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November 2, 2001

Mr. Robert Worl
Project Manager
California Energy Commission
Energy Facilities Siting and Environmental Protection Division
1516 Ninth Street, MS-15
Sacramento, CA 95814

DOCKET 01-AFC-12	
DATE	NOV 02 2001
RECD.	NOV 05 2001

Subject: Los Esteros Critical Energy Facility Application for Certification
Data Request Set #1 Response (01-AFC-12)

Dear Mr. Worl:

Enclosed are 13 copies of the Los Esteros Critical Energy Facility Application for Certification Data Request Response Set #1.

If you have any questions, please call me at 916-920-0300.

Sincerely,

CH2M HILL

Jerry Salamy
Project Manager

c: Todd Stewart/Calpine
Jane Luckhardt/ Downey, Brand, Seymour & Rohwer, LLP

**Los Esteros Critical Energy Facility
(01-AFC-12)**

Data Request Set 1

Submitted to:

CALIFORNIA ENERGY COMMISSION

Submitted by:

Calpine Corporation

November 2, 2001

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1.0 Air Quality

Technical Area: Air Quality

CEC Author: Gabriel D. Behymer

LECEF Author: Gary Rubenstein

BACKGROUND

Fine Particulate Mater (PM₁₀) Mitigation: If built as proposed, the project will add approximately 45 tons per year of PM₁₀ to the Bay Area Air Basin. Since the air basin is classified as nonattainment for the state PM₁₀ standard, this addition can contribute to existing violations of the state Ambient Air Quality Standard (AAQS) and thus must be mitigated.

DATA REQUEST

1. Please provide a detailed calculation of the total PM₁₀ emissions from the project, including all sources. Please include a detailed account of all assumptions, calculations and data sources.

Response: There are four sources of PM₁₀ emissions associated with the LECEF project: the LM6000 gas turbines, the inlet air chiller cooling tower, the gas-fired emergency generator, and the diesel emergency fire pump. PM₁₀ emissions for each of these sources, along with supporting assumptions, calculations, and data sources, are presented in the AFC in the following locations:

LM6000 gas turbines:	Table 8.1-12, Table 8.1-A1
Inlet air chiller cooling tower:	Section 8.1.5.2.2, Table 8.1-A2
Emergency generator:	Table 8.1.13, Table 8.1-A3
Diesel fire pump engine:	Table 8.1-13, Table 8.1-A4
Total, all sources:	Table 8.1-A5

If the staff has a need for additional details, or explanations of specific questions, we would be pleased to provide that supplemental information.

2. Please submit a mitigation proposal sufficient to fully mitigate the annual PM₁₀ emissions from the project.

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Response: If the CEC staff concludes that annual PM₁₀ impacts from the project represent a significant environmental impact, LECEF will negotiate with the staff the payment of an appropriate mitigation fee.

BACKGROUND

Emissions Reduction Credits (ERC): The AFC (section 8.1.6.3) indicates that only NOx and POC mitigation will be provided, in the form of ERCs. The applicant's Data Adequacy Responses (section 2.1) indicate that the NOx ERCs for the project will be obtained through an as yet uncompleted SCR retrofit of the Gilroy Foods project.

DATA REQUEST

3. Please provide correspondence from the BAAQMD indicating progress towards banking the necessary ERC from the retrofit of the Gilroy Foods Project required for the LECEF.

Response: LECEF does not have any correspondence from the BAAQMD indicating progress towards banking ERCs associated with the retrofit of the gas turbine at the Calpine Gilroy facility. LECEF will provide such correspondence as it is received.

BACKGROUND

Misprints and Clarifications: Some tables in the AFC are either missing some data or are misprinted. Please provide the following clarifications and additional information.

DATA REQUEST

4. Tables 8.1-A3 & 8.1-A4 provide modeling characteristics for the emergency engine and fire pump, but do not include the exhaust stack height. Please provide the stack height for both the emergency generator and the fire pump engine.

Response: The stack heights for the emergency generator and fire pump engine are included in the AFC in Table 8.1-B4. The stack height for each is 10 feet (3.048 meters).

5. Please provide a fully legible copy of the following Tables and pages:
 - a. Table 8.1-A5 (Appendix 8.1-A)

Response: The requested table is shown on the following page.

- b. Table 8.1-B2 (Appendix 8.1-B)

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Response: The requested table is shown on the following page.

- c. "Notes for combustion emissions", last page, Appendix D

Response: The requested information is shown on the following two pages

6. Table 8.1-A3 specifies the emergency generator as 600 kW output, however section 1.1 (pg. 1-4) specifies the emergency generator as 750 kW. Please correct and explain this discrepancy.

Response: The reference on page 1-4 is in error; the correct rating for the gas-fired emergency generator is 600 kw.

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Table 8.1-A5
Detailed Calculations for Maximum Hourly, Daily and Annual Criteria Pollutant Emissions
Los Esteros Critical Energy Facility

	Base Load			Startup		NOx		SO2	CO		Maximum	CO	Startup	Maximum	POC	PM10
	max. hour	hrs/day	hrs/yr	hrs/day	hrs/yr	Maximum	Ann. Avg.	lb/hr	Max	lb/day	lb/hr	Ann. Avg.	lb/hr	lb/hr	lb/day	lb/hr
Each Turbine	1	24	8760	0	0	8.55	4.275	0.33	8.55	8.55	6.24	5.72	6.24	1.19	1.19	2.5
Each Turbine Total, 4 Turbines Cooling Tower Emergency Generator Fire Pump Engine Facility Total	Max	NOx	Total	Max	SO2	Total	Max	CO	Max	lb/day	Max	lb/day	Total	Max	lb/day	Total
	lb/hr	lb/day	tpy	lb/hr	lb/day	tpy	lb/hr	lb/day	tpy	lb/day	lb/hr	lb/day	tpy	lb/hr	lb/day	tpy
	8.55	205.2	18.7	0.33	7.9	1.4	6.24	149.8	25.1	1.19	28.6	11.0	5.2	2.5	60.0	11.0
	34.2	820.8	74.9	1.32	31.7	5.8	24.96	599.04	98.0	4.76	114.24	20.8	20.8	10	240	43.8
	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.4	--

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Notes – Combustion Emissions

(1) For Construction Equipment

For heavy Diesel construction equipment, emission factors based on equipment meeting EPA 1996 off-road Diesel standards and use of CARB low-sulfur fuel.

For trucks, depending on size of truck, emissions factors based on MVE17G version 1.0c for heavy-heavy duty or medium duty Diesel trucks, fleet average for calendar year 2000, San Francisco Air Basin.

For portable equipment, emission factors based on EPA's "Non-road Engine and Vehicle Emission Study Report", 11/91, Table 2-07, for generator sets, welders, pumps, and air compressors less than 50 hp.

(2) For Delivery Trucks

From MVE17G version 1.0c, heavy-heavy duty Diesel trucks, fleet average for calendar year 2000, San Francisco Air Basin

(3) For Worker Travel

From MVE17G version 1.0c, average of light duty automobiles and light duty trucks, fleet average for calendar year 2000, San Francisco Air Basin.

(4) For Rail Deliveries

NO_x, CO, POC, and PM₁₀ emission factors from EPA's "Technical Highlights – Emissions Factors for Locomotives", December 1997.

SO_x emission factor from Booz-Allen & Hamilton "Locomotive Emission Study", prepare for CARB, January 1991.

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Notes – Fugitive Dust Emission Calculations

- (1) Paved road travel emission factors for delivery trucks and worker automobiles are based on AP-42, Section 13.2.1, 10/97.
(Based on default road silt loading shown in AP-42, page 13.2.1-5, 10/97, limited access road)
- (2) Wind erosion emission factor for active construction area is based on "Improvement of Specific Emission Factors (BACM Project No. 1), Final Report" prepared for South Coast AQMD by Midwest Research Institute, March 1996.
- (3) Finish grading emission factor is based on AP-42, Table 11.9-1, 7/98.
- (4) Bulldozer excavation emission factor is based AP-42, Table 11.9-1, 7/98.
(Based on default soil silt and moisture contents shown in AP-42, Table 11.9-3, 7/98, overburden.)
- (5) Material unloading emission factors are based on AP-42, p. 13.2.4-3, 1/95.
(Based on average annual wind speed recorded onsite and default soil moisture content shown in AP-42, Table 11.9-3, 7/98, overburden.)
- (6) Loader unpaved surface travel emission factor is based on AP-42, Section 13.2.2, 1/95.
(Based on default soil silt and moisture contents shown in AP-42, Table 11.9-3, 7/98, overburden.)
- (7) Trenching emission factor is based on AP-42, Table 11.9-2 (dragline operations), 1/95.
(Based on default soil moisture content shown in AP-42, Table 11.9-3, 7/98, overburden.)
- (8) Unpaved surface travel emission factors for water trucks, fuel trucks, service trucks, dump trucks, forklifts, pickup trucks, delivery trucks, and concrete trucks are based on AP-42, Section 13.2.2, 9/98.
(Based on default soil silt and moisture contents shown in AP-42, Table 11.9-3, 7/98, overburden.)
- (9) Dust control efficiency for unpaved road travel and active excavation area is based on "Control of Open Fugitive Dust Sources", U.S. EPA, 9/88.
(Based on default evaporation rate shown in EPA document, Figure 3-2, 9/88, and typical water application rate shown in EPA document, page 3-23, 9/88.)

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2.0 Biological Resources

Technical Area: Biological Resources

CEC Author: Julie Colyer and Natasha Nelson

LECEF Author: EJ Koford

BACKGROUND

There were several references to species and permits in Appendix 1.0 that were unrelated to the AFC, and seemed more applicable to La Paloma. The applicant's proposed Biological Resources' Conditions of Certification for the LECEF are necessary for staff to conduct an assessment of the potential impacts to biological resources.

DATA REQUEST

7. Please provide a new or updated Appendix 1.0, or an explanation for the discrepancy.

Response: The Conditions of Certification provided in Appendix 1 were downloaded from the CEC website, as directed by the CEC and representing the standard Conditions. Although they contain references to the La Paloma project, the Applicant believes this was an oversight in the file provided on the website, and reasonably presumes that the words "La Paloma" should refer to the Applicant; in this case, Calpine, Inc. Attached is an updated Appendix 1.0 replacing "La Paloma" with "Calpine, Inc.". Attached is an updated Appendix 1.0 replacing "La Paloma" with "Calpine, Inc."

BACKGROUND

The data presented in the AFC intermixes which species were seen on the 174-acre U.S. DataPort site and which species that were observed on the LECEF site (Section 8.2, p. 8.2-8). Staff requires a complete list of all wildlife species seen by biologists at the LECEF site or worker parking and staging areas, or along access roads, linear corridors, linear right-of-ways (ROWs) and at turn outs in order to conduct a biological assessment of the proposed project.

DATA REQUEST

8. Please provide a complete list of all (native, non-native, sensitive, and common) wildlife species actually observed by CH2M Hill surveyors at the LECEF site or worker parking and staging areas, or along all access roads, linear corridors (natural gas pipeline, electric transmission line, recycled water supply, return lines, etc.), linear ROWs and turn outs. Please specify the type of habitat (riparian,

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ruderal, etc.) where this species was found. Provide a complete copy of the biological resources assessment prepared by H.T. Harvey & Associates, Inc. and the wetland delineation completed by Wetland Research Associates, Inc.

Response: Table BR-8 provides a list of species and the locations where they were observed with respect to project features. The previous biological surveys were prepared for the US Dataport project, which would not have had the same features. Complete copies of the biological reports for the previous project are also provided as Attachment BR-1.

Table BR-8 Wildlife Species Observed at the LECEF Site and Linear Routes (October 12, 2001)

Species		LS ¹	LS ²	PR	SR	LA ⁴	LA ⁵	WP	SP	EP	GP	CCRC
Common	Scientific											
BIRDS												
American kestrel	<i>Falco sparverius</i>		X					X			X	
American white pelican	<i>Pelecanus erythrorhynchos</i>		X*	X*	X*			X*	X*	X*	X*	
Anna's hummingbird	<i>Calypte anna</i>		X									
Black phoebe	<i>Sayornis nigricans</i>	X	X									
Black-chinned hummingbird	<i>Archilochus alexandri</i>		X									
Brewer's blackbird	<i>Euphagus cyanocephalus</i>	X										
California towhee	<i>Pipilo crissalis</i>					X				X		
Common yellowthroat	<i>Geothlypis trichas</i>					X				X		
European starling	<i>Sturnus vulgaris</i>			X	X		X	X			X	
House finch	<i>Carpodacus mexicanus</i>						X			X		
Lesser goldfinch	<i>Carduelis psaltria</i>		X									
Loggerhead shrike	<i>Lanius ludovicianus</i>		X				X		X			
Mourning dove	<i>Zenaida macroura</i>						X					
Northern mockingbird	<i>Mimus polyglottos</i>						X					
Prairie falcon	<i>Falco mexicanus</i>					X						
Red-shouldered hawk	<i>Buteo lineatus</i>					X						
Red-tailed hawk	<i>Buteo jamaicensis</i>	X	X	X	X			X	X		X	X
Rock dove	<i>Columba livia</i>	X*										
Song sparrow	<i>Melospiza melodia</i>		X									

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Table BR-8 Wildlife Species Observed at the LECEF Site and Linear Routes (October 12, 2001)

Species		LS ¹	LS ²	PR	SR	LA ⁴	LA ⁵	WP	SP	EP	GP	CCRC
Common	Scientific											
Turkey vulture	<i>Cathartes aura</i>			X	X		X		X		X	
Unidentified woodpecker		X								X		
Western meadowlark	<i>Sturnella neglecta</i>			X	X			X			X	
Western scrub jay	<i>Aphelocoma californica</i>					X						
White-crowned sparrow	<i>Zonotrichia leucophrys</i>		X			X	X					
Yellow-rumped warbler	<i>Dendroica coronata</i>		X									
MAMMALS												
Feral cat	<i>Felis catus</i>		X									
California ground squirrel	<i>Spermophilus beecheyi</i>	X										

Notes: * Flyover or otherwise not utilizing area resources

Location: Observed

LS = Los Esteros Critical Energy Facility Plant Site

PR = Primary Access Road

SR = Secondary Access Road

LA = Laydown Area

WP = Recycled Water Pipeline Corridor

SP = Storm Water Pipeline Corridor

EP = Electrical Transmission Connection

GP = Natural Gas Pipeline Corridor

Habitat Type Utilized

LS¹ = Urban

LS² = grassland

PR, SR, WP, GP = disked hay field—WWTP buffer lands

LA⁴, EP = Willow marsh—stand of red willows and cattails

LA⁵ = landscape—includes fruit trees, Fremont cottonwood, box elder

SP = Agricultural field

CCRC = Coyote Creek Riparian Corridor

BACKGROUND

Staff is provided with the number of acres that will be temporarily and permanently impacted for the majority of the power plant components (Table 8.2-2, p. 8.2-13). Staff requires the total approximate acres (of grassland and agricultural land) that will be temporarily impacted and the total approximate acres (of grassland and agricultural land) that will be permanently impacted by the proposed LECEF site, worker parking and staging areas (it is unclear if these were included in the impact calculation for Table 8.2-2), access roads, linear corridors, linear ROWs and turn outs. This will help staff fully assess the potential biological impacts of the proposed project.

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DATA REQUEST

9. Please provide the total approximate acres of 1) Grassland that will be temporarily impacted; 2) Agricultural land will be temporarily impacted; 3) Grassland that will be permanently impacted; and, 4) Agricultural land that will be permanently impacted by the proposed project site, worker parking and staging areas, access roads, linear corridors (natural gas pipeline, electric transmission line, recycled water supply, return lines, etc.), linear ROWs and turn outs.

Response: The definition of habitat type as agricultural or disturbed grassland is difficult in the project vicinity. The areas east of the old nursery are periodically disked and cropped and therefore considered agricultural, although the typical habitat is most similar to grassland. The area west of the old nursery is maintained as buffer lands by the Water Pollution Control Plant. It is not cropped or grazed and therefore should be defined as disturbed grassland, although the characteristic is very similar to the agricultural land east of the nursery. There is a resultant internal discrepancy in the AFC between Figure 8.2-1 that shows these areas as "agriculture" and Table 8.2-2 that describes these as "disturbed grassland." As a final determination, the Applicant suggests that all disturbed grassland be considered agricultural, because it is periodically disked and may be grazed. Therefore all temporary losses identified in Table 8.2-2 are considered to affect agricultural habitat (slightly less than 29 acres). Permanent losses identified in Table 8.2-2 are 18 acres of ruderal/landscape habitat for the LECEF site, and 5 acres of agricultural land for the access road and wastewater return line. A revised Table 8.2-2R provided below.

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TABLE 8.2-2R
Summary of Permanent and Temporary LECEF Project Impacts on Biological Resources During Construction

Location	Project Work	Construction Zone Size	Time Requirements	Habitat Type	Sensitive Biological Resources	Impacts	
						Temporary	Permanent
Power Plant Site	Grading for footprint construction	18 acres	Spring 2002 Winter 2001	Ruderal Developed/ landscaped	Significant trees		18 acres
Access road and wastewater return line	Grading and pavement for road	Approximately 5 acres, 2,700 feet long; 12"-15" in diameter pipe in 4-foot by 4-foot trench	Spring 2002 Winter 2001	Small trees and agriculture land	Forage habitat for raptors, significant trees	Disturbance of 5 acres of disturbed grassland	Loss of 5 acres of agricultural field and potential loss of up to three. Significant trees
Stormwater discharge	2-foot wide, 1-foot deep trench to existing outfall Coyote Creek flood control channel	Approximately 0.07 acres	Spring 2002 Winter 2001	Coyote Creek riparian corridor, near levee	Potential riparian species and habitat	Potential sedimentation into creek during construction	Potential adverse and positive water quality impacts
Construction laydown area	Construct compacted gravel pad	20 acres	Spring 2002 Winter 2001	Ruderal	Significant trees	Disturbance of 20 acres of agricultural land	
Natural gas pipeline	Gas pipeline trench	Approx. 550 feet of trench, 4-foot wide, 6-foot deep	Spring 2002 Winter 2001	Road, pasture, and annual grassland	Raptor forage, Significant trees	Disturbance of 1.5 acres of disturbed grassland	
Recycled water line	Pipeline trench	1,000-foot pipeline routed south of the LECEF; 4-foot wide, 4-foot deep trench	Spring 2002 Winter 2001	Road, pasture, and annual grassland	Significant trees	Disturbance of 2 acres of disturbed grassland (overlap of some area impacted by access road)	Potential loss of significant trees (same trees impacted by access road)

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BACKGROUND

The AFC states that burrowing owls are found throughout the area surrounding the 174-acre U.S. Dataport project site and that white-tailed kites have nested along Coyote Creek and could nest in areas as near as 1,000 feet from the LECEF project site (Section 8.2, p. 8.2-8). Staff needs more information regarding the potential use of the LECEF site and linear facilities by loggerhead shrikes, burrowing owls, white-tailed kites and northern harriers.

DATA REQUEST

10. Please provide information regarding the potential for loggerhead shrikes, burrowing owls, white-tailed kites and northern harriers to forage on the proposed LECEF site or worker parking and staging areas, or along access roads, linear corridors (natural gas pipeline, electric transmission line, recycled water supply, return lines, etc.), linear ROWs and turn outs. If there is potential foraging habitat loss in any of these areas, please provide the total temporary and total permanent foraging loss (in acres) for loggerhead shrikes, burrowing owls, white-tailed kites and northern harriers.

Response: Loggerhead shrikes were observed on the LECEF site and west of the old nursery. Shrikes tend to use old barns, trees, shrubs and other complex structures opportunistically for perching and foraging. In this way, the construction laydown area (20 acres) would be temporarily unavailable to shrikes, and the 15 acres of the LECEF site, and the paved area of the access road (< 5 acres) would be nearly all converted to an unsuitable habitat type. Burrowing owls, northern harrier and white-tailed kites forage predominantly in the short-grass/ disked agricultural fields outside the former nursery. Parking and staging areas, construction areas along the pipelines would be temporarily unavailable as foraging areas for these species (approximately 28.5 acres). The access road (5 acres) would be a permanent loss of suitable foraging habitat for white tailed kites, harriers and burrowing owls.

BACKGROUND

The AFC states that the temporary disturbance of approximately 20 acres will be revegetated with like species after construction (Section 8.2.3.2, pp. 8.2-12 and 8.2-17). To fully understand the temporary disturbance and permanent impact from the proposed project, staff requires the applicant's general revegetation plan.

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DATA REQUEST

11. Please provide 1) the method of revegetation the applicant will use (i.e. purchase of seeds or vegetative starts); 2) a schedule for revegetation; and, 3) the length of time between disturbance and restoration effort.

Response: Prior to use of the 20 acre laydown area, topsoil would be salvaged from the site and stockpiled at one end of the site. After construction, the laydown area would be stripped of any armoring material, the surface scarified, and topsoil restored. It is anticipated that the 20 acres would be revegetated with barley seed during the winter following construction. The barley will provide a temporary cover crop to hold soil and allow seeds in the native topsoil to sprout and restore a cover similar to that which existed prior to construction. The length of time between disturbance and restoration could vary with construction schedules, but in no case would be greater than 2 years between construction and restoration. Because grasslands can grow in one wet season, functional revegetation will occur rapidly once use of the construction laydown area is complete.

BACKGROUND

The AFC states that there is a potential loss of three significant trees (one red willow and two cottonwoods) (Section 8.2, p. 8.2-12). Staff needs more information regarding the use of these trees as roosting/nesting sites by sensitive species in order to analyze the potential for temporary impacts to sensitive species from the tree removal.

DATA REQUEST

12. Please provide staff with information regarding the use of the three significant trees (one red willow and two cottonwoods) as roosting/nesting sites by sensitive species. If sensitive species have been known to use these specific trees as nesting/roosting sites, staff would like to know the 1) approximate duration (in years) it would take for the replacement trees (Section 8.2, p. 8.2-16) to have the same roosting/nesting qualities as those removed; and, 2) approximate number of trees in the vicinity (within one mile) that have the same roosting/nesting qualities and could be used in the interim.

Response: The three significant trees were noted as potentially suitable for perching or nesting by medium size raptors such as white-tailed kites, red-tailed hawks, and loggerhead shrikes, although none of these species were observed actually using the trees during field surveys. There were no nests or sticks indicative of recent nests in these trees either. The proximity of these trees to the old greenhouses suggests that there may have been too much activity around these trees in the past to be attractive roosting/ nesting sites, when compared to the abundant trees located along the Coyote Creek riparian corridor, approximately

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1000 feet to the east. As noted in the AFC, the Applicant proposes to replace the 3 significant trees with 9 trees planted after construction. Because medium-size raptors can use relatively small trees, it is estimated these would provide viable habitat within 5 years of planting. In the interim, the number of potentially suitable alternative roosting and nesting sites within a mile of the project site numbers in the hundreds. The Applicant believes that the number of roosting/nesting trees in the vicinity are not limiting raptor use.

BACKGROUND

Landscaping with non-native plant species can potentially have a significant impact on non-native wildlife species. Staff needs to know if there will be landscaping involved with the proposed LECEF to fully assess the potential biological impacts.

DATA REQUEST

13. If the proposed LECEF will have a non-native landscaping component, please provide staff with 1) the type and number of species; 2) location and size (acreage) of the area to be landscaped; and, 3) a discussion of the potential impacts involved (including the use of biocides, and the spread of these non-native plants to other areas).

Response: A landscaping plan will be provided in November.

BACKGROUND

During construction of a major facility, worker parking and staging areas must be graded and fenced. These types of activities can impact biological resources on the site, and can also impact biological resources off the site if dust and stormwater pollution are not controlled.

DATA REQUEST

14. Please provide a location map of the proposed worker parking and staging areas. Describe if any natural areas or trees will be lost during the preparation of these areas. Describe any measures that will be taken to prevent dust and stormwater from leaving these areas.

Response: The location of working parking and staging areas is included in the area shown in Figure 2.2-3. To the extent any of these areas are used, no significant trees as defined by local standards will be removed. Fugitive dust control is an integral part of construction activities at the site and is generally controlled by watering areas prone to dust generation. Any construction areas greater than 5 acres are required to have a Stormwater Pollution Prevention Plan (SWPPP) that

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will include measures necessary to prevent stormwater from causing damage off-site. A draft SWPPP will be provided in early November, in response to Data Request 100.

BACKGROUND

Figure 8.2-1 shows the biological habitat and sensitive resources on the LECEF site. Staff needs to know which trees would be displaced by the proposed LECEF project in order to carry out a biological assessment.

DATA REQUEST

15. Please submit a new figure which indicates which trees would be displaced by the LECEF power plant site, all linears, or the worker parking and staging areas. In addition, please indicate which power plant component (i.e. emergency access road, recycled water pipeline, etc.) will replace which trees.

Response: Figure 8.2-2 shows the 4 significant trees that would be potentially displaced by the project. The three to the north are located within the area designated for the power plant site. The one to the south is along the proposed access road.

DATA REQUEST

16. Please discuss all areas of critical concern (as defined in section 1702 (q) of Title 20 of the California Code of Regulations) related to biological resources in the proposed project region (e.g., within 20 miles). Please include the distance from the proposed project site, size (in acres), habitat type(s) and sensitive species.

Response: The nearest significant ecological areas to the project site comprise the following locations:

Coyote Creek Riparian Corridor: A linear area on both sides of Coyote Creek, approximately 1,500 east of the proposed project. The setback levee is approximately 200 feet from the edge of a dense riparian corridor dominated by willow and cottonwood. The corridor supports an abundant and diverse bird fauna, small mammals and provides shade and protective cover for reptiles and amphibians. The shading is critical to maintaining water quality suitable to support anadromous fish including steelhead and salmon. The City of San Jose has adopted a Riparian Corridor protection policy, and much of the upper watershed it maintained within County parks. The project has been designed to avoid intruding on this area to the extent possible.

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(01-AFC-12)**

Don Edwards (formerly San Francisco Bay) National Wildlife Refuge:

Essentially all the shoreline of San Francisco Bay from north of the Dumbarton Bridge (Highway 84) to San Jose is highly productive, diverse and sensitive marsh habitat. A large part of this, beginning approximately 2 miles northwest of the LECEF site constitutes a national refuge devoted to the preservation of salt marsh harvest mouse, nesting and migratory shorebirds, upland birds and mammals and tidal invertebrates. The project is located far enough from the edge of this area to have no direct impacts. Diligent compliance with discharge requirements will ensure that adverse indirect impacts through water quality degradation do not occur.

Coyote Ridge. Located approximately 12 miles southeast of the LECEF site, this line of hills is home to abundant wildflowers, including at least 8 that are considered rare or endangered. Most prominently this area is dominated by serpentine outcrops that support a highly endemic flora and fauna that is considered limited in distribution and sensitive to disturbance from air pollution. There are smaller serpentine outcrops scattered elsewhere in the south county, but Coyote Ridge is the largest and most prominent.

BACKGROUND

Table 8.2-4 of the AFC indicates the use of an existing 24-inch diameter outfall would negate the need to acquire a CDFG Streambed Alteration Agreement.

DATA REQUEST

17. Please indicate if the use of the existing outfall is still the most likely engineering design or if construction in a regulated streambed is anticipated.

Response: The project intends to tie stormwater into the existing outfall on the west side of the Coyote Creek levee (e.g. outside the existing bed and banks) and therefore would not require a Streambed Alteration Agreement.

BACKGROUND

Staff would like to know more background on the biological resources along Coyote Creek levee and the Coyote Creek by-pass in order to accurately describe the local setting.

DATA REQUEST

18. Please provide a copy of any environmental review documents (or at minimum the biological resource section) that pertain to the Coyote Creek levee system or the Coyote Creek by-pass. If environmental review documents are not available,

**Los Esteros Critical Energy Facility
Data Request Response Set 1
(01-AFC-12)**

please provide the approximate height (in feet) of the Coyote Creek levee wall (above ground level) and a description of the biological resources along the levee and by-pass channel.

Response: According to the Santa Clara Valley Water District, the levees of this portion of the Coyote Creek bypass were constructed after an environmental document prepared in the 1980's, that does not adequately address the current conditions. In addition, the San Francisco Bay Birding Observatory has been preparing annual Wildlife Monitoring Reports for a mitigation site located near the levee, approximately ½ mile north of the project site. A compilation of the last 10 years of data is in preparation, but not yet ready for distribution (Jaramillo, A. and D.A. Bell. 2000 Coyote Creek flood control monitoring project: Wildlife monitoring program ten year report 1987-1997. Prepared for the Santa Clara Valley Water District.). This report summarizes the results of extensive bird banding research being carried out in the Coyote Creek riparian corridor.

From field observations, the Coyote Creek Levee is approximately 10 feet high and 60 feet wide with an access road on top. At its furthest, the levee is an estimated 200 feet from the riparian vegetation of the creek. As Coyote creek approaches the HWY 237 overpass, the levee closes in to a distance of approximately 5 feet from the riparian vegetation. The dense riparian vegetation supports in excess of a hundred species of birds, as well as small mammals, amphibians and provides shade for aquatic species.

**Los Esteros Critical Energy Facility
Data Request Response Set 1
(01-AFC-12)**

Attachment BR-1 U.S. Dataport Biotic Assessment and Riparian Survey



H. T. HARVEY & ASSOCIATES
ECOLOGICAL CONSULTANTS

**U. S. DATAPORT BIOTIC ASSESSMENT
AND RIPARIAN SURVEY**

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June 6, 2000 (Revised August 24, 2000)

Project # 1764-01

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1.0 INTRODUCTION

Reconnaissance-level field surveys were conducted on the U. S. Dataport project site located at Highway 237 and Zanker Road in San Jose, California (Figure 1) on 11 April 2000. The purpose of these surveys was to document biotic resources associated with the site that may potentially pose constraints to the proposed development. Specifically, surveys were conducted to: 1) describe biotic habitats; 2) determine whether the site supports habitats capable of supporting special-status species, and; 3) document the presence/absence of regulated habitats including Waters of the U. S., California Department of Fish and Game (CDFG) jurisdiction and ordinance trees. Survey personnel included H. T. Harvey & Associates' restoration ecologist Regine Castelli, M.S., botanist Janet Klein, M.S. and wildlife ecologist Naomi Nichol, M.S.

