GEOMATIK ENVIRONMENTAL AND GEOLOGICAL SERVICES

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Ms. Patricia Fuller
Fuller Excavating and Demolition, Inc.
P.O. Box 6595
San Jose, California 95150

August 31, 1997
Project 702-QM3.rpt

Subject: Letter Report documenting Groundwater Sampling services at the Former Minami Nursery site located at the end of Penny Lane in San Lorenzo, California (Site ID No. 3817).

Ms. Fuller:

Per your request, GEOMATIK has prepared this letter report documenting the groundwater sampling services performed at the above-referenced site property in August 1997. You contracted with GEOMATIK to perform an episode of groundwater sampling of three groundwater monitoring wells (MW-1, MW-2, and MW-3) at the site property in San Lorenzo, California. It is my understanding that the scope of work was performed in response to a request of Mr. Jay Woidtke, attorney for the estate of Mr. George Minami, Jr., in preparation of the site for Case Closure by the Environmental Protection Division of the Department of Environmental Health of the Alameda County Health Care Services Agency (ACHCSA).

Site Description

The former Minami Nursery site is currently located on Penny Lane in San Lorenzo, California, as shown on the Site Vicinity Map (Figure No. 1). The site is currently a vacant lot that was originally a portion of the Minami Nursery property, which has been largely developed as a residential subdivision, as shown on the Site Location Map (Figure No. 2). The site is relatively flat and lies at an elevation of approximately 40 feet above Mean Sea Level. The site is currently vacant, except for a large stockpile of soil which is present in the central area of the site. Residential properties are located to the north, south, and east of the site, while

commercial businesses are located to the west of the site. The site boundaries and approximate locations of selected features on the site are shown on the Generalized Site Plan (Figure No. 3).

Regional and Local Hydrogeology

The site lies on the East Bay Plain between San Francisco Bay to the west and north, the Hayward Fault and foothills of the Diablo Range to the east, and the city limit of Hayward to the south. The East Bay Plain lies within the Coast Range geomorphic province and is characterized by broad alluvial fans deposited at the foot of the Diablo Range to the east. The broad alluvial fans slope westward to San Francisco Bay.

Within the East Bay Plain, the site is located in the west-central portion of the hydrogeologic zone known locally as San Lorenzo Cone (Hickenbottom and Muir, 1988). This cone consists of unconsolidated deposits in an alluvial fan formed by nearby San Lorenzo Creek (Muir, 1993). Interbedded fluvial deposits of the San Lorenzo Cone, including silt, sand, gravel, and clay, underlie the site (Helley et al., 1979). The soils encountered in previous borings at the site have consisted primarily of silty clay, sandy silt, silty sand, and clayey silt.

The framework of the hydrogeologic deposits in the site area consist of random continuous and discontinuous sequences of saturated coarse-grained zones that form aquifers in the site area (Muir, 1993). These aquifers are (from shallowest to deepest) the upper aquifer, the Newark Aquifer, the Centerville Equivalent Aquifer, the Fremont Aquifer and the Deeper Aquifer. The depths of these aquifers are estimated to range from the ground surface to 50 feet, 30 to 75 feet, 130 to 220 feet, 250 to 400 feet, and greater than 400 feet deep, respectively. These aquifers generally slope to the west (Maslonkowski, 1984). The Holocene-age unconsolidated alluvium of the upper aquifer yields small amounts of groundwater to wells sufficient only for local usage, since most of this younger alluvium lies above the regional zone of saturation (Muir, 1993).

The site is located approximately 3,000 feet north of Ward Creek, one mile east of Sulphur Creek, one mile south of San Lorenzo Creek, and two miles east of the eastern shoreline of San Francisco Bay. The active Hayward Fault is approximately two miles east of the site.

Groundwater levels encountered in previous work at the site show the depth to groundwater at the site to be approximately 15 to 20 feet below grade. The direction of groundwater flow has previously been measured to be towards the west-northwest.

Site History

Prior to the present investigation, others had performed environmental investigations at the site related to the removal of the two former USTs, including the following activities:

- a Preliminary Subsurface Assessment prior to removal of the USTs (Emcon Associates, December 1988);
- an Environmental Investigation related to the removal of the USTs and additional soil excavation (ESI, August 1990);
- documentation of the backfilling of the two excavations for the former USTs with clean fill (ESI, August 1990);
- a Work Plan discussing proposed work to evaluate the level of contamination residing in the stockpiled soil and the soil materials underlying the stockpiled soil, and proposed work to characterize the lateral extent of groundwater contamination beneath the site (ESI, October 1993);
- a Preliminary Site Assessment Investigation implementing the work proposed to evaluate the stockpiled soil, the subsurface soil, and the groundwater contamination beneath the site (FE&DI, June 1996); and
- monthly groundwater monitoring and quarterly groundwater sampling of the three groundwater monitoring wells (MW-1, MW-2, and MW-3) installed at the site (FE&DI, October 1996).

