45	
1,2-Dichlorobenzene	ND	0.50	ug/L	1.00	11/23/2004 09:45	
1,3-Dichlorobenzene	ND	0.50	ug/L	1.00	11/23/2004 09:45	
1,4-Dichlorobenzene	ND	0.50	ug/L	1.00	11/23/2004 09:45	
1,2-Dibromo-3-chloropropane	ND	1.0	ug/L	1.00	11/23/2004 09:45	
1,2-Dibromoethane (EDB)	ND	0.50	ug/L	1.00	11/23/2004 09:45	
Dichlorodifluoromethane	ND	0.50	ug/L	1.00	11/23/2004 09:45	
1,1-Dichloroethane	ND	0.50	ug/L	1.00	11/23/2004 09:45	
1,2-Dichloroethane	ND	0.50	ug/L	1.00	11/23/2004 09:45	
1,1-Dichloroethene	ND	0.50	ug/L	1.00	11/23/2004 09:45	
cis-1,2-Dichloroethene	ND	0.50	ug/L	1.00	11/23/2004 09:45	
trans-1,2-Dichloroethene	ND	0.50	ug/L	1.00	11/23/2004 09:45	
1,2-Dichloropropane	ND	0.50	ug/L	1.00	11/23/2004 09:45	
Ethylbenzene	ND	0.50	ug/L	1.00	11/23/2004 09:45	
Methylene chloride	ND	5.0	ug/L	1.00	11/23/2004 09:45	
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1.00	11/23/2004 09:45	
Tetrachloroethene	ND	0.50	ug/L	1.00	11/23/2004 09:45	
Toluene	ND	0.50	ug/L	1.00	11/23/2004 09:45	
1,1,1-Trichloroethane	ND	0.50	ug/L	1.00	11/23/2004 09:45	
1,1,2-Trichloroethane	ND	0.50	ug/L	1.00	11/23/2004 09:45	
Trichloroethene	ND	0.50	ug/L	1.00	11/23/2004 09:45	

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Volatile Organic Compounds by 8021B/8260B

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Grand Marina

Received: 11/22/2004 12:40

Project:	8021B	Test(s):	8260B
Sample ID:	EW533	Lab ID:	200411230945
Sample:	11/23/2004	Entered:	11/23/2004 09:45
Matrix:	Water	QC Path#:	200411231A07

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Trichlorofluoromethane	ND	1.0	ug/L	1.00	11/23/2004 09:45	
Trichlorotrifluoroethane	ND	0.50	ug/L	1.00	11/23/2004 09:45	
Vinyl chloride	ND	0.50	ug/L	1.00	11/23/2004 09:45	
Total xylenes	ND	1.0	ug/L	1.00	11/23/2004 09:45	
<i>Surrogate(s)</i>						
4-Bromofluorobenzene	101.9	79-118	%	1.00	11/23/2004 09:45	
1,2-Dichloroethane-d4	109.4	78-117	%	1.00	11/23/2004 09:45	
Toluene-d8	103.6	77-121	%	1.00	11/23/2004 09:45	

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Project: 247-23
Grand Marina

Received: 11/22/2004 12:40

Prep(s): 8260B
Sample ID: GWS-4
Sampled: 11/23/2004
Matrix: Water
Analysis Flag: L8 (See Legend and Note Section)

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Benzene	ND	2.0	ug/L	4.00	11/23/2004 09:56	
Bromodichloromethane	ND	2.0	ug/L	4.00	11/23/2004 09:56	
Bromoforn	ND	2.0	ug/L	4.00	11/23/2004 09:56	
Bromomethane	ND	4.0	ug/L	4.00	11/23/2004 09:56	
Carbon tetrachloride	ND	2.0	ug/L	4.00	11/23/2004 09:56	
Chlorobenzene	ND	2.0	ug/L	4.00	11/23/2004 09:56	
Chloroethane	ND	4.0	ug/L	4.00	11/23/2004 09:56	
Chloroforn	ND	2.0	ug/L	4.00	11/23/2004 09:56	
Chloromethane	ND	4.0	ug/L	4.00	11/23/2004 09:56	
Dibromochloromethane	ND	2.0	ug/L	4.00	11/23/2004 09:56	
1,2-Dichlorobenzene	ND	2.0	ug/L	4.00	11/23/2004 09:56	
1,3-Dichlorobenzene	ND	2.0	ug/L	4.00	11/23/2004 09:56	
1,4-Dichlorobenzene	ND	2.0	ug/L	4.00	11/23/2004 09:56	
1,2-Dibromo-3-chloropropane	ND	4.0	ug/L	4.00	11/23/2004 09:56	
1,2-Dibromoethane (EDB)	ND	2.0	ug/L	4.00	11/23/2004 09:56	
Dichlorodifluoromethane	ND	2.0	ug/L	4.00	11/23/2004 09:56	
1,1-Dichloroethane	ND	2.0	ug/L	4.00	11/23/2004 09:56	
1,2-Dichloroethane	ND	2.0	ug/L	4.00	11/23/2004 09:56	
1,1-Dichloroethene	ND	2.0	ug/L	4.00	11/23/2004 09:56	
cis-1,2-Dichloroethene	ND	2.0	ug/L	4.00	11/23/2004 09:56	
trans-1,2-Dichloroethene	ND	2.0	ug/L	4.00	11/23/2004 09:56	
1,2-Dichloropropane	ND	2.0	ug/L	4.00	11/23/2004 09:56	
Ethylbenzene	ND	2.0	ug/L	4.00	11/23/2004 09:56	
Methylene chloride	ND	20	ug/L	4.00	11/23/2004 09:56	
1,1,2,2-Tetrachloroethane	ND	2.0	ug/L	4.00	11/23/2004 09:56	
Tetrachloroethene	ND	2.0	ug/L	4.00	11/23/2004 09:56	
Toluene	ND	2.0	ug/L	4.00	11/23/2004 09:56	
1,1,1-Trichloroethane	ND	2.0	ug/L	4.00	11/23/2004 09:56	
1,1,2-Trichloroethane	ND	2.0	ug/L	4.00	11/23/2004 09:56	

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Volatile Organic Compounds by 8021B/8260B

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Project: 247-23
Grand Marina

Received: 11/22/2004 12:40

Prep(s): 8260B
Sample ID: GWS-4
Sampled: 11/23/2004
Matrix: Water
Analysis Flag: L8 (See Legend and Note Section)

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Trichloroethene	ND	2.0	ug/L	4.00	11/23/2004 09:56	
Trichlorofluoromethane	ND	4.0	ug/L	4.00	11/23/2004 09:56	
Trichlorotrifluoroethane	ND	2.0	ug/L	4.00	11/23/2004 09:56	
Vinyl chloride	ND	2.0	ug/L	4.00	11/23/2004 09:56	
Total xylenes	ND	4.0	ug/L	4.00	11/23/2004 09:56	
Surrogate(s)						
4-Bromofluorobenzene	105.1	79-118	%	4.00	11/23/2004 09:56	
1,2-Dichloroethane-d4	109.3	78-117	%	4.00	11/23/2004 09:56	
Toluene-d8	104.9	77-121	%	4.00	11/23/2004 09:56	