1.1 PROJECT DESCRIPTION

The U. S. Dataport project proposes to develop portions of the area north of Highway 237 between Zanker Road and Coyote Creek. The project site has been divided into 6 parcels. Each parcel has been labeled A-F (Figure 2). Since the U. S. Dataport project is not well defined at this time, the potential impacts from any development on these parcels has not been determined. At this time it is assumed that the U. S. Dataport project will comprise of buildings, two satellite dishes, a Central Reliability Energy Center (CREC) that would include a cogeneration facility, an outfall to Coyote Creek and two towers for cellular communication on top of the buildings that would be 135 feet in height (tower height = 90 feet, building height = 45 feet) and would be located at least 150 feet from the edge of the Coyote Creek riparian corridor. The proposed CREC facility would be located on the western boundary of the project site approximate 1,900 feet from the edge of the Coyote Creek riparian corridor. The distance from the CREC facility, coupled with the buffering effect of buildings located between the facility and the creek, will result in a predicted 50-55 dBA_{Ldn} and will not exceed applicable noise guidelines in the San Jose 2020 General Plan guidelines of maintaining noise levels at 60 DNL adjacent to Public Park/Open Space areas.

The proposed development will impact some habitats that are regionally abundant and whose loss is, therefore, not considered significant. These habitats include developed/landscaped land, agricultural/disked land, ruderal habitat, and non-native grassland. Construction of the proposed development will impact 0.20 acres of emergent freshwater wetland, 49.96 acres of agricultural land with wetland characteristics, and 1.33 acres of remnant cottonwood riparian forest.

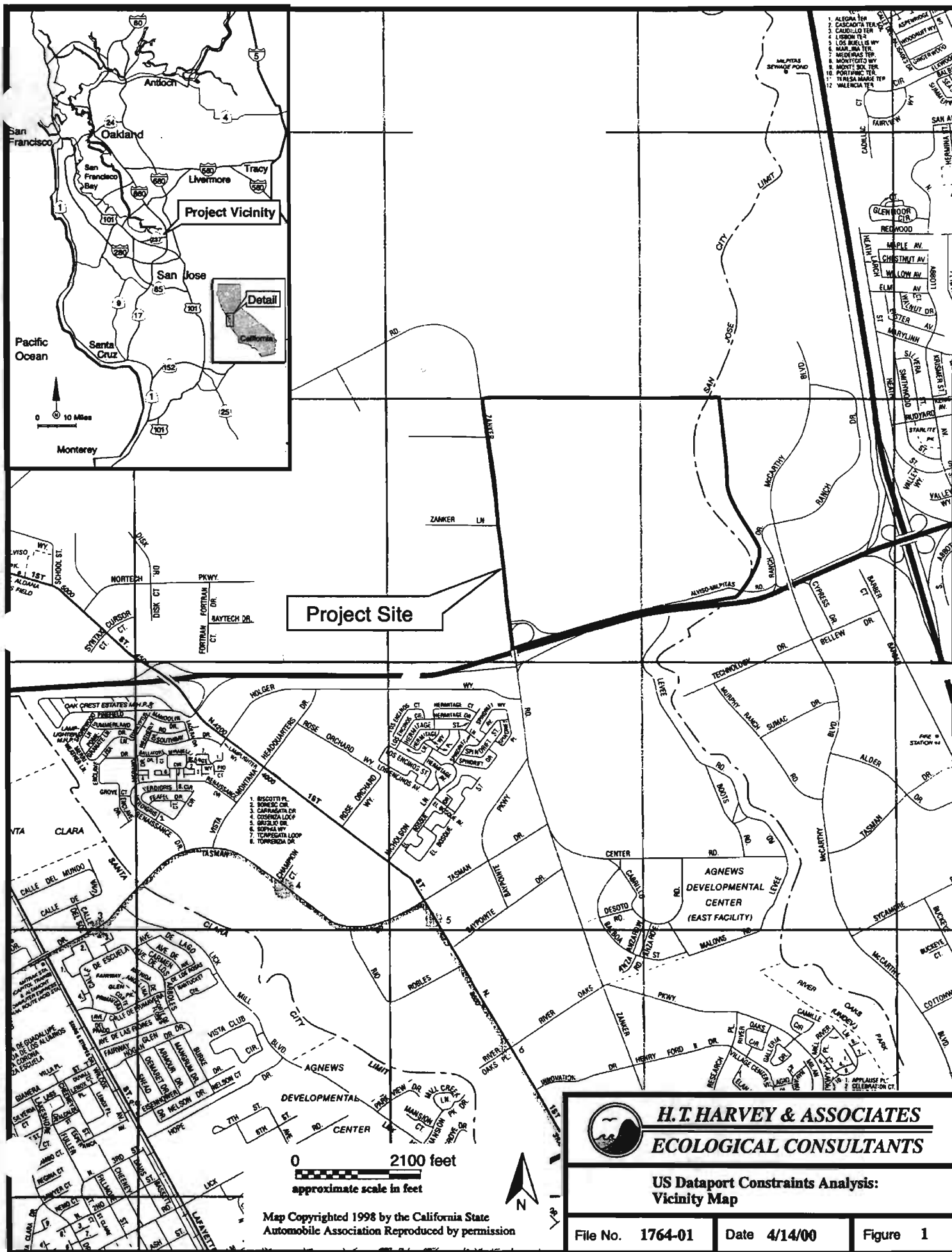
1.2 GENERAL PROJECT AREA DESCRIPTION

The project site is located within north San Jose, Santa Clara County, California. Water treatment sludge ponds border the site to the north. Agricultural lands border the side to the east and west. Urban development borders the site to the south. The topography of

the property is relatively flat. The general elevation within the property site is approximately 10 feet National Geodetic Vertical Datum (NGVD). The project site is situated on the Milpitas U. S. Geological Survey (USGS) Quadrangle Map.

Three soil series occur within the project area, including Mocho loam, Campbell silty clay loam, and Cropley clay. Mocho loam occurs on nearly level alluvial plains and consists of moderately well drained, medium to moderately fine-textured soil underlain by sedimentary alluvium. Campbell silty clay loam occurs on low level bottoms and alluvium plains and consists of somewhat poorly drained, moderately fine textured soils underlain by mottled, stratified mixed but mostly sedimentary alluvium. Cropley clay occurs on nearly level alluvial fans and is a well-drained, fine-textured soil underlain by mixed, mostly sedimentary alluvium.

The average annual rainfall for this portion of Santa Clara County is 16 to 20 inches. The average annual air temperature is 56 to 58 degrees Fahrenheit (SCS 1991).



Legend:

--- Area of Potential Impact

↗ Proposed Outfall



2.0 BIOTIC AND REGULATED HABITATS

Seven biotic habitats were identified on the project site (Figure 3). These habitats include developed/landscaped, agricultural/disked, agricultural with wetland characteristics, seasonal emergent freshwater wetland, willow cottonwood, ruderal, and non-native grassland. Table 1 summarizes the relative size of the habitats found within the project site. Where appropriate, the communities have been named based on Holland's (Holland 1986) system of classification. Table 2 summarizes the size of habitats for each of the six parcels located at the project site. Acreage estimates were calculated by planimeter from a 1:500 scale aerial photograph of the project site.

Table 1. Summary of habitat area found at the U. S. Dataport project site, Santa Clara County, California.

Habitat Type	Acres	Percent of Total
Developed/Landscaped	59.27	35%
Agricultural/Disked	54.07	31%
Agricultural with Wetland Characteristics	49.96	29%
Seasonal Emergent Freshwater Wetland	0.20	0.1%
Willow Cottonwood	1.33	0.9%
Ruderal	3.28	2%
Non-native Grassland	3.39	2%
Total =	171.50	100%

Table 2. Area summary of habitats for each parcel at the U. S. Dataport project site, Santa Clara County, California. Area is in acres.

Parcel	Developed	Agricultural	Agricultural w/Wetland Characteristics	Seasonal Emergent Freshwater Wetland	Willow Cottonwood	Ruderal	Non-native Grassland	Total
A	0	0	31.22	0.15	0.05	2.11	0	33.53
B	0	0	18.74	0.05	0	0	0	18.79
C	39.56	0	0	0	0	0	0	39.56
D	15.06	0	0	0	0	0	0	15.06
E	4.65	43.18	0	0	0.48	1.17	3.39	52.87
F		10.89	0	0	0.80	0	0	11.69

2.1 DEVELOPED/LANDSCAPED

Vegetation

Developed habitat comprises approximately 59.27 acres within the project area. Included in this habitat type are a private residence located in the southeast corner, and an extensive greenhouse/agricultural complex within the center of the project site. Vegetation within these areas includes numerous ornamental and agricultural species such as edible fig (*Ficus carica*), flowering quince (*Chaenomeles* sp.), orange (*Citrus* sp.), cherry plum (*Prunus cerasifera*) and oleander (*Nerium oleander*). Native species include a mature Western sycamore (*Platanus racemosa*) and California laurel (*Umbellularia californica*) adjacent to the private residence as well as mature arroyo willow (*Salix lasiolepis*) and California blackberry (*Rubus ursinus*) along the fence bordering the western side of the green house complex.

Wildlife

Mammals found in this type of habitat are those typical of urban habitats, such as house mice (*Mus musculus*), roof rats (*Rattus rattus alexandrinus*), fox squirrels (*Sciurus niger*), deer mice (*Peromyscus maniculatus*), and feral cats (*Felis catus*). Bird species include the European Starling (*Sturnis vulgaris*), American Robin (*Turdus migratorius*), Mourning Dove (*Zenaida macroura*), and the Northern Mockingbird (*Mimus polyglottus*), all of which may nest in the native and non-native vegetation. Given the proximity of the private residence to the riparian corridor, some birds associated more with riparian habitat may forage or perch in this area.

2.2 AGRICULTURAL/DISKED

Vegetation

Recently-disked agricultural fields comprise approximately 54.07 acres within the project site. No vegetation occurred within these fields at the time of reconnaissance level surveys.

Wildlife

The lack of vegetation in these fields precludes most wildlife use, other than species listed above for Developed/Landscaped. If these fields are planted, some birds such as the Red-winged Blackbird (*Agelaius phoeniceus*) and Brewer's Blackbird (*Euphagus cyanocephalus*) may forage within them on seeds and insects.

Legend:

--- Area of Potential Impact

*** Agricultural Disked

▬ Agricultural with Wetland Characteristics

▨ Willow/Cottonwood

⋈ Emergent Freshwater Vegetation

▧ Ruderal

--- Non-native Grassland

▣ Developed / Landscaped



2.3 AGRICULTURAL WITH WETLAND CHARACTERISTICS

Vegetation

Approximately 49.96 acres supported vegetation characteristic of fallow farm fields. Dominant grasses included non-native species such as wild rye (*Lolium multiflorum*), ripgut brome (*Bromus diandrus*), Mediterranean barley (*Hordeum marinum* ssp. *gussoneanum*), and wild oats. Forb species include black mustard (*Brassica nigra*), field mustard (*Brassica rapa*), charlock (*Sinapis arvensis*), bur clover (*Medicago polymorpha*), sweet whiteclover (*Melilotus alba*), poison hemlock (*Conium maculatum*), and red-leaf filaree (*Erodium cicutarium*).

Portions of these fields exhibit wetland characteristics typical of agricultural lands with level topography and heavy-textured soils. Observed evidence of wetland hydrology includes sediment cracks, algal mat formations on expanses of bare ground, and vegetation associated with saturated soils. Observed hydric plant species include brass buttons (*Cotula coronopifolia*), prickly-fruited buttercup (*Ranunculus muricatus*), toad rush (*Juncus bufonius*), hyssop loosestrife (*Lythrum hyssopifolia*), annual bluegrass (*Poa annua*), rabbitsfoot grass (*Polypogon monspeliensis*), orchard grass (*Dactylis glomerata*), and curly dock (*Rumex crispus*).

Wildlife

This habitat supports many species that utilize seasonal standing water, in addition to those utilizing regular agricultural lands. The proximity to the sludge ponds in the adjacent San Jose/Santa Clara Water Pollution Control Plant (SJ/SC WPCP) allows a greater number of birds to use this site. Bird species using this habitat include Western Meadowlarks (*Sturella neglecta*), Barn Swallows (*Hirundo rustica*), American Avocets (*Recurvirostra americana*), and Killdeer (*Charadrius vociferous*). When flooded, many species of ducks, herons, and shorebirds such as Great-blue Herons (*Ardea herodias*), Long-billed Curlews (*Numenius americanus*), and Black-necked Stilts (*Himantopus mexicanus*) could forage in these wetlands. The few adjacent trees provide foraging perches for American Kestrels (*Falco sparverius*), Red-tailed Hawks (*Buteo jamaicensis*), White-tailed Kites (*Elanus caeruleus*) and potentially some owl species. Mammals using this habitat include Black-tailed hares (*Lepus californicus*).

2.4 SEASONAL EMERGENT FRESHWATER

Vegetation

Seasonal emergent freshwater habitat occupies approximately 0.2 acres on the project site and occurs within a narrow drainage channel, which runs south from the SJ/SC WPCP sludge ponds into the agricultural fields. Observed species include narrow-leaved cattails (*Typha angustifolia*), red willow (*Salix laevigata*), rabbitsfoot grass, prickly ox-tongue

(*Picris echioides*), toad rush, tall umbrella sedge, (*Cyperus eragrostis*) and teasel (*Dipsacus fullonum*).

Wildlife

This habitat supports many of the same wildlife species as do areas classified as Agricultural with Wetland Characteristics. While flooded, this habitat provides wintering habitat for American Pipits (*Anthus rubescens*), Marsh Wrens (*Cistothorus palustris*), as well as many other wintering and migrating songbirds.

2.5 WILLOW COTTONWOOD

Vegetation

Willow cottonwood habitat occupies approximately 1.33 acres on the project site. It occurs along the north borders of the agricultural disked field and the agricultural field with wetland characteristics. The stand bordering the agricultural disked fields is dominated by red willow, arroyo willow, Fremont cottonwood, box elder (*Acer negundo*), and California walnut (*Juglans California* var. *hindsii*). Ornamental pines (*Pinus* sp.) and beefwood (*Casuarina* sp.) are also present. Herbaceous species are predominantly ruderal non-natives and include Italian thistle (*Carduus pycnocephalus*), prickly ox-tongue, and poison hemlock. The stand within the agricultural field with wetland characteristics consists of remnant red willow and Fremont cottonwood, as well as a single Mexican elderberry.

Wildlife

This habitat is limited tree canopy and understory, and does not provide much cover for ground-dwelling birds and mammals. However, many songbirds were seen and heard in these trees during a site visit, including the Bullock's Oriole (*Icterus galbula*), Anna's Hummingbird (*Calypte anna*), and Song Sparrow (*Melospiza melodia*). These trees also provide potential nesting opportunities for raptors and Loggerhead Shrikes (*Lanius ludovicianus*).

2.6 RUDERAL

Vegetation

Ruderal habitat occupies approximately 3.28 acres on the project site. It occurs along the borders of agricultural fields and in small bands immediately adjacent to Zanker Road and Highway 237. Species include black mustard, field mustard, bristly ox-tongue, cheeseweed (*Malva* sp.), Italian thistle, charlock, wild radish (*Raphanus sativa*), harding grass (*Phalaris aquatica*), red foxtail chess (*Bromus madritensis* ssp. *rubens*), and red-leaf filaree.

Wildlife

Such ruderal habitats as those on site, where the vegetation is not dense, provide habitat for California ground squirrels (*Spermophilus beecheyi*), Botta's pocket gophers (*Thomomys bottae*), and other species associated with developed and urban landscapes.

2.7 NON-NATIVE GRASSLAND

Vegetation.

Non-native grassland habitat occupies approximately 3.39 acres on the project site and is found primarily on the banks of the levy paralleling Coyote Creek. Dominant species include ripgut brome, soft brome (*Bromus hordeaceus*), wild oats, vetch (*Vicia* sp.), and wild rye.

Wildlife.

Western harvest mice (*Reithrodontomys megalotis*), California voles (*Microtis californicus*), and house mice may all occupy these banks. The elevated levee provides appropriate burrow habitat for fossorial mammals such as California ground squirrels and Botta's pocket gophers.

2.8 REGULATED HABITATS

2.8.1 United States Army Corps of Engineers Jurisdiction

Regulatory Overview. Areas meeting the regulatory definition of "Waters of the United States" (jurisdictional waters) are subject to the jurisdiction of the U.S. Army Corps of Engineers (USACE). The USACE, under provisions of Section 404 of the Clean Water Act (1972) and Section 10 of the Rivers and Harbors Act (1899), has jurisdiction over "Waters of the U.S." These waters may include all waters used, or potentially used, for interstate commerce, including all waters subject to the ebb and flow of the tide, all interstate waters, all other waters (intrastate lakes, rivers, streams, mudflats, sandflats, playa lakes, natural ponds, etc.), all impoundments of waters otherwise defined as "Waters of the U. S.", tributaries of waters otherwise defined as "Waters of the U. S.", the territorial seas, and wetlands adjacent to "Waters of the U.S." (33 CFR, Part 328, Section 328.3).

Areas not considered to be jurisdictional waters include non-tidal drainage and irrigation ditches excavated on dry land, artificially-irrigated areas, artificial lakes or ponds used for irrigation or stock watering, small artificial water bodies such as swimming pools, and water-filled depressions (33 CFR, Part 328).

Construction activities within jurisdictional waters are regulated by the USACE. The placement of fill into such waters must be in compliance with permit requirements of the

USACE. No USACE permit will be approved in the absence of state water quality certification pursuant to Section 401 of the Clean Water Act. State Water Resources Control Board is the state agency charged with implementing water quality certification in California.

Survey Results. A reconnaissance-level field survey was conducted on 11 April 2000 for areas that meet the regulatory definition of Waters of the U. S. Potential jurisdictional waters may occur within the agricultural fields with wetland characteristics (Figure 4). The USACE may also extend their jurisdiction to include portions of the agricultural fields ponded for long duration as well as some excavated ditches supporting aquatic vegetation.

The habitats with wetland indicators were identified at a reconnaissance level utilizing guidance provided in two federal technical field manuals-- the *Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory 1987), the *National Food Security Act Manual* third edition titled "Making Wetland Determinations on Agricultural Land," as well as regulations and statutes currently in effect. The level of effort involved a reconnaissance of existing vegetation and hydrologic conditions. To determine the extent and distribution of these resources at a level sufficient for review by the resource agencies would require additional field surveys (e.g. soils test pits, water monitoring wells, vegetation transects, etc.) as well as complete documentation of historical conditions, review of previous land use management practices, compilation of aerial photographic evidence regarding farming practices since 1985, documentation of all regional and site-specific hydrologic modifications which have occurred in the last several years (i.e. construction of drainage ditches, drainage tiles, groundwater monitoring well records, surface flow diversion structures), review of farm records, submittal of information to the Farm Services Agency, and interviews with persons familiar with farm/ranch operations in the last decade. In addition, a detailed topographic map of this area would be required to accurately describe these habitats. It is only after additional field surveys and review and compilation of additional information that wetland habitats can be accurately defined. Many habitats such as stock ponds, irrigation holding ponds, and drainage and irrigation ditches are not typically claimed by these agencies as within their jurisdiction. However, the burden of proof is upon the landowner to compile and document the construction and maintenance of such features in order for this occur.

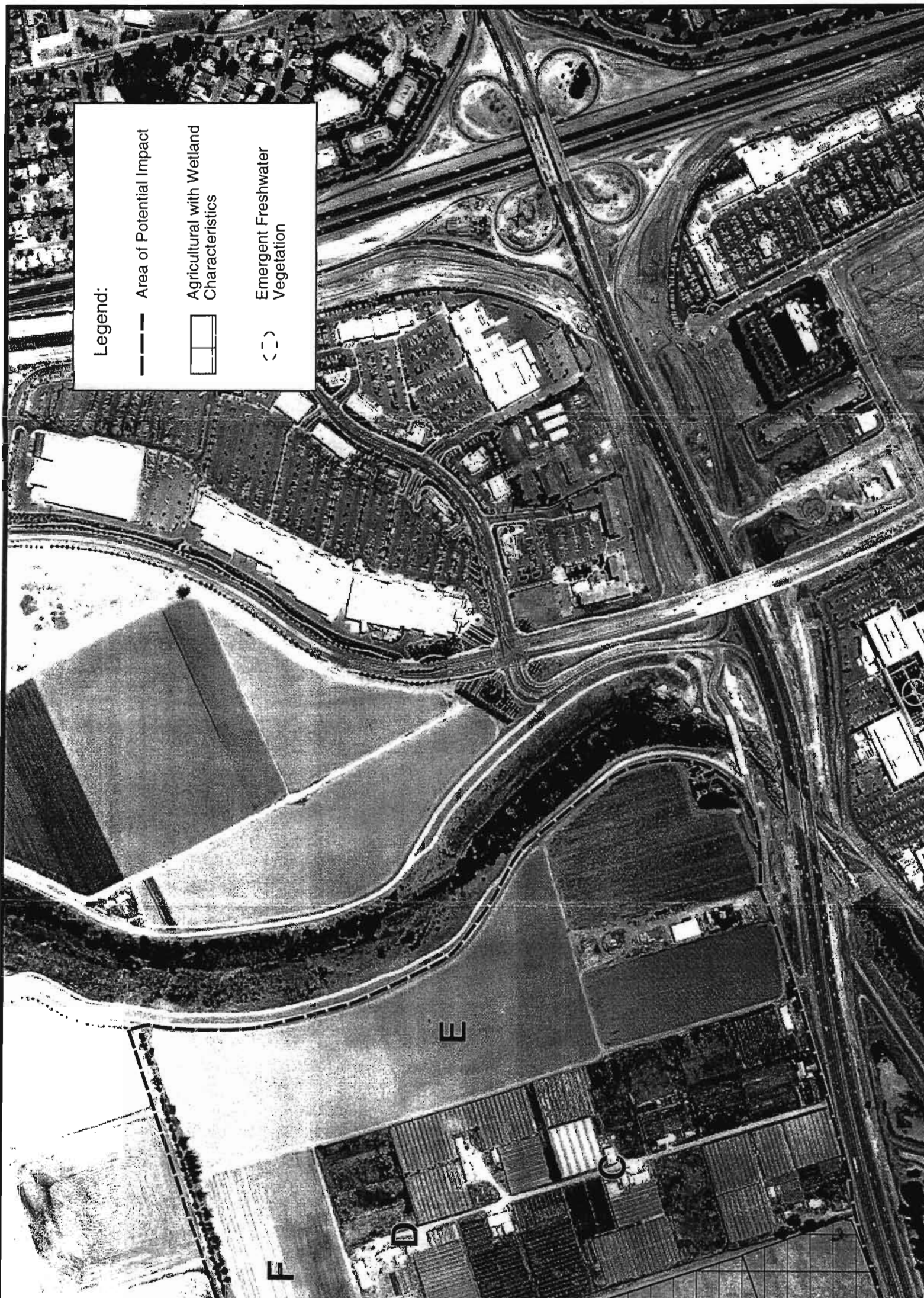
The difference in level of effort for the reconnaissance-level field surveys that were conducted and an enhanced-level survey/documentation is substantial. For this reason, the description of areas with wetland indicators in this report should be considered preliminary. The accurate identification of these resources involves further field surveys, compilation of historical and existing land uses, and review of laws, regulations, guidance letters and statutes dealing with such resources. Such a level-of-effort are beyond the scope of the present work.

Legend:

--- Area of Potential Impact

 Agricultural with Wetland Characteristics

 Emergent Freshwater Vegetation



Wildlife

Such ruderal habitats as those on site, where the vegetation is not dense, provide habitat for California ground squirrels (*Spermophilus beecheyi*), Botta's pocket gophers (*Thomomys bottae*), and other species associated with developed and urban landscapes.

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2.8.1 California Department of Fish and Game Jurisdiction

No areas potentially subject to the jurisdiction of CDFG, under Section 1600 of the California Fish and Game Code were identified during this survey. The CDFG jurisdictional area of Coyote Creek is located outside of the proposed development area.

2.8.2 City of San Jose Riparian Corridor Policy

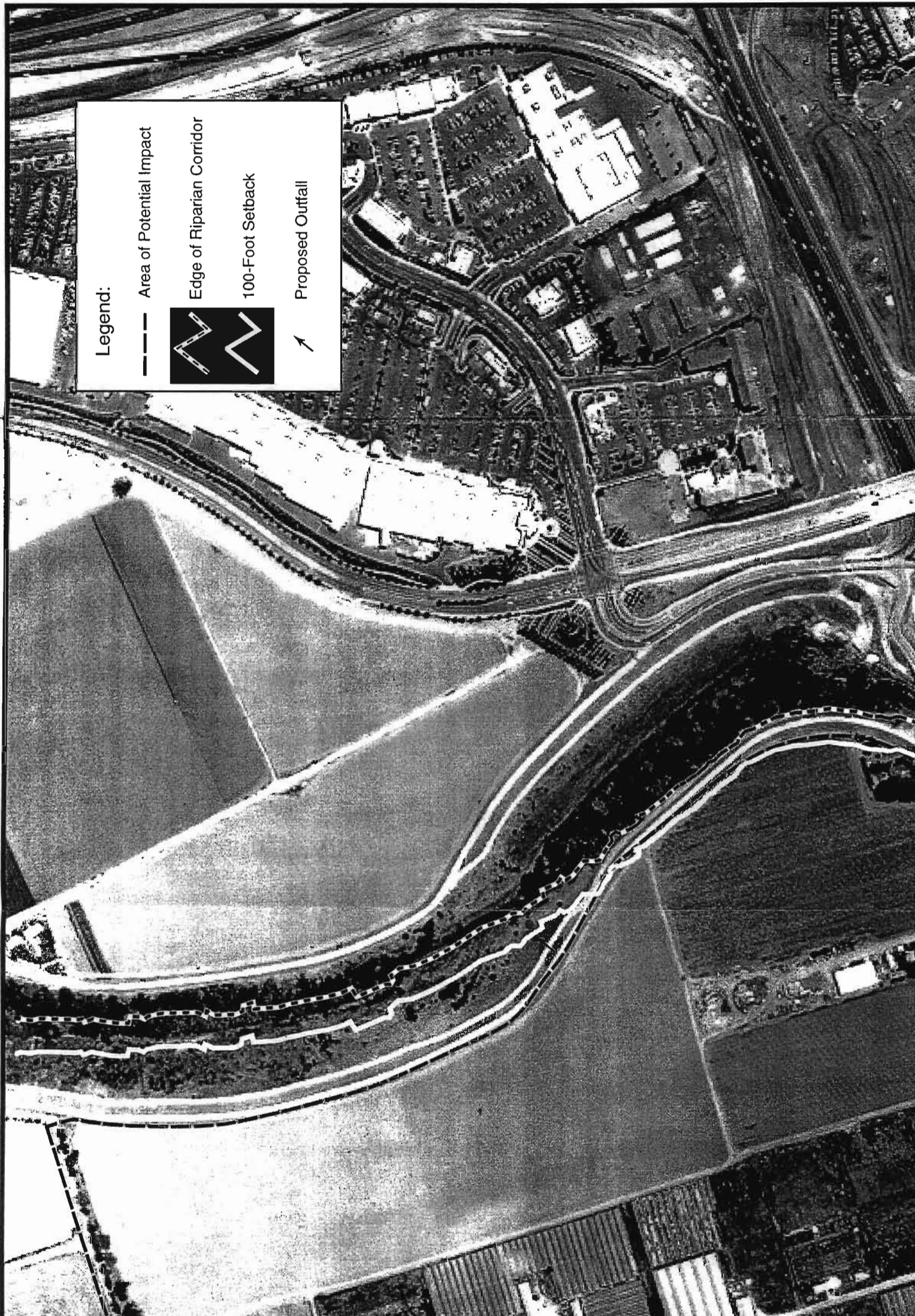
The proposed project site is directly west of Coyote Creek, a natural stream channel which flows north to the South San Francisco Bay. This reach of Coyote Creek has been modified in the past as evidenced by a berm immediately adjacent stream along the northern portion of the site, large rocks in the middle portion of the site, and the earthen levee adjacent to the flood control terrace throughout the entire site.

The riparian habitat of this reach of Coyote Creek is of moderate quality due to the dominance of mature native woody vegetation and lack of intense disturbance. Woody vegetation includes Fremont cottonwood, red willow, box elder, coast live oak (*Quercus agrifolia*), arroyo willow, western sycamore, and black walnut. Shrub and herbaceous species throughout the site include blue elderberry (*Sambucus mexicana*), mulefat (*Baccharis salicifolia*), snowberry (*Symphoricarpos albus*), California blackberry, poison oak (*Toxicodendron diversilobum*), mugwort (*Artemisia douglasiana*), and wild cucumber (*Marah* sp.). Non-native vegetation present throughout the site includes Himalayan blackberry (*Rubus discolor*), milk thistle (*Silybum marianum*), curly dock, and fumaria (*Fumaria* sp.).

It is generally desirable to minimize human activities adjacent to riparian habitats since the close proximity of human activity and the placement of structures adversely affect wildlife use within riparian corridors. Riparian corridor setbacks are the principle means of minimizing impacts associated with human activities. Riparian setbacks of up to 100 feet are often recommended by the resource agencies (e.g., CDFG and USFWS) as well as by the City of San Jose (Riparian Corridor Policy 1994, revised 1999). These setbacks are typically measured from the top of bank or edge of riparian vegetation whichever is greater. To protect the biotic resources of the Coyote Creek riparian corridor on-site, we recommend a 100-foot setback for any future development.

Current project plans for this site show no encroachment into the 100-foot riparian setback buffer area (Figure 5). If project plans change and subsequent encroachment does occur within the riparian setback area, mitigation will be required. This would include the creation of similar riparian habitat or riparian habitat enhancements in a nearby location.

All future landscaping within the 100-foot riparian setback area should consist of native trees, shrubs, and groundcovers that occur near the site. Any landscaping should include a drought tolerant mix of native riparian species such as coast live oak, blue elderberry,



Legend:

--- Area of Potential Impact



Edge of Riparian Corridor

100-Foot Setback

↗ Proposed Outfall

2.8.1 California Department of Fish and Game Jurisdiction

No areas potentially subject to the jurisdiction of CDFG, under Section 1600 of the California Fish and Game Code were identified during this survey. The CDFG jurisdictional area of Coyote Creek is located outside of the proposed development area.

2.8.2 City of San Jose Riparian Corridor Policy

The proposed project site is directly west of Coyote Creek, a natural stream channel which flows north to the South San Francisco Bay. This reach of Coyote Creek has been modified in the past as evidenced by a berm immediately adjacent stream along the northern portion of the site, large rocks in the middle portion of the site, and the earthen levee adjacent to the flood control terrace throughout the entire site.