A summary of the previous work performed at the site was provided in the Preliminary Site Assessment Investigation conducted by Fuller Excavating and Demolition, Inc. (FE&DI) at the site in 1996 (FE&DI, June 1996). Figures showing the locations of the former USTs, the two excavations, the confirmatory soil samples, and the borings drilled by Emcon Associates are included in the ESI Workplan. Tables summarizing the results of the laboratory chemical analyses conducted by Emcon and ESI are also included in the ESI Workplan.

FIELD WORK

Groundwater Level Monitoring

On August 13, 1997 personnel from International Geologic of Oakland, California, measured the static water level in wells MW-2 and MW-3 to the nearest 0.01-foot using a Solinst® electric water-level sounder cleaned with Alconox® and tap water before use in each well. The liquid in each well was examined for visual evidence of hydrocarbons by gently lowering approximately half the length of a disposable bailer past the air / water interface. The water sample was then retrieved and inspected for floating product, sheen, emulsion, color, and clarity.

The static water level in groundwater monitoring well MW-1 was not measured because the well had been vandalized, and an obstruction is present in the well at an approximate depth of 8 feet.

The groundwater elevations for wells MW-2 and MW-3 were calculated by subtracting the depth-to-water (DTW) measurements from the surveyed elevation of the top of the well casing. The DTW measurements, wellhead elevations, and groundwater elevations are presented in Table 1, Cumulative Groundwater Monitoring Data, on the following page.

Groundwater Sampling

After measuring the static DTW level in each monitoring well, personnel from International Geologic purged and sampled groundwater monitoring wells MW-2 and MW-3 at the site. Field methods used during the purging and sampling are described in Appendix A of this report.

No evidence of measurable floating product was observed in each of the two wells. No evidence of hydrocarbon vapor was noted in the water samples collected from monitoring wells MW-2 and MW-3. Well Purge Data Sheets with the parameters monitored from the wells are included in Appendix B.

Approximately 18 gallons of water were purged from the two wells, and has been temporarily stored in the Department of Transportation (DOT) approved 55-gallon steel drums. This purge water remains the responsibility of the Property Owner.

TABLE 1
CUMULATIVE GROUNDWATER MONITORING DATA
Former Minami Nursery Site
Penny Lane
San Lorenzo, California

Well Date	Elevation of Wellhead	Depth to Water	Elevation of Groundwater	Field Observations
MW-1				
05/31/96	42.57	16.89	25.68	Noticeable Odor
06/04/96		16.92	25.65	Noticeable Odor
07/11/96		17.23	25.34	Noticeable Odor
08/26/96		17.59	24.98	Noticeable Odor
09/24/96		17.84	24.73	Noticeable Odor
10/31/96		17.97	24.60	Faint Odor
08/13/97		N.M.	N.C.	Well Vandalised
MW-2				
05/31/96	42.17	16.69	25.48	No Odor
06/04/96		16.65	25.52	No Odor
07/11/96		17.04	25.13	No Odor
08/26/96		17.31	24.86	No Odor
09/24/96		17.59	24.58	No Odor
10/31/96		17.72	24.45	No Odor
08/13/97		17.61	24.56	No Odor
MW-3				
05/31/96	43.01	17.75	25.26	No Odor
06/04/96		17.77	25.24	No Odor
07/11/96		18.06	24.95	No Odor
08/26/96		18.37	24.64	No Odor
09/24/96		18.60	24.41	No Odor
10/31/96		18.69	24.32	No Odor
08/13/97		18.53	24.48	No Odor

Wellhead Elevation based on benchmark: "HESP-BAR" a brass disc at the south end of the return on the southeast corner of the intersection of Hesperian Boulevard and Bartlett Avenue. Elevation taken as 43.73 feet above Mean Sea Level, City of San Lorenzo datum.

Elevations in feet above mean sea level. Depths in feet.

NM: Not Measured. NC: Not Calculated.

LABORATORY ANALYSES

Analytical Methods for Groundwater Samples

Groundwater samples collected from wells MW-2 and MW-3 were submitted with a Chain-of-Custody Record to the Priority Environmental Laboratory in Milpitas, California (ELAP No. 1708). The groundwater samples were analyzed for the following petroleum fuel compounds, as requested by the ACHCSA:

1) TPHg by GCFID (LUFT Method) following sample purge and trap by EPA Method 5030;
2) the volatile hydrocarbon fuel constituents benzene, toluene, ethylbenzene, and total xylenes (BTEX) by EPA Test Method 602;
3) the fuel oxygenate methyl tert-butyl ether (BTEX) by EPA Test Method 602;
4) TPHd using EPA Methods 3550 and modified 8015; and
5) TOG by EPA Standard Method 5520 C, D, and F.

Laboratory Results for Groundwater Samples

Laboratory results of the water samples collected from the two monitoring wells on August 13, 1997, indicated the following:

(1) A detectable concentration of TOG (1.3 parts per million [ppm]), a nondetectable concentration of TPHd (less than 50 parts per billion [ppb]), a nondetectable concentration of TPHg (less than 50 ppb), a nondetectable concentration of MTBE (less than 0.5 ppb), and nondetectable concentrations of each of the BTEX constituents (less than 0.5 ppb) were measured in the groundwater samples collected from monitoring well MW-2.