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Volatile Organic Compounds by 8021B/8260B

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Project: 247-23
Grand Marina

Received: 11/22/2004 12:40

Project: 247-23
Sample ID: GWS-5
Sample Name: Water
Matrix: Water
Test(s): 8260B
Lab ID: 2004-11-0682-5
Entered: 11/23/2004 10:30
QC Range: 2004-11-22-12:50

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Benzene	ND	0.50	ug/L	1.00	11/23/2004 10:30	
Bromodichloromethane	ND	0.50	ug/L	1.00	11/23/2004 10:30	
Bromoform	ND	0.50	ug/L	1.00	11/23/2004 10:30	
Bromomethane	ND	1.0	ug/L	1.00	11/23/2004 10:30	
Carbon tetrachloride	ND	0.50	ug/L	1.00	11/23/2004 10:30	
Chlorobenzene	ND	0.50	ug/L	1.00	11/23/2004 10:30	
Chloroethane	ND	1.0	ug/L	1.00	11/23/2004 10:30	
Chloroform	1.3	0.50	ug/L	1.00	11/23/2004 10:30	
Chloromethane	ND	1.0	ug/L	1.00	11/23/2004 10:30	
Dibromochloromethane	ND	0.50	ug/L	1.00	11/23/2004 10:30	
1,2-Dichlorobenzene	ND	0.50	ug/L	1.00	11/23/2004 10:30	
1,3-Dichlorobenzene	ND	0.50	ug/L	1.00	11/23/2004 10:30	
1,4-Dichlorobenzene	ND	0.50	ug/L	1.00	11/23/2004 10:30	
1,2-Dibromo-3-chloropropane	ND	1.0	ug/L	1.00	11/23/2004 10:30	
1,2-Dibromoethane (EDB)	ND	0.50	ug/L	1.00	11/23/2004 10:30	
Dichlorodifluoromethane	ND	0.50	ug/L	1.00	11/23/2004 10:30	
1,1-Dichloroethane	ND	0.50	ug/L	1.00	11/23/2004 10:30	
1,2-Dichloroethane	ND	0.50	ug/L	1.00	11/23/2004 10:30	
1,1-Dichloroethene	ND	0.50	ug/L	1.00	11/23/2004 10:30	
cis-1,2-Dichloroethene	ND	0.50	ug/L	1.00	11/23/2004 10:30	
trans-1,2-Dichloroethene	ND	0.50	ug/L	1.00	11/23/2004 10:30	
1,2-Dichloropropane	ND	0.50	ug/L	1.00	11/23/2004 10:30	
Ethylbenzene	ND	0.50	ug/L	1.00	11/23/2004 10:30	
Methylene chloride	ND	5.0	ug/L	1.00	11/23/2004 10:30	
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1.00	11/23/2004 10:30	
Tetrachloroethene	ND	0.50	ug/L	1.00	11/23/2004 10:30	
Toluene	ND	0.50	ug/L	1.00	11/23/2004 10:30	
1,1,1-Trichloroethane	ND	0.50	ug/L	1.00	11/23/2004 10:30	
1,1,2-Trichloroethane	ND	0.50	ug/L	1.00	11/23/2004 10:30	
Trichloroethene	ND	0.50	ug/L	1.00	11/23/2004 10:30	

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Volatile Organic Compounds by 8021B/8260B

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Project: 247-23
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Received: 11/22/2004 12:40

Project: 247-23
Sample ID: GWS-5
Sample Name: Water
Matrix: Water
Test(s): 8260B
Lab ID: 2004-11-0682-5
Entered: 11/23/2004 10:30
QC Range: 2004-11-22-12:50

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Trichlorofluoromethane	ND	1.0	ug/L	1.00	11/23/2004 10:30	
Trichlorotrifluoroethane	ND	0.50	ug/L	1.00	11/23/2004 10:30	
Vinyl chloride	ND	0.50	ug/L	1.00	11/23/2004 10:30	
Total xylenes	ND	1.0	ug/L	1.00	11/23/2004 10:30	
Surrogate(s)						
4-Bromofluorobenzene	106.9	79-118	%	1.00	11/23/2004 10:30	
1,2-Dichloroethane-d4	114.7	78-117	%	1.00	11/23/2004 10:30	
Toluene-d8	106.6	77-121	%	1.00	11/23/2004 10:30	

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Volatile Organic Compounds by 8021B/8260B

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Project: 247-23
Grand Marina

Received: 11/22/2004 12:40

Prep(s): 5060B Test(s): 8260B
Sample ID: GWS-6 Lab ID: 2004-11-062-6
Sampled: 11/19/2004 Extracted: 11/23/2004 11:03
Matrix: Water GC Batch#: 2004/11/23/10-00
Analysis Flag: L1 (See Legend and Note Section)

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Benzene	ND	5.0	ug/L	10.00	11/23/2004 11:03	
Bromodichloromethane	ND	5.0	ug/L	10.00	11/23/2004 11:03	
Bromoform	ND	5.0	ug/L	10.00	11/23/2004 11:03	
Bromomethane	ND	10	ug/L	10.00	11/23/2004 11:03	
Carbon tetrachloride	ND	5.0	ug/L	10.00	11/23/2004 11:03	
Chlorobenzene	ND	5.0	ug/L	10.00	11/23/2004 11:03	
Chloroethane	ND	10	ug/L	10.00	11/23/2004 11:03	
Chloroform	ND	5.0	ug/L	10.00	11/23/2004 11:03	
Chloromethane	ND	10	ug/L	10.00	11/23/2004 11:03	
Dibromochloromethane	ND	5.0	ug/L	10.00	11/23/2004 11:03	
1,2-Dichlorobenzene	ND	5.0	ug/L	10.00	11/23/2004 11:03	
1,3-Dichlorobenzene	ND	5.0	ug/L	10.00	11/23/2004 11:03	
1,4-Dichlorobenzene	ND	5.0	ug/L	10.00	11/23/2004 11:03	
1,2-Dibromo-3-chloropropane	ND	10	ug/L	10.00	11/23/2004 11:03	
1,2-Dibromoethane (EDB)	ND	5.0	ug/L	10.00	11/23/2004 11:03	
Dichlorodifluoromethane	ND	5.0	ug/L	10.00	11/23/2004 11:03	
1,1-Dichloroethane	ND	5.0	ug/L	10.00	11/23/2004 11:03	
1,2-Dichloroethane	ND	5.0	ug/L	10.00	11/23/2004 11:03	
1,1-Dichloroethene	ND	5.0	ug/L	10.00	11/23/2004 11:03	
cis-1,2-Dichloroethene	ND	5.0	ug/L	10.00	11/23/2004 11:03	
trans-1,2-Dichloroethene	ND	5.0	ug/L	10.00	11/23/2004 11:03	
1,2-Dichloropropane	ND	5.0	ug/L	10.00	11/23/2004 11:03	
Ethylbenzene	8.8	5.0	ug/L	10.00	11/23/2004 11:03	
Methylene chloride	ND	50	ug/L	10.00	11/23/2004 11:03	
1,1,2,2-Tetrachloroethane	ND	5.0	ug/L	10.00	11/23/2004 11:03	
Tetrachloroethene	ND	5.0	ug/L	10.00	11/23/2004 11:03	
Toluene	6.9	5.0	ug/L	10.00	11/23/2004 11:03	
1,1,1-Trichloroethane	ND	5.0	ug/L	10.00	11/23/2004 11:03	
1,1,2-Trichloroethane	ND	5.0	ug/L	10.00	11/23/2004 11:03	