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Current project plans for this site show no encroachment into the 100-foot riparian setback buffer area (Figure 5). If project plans change and subsequent encroachment does occur within the riparian setback area, mitigation will be required. This would include the creation of similar riparian habitat or riparian habitat enhancements in a nearby location.

All future landscaping within the 100-foot riparian setback area should consist of native trees, shrubs, and groundcovers that occur near the site. Any landscaping should include a drought tolerant mix of native riparian species such as coast live oak, blue elderberry,

and box elder. The shrub layer should include coyote brush (*Baccharis pilularis*), toyon (*Heteromeles arbutifolia*), and coffeeberry (*Rhamnus californica*).

2.8.3 Ordinance-Size Trees

The City of San Jose Tree Removal Controls (San Jose City Code, sections 13.31.010 to 13.32.100) serve to protect all trees having a trunk measuring 56 inches or more in circumference (18 inches in diameter) at the height of 24 inches above the natural grade of slope. The ordinance protects both native and non-native species. A tree removal permit is required from the City of San Jose for the removal of ordinance-sized trees. In addition, any tree found by the city council to have special significance can be designated as a heritage tree, regardless of tree size or species. It is unlawful to vandalize, mutilate, remove, or destroy such heritage trees. In addition, the City of San Jose requires, prior to the issuance of any approval or permit for construction of any improvement of the building site, that all trees on the project site be inventoried and categorized according to size, species, and location.

Survey Results. Several trees that may be of ordinance size are located within the proposed project boundaries. These include the cottonwood and willow along the north boundary, the western sycamore and California laurel in the southeastern corner, and several trees within the greenhouse complex. A formal tree survey was not included in the current scope of work.

3.0 SPECIAL-STATUS PLANT AND WILDLIFE SPECIES

Prior to the site surveys, information concerning the known distribution of threatened, endangered, or other special-status and significant plant and animal species that may occur in the area was collected from several sources and reviewed by H. T. Harvey & Associates biologists. The sources included the CDFG's Natural Diversity Data Base (CNDDDB 2000), and miscellaneous information available through the U.S. Fish and Wildlife Service (USFWS), CDFG, and technical publications. The California Native Plant Society's *Inventory of Rare and Endangered Vascular Plants of California* (Skinner and Pavlik 1994) and *The Jepson Manual* (Hickman 1993) supplied information regarding the distribution and habitats of vascular plants in the vicinity.

A search of published accounts of these species was conducted within the Milpitas U.S.G.S. quadrangle map in which the project occurs, and for 9 surrounding quadrangles including Calaveras Reservoir, San Jose East, San Jose West, La Costa Valley, Niles, Newark, Mountain View, and Cupertino using CNDDDB Rarefind reports (CNDDDB 2000).

Special-Status Species Regulations Overview. Federal and state endangered species legislation gives several plant and animal species known to occur in the vicinity of the project site special status. In addition, state resource agencies and professional organizations, whose lists are recognized by agencies when reviewing environmental documents, have identified, as sensitive, some species occurring in the vicinity of the project site. Such species are referred to collectively as "species of special status" and include: plants and animals listed, proposed for listing, or candidates for listing as threatened or endangered under the Federal Endangered Species Act (FESA) or the California Endangered Species Act (CESA), animals designated as "Species of Special Concern" by CDFG, and plants listed as rare or endangered in the California Native Plant Society (CNPS) *Inventory of Rare and Endangered Vascular Plants of California* (CNPS 1994).

FESA provisions protect federally-listed threatened and endangered species and their habitats from unlawful take. "Take" under FESA includes activities such as "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any of the specifically enumerated conduct." The USFWS's regulations define harm to mean "an act which actually kills or injures wildlife." Activities that may result in "take" of individuals are regulated by the USFWS. Unlike threatened and endangered species, candidate species are not afforded any legal protection under FESA but typically receive special attention from federal and state agencies during the environmental review process.

Provisions of California's Endangered Species Act (CESA) protect state-listed threatened and endangered species. CDFG regulates activities that may result in "take" of individuals (i.e., "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill"). Habitat degradation or modification is not expressly included in the definition of "take" under the California Fish and Game Code. The CDFG, however, has

interpreted "take" to include the "killing of a member of a species which is the proximate result of habitat modification..." The CDFG has also produced three lists (amphibians and reptiles, birds, and mammals) of "species of special concern" that serve as "watch lists." Species on these lists may receive special attention during environmental review, but do not have statutory protection.

Vascular plants listed as rare or endangered by the California Native Plant Society (CNPS; Skinner and Pavlik 1994), but which have no designated status under state endangered species legislation, are defined as follows:

- List 1B. Plants rare, threatened, or endangered in California and elsewhere.
- List 2. Plants rare, threatened, or endangered in California, but more numerous elsewhere.
- List 3. Plants about which we need more information - A review list.
- List 4. Plants of limited distribution - A watch list.

3.1 SPECIAL-STATUS PLANT SPECIES

Surveys were conducted at a reconnaissance-level on 11 March 2000 for habitats capable of supporting special-status plants on site. The survey method involved hiking the entire project in order to observe all habitats on site. Of the 17 special-status plant species known to occur within the vicinity, 15 are associated with habitat types that do not occur in the project site. These habitats include: cismontane woodland, valley and foothill grassland, chaparral, serpentine seeps and grasslands, serpentine balds, vernal pools, coastal sage scrub, coastal bluff scrub, coastal prairie, north coast coniferous forest, alkali playa, salt marsh, redwood forest, maritime chaparral, closed-cone coniferous forest, and broad-leafed evergreen forest.

The special-status plant species that occur in regional habitats similar to those found in the project area are described below. These species are presented in Table 3, along with their legal status and specific likelihood of occurrence on site. Expanded descriptions follow.

Contra Costa Goldenfields (*Lasthenia conjugens*). Federal Listing Status: Endangered; State Listing Status: None; CNPS List: 1B. Contra Costa goldfields occurs in valley and foothill mesic grasslands and vernal pools. The blooming period for this annual herb occurs from March through June. This species has been extirpated through most of its historical range, including most of Santa Clara County. Potentially suitable habitat for Contra Costa goldfields on site is highly degraded. No occurrences of this species have been reported in proximity to the project site. The species was not observed during reconnaissance level surveys. Therefore the species is presumed absent and no further surveys are warranted.

Congdon's tarplant (*Hemizonia parryi* ssp. *congdonii*). **Federal Listing Status:** Species of Concern; **State Listing Status:** None; **CNPS List 1B.** Congdon's tarplant generally occurs on alkaline soils within valley and foothill grassland habitat. This species is generally associated with saltgrass and/or saline pastures. The blooming period of this annual herb is from June through November. Historical occurrences of Congdon's tarplant have been documented with the vicinity. A recent population of this plant was observed in the summer of 1998 on property situated directly adjacent to the San Jose/Santa Clara Water Pollution Plant facility. Marginally suitable habitat for Congdon's tarplant exists on site.

A protocol-level survey at the project site was conducted on 24 July 2000 for Congdon's tarplant. The survey method involved hiking the entire project during the peak blooming season of the target species in order to observe all habitats and vegetation on site. No Congdon's tarplant was observed during the survey. The species is presumed absent from the project site, and no further surveys are warranted. This conclusion is supported by the following observations:

- The survey was conducted during the bloom period for Congdon's tarplant when the species is easily identifiable. We observed this species flowering on a parcel located within one mile of the project site on the same day the survey was conducted.
- The majority of potentially suitable habitat on site—specifically ruderal and non-native grassland habitat along field margins and road sites—had been recently obliterated by access road construction. The remaining habitat types on site are unlikely to support Congdon's tarplant.

3.2 SPECIAL-STATUS ANIMAL SPECIES

Biologist Naomi Nichol conducted reconnaissance-level field surveys on 11 March 2000 for any special-status wildlife species on site, or habitats capable of supporting them. The special-status animal species that occur in the vicinity of the site in habitats similar to those found on the project site are described below. The protective status and likelihood of occurrence of these species on the site are presented in Table 1. Expanded descriptions are thus, included only for those species for which suitable habitat occurs on the project site and, may be impacted by project implementation.

There are several special-status species known to occur in habitats that are present on the site or may forage in the project area, which will not be significantly impacted by site development. These special-status species include Cooper's Hawk (*Accipiter cooperii*), Golden Eagle (*Aquila chrysaetos*), Prairie Falcon (*Falco mexicanus*), Merlin (*Falco columbarius*), Long-billed Curlew (*Numenius americanus*), California Gull (*Larus californicus*), Short-eared Owl (*Asio flammeus*), Vaux's Swift (*Chaetura vauxi*), California Horned Lark (*Eremophila alpestris actia*), Loggerhead Shrike (*Lanius*

ludovicianus), California Yellow Warbler (*Dendroica petechia brewsteri*), Yellow-breasted Chat (*Icteria virens*), Tricolored Blackbird (*Agelaius tricolor*), brush rabbit (*Sylvilagus bachmani riparius*), steelhead rainbow trout (*Oncorhynchus mykiss*), chinook salmon (*Oncorhynchus tshawytscha*) and western pond turtle (*Clemmys marmorata*).

Some special-status species are known to occur in the area but are thought to be absent from the project site due to a lack of habitat, or thought or known to occur only rarely as stray migrants or transients. These include Ferruginous Hawk (*Buteo regalis*), Black Tern (*Chlidonias niger*), Yellow-billed Cuckoo (*Coccyzus americanus*), Long-eared Owl (*Asio otus*) and California red-legged frog (*Rana aurora draytonii*). Bald Eagles (*Haliaeetus leucocephalus*) do not breed in Santa Clara County, although they occur in very small numbers at the reservoirs on either side of the Santa Clara Valley in winter, and they occasionally fly over the valley floor. However, there are no records of birds foraging at or near the project site, and there is no foraging habitat on site. Therefore, this species is not expected to occur on project site.

Other species, which are not expected to breed or forage on the site frequently, or for long durations during the breeding season, include the Double-crested Cormorant (*Phalacrocorax auritus*), Osprey (*Pandion haliaetus*), Sharp-shinned Hawk (*Accipiter striatus*), American Peregrine Falcon (*Falco peregrinus anatum*), Willow Flycatcher (*Empidonax traillii*), Bank Swallow (*Riparia riparia*), and the California mastiff bat (*Eumops perotis californicus*). This project will have no effect on the breeding success of any of these species. Due to the abundance of similar habitats regionally, and the buffer zone on site and adjacent to the property to the west, the foraging habitat for most of these species will likely not be significantly impacted. In summary, due to the low numbers of individuals of these species expected to use the project site, and/or the limited extent of impacted habitat, this project is expected to have a less-than-significant impact on these species that do not breed on the project sites. There is no habitat on or in the immediate vicinity of the site for Snowy Plover (*Charadrius alexandrinus nivosus*), California Black Rail (*Laterallus jamaicensis coturniculus*), California Clapper Rail (*Rallus longirostris obsoletus*).

Burrowing Owl (*Athene cunicularia*). **Federal Listing Status: Species of Concern; State Listing Status: Species of Concern.** Burrowing Owls are terrestrial birds typically found in open, dry annual or perennial grasslands, deserts, and scrublands. They prefer habitats with low-growing vegetation, and/or slightly elevated areas of bare ground so as to detect predators. They nest in burrows which are excavated by burrowing mammals, most notably the California ground squirrel, and show strong associations with this species.

The ground squirrels create and maintain the owls' habitat by creating burrows and preventing the surrounding vegetation from becoming overgrown. The presence of burrows in the absence of ground squirrels may only provide temporary habitat for Burrowing Owls.

Burrowing Owls are found throughout the area surrounding the project site and the site was found to be consistent with potential nesting and foraging habitat for Burrowing Owls during a reconnaissance survey for the biological constraints analysis. This warranted additional surveys, conducted in accordance with California Department of Fish and Game (CDFG) protocol.

Protocol-level surveys were conducted on the mornings of 14, 20, and 27 June 2000. Burrows were examined for any evidence of Burrowing Owls (e.g., feathers, castings, prey remains). No sign of their presence was found, nor were any owls seen during these surveys. Thus, the site appears to be unoccupied by Burrowing Owls at the time of surveys.

In summary, no Burrowing Owls were observed on-site, but the property was found to be consistent with potential nesting and foraging habitat. Owls could occupy the site at anytime, and have likely been present on the site in the past. Surveys conducted on adjacent properties detected up to 14 pairs of owls attempting to nest as recently as 1997. Future developments in the areas onsite that may be capable of supporting Burrowing Owls require that a pre-construction survey be conducted. If owls are found using these areas, CDFG should be consulted to provide recommendations to offset impact or take of this species (as discussed below under mitigation measures for Burrowing Owl impacts).

Northern Harrier (*Circus cyaneus*). **Federal Listing Status: None; State Listing Status: Species of Concern.** Northern Harriers are found in open grasslands, agricultural fields, and marshes throughout much of North America. They perch and fly low, hunting for a variety of prey such as mice, birds, frogs, reptiles, and insects. They are ground nesters, building nests in areas where the ground vegetation is sufficient to allow cover. This species was observed foraging on the site during the reconnaissance survey.

Given the proximity of the sludge ponds in the adjacent property, it is likely that harriers both forage and nest in this area. The current development plan should not impact their foraging habitat, as much of the suitable land is being left undeveloped. However, a pre-construction survey should precede development to ensure that no nests are affected if construction occurs during the breeding season (February through August).

White-tailed Kite (*Elanus caeruleus*). **Federal listing status: None; State Listing Status: Protected.** The White-tailed Kite is found in brushy grasslands and agricultural areas with low ground cover, as well as grassy foothills, marsh, riparian, woodland, and savanna. They require tall oaks, willows, or other broad-leaved deciduous trees for nesting. Prey items consist of mainly rodents and insects, although will also take reptiles, amphibians, and birds. Kites have nested along Coyote Creek in adjacent properties, and are likely to nest on the site. During the reconnaissance survey, a single kite was seen foraging over the western portion of the property.

Development in this area will likely to have little impact on either nesting or foraging habitat, as nests likely occur in the riparian corridor, and the proposed development does

not include a large portion of suitable foraging habitat. However, the trees on the northern border of the site should be surveyed for kite nests prior to construction, if development is to occur during the breeding season (February through September).

Loggerhead Shrike (*Lanius ludovicianus*). **Federal Listing Status: None; State Listing Status: Species of Special Concern.** These predatory passerines occur throughout much of North America, although their populations have declined significantly in the east. Loggerhead Shrikes are associated with grasslands and ruderal habitats, foraging on reptiles, birds, insects and small mammals. The loss of grasslands in the west is causing local declines, and the species is declining as a whole across California.

Loggerhead Shrikes nest in the understory herbaceous vegetation, under dense trees and tall shrubs. There are records of breeding shrikes in many areas around the site, and they are likely breeding on the study area. While development in areas where Loggerhead Shrikes forage is unlikely to have a significant impact on their populations, development in areas with tall trees and shrubs could potentially cause the destruction of nests during the breeding season (February through August). During preconstruction surveys for raptors, Loggerhead Shrikes should also be surveyed for if development is to occur during the breeding season.

Saltmarsh Common Yellowthroat (*Geothlypis trichas sinuosa*). **Federal Listing Status: None; State Listing Status: Species of Special Concern.** The Common Yellowthroat is a widespread species with 12 recognized subspecies. The Saltmarsh Common Yellowthroat inhabits emergent vegetation and breeds in freshwater and brackish marshes and associated upland areas in the San Francisco Bay area. This species often produces two clutches per year, and breeding populations have been recorded in marshes in San Mateo, San Francisco, Napa, Sonoma, Solano, Marin, and Santa Clara Counties. While other subspecies may winter or migrate through the area, the Saltmarsh Common Yellowthroat is the only subspecies to nest in the vicinity of the site.

There are various records of singing Yellowthroats in the Coyote Creek area, where they are known to breed. A few singing males were heard in the riparian corridor during a reconnaissance survey, on April 11, 2000. Future development in foraging areas is unlikely to have a significant impact on the population of this species, due to available foraging habitat elsewhere in the area. However, development in perennial wetlands, ruderal habitats, or near riparian areas would result in a loss of breeding habitat for this species. Breeding season disturbance (March through July) could cause the direct loss of nests. If disturbance or destruction of suitable habitat cannot be scheduled for the nonbreeding season, preconstruction surveys for this species should precede any disturbance. If suitable Yellowthroat habitat is impacted, CDFG should be consulted to determine steps to minimize/mitigate impacts to this species, although mitigation is required for riparian and wetland areas regardless of Yellowthroat presence.

Pallid Bat (*Antrozous pallidus pacificus*). **Federal Listing Status: None; State Listing Status: Species of Special Concern.** Pallid bats are large bats, with the Pacific race being one of the largest bats in California. Colonies of this species generally roost in rocky outcroppings, in buildings, under bridges, and in hollow trees, and range from a few to over a hundred individuals. Pallid bats forage on terrestrial arthropods, and frequent dry open grasslands near water. This species may forage in open fields and roost in the old buildings on the agricultural lands found on the site. While foraging habitat is available elsewhere, any demolition of potential day or maternity roosts, such as the large trees or old buildings, should be preceded by pre-demolition surveys by a bat biologist. To determine the likely location and extent of potential impacts to roosting bats, surveys to assess the extent of bat roosting on the project site (i.e., within a zone of potential disturbance) can be conducted from March through September prior to the year in which construction is scheduled to commence. This will facilitate early resolution of bat impacts and mitigation measures.

Table 3. Special status plant and animal species, their status, and potential occurrence on the U. S. Dataport site, San Jose, California.

NAME	*STATUS	HABITAT	POTENTIAL OCCURRENCE ON SITE
Federal or State Endangered Species			
Contra Costa goldfields (<i>Lasthenia conjugens</i>)	FE, CNPS IB	Vernal pools, mesic valley and foothill grassland; less than 100 m in elevation.	Suitable habitat does not occur on site; no nearby extant populations. This species is presumed absent. Therefore, no further surveys are warranted.
Fall-Run Chinook Salmon (<i>Oncorhynchus tshawytscha</i>)	FPE	Chinook salmon usually spawn in clear, cool, perennial sections of relatively undisturbed streams. Preferred streams typically support dense canopy cover that provides shade, woody debris, and organic matter to spawning streams. In addition to access to the ocean.	Likely to occur in Coyote Creek only during migration to and from spawning sites upstream. Degradation of the water quality of Coyote Creek and thus impact to the salmon's aquatic habitat is not expected to occur. No further surveys are warranted.
Federal or State Threatened Species			
California Red-legged Frog (<i>Rana aurora draytonii</i>)	FT, CSSC	Lowlands and foothills in or near permanent sources of deep water. Red-legged frogs are associated with shrubby or emergent riparian vegetation but have been observed in a number of aquatic and terrestrial habitats throughout their historic range.	Unlikely to occur on site. Protection of riparian corridor should protect any potential habitat. No further surveys are warranted. Surveys in the vicinity of the site have been negative. Only occasional individuals washed downstream might occur on Coyote Creek outside the development area and would not be affected.
Steelhead Rainbow Trout (<i>Oncorhynchus mykiss</i>)	FT	Steelhead rainbow trout usually spawn in clear, cool, perennial sections of relatively undisturbed streams. Preferred streams typically support dense canopy cover that provides shade, woody debris, and organic matter to spawning streams. In addition to access to the ocean.	Likely to occur in Coyote Creek only during migration to and from spawning sites upstream. Degradation of the water quality of Coyote Creek and thus impact to the trout's aquatic habitat is not expected to occur. No further surveys are warranted.
California Species of Special Concern			
Burrowing Owl (<i>Athene cunicularia</i>)	CSSC	Open, dry annual or perennial grasslands, deserts, and scrublands with short vegetation.	Potential habitat for nesting and foraging occurs on site; preconstruction surveys are warranted.
Northern Harrier (<i>Circus cyaneus</i>)	CSSC	Open grasslands, agricultural fields, and marshes.	Suitable habitat for nesting and foraging occurs on site; preconstruction surveys are warranted.
Loggerhead Shrike (<i>Lanius ludovicianus</i>)	CSSC	Grasslands and ruderal habitats, nesting in the understory herbaceous vegetation, under dense trees and tall shrubs.	Likely breeding on site, potential for nest destruction during the breeding season; preconstruction surveys are warranted.
Saltmarsh Common Yellowthroat (<i>Geothlypis trichas sinuosa</i>)	CSSC	Emergent vegetation, breeding in freshwater and brackish marshes and associated upland areas in the San Francisco Bay area.	Likely breeds and forages on site. Development in perennial wetlands, ruderal habitats, or near riparian areas would result in a loss of breeding habitat for this species, and could cause the direct loss of nests; preconstruction surveys are warranted.

Table 3. Special status plant and animal species, their status, and potential occurrence on the U. S. Dataport site, San Jose, California.

NAME	*STATUS	HABITAT	POTENTIAL OCCURRENCE ON SITE
Tricolored Blackbird (<i>Agelaius tricolor</i>)	CSSC	Forms dense nesting colonies typically in tall stands of cattails or tules, as well as in blackberry, wild rose bushes, riparian zones, and areas associated with freshwater. Forage over open areas in nonbreeding season.	It is likely that this species breeds within the Coyote Creek riparian corridor but does not breed on the project site therefore no further surveys are warranted.
Pallid Bat (<i>Antrozous pallidus pacificus</i>)	CSSC	Colonies generally roost in rocky outcroppings, in buildings, under bridges, and in hollow trees. Frequent dry open grasslands near water.	This species may forage in open fields and roost in the old buildings on the agricultural lands found on the site. Pre-construction surveys are warranted if any demolition of potential roosts, such as large trees or old buildings, occurs.
Townsend's Big-eared Bat (<i>Plecotus townsendii</i>)	CSSC	Frequents rural buildings, woodlands, or xeric environments, and are extremely sensitive to human disturbance.	Due to human disturbance no roosts are likely present on site. No further surveys are warranted.
Western Pond Turtle (<i>Clemmys marmorata</i>)	FSC, CSSC	Frequents ponds, marshes, rivers, and streams.	This species is present in Coyote Creek, and it is expected to occur on the project site at least occasionally. It is restricted to Coyote Creek and therefore further surveys are not warranted.
State Protected Species or CNPS Species			
Congdon's tarplant (<i>Hemizonia parryi</i> ssp. <i>Congdonii</i>)	CNPS 1B	Alkaline soils within valley and foothill grasslands. Disturbed soils.	Suitable habitat exists on site but no plants were found during protocol level surveys for this species.
White-tailed Kite (<i>Elanus caeruleus</i>)	SPS	Brushy grasslands and agricultural areas with low ground cover, as well as grassy foothills, marsh, riparian, woodland, and savanna.	Suitable habitat occurs on site; breeding habitat is within riparian corridor, and in trees on northern edge. Preconstruction surveys for active nests are warranted.

***Species Status Designations**

SPECIAL STATUS CODE DESIGNATIONS

FE = Federally listed Endangered
SE = State listed Endangered
FPE = Federally Proposed Endangered
FSC = Federal Species of Special Concern
CSSC = California Species of Special Concern
FPS = Federally Protected Species
SPS = State Protected Species
FPD = Federally Proposed Delisting
CNPS 1B = Plants considered by the CNPS to be, rare, threatened, or endangered in California, and elsewhere

4.0 POTENTIALLY SIGNIFICANT IMPACTS AND MITIGATION

EFFECTS FOUND TO BE LESS-THAN-SIGNIFICANT

Impacts of Cellular Communication Towers and CREC on Wildlife

As proposed, the operation of the satellite dishes and monopole cellular communication towers will not significantly impact wildlife species. However, if any design changes are proposed in the future, the revised design should be reviewed by a qualified ornithologist.

Noise associated with the operation of the CREC facility should not significantly impact wildlife using the Coyote Creek corridor. Wildlife using this segment of the corridor is currently subjected to higher noise levels from Highway 237 and its interchanges with I-880 at Coyote Creek. However the actual construction of these facilities may have significant impacts.

Impacts from Construction of the Outfall Structure

Approximately 1,200 ft² (20 ft. x 60 ft.) of hardscape associated with the proposed outfall will be placed on top of the existing gravel road directly east of the levee. There are no biological constraints associated with this portion of the design since the area is currently devoid of any vegetation. An additional 900 ft.² (15 ft. x 60 ft.) of hardscape associated with the proposed outfall will permanently impact an adjacent area dominated by ruderal vegetation. The assumed 15-foot temporary construction buffer will also be entirely within ruderal vegetation and thus, does not have any permanent significant impacts to potential wetland or riparian habitats.

The proposed outfall structure and temporary construction buffer will not encroach upon the 100-foot riparian setback area. Therefore, the existing riparian vegetation and riparian setback area will not be permanently impacted by the proposed outfall structure. In summary, there are no biological constraints from the proposed outfall structure provided that a 15-foot temporary construction buffer is maintained and there is no encroachment in to the 100-foot riparian setback area.

IMPACTS FOUND TO BE SIGNIFICANT

The proposed project will adversely affect some of the biological or regulated resources of the project site including potential seasonal emergent freshwater wetlands and agricultural land with wetland characteristics, ordinance size trees, Burrowing Owls, tree nesting raptors, Saltmarsh Common Yellowthroat and pallid bat. The biological resources listed below are considered sufficiently rare regionally that project impacts to them would be considered significant, or local, state and federal laws otherwise protect them.

Loss of Potential USACE Jurisdictional Habitats (Seasonal Emergent Wetlands and Agricultural Lands with Wetland Characteristics).

Approximately 0.20 acres of seasonal emergent freshwater wetlands and 49.96 acres of agricultural land with wetland characteristics would be impacted by project construction. If a jurisdictional delineation determines that these areas are jurisdictional then mitigation for impacts to USACE jurisdictional habitat would be required. However, if a jurisdictional delineation determines these areas are not jurisdictional then the impacts to these habitats would not be significant.

Mitigation for impacts to USACE jurisdictional habitat would include the creation of wetland habitat in a nearby location at a ratio determined by replacement of lost functions and values. If the following mitigation measures are met, the impacts to USACE jurisdictional habitats will be reduced to a less-than-significant level.

Mitigation 1. Avoidance. The project should be redesigned to avoid the loss of wetland habitat and tributary waters where feasible. A qualified biologist should be consulted to assist with any redesign to avoid impacts to jurisdictional habitat or other biological resources

Mitigation 2. Habitat Replacement. If avoidance is not feasible, then a mitigation and monitoring plan should be developed that minimizes impacts to remaining biological resources, identifies the location and type of mitigation sites and the species to be planted in them, and specifies a detailed monitoring plan. The mitigation and monitoring plan may encompass the following:

- a. Location of appropriate mitigation sites. A qualified biologist should identify appropriate locations for USACE mitigation on-site. If there are no appropriate on-site locations, mitigation should be conducted as close as possible along the Coyote Creek corridor.
- b. Replacement ratios for impacted habitat. All USACE jurisdictional habitats should be mitigated at a ratio that will ensure replacement of lost functions and values associated with habitat that was impacted. Prior to grading or other soil disturbance, a formal wetland delineation should be conducted of the entire project site to identify and map all USACE jurisdictional habitats. This survey, in conjunction with the project plans, will determine the specific area and type of impacts and the exact acreage and type of jurisdictional habitat that to be created based upon the 2:1 ratio.

Loss of Ordinance Sized Trees.

If ordinance size trees are impacted by project construction, mitigation will be required. By following the mitigation measures listed below, impacts to ordinance size trees will be reduced to a less-than-significant level. Mitigation should include the following:

Mitigation 1. Avoidance. The project should be redesigned to avoid the loss of ordinance size trees where feasible. Particular consideration should be given to avoiding healthy specimens of native trees. A qualified arborist or biologist should be consulted to assist with any redesign to avoid impacts to ordinance size trees.

Mitigation 2. Tree Replacement. If avoidance is not feasible, then a tree replacement plan should be developed that minimizes impacts to remaining trees and identifies the location and species to be planted to replace lost trees. The plan may encompass the following:

- a. Location of appropriate tree replacement sites. A qualified arborist or biologist should identify appropriate locations for mitigation on-site.
- b. Replacement ratios for lost trees. Ordinance trees should be replaced at a 4:1 (mitigation:impacts) ratio with small nursery stock. The 4:1 ratio is necessary to compensate for the habitat values lost while restored ordinance trees are maturing. Prior to grading or other soil disturbance, a survey should be conducted of all trees slated for removal to identify and map ordinance size trees. This survey will determine the specific number of trees that will need to be planted based upon the 4:1 ratio.
- a. Planting requirements. All planting should be done from November to January. Seedlings should be propagated from specimens collected on-site. The replacement trees should be installed in an environment suitable for their establishment and growth. These trees should be irrigated and maintained for a period or not less than three years.

Impacts to Burrowing Owls and their Burrows, Nests, Eggs, or Young

As discussed above, raptors, including owls, and their nests are protected under both federal and state laws and regulations, including the Migratory Bird Treaty Act and California Fish and Game Code section 3503.5. If Burrowing Owls are present on-site at the time of construction, construction disturbance during the breeding season could result in the incidental loss of fertile eggs or nestlings or otherwise lead to nest abandonment. Disturbance that causes nest abandonment and/or loss of reproductive effort is considered a "taking" by the CDFG. Furthermore, the destruction of occupied Burrowing Owl burrows is also considered a taking. Activities that could result in significant project-specific impacts include:

- Any loss of Burrowing Owls or fertile eggs;
- Any activities resulting in nest abandonment;
- The destruction of occupied Burrowing Owl burrows; and,
- The loss of occupied habitat.

Although no sign of Burrowing Owls was found, nor were any owls seen during protocol level surveys the site is potential nesting and foraging habitat. Therefore, although development of the site may not constitute a significant impact on a project-specific basis, the loss of potential nesting and foraging habitat for Burrowing Owls in northern Santa Clara County is a significant cumulative impact that jeopardizes the continued existence of Burrowing Owls in the South San Francisco Bay area and Santa Clara Valley.

Implementation of Mitigation 1, Mitigation 2 and 3 will reduce potential impacts to the species to a less-than-significant level.

Mitigation 1. Take Avoidance. In conformance with federal and state regulations protecting raptors against direct “take,” a qualified ornithologist should conduct pre-construction surveys for Burrowing Owls prior to any soil-altering activity or development occurring within the project area. The preconstruction surveys should be conducted per CDFG and City of San Jose guidelines (currently no more than 30 days prior to the start of site grading) regardless of the time of year in which grading occurs. If no Burrowing Owls are found, then no further mitigation will be warranted to avoid direct take. If breeding owls (i.e., during the interval from 1 February – 31 August) are located on or immediately adjacent to the site, a construction-free buffer zone around the active burrow must be established as determined by the ornithologist in consultation with CDFG. No activities, including grading or other construction work or evictions of owls, will proceed that may disturb breeding owls. If owls are resident during the nonbreeding season (1 September – 31 January), a qualified ornithologist, in consultation with CDFG, can evict the owls to avoid the loss of any individuals. If mitigation 3 (to reduce cumulatively significant impacts to the species to a less-than-significant level) has been implemented, mitigation for loss of occupied habitat would not be warranted provided that mitigation for habitat loss deemed to be cumulatively significant is at least the amount required to offset the loss of occupied habitat (i.e., 6.5 acres for each owl or pair). Take avoidance mitigations would still apply.