(2) A nondetectable concentration of TOG (less than 0.5 ppm), a nondetectable concentration of TPHd (less than 50 ppb), a nondetectable concentration of TPHg (less than 50 ppb), a nondetectable concentration of MTBE (less than 0.5 ppb), and nondetectable concentrations of each of the BTEX constituents (less than 0.5 ppb) were measured in the groundwater samples collected from monitoring well MW-3.

The results of the laboratory analyses of the groundwater samples are presented in Table 2, Cumulative Results of Laboratory Analyses of Groundwater Samples, on the following page, and the Laboratory Data Sheet is included in Appendix B.

TABLE 2
CUMULATIVE RESULTS OF LABORATORY ANALYSES
OF GROUNDWATER SAMPLES
Former Minami Nursery Site
Penny Lane
San Lorenzo, California

Well Date	TOG	TPHd	TPHg	B	T	E	X	MTBE
MW-1								
06/04/96	1,800	<50	4,100	4.2	4.2	6.0	36	<0.5
09/24/96	800	<50	4,700	4.5	2.4	12	21	NA
08/13/97	NA	NA	NA	NA	NA	NA	NA	NA
MW-2								
06/04/96	<500	<50	<50	<0.5	<0.5	<0.5	<0.5	<0.5
09/24/96	<500	<50	<50	<0.5	<0.5	<0.5	<0.5	NA
08/13/97	1,300	<50	<50	<0.5	<0.5	<0.5	<0.5	NA
MW-3								
06/04/96	<500	<50	<50	<0.5	<0.5	<0.5	<0.5	<0.5
09/24/96	<500	<50	<50	<0.5	<0.5	<0.5	<0.5	NA
08/13/97	<500	<50	<50	<0.5	<0.5	<0.5	<0.5	NA

All measurements are in parts per billion. TOG measurements converted to parts per billion from parts per million.

TPHd: Total Petroleum Hydrocarbons as diesel analyzed by EPA Methods 3550 and modified 8015.

TPHg: Total Petroleum Hydrocarbons as gasoline analyzed by EPA Methods 5330 and modified 8015.

Benzene, toluene, ethylbenzene, and total xylenes analyzed by EPA Methods 5030 and modified 602.

MTBE: Methyl Tertiary Butyl Ether analyzed by modified EPA Method 602.

TOG: Total Oil and Grease analyzed by EPA Standard Method 5520 C, D, and F.

<: Less than the laboratory detection limit = NonDetectable.

NA: Not Analyzed.

CONCLUSIONS

Based on the finding of this investigation and previous work performed at the site, GEOMATIK concludes the following:

Groundwater Gradient

Because an obstruction is present in groundwater monitoring well MW-1, the groundwater elevation could not be calculated. The groundwater elevations for wells MW-2 and MW-3 were calculated by subtracting the depth-to-water (DTW) measurements from the surveyed elevation of the top of each well casing. Using only these two wells, the approximate groundwater flow direction appears to be towards the west-northwest. This direction of groundwater flow is similar to the inferred direction of groundwater flow, based on the local topography, and previous measurements collected at the site in 1996.

Hydrocarbons in Groundwater

o The groundwater samples collected from well MW-2 indicate that groundwater has been minimally impacted by heavy petroleum hydrocarbons (TOG) and has not been impacted by petroleum fuel hydrocarbons (TPHd, TPHg, MTBE, and BTEX) in the site boundary area cross-gradient from the former USTs.

o The groundwater samples collected from well MW-3 indicate that groundwater has not been impacted by petroleum hydrocarbons (TOG, TPHd, TPHg, MTBE, and BTEX) in the site boundary area down-gradient from the former USTs.

These findings are consistent with the results of laboratory analyses of the "grab" groundwater samples collected by Emcon Associates in 1988 during their Phase II and III assessments. The nondetectable results for the petroleum fuel hydrocarbons (TPHd, TPHg, MTBE, and BTEX) measured in the groundwater samples from wells MW-2 and MW-3 suggest that the groundwater contamination detected in the immediate area of the former USTs appears to not have migrated the short distance (less than 100 feet) to well MW-3 which is located directly downgradient from well MW-1. This could be the result of the petroleum contaminants effectively being trapped along the asymmetrical stratigraphic contact of the water-bearing materials with the backfilled excavation materials adjacent to the water table level.

RECOMMENDATIONS

The Environmental Protection Division of the Department of Environmental Health of the Alameda County Health Care Services Agency (ACHCSA) is the local implementing agency (LIA) for the oversight of investigations and remediation of soil and groundwater contamination from USTs in the site area. The ACHCSA generally requires environmental investigations at UST sites with petroleum fuel-impacted soils and groundwater. The shallow depth to first groundwater, and the fact that the groundwater has been impacted beneath the site in the area of groundwater monitoring well MW-1 suggest that continued quarterly groundwater monitoring will be required for the site by the ACHCSA.

Based upon the above conclusions, to approach closure at this site, GEOMATIK recommends the following work:

- Continue quarterly sampling of the two downgradient wells MW-2 and MW-3 for a period of one year to evaluate trends in gasoline and fuel oil hydrocarbon concentrations in the groundwater beneath the site.