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Tel 925 484 1919 Fax 925 484 1096 * www.stl-inc.com * CA DHS ELAP# 2496

11/23/2004 *

Volatile Organic Compounds by 8021B/8260B

Lowney & Associates Oakland
Attn.: Tom McCloskey
167 Filbert Street
Oakland, CA 94607
Phone: (510) 267-1970 Fax: (510) 267-1972
Project: 247-23
Grand Marina

Received: 11/22/2004 12:40

Prep(s): 5060B Test(s): 8260B
Sample ID: GWS-6 Lab ID: 2004-11-062-6
Sampled: 11/19/2004 Extracted: 11/23/2004 11:03
Matrix: Water GC Batch#: 2004/11/23/10-00
Analysis Flag: L1 (See Legend and Note Section)

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Trichloroethene	ND	5.0	ug/L	10.00	11/23/2004 11:03	
Trichlorofluoromethane	ND	10	ug/L	10.00	11/23/2004 11:03	
Trichlorotrifluoroethane	ND	5.0	ug/L	10.00	11/23/2004 11:03	
Vinyl chloride	ND	5.0	ug/L	10.00	11/23/2004 11:03	
Total xylenes	12	10	ug/L	10.00	11/23/2004 11:03	
<i>Surrogate(s)</i>						
4-Bromofluorobenzene	114.9	79-118	%	10.00	11/23/2004 11:03	
1,2-Dichloroethane-d4	105.6	78-117	%	10.00	11/23/2004 11:03	
Toluene-d8	106.6	77-121	%	10.00	11/23/2004 11:03	

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Volatile Organic Compounds by 8021B/8260B

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167 Filbert Street
Oakland, CA 94607
Phone: (510) 267-1970 Fax (510) 267-1972

Project: 247-23
Grand Marina

Received: 11/22/2004 12:40

Batch QC Report					
Project: 247-23	Method: Blank	Matrix: Water	Client: L&A	Lab: STL	Date: 11/23/2004 07:52
File: 2004-11-23-1A-07-003			QC Batch: 2004-11-23-1A-01		Date Entered: 11/23/2004 07:52
Compound	Conc.	RL	Unit	Analyzed	Flag
Benzene	ND	0.5	ug/L	11/23/2004 07:52	
Bromodichloromethane	ND	0.5	ug/L	11/23/2004 07:52	
Bromoform	ND	0.5	ug/L	11/23/2004 07:52	
Bromomethane	ND	1.0	ug/L	11/23/2004 07:52	
Carbon tetrachloride	ND	0.5	ug/L	11/23/2004 07:52	
Chlorobenzene	ND	0.5	ug/L	11/23/2004 07:52	
Chloroethane	ND	1.0	ug/L	11/23/2004 07:52	
Chloroform	ND	0.5	ug/L	11/23/2004 07:52	
Chloromethane	ND	1.0	ug/L	11/23/2004 07:52	
Dibromochloromethane	ND	0.5	ug/L	11/23/2004 07:52	
1,2-Dichlorobenzene	ND	0.5	ug/L	11/23/2004 07:52	
1,3-Dichlorobenzene	ND	0.5	ug/L	11/23/2004 07:52	
1,4-Dichlorobenzene	ND	0.5	ug/L	11/23/2004 07:52	
1,2-Dibromo-3-chloropropane	ND	1.0	ug/L	11/23/2004 07:52	
1,2-Dibromoethane	ND	0.5	ug/L	11/23/2004 07:52	
Dichlorodifluoromethane	ND	0.5	ug/L	11/23/2004 07:52	
1,1-Dichloroethane	ND	0.5	ug/L	11/23/2004 07:52	
1,2-Dichloroethane	ND	0.5	ug/L	11/23/2004 07:52	
1,1-Dichloroethene	ND	0.5	ug/L	11/23/2004 07:52	
cis-1,2-Dichloroethene	ND	0.5	ug/L	11/23/2004 07:52	
trans-1,2-Dichloroethene	ND	0.5	ug/L	11/23/2004 07:52	
1,2-Dichloropropane	ND	0.5	ug/L	11/23/2004 07:52	
Ethylbenzene	ND	0.5	ug/L	11/23/2004 07:52	
Methylene chloride	ND	5.0	ug/L	11/23/2004 07:52	
1,1,2,2-Tetrachloroethane	ND	0.5	ug/L	11/23/2004 07:52	
Tetrachloroethene	ND	0.5	ug/L	11/23/2004 07:52	
Toluene	ND	0.5	ug/L	11/23/2004 07:52	
1,1,1-Trichloroethane	ND	0.5	ug/L	11/23/2004 07:52	
1,1,2-Trichloroethane	ND	0.5	ug/L	11/23/2004 07:52	
Trichloroethene	ND	0.5	ug/L	11/23/2004 07:52	

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Volatile Organic Compounds by 8021B/8260B

Lowney & Associates Oakland
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Phone: (510) 267-1970 Fax: (510) 267-1972

Project: 247-23
Grand Marina

Received: 11/22/2004 12:40

Batch QC Report					
Project: 247-23	Method: Blank	Matrix: Water	Client: L&A	Lab: STL	Date: 11/23/2004 07:52
File: 2004-11-23-1A-07-003			QC Batch: 2004-11-23-1A-01		Date Entered: 11/23/2004 07:52
Compound	Conc.	RL	Unit	Analyzed	Flag
Trichlorofluoromethane	ND	1.0	ug/L	11/23/2004 07:52	
Trichlorotrifluoroethane	ND	0.5	ug/L	11/23/2004 07:52	
Vinyl chloride	ND	0.5	ug/L	11/23/2004 07:52	
Total xylenes	ND	1.0	ug/L	11/23/2004 07:52	
Surrogates(s)					
4-Bromofluorobenzene	102.6	79-118	%	11/23/2004 07:52	
1,2-Dichloroethane-d4	103.0	78-117	%	11/23/2004 07:52	
Toluene-d8	104.2	77-121	%	11/23/2004 07:52	

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11/23/2004

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Volatile Organic Compounds by 8021B/8260B

Lowmeyer & Associates Oakland
 Attn: Tom McCloskey
 167 Filbert Street
 Oakland, CA 94607
 Phone: (510) 267-1970 Fax: (510) 267-1972
 Project: 247-23
 Grand Marina

Received: 11/22/2004 12:40

Batch: 8020B		Date: 11/23/2004 08:00	
Method: Blank		Date Extracted: 11/23/2004 08:00	
MB: 2004/11/23-1A-60-000			