Mitigation 2. Impact Avoidance. If preconstruction surveys confirm that Burrowing Owls occupy the site, then avoidance of impacts to the habitat utilized by these owls will be considered the preferred mitigation method. Avoidance will allow the use of areas currently occupied by Burrowing Owls to continue uninterrupted.

Mitigation 3. Habitat Compensation. If owls are not present on the site and have not been known to occupy the site within the last three years then cumulatively significant impacts to Burrowing Owl habitat will be mitigated at a 1:0.5 (impacts:mitigation) ratio. If owls are present during preconstruction surveys or have been known to occupy the site within the last three years the cumulatively significant impacts to Burrowing Owl habitat will be mitigated at a 1:05 ratio and the project specific impacts to Burrowing Owl habitat will be mitigated by setting aside 6.5 acres of Burrowing Owl habitat for each owl or pair.

Potential Impacts to Nesting Raptors and Saltmarsh Common Yellowthroat

Raptors (e.g., eagles, hawks, and owls) and their nests are protected under both federal and state laws and regulations. The federal Migratory Bird Treaty Act (16 U.S.C. § 703, Supp. I, 1989) prohibits killing, possessing, or trading in migratory birds except in accordance with regulations prescribed by the Secretary of the Interior. This act encompasses whole birds, parts of birds, and bird nests and eggs. Birds of prey are protected in California under Fish and Game Code section 3503.5. Section 3503.5 states that it is "unlawful to take, possess, or destroy any birds in the order Falconiformes or Strigiformes (birds of prey) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation adopted pursuant thereto." Construction disturbance during the breeding season could result in the incidental loss of fertile eggs or nestlings, or otherwise lead to nest abandonment. Disturbance that causes nest abandonment and/or loss of reproductive effort is considered a "taking" by the CDFG. Any loss of fertile raptor eggs or nesting raptors, or any activities resulting in raptor nest abandonment, would constitute a significant impact. Construction activities such as tree removal, site grading, etc., that disturb a nesting raptor on-site or immediately adjacent to the construction zone would constitute a significant impact.

Several raptors, including special-status species such as the Northern Harrier, Loggerhead Shrike, and White-tailed Kite, as well as the Salt Marsh Common Yellowthroat are known to occur in the project vicinity and may breed either on the site or close enough that nests may be potentially disturbed by project-related disturbance. Therefore, the mitigation measures described below should be implemented to reduce the adverse environmental effects of the proposed project on any raptors or Salt Marsh Common Yellowthroat nesting within the project site or immediately adjacent to the site. Implementation of Mitigation 1 or 2 is expected to reduce the potential project-related environmental effects on nesting raptors and Salt Marsh Common Yellowthroat to a less-than-significant level.

Mitigation 1. Nesting season avoidance. Construction should be scheduled to avoid the nesting season to the extent possible. In the South San Francisco Bay area, most raptors and Salt Marsh Common Yellowthroats breed from February through August. However, some White-tailed Kites may begin nest-building as early as January, and kites may have young in the nest through September. If construction can be scheduled to occur between October and December, the nesting season would be avoided, and no impacts to nesting raptors or Yellowthroats would be expected.

Mitigation 2. Preconstruction/predisturbance surveys. If it is not possible to schedule construction between October and December, preconstruction surveys for nesting raptors and Salt Marsh Common Yellowthroats should be conducted by a qualified ornithologist to ensure that no active nests will be disturbed during project implementation. Preconstruction surveys for raptors should be conducted no more than 14 days prior to the initiation of construction activities during the early part of the

breeding season (January through April) and no more than 30 days prior to the initiation of these activities during the late part of the breeding season (May through August). During this survey, the ornithologist would inspect all trees in and immediately adjacent to the impact areas for raptor nests. All herbaceous salt marsh and grassland habitat within 250 feet of project impact areas should also be surveyed for Northern Harrier nests. If an active raptor nest is found close enough to the construction area to be disturbed by these activities, the ornithologist, in consultation with CDFG, would determine the extent of a construction-free buffer zone (typically 250 feet) to be established around the nest. Preconstruction surveys for Salt Marsh Common Yellowthroats should occur no more than seven days prior to construction activities from March through August. If Yellowthroat nests are present, an appropriate buffer zone should be established by a qualified ornithologist in consultation with CDFG.

Potential Disturbance of Pallid Bat Day or Maternity Roosts During Construction

Any demolition of Pallid Bat day or maternity roosts, such as large trees or old buildings, is a potentially significant impact. To reduce the impact to Pallid Bat roosts to a less-than-significant level, mitigation measures 1, 2 and 3 (if necessary) will be implemented. In addition to implementing the mitigation measures described below, surveys to assess the potential extent of day or maternity roosts at the project site can be conducted from March through September prior to the year in which construction is scheduled to commence. These surveys would not substitute for preconstruction/pre-disturbance surveys described in Mitigation 2, as bats could move on or adjacent to the site between survey periods. The surveys would, however, provide the project applicant with more complete information as to the likely location and extent of potential impacts and related mitigation.

Mitigation 1. Avoidance. Construction activities involving potential roost sites should be conducted outside the maternity roost season if the project commences after young are volant by July 31 and finished before the formation of maternity roosts begins (as early as March 1).

Mitigation 2. Pre-demolition Surveys and Buffer Zones. A qualified bat biologist should conduct a pre-demolition survey for roosting bats 14 days prior to construction (as determined by a Memorandum of Understanding with CDFG) prior to any removal of buildings, particularly those with closed areas such as an attic space, or trees ≥ 12 inches. No activities that would result in disturbance to active roosts would proceed prior to the completed surveys. If no active day or maternity roosts are found, then no further action would be warranted. If a maternity roost is present, a qualified bat biologist would determine the extent of construction-free zones around maternity roosts located during surveys. CDFG should also be notified of any active maternity roosts within the construction zone. If a day roost, that is not a maternity roost, is present then bats can be excluded by a qualified bat biologist (Mitigation 3).

Mitigation 3. Exclude bats prior to construction near day or maternity roosts. If an active maternity roost is known to occur on site and if the project cannot be conducted outside of the maternity roosting season, bats can be excluded after July 31 and before March 1 to prevent the formation of maternity colonies. Such non-breeding bats can be safely evicted, under the direction of a bat biologist, by sealing up crevices and providing them one-way exclusion doors. Such a device should be placed only during dark hours as a temporary device to prevent the formation of a maternity colony. This action should allow bats to leave during dark hours, thus increasing their **chance** of finding new roosts with a minimum of potential predation during daylight. After construction, all exclusion devices should be removed to allow bats to re-establish habitat for colonies.

If a significant day roost occurs on the project site, a bat biologist can exclude bats, but care should be taken to place one-way doors when temperatures are suitable for bats to leave their roosts. As above, bats should not be disturbed before dark and after construction, all exclusion devices should be removed to allow bats to re-establish habitat for colonies.

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APPENDIX F

WETLAND DELINEATION



Wetlands Research Associates, Inc.

September 7, 2000

Nora Monette
David Powers and Associates
1885 The Alameda, Suite 204
San Jose, CA 95126

Dear Nora:

I have enclosed the changes to the Draft Delineation Report. Included are the changes to the soils text. There is no Figure 2 in the report, and all references to it have been deleted. In addition, I have included Appendix A, the ACOE Data Forms. Our GIS person is working on reducing the delineation map to 11x17"; unfortunately, he was out today and will not be able to work on it until tomorrow. I will FedEx you the map as soon as he completes it. If you have further questions or need additional information, please don't hesitate to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read 'T Mahony', with a long, sweeping horizontal line extending to the right.

Tom Mahony
Plant Ecologist

DRAFT

DELINEATION OF POTENTIAL JURISDICTIONAL WETLANDS
UNDER
SECTION 404 OF THE CLEAN WATER ACT

U.S. DATA PORT PROJECT SITE
SANTA CLARA COUNTY, CALIFORNIA

Corps File Number

Prepared for:
U.S. Data Port
50 West San Fernando Street
Suite 320
San Jose, California, 95113
Contact: John Mogannam

Prepared by:
Wetlands Research Associates, Inc.
2169 East Francisco Blvd., Suite G
San Rafael, CA 94901
Contact: Michael Josselyn, PhD
Telephone: (415) 454-8868

September, 2000

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1.0 INTRODUCTION

Wetlands Research Associates, Inc. (WRA) conducted a delineation study to describe the location and extent of waters, including wetlands, which may be considered jurisdictional by the U.S. Army Corps of Engineers (Corps) under Section 404 of the Clean Water Act on a portion of the proposed U.S. Dataport development site in north San Jose, Santa Clara County, California. The 170 acre U.S. Data Port Study Area ("Study Area"), which is the subject of this delineation study, is located north of Highway 237 and east of Zanker Road, and adjacent to Coyote Creek in north San Jose (Figure 1). The applicant is proposing to convert portions of these parcels to industrial development.

The Clean Water Act gives the Corps jurisdiction over "Waters of the United States" which include in part: lakes, rivers, streams (including intermittent streams) and wetlands. The Corps has defined the term "wetlands" as follows:

Those areas that are inundated or saturated by surface or ground waters at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas.
(33 CFR 328.3)

The Corps of Engineers has issued a manual for the delineation of wetlands along with standard methods and data reporting forms to determine the presence or absence of wetlands. These procedures and the results of the delineation study are presented in this report.

2.0 METHODS

This study evaluated the presence or absence of indicators of three wetland parameters described in the *U.S. Army Corps of Engineers Wetlands Delineation Manual* (Corps Manual) (Environmental Laboratory, 1987). The three parameters used to determine the presence of wetlands are: (1) hydrophytic vegetation, (2) wetland hydrology, and (3) hydric soils. According to the Corps Manual (1987):

"....[E]vidence of a minimum of one positive wetland indicator from each parameter (hydrology, soil, and vegetation) must be found in order to make a positive wetland delineation."

Prior to conducting field studies, available reference materials were reviewed. These included National Wetland Inventory maps (US Fish and Wildlife Service 1985, Milpitas quadrangle) and the Soil Survey of Santa Clara County, California (USDA, Soil Conservation Service, 1968). Aerial photographs of the Study Area taken 4/28/82, 7/1/84, 6/28/88, 7/15/92, and 5/17/99 were obtained from Pacific Aerial Surveys and reviewed.

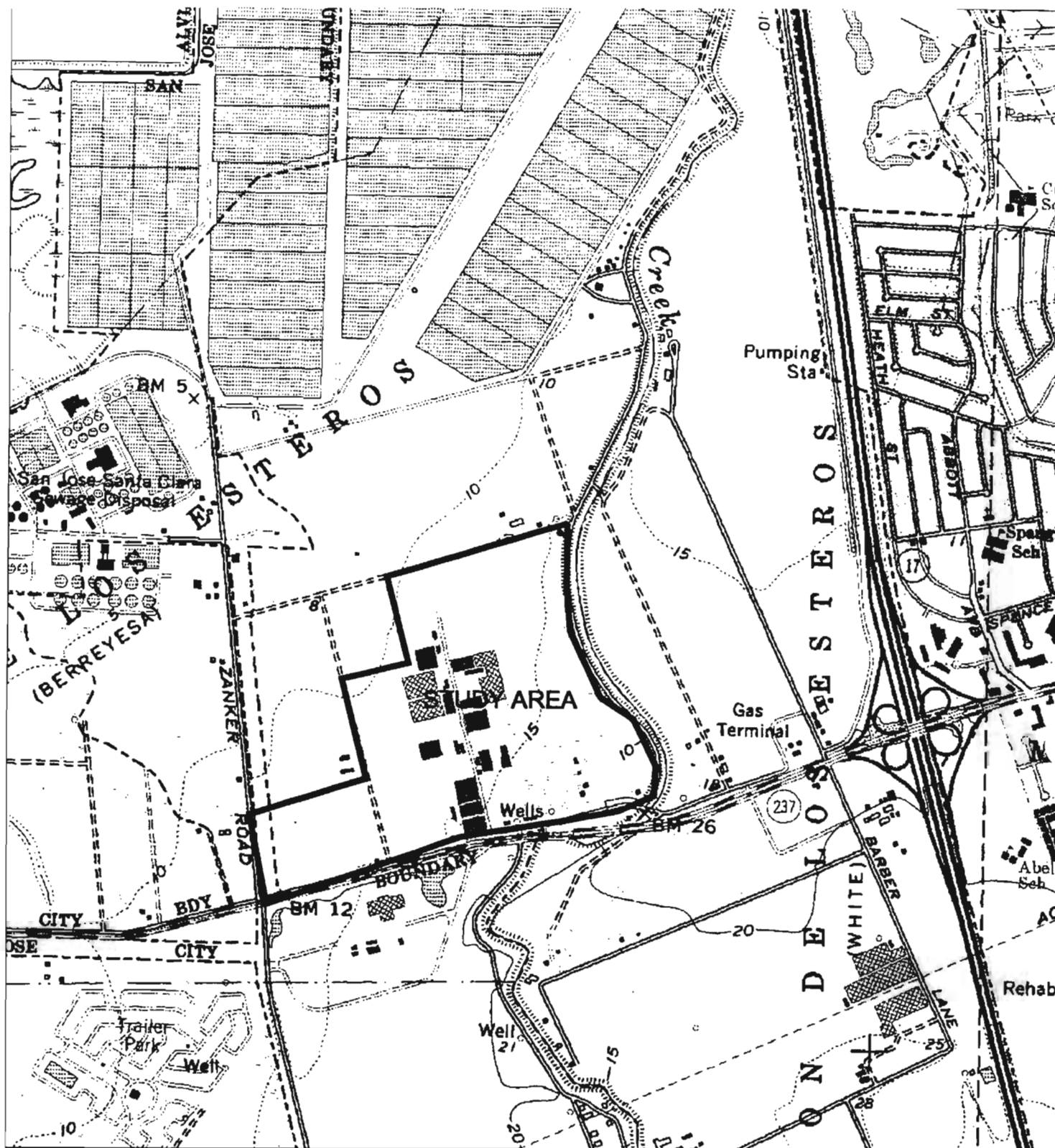


Figure 1

PURPOSE: Wetland Delineation

DATUM: NGVD

USGS QUADRANGLE: Milpitas, 1980
7.5 minute series

VICINITY MAP

U.S. Data Port.
50 West San Fernando Street
Suite 320
San Jose, California, 95113
Contact: John Mogannam

LOCATION: San Jose, North of Highway 237,
east of Zanker Road

COUNTY: Santa Clara

Application by: US DataPort

Sheet: 1 of 1 DATE: September 2000

On August 17 and 25, 2000, a routine level study of vegetation, soils, and hydrology indicators was conducted. The occurrence of indicators was investigated at sample plots located throughout the western portion of the Study Area. The results were recorded on standard 1987 *Corps Manual* data sheets (Appendix A).

The hydrophytic vegetation, hydric soils, and wetland hydrology indicators used to make wetland determinations are summarized below.

VEGETATION

Dominant plant species observed were assigned a wetland indicator status according to the U.S. Fish and Wildlife Service, List of Plant Species that Occur in Wetlands (Reed 1988). This wetland plant classification system is based on the expected frequency of occurrence of plants in wetlands.

Indicator Status	Description	Frequency of Occurrence
OBL	Obligate, always found in wetlands	> 99%
FACW	Facultative wetland, usually found in wetlands	67-99%
FAC	Facultative, equal occurrence in wetland or non-wetlands	34-66%
FACU	Facultative upland, usually found in non-wetlands	1-33%
UPL / NL	Upland / Not Listed, not found in wetlands	<1%

When greater than 50 percent of the dominant plant species have an indicator status of OBL, FACW, and/or FAC, hydrophytic vegetation is present. Dominant herbaceous plant species are those having the greatest percentage of areal cover.

SOILS

The Natural Resource Conservation Service defines a hydric soil as:

"A hydric soil is a soil that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part."

(Federal Register July 13, 1994, US Department of Agriculture, Natural Resource Conservation Service.)

Soils formed over long periods of time under wetland (anaerobic) conditions sometimes possess characteristics that indicate that they meet the definition of hydric soils. Recently filled areas generally do not have hydric soil indicators as they have not had time to develop (Corps of Engineers Manual 1987).

According to the Technical Notes issued by the National Technical Committee for Hydric Soils (NTCHS), the definition of hydric soils must be met for a soil to be considered hydric:

Several terms are frequently used to describe hydric soil delineation methodology. These are: Hydric Soil Definition, Hydric Soil Criteria, Hydric Soil Lists, Hydric Soil Indicators, and, lastly, hydric soils. According to the deliberations of the National Technical Committee for Hydric Soils (NTCHS), each of these terms has a specific meaning and use. All hydric soils must satisfy requirements of the Hydric Soil Definition. Hydric Soil Criteria are used to generate Hydric Soil Lists. Hydric Soil Lists contain a listing of soils that have a probability of being hydric. Hydric Soil Indicators are primarily morphological indicators used for field identification of hydric soils. Hydric Soil Criteria and Hydric Soil Lists are primarily used as offsite assessment tools. A hydric soil is a soil that meets the Hydric Soil Definition; presence of one (or more) of the Hydric Soil Indicators is evidence that the definition has been met.

NTCHS Technical Note 1 (1998)

The Corps Manual provides guidance on the indicators required to determine the presence of a hydric soil. As stated in the Corps' December 12, 1995 guidance letter "NRCS Field Indicators of Hydric Soils" indicators contained in the Field Indicators of Hydric Soils of the United States, Version 4.0, (USDA, 1998) which are correlated to indicators in the 1987 Corps Manual or were developed for use in Problem Areas (e.g. Seasonal wetlands) were used as an additional tool for identification of hydric soils.

Soil profiles were described to at least 10 inches including horizon depths, color, redoximorphic features, and texture. Soil color was determined using a Munsell soil color chart (GretagMacbeth, 2000).

HYDROLOGY

Wetland hydrology is a term which encompasses hydrologic characteristics of areas that are periodically inundated or saturated to the surface at some time during the growing season. Recorded data can be used when available to determine wetland hydrology. In California, recorded data which shows inundation or saturation to the surface for a minimum of five percent of the growing season (18 days in areas with a 365 day growing season) is considered evidence of wetland hydrology.

When studies are conducted at a time of year when surface water, ground water or saturated soils can not be observed, evidence of wetland hydrology is based on observation of the hydrologic indicators described in the 1987 *Corps Manual*. Evidence of wetland hydrology can include direct evidence (primary indicators), such as visible inundation or saturation, surface sediment deposits, and drift lines, or indirect indicators (secondary indicators), such as oxidized root channels and algal mats. If indirect or secondary indicators are used, at least two secondary

indicators must be present to conclude that an area has wetland hydrology. Depressions and topographic low areas were examined for these hydrological indicators.

Some areas may demonstrate hydrologic characteristics, but not be considered jurisdictional wetlands. Included in this category are some man-induced wetlands, which are areas that have developed at least some characteristics of naturally occurring wetlands due to either intentional or incidental human activities. Examples of man-induced wetlands include irrigated wetlands, impoundments, or drainage ditches constructed in uplands, wetlands resulting from filling of formerly deep water habitats, dredged material disposal areas, and wetlands resulting from stream channel realignment.

In addition, this study evaluated the presence of any "waters of the United States" other than wetlands potentially subject to U.S. Army Corps of Engineers jurisdiction under Section 404 of the Clean Water Act. Other areas, besides wetlands, subject to Corps jurisdiction include lakes, rivers and streams (including intermittent streams). Jurisdiction in non-tidal areas extends to the ordinary high water mark (OHW) which is defined as:

The term "ordinary high water mark" means that a line on the shore established by the fluctuations of water and indicated by physical characteristics such as clear, natural line impresses on the bank, shelving, changes in the characteristics of the soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas.

Federal Register Vol. 51, No. 219, Part 328.3 (d). November 13, 1986.

3.0 STUDY AREA DESCRIPTION

The 170 acre Study Area is located north of Highway 237 and east of Zanker road in north San Jose, Santa Clara County. The Study Area is at approximately 10 feet elevation (NGVD) and nearly level. Coyote Creek forms the eastern boundary. Agricultural lands form the eastern and western of the Study Area, and water treatment sludge ponds border the Study Area to the north. Urban development occurs to the south.

The Study Area consists mostly of agricultural land, developed areas, and annual grassland. At the time of field visits, most areas in the eastern and central sections of the Study Area were in active cultivation or covered in buildings related to agricultural activities, such as greenhouses. The western and southwestern portions of the Study Area were being used by the City of San Jose treatment facility as a summer disposal area for treated wastewater. The land is sprayed by rotating overhead sprayers and the hay crop harvested.

Vegetation

The dominant plant community in the western portion of the Study Area is annual grassland/fallow farm field containing primarily non-native annual grasses and herbs. Dominant plants include Italian ryegrass (*Lolium multiflorum*, FAC), bristly ox-tongue (*Picris echioides*, FAC), ripgut brome (*Bromus diandrus*, NL), wild oats (*Avena fatua*, NL), curly dock (*Rumex crispus*, FACW-), black mustard (*Brassica nigra*, NL), bur clover (*Medicago polymorpha*, NL), and Mediterranean barley (*Hordeum marinum ssp. gussoneanum*, FAC).

A drainage channel parallels a levee in the western part of the Study Area, and is dominated by rabbitsfoot grass (*Polypogon monspeliensis*, FACW+), toad rush (*Juncus bufonius*, FACW+), and narrow-leaved cattail (*Typha angustifolia*, OBL). Two depressions occurred in the irrigated field, dominated by common knotweed (*Polygonum arenastrum*, FAC), tall umbrella sedge (*Cyperus eragrostis*, FACW), and brass buttons (*Cotula coronopifolia*, FACW+). Cottonwood (*Populus fremontii ssp. fremontii*, FACW), red willow (*Salix laevigata*, NL) and arroyo willow (*Salix lasiolepis*, FACW) are scattered along the northern and western boundary of the site. Most of the eastern portion of the Study Area was freshly plowed or under cultivation at the time of the site visits.

Soils

The Soil Survey of Santa Clara County, California (USDA 1968) indicates four mapping units within the Study Area:

- Mg- Mocho loam, 1 to 3 percent slopes
- Cc- Campbell silty clay loam, clay substratum
- CsA- Cropley clay loam,
- Pf- Pacheco loam, clay substratum

Mocho loam, 1 to 3 percent slopes, has a brown or pale-brown, slightly calcareous, friable loam surface layer 12 to 20 inches thick. The surface soil grades into a pale-brown, moderately permeable, calcareous, somewhat stratified loam of fine sandy loam subsoil. Generally, some rust-brown mottling occurs in the subsoil. This soil mostly occurs in the southwestern part of the Study Area. It is not listed as a hydric soil on the hydric soils list for Santa Clara Area.

Campbell silty clay loam, clay substratum, has a dark, gray granular, hard, mildly alkaline surface layer 22 to 28 inches thick. The surface soil grades into a dark gray silty clay loam subsoil 12 to 15 inches thick. This soil is somewhat poorly drained and occurs in the central portion of the Study Area. It is listed as hydric when containing Campbell components.

Cropley clay loam, 0 to 2 percent slopes, has a brown, massive, hard, moderately alkaline surface layer 9 to 20 inches thick. The surface soil grades into a dark gray clay subsoil, 15 to 30 inches thick. This soil is well drained and occurs in the eastern portion of the Study Area. It is listed as hydric when containing Campbell components.

Pacheco loam, clay substratum, has a grayish brown, granular, hard, moderately alkaline surface layer 14 to 18 inches thick. The surface soil grades into a light brownish gray mottled loam subsoil 22 to 26 inches thick. This soil is poorly drained and occurs in the southwestern corner of the Study Area. It is listed as hydric when containing Pacheco components.

Hydrology

The principal hydrological sources for the Study Area are precipitation and surface run-off from adjacent areas. Irrigation occurs on the western parcel, as part of the City of San Jose's summer wastewater management program, and has had an effect on soils and hydrology in this region. While most of the area where irrigation occurred was relatively well drained, two areas exhibited ponded water at the time of the survey.

4.0 RESULTS

A routine level jurisdictional wetlands delineation was conducted on the Study Area on August 9 and 25, 2000. The entire site was field reviewed for potential jurisdictional wetland and waters areas, but particular focus was paid to the irrigated area. Field data collected at 19 observation points are presented on Corps data forms in Appendix A. Locations are depicted on the map in Appendix B. Potential jurisdictional areas are described in the following sections and shown on the enclosed map in Appendix B.

Vegetation

Elements of wetland plant communities were found in fields in the western and southwestern portions of the Study Area. Two jurisdictional wetlands occurred near the large Fremont cottonwood along the dirt road leading in from Zanker road. In jurisdictional areas, brass buttons, rabbitsfoot grass, curly dock, common knotweed, bristly ox-tongue, and Italian ryegrass dominated. Vegetation at points and areas determined not to be jurisdictional were dominated by Italian ryegrass, bristly ox-tongue, Mediterranean barley, wild oats, black mustard, and bur clover. The ditch along the western border of the Study Area was dominated by rabbitsfoot grass and narrow-leaved cattail.

Soils

Soils observed in the western field were mostly 10YR 3/2 with no evidence of

redoximorphic features. In two depressions in the southwestern portion of the field, soils with a low chroma matrix of 10YR 3/1 occurred. These depressions probably resulted from agricultural activity and former roadways occurring on the site that were visible in aerial photos taken on 4/28/82, 6/28/88, and 7/15/92. Soils in these depressions had a low chroma matrix, but lacked mottles, oxidized rhizospheres, or other redoximorphic features.

Hydrology

Jurisdictional areas were filled with water or saturated during the site visit. Ponding is due to irrigation, but these areas will pond from direct precipitation during the rainy season due to the depressional topography and compacted clay soils. These areas met the primary hydrologic indicator of direct observation of drainage pattern in wetlands. In addition, most of the jurisdictional areas had secondary hydrologic indicators of algal mats. Sediment cracks were observed on expanses of bare ground, indicating these areas pond during the winter. In upland sampling areas there were either no wetland hydrology indicators or only a single secondary indicator (algal mats). The latter may be the result of irrigation water.

5.0 POTENTIAL CORPS OF ENGINEERS JURISDICTION

Within the U.S. Dataport development site in north San Jose, Santa Clara County, two wetlands occur on the southwestern portion of the Study Area (Appendix B) in depressions near the dirt road intersection at the southwestern edge of the property. The drainage ditch near these wetlands, though containing wetland vegetation, was determined to be a ditch dug in uplands, and therefore exempt from Corps jurisdiction.

The total area of potential Section 404 jurisdictional wetlands in the Study Area is 0.2 acres (8,712 ft²).

6.0 REFERENCES

- Environmental Laboratory. 1987. U.S. Army Corps of Engineers Wetlands Delineation Manual. Department of the Army, Waterways Experiment Station, Vicksburg, Mississippi 39180-0631.
- Federal Register July 13, 1994, US Department of Agriculture, Natural Resource Conservation Service.
- Federal Register February 24, 1995, US Department of Agriculture, Natural Resource Conservation Service.

Gretag Macbeth. 2000. Munsell Soil Color Charts. New Windsor, NY.

Reed, P. B., Jr. 1988. National list of plant species that occur in wetlands: California (Region 0). U.S. Fish and Wildlife Service Biological Report 88 (26.10).

U.S. Army, Corps of Engineers, December 12, 1995, Guidance letter on use of NRCS Field Indicators of Hydric Soils.

U.S. Department of Agriculture, Soil Conservation Service. 1968. Soil Survey of Santa Clara Area, California. In cooperation with the University of California Agricultural Experiment Station. 202 pp. + appendices.

U.S. Department of Agriculture. 1998. Field Indicators of Hydric Soils in the United States. National Technical Committee for Hydric Soils. National Resources Conservation Service. 30 pp.

U.S. Geological Survey. 1980. Milpitas quadrangle. 7.5 minute topographic map.