- Because groundwater monitoring well MW-1 has been vandalized, and an obstruction is present in the well at an approximate depth of 8 feet, the ACHCSA may require that this well be destroyed.

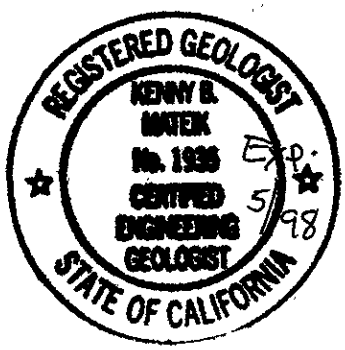
REPORT DISTRIBUTION

GEOMATIK recommends that copies of this report be forwarded to the following agency representative:

Ms. Amy Leech, R.E.H.S.
Hazardous Materials Specialist
Environmental Protection Division
Department of Environmental Health
Alameda County Health Care Services Agency
1131 Harbor Bay Parkway, Suite #250
Alameda, California 94502-6577

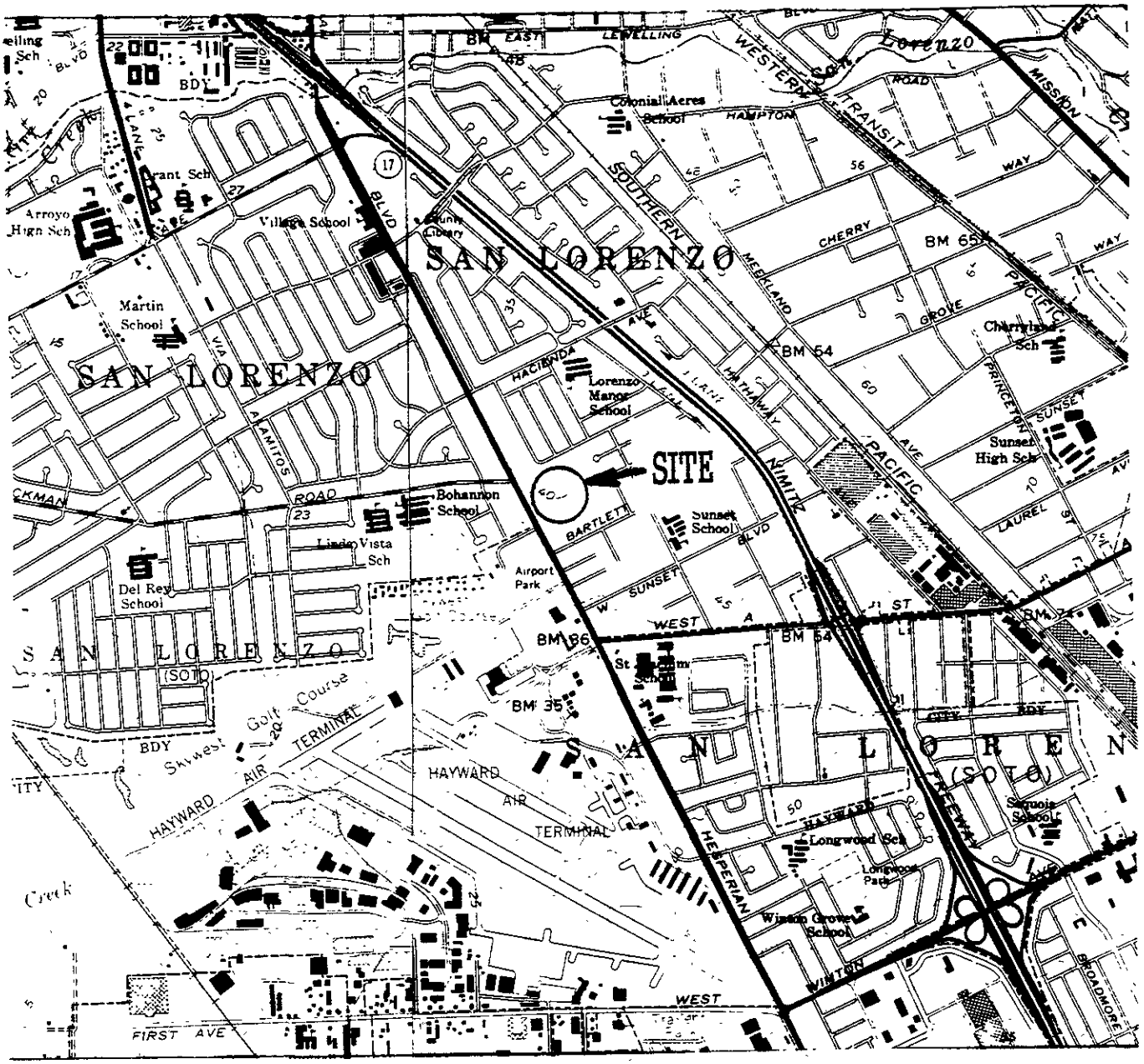
LIMITATIONS

This report was prepared in accordance with generally accepted standards of environmental, geological, and engineering practice in California at the time of the investigation. The investigation was conducted solely to evaluate environmental conditions of the shallow groundwater for gasoline and fuel oil hydrocarbons beneath the site in the area of two former USTs. No soil engineering or geotechnical implications are stated, nor should be inferred. Evaluation of the geologic conditions at the site for the purpose of this investigation is made from a limited number of observation points. Further investigation, including subsurface exploration and laboratory testing of soil and groundwater samples at the site, can aid in evaluating subsurface environmental conditions and reduce the inherent uncertainties associated with this type of limited investigation. Subsurface conditions may vary away from the data points available.