Compound	Conc.	RL	Unit	Analyzed	Flag
Benzene	ND	0.5	ug/L	11/23/2004 08:00	
Bromodichloromethane	ND	0.5	ug/L	11/23/2004 08:00	
Bromoform	ND	0.5	ug/L	11/23/2004 08:00	
Bromomethane	ND	1.0	ug/L	11/23/2004 08:00	
Carbon tetrachloride	ND	0.5	ug/L	11/23/2004 08:00	
Chlorobenzene	ND	0.5	ug/L	11/23/2004 08:00	
Chloroethane	ND	1.0	ug/L	11/23/2004 08:00	
Chloroform	ND	0.5	ug/L	11/23/2004 08:00	
Chloromethane	ND	1.0	ug/L	11/23/2004 08:00	
Dibromochloromethane	ND	0.5	ug/L	11/23/2004 08:00	
1,2-Dichlorobenzene	ND	0.5	ug/L	11/23/2004 08:00	
1,3-Dichlorobenzene	ND	0.5	ug/L	11/23/2004 08:00	
1,4-Dichlorobenzene	ND	0.5	ug/L	11/23/2004 08:00	
1,2-Dibromo-3-chloropropane	ND	1.0	ug/L	11/23/2004 08:00	
1,2-Dibromoethane	ND	0.5	ug/L	11/23/2004 08:00	
Dichlorodifluoromethane	ND	0.5	ug/L	11/23/2004 08:00	
1,1-Dichloroethane	ND	0.5	ug/L	11/23/2004 08:00	
1,2-Dichloroethane	ND	0.5	ug/L	11/23/2004 08:00	
1,1-Dichloroethene	ND	0.5	ug/L	11/23/2004 08:00	
cis-1,2-Dichloroethene	ND	0.5	ug/L	11/23/2004 08:00	
trans-1,2-Dichloroethene	ND	0.5	ug/L	11/23/2004 08:00	
1,2-Dichloropropane	ND	0.5	ug/L	11/23/2004 08:00	
Ethylbenzene	ND	0.5	ug/L	11/23/2004 08:00	
Methylene chloride	ND	5.0	ug/L	11/23/2004 08:00	
1,1,2,2-Tetrachloroethane	ND	0.5	ug/L	11/23/2004 08:00	
Tetrachloroethene	ND	0.5	ug/L	11/23/2004 08:00	
Toluene	ND	0.5	ug/L	11/23/2004 08:00	
1,1,1-Trichloroethane	ND	0.5	ug/L	11/23/2004 08:00	
1,1,2-Trichloroethane	ND	0.5	ug/L	11/23/2004 08:00	
Trichloroethene	ND	0.5	ug/L	11/23/2004 08:00	
Trichlorofluoromethane	ND	1.0	ug/L	11/23/2004 08:00	

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Volatile Organic Compounds by 8021B/8260B

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 167 Filbert Street
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 Phone: (510) 267-1970 Fax: (510) 267-1972
 Project: 247-23
 Grand Marina

Received: 11/22/2004 12:40

Batch: 8020B		Date: 11/23/2004 08:00	
Method: Blank		Date Extracted: 11/23/2004 08:00	
MB: 2004/11/23-1A-60-000			

Compound	Conc.	RL	Unit	Analyzed	Flag
Trichlorotrifluoroethane	ND	0.5	ug/L	11/23/2004 08:00	
Vinyl chloride	ND	0.5	ug/L	11/23/2004 08:00	
Total xylenes	ND	1.0	ug/L	11/23/2004 08:00	
Surrogates(s)					
4-Bromofluorobenzene	107.8	79-118	%	11/23/2004 08:00	
1,2-Dichloroethane-d4	105.8	78-117	%	11/23/2004 08:00	
Toluene-d8	107.8	77-121	%	11/23/2004 08:00	

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11/23/2004

Volatile Organic Compounds by 8021B/8260B

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Phone: (510) 267-1970 Fax: (510) 267-1972

Project: 247-23
Grand Marina

Received: 11/22/2004 12:40

Batch: 8021B				Batch: 8260B			
Laboratory Control Spikes		Water		QC Batch # 2004/11/23-1A.D		QC Batch # 2004/11/23-1A.D	
LCS		LCS		Extracted: 11/23/2004		Analyzed: 11/23/2004 07:2	

Compound	Conc. ug/L		Exp. Conc.	Recovery %		RPD	Ctrl. Limits %		Flags
	LCS	LCSD		LCS	LCSD		Rec.	RPD	
Benzene	18.6		20	93.0			69-129	20	
Chlorobenzene	22.0		20	110.0			61-121	20	
1,1-Dichloroethene	15.6		20	78.0			65-125	20	
Toluene	20.4		20	102.0			70-130	20	
Trichloroethene	19.1		20	95.5			74-134	20	
Surrogates(s)									
4-Bromofluorobenzene	509		500	101.8			79-118		
1,2-Dichloroethane-d4	503		500	100.6			78-117		
Toluene-d8	515		500	103.0			77-121		

Volatile Organic Compounds by 8021B/8260B

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Project: 247-23
Grand Marina

Received: 11/22/2004 12:40

Batch: 8021B				Batch: 8260B			
Laboratory Control Spikes		Water		QC Batch # 2004/11/23-1A.D		QC Batch # 2004/11/23-1A.D	
LCS		LCS		Extracted: 11/23/2004		Analyzed: 11/23/2004 07:	

Compound	Conc. ug/L		Exp. Conc.	Recovery %		RPD	Ctrl. Limits %		Flags
	LCS	LCSD		LCS	LCSD		Rec.	RPD	
Benzene	17.4		20	87.0			69-129	20	
Chlorobenzene	21.0		20	105.0			61-121	20	
1,1-Dichloroethene	15.5		20	77.5			65-125	20	
Toluene	18.8		20	94.0			70-130	20	
Trichloroethene	16.7		20	83.5			74-134	20	
Surrogates(s)									
4-Bromofluorobenzene	539		500	107.8			79-118		
1,2-Dichloroethane-d4	496		500	99.2			78-117		
Toluene-d8	522		500	104.4			77-121		

Volatile Organic Compounds by 8021B/8260B

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Project: 247-23
Grand Marina

Received: 11/22/2004 12:40

Batch QC Report			
Project:	5000B	Client:	8260B
Matrix Spike (MS/MSD)	Water	QC Batch #	2004-11-23-1A.0
MS/MSD		Lab ID:	2004-11-0594-00
MS:	2004/11/23-1A-07-010	Extracted:	11/23/2004 11:41
		Analyzed:	11/23/2004 12:21
		Diluted:	1.0
MSD:	2004/11/23-1A-07-011	Extracted:	11/23/2004 12:21
		Analyzed:	11/23/2004 12:21
		Diluted:	1.0

Compound	Conc.		Spk Level	Recovery %			Limits %		Flags		
	MS	MSD		Sample	ug/L	MS	MSD	RPD	Rec.	RPD	MS
Benzene	19.7	19.7	ND	20	98.5	98.5	0.0	69-129	20		
Chlorobenzene	22.5	22.9	ND	20	112.5	114.5	1.8	61-121	20		
1,1-Dichloroethene	15.5	16.3	ND	20	77.5	81.5	5.0	65-125	20		
Toluene	21.2	21.5	ND	20	106.0	107.5	1.4	70-130	20		
Trichloroethene	20.0	20.1	ND	20	100.0	100.5	0.5	74-134	20		
Surrogate(s)											
4-Bromofluorobenzene	503	517		500	100.7	103.4		79-118			
1,2-Dichloroethane-d4	513	528		500	102.7	105.6		78-117			
Toluene-d8	518	516		500	103.7	103.2		77-121			