Appendix A - Corps Delineation Data Forms

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: U.S DataPort	Date: <u>8/25/2000</u>
Applicant/Owner: <u>U.S. DataPort</u>	County: <u>Santa Clara</u>
Investigator: <u>Wetlands Research Associates</u>	State: <u>CA</u>
Do Normal Circumstances exist on the site? ☒ Yes ☐ No	Community ID: _____
Is the site significantly disturbed (Atypical Situation)? ☐ Yes ☒ No	Transect ID: _____
Is the area a potential Problem Area? ☒ Yes ☐ No (if needed explain on reverse.) seasonal wetland	Plot ID: <u>1</u>

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <u>Polygonum arenastrum</u>	<u>H</u>	<u>FAC</u>	9. _____	_____	_____
2. <u>Polypogon monspeliensis</u>	<u>H</u>	<u>FACW+</u>	10. _____	_____	_____
3. <u>Lolium multiflorum</u>	<u>H</u>	<u>FAC</u>	11. _____	_____	_____
4. _____	_____	_____	12. _____	_____	_____
5. _____	_____	_____	13. _____	_____	_____
6. _____	_____	_____	14. _____	_____	_____
7. _____	_____	_____	15. _____	_____	_____
8. _____	_____	_____	16. _____	_____	_____
Percent of Dominant Species that are OBL, FACW and/or FAC: (excluding FAC-)			<u>100%</u>		
Remarks :					

HYDROLOGY

Recorded Data ☐ Stream, Lake or Tide Gauge ☐ Aerial Photographs ☐ Other <u>X</u> No Recorded Data Available Field Observations : Depth of Surface Water : <u>0</u> (in.) Depth to Free Water in Pit : <u>none</u> (in.) Depth To Saturated Soil : <u>none</u> (in.)	Wetland Hydrology Indicators : Primary Indicators : ☐ Inundated ☐ Saturated in Upper 12 Inches ☐ Water Marks ☐ Drift Lines ☐ Sediment Deposits ☐ Drainage patterns in Wetlands Secondary Indicators (2 or more required) : ☐ Oxidized Root Channels in Upper 12 Inches ☐ Water-Stained Leaves ☐ Local Soil Survey Data ☐ FAC-Neutral test ☒ Other (Explain in Remarks)
Hydrology Remarks : <u>Algal mats</u>	

SOILS

Map Unit Name (Series and Phase): <u>Campbell</u>		Drainage Class: <u>somewhat poorly drained</u>	
Taxonomy (Subgroup): <u>Campbell Silty Clay Loam</u>		Field Observations Confirm Mapped Type? ☒ Yes ☐ No	

Profile Description:

Depth (Inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance / Contrast	Texture, Concretions, Structure, etc.
0-10	A	10YR 3/2			clay loam

Hydric Soil Indicators :

☐ Histosol	☐ Concretions
☐ Histic Epipedon	☐ High Organic Content In Surface Layer In Sandy Soils
☐ Sulfidic Odor	☐ Organic Streaking In Sandy Soils
☐ Aquic Moisture Regime	☐ Listed On Local Hydric Soils List
☐ Reducing Conditions	☐ Listed On National Hydric Soils List
☐ Gleyed or Low-Chroma Colors	☐ Other (Explain In Remarks)

Profile Remarks: soils not hydric

WETLAND DETERMINATION

Hydrophytic Vegetation Present? ☒ Yes ☐ No Wetland Hydrology Present? ☐ Yes ☒ No Hydric Soil Present ? ☐ Yes ☒ No	Is this Sampling Point Within a Wetland? ☐ Yes ☒ No
Remarks : Located in a small depression at the southern end of the Project Area	

Approved By HQUSACE 3/92

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: U.S DataPort Applicant/Owner: U.S. DataPort Investigator: Wetlands Research Associates	Date: 8/25/2000 County: Santa Clara State: CA
Do Normal Circumstances exist on the site? ☒ Yes ☐ No Is the site significantly disturbed (Atypical Situation)? ☐ Yes ☒ No Is the area a potential Problem Area? ☒ Yes ☐ No (if needed explain on reverse.) seasonal wetland	Community ID: _____ Transect ID: _____ Plot ID: 2

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <u>Lolium multiflorum</u>	<u>H</u>	<u>FAC</u>	9. _____	_____	_____
2. _____	_____	_____	10. _____	_____	_____
3. _____	_____	_____	11. _____	_____	_____
4. _____	_____	_____	12. _____	_____	_____
5. _____	_____	_____	13. _____	_____	_____
6. _____	_____	_____	14. _____	_____	_____
7. _____	_____	_____	15. _____	_____	_____
8. _____	_____	_____	16. _____	_____	_____

Percent of Dominant Species that are OBL, FACW and/or FAC: 100%
 (excluding FAC-)

Remarks :

HYDROLOGY

Recorded Data ☐ Stream, Lake or Tide Gauge ☐ Aerial Photographs ☐ Other <u>X</u> No Recorded Data Available Field Observations : Depth of Surface Water : <u>0</u> (in.) Depth to Free Water in Pit : <u>none</u> (in.) Depth To Saturated Soil : <u>none</u> (in.)	Wetland Hydrology Indicators : Primary Indicators : ☐ Inundated ☐ Saturated in Upper 12 Inches ☐ Water Marks ☐ Drift Lines ☐ Sediment Deposits ☐ Drainage patterns In Wetlands Secondary Indicators (2 or more required) : ☐ Oxidized Root Channels In Upper 12 Inches ☐ Water-Stained Leaves ☐ Local Soil Survey Data ☐ FAC-Neutral test ☐ Other (Explain In Remarks)
Hydrology Remarks : <u>no hydrology indicators</u>	

SOILS

Map Unit Name (Series and Phase): <u>Campbell</u>		Drainage Class: <u>somewhat poorly drained</u>	
Taxonomy (Subgroup): <u>Campbell Silty Clay Loam</u>		Field Observations Confirm Mapped Type? ☒ Yes ☐ No	

Profile Description:

Depth (Inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance / Contrast	Texture, Concretions, Structure, etc.
0-10	A	10YR 3/2			clay loam

Hydric Soil Indicators :

☐ Histosol	☐ Concretions
☐ Histic Epipedon	☐ High Organic Content In Surface Layer In Sandy Soils
☐ Sulfidic Odor	☐ Organic Streaking In Sandy Soils
☐ Aquic Moisture Regime	☐ Listed On Local Hydric Soils List
☐ Reducing Conditions	☐ Listed On National Hydric Soils List
☐ Gleyed or Low-Chroma Colors	☐ Other (Explain In Remarks)

Profile Remarks: no hydric soil indicators

WETLAND DETERMINATION

Hydrophytic Vegetation Present? ☒ Yes ☐ No	
Wetland Hydrology Present? ☐ Yes ☒ No	
Hydric Soil Present ? ☐ Yes ☒ No	
Is this Sampling Point Within a Wetland? ☐ Yes ☒ No	
Remarks :	

Approved By HQUSACE 3/92

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: U.S DataPort Applicant/Owner: U.S. DataPort Investigator: Wetlands Research Associates	Date: 8/25/2000 County: Santa Clara State: CA
Do Normal Circumstances exist on the site? ☒ Yes ☐ No Is the site significantly disturbed (Atypical Situation)? ☐ Yes ☒ No Is the area a potential Problem Area? ☒ Yes ☐ No (if needed explain on reverse.) seasonal wetland	Community ID: _____ Transect ID: _____ Plot ID: 3

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <u>Picris echioides</u>	<u>H</u>	<u>FAC</u>	9. _____	_____	_____
2. <u>Lolium multiflorum</u>	<u>H</u>	<u>FAC</u>	10. _____	_____	_____
3. _____	_____	_____	11. _____	_____	_____
4. _____	_____	_____	12. _____	_____	_____
5. _____	_____	_____	13. _____	_____	_____
6. _____	_____	_____	14. _____	_____	_____
7. _____	_____	_____	15. _____	_____	_____
8. _____	_____	_____	16. _____	_____	_____

Percent of Dominant Species that are OBL, FACW and/or FAC: 100%
(excluding FAC-)

Remarks :

HYDROLOGY

Recorded Data ☐ Stream, Lake or Tide Gauge ☐ Aerial Photographs ☐ Other X No Recorded Data Available Field Observations : Depth of Surface Water : <u>0</u> (in.) Depth to Free Water in Pit : <u>none</u> (in.) Depth To Saturated Soil : <u>none</u> (in.)	Wetland Hydrology Indicators : Primary Indicators : ☐ Inundated ☐ Saturated in Upper 12 Inches ☐ Water Marks ☐ Drift Lines ☐ Sediment Deposits ☐ Drainage patterns In Wetlands Secondary Indicators (2 or more required) : ☐ Oxidized Root Channels In Upper 12 Inches ☐ Water-Stained Leaves ☐ Local Soil Survey Data ☐ FAC-Neutral test ☐ Other (Explain In Remarks)
Hydrology Remarks : <u>no hydrology indicators</u>	

SOILS

Map Unit Name
(Series and Phase): Campbell Drainage Class: somewhat poorly drained

Taxonomy (Subgroup): Campbell Silty Clay Loam Field Observations
Confirm Mapped Type? ☒ Yes ☐ No

Profile Description:

Depth (Inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance / Contrast	Texture, Concretions, Structure, etc.
0-10	A	10YR 3/2			clay loam

Hydric Soil Indicators :

- | | |
|--|---|
| ☐ Histosol | ☐ Concretions |
| ☐ Histic Epipedon | ☐ High Organic Content In Surface Layer In Sandy Soils |
| ☐ Sulfidic Odor | ☐ Organic Streaking In Sandy Soils |
| ☐ Aquic Moisture Regime | ☐ Listed On Local Hydric Soils List |
| ☐ Reducing Conditions | ☐ Listed On National Hydric Soils List |
| ☐ Gleyed or Low-Chroma Colors | ☐ Other (Explain In Remarks) |

Profile Remarks: soils not hydric

WETLAND DETERMINATION

Hydrophytic Vegetation Present? ☒ Yes ☐ No	
Wetland Hydrology Present? ☐ Yes ☒ No	
Hydric Soil Present ? ☐ Yes ☒ No	
Is this Sampling Point Within a Wetland? ☐ Yes ☒ No	
Remarks :	

Approved By HQUSACE 3/92

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: U.S DataPort Applicant/Owner: U.S. DataPort Investigator: Wetlands Research Associates	Date: 8/25/2000 County: Santa Clara State: CA
Do Normal Circumstances exist on the site? ☒ Yes ☐ No Is the site significantly disturbed (Atypical Situation)? ☐ Yes ☒ No Is the area a potential Problem Area? ☒ Yes ☐ No (if needed explain on reverse.) seasonal wetland	Community ID: _____ Transect ID: _____ Plot ID: 4

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <u>Lolium multiflorum</u>	<u>H</u>	<u>FAC</u>	9. _____	_____	_____
2. <u>Picris echioides</u>	<u>H</u>	<u>FAC</u>	10. _____	_____	_____
3. <u>Rumex crispus</u>	<u>H</u>	<u>FACW-</u>	11. _____	_____	_____
4. _____	_____	_____	12. _____	_____	_____
5. _____	_____	_____	13. _____	_____	_____
6. _____	_____	_____	14. _____	_____	_____
7. _____	_____	_____	15. _____	_____	_____
8. _____	_____	_____	16. _____	_____	_____

Percent of Dominant Species that are OBL, FACW and/or FAC: 100%
 (excluding FAC-)

Remarks :

HYDROLOGY

Recorded Data ☐ Stream, Lake or Tide Gauge ☐ Aerial Photographs ☐ Other <u>X</u> No Recorded Data Available Field Observations : Depth of Surface Water : <u>0</u> (in.) Depth to Free Water in Pit : <u>none</u> (in.) Depth To Saturated Soil : <u>none</u> (in.)	Wetland Hydrology Indicators : Primary Indicators : ☐ Inundated ☐ Saturated in Upper 12 Inches ☐ Water Marks ☐ Drift Lines ☐ Sediment Deposits ☐ Drainage patterns In Wetlands Secondary Indicators (2 or more required) : ☐ Oxidized Root Channels In Upper 12 Inches ☐ Water-Stained Leaves ☐ Local Soil Survey Data ☐ FAC-Neutral test ☐ Other (Explain In Remarks)
Hydrology Remarks : <u>no hydrology indicators</u>	

SOILS

Map Unit Name (Series and Phase): <u>Pacheco</u>			Drainage Class: <u>poor</u>		
Taxonomy (Subgroup) : <u>Pacheco loam</u>			Field Observations Confirm Mapped Type? ☒ Yes ☐ No		

Profile Description:

Depth (Inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance / Contrast	Texture, Concretions, Structure, etc.
0-10	A	10YR 3/2			clay loam

Hydric Soil Indicators :

☐ Histosol	☐ Concretions
☐ Histic Epipedon	☐ High Organic Content In Surface Layer In Sandy Soils
☐ Sulfidic Odor	☐ Organic Streaking In Sandy Soils
☐ Aquic Moisture Regime	☐ Listed On Local Hydric Soils List
☐ Reducing Conditions	☐ Listed On National Hydric Soils List
☐ Gleyed or Low-Chroma Colors	☐ Other (Explain In Remarks)

Profile Remarks: soils not hydric

WETLAND DETERMINATION

Hydrophytic Vegetation Present? ☒ Yes ☐ No	Is this Sampling Point Within a Wetland? ☐ Yes ☒ No
Wetland Hydrology Present? ☐ Yes ☒ No	
Hydric Soil Present ? ☐ Yes ☒ No	
Remarks :	

Approved By HQUSACE 3/92

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: U.S DataPort Applicant/Owner: U.S. DataPort Investigator: Wetlands Research Associates	Date: 8/25/2000 County: Santa Clara State: CA
Do Normal Circumstances exist on the site? ☒ Yes ☐ No Is the site significantly disturbed (Atypical Situation)? ☐ Yes ☒ No Is the area a potential Problem Area? ☒ Yes ☐ No seasonal wetland (if needed explain on reverse.)	Community ID: _____ Transect ID: _____ Plot ID: 5

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <u>Brassica nigra</u>	<u>H</u>	<u>NL</u>	9. _____	_____	_____
2. <u>Lolium multiflorum</u>	<u>H</u>	<u>FAC</u>	10. _____	_____	_____
3. <u>Malva sp.</u>	<u>H</u>	<u>NL</u>	11. _____	_____	_____
4. _____	_____	_____	12. _____	_____	_____
5. _____	_____	_____	13. _____	_____	_____
6. _____	_____	_____	14. _____	_____	_____
7. _____	_____	_____	15. _____	_____	_____
8. _____	_____	_____	16. _____	_____	_____

Percent of Dominant Species that are OBL, FACW and/or FAC: 33%
 (excluding FAC-)

Remarks :

HYDROLOGY

Recorded Data ☐ Stream, Lake or Tide Gauge ☐ Aerial Photographs ☐ Other <u>X</u> No Recorded Data Available Field Observations : Depth of Surface Water : <u>0</u> (in.) Depth to Free Water in Pit : <u>none</u> (in.) Depth To Saturated Soil : <u>none</u> (in.)	Wetland Hydrology Indicators : Primary Indicators : ☐ Inundated ☐ Saturated in Upper 12 Inches ☐ Water Marks ☐ Drift Lines ☐ Sediment Deposits ☐ Drainage patterns in Wetlands Secondary Indicators (2 or more required) : ☐ Oxidized Root Channels in Upper 12 Inches ☐ Water-Stained Leaves ☐ Local Soil Survey Data ☐ FAC-Neutral test ☐ Other (Explain in Remarks)
Hydrology Remarks : <u>no hydrology indicators</u>	

SOILS

Map Unit Name
(Series and Phase): Mocho Drainage Class: moderate
Field Observations
Taxonomy (Subgroup) : Mocho loam, 1 to 3 percent slopes Confirm Mapped Type? ☒ Yes ☐ No

Profile Description:

Depth (Inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance / Contrast	Texture, Concretions, Structure, etc.
0-10	A	10YR 3/2			clay loam

Hydric Soil Indicators :

- | | |
|--|---|
| ☐ Histosol | ☐ Concretions |
| ☐ Histic Epipedon | ☐ High Organic Content In Surface Layer In Sandy Soils |
| ☐ Sulfidic Odor | ☐ Organic Streaking In Sandy Soils |
| ☐ Aquic Moisture Regime | ☐ Listed On Local Hydric Soils List |
| ☐ Reducing Conditions | ☐ Listed On National Hydric Soils List |
| ☐ Gleyed or Low-Chroma Colors | ☐ Other (Explain In Remarks) |

Profile Remarks: soils not hydric

WETLAND DETERMINATION

Hydrophytic Vegetation Present? ☐ Yes ☒ No	
Wetland Hydrology Present? ☐ Yes ☒ No	
Hydric Soil Present ? ☐ Yes ☒ No	
Is this Sampling Point Within a Wetland? ☐ Yes ☒ No	
Remarks :	

Approved By HQUSACE 3/92

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: U.S DataPort Applicant/Owner: U.S. DataPort Investigator: Wetlands Research Associates	Date: 8/25/2000 County: Santa Clara State: CA
Do Normal Circumstances exist on the site? ☒ Yes ☐ No Is the site significantly disturbed (Atypical Situation)? ☐ Yes ☒ No Is the area a potential Problem Area? ☒ Yes ☐ No (if needed explain on reverse.) seasonal wetland	Community ID: _____ Transect ID: _____ Plot ID: 6

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <u>Lolium multiflorum</u>	<u>H</u>	<u>FAC</u>	9. _____	_____	_____
2. <u>Brassica nigra</u>	<u>H</u>	<u>NL</u>	10. _____	_____	_____
3. <u>Malva sp.</u>	<u>H</u>	<u>NL</u>	11. _____	_____	_____
4. _____	_____	_____	12. _____	_____	_____
5. _____	_____	_____	13. _____	_____	_____
6. _____	_____	_____	14. _____	_____	_____
7. _____	_____	_____	15. _____	_____	_____
8. _____	_____	_____	16. _____	_____	_____

Percent of Dominant Species that are OBL, FACW and/or FAC: 33%
 (excluding FAC-)

Remarks :

HYDROLOGY

<u> </u> Recorded Data ☐ Stream, Lake or Tide Gauge ☐ Aerial Photographs ☐ Other <u> X </u> No Recorded Data Available Field Observations : Depth of Surface Water : <u> 0 </u> (in.) Depth to Free Water in Pit : <u> none </u> (in.) Depth To Saturated Soil : <u> none </u> (in.)	Wetland Hydrology Indicators : Primary Indicators : ☐ Inundated ☐ Saturated in Upper 12 Inches ☐ Water Marks ☐ Drift Lines ☐ Sediment Deposits ☐ Drainage patterns In Wetlands Secondary Indicators (2 or more required) : ☐ Oxidized Root Channels In Upper 12 Inches ☐ Water-Stained Leaves ☐ Local Soil Survey Data ☐ FAC-Neutral test ☐ Other (Explain In Remarks)
Hydrology Remarks : <u>no hydrology indicators</u>	

SOILS

Map Unit Name
(Series and Phase): Mocho Drainage Class: moderate to poorly drained

Taxonomy (Subgroup): Mocho clay loam, 0 to 1 percent slopes Field Observations
Confirm Mapped Type? ☒ Yes ☐ No

Profile Description:

Depth (Inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance / Contrast	Texture, Concretions, Structure, etc.
0-10	A	10YR 3/2			clay loam

Hydric Soil Indicators :

- | | |
|--|---|
| ☐ Histosol | ☐ Concretions |
| ☐ Histic Epipedon | ☐ High Organic Content In Surface Layer In Sandy Soils |
| ☐ Sulfidic Odor | ☐ Organic Streaking In Sandy Soils |
| ☐ Aquic Moisture Regime | ☐ Listed On Local Hydric Soils List |
| ☐ Reducing Conditions | ☐ Listed On National Hydric Soils List |
| ☐ Gleyed or Low-Chroma Colors | ☐ Other (Explain In Remarks) |

Profile Remarks: soils not hydric

WETLAND DETERMINATION

Hydrophytic Vegetation Present? ☐ Yes ☒ No

Wetland Hydrology Present? ☐ Yes ☒ No

Hydric Soil Present ? ☐ Yes ☒ No

Is this Sampling Point Within a Wetland? ☐ Yes ☒ No

Remarks :

Approved By HQUSACE 3/92

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: <u>U.S. DataPort</u> Applicant/Owner: <u>U.S. DataPort</u> Investigator: <u>Wetlands Research Associates</u>	Date: <u>8/25/2000</u> County: <u>Santa Clara</u> State: <u>CA</u>
Do Normal Circumstances exist on the site? ☒ Yes ☐ No Is the site significantly disturbed (Atypical Situation)? ☐ Yes ☒ No Is the area a potential Problem Area? ☒ Yes ☐ No (if needed explain on reverse.) seasonal wetland	Community ID: _____ Transect ID: _____ Plot ID: <u>7</u>

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <u>Lolium multiflorum</u>	<u>H</u>	<u>FAC</u>	9. _____	_____	_____
2. <u>Malva sp.</u>	<u>H</u>	<u>NL</u>	10. _____	_____	_____
3. _____	_____	_____	11. _____	_____	_____
4. _____	_____	_____	12. _____	_____	_____
5. _____	_____	_____	13. _____	_____	_____
6. _____	_____	_____	14. _____	_____	_____
7. _____	_____	_____	15. _____	_____	_____
8. _____	_____	_____	16. _____	_____	_____

Percent of Dominant Species that are OBL, FACW and/or FAC: 50%
 (excluding FAC-)

Remarks : _____

HYDROLOGY

Recorded Data ☐ Stream, Lake or Tide Gauge ☐ Aerial Photographs ☐ Other <u>X</u> No Recorded Data Available Field Observations : Depth of Surface Water : <u>0</u> (in.) Depth to Free Water in Pit : <u>none</u> (in.) Depth To Saturated Soil : <u>none</u> (in.)	Wetland Hydrology Indicators : Primary Indicators : ☐ Inundated ☐ Saturated in Upper 12 Inches ☐ Water Marks ☐ Drift Lines ☐ Sediment Deposits ☐ Drainage patterns In Wetlands Secondary Indicators (2 or more required) : ☐ Oxidized Root Channels In Upper 12 Inches ☐ Water-Stained Leaves ☐ Local Soil Survey Data ☐ FAC-Neutral test ☒ Other (Explain In Remarks)
Hydrology Remarks : <u>algal mats, moist soil</u>	

SOILS

Map Unit Name
(Series and Phase): Mocho Drainage Class: moderate to poorly drained

Taxonomy (Subgroup): Mocho clay loam, 0 to 1 percent slopes Field Observations
Confirm Mapped Type? ☒ Yes ☐ No

Profile Description:

Depth (Inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance / Contrast	Texture, Concretions, Structure, etc.
0-10	A	10YR 3/2			clay loam

Hydric Soil Indicators :

- | | |
|--|---|
| ☐ Histosol | ☐ Concretions |
| ☐ Histic Epipedon | ☐ High Organic Content In Surface Layer In Sandy Soils |
| ☐ Sulfidic Odor | ☐ Organic Streaking In Sandy Soils |
| ☐ Aquic Moisture Regime | ☐ Listed On Local Hydric Soils List |
| ☐ Reducing Conditions | ☐ Listed On National Hydric Soils List |
| ☐ Gleyed or Low-Chroma Colors | ☐ Other (Explain In Remarks) |

Profile Remarks: no hydric indicators

WETLAND DETERMINATION

Hydrophytic Vegetation Present? ☐ Yes ☒ NoWetland Hydrology Present? ☐ Yes ☒ NoHydric Soil Present ? ☐ Yes ☒ NoIs this Sampling Point Within a Wetland? ☐ Yes ☒ No

Remarks :

Approved By HQUSACE 3/92

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: U.S DataPort Applicant/Owner: U.S. DataPort Investigator: Wetlands Research Associates	Date: 8/25/2000 County: Santa Clara State: CA
Do Normal Circumstances exist on the site? ☒ Yes ☐ No Is the site significantly disturbed (Atypical Situation)? ☐ Yes ☒ No Is the area a potential Problem Area? ☒ Yes ☐ No seasonal wetland (if needed explain on reverse.)	Community ID: _____ Transect ID: _____ Plot ID: 8

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <u>Lolium multiflorum</u>	<u>H</u>	<u>FAC</u>	9. _____	_____	_____
2. <u>Polygonum arenastrum</u>	<u>H</u>	<u>FAC</u>	10. _____	_____	_____
3. _____	_____	_____	11. _____	_____	_____
4. _____	_____	_____	12. _____	_____	_____
5. _____	_____	_____	13. _____	_____	_____
6. _____	_____	_____	14. _____	_____	_____
7. _____	_____	_____	15. _____	_____	_____
8. _____	_____	_____	16. _____	_____	_____

Percent of Dominant Species that are OBL, FACW and/or FAC: 100%
 (excluding FAC-)

Remarks :

HYDROLOGY

Recorded Data ☐ Stream, Lake or Tide Gauge ☐ Aerial Photographs ☐ Other <u>X</u> No Recorded Data Available Field Observations : Depth of Surface Water : <u>0</u> (in.) Depth to Free Water in Pit : <u>none</u> (in.) Depth To Saturated Soil : <u>none</u> (in.)	Wetland Hydrology Indicators : Primary Indicators : ☐ Inundated ☐ Saturated in Upper 12 Inches ☐ Water Marks ☐ Drift Lines ☐ Sediment Deposits ☐ Drainage patterns in Wetlands Secondary Indicators (2 or more required) : ☐ Oxidized Root Channels in Upper 12 Inches ☐ Water-Stained Leaves ☐ Local Soil Survey Data ☐ FAC-Neutral test ☐ Other (Explain in Remarks)
Hydrology Remarks : <u>no hydrology indicators</u>	

SOILS

Map Unit Name
(Series and Phase): Mocho Drainage Class: moderate to poorly drained
 Taxonomy (Subgroup): Mocho clay loam, 0 to 1 percent slopes Field Observations
 Confirm Mapped Type? ☒ Yes ☐ No

Profile Description:

Depth (Inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance / Contrast	Texture, Concretions, Structure, etc.
0-10	A	10YR 3/2			clay loam

Hydric Soil Indicators :

- | | |
|--|---|
| ☐ Histosol | ☐ Concretions |
| ☐ Histic Epipedon | ☐ High Organic Content In Surface Layer In Sandy Soils |
| ☐ Sulfidic Odor | ☐ Organic Streaking In Sandy Soils |
| ☐ Aquic Moisture Regime | ☐ Listed On Local Hydric Soils List |
| ☐ Reducing Conditions | ☐ Listed On National Hydric Soils List |
| ☐ Gleyed or Low-Chroma Colors | ☐ Other (Explain In Remarks) |

Profile Remarks: no hydric indicators

WETLAND DETERMINATION

Hydrophytic Vegetation Present? ☒ Yes ☐ No	
Wetland Hydrology Present? ☐ Yes ☒ No	
Hydric Soil Present ? ☐ Yes ☒ No	
Is this Sampling Point Within a Wetland? ☐ Yes ☒ No	
Remarks :	

Approved By HQUSACE 3/92

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: U.S DataPort Applicant/Owner: U.S. DataPort Investigator: Wetlands Research Associates	Date: 8/25/2000 County: Santa Clara State: CA
Do Normal Circumstances exist on the site? ☒ Yes ☐ No Is the site significantly disturbed (Atypical Situation)? ☐ Yes ☒ No Is the area a potential Problem Area? ☒ Yes ☐ No seasonal wetland (if needed explain on reverse.)	Community ID: _____ Transect ID: _____ Plot ID: 9

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <u>Lolium multiflorum</u>	<u>H</u>	<u>FAC</u>	9. _____	_____	_____
2. <u>Medicago polymorpha</u>	<u>H</u>	<u>NL</u>	10. _____	_____	_____
3. _____	_____	_____	11. _____	_____	_____
4. _____	_____	_____	12. _____	_____	_____
5. _____	_____	_____	13. _____	_____	_____
6. _____	_____	_____	14. _____	_____	_____
7. _____	_____	_____	15. _____	_____	_____
8. _____	_____	_____	16. _____	_____	_____

Percent of Dominant Species that are OBL, FACW and/or FAC:
(excluding FAC-) _____

Remarks :

HYDROLOGY

<u> </u> Recorded Data ☐ Stream, Lake or Tide Gauge ☐ Aerial Photographs ☐ Other X <u> </u> No Recorded Data Available Field Observations : Depth of Surface Water : <u>0</u> (in.) Depth to Free Water in Pit : <u>none</u> (in.) Depth To Saturated Soil : <u>none</u> (in.)	Wetland Hydrology Indicators : Primary Indicators : ☐ Inundated ☐ Saturated in Upper 12 Inches ☐ Water Marks ☐ Drift Lines ☐ Sediment Deposits ☐ Drainage patterns in Wetlands Secondary Indicators (2 or more required) : ☐ Oxidized Root Channels in Upper 12 Inches ☐ Water-Stained Leaves ☐ Local Soil Survey Data ☐ FAC-Neutral test ☐ Other (Explain in Remarks)
Hydrology Remarks : <u>no hydrology indicators</u>	

SOILS

Map Unit Name

(Series and Phase): CampbellDrainage Class: somewhat poorly drainedTaxonomy (Subgroup) : Campbell Silty Clay Loam

Field Observations

Confirm Mapped Type? ☒ Yes ☐ NoProfile Description:

Depth (Inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance / Contrast	Texture, Concretions, Structure, etc.
0-10	A	10YR 3/2			clay loam

Hydric Soil Indicators :

- | | |
|--|---|
| ☐ Histosol | ☐ Concretions |
| ☐ Histic Epipedon | ☐ High Organic Content In Surface Layer In Sandy Soils |
| ☐ Sulfidic Odor | ☐ Organic Streaking In Sandy Soils |
| ☐ Aquic Moisture Regime | ☐ Listed On Local Hydric Soils List |
| ☐ Reducing Conditions | ☐ Listed On National Hydric Soils List |
| ☐ Gleyed or Low-Chroma Colors | ☐ Other (Explain In Remarks) |

Profile Remarks: no hydric soil indicators

WETLAND DETERMINATION

Hydrophytic Vegetation Present? ☐ Yes ☒ NoWetland Hydrology Present? ☐ Yes ☒ NoHydric Soil Present ? ☐ Yes ☒ NoIs this Sampling Point Within a Wetland? ☐ Yes ☒ No

Remarks :

Approved By HQUSACE 3/92

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: U.S DataPort Applicant/Owner: U.S. DataPort Investigator: Wetlands Research Associates	Date: 8/25/2000 County: Santa Clara State: CA Community ID: _____ Transect ID: _____ Plot ID: 10
Do Normal Circumstances exist on the site? ☒ Yes ☐ No Is the site significantly disturbed (Atypical Situation)? ☐ Yes ☒ No Is the area a potential Problem Area? ☒ Yes ☐ No (if needed explain on reverse.) seasonal wetland	

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <u>Lolium multiflorum</u>	<u>H</u>	<u>FAC</u>	9. _____	_____	_____
2. <u>Picris echioides</u>	<u>H</u>	<u>FAC</u>	10. _____	_____	_____
3. _____	_____	_____	11. _____	_____	_____
4. _____	_____	_____	12. _____	_____	_____
5. _____	_____	_____	13. _____	_____	_____
6. _____	_____	_____	14. _____	_____	_____
7. _____	_____	_____	15. _____	_____	_____
8. _____	_____	_____	16. _____	_____	_____

Percent of Dominant Species that are OBL, FACW and/or FAC: 100%
 (excluding FAC-)

Remarks : _____

HYDROLOGY

Recorded Data ☐ Stream, Lake or Tide Gauge ☐ Aerial Photographs ☐ Other <u>X</u> No Recorded Data Available Field Observations : Depth of Surface Water : <u>6</u> (in.) Depth to Free Water in Pit : <u>0</u> (in.) Depth To Saturated Soil : <u>0</u> (in.)	Wetland Hydrology Indicators : Primary Indicators : ☒ Inundated ☒ Saturated in Upper 12 Inches ☐ Water Marks ☐ Drift Lines ☐ Sediment Deposits ☒ Drainage patterns In Wetlands Secondary Indicators (2 or more required) : ☐ Oxidized Root Channels In Upper 12 Inches ☐ Water-Stained Leaves ☐ Local Soil Survey Data ☐ FAC-Neutral test ☒ Other (Explain In Remarks)
Hydrology Remarks : <u>algal mats, located in a depression</u>	

SOILS

Map Unit Name
(Series and Phase): Campbell Drainage Class: somewhat poorly drained

Taxonomy (Subgroup): Campbell Silty Clay Loam Field Observations
Confirm Mapped Type? ☒ Yes ☐ No