Ken Mateik

Ken Mateik
Registered Geologist
C.E.G. No. 1935

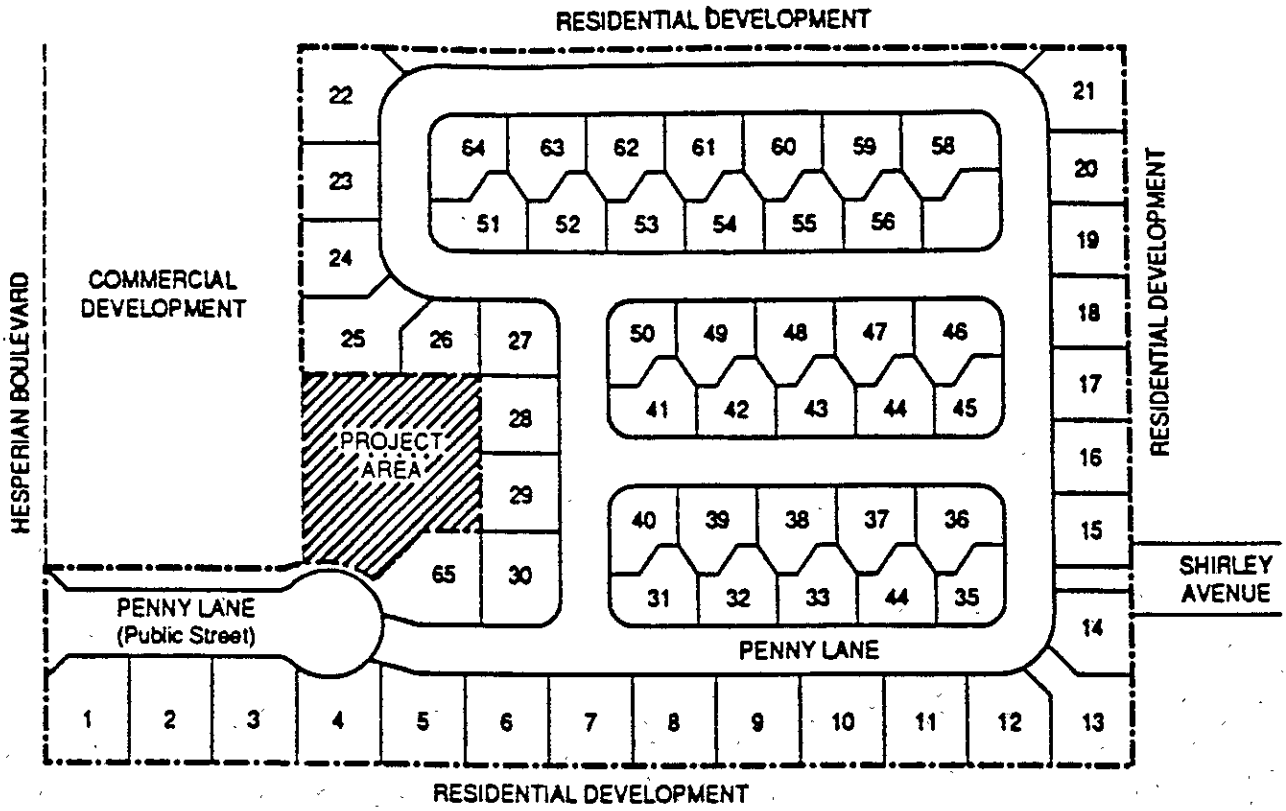


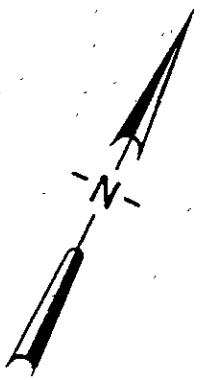
Base Map: United States Geological Survey 7.5-minute Topographic Quadrangle Maps, Hayward and San Leandro Maps. Photorevised 1980.