Volatile Organic Compounds by 8021B/8260B

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Project: 247-23
Grand Marina

Received: 11/22/2004 12:40

Batch QC Report			
Project:	5000B	Client:	8260B
Matrix Spike (MS/MSD)	Water	QC Batch #	2004-11-23-1A.0
MS/MSD		Lab ID:	2004-11-0594-00
MS:	2004/11/23-1A-07-010	Extracted:	11/23/2004 11:41
		Analyzed:	11/23/2004 12:21
		Diluted:	1.0
MSD:	2004/11/23-1A-07-011	Extracted:	11/23/2004 12:21
		Analyzed:	11/23/2004 12:21
		Diluted:	1.0

Compound	Conc.		Spk Level	Recovery %			Limits %		Flags		
	MS	MSD		Sample	ug/L	MS	MSD	RPD	Rec.	RPD	MS
1,1-Dichloroethene	16.4	16.1	ND	20	82.0	80.5	1.8	65-125	20		
Trichloroethene	17.5	17.3	ND	20	87.5	86.5	1.1	74-134	20		
Chlorobenzene	21.7	21.7	ND	20	108.5	108.5	0.0	61-121	20		
Surrogate(s)											
4-Bromofluorobenzene	524	535		500	104.8	107.0		79-118			
1,2-Dichloroethane-d4	554	559		500	110.7	111.8		78-117			
Toluene-d8	542	523		500	108.5	104.6		77-121			

Volatile Organic Compounds by 8021B/8260B

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Grand Marina

Received: 11/22/2004 12:40



Analysis Flag

L1

Reporting limits raised due to high level of non-target analyte materials.

L5

Reporting limits elevated due to matrix interference.

Gasoline

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Project: 247-23
Grand Marina

Received: 11/22/2004 12:40

Samples Reported

Sample ID	Date	Matrix	Count
GWS-1	11/19/2004	Water	1
GWS-2	11/19/2004	Water	2
GWS-3	11/19/2004	Water	3
GWS-4	11/19/2004	Water	4
GWS-5	11/19/2004	Water	5
GWS-6	11/19/2004	Water	6

Gasoline

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Project: 247-23
Grand Marina

Received: 11/22/2004 12:40

Project: 247-23	Test(s): 8016M
Sample ID: GWS-1	Lab ID: 2004-11-0682-1
Sampled: 11/19/2004	Extruded: 11/23/2004 06:05
Matrix: Water	QC Batch#: 2004-11-22-02-05

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Gasoline	210	50	ug/L	1.00	11/23/2004 06:05	Q1
<i>Surrogate(s)</i>						
4-Bromofluorobenzene-FID	83.2	50-150	%	1.00	11/23/2004 06:05	

Gasoline

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Project: 247-23
Grand Marina

Received: 11/22/2004 12:40

Project: 247-23	Test(s): 8016M
Sample ID: GWS-2	Lab ID: 2004-11-0682-2
Sampled: 11/19/2004	Extruded: 11/23/2004 06:05
Matrix: Water	QC Batch#: 2004-11-22-02-05

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Gasoline	400	50	ug/L	1.00	11/23/2004 06:38	Q1
<i>Surrogate(s)</i>						
4-Bromofluorobenzene-FID	145.1	50-150	%	1.00	11/23/2004 06:38	

Gasoline

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Project: 247-23
Grand Marina

Received: 11/22/2004 12:40

Prep: 6830
Sample ID: 6830
Sample: 6830
Matrix: Water

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Gasoline	79	50	ug/L	1.00	11/23/2004 07:11	Q1
<i>Surrogate(s)</i>						
4-Bromofluorobenzene-FID	78.5	50-150	%	1.00	11/23/2004 07:11	

Gasoline

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Project: 247-23
Grand Marina

Received: 11/22/2004 12:40

Prep: 6830
Sample ID: 6830
Sample: 6830
Matrix: Water

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Gasoline	ND	50	ug/L	1.00	11/23/2004 07:44	
<i>Surrogate(s)</i>						
4-Bromofluorobenzene-FID	81.7	50-150	%	1.00	11/23/2004 07:44	

Gasoline

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Grand Marina

Received: 11/22/2004 12:40

Prep(s): 8015M
Sample ID: GWS-3
Lab ID: 200411220682
Sampled: 11/23/2004 04:27
Matrix: Water
GC Batch#: 200411220205

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Gasoline	ND	50	ug/L	1.00	11/23/2004 04:27	
<i>Surrogate(s)</i>						
4-Bromofluorobenzene-FID	80.3	50-150	%	1.00	11/23/2004 04:27	

Gasoline

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Project: 247-23
Grand Marina

Received: 11/22/2004 12:40

Prep(s): 8015M
Sample ID: GWS-3
Lab ID: 200411220682
Sampled: 11/23/2004
Matrix: Water
GC Batch#: 200411220205

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Gasoline	5800	1300	ug/L	25.00	11/23/2004 12:41	
<i>Surrogate(s)</i>						
4-Bromofluorobenzene-FID	74.9	50-150	%	25.00	11/23/2004 12:41	

Gasoline

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Project: 247-23
Grand Marina

Received: 11/22/2004 12:40

Compound	Conc.	RL	Unit	Analyzed	Flag
Gasoline	ND	50	ug/L	11/23/2004 03:22	
Surrogates(s)					
4-Bromofluorobenzene-FID	72.7	50-150	%	11/23/2004 03:22	

Gasoline

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Grand Marina

Received: 11/22/2004 12:40

Compound	Conc.	RL	Unit	Analyzed	Flag
Gasoline	ND	50	ug/L	11/23/2004 10:29	
Surrogates(s)					
4-Bromofluorobenzene-FID	79.4	50-150	%	11/23/2004 10:29	

Gasoline

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Project: 247-23
Grand Marina

Received: 11/22/2004 12:40

Batch GC Report											
Laboratory Control Spike										Water	
GC Batch # 2004/11/22-02.01										QC Batch # 2004/11/22-02.01	
LCS 2004/11/22-02.05-037										Extracted: 11/23/2004	Analyzed: 11/23/2004 03:51
Compound	Conc. ug/L		Exp. Conc.	Recovery %		RPD	Ctrl. Limits %		Flags		
	LCS	LCSD		LCS	LCSD		%	Rec.	RPD	LCS	LCSD
Gasoline	247		250	98.8			75-125	20			
<i>Surrogates(s)</i> 4-Bromofluorobenzene-FID	399		500	79.8			50-150				

Gasoline

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Batch GC Report											
Laboratory Control Spike										Water	
GC Batch # 2004/11/22-01.01										QC Batch # 2004/11/22-01.01	
LCS 2004/11/22-01.05-003										Extracted: 11/23/2004	Analyzed: 11/23/2004 11:51
Compound	Conc. ug/L		Exp. Conc.	Recovery %		RPD	Ctrl. Limits %		Flags		
	LCS	LCSD		LCS	LCSD		%	Rec.	RPD	LCS	LCSD
Gasoline	263		250	105.2			75-125	20			
<i>Surrogates(s)</i> 4-Bromofluorobenzene-FID	416		500	83.2			50-150				