Profile Description:

Depth (Inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance / Contrast	Texture, Concretions, Structure, etc.
0-10	A	10YR 3/1			clay loam

Hydric Soil Indicators :

- | | |
|---|---|
| ☐ Histosol | ☐ Concretions |
| ☐ Histic Epipedon | ☐ High Organic Content In Surface Layer In Sandy Soils |
| ☒ Sulfidic Odor | ☐ Organic Streaking In Sandy Soils |
| ☐ Aquic Moisture Regime | ☐ Listed On Local Hydric Soils List |
| ☐ Reducing Conditions | ☐ Listed On National Hydric Soils List |
| ☒ Gleyed or Low-Chroma Colors | ☐ Other (Explain In Remarks) |

Profile Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present? ☒ Yes ☐ No	
Wetland Hydrology Present? ☒ Yes ☐ No	
Hydric Soil Present ? ☒ Yes ☐ No	
Is this Sampling Point Within a Wetland? ☒ Yes ☐ No	
Remarks :	

Approved By HQUSACE 3/92

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: U.S DataPort Applicant/Owner: U.S. DataPort Investigator: Wetlands Research Associates	Date: 8/25/2000 County: Santa Clara State: CA
Do Normal Circumstances exist on the site? ☒ Yes ☐ No Is the site significantly disturbed (Atypical Situation)? ☐ Yes ☒ No Is the area a potential Problem Area? ☒ Yes ☐ No seasonal wetland (if needed explain on reverse.)	Community ID: _____ Transect ID: _____ Plot ID: 11

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <u>Lolium multiflorum</u>	H	FAC	9. _____	_____	_____
2. <u>Cotula coronopifolia</u>	H	FACW+	10. _____	_____	_____
3. <u>Polygonum arenastrum</u>	H	FAC	11. _____	_____	_____
4. <u>Picris echioides</u>	H	FAC	12. _____	_____	_____
5. _____	_____	_____	13. _____	_____	_____
6. _____	_____	_____	14. _____	_____	_____
7. _____	_____	_____	15. _____	_____	_____
8. _____	_____	_____	16. _____	_____	_____

Percent of Dominant Species that are OBL, FACW and/or FAC: 100%
 (excluding FAC-)

Remarks :

HYDROLOGY

Recorded Data ☐ Stream, Lake or Tide Gauge ☐ Aerial Photographs ☐ Other <u>X</u> No Recorded Data Available Field Observations : Depth of Surface Water : <u>12</u> (in.) Depth to Free Water in Pit : <u>0</u> (in.) Depth To Saturated Soil : <u>0</u> (in.)	Wetland Hydrology Indicators : Primary Indicators : ☒ Inundated ☒ Saturated in Upper 12 Inches ☐ Water Marks ☐ Drift Lines ☐ Sediment Deposits ☒ Drainage patterns in Wetlands Secondary Indicators (2 or more required) : ☐ Oxidized Root Channels in Upper 12 Inches ☐ Water-Stained Leaves ☐ Local Soil Survey Data ☐ FAC-Neutral test ☒ Other (Explain in Remarks)
Hydrology Remarks : <u>algal mats, large basin filled with irrigation water</u>	

WETLAND DETERMINATION

Approved By HQUSACE 3/92

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: U.S DataPort Applicant/Owner: U.S. DataPort Investigator: Wetlands Research Associates	Date: 8/25/2000 County: Santa Clara State: CA
Do Normal Circumstances exist on the site? ☒ Yes ☐ No Is the site significantly disturbed (Atypical Situation)? ☐ Yes ☒ No Is the area a potential Problem Area? ☒ Yes ☐ No (if needed explain on reverse.) seasonal wetland	Community ID: _____ Transect ID: _____ Plot ID: 12

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <u>Lolium multiflorum</u>	H	FAC	9. _____	_____	_____
2. <u>Rumex crispus</u>	H	FACW-	10. _____	_____	_____
3. <u>Cyperus eragrostis</u>	H	FACW	11. _____	_____	_____
4. <u>Polypogon monspeliensis</u>	H	FACW+	12. _____	_____	_____
5. <u>Polygonum arenastrum</u>	H	FAC	13. _____	_____	_____
6. _____	_____	_____	14. _____	_____	_____
7. _____	_____	_____	15. _____	_____	_____
8. _____	_____	_____	16. _____	_____	_____

Percent of Dominant Species that are OBL, FACW and/or FAC: 100%
 (excluding FAC-)

Remarks :

HYDROLOGY

Recorded Data ☐ Stream, Lake or Tide Gauge ☐ Aerial Photographs ☐ Other <u>X</u> No Recorded Data Available Field Observations : Depth of Surface Water : <u>3"</u> (in.) Depth to Free Water in Pit : <u>0</u> (in.) Depth To Saturated Soil : <u>0</u> (in.)	Wetland Hydrology Indicators : Primary Indicators : ☒ Inundated ☒ Saturated in Upper 12 Inches ☐ Water Marks ☐ Drift Lines ☐ Sediment Deposits ☒ Drainage patterns In Wetlands Secondary Indicators (2 or more required) : ☐ Oxidized Root Channels In Upper 12 Inches ☐ Water-Stained Leaves ☐ Local Soil Survey Data ☐ FAC-Neutral test ☒ Other (Explain in Remarks)
Hydrology Remarks : <u>on periphery of large ponded basin, algal mats present</u>	

SOILS

Map Unit Name

(Series and Phase): Mocho

Drainage Class: moderate to poorly drained

Taxonomy (Subgroup): Mocho clay loam, 0 to 1 percent slopes

Field Observations

Confirm Mapped Type? ☒ Yes ☐ No

Profile Description:

Depth (Inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance / Contrast	Texture, Concretions, Structure, etc.
0-10	A	10YR 3/2			clay loam

Hydric Soil Indicators :

- | | |
|---|---|
| ☐ Histosol | ☐ Concretions |
| ☐ Histic Epipedon | ☐ High Organic Content In Surface Layer In Sandy Soils |
| ☒ Sulfidic Odor | ☐ Organic Streaking In Sandy Soils |
| ☐ Aquic Moisture Regime | ☐ Listed On Local Hydric Soils List |
| ☐ Reducing Conditions | ☐ Listed On National Hydric Soils List |
| ☒ Gleyed or Low-Chroma Colors | ☐ Other (Explain In Remarks) |

Profile Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present? ☒ Yes ☐ NoWetland Hydrology Present? ☒ Yes ☐ NoHydric Soil Present ? ☒ Yes ☐ NoIs this Sampling Point Within a Wetland? ☒ Yes ☐ No

Remarks :

Approved By HQUSACE 3/92

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: U.S DataPort Applicant/Owner: U.S. DataPort Investigator: Wetlands Research Associates	Date: 8/25/2000 County: Santa Clara State: CA
Do Normal Circumstances exist on the site? ☒ Yes ☐ No Is the site significantly disturbed (Atypical Situation)? ☐ Yes ☒ No Is the area a potential Problem Area? ☒ Yes ☐ No (if needed explain on reverse.) seasonal wetland	Community ID: _____ Transect ID: _____ Plot ID: 13

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <u>Lolium multiflorum</u>	H	FAC	9. _____	_____	_____
2. <u>Cotula coronopifolia</u>	H	FACW+	10. _____	_____	_____
3. <u>Polypogon monspeliensis</u>	H	FACW+	11. _____	_____	_____
4. <u>Rumex crispus</u>	H	FACW-	12. _____	_____	_____
5. _____	_____	_____	13. _____	_____	_____
6. _____	_____	_____	14. _____	_____	_____
7. _____	_____	_____	15. _____	_____	_____
8. _____	_____	_____	16. _____	_____	_____

Percent of Dominant Species that are OBL, FACW and/or FAC: 100%
 (excluding FAC-)

Remarks :

HYDROLOGY

<u> </u> Recorded Data ☐ Stream, Lake or Tide Gauge ☐ Aerial Photographs ☐ Other X <u> </u> No Recorded Data Available Field Observations : Depth of Surface Water : <u>1"</u> (in.) Depth to Free Water in Pit : <u>0</u> (in.) Depth To Saturated Soil : <u>0</u> (in.)	Wetland Hydrology Indicators : Primary Indicators : ☒ Inundated ☒ Saturated in Upper 12 Inches ☐ Water Marks ☐ Drift Lines ☐ Sediment Deposits ☒ Drainage patterns in Wetlands Secondary Indicators (2 or more required) : ☐ Oxidized Root Channels in Upper 12 Inches ☐ Water-Stained Leaves ☐ Local Soil Survey Data ☐ FAC-Neutral test ☒ Other (Explain in Remarks)
Hydrology Remarks : <u>ponded basin, algal mats present</u>	

SOILS

Map Unit Name
(Series and Phase): Mocho Drainage Class: moderate to poorly drained
Field Observations
Taxonomy (Subgroup): Mocho clay loam, 0 to 1 percent slopes Confirm Mapped Type? ☒ Yes ☐ No

Profile Description:

Depth (Inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance / Contrast	Texture, Concretions, Structure, etc.
0-10	A	10YR 3/1			clay loam

Hydric Soil Indicators :

- | | |
|---|---|
| ☐ Histosol | ☐ Concretions |
| ☐ Histic Epipedon | ☐ High Organic Content In Surface Layer In Sandy Soils |
| ☒ Sulfidic Odor | ☐ Organic Streaking In Sandy Soils |
| ☐ Aquic Moisture Regime | ☐ Listed On Local Hydric Soils List |
| ☐ Reducing Conditions | ☐ Listed On National Hydric Soils List |
| ☒ Gleyed or Low-Chroma Colors | ☐ Other (Explain In Remarks) |

Profile Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present? ☒ Yes ☐ NoWetland Hydrology Present? ☒ Yes ☐ NoHydric Soil Present ? ☒ Yes ☐ NoIs this Sampling Point Within a Wetland? ☒ Yes ☐ No

Remarks :

Approved By HQUSACE 3/92

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: U.S DataPort		Date : 8/25/2000
Applicant/Owner: U.S. DataPort		County : Santa Clara
Investigator: Wetlands Research Associates		State : CA
Do Normal Circumstances exist on the site?	☒ Yes ☐ No	Community ID: _____
Is the site significantly disturbed (Atypical Situation)?	☐ Yes ☒ No	Transect ID: _____
Is the area a potential Problem Area? seasonal wetland (if needed explain on reverse.)	☒ Yes ☐ No	Plot ID: 14

VEGETATION

<u>Dominant Plant Species</u>	<u>Stratum</u>	<u>Indicator</u>	<u>Dominant Plant Species</u>	<u>Stratum</u>	<u>Indicator</u>
1. <u>Lolium multiflorum</u>	H	FAC	9. _____	_____	_____
2. <u>Polygonum arenastrum</u>	H	FAC	10. _____	_____	_____
3. <u>Rumex crispus</u>	H	FACW-	11. _____	_____	_____
4. <u>Cotula coronopifolia</u>	H	FACW+	12. _____	_____	_____
5. _____	_____	_____	13. _____	_____	_____
6. _____	_____	_____	14. _____	_____	_____
7. _____	_____	_____	15. _____	_____	_____
8. _____	_____	_____	16. _____	_____	_____
Percent of Dominant Species that are OBL, FACW and/or FAC: (excluding FAC-)			100% _____		
Remarks :					

HYDROLOGY

Recorded Data ☐ Stream, Lake or Tide Gauge ☐ Aerial Photographs ☐ Other X No Recorded Data Available	Wetland Hydrology Indicators : Primary Indicators : ☒ Inundated ☒ Saturated in Upper 12 Inches ☐ Water Marks ☐ Drift Lines ☐ Sediment Deposits ☐ Drainage patterns In Wetlands Secondary Indicators (2 or more required) : ☐ Oxidized Root Channels In Upper 12 Inches ☐ Water-Stained Leaves ☐ Local Soil Survey Data ☐ FAC-Neutral test ☒ Other (Explain In Remarks)
Field Observations : Depth of Surface Water : 1" (in.) Depth to Free Water in Pit : 0 (in.) Depth To Saturated Soil : 0 (in.) Hydrology Remarks : ponded basin, algal mats present	

WETLAND DETERMINATION

Approved By HQUSACE 3/92

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: U.S DataPort Applicant/Owner: U.S. DataPort Investigator: Wetlands Research Associates	Date: 8/25/2000 County: Santa Clara State: CA
Do Normal Circumstances exist on the site? ☒ Yes ☐ No Is the site significantly disturbed (Atypical Situation)? ☐ Yes ☒ No Is the area a potential Problem Area? ☒ Yes ☐ No (if needed explain on reverse.) seasonal wetland	Community ID: _____ Transect ID: _____ Plot ID: 15

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <u>Polygonum arenastrum</u>	<u>H</u>	<u>FAC</u>	9. _____	_____	_____
2. <u>Rumex crispus</u>	<u>H</u>	<u>FACW-</u>	10. _____	_____	_____
3. _____	_____	_____	11. _____	_____	_____
4. _____	_____	_____	12. _____	_____	_____
5. _____	_____	_____	13. _____	_____	_____
6. _____	_____	_____	14. _____	_____	_____
7. _____	_____	_____	15. _____	_____	_____
8. _____	_____	_____	16. _____	_____	_____

Percent of Dominant Species that are OBL, FACW and/or FAC: 100%
 (excluding FAC-)

Remarks :

HYDROLOGY

<u> </u> Recorded Data ☐ Stream, Lake or Tide Gauge ☐ Aerial Photographs ☐ Other <u> X </u> No Recorded Data Available Field Observations : Depth of Surface Water : <u> 6" </u> (in.) Depth to Free Water in Pit : <u> 0 </u> (in.) Depth To Saturated Soil : <u> 0 </u> (in.)	Wetland Hydrology Indicators : Primary Indicators : ☒ Inundated ☒ Saturated in Upper 12 Inches ☐ Water Marks ☐ Drift Lines ☐ Sediment Deposits ☐ Drainage patterns In Wetlands Secondary Indicators (2 or more required) : ☐ Oxidized Root Channels In Upper 12 Inches ☐ Water-Stained Leaves ☐ Local Soil Survey Data ☐ FAC-Neutral test ☒ Other (Explain In Remarks)
Hydrology Remarks : <u>ponded basin, algal mats present</u>	

SOILS

Map Unit Name
(Series and Phase): Campbell Drainage Class: somewhat poorly drained
 Taxonomy (Subgroup): Campbell Silty Clay Loam Field Observations
 Confirm Mapped Type? ☒ Yes ☐ No

Profile Description:

Depth (Inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance / Contrast	Texture, Concretions, Structure, etc.
0-10	A	10YR 3/1			

Hydric Soil Indicators :

- | | |
|---|---|
| ☐ Histosol | ☐ Concretions |
| ☐ Histic Epipedon | ☐ High Organic Content In Surface Layer In Sandy Soils |
| ☒ Sulfidic Odor | ☐ Organic Streaking In Sandy Soils |
| ☐ Aquic Moisture Regime | ☐ Listed On Local Hydric Soils List |
| ☐ Reducing Conditions | ☐ Listed On National Hydric Soils List |
| ☒ Gleyed or Low-Chroma Colors | ☐ Other (Explain In Remarks) |

Profile Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present? ☒ Yes ☐ No	
Wetland Hydrology Present? ☒ Yes ☐ No	
Hydric Soil Present ? ☒ Yes ☐ No	
Is this Sampling Point Within a Wetland? ☒ Yes ☐ No	
Remarks :	

Approved By HQUSACE 3/92

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: U.S DataPort	Date: <u>8/25/2000</u>
Applicant/Owner: <u>U.S. DataPort</u>	County: <u>Santa Clara</u>
Investigator: <u>Wetlands Research Associates</u>	State: <u>CA</u>
Do Normal Circumstances exist on the site? ☒ Yes ☐ No Is the site significantly disturbed (Atypical Situation)? ☐ Yes ☒ No Is the area a potential Problem Area? <u>seasonal wetland</u> ☒ Yes ☐ No (if needed explain on reverse.)	Community ID: _____ Transect ID: _____ Plot ID: <u>16</u>

VEGETATION

<u>Dominant Plant Species</u>	<u>Stratum</u>	<u>Indicator</u>	<u>Dominant Plant Species</u>	<u>Stratum</u>	<u>Indicator</u>
1. <u>Lolium multiflorum</u>	H	FAC	9. _____	_____	_____
2. <u>Picris echioides</u>	H	FAC	10. _____	_____	_____
3. _____	_____	_____	11. _____	_____	_____
4. _____	_____	_____	12. _____	_____	_____
5. _____	_____	_____	13. _____	_____	_____
6. _____	_____	_____	14. _____	_____	_____
7. _____	_____	_____	15. _____	_____	_____
8. _____	_____	_____	16. _____	_____	_____
Percent of Dominant Species that are OBL, FACW and/or FAC: (excluding FAC-)			100% _____		
Remarks :					

HYDROLOGY

Recorded Data ☐ Stream, Lake or Tide Gauge ☐ Aerial Photographs ☐ Other X No Recorded Data Available	Wetland Hydrology Indicators : Primary Indicators : ☒ Inundated ☒ Saturated in Upper 12 Inches ☐ Water Marks ☐ Drift Lines ☐ Sediment Deposits ☐ Drainage patterns In Wetlands Secondary Indicators (2 or more required) : ☐ Oxidized Root Channels In Upper 12 Inches ☐ Water-Stained Leaves ☐ Local Soil Survey Data ☐ FAC-Neutral test ☒ Other (Explain In Remarks)
Field Observations : Depth of Surface Water : 3" (in.) Depth to Free Water in Pit : 0 (in.) Depth To Saturated Soil : 0 (in.)	
Hydrology Remarks : ponded basin	

SOILS

Map Unit Name
(Series and Phase): Campbell Drainage Class: somewhat poorly drained

Taxonomy (Subgroup): Campbell Silty Clay Loam Field Observations
Confirm Mapped Type? ☒ Yes ☐ No

Profile Description:

Depth (Inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance / Contrast	Texture, Concretions, Structure, etc.
0-10	A	10YR 3/1			clay loam

Hydric Soil Indicators :

- | | |
|---|---|
| ☐ Histosol | ☐ Concretions |
| ☐ Histic Epipedon | ☐ High Organic Content In Surface Layer In Sandy Soils |
| ☒ Sulfidic Odor | ☐ Organic Streaking In Sandy Soils |
| ☐ Aquic Moisture Regime | ☐ Listed On Local Hydric Soils List |
| ☐ Reducing Conditions | ☐ Listed On National Hydric Soils List |
| ☒ Gleyed or Low-Chroma Colors | ☐ Other (Explain In Remarks) |

Profile Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present? ☒ Yes ☐ No	
Wetland Hydrology Present? ☒ Yes ☐ No	
Hydric Soil Present ? ☒ Yes ☐ No	
Is this Sampling Point Within a Wetland? ☒ Yes ☐ No	
Remarks :	

Approved By HQUSACE 3/92

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: U.S DataPort Applicant/Owner: U.S. DataPort Investigator: Wetlands Research Associates	Date: 8/25/2000 County: Santa Clara State: CA
Do Normal Circumstances exist on the site? ☒ Yes ☐ No Is the site significantly disturbed (Atypical Situation)? ☐ Yes ☒ No Is the area a potential Problem Area? ☒ Yes ☐ No (if needed explain on reverse.) seasonal wetland	Community ID: _____ Transect ID: _____ Plot ID: 17

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <u>Lolium multiflorum</u>	H	FAC	9. _____	_____	_____
2. <u>Picris echioides</u>	H	FAC	10. _____	_____	_____
3. <u>Brassica nigra</u>	H	NL	11. _____	_____	_____
4. _____	_____	_____	12. _____	_____	_____
5. _____	_____	_____	13. _____	_____	_____
6. _____	_____	_____	14. _____	_____	_____
7. _____	_____	_____	15. _____	_____	_____
8. _____	_____	_____	16. _____	_____	_____

Percent of Dominant Species that are OBL, FACW and/or FAC: 66%
 (excluding FAC-)

Remarks :

HYDROLOGY

Recorded Data ☐ Stream, Lake or Tide Gauge ☐ Aerial Photographs ☐ Other <u>X</u> No Recorded Data Available Field Observations : Depth of Surface Water : <u>0</u> (in.) Depth to Free Water in Pit : <u>none</u> (in.) Depth To Saturated Soil : <u>none</u> (in.)	Wetland Hydrology Indicators : Primary Indicators : ☐ Inundated ☐ Saturated in Upper 12 Inches ☐ Water Marks ☐ Drift Lines ☐ Sediment Deposits ☐ Drainage patterns In Wetlands Secondary Indicators (2 or more required) : ☐ Oxidized Root Channels In Upper 12 Inches ☐ Water-Stained Leaves ☐ Local Soil Survey Data ☐ FAC-Neutral test ☐ Other (Explain In Remarks)
Hydrology Remarks :	

SOILS

Map Unit Name
(Series and Phase): Campbell Drainage Class: somewhat poorly drained

Taxonomy (Subgroup): Campbell Silty Clay Loam Field Observations
Confirm Mapped Type? ☒ Yes ☐ No

Profile Description:

Depth (Inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance / Contrast	Texture, Concretions, Structure, etc.
0-10	A	10YR 3/2			clay loam

Hydric Soil Indicators :

- | | |
|--|---|
| ☐ Histosol | ☐ Concretions |
| ☐ Histic Epipedon | ☐ High Organic Content In Surface Layer In Sandy Soils |
| ☐ Sulfidic Odor | ☐ Organic Streaking In Sandy Soils |
| ☐ Aquic Moisture Regime | ☐ Listed On Local Hydric Soils List |
| ☐ Reducing Conditions | ☐ Listed On National Hydric Soils List |
| ☐ Gleyed or Low-Chroma Colors | ☐ Other (Explain In Remarks) |

Profile Remarks: no hydric indicators

WETLAND DETERMINATION

Hydrophytic Vegetation Present? ☒ Yes ☐ NoWetland Hydrology Present? ☐ Yes ☒ NoHydric Soil Present ? ☐ Yes ☒ NoIs this Sampling Point Within a Wetland? ☐ Yes ☒ No

Remarks :

Approved By HQUSACE 3/92

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: U.S DataPort Applicant/Owner: U.S. DataPort Investigator: Wetlands Research Associates	Date: 8/25/2000 County: Santa Clara State: CA
Do Normal Circumstances exist on the site? ☒ Yes ☐ No Is the site significantly disturbed (Atypical Situation)? ☐ Yes ☒ No Is the area a potential Problem Area? ☒ Yes ☐ No seasonal wetland (if needed explain on reverse.)	Community ID: _____ Transect ID: _____ Plot ID: 18

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <u>Lolium multiflorum</u>	<u>H</u>	<u>FAC</u>	9. _____	_____	_____
2. <u>Picris echinoides</u>	<u>H</u>	<u>FAC</u>	10. _____	_____	_____
3. <u>Brassica nigra</u>	<u>H</u>	<u>NL</u>	11. _____	_____	_____
4. _____	_____	_____	12. _____	_____	_____
5. _____	_____	_____	13. _____	_____	_____
6. _____	_____	_____	14. _____	_____	_____
7. _____	_____	_____	15. _____	_____	_____
8. _____	_____	_____	16. _____	_____	_____

Percent of Dominant Species that are OBL, FACW and/or FAC: 66%
(excluding FAC-)

Remarks :

HYDROLOGY

Recorded Data ☐ Stream, Lake or Tide Gauge ☐ Aerial Photographs ☐ Other <u>X</u> No Recorded Data Available Field Observations : Depth of Surface Water : <u>0</u> (in.) Depth to Free Water in Pit : <u>none</u> (in.) Depth To Saturated Soil : <u>none</u> (in.)	Wetland Hydrology Indicators : Primary Indicators : ☐ Inundated ☐ Saturated in Upper 12 Inches ☐ Water Marks ☐ Drift Lines ☐ Sediment Deposits ☐ Drainage patterns in Wetlands Secondary Indicators (2 or more required) : ☐ Oxidized Root Channels in Upper 12 Inches ☐ Water-Stained Leaves ☐ Local Soil Survey Data ☐ FAC-Neutral test ☐ Other (Explain in Remarks)
Hydrology Remarks : <u>no hydrology indicators</u>	

SOILS

Map Unit Name

(Series and Phase): CampbellDrainage Class: somewhat poorly drainedTaxonomy (Subgroup) : Campbell Silty Clay Loam

Field Observations

Confirm Mapped Type? ☒ Yes ☐ NoProfile Description:

Depth (Inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance / Contrast	Texture, Concretions, Structure, etc.
0-10	A	10YR 3/2			clay loam

Hydric Soil Indicators :

- | | |
|--|---|
| ☐ Histosol | ☐ Concretions |
| ☐ Histic Epipedon | ☐ High Organic Content In Surface Layer In Sandy Soils |
| ☐ Sulfidic Odor | ☐ Organic Streaking In Sandy Soils |
| ☐ Aquic Moisture Regime | ☐ Listed On Local Hydric Soils List |
| ☐ Reducing Conditions | ☐ Listed On National Hydric Soils List |
| ☐ Gleyed or Low-Chroma Colors | ☐ Other (Explain In Remarks) |

Profile Remarks: no hydric indicators

WETLAND DETERMINATION

Hydrophytic Vegetation Present? ☒ Yes ☐ NoWetland Hydrology Present? ☐ Yes ☒ NoHydric Soil Present ? ☐ Yes ☒ NoIs this Sampling Point Within a Wetland? ☐ Yes ☒ No

Remarks :

Approved By HQUSACE 3/92

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: U.S DataPort Applicant/Owner: U.S. DataPort Investigator: Wetlands Research Associates	Date: 8/25/2000 County: Santa Clara State: CA
Do Normal Circumstances exist on the site? ☒ Yes ☐ No Is the site significantly disturbed (Atypical Situation)? ☐ Yes ☒ No Is the area a potential Problem Area? ☒ Yes ☐ No seasonal wetland (if needed explain on reverse.)	Community ID: _____ Transect ID: _____ Plot ID: 19

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <u>Convolvulus arvensis</u>	<u>H</u>	<u>NL</u>	9. _____	_____	_____
2. <u>Lactuca sp.</u>	<u>H</u>	<u>NL</u>	10. _____	_____	_____
3. <u>Picris echioides</u>	<u>H</u>	<u>FAC</u>	11. _____	_____	_____
4. _____	_____	_____	12. _____	_____	_____
5. _____	_____	_____	13. _____	_____	_____
6. _____	_____	_____	14. _____	_____	_____
7. _____	_____	_____	15. _____	_____	_____
8. _____	_____	_____	16. _____	_____	_____

Percent of Dominant Species that are OBL, FACW and/or FAC: 33%
 (excluding FAC-)

Remarks :

HYDROLOGY

Recorded Data ☐ Stream, Lake or Tide Gauge ☐ Aerial Photographs ☐ Other <u>X</u> No Recorded Data Available	Wetland Hydrology Indicators : Primary Indicators : ☐ Inundated ☐ Saturated in Upper 12 Inches ☐ Water Marks ☐ Drift Lines ☐ Sediment Deposits ☐ Drainage patterns In Wetlands Secondary Indicators (2 or more required) : ☐ Oxidized Root Channels In Upper 12 Inches ☐ Water-Stained Leaves ☐ Local Soil Survey Data ☐ FAC-Neutral test ☐ Other (Explain In Remarks)
Field Observations : Depth of Surface Water : <u>0</u> (in.) Depth to Free Water in Pit : <u>none</u> (in.) Depth To Saturated Soil : <u>none</u> (in.)	
Hydrology Remarks : no hydrology indicators	

SOILS

Map Unit Name
(Series and Phase): Campbell Drainage Class: somewhat poorly drained

Taxonomy (Subgroup) : Campbell Silty Clay Loam Field Observations
Confirm Mapped Type? ☒ Yes ☐ No

Profile Description:

Depth (Inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance / Contrast	Texture, Concretions, Structure, etc.
0-10	A	10YR 3/3			loam

Hydric Soil Indicators :

- | | |
|--|---|
| ☐ Histosol | ☐ Concretions |
| ☐ Histic Epipedon | ☐ High Organic Content In Surface Layer In Sandy Soils |
| ☐ Sulfidic Odor | ☐ Organic Streaking In Sandy Soils |
| ☐ Aquic Moisture Regime | ☐ Listed On Local Hydric Soils List |
| ☐ Reducing Conditions | ☐ Listed On National Hydric Soils List |
| ☐ Gleyed or Low-Chroma Colors | ☐ Other (Explain In Remarks) |

Profile Remarks: no hydric indicators

WETLAND DETERMINATION

Hydrophytic Vegetation Present? ☐ Yes ☒ No	
Wetland Hydrology Present? ☐ Yes ☒ No	
Hydric Soil Present ? ☐ Yes ☒ No	
Is this Sampling Point Within a Wetland? ☐ Yes ☒ No	
Remarks :	

Approved By HQUSACE 3/92

Appendix B - Jurisdictional Wetlands Map



BIO TECH SERVICES
2301 Peachtree Lane
San Jose, CA 95128
Phone: (408) 248-3266 • Fax: (408) 248-7713



JOB SITE: U.S. Dataport

ARBORIST: Joe Bathurst

DATE: 5/11/00

TREE #	SPECIES	COMMON NAME	DBH	APPROXIMATE HEIGHT	SPREAD	1=Poor 5=Excellent HEALTH	STRUCTURE	COMMENTS
ON MAP								
#14	Salix discolor	Pussy Willow	18"	15'	10'	5	5	Although Considered A Shrub They Are Quite Pleasing To The Eye, As Well As Unique In It's Placement, Tagged On The East Side
#15	Salix discolor	Pussy Willow	24"	15'	10'	5	5	Although Considered A Shrub They Are Quite Pleasing To The Eye, As Well As Unique In It's Placement, Tagged On The East Side
#16	Salix discolor	Pussy Willow	28"	15'	10'	5	5	Although Considered A Shrub They Are Quite Pleasing To The Eye, As Well As Unique In It's Placement, Tagged On The East Side
#17	Salix discolor	Pussy Willow	20"	15'	10'	5	5	Although Considered A Shrub They Are Quite Pleasing To The Eye, As Well As Unique In It's Placement, Tagged On The East Side
#18	Salix discolor	Pussy Willow	36"	15'	10'	5	5	Although Considered A Shrub They Are Quite Pleasing To The Eye, As Well As Unique In It's Placement, Tagged On The East Side
#19	Salix discolor	Pussy Willow	16"	15'	10'	5	5	Although Considered A Shrub They Are Quite Pleasing To The Eye, As Well As Unique In It's Placement, Tagged On The East Side
#20	Salix discolor	Pussy Willow	24"	15'	10'	5	5	Although Considered A Shrub They Are Quite Pleasing To The Eye, As Well As Unique In It's Placement, Tagged On The East Side
#21	Salix discolor	Pussy Willow	12"	15'	10'	5	5	Although Considered A Shrub They Are Quite Pleasing To The Eye, As Well As Unique In It's Placement, Tagged On The East Side
#22	Salix discolor	Pussy Willow	34"	15'	10'	5	5	Although Considered A Shrub They Are Quite Pleasing To The Eye, As Well As Unique In It's Placement, Tagged On The East Side



BIO TECH SERVICES
2301 Peachtree Lane
San Jose, CA 95128
Phone: (408) 248-3266 • Fax: (408) 248-7713



JOB SITE: U.S. Dataport

ARBORIST: Joe Bathurst

DATE: 5/11/00

TREE #	SPECIES	COMMON NAME	DBH	APPROXIMATE HEIGHT	SPREAD	1=POOR 5=EXCELLENT HEALTH	STRUCTURE	COMMENTS
#1	Lagerstroemia indica	Crape Myrtle	19.5"	20'	20'	5	4	Nice Specimen
#2	Sequoia sempervirens	Redwood	34.5"	100'	30'	2	2	In Decline, Low Vigor, Co-dominant Stems
#3	Platanus	Sycamore	43"	70'	60'	5	4	Beautiful Tree, #3 And #4 Make A Dense Canopy Of 120' Diameter
#4	Platanus	Sycamore	47.5"	70'	50'	5	4	Dense Canopy
#5	Umbellularia californica	California Bay	38"	60'	30'	5	3	Currently Surrounded By Tarmac, Cavity At Base
#6	Geijera parviflora	Australian Willow	8.5"	20'	12'	2	2	In Decline, Girdling Root
#7	Acer negundo	Box Elder	42.5"	50'	60'	4	3	Heavy Branching, Mistletoe
#8	Schinus molle	California Pepper	15.5"	20'	20'	4	3	One Sided, Growing North
#9	Ligustrum lucidum	Privet	19"	20'	30'	5	5	Dense Canopy Of 8 Specimens
#10	Prunus armeniaca	Apricot	30"	10'	15'	5	4	
#11	Acer negundo	Box Elder	N/A	20'	20'	2	2	Unable To Tag (Surrounded By A Thicket Of Raspberry Bush), These Tree Is In A Severe State Of Decline (Competitive Plants And Development)
#12	Acer negundo	Box Elder	N/A	20'	20'	2	2	Unable To Tag (Surrounded By A Thicket Of Raspberry Bush), These Tree Is In A Severe State Of Decline (Competitive Plants And Development)
#13	Acer negundo	Box Elder	N/A	20'	20'	2	2	Unable To Tag (Surrounded By A Thicket Of Raspberry Bush), These Tree Is In A Severe State Of Decline (Competitive Plants And Development)

**Los Esteros Critical Energy Facility
Data Request Response Set 1
(01-AFC-12)**

3.0 Cultural Resources

Technical Area: Cultural Resources

CEC Author: Robin Palmer and Gary Reinoehl

LECEF Author: Jim Bard

BACKGROUND

The parcel adjacent east of the project site is the Cilker property. Located in the southeastern corner of this parcel is the Cilker residence. Photos submitted by the applicant, show that the Cilker residence and one other building appear to be more than 45 years old and in good condition and should, therefore, be treated as a potential historic resource. In accordance with CEQA and Section 106, all historical resources within the project impact area must be identified and evaluated. Information on historical resources is necessary for staff to complete the analysis.