-N-

Map Scale: 1 inch = 2,000 feet

GEOMATIK	SITE VICINITY MAP Former Minami Nursery Site San Lorenzo, California	FIGURE NO. 1
Project No. 702-1		

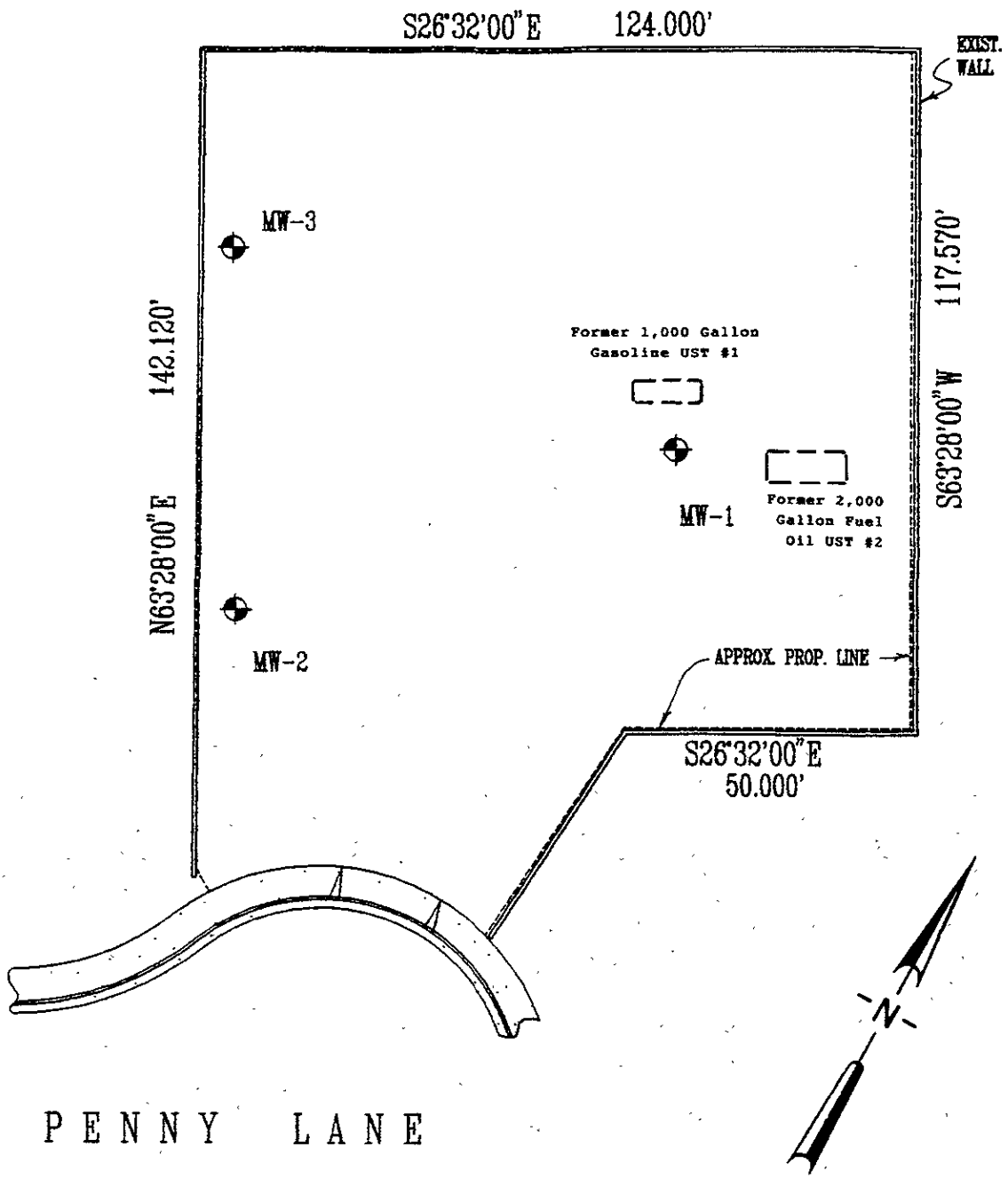




Base Map: Post - Redevelopment Site Plan for the Minami Nursery Property in Hayward, California. (ESI, 1993).

Map Scale: 1 inch = 150 feet

GEOMATIK	SITE LOCATION MAP Former Minami Nursery Site San Lorenzo, California	FIGURE NO. 2
Project No. 702-1		



Map Scale: 1 inch = 30 feet

Base Map: Site Survey Plat Map for the Former Minami Nursery Property in San Lorenzo, California. (Ron Archer Civil Engineering, 1996).

GEOMATIK	GENERALIZED SITE PLAN Former Minami Nursery Site San Lorenzo, California	FIGURE NO. 3
Project No. 702-1		

APPENDIX A

Field Protocol

FIELD PROTOCOL

The following presents GEOMATIK's protocol for a typical site groundwater monitoring investigation involving gasoline or diesel hydrocarbon-impacted groundwater.

Site Safety Plan

The Site Safety Plan describes the safety requirements for the evaluation of gasoline or diesel hydrocarbons in soil, groundwater, and the vadose-zone at the site. The site Safety Plan is applicable to personnel of GEOMATIK and its subcontractors. GEOMATIK personnel and subcontractors scheduled to perform the work at the site are briefed on the contents of the Site Safety Plan before work begins. A copy of the Site Safety Plan is available for reference by appropriate parties during the work. A site Safety Officer is assigned to the project.