Gasoline

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Main Spike (MS / MSD)		Water	GC Batch # 2004-11-22-02-0
MS	2004-11-22-02-05-000	Extracted: 11/22/2004	Lab ID: 2004-11-0682-001
MSD	2004-11-22-02-05-000	Extracted: 11/22/2004	Analysis: 11/23/2004 05:01
			Dilution: 1.01
			Recovery: 11/23/2004 05:33
			Injection: 1.01

Compound	Conc. ug/L			Spk Level	Recovery %			Limits %		Flags	
	MS	MSD	Sample		MS	MSD	RPD	Rec.	RPD	MS	MSD
Gasoline	313	270	ND	250	125.2	108.0	14.8	65-135	20		
Surrogate(s)											
4-Bromofluorobenzene-FID	408	412		500	81.5	82.4		50-150			

Gasoline

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Main Spike (MS / MSD)		Water	GC Batch # 2004-11-22-01-04
MS	2004-11-22-01-05-000	Extracted: 11/22/2004	Lab ID: 2004-11-0682-001
MSD	2004-11-22-01-05-000	Extracted: 11/22/2004	Analysis: 11/23/2004 14:21
			Dilution: 25.0
			Recovery: 11/23/2004 14:21
			Injection: 25.01

Compound	Conc. ug/L			Spk Level	Recovery %			Limits %		Flags	
	MS	MSD	Sample		MS	MSD	RPD	Rec.	RPD	MS	MSD
Gasoline	11300	10500	5840	6250	87.4	74.6	15.8	65-135	20		
Surrogate(s)											
4-Bromofluorobenzene-FID	376	415		500	75.3	83.1		50-150			

Gasoline

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Legend and Notes

Result Flag

Q1

Quantit. of unknown hydrocarbon(s) in sample based on gasoline.

Gas/BTEX Compounds (High Level)

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Samples Reported

Sample Name	Date Sampled	Matrix	Lab
GWS-1@6 1/2-7	11/19/2004	Soil	7
GWS-2@7 1/2-8	11/19/2004	Soil	8
GWS-4@6-6 1/2	11/19/2004	Soil	9
GWS-6@6 1/2-7	11/19/2004	Soil	1

Gas/BTEX Compounds (High Level)

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Preps: 6020 Tests: 80150
Sample ID: GWS-101-124 Lab ID: 2004-11-0882-7
Sample: 11/23/2004 Collection: 11/22/2004 12:40
Matrix: Soil GC Batch: 2004/11/22/0501

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Gasoline	48	10	mg/Kg	1.00	11/23/2004 03:44	Q1
<i>Surrogate(s)</i>						
4-Bromofluorobenzene-FID	116.6	58-124	%	1.00	11/23/2004 03:44	

Gas/BTEX Compounds (High Level)

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Project: 247-23
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Received: 11/22/2004 12:40

Preps: 6020 Tests: 80150
Sample ID: GWS-207-124 Lab ID: 2004-11-0882-7
Sample: 11/23/2004 Collection: 11/22/2004 12:40
Matrix: Soil GC Batch: 2004/11/22/0501
Analysis Map: 12. (See legend and Note Section)

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Gasoline	840	50	mg/Kg	5.00	11/23/2004 09:57	Q1
<i>Surrogate(s)</i>						
4-Bromofluorobenzene-FID	NA	58-124	%	1.00	11/23/2004 09:57	S3

Gas/BTEX Compounds (High Level)

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Project: 247-23
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Received: 11/22/2004 12:40

Project: 247-23
Sample ID: AWS-000001
Sample Date: 11/23/2004
Matrix: Soil
Tested: 11/23/2004
Lab ID: 2004-11-0682-8
Extraction: 11/23/2004 14:30
GC Batch: 2004-11-22-05-01

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Gasoline	54	10	mg/Kg	1.00	11/23/2004 04:52	Q1
<i>Surrogate(s)</i>						
4-Bromofluorobenzene-FID	104.4	58-124	%	1.00	11/23/2004 04:52	

Gas/BTEX Compounds (High Level)

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Project: 247-23
Grand Marina

Received: 11/22/2004 12:40

Project: 247-23
Sample ID: GWS-005127
Sample Date: 11/23/2004
Matrix: Soil
Tested: 11/23/2004
Lab ID: 2004-11-0682-11
Extraction: 11/23/2004 14:30
GC Batch: 2004-11-22-05-01
Analysis Flag: L2 (See Legend and Note Section)

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Gasoline	640	50	mg/Kg	5.00	11/23/2004 10:31	Q1
<i>Surrogate(s)</i>						
4-Bromofluorobenzene-FID	NA	58-124	%	1.00	11/23/2004 10:31	S3

Gas/BTEX Compounds (High Level)

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Batch QC Report					
Event(s): 5030	Method Blank		QC Batch # 20041122050	Date Analyzed: 11/23/2004 00:55	
MB: 2004/11/22-05 01-08	Spike		Date Extracted: 11/22/2004 14:30		
Compound	Conc.	RL	Unit	Analyzed	Flag
Gasoline	ND	10	mg/Kg	11/23/2004 00:55	
Surrogates(s)					
4-Bromofluorobenzene-FID	97.8	58-124	%	11/23/2004 00:55	

Gas/BTEX Compounds (High Level)

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 Grand Marina

Received: 11/22/2004 12:40

Batch QC Report									
Event(s): 5030	Method Blank		QC Batch # 20041122050	Date Analyzed: 11/23/2004 00:55					
MB: 2004/11/22-05 01-08	Spike		Date Extracted: 11/22/2004 14:30						
Compound	Conc.	mg/Kg	Exp. Conc.	Recovery %	RPD	Ctrl.Limits %	Flags		
Gasoline	5.35	5.51	6.25	85.6	88.2	3.0	75-125	35	
Surrogates(s)									
4-Bromofluorobenzene-FID	478	479	500	95.6	95.8		58-124	0	

Gas/BTEX Compounds (High Level)

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Project: 247-23
Grand Marina

Received: 11/22/2004 12:40



Analysis Flag

L2

Reporting limits were raised due to high level of analyte present in the sample.

Result Flag

Q1

Quantit. of unknown hydrocarbon(s) in sample based on gasoline.

S3

Surrogate recovery not reportable due to required dilution.