DATA REQUEST

19. Please provide an architectural inventory report for all buildings and structures over 45 years old on the Cilker property along with all associated maps, enclosures and attachments. The inventory report should be completed by an architectural historian or historian with a specialty in architecture that meets the Secretary of the Interior's standards for an architectural historian.

Response: The information requested in this data request was provided in the data adequacy filing for the project in sufficient detail to determine the historic significance of all structures on the Cilker property. The construction and operation of the LECEF project is not expected to disturb any structure on the Cilker property. Furthermore, the Applicant objected to this data request in its October 15, 2001 filing as being irrelevant or unnecessary.

20. Please provide copies of completed DPR 523 forms for any structures more than 45 years old identified as a result of the architectural inventory. Each form should provide a discussion of the significance of the building or structure under CEQA Section 15064.5, (a), (3), (A)(B)(C) & (D). The forms should be completed by an architectural historian or historian with a specialty in architecture that meets the Secretary of the Interior's standards for an architectural historian.

Response: The LECEF project is not expected to directly or indirectly impact any historic properties. Therefore, the completion of DPR Form 523 is not warranted.

**Los Esteros Critical Energy Facility
Data Request Response Set 1
(01-AFC-12)**

BACKGROUND

Cultural resources that are on lists created by local jurisdictions that could qualify as historical resources and could be impacted by the project need to be considered in the analysis. Staff needs the following information to complete the analysis.

DATA REQUEST

21. Please provide copies of local lists of important cultural or historic resources designated by a local ordinance by the city of San Jose or Santa Clara County.

Response: Locally important cultural or historic resources designated by a local ordinance by the City of San Jose or Santa Clara County that lie within or immediately adjacent to the project area were already identified and reported by Wiberg (2000), which was submitted to the CEC as a confidential filing. Wiberg's (2000) investigation revealed that there were no cultural or historic resources designated by a local ordinance in the project area.

22. If any of these resources could be impacted or could have their immediate surroundings altered (change in the integrity of setting) by this project in such a manner that the significance of the historical resource would be materially impaired, then please provide a copy of the requirements used by the local jurisdictions to qualify for the listing.

Response: Wiberg's (2000) investigation revealed that there were not cultural or historic resources designated by a local ordinance in the project area, therefore, there are no such resources that could be impacted or have their immediate surroundings altered.

23. If any of the resources could be impacted by the project or could have their immediate surroundings altered (change in the integrity of setting) by this project in such a manner that the significance of the historical resource would be materially impaired and it has not been recorded on a DPR 523 form, then please record the cultural resource on the DPR 523 form and provide a copy of the form.

Response: Wiberg's (2000) investigation revealed that there were not cultural or historic resources designated by a local ordinance in the project area, therefore, there are no such resources that could be impacted or have their immediate surroundings altered. Because there are no such resources that could be impacted or have their immediate surroundings altered, no preparation of DPR 523 forms is needed.

24. If any of the resources could be impacted by the project or could have their immediate surroundings altered (change in the integrity of setting) by this project in such a manner that the significance of the historical resource would be materially impaired, please provide a discussion of the significance of the resources under

**Los Esteros Critical Energy Facility
Data Request Response Set 1
(01-AFC-12)**

CEQA Section 15064.5, (a), (3), (A)(B)(C) & (D) and provide staff with a copy of the assessment and the specialist's conclusions regarding significance.

Response: Wiberg's (2000) investigation revealed that there were not cultural or historic resources designated by a local ordinance in the project area, therefore, there are no such resources that could be impacted or have their immediate surroundings altered. Because there are no such resources that could be impacted or have their immediate surroundings altered, no preparation of DPR 523 forms is needed. Because no resources could be impacted by the project or could have their immediate surroundings altered by this project in such a manner that the significance of the historic resource would be materially impaired, there need not be any discussion of the significance of the resources under CEQA Section 15064.5 (a), (3), (A)(B)(C) & (D).

BACKGROUND

In some cases, local historical and archeological societies have knowledge of cultural resources in an area of a project that may not be available through normal record sources. Staff needs the following information to complete the analysis.

DATA REQUEST

25. Please inquire with any local historical and archeological societies that might have knowledge of historical or archeological resources in the area of the project. Please provide copies of the inquiry letters and any responses.

Response: The Applicant objected to this data request in its October 15, 2001 filing.

26. If any such resources are identified that could be impacted or could have their immediate surroundings altered (change in the integrity of setting) by this project in such a manner that the significance of the historical resource would be materially impaired and it has not been recorded on a DPR 523 form, then please record the cultural resource on the DPR 523 form and provide a copy of the form.

Response: The LECEF project is not expected to directly or indirectly impact any historic properties, as identified in the Wiberg investigation (2000). Therefore, the completion of DPR Form 523 is not warranted. Furthermore, the Applicant objected to this data request in its October 15, 2001 filing.

27. If any of the resources could be impacted or could have their immediate surroundings altered (change in the integrity of setting) by this project in such a manner that the significance of the historical resource would be materially impaired, please provide a discussion of the significance of the resources under CEQA

**Los Esteros Critical Energy Facility
Data Request Response Set 1
(01-AFC-12)**

Section 15064.5, (a), (3), (A)(B)(C) & (D) and provide staff with a copy of the assessment and the specialist's conclusions regarding significance.

Response: The LECEF project is not expected to directly or indirectly impact any historic properties, as identified in the Wiberg investigation (2000). Furthermore, the Applicant objected to this data request in its October 15, 2001 filing.

BACKGROUND

According to the AFC, on July 13, 2001, local Native American individuals and groups were informed by mail of the proposed project. The Native American individuals and groups were asked to provide a response with any comment or concerns they may have regarding cultural resources in the area of the proposed project site. Staff needs the following information to complete the analysis.

DATA REQUEST

28. Please provide copies of any responses from, or correspondence with the local Native American population that is in reference to this project.

Response: Attachment CR-1 presents a copy of the only response received to date from the Native American representatives contacted off the Native American Heritage Commission's (NAHC) July 12, 2001 letter (See Appendix 8.3 of the AFC for the letter from the NAHC and the Applicants contact letters).

**Los Esteros Critical Energy Facility
Data Request Response Set 1
(01-AFC-12)**

Attachment CR-1 Native American Representatives Correspondence

Michelle Zimmer
4952 Mc Coy Ave
San Jose, CA 95130
Home Phone 1-408-507-6734

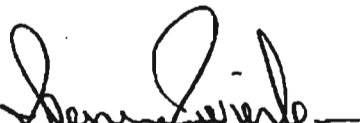
July 24, 2001

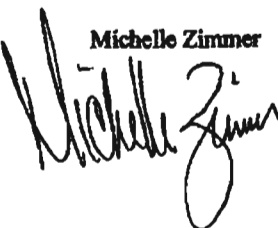
CH2MHILL
2300 NW Walnut Blvd.
Corvallis, OR 97330-3538
P.O. Box 428
Corvallis, OR 97339-0428

Dear James,

I am responding to your letter dated July 13th regarding Calpine Los Esteros Critical Energy Facility-North San Jose, California. Irene Zwierlein and I feel that it is a highly sensitive area and needs to be monitored by both Archaeological and Native American monitors. Please feel free to contact either one of us if you have any questions.
1-650-851-7747

Sincerely,


Irene Zwierlein


Michelle Zimmer

**Los Esteros Critical Energy Facility
Data Request Response Set 1
(01-AFC-12)**

4.0 Efficiency

Technical Area: Efficiency
CEC Author: Steve Baker
LECEF Author: Gary Carr

BACKGROUND

The Heat and Mass Balance Diagram bears the information required to analyze project fuel efficiency and, thus, its impacts on energy resources. Figure 2.2-3 of the AFC is such a Heat and Mass Balance Diagram. However, the copy included in the AFC is largely illegible.

DATA REQUEST

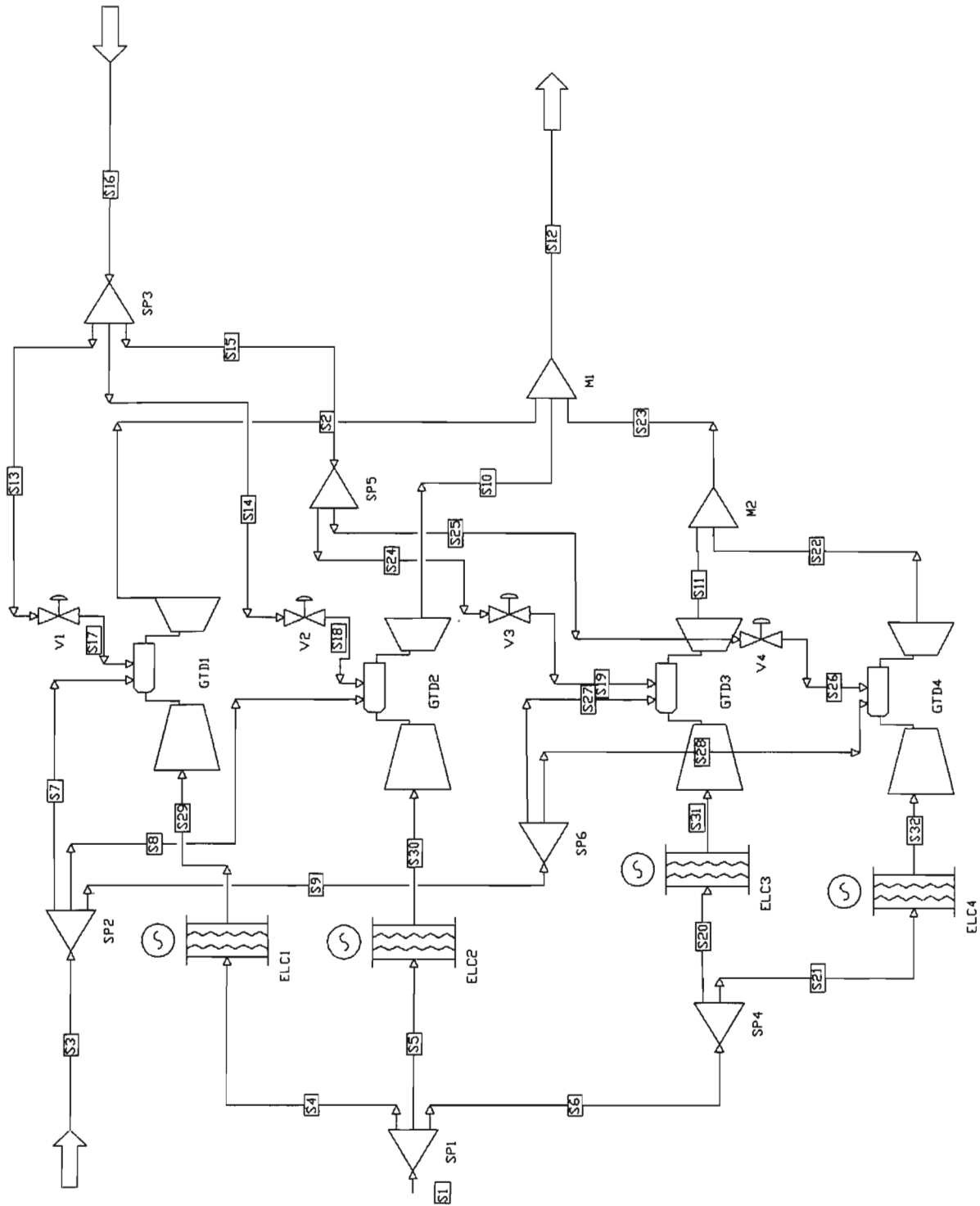
29. Please provide a legible copy of Figure 2.2-3, Heat and Mass Balance Diagram.

Response: A legible copy of the project's heat and mass balance, based on the GateCycle software is presented in Attachment EFF-1.

**Los Esteros Critical Energy Facility
Data Request Response Set 1
(01-AFC-12)**

Attachment EFF-1 LECEF Heat and Mass Balance

MODEL: USDL60
CASE: USDL60
POWER: 210.44
HR: 8441.53
EFF: 40.42



Streams	From	To	Flow lb/hr	Temperature F	Pressure psia	Enthalpy BTU/lb
S1	-	SP1	4.1017e+006	59.00	14.70	-0.2463
S2	GTD1	M1	1.0611e+006	868.71	14.43	213.31
S3	-	SP2	75413	120.00	450.00	31.92
S4	SP1	ELC1	1.0165e+006	59.00	14.70	-0.2463
S5	SP1	ELC2	1.0165e+006	59.00	14.70	-0.2463
S6	SP1	SP4	2.0686e+006	59.00	14.70	-0.2463
S7	SP2	GTD1	18711	120.00	450.00	31.92
S8	SP2	GTD2	18711	120.00	450.00	31.92
S9	SP2	SP6	37991	120.00	450.00	31.92
S10	GTD2	M1	1.0611e+006	868.71	14.43	213.31
S11	GTD3	M2	1.0611e+006	868.71	14.43	213.31
S12	M1	-	4.2806e+006	869.32	14.43	213.44
S13	SP3	V1	26000	420.00	230.00	1217.9
S14	SP3	V2	26000	420.00	230.00	1217.9
S15	SP3	SP5	52000	420.00	230.00	1217.9
S16	-	SP3	104000	420.00	230.00	1217.9
S17	V1	GTD1	26000	420.00	230.00	1217.9
S18	V2	GTD2	26000	420.00	230.00	1217.9
S19	V3	GTD3	26000	420.00	230.00	1217.9
S20	SP4	ELC3	1.0165e+006	59.00	14.70	-0.2463
S21	SP4	ELC4	1.0521e+006	59.00	14.70	-0.2463
S22	GTD4	M2	1.0973e+006	871.31	15.17	213.85
S23	M2	M1	2.1584e+006	869.97	14.43	213.58
S24	SP5	V3	26000	420.00	230.00	1217.9
S25	SP5	V4	26000	420.00	230.00	1217.9
S26	V4	GTD4	26000	420.00	230.00	1217.9
S27	SP6	GTD3	18711	120.00	450.00	31.92
S28	SP6	GTD4	19280	120.00	450.00	31.92
S29	ELC1	GTD1	1.0164e+006	45.00	13.96	-3.62679
S30	ELC2	GTD2	1.0164e+006	45.00	13.96	-3.62679
S31	ELC3	GTD3	1.0164e+006	45.00	13.96	-3.62679
S32	ELC4	GTD4	1.0520e+006	50.00	14.70	-2.41946

Equipment/Ports	Flow lb/hr	Temperature F	Pressure psia	Enthalpy BTU/lb	Quality /x of CH
ELC1 [CHILLR]: Electric Chiller					
Air Inlet	1016532.	59.00	14.70	-0.2463	0.0
Air Exit	1016412.	45.00	13.96	-3.62679	0.0
ELC2 [CHILLR]: Electric Chiller					
Air Inlet	1016532.	59.00	14.70	-0.2463	0.0
Air Exit	1016412.	45.00	13.96	-3.62679	0.0
ELC3 [CHILLR]: Electric Chiller					
Air Inlet	1016532.	59.00	14.70	-0.2463	0.0
Air Exit	1016412.	45.00	13.96	-3.62679	0.0
ELC4 [CHILLR]: Electric Chiller					
Air Inlet	1052099.	59.00	14.70	-0.2463	0.0
Air Exit	1051977.	50.00	14.70	-2.41946	0.0
GTD1 [GTDATA]: Gas Turbine Data					
Inlet Air	1016412.	45.00	13.96	-3.62679	0.0
Exhaust Gas Outlet	1061124.	868.71	14.43	213.31	3.91406
Steam/Water Injectio	26000.0	420.00	230.00	1217.9	0.0
Fuel Inlet	18711.1	120.00	450.00	31.92	3.91406
GTD2 [GTDATA]: Gas Turbine Data					
Inlet Air	1016412.	45.00	13.96	-3.62679	0.0
Exhaust Gas Outlet	1061124.	868.71	14.43	213.31	3.91406
Steam/Water Injectio	26000.0	420.00	230.00	1217.9	0.0
Fuel Inlet	18711.1	120.00	450.00	31.92	3.91406
GTD3 [GTDATA]: Gas Turbine Data					
Inlet Air	1016412.	45.00	13.96	-3.62679	0.0
Exhaust Gas Outlet	1061124.	868.71	14.43	213.31	3.91406
Steam/Water Injectio	26000.0	420.00	230.00	1217.9	0.0
Fuel Inlet	18711.1	120.00	450.00	31.92	3.91406
GTD4 [GTDATA]: Gas Turbine Data					
Inlet Air	1051977.	50.00	14.70	-2.41946	0.0
Exhaust Gas Outlet	1097257.	871.31	15.17	213.85	3.91406
Steam/Water Injectio	26000.0	420.00	230.00	1217.9	0.0
Fuel Inlet	19279.7	120.00	450.00	31.92	3.91406
M1 [MIXER]: Mixer					
Primary Inlet	1061124.	868.71	14.43	213.31	3.91406
Outlet	4280628.	869.32	14.43	213.44	3.91406
Secondary Inlet	1061124.	868.71	14.43	213.31	3.91406
Tertiary Inlet	2158381.	869.97	14.43	213.58	3.91406
M2 [MIXER]: Mixer					
Primary Inlet	1061124.	868.71	14.43	213.31	3.91406
Outlet	2158381.	869.97	14.43	213.58	3.91406
Secondary Inlet	1097257.	871.31	15.17	213.85	3.91406
S1 [GAS]: Air or Fuel Source					

Outlet	4101697.	59.00	14.70	-0.2463	0.0
S12 [EXH]: Exhaust					
Inlet	4280628.	869.32	14.43	213.44	3.91406
S16 [SOURCE]: Source					
Outlet	104000.0	420.00	230.00	1217.9	1.0
S3 [GAS]: Air or Fuel Source					
Outlet	75413.0	120.00	450.00	31.92	3.91406
SP1 [SPLITR]: Splitter					
Inlet	4101697.	59.00	14.70	-0.2463	0.0
Primary Outlet	1016532.	59.00	14.70	-0.2463	0.0
Secondary Outlet	1016532.	59.00	14.70	-0.2463	0.0
Tertiary Outlet	2068632.	59.00	14.70	-0.2463	0.0
SP2 [SPLITR]: Splitter					
Inlet	75413.0	120.00	450.00	31.92	3.91406
Primary Outlet	18711.1	120.00	450.00	31.92	3.91406
Secondary Outlet	18711.1	120.00	450.00	31.92	3.91406
Tertiary Outlet	37990.8	120.00	450.00	31.92	3.91406
SP3 [SPLITR]: Splitter					
Inlet	104000.0	420.00	230.00	1217.9	1.0
Primary Outlet	26000.0	420.00	230.00	1217.9	1.0
Secondary Outlet	26000.0	420.00	230.00	1217.9	1.0
Tertiary Outlet	52000.0	420.00	230.00	1217.9	1.0
SP4 [SPLITR]: Splitter					
Inlet	2068632.	59.00	14.70	-0.2463	0.0
Primary Outlet	1016532.	59.00	14.70	-0.2463	0.0
Secondary Outlet	1052099.	59.00	14.70	-0.2463	0.0
SP5 [SPLITR]: Splitter					
Inlet	52000.0	420.00	230.00	1217.9	1.0
Primary Outlet	26000.0	420.00	230.00	1217.9	1.0
Secondary Outlet	26000.0	420.00	230.00	1217.9	1.0
SP6 [SPLITR]: Splitter					
Inlet	37990.8	120.00	450.00	31.92	3.91406
Primary Outlet	18711.1	120.00	450.00	31.92	3.91406
Secondary Outlet	19279.7	120.00	450.00	31.92	3.91406
V1 [PIPVLV]: Valve					
Inlet	26000.0	420.00	230.00	1217.9	1.0
Outlet	26000.0	420.00	230.00	1217.9	1.0
V2 [PIPVLV]: Valve					
Inlet	26000.0	420.00	230.00	1217.9	1.0
Outlet	26000.0	420.00	230.00	1217.9	1.0
V3 [PIPVLV]: Valve					
Inlet	26000.0	420.00	230.00	1217.9	1.0
Outlet	26000.0	420.00	230.00	1217.9	1.0

V4 [PIPVLV]: Valve

Inlet	26000.0	420.00	230.00	1217.9	1.0	.
Outlet	26000.0	420.00	230.00	1217.9	1.0	

Equipment ID: GTD1 Type: GTDATA Description: Gas Turbine Data

Ports:	Flow lb/hr	Temperature F	Pressure psia	Enthalpy BTU/lb	Quality /x of CH
Inlet Air	1016412.	45.00	13.96	-3.62679	0.0
Exhaust Gas Outlet	1061124.	868.71	14.43	213.31	3.91406
Steam/Water Injectio	26000.0	420.00	230.00	1217.9	0.0
Fuel Inlet	18711.1	120.00	450.00	31.92	3.91406

Main Inputs: -----

Calculational Method Curve Driven

Correction Curve Table Information: -----

Curve Table File Name LM6K6A

Current Values: -----

Net Power	46.31 MW
Net Heat Rate	8367.8 BTU/kW-hr
Net Efficiency	40.78
Heat Consumption	3.87507e+008 BTU/hr
Fuel Flow Rate	18711 lb/hr
Generator Losses	705.22 kW
Auxiliary Losses	0.0 kW
Energy Balance Difference	0.00492516
Engine Shaft Power	47.01 MW
Generator Efficiency	0.9850

Fuel Information: -----

Lower Heating Value 20710 BTU/lb

Inlet Air-----

Nitrogen	0.7730	Oxygen	0.2074
Carbon Dioxide	0.000326671	H2O	0.0100893
Hydro Carbons	0.0	Argon	0.00923587
Hydrogen	0.0	Carbon Monoxide	0.0
Sulfur Dioxide	0.0	Hydrogen Sulfide	0.0
Carbonyl Sulfide	0.0		
H/C Ratio	0.0	Molecular Weight	28.86

Fuel-----

Nitrogen	0.011583	Oxygen	0.0
Carbon Dioxide	0.0	H2O	0.0
Hydro Carbons	0.9884	Argon	0.0
Hydrogen	0.0	Carbon Monoxide	0.0
Sulfur Dioxide	0.0	Hydrogen Sulfide	0.0
Carbonyl Sulfide	0.0		
H/C Ratio	3.91406	Molecular Weight	16.09

Exit Gas-----

Nitrogen	0.7200	Oxygen	0.1330
Carbon Dioxide	0.0306952	H2O	0.1077
Hydro Carbons	0.0	Argon	0.00859913
Hydrogen	0.0	Carbon Monoxide	0.0
Sulfur Dioxide	0.0	Hydrogen Sulfide	0.0
Carbonyl Sulfide	0.0		
H/C Ratio	3.91406	Molecular Weight	28.06

Miscellaneous Methods: -----

Use Default Ambient Air Flag No

Miscellaneous Values: -----

Inlet Press. Drop	4 in H2O
Outlet Non-HRSG DP	0.0 in H2O
HRSG Press. Drop	13.00 in H2O
Net Power Multiplier	1.0
Net Heat Rate Multiplier	1.0
Exh. Flow Multiplier	1.0
Exh. Temp. Multiplier	1.0
Net Power Additive	0.0 MW
Net Heat Rate Additive	0.0 BTU/kW-hr
Exh. Flow Additive	0.0 lb/hr
Exh. Temp. Additive	0.0 F

**Los Esteros Critical Energy Facility
Data Request Response Set 1
(01-AFC-12)**

5.0 Geology

Technical Area: Geology

CEC Author: Dr. Patrick Pilling, P.E., G.E.

LECEF Author: Chuck Vosicka

BACKGROUND

The site is generally underlain by clay soils with a ground water table that varies between 7 and 10.5 feet below the existing ground surface. One boring (EB-5) encountered a medium dense sand layer at a depth of 23 feet to the depth explored (25 feet). The applicant states on Page APP 10G-4 that liquefaction analyses were performed to assess the liquefaction potential of this layer. Such analyses require the estimation of a peak ground acceleration.

DATA REQUEST

30. Please provide the peak ground acceleration used in the analysis and a discussion of how it was developed.

Response: A peak ground acceleration of 0.67g was used in the liquefaction analysis. This value was developed using the computer program EZ-Frisk with a probability of occurrence of 10 percent of exceedance in 50 years and the Boore-Joyner-Fumal (1997) attenuation relationship for a soil site.

BACKGROUND

The AFC states the potential for soil expansion has not been identified to be a concern; however, no laboratory test data is presented in the AFC from which to evaluate the expansion potential of site soils.

DATA REQUEST

31. Please provide a copy of the geotechnical report titled *Final Geotechnical Investigation, U.S. Dataport Site, San Jose, California*, dated September 11, 2000, as referenced in the AFC on Page APP 10G-9.

Response: Attachment GEO-1 contains a copy of the Final Geotechnical Investigation for the US DataPort Site.

BACKGROUND

**Los Esteros Critical Energy Facility
Data Request Response Set 1
(01-AFC-12)**

As noted previously, the site is generally underlain by clay soils with a ground water table that varies between 7 and 10.5 feet below the existing ground surface. The AFC states the shallow foundations can be designed for an allowable bearing capacity of 3,000 pounds per square foot (psf) which would result in total settlements on the order of 1 inch or less. Clay soils, when loaded, can experience excessive consolidation settlement over time.

DATA REQUEST

32. Please provide a discussion of the methods used to assess the allowable bearing capacity and settlement/consolidation of the clay soils when loaded.

Response: Attachment GEO-1 contains a site-specific geotechnical investigation for the project site. Section 8.1 (Page 18) of this report presents a revised discussion of the soil bearing capacity and expected foundation design criteria for the LECEF project. The allowable soil bearing capacity was developed based on an ultimate bearing capacity and applying an appropriate safety factor. The ultimate bearing capacity was determined based on the soil consistency (typically stiff to hard clays), the average undrained shear strengths tests and correlations, and engineering judgement. Settlement estimates were based on the expected structural loading, shallow spread footings (with size estimated based on the allowable bearing capacities), the subsurface conditions encountered, and the proposed future site grades (which will reportedly be raised 2 to 4 feet). Immediate compression is expected in unsaturated clays, and consolidation in the saturated clays. However, clays in the Santa Clara Valley are typically over-consolidated and most of the consolidation is recompression, resulting in minor long-term settlement.

BACKGROUND

The AFC states on Pages 8.15-5 and 8.15-6 that no significant mineral resources are present in the site vicinity.

DATA REQUEST

33. Please provide a discussion of the methods used to develop this statement.

Response: The above referenced statement is based on a review of the Department of Conservation Resource Zone Maps (Mineral Land Classifications – Aggregate Materials in the San Francisco-Monterey Bay Area, 1986, Special Report 146, California Department of Conservation, Division of Mines and Geology and the Update of Mineral Land Classifications: Aggregate Materials in the South San Francisco Bay Production Consumption Region, 1996, California Department of Conservation, Division of Mines and Geology).

**Los Esteros Critical Energy Facility
Data Request Response Set 1
(01-AFC-12)**

BACKGROUND

Tsunamis and seiches are earthquake-induced waves which inundate low-lying areas adjacent to large bodies of water. The proposed site is situated approximately 10 to 15 feet above mean sea level and southwest of the southern boundary of the San Francisco Bay.