Groundwater Monitoring

The static water level in each well is measured to the nearest 0.01-foot using a Solinst® electric water-level sounder or oil/water interface probe (if the wells contain floating product) cleaned with Alconox® and water before use in each well. The liquid in the wells is examined for visual evidence of hydrocarbons by gently lowering approximately half the length of a Teflon® bailer (cleaned with Alconox® and water) past the air/water interface. The sample is then retrieved and inspected for floating product, sheen, emulsion, color, and clarity. If floating product is present in the well, the thickness of floating product is measured using an oil/water interface probe and is recorded to the nearest 0.01 foot. Floating product is removed from wells on site visits.

Groundwater Sampling

Wells which do not contain floating product are purged using a stainless steel bailer. The bailer is cleaned with Alconox® and water prior to use in each well. The wells are purged of at least four well volumes of water, or until groundwater withdrawal is of sufficient duration to result in stabilized pH, temperature, and electrical conductivity of the water. The groundwater parameters were monitored with a Hydac® Model 910 Conductivity, pH, and Temperature Meter, along with a ICM® Model 11520 Field Turbidimeter. These portable meters were calibrated to a standard buffer and conductivity standard. If the well becomes dewatered, the water level is allowed to recover to at least 80 percent of the initial water level. The wells are allowed to recover to static water-level conditions before sampling.

The quantity of water purged from each well was calculated as followed:

1 well casing volume = $\pi r^2 h$ (7.48) where:
r = radius of the well casing in feet
h = column of water in the well in feet (well depth - depth to water)
7.48 = conversion constant from cubic feet to gallons

Gallons of water purged / gallons in one well casing volume = well casing volumes removed.

Prior to the collection of each groundwater sample, the Teflon® bailer is cleaned with Alconox® and rinsed with tap water and deionized water, and the latex gloves worn by the sampler changed. Hydrochloric acid is added to the sample vials as a preservative (when applicable).

A sample method blank is collected by pouring distilled water into the bailer and then into sample vials. A sample of the formation water is then collected from the surface of the water in each of the wells using the Teflon® bailer. The water samples are then gently poured into laboratory-cleaned, 40-milliliter (ml) glass vials, 500 ml plastic bottles or 1-liter glass bottles (as required for specific laboratory analysis) and sealed with Teflon®-lined caps, and inspected for air bubbles to check for headspace, which would allow volatilization to occur. The samples are then labeled and promptly placed in iced storage. A field log of well evacuation procedures and parameter monitoring is maintained. Water generated by the purging of wells is stored in 17E DOT 55-gallon drums, and floating product bailed from the wells is stored in double containment onsite; this water and product remains the responsibility of the client.

Sample Labeling and Handling

Sample containers are labeled in the field with the job number, sample location and depth, and date, and promptly placed in iced storage for transport to the laboratory. A Chain of Custody Record is initiated by the field geologist and updated throughout handling of the samples, and accompanies the samples to a laboratory certified by the State of California for the analyses requested. Samples are transported to the laboratory promptly to help ensure that recommended sample holding times are not exceeded. Samples are properly disposed of after their useful life has expired.

REFERENCES CITED

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Maslonkowski, Dennis. 1984. Groundwater in the San Leandro and San Lorenzo Alluvial Cones of the East Bay Plain of Alameda County, California. Alameda County Flood Control and Water Conservation District.

Muir, Kenneth. 1993. Geologic Framework of the East Bay Plain Groundwater Basin, Alameda County, California. Alameda County Flood Control and Water Conservation District.

APPENDIX B

Well Purge Data Sheets (3)

Chain - of - Custody Record (1)

Laboratory Data Sheet (1)

INTERNATIONAL GEOLOGIC

WELL SAMPLING DATA SHEET

SITE Minami

DATE 8-13-97

WELL NO. MW-1

WELL DEPTH - Blockage at 8'

WELL DIAMETER 2"

DEPTH TO WATER TIME / DATE

1 WELL VOLUME =

PURGE METHOD

COLLECTION METHOD

TIME	CUMULATIVE GAL. PURGED	TURBIDITY	pH	E.C. (umhos/cm)	TEMP(F)

SAMPLE NO.	CONTAINER (TYPE/NUMBER)	PRESERVATIVE

FIELD OBSERVATIONS Standpipe Top has been broken off [illegible] (?) is [illegible] at 8' depth - [illegible] secured well before leaving site.

RECOVERY PERCENTAGE % at Hrs

SAMPLER SRB

INTERNATIONAL GEOLOGIC

WELL SAMPLING DATA SHEET

SITE Minami

DATE 8-13-97

WELL NO. MW-2

WELL DEPTH 33'

WELL DIAMETER 2"

DEPTH TO WATER	TIME / DATE
17.61	4:00 8/13

1 WELL VOLUME = ~2.5 gal.

PURGE METHOD Bailer

COLLECTION METHOD Disposable Bailer

TIME	CUMULATIVE GAL. PURGED	TURBIDITY	pH	E.C. (umhos/cm)	TEMP(F)
4:15	0 Start	≤1 ml/Liter	7.84	578	68.1
	2	~1 ml/Liter	7.58	551	67.3
	4	~1 ml/Liter	7.45	554	66.8
	6	~1 ml/Liter	7.52	544	66.4
	8	~1 ml/Liter	7.36	549	67.1
4:40	10	~1 ml/Liter	7.41	547	67.0