TEPH w/ Silica Gel Clean-up

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Project: 247-23
Grand Marina

Received: 11/22/2004 12:40

Samples Reported

Sample Name	Date Sampled	Matrix	Lab
GWS-1@6 1/2-7	11/19/2004	Soil	7
GWS-2@7 1/2-8	11/19/2004	Soil	8
GWS-4@6-6 1/2	11/19/2004	Soil	9
GWS-6@6 1/2-7	11/19/2004	Soil	11

TEPH w/ Silica Gel Clean-up

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Project: 247-23
Grand Marina

Received: 11/22/2004 12:40

Project: 247-23
Sample ID: 247-23-10
Sample: 10/11/2004
Matrix: Soil
Analysis Flag: L2 (See Legend and Note Section)

Tests: 8015M
Lab ID: 2004-11-0602
Extracted: 11/23/2004 15:30
QC Batch#: 2004-11-02-00-10

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Diesel	9000	200	mg/Kg	200.00	11/23/2004 15:30	Q2
Motor Oil	23000	10000	mg/Kg	200.00	11/23/2004 15:30	Q3
Surrogate(s)						
o-Terphenyl	NA	60-130	%	200.00	11/23/2004 15:30	S3

TEPH w/ Silica Gel Clean-up

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Received: 11/22/2004 12:40

Project: 247-23
Sample ID: 247-23-10
Sample: 10/11/2004
Matrix: Soil
Analysis Flag: L2 (See Legend and Note Section)

Tests: 8015M
Lab ID: 2004-11-0602
Extracted: 11/23/2004 15:30
QC Batch#: 2004-11-02-00-10

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Diesel	41	1.0	mg/Kg	1.00	11/23/2004 16:08	Q2
Motor Oil	ND	50	mg/Kg	1.00	11/23/2004 16:08	
Surrogate(s)						
o-Terphenyl	60.6	60-130	%	1.00	11/23/2004 16:08	

TEPH w/ Silica Gel Clean-up

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Received: 11/22/2004 12:40

Prep(s): 3650/80/15M
 Sample ID: GWS-6@B-1/27
 Sampled: 11/19/2004
 Matrix: Soil
 Test(s): 8015M
 Lab ID: 2004-11-0682-11
 Extracted: 11/22/2004 15:15
 QC Batch#: 2004/11/22/06:10

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Diesel	92	1.0	mg/Kg	1.00	11/23/2004 14:10	Q2
Motor Oil	69	50	mg/Kg	1.00	11/23/2004 14:10	Q3
Surrogate(s) o-Terphenyl	65.2	60-130	%	1.00	11/23/2004 14:10	

TEPH w/ Silica Gel Clean-up

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 Grand Marina

Received: 11/22/2004 12:40

Prep(s): 3650/80/15M
 Sample ID: GWS-6@B-1/27
 Sampled: 11/19/2004
 Matrix: Soil
 Test(s): 8015M
 Lab ID: 2004-11-0682-11
 Extracted: 11/22/2004 15:15
 QC Batch#: 2004/11/22/06:10

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Diesel	280	2.0	mg/Kg	2.00	11/23/2004 14:37	Q2
Motor Oil	350	100	mg/Kg	2.00	11/23/2004 14:37	Q3
Surrogate(s) o-Terphenyl	85.3	60-130	%	2.00	11/23/2004 14:37	

TEPH w/ Silica Gel Clean-up

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Batch QC Report					
Project: 247-23	Soil	IGT Batch # 11/22/2004 15:11	Date Analyzed: 11/23/2004 13:17		
Method Blank					
Compound	Conc.	RL	Unit	Analyzed	Flag
Diesel	ND	1	mg/Kg	11/23/2004 13:17	
Motor Oil	ND	50	mg/Kg	11/23/2004 13:17	
Surrogates(s)					
o-Terphenyl	78.7	60-130	%	11/23/2004 13:17	

TEPH w/ Silica Gel Clean-up

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Batch QC Report									
Project: 247-23	Soil	IGT Batch # 11/22/2004 15:11	Date Analyzed: 11/23/2004 13:17						
Laboratory Control Spike									
LCS	2004/11/22/04 10:00	Expanded: 11/22/2004	Analyzed: 11/23/2004 13:17						
LCSD	2004/11/22/04 10:00	Expanded: 11/22/2004	Analyzed: 11/23/2004 13:17						
Compound	Conc.	mg/Kg	Exp. Conc.	Recovery %		RPD	Ctrl. Limits %		Flags
	LCS	LCSD		LCS	LCSD	%	Rec.	RPD	LCS
Diesel	30.9	27.8	41.4	74.6	66.7	11.2	60-130	25	
Surrogates(s)									
o-Terphenyl	18.6	18.3	20.0	93.0	91.7		60-130	0	

TEPH w/ Silica Gel Clean-up

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Legend and Notes

Analysis Flag

L2

Reporting limits were raised due to high level of analyte present in the sample.

Result Flag

Q2

Quantit. of unknown hydrocarbon(s) in sample based on diesel.

Q3

Quantit. of unknown hydrocarbon(s) in sample based on motor oil.

S3

Surrogate recovery not reportable due to required dilution.

Total Extractable Petroleum Hydrocarbons (TEPH) by 8015m (Silical Gel Clean-up)

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Oakland, CA 94607
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Received: 11/22/2004 12:40

Samples Reported

Sample Name	Date Sampled	Matrix	Lab
GWS-1	11/19/2004	Water	1
GWS-2	11/19/2004	Water	2
GWS-3	11/19/2004	Water	3
GWS-4	11/19/2004	Water	4
GWS-5	11/19/2004	Water	5
GWS-6	11/19/2004	Water	6

Total Extractable Petroleum Hydrocarbons (TEPH) by 8015m (Silical Gel Clean-up)

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Prep(s):	8015M	Test(s):	8015M
Sample ID:	2004-11-0652-1	Lab ID:	2004-11-0652-1
Sample:	11/23/2004 14:17	Equation:	11/23/2004 14:17
Matrix:	Water	QC Batch#:	2004-11-22-05-11

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Diesel	55000	1300	ug/L	25.00	11/24/2004 16:58	Q2
Surrogate(s)						
o-Terphenyl	NA	78-177	%	25.00	11/24/2004 16:58	S3

Total Extractable Petroleum Hydrocarbons (TEPH) by 8015m (Silical Gel Clean-up)

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Prep(s):	8015	Test(s):	8015M
Sample ID:	2004-11-0652-2	Lab ID:	2004-11-0652-2
Sample:	11/23/2004	Equation:	11/23/2004 14:17
Matrix:	Water	QC Batch#:	2004-11-22-05-11

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Diesel	400	50	ug/L	1.00	11/23/2004 17:34	Q2
Surrogate(s)						
o-Terphenyl	147.1	78-177	%	1.00	11/23/2004 17:34	

Total Extractable Petroleum Hydrocarbons (TEPH) by 8015m (Silical Gel Clean-up)

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Preps: 2631 Date: 11/23/2004
Sample ID: GWS-1 Lab ID: 2004-11-0082-4
Sampled: 11/19/2004 Extracted: 11/23/2004 14:36
Matrix: Water Oil Blank: 2004/11/23-05-10

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Diesel	140	50	ug/L	1.00	11/23/2004 14:36	Q2
<i>Surrogate(s)</i>						
o-Terphenyl	146.6	78-177	%	1.00	11/23/2004 14:36	

Total Extractable Petroleum Hydrocarbons (TEPH) by 8015m (Silical Gel Clean-up)

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Project: 247-23
Grand Marina

Received: 11/22/2004 12:40

Preps: 2631 Date: 11/23/2004
Sample ID: GWS-1 Lab ID: 2004-11-0082-4
Sampled: 11/19/2004 Extracted: 11/23/2004 14:36
Matrix: Water Oil Blank: 2004/11/23-05-10

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Diesel	1100	50	ug/L	1.00	11/23/2004 15:09	Q2
<i>Surrogate(s)</i>						
o-Terphenyl	144.8	78-177	%	1.00	11/23/2004 15:09	

**APPENDIX C
GEOPHYSICAL SURVEY**

J R ASSOCIATES

Engineering Geophysics
1886 Emory Street
San Jose, CA 95126
(408) 293-7390

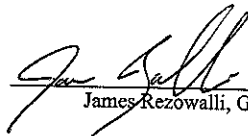
GEOPHYSICAL INVESTIGATION AT THE
GRAND MARINA VILLAGE
ALAMEDA, CALIFORNIA

November 30, 2004

For

Lowney Associates
405 Clyde Avenue
Mountain View, CA 94043

By


James Rezowalli, GP-921

LOVNEY ASSOCIATES
Environmental/Geotechnical/Engineering Services

Appendix C
247-23

TABLE OF CONTENTS

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III RESULTS	3
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LIST OF ILLUSTRATIONS

-
- Drawing 1 Vicinity Map
 - Drawing 2 Site Map
 - Drawing 3 Magnetic Contour Map

I INTRODUCTION

This report presents the results of a geophysical investigation performed at the Grand Marina Village in Alameda, California (Drawing 1). The investigation was performed for Lowney Associates by J R Associates. The purpose of the investigation was to look for geophysical indications of buried fuel storage tanks. James Rezowalli, Principal Geophysicist, and Bob Wing, Technician, of J R Associates performed the field work in November of 2004.

A. Site

The site is located at 2041, 2043, 2045, 2047 and 2051 Grand Street in Alameda. The site presently consists of several buildings surrounded by paved driveways. There was concern that a fuel storage tank may have been buried near building D (Drawing 2). The purpose of this investigation was to look for geophysical indications of buried fuel storage tanks in the vicinity of building D.

II METHODS

We performed a magnetic investigation to look for magnetic anomalies indicative of buried tanks. A magnetic investigation maps the earth's magnetic field. The magnetic field is uniform throughout a site free of metal. The magnetic field at a site that contains ferrous metal is not uniform. Metal objects produce magnetic anomalies with characteristic shapes and magnitudes. For example, an anomaly caused by a buried tank consists of a strong magnetic low just south of the center of the tank and a weaker magnetic high just north of the tank's center. This type of anomaly is what we use to locate buried tanks.

A. Magnetic Instrumentation

We used a Geometrics model 856 proton precession magnetometer to collect magnetic data at the site. The magnetometer had two sensors and an electronics package. The magnetometer collected both total field data and vertical gradient data. The magnetometer can discriminate to 0.1 gammas in a total field of 40,000 to 60,000 gammas. Magnetic readings were stored in memory with the time of day, station numbers and line numbers of the readings. The data were downloaded to a computer and contoured.

B. Magnetic Field Procedures

The area where magnetic data were collected is shown on Drawing 2. Magnetic data were collected at ten-foot intervals throughout the area investigated. At the end of the field day the magnetic data were downloaded and contoured. An anomaly is indicated by a series of concentric magnetic contours.

IV DRAWINGS

III RESULTS

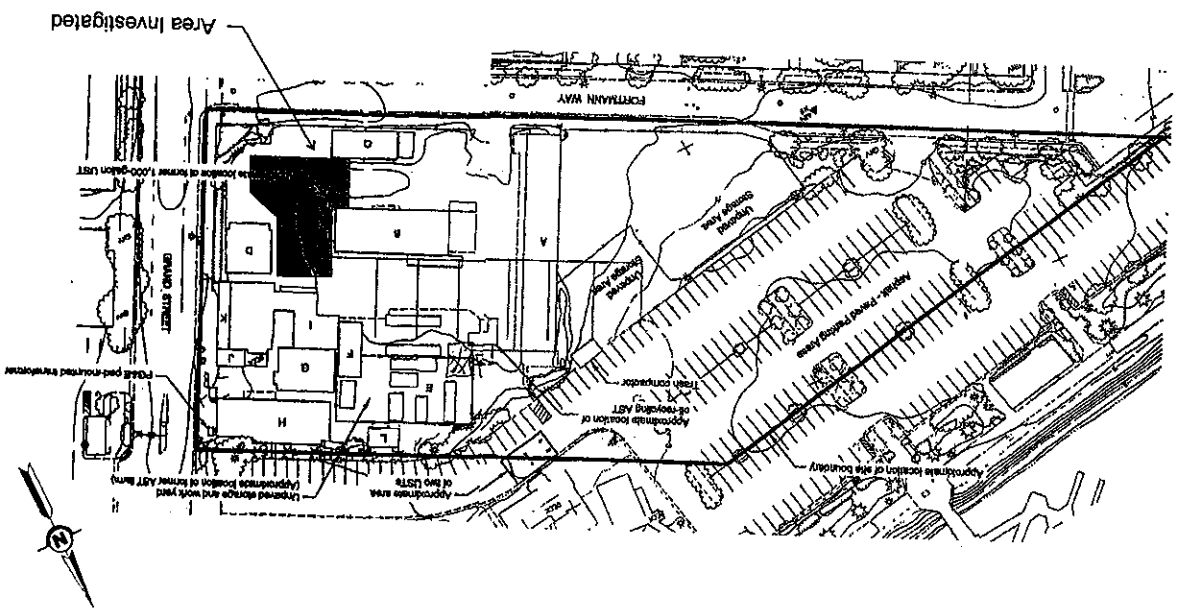
A. Magnetic Data

Drawing 3 shows the contour map of the magnetic data. There are several magnetic anomalies at the site. All the anomalies appear to be caused by surface metal and buried pipes. The surface metal included buildings and parked boat trailers. The buried pipes appear to be electrical, telephone and water lines running between the buildings. Much of the area we wanted to investigate was blocked by surface metal. There were no geophysical indications of a buried tank in the area we could investigate.

B. Limitations

Magnetic methods locate ferrous objects from the anomalies they produce in the earth's magnetic field. It is possible some ferrous objects will not produce an anomaly. Some possible reasons are that the object is buried too deep, the object is too small, the object is buried under or near another ferrous object or an object is buried near a utility. It is possible there are materials buried at the site that were not detected by the magnetometer.

DRAWING NUMBER: 2	
1886 Emory Street, San Jose, CA (408) 293-7390	
J R ASSOCIATES Civil and Environmental Geophysics	
DATE: 11-30-04	JOB NUMBER: J145-010-04
SCALE: No Scale	REVISIONS: REVISED
DRAWN BY: J.J.R.	
Site Map- Grand Marina Village Fortmann Way and Grand Street Alameda, California	



DRAWING NUMBER: 1	
1886 Emory Street, San Jose, CA (408) 293-7390	
J R ASSOCIATES Civil and Environmental Geophysics	
DATE: 11-30-04	JOB NUMBER: J145-010-04
SCALE: No Scale	REVISIONS: REVISED
DRAWN BY: J.J.R.	
Vicinity Map- Grand Marina Village Fortmann Way and Grand Street Alameda, California	



DRAWING NUMBER: 3	
1886 Emory Street, San Jose, CA (408) 283-7390	
J R Associates Civil and Environmental Geophysics	
DATE: 11-30-04	JOB NUMBER: J145-010-04
SCALE: 1" = 40'	DRAWN BY: J.J.R.
Alameda, California	
Fortmann Way and Grand Street	
Magnetic Map - Grand Marina Village	