SAMPLE NO.	CONTAINER (TYPE/NUMBER)	PRESERVATIVE
MW-2	40 ml/VOA 4	Ice HCl
MW-2	Amber Liter 2	Ice
MW-2	Amber Liter 2	Ice

FIELD OBSERVATIONS Yellowish color noted

RECOVERY PERCENTAGE 100 % at 5 Hrs

SAMPLER SRB

INTERNATIONAL GEOLOGIC

WELL SAMPLING DATA SHEET

SITE Minami

DATE 8-13-97

WELL NO. MW-3

WELL DEPTH 28 1/2

WELL DIAMETER 2"

DEPTH TO WATER	TIME / DATE
18.53	4:00 pm

1 WELL VOLUME = 1.6 gal

PURGE METHOD Bailer

COLLECTION METHOD Disposable Bailer

TIME	CUMULATIVE GAL. PURGED	TURBIDITY	pH	E.C. (umhos/cm)	TEMP(F)
4:50	Start @	<1ml/Liter	9.35	934	77.8
	2	~1ml/Liter	9.54	679	71.1
	4	~1ml/Liter	8.54	665	69.2
	6	~1ml/Liter	8.17	678	68.0
5:20	8	~1ml/Liter	8.02	681	68.2

SAMPLE NO.	CONTAINER (TYPE/NUMBER)		PRESERVATIVE
MW-3	40 ml VOA	4	Ice HCl
MW-3	Amber Liter	2	Ice
MW-3	Amber Liter	2	Ice

FIELD OBSERVATIONS N/A odor meter?

RECOVERY PERCENTAGE 100 % at 6.10 Hrs

SAMPLER SRB

PRIORITY ENVIRONMENTAL LABS

Chain of Custody

1764 Houret Ct. Milpitas,CA.95035 Tel:408-946-9636 Fax:408-946-9663

DATE: 8/14/97 PAGE: 1 OF 1

PROJECT MGR: Ken Mateik
COMPANY: Geomatrix
ADDRESS: 654 N. 19th St
San Jose CA 95112
PHONE: 408 288-7881 FAX: 1-19-2046
SIGNATURE: Steve Bottum for Ken Mateik

ANALYSIS REPORT

PEL # 9708020
INV # 27865

SAMPLE ID.	DATE	TIME	MATRIX	TPH-Gasoline (EPA 5030, 8015)	TPH-Gasoline(5030,8015) w/BTEX(EPA 602,8020)	TPH-Diesel (EPA 3510/3550,8015)	PURGEABLE AROMATICS BTEX (EPA 602,8020)	TOTAL OIL & GREASE (EPA 5520 C&F)	PESTICIDES/PCB (EPA 608,8080)	TOTAL RECOVERABLE HYDROCARBONS (EPA 418.1)	CHLORINATED HYDROCARBONS (EPA 601,8010)	MTBE	NUMBER OF CONTAINERS
MW-2	8-13-97		water		X							X	4 VOA
MW-2						X							2 Liter
MW-2								X					2 Liter
MW-3					X							X	4 VOA
MW-3						X							2 Liter
MW-3								X					2 Liter

PROJECT INFORMATION	SAMPLE RECEIPT
PROJECT NAME: Minami	TOTAL # OF CONTAINERS:
PROJECT NUMBER:	RECD GOOD COND./COLD:

INSTRUCTIONS & COMMENTS: Normal Turn-around

RELINQUISHED BY: 1	RECEIVED BY: 1	RELINQUISHED BY: 2	RECEIVED BY: 2
SIGNATURE: Steve Bottum	SIGNATURE: THANH CAM	SIGNATURE:	SIGNATURE:
Date: 8-14-97 Time: 2:00	Date: 8/14/97 Time: 14:01	Date: Time:	Date: Time:
COMPANY: IG	COMPANY: PEL	COMPANY:	COMPANY:

PRIORITY ENVIRONMENTAL LABS

Precision Environmental Analytical Laboratory

August 20, 1997 PEL # 9708020

GEOMATIK

Attn: Ken Mateik

Re: Two water samples for Gasoline/BTEX with MTBE, Diesel, and Oil & Grease analyses.

Project name: Minami

Date sampled: Aug 13, 1997 Date submitted: Aug 14, 1997
Date extracted: Aug 14-16, 1997 Date analyzed: Aug 14-16, 1997

RESULTS:

SAMPLE I.D.	MTBE (ug/L)	Gasoline (ug/L)	Diesel (ug/L)	Benzene (ug/L)	Toluene (ug/L)	Ethyl Benzene (ug/L)	Total Xylene (ug/L)	Oil & Grease (mg/L)
MW-2	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	1.3
MW-3	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Blank	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Spiked Recovery	---	81.6%	93.1%	89.8%	102.1%	86.4%	97.5%	---
Detection limit	0.5	50	50	0.5	0.5	0.5	0.5	0.5
Method of Analysis	602	5030 / 8015	3510 / 8015	602	602	602	602	5520 C & F

David Duong
Laboratory Director

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