DATA REQUEST

34. Please provide a discussion and/or evaluation of the potential for tsunamis/seiches to impact the proposed site.

Response: The LECEF site is located several miles inland from the San Francisco Bay. Therefore, the potential for inundation due to tsunamis/seiches emanating from the Pacific Ocean is remote. For a localized-derived tsunami to occur, it would require a significant vertical movement of a seismic fault beneath the San Francisco Bay. No fault capable of this type and magnitude of motion has been documented in the San Francisco Bay.

BACKGROUND

Table 8.15-1 and Page 8.15-3 state that the Hayward Fault is 6 miles from the site at its closest point; however, Figure 8.15-2 indicates the Hayward Fault passes immediately adjacent to the southwest corner of the site.

DATA REQUEST

35. Please clarify the location of the Hayward Fault with respect to the proposed site and revise Figure 8.15-2 if appropriate.

Response: Section 4.1 of the Final Geotechnical Investigation for the US DataPort Site (contained in Attachment GEO-1) indicates that the Hayward Fault is 5.7 miles from the LECEF site. Figure 8.15-2 was mislabeled as noted by the Commission Staff. Figure 3 of the Final Geotechnical Investigation (Attachment GEO-1) shows the project site and Hayward Fault.

**Los Esteros Critical Energy Facility
Data Request Response Set 1
(01-AFC-12)**

Attachment GEO-1 Final Geotechnical Investigation for the US DataPort Site

Final Geotechnical Investigation

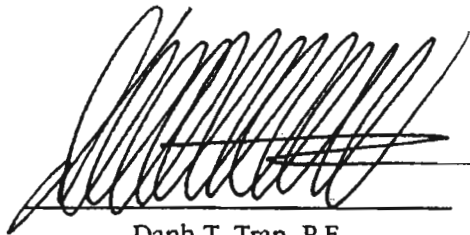
US DataPort Site
San Jose, California

Report No. 587-12H has been prepared for:

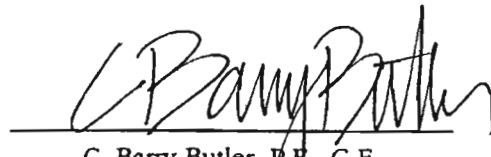
US DataPort

50 W. San Fernando Street, Suite 320, San Jose, California 95113

September 11, 2000



Danh T. Tran, P.E.
Project Engineer



C. Barry Butler, P.E., G.E.
Principal Geotechnical Engineer
Quality Assurance Reviewer



Mountain View

Oakland

Pasadena

San Ramon

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APPENDIX D — PROBABILISTIC SEISMIC HAZARD ANALYSIS

**GEOTECHNICAL INVESTIGATION
US DATAPORT SITE
SAN JOSE, CALIFORNIA**

1.0 INTRODUCTION

This report presents the results of our geotechnical investigation for the project to be located in San Jose, California. The location of the site is shown on the Vicinity Map, Figure 1. The purpose of our investigation was to evaluate the subsurface conditions at the site and to provide geotechnical recommendations for design of the proposed office complex and computer data center.

As you know, we performed a preliminary geotechnical investigation for the site and presented the results in our report dated February 15, 2000. For our use we received an undated plan titled, "Conceptual Landscape Architectural Master Plan," prepared by ER+HDR and Smith and Smith Landscape Architects.

1.1 Project Description

The project will consist of developing the approximately 119-acre site for a new, office complex/computer data center. Based on the conceptual plans provided, the new complex will consist of 11 new one-story buildings and one new two-story building. As shown on the site plan, Figure 2, the two-story building (Building A) will be located in the southwest corner of the site. Buildings will range in size from approximately 195,000 up to 260,000 square feet. With the exception of Building A, new buildings will most likely be of concrete tilt-up construction with slab-on-grade floors. Perimeter parking areas and interior access roads are also planned. In addition, an access road for the site from Zanker Road is planned in the southern corner of the site. An approximately 20-acre area west of the new complex is designated as "Future C.R.E.C." and will be developed as the Calpine Corporation Power Station.

Based on our conversation with the project structural engineer, interior column dead plus live loads on the order of 600 kips can be expected for the one- and two-story buildings. Fills on the order of 2 to 4 feet are expected for building pad grades. New underground utilities are also planned as part of site development.

1.2 Scope of Services

Our scope of services was presented in detail in our agreement with you dated June 15, 2000. To accomplish this work, we provided the following services:

- ▼ Exploration of subsurface conditions by drilling five conventional borings and retrieving soil samples for observation and laboratory testing and advancing 12 cone penetration test (CPT) soundings.
- ▼ Evaluation of the physical and engineering properties of the subsurface soils by visually classifying the samples and performing various laboratory tests on selected samples.
- ▼ Engineering analysis to evaluate site earthwork, building foundations, slabs-on-grade, retaining walls, pavements, and a site-specific response spectra.
- ▼ Installation of two monitoring wells to track ground water depths.
- ▼ Preparation of this report to summarize our findings and to present our conclusions and recommendations.

2.0 SITE CONDITIONS

2.1 Exploration Program

Subsurface exploration was performed on July 5, 6, 10, and 11, 2000, and August 10, 2000, using conventional, truck-mounted drilling and CPT equipment to investigate, sample, and log subsurface soils. Five exploratory borings were drilled to depths ranging from 25 to 60 feet. Twelve CPT soundings were advanced to depths ranging from approximately 30 to 100 feet. Borings were permitted and backfilled in accordance with Santa Clara Valley Water District guidelines. A representative bulk sample of the surface soil was obtained for pavement design purposes. The approximate locations of the borings are shown on the Site Plan, Figure 2. Logs of our borings and details regarding our field investigation are included in Appendix A; our laboratory tests are discussed in Appendix B.

2.2 Surface

We performed a brief surface reconnaissance during our site exploration. The approximately 119-acre, multiple parcel site is located north of Highway 237 and west of Coyote Creek in San Jose, California. The site is bounded by Alviso-Milpitas Road to the south, the Coyote Creek levee to the east, water-recycling sludge ponds to the north, and the San Jose/Santa Clara Water Pollution Control Plant to the west. The site was generally flat except for the southeast corner where the levee met the Alviso-Milpitas Road embankment. The slopes for the levee were at approximately 2 to 1 (horizontal to vertical).

At the time of our site exploration, the majority of the site was occupied by existing agricultural farming fields and greenhouses. The upper 1 to 2 feet of topsoil was uneven due to recent tilling. Greenhouses and one-story buildings were located in the southwest portion of the site, and a single-family home occupied the southeast corner. Dirt roads existed around the perimeter of the site. For a more detailed

surface description of the site, please refer to our Phase I environmental site assessment report.

2.3 Subsurface

We encountered surficial soils generally consisting of soft to very stiff silty clays and clayey silts to depths ranging from 14 to more than 30 feet deep in our borings. Plasticity Index (PI) tests performed on representative samples of the surficial soils from this and previous investigations resulted in PIs of 9 and 13, indicating a low expansion potential. Below the surficial soils, our borings encountered interbedded strata of medium stiff to very stiff silty clays and silts, and medium dense to very dense sands and gravels to 100 feet, the maximum depth explored.

2.4 Ground Water

The depth to free ground water was not determined during our current investigation due to the rotary-wash method of drilling. However, we recorded depth to free ground water during our previous site investigation. In addition, we also installed two ground water monitoring wells at the site to track the depth to ground water. Ground water depths are shown in Table 1. Fluctuations in the level of the ground water depths may occur due to variations in rainfall, and other factors not evident at the time our measurements were made.

Table 1. Depth to Ground Water

Boring	Date Drilled	Depth to Ground Water during Drilling (feet)	Depth to Ground Water after Drilling (feet)	Date
EB-1	01/26/2000	19	19	1/26/00
EB-2	01/26/2000	NE	6½	1/26/00
EB-3	01/26/2000	14	14	1/26/00
MW-21	07/06/2000	NE	7	7/7/00
MW-22	07/06/2000	NE	10½	7/7/00

3.0 GEOLOGIC HAZARDS

A brief qualitative evaluation of geologic hazards was made during this investigation. Our comments concerning these hazards are presented below.

3.1 Fault Rupture Hazard

A Regional Fault Map illustrating known active faults relative to the site is presented in Figure 3. The site is not located within a currently designated Alquist-Priolo Earthquake Fault Zone (known formerly as a Special Studies Zone) or a City of San Jose Potential Hazard Zone. As shown on Figure 3, no known surface expression of active faults is believed to cross the site. Fault rupture through the site, therefore, is not anticipated.

3.2 Ground Shaking

Strong ground shaking can be expected at the site during moderate to severe earthquakes in the general region. This is common to virtually all developments in the San Francisco Bay Area. The "Seismicity" section that follows summarizes potential levels of ground shaking at the site.

3.3 Liquefaction

Soil liquefaction results from loss of strength during cyclic loading, such as imposed by earthquakes. Soils most susceptible to liquefaction are clean, loose, saturated, uniformly graded, fine-grained sands. Empirical evidence indicates that loose, silty sands are also potentially liquefiable. Based on our review of published data (Rogers and Williams, 1974), and data collected during our preliminary investigation, the site has been designated as an area with a high potential for liquefaction.

However, sand was not encountered in our borings performed during this design-level investigation, except for Boring EB-5. Boring EB-5 encountered medium dense sand at a depth of 23 feet. As a result, we performed a confirmation CPT boring to obtain additional data for liquefaction analysis. Our CPT boring encountered sands at depths ranging from approximately 29½ to 36 feet.

Significant layers of sand were encountered in our CPTs completed for this investigation, generally at a depth of 24 feet or greater. However, based on our review of the CPT data, the potential for liquefaction in the sand layers encountered in our CPTs appears to be low.

Based on the above information, it was our engineering judgment to evaluate the sand encountered at the bottom of Boring EB-5 for liquefaction. We based our liquefaction analysis on the work of Seed and Idriss (1982) and our settlements analysis on the method proposed by Tokimatsu and Seed (1987) with updated procedures by Seed (1997). Our analysis included corrections to the recorded standard penetration blow count resistance, sampler and hammer types, overburden pressures, and fines content.

Our theoretical analyses indicated that liquefaction of the soil strata in Boring EB-5 could occur and that ground surface settlements might be expected during a Magnitude 7.5 earthquake occurring on the nearby Hayward Fault.

The method of analysis does not, however, take into account the capping action of the clay stratum overlying these sands. In 1985, Ishihara presented preliminary empirical criteria to assess the potential for ground surface disruption at liquefaction sites based on the relationship between the thickness of liquefiable sediments and thickness of overlying non-liquefiable soil. In general, Ishihara concluded that liquefiable soils capped by at least 10 feet of non-liquefiable soil would not significantly vent to the surface. A recent study by Youd and Garris (1995) expanded on the work of Ishihara to include data from over 308 exploratory

borings, 15 different earthquakes, and several ranges of recorded peak ground acceleration. The results of this study indicate that for horizontal ground surface accelerations ranging from 0.56 to 0.78, the anticipated maximum probable levels for this site, a 20-foot-thick cap would be adequate to substantially limit venting at this site (for liquefiable layers up to approximately 6½ feet thick).

Based on our site specific data collected during this final level investigation, the site appeared to be capped by at least 20 feet of non-liquefiable, clayey soils. This layer would be applicable to this site since the site is not anticipated to be subjected to ground oscillation or significant lateral spreading as described in Section 3.5 below. Therefore, in our opinion, there is a relatively low probability that the sand strata encountered would be vented to the surface during a seismic event, and the probability of substantial ground settlement due to soil liquefaction would be reduced. Based on our analysis for estimating liquefaction-related volumetric compression, we estimate that liquefaction-induced settlements of less than ½-inch would occur due to post-liquefaction consolidation of the subject sand layer.

3.4 Differential Compaction

If near-surface soils vary in composition both vertically and laterally, strong earthquake shaking can cause non-uniform compaction of soil strata, resulting in movement of the near-surface soils. Because the subsurface soils encountered at the site are generally stiff, cohesive and do not appear to change in thickness or consistency abruptly over short distances, we judge the probability of significant differential compaction at the site to be low.

3.5 Lateral Spreading

Lateral spreading typically occurs as a form of horizontal displacement of relatively flat-lying alluvial material toward an open or "free" face such as an open body of water, channel, or excavation. In soils this movement is generally due to failure along a weak plane, and may often be associated with liquefaction. As cracks develop within the weakened material, blocks of soil displace laterally towards the open face. Cracking and lateral movement may gradually propagate away from the face as blocks continue to break free. Generally, failure in this mode is analytically unpredictable, since it is difficult to determine where the first tension crack will occur.

The channelized portion of Coyote Creek comes within approximately 500 feet of the closest planned structure. Based on our subsurface information for the site and the low potential for liquefaction, the potential for impacts to the planned structures at the site due to lateral spreading during a seismic event is low. Localized lateral spreading may occur at distances closer to the creek.

3.6 Flooding

As shown on the December 16, 1988 Federal Emergency Management Agency (FEMA) "Flood Insurance Rate Map" (FIRM), the western portion of the site is within

Zone A, described as "Area of 100-year flood, base flood elevations and flood hazard factors not determined." The remainder of the site is outside of the corporate limits. However, based on the Letter of Map Revision (LOMR) provided to us, and available published data, the above portion of the site was revised to Zone B, described as "This area protected from the one (1) percent annual chance (100-year) flood by levee, dike, or other structures subject to possible failure or overtopping during larger floods." The zone revision was effective as of July 10, 1997.

4.0 SEISMICITY

4.1 Regional Active Faults

The San Francisco Bay Area is recognized by geologists and seismologists as one of the most seismically active regions in the United States. The significant earthquakes that occur in the Bay Area are generally associated with crustal movement along well-defined, active fault zones of the San Andreas Fault system, which regionally trend in a northwesterly direction. The San Andreas Fault, which generated the great San Francisco earthquake of 1906, passes about 15 miles southwest of the site. Two other major active faults in the area are the Hayward Fault (total length), located about 5.7 miles northeast, and the Calaveras Fault, located about 7 miles northeast of the site.

4.2 Maximum Estimated Ground Shaking

A site-specific Probabilistic Seismic Hazard Analysis (PSHA) was developed for the project as part of our site-specific response analysis. As requested, three levels of probability of exceedance, including 2 and 10 percent in 50 years, and 10 percent in 100 years, were developed. Results are included in Appendix D.

4.3 Future Earthquake Probabilities

The U.S. Geological Survey's Working Group on California Earthquake Probabilities (1999), referred to as WG99, determined that there is a 70 percent chance ($\pm 10\%$) of at least one magnitude 6.7 or greater earthquake striking the San Francisco Bay region between 2000 and 2030. This result is the most important outcome of WG99's work, because any major quake can cause damage throughout the region. This was dramatically demonstrated when the 1989 Loma Prieta earthquake caused severe damage in Oakland and San Francisco, more than 50 miles from the fault rupture. Although earthquakes can inflict damage at a considerable distance, shaking will be very intense near the fault rupture. Therefore, temblors located in urbanized areas of the region have the potential to cause much more damage than the 1989 Loma Prieta earthquake.

Although research on earthquake prediction has greatly increased in recent years, seismologists cannot predict when or where an earthquake will occur. Our current understanding of earthquake activity indicates, however, the site will likely be

subject to at least one moderate to severe earthquake within the next 30 years. During such an earthquake the risk of fault offset at the site is slight, but strong shaking of the site is likely to occur.

4.4 UBC Site Coefficient

The California Division of Mines and Geology (CDMG) has recently issued maps locating "Active Fault Near-Source Zones" to be used with the 1997 Uniform Building Code ("Maps of Known Active Fault Near-Source Zones in California and Adjacent Portions of Nevada," CDMG/ICBO February 1998). Faults are classified as either "A," "B," or "C" as shown below. Only faults classified as "A" or "B" are mapped since faults classified as "C" do not increase the near-source factor.

Table 2. Seismic Source Definitions

Seismic Source Type	Seismic Source Description	Seismic Source Definition*	
		Maximum Moment Magnitude, M	Slip Rate, SR (mm/yr)
A	Faults that are capable of producing large magnitude events and that have a high rate of seismic activity.	$M \geq 7.0$	$SR \geq 5$
B	All faults other than Types A and C.	$M \geq 7.0$ $M < 7.0$ $M \geq 6.5$	$SR < 5$ $SR > 2$ $SR < 2$
C	Faults that are not capable of producing large magnitude earthquakes and that have a relatively low rate of seismic activity.	$M < 6.5$	$SR \leq 2$

*Note: Both maximum moment magnitude and slip rate conditions must be satisfied concurrently when determining seismic source type.

The following table lists Type A and Type B faults within 25 kilometers of the site:

Table 3. Approximate Distance to Seismic Sources

Fault	Seismic Source Type	Distance (kilometers)
**Hayward (Southeast Extension)	B	5
*Hayward (Total Length)	A	9
Calaveras	B	11
Monte Vista - Shannon	B	18
San Andreas (1906)	A	24

*Nearest Type A fault

**Nearest Type B fault

Based on this information, the site may be characterized for design based on Chapter 16 of the 1997 UBC using the information in Table 4.

Table 4. 1997 UBC Site Categorization and Site Coefficients

Categorization/Coefficient	Design Value
Soil Profile Type (Table 16-J)	S_D
Seismic Zone (Figure 16-2)	4
Seismic Zone Factor (Table 16-I)	0.4
Seismic Source Name	Hayward
Seismic Source Type (Table 16-U)	A
Distance to Seismic Source (kilometers)	9.1
*Near Source Factor N_a (Table 16-S)	1.04
Near Source Factor N_v (Table 16-T)	1.27
Seismic Coefficient C_s (Table 16-Q)	0.46
Seismic Coefficient C_v (Table 16-R)	0.81

*Note: For Seismic Zone 4, the near-source factor N_a used to determine C_a need not exceed 1.1 for structures complying with all the conditions within UBC Section 1629.4.2.

4.5 Site Specific Response Analysis

A site specific response analysis was developed for three levels of ground motion that may be experienced at the site during future seismic events; including motions having a 10 percent probability of exceedance in 50 and 100 years, and a 2 percent probability of exceedance in 50 years. These values correspond to a return period of approximately 475, 949, and 2,475 years, respectively. A description of the analysis performed by Robert Pyke, Ph.D., G.E., and a design spectra for each motion with 2, 5 and 10 percent damping, is attached as Appendix D. For your ease of use, we have included tabulated spectral values below for each spectra.

Table 5. 10 Percent Probability of Exceedance in 50 Years (475-year return period)

Period (Seconds)	Spectral Acceleration (g)		
	2% Damping	5% Damping	10% Damping
0.010	0.663	0.530	0.424
0.020	0.898	0.718	0.574
0.030	0.958	0.766	0.613
0.040	1.101	0.881	0.705
0.050	1.225	0.980	0.784
0.060	1.320	1.056	0.845
0.075	1.500	1.200	0.960
0.090	1.644	1.315	1.052
0.100	1.748	1.398	1.118
0.120	1.913	1.530	1.224
0.150	2.123	1.698	1.358
0.170	2.226	1.781	1.425

(continued)

Table 5. 10 Percent Probability of Exceedance in 50 Years
(continued)

Period (Seconds)	Spectral Acceleration (g)		
	2% Damping	5% Damping	10% Damping
0.200	2.301	1.841	1.473
0.240	2.241	1.793	1.434
0.300	2.143	1.714	1.371
0.360	2.000	1.600	1.280
0.400	1.908	1.526	1.221
0.460	1.790	1.432	1.146
0.500	1.709	1.367	1.094
0.600	1.570	1.256	1.005
0.750	1.355	1.084	0.867
0.850	1.259	1.007	0.806
1.000	1.061	0.849	0.679
1.500	0.760	0.608	0.486
2.000	0.559	0.447	0.358
3.000	0.313	0.250	0.200
4.000	0.200	0.160	0.128
5.000	0.145	0.116	0.093

Table 6. 10 Percent Probability of Exceedance in 100 Years (949-year return period)

Period (Seconds)	Spectral Acceleration (g)		
	2% Damping	5% Damping	10% Damping
0.010	0.818	0.654	0.523
0.020	1.195	0.956	0.765
0.030	1.275	1.020	0.816
0.040	1.414	1.131	0.905
0.050	1.524	1.219	0.975
0.060	1.653	1.322	1.058
0.075	1.928	1.542	1.234
0.090	2.159	1.727	1.382
0.100	2.326	1.861	1.489
0.120	2.573	2.058	1.646
0.150	2.779	2.223	1.778
0.170	2.885	2.308	1.846
0.200	2.963	2.370	1.896
0.240	2.911	2.329	1.863
0.300	2.833	2.266	1.813

(continued)

Table 6. 10 Percent Probability of Exceedance in 100 Years
(continued)

Period (Seconds)	Spectral Acceleration (g)		
	2% Damping	5% Damping	10% Damping
0.360	2.709	2.167	1.734
0.400	2.618	2.094	1.675
0.460	2.509	2.007	1.606
0.500	2.380	1.904	1.523
0.600	2.161	1.729	1.383
0.750	1.815	1.452	1.162
0.850	1.671	1.337	1.070
1.000	1.475	1.180	0.944
1.500	1.080	0.864	0.691
2.000	0.798	0.638	0.510
3.000	0.460	0.368	0.294
4.000	0.299	0.239	0.191
5.000	0.223	0.178	0.142

Table 7. 2 Percent Probability of Exceedance in 50 Years (2,475-year return period)

Period (Seconds)	Spectral Acceleration (g)		
	2% Damping	5% Damping	10% Damping
0.010	0.965	0.772	0.618
0.020	1.399	1.119	0.895
0.030	1.481	1.185	0.948
0.040	1.679	1.343	1.074
0.050	1.830	1.464	1.171
0.060	2.015	1.612	1.290
0.075	2.405	1.924	1.539
0.090	2.660	2.128	1.702
0.100	2.805	2.244	1.795
0.120	3.034	2.427	1.942
0.150	3.284	2.627	2.102
0.170	3.419	2.735	2.188
0.200	3.516	2.813	2.250
0.240	3.433	2.746	2.197
0.300	3.323	2.658	2.126
0.360	3.160	2.528	2.022
0.400	3.038	2.430	1.944

(continued)

Table 7. 2 Percent Probability of Exceedance in 50 Years
(continued)

Period (Seconds)	Spectral Acceleration (g)		
	2% Damping	5% Damping	10% Damping
0.460	2.904	2.323	1.858
0.500	2.795	2.236	1.789
0.600	2.615	2.092	1.674
0.750	2.199	1.759	1.407
0.850	2.008	1.606	1.285
1.000	1.750	1.400	1.120
1.500	1.308	1.046	0.837
2.000	0.955	0.764	0.611
3.000	0.571	0.457	0.366
4.000	0.356	0.285	0.228
5.000	0.270	0.216	0.173

5.0 CORROSION EVALUATION

To evaluate the corrosion potential of the subsurface soils at the site we performed five in-situ resistivity tests using the Wenner four-point method and submitted four samples collected during our subsurface investigation to an analytical laboratory for pH, soluble sulfate and chloride content testing. The results of these tests are summarized below in Table 8.

Table 8. Results of Corrosivity Testing

Sample No.	Depth (feet)	Chloride (mg/kg)	Sulfate (ppm)	PH	Resistivity (ohm-cm)	Estimated Corrosivity Based on Resistivity	Estimated Corrosivity Based on Sulfates
R-1	2½				8,143	Mildly Corrosive	
R-1	5				6,419	Mildly Corrosive	
R-1	7½				3,303	Moderately Corrosive	
R-1	10				2,298	Severely Corrosive	
R-1	15				1,149	Severely Corrosive	
R-2	2½				2,012	Severely Corrosive	
R-2	5				1,629	Severely Corrosive	

(continued)

Table 8. Results of Corrosivity Testing
(continued)

Sample No.	Depth (feet)	Chloride (mg/kg)	Sulfate (ppm)	PH	Resistivity (ohm-cm)	Estimated Corrosivity Based on Resistivity	Estimated Corrosivity Based on Sulfates
R-2	7½				1,450	Severely Corrosive	
R-2	10				1,197	Severely Corrosive	
R-2	15				1,063	Severely Corrosive	
R-3	2½				2,587	Moderately Corrosive	
R-3	5				3,545	Moderately Corrosive	
R-3	7½				2,585	Moderately Corrosive	
R-3	10				2,298	Severely Corrosive	
R-3	15				2,011	Severely Corrosive	
R-4	2½				958	Severely Corrosive	
R-4	5				738	Very Severely Corrosive	
R-4	7½				646	Very Severely Corrosive	
R-4	10				517	Very Severely Corrosive	
R-4	15				546	Very Severely Corrosive	
R-5	2½				1,677	Severely Corrosive	
R-5	5				1,245	Severely Corrosive	
R-5	7½				1,077	Severely Corrosive	
R-5	10				862	Very Severely Corrosive	
R-5	15				718	Very Severely Corrosive	
EB-4	3.4	N.D.	62	7.9	1,900	Severely Corrosive	Negligible
EB-5	13.5	N.D.	24	8.0	2,600	Moderately Corrosive	Negligible
EB-6	8.4	N.D.	19	8.0	2,100	Severely Corrosive	Negligible
EB-7	1.0	53	140	7.4	780	Very Severely Corrosive	Negligible
EB-8	5.0	24	65	7.9	1,500	Severely Corrosive	Negligible

Note: mg/kg = milligrams per kilogram
N.D. = None Detected

Many factors can affect the corrosion potential of soil including soil moisture content, resistivity, permeability and pH, as well as chloride and sulfate concentration. In general, soil resistivity, which is a measure of how easily electrical current flows through soils, is the most influential factor. Based on the findings of studies presented in ASTM STP 1013 titled "Effects of Soil Characteristics on Corrosion" (February, 1989), the approximate relationship between soil resistivity and soil corrosiveness was developed as shown in Table 9 below.

Table 9. Relationship Between Soil Resistivity and Soil Corrosivity

Soil Resistivity (ohm-cm)	Classification of Soil Corrosiveness
0 to 900	Very Severely Corrosive
900 to 2,300	Severely Corrosive
2,300 to 5,000	Moderately Corrosive
5,000 to 10,000	Mildly Corrosive
10,000 to >100,000	Very Mildly Corrosive

Chloride and sulfate ion concentrations, and pH appear to play secondary roles in affecting corrosion potential. High chloride levels tend to reduce soil resistivity and break down otherwise protective surface deposits, which can result in corrosion of buried metallic improvements or reinforced concrete structures. Sulfate ions in the soil can lower the soil resistivity and can be highly aggressive to portland cement concrete by combining chemically with certain constituents of the concrete, principally tricalcium aluminate. This reaction is accompanied by expansion and eventual disruption of the concrete matrix. High sulfate content could also potentially cause corrosion of the reinforcing steel in concrete. The 1997 Uniform Building Code (UBC) Table No. 19-A-4 provides requirements for concrete exposed to sulfate-containing solutions as summarized in Table 10.

**Table 10. Relationship Between Sulfate Concentration and Sulfate Exposure
(UBC Table No. 19-A-4)**

Water-Soluble Sulfate (SO ₄) in soil, ppm	Sulfate Exposure
0 to 1,000	Negligible
1,000 to 2,000	Moderate ¹
2,000 to 20,000	Severe
over 20,000	Very Severe

¹= seawater

Acidity is an important factor of soil corrosivity. The lower the pH (the more acidic the environment), the higher will the soil corrosivity with respect to buried metallic structures. As soil pH increases above 7 (the neutral value), the soil is increasingly

more alkaline and less corrosive to buried steel structures due to protective surface films that form on steel in high pH environments. A pH between 5 and 8.5 is generally considered relatively passive from a corrosion standpoint.

As shown in Table 8, soil resistivity results range from 517 to 8,143 ohm-centimeters. In our opinion, based on the field resistivity results shown in Table 8 and the resistivity correlations presented in Table 9, it appears that the corrosion potential to buried metallic improvements may be characterized as severely to very severely corrosive. Therefore, we recommend that you retain a corrosion engineer to develop corrosion protection recommendations.

Based on our previous experience and Table No. 19-A-4 of the UBC, in our opinion, sulfate exposure to portland cement concrete may be considered negligible for the native subsurface materials sampled. Therefore, no special precautions would be required based on the UBC. If increased protection from sulfate exposure is desired, we recommend using a Type II cement and a low water/cement ratio in your mix design.

6.0 CONCLUSIONS AND DEVELOPMENT CONSIDERATIONS

6.1 Conclusions

From a geotechnical engineering viewpoint the proposed development may be constructed as planned, provided design and construction is performed in accordance with the recommendations presented in this report.

The primary geotechnical concern at the site is the presence of relatively shallow ground water. As discussed in Section 2.4, free ground water was encountered at depths as shallow as 6½ feet below the existing ground surface. Therefore, ground water will likely be encountered during deeper excavations and utility installation. Detailed recommendations are provided in Section 7.0.

6.2 Plans, Specifications, and Construction Review

Because subsurface conditions may vary from those predicted by relatively small diameter, widely spaced borings, and to check that our recommendations have been properly implemented, we recommend we be retained to 1) review final construction plans and specifications and 2) observe the earthwork and foundation construction. Also, geotechnical conditions can be affected by the construction process. For the above reasons our geotechnical recommendations are contingent upon our firm providing geotechnical observation and testing services during construction.

7.0 EARTHWORK

7.1 Clearing and Site Preparation

The site should be cleared of all surface and subsurface deleterious materials including existing building foundations, slabs, irrigation lines, fills, pavements, debris, designated trees, shrubs, and associated roots. Abandonment of existing buried utilities is discussed below. Excavations extending below the planned finished site grades should be cleaned and backfilled with suitable material compacted as recommended in the "Compaction" section of this report. We recommend that the backfilling be carried out under our observation.

After clearing, any vegetated areas should be stripped to sufficient depth to remove all surface vegetation and topsoil containing greater than 3 percent organic matter by weight. At the time of our field investigation, we estimated that a stripping depth of approximately 3 to 6 inches would be required in vegetated areas. The actual stripping depth required depends on site usage prior to construction and should be established in the field by us at the time of construction. The stripped materials should be removed from the site or may be stockpiled for use in landscaped areas, if desired.

7.2 Abandoned Utilities

Abandoned utilities within the proposed building area should be removed in their entirety. Utilities within the proposed building area would only be considered for in-place abandonment provided they do not conflict with new improvements, that the ends and all laterals are located and completely grouted, and the previous fills associated with the utility do not pose a risk to the structure.

Utilities outside the building area should be removed or abandoned in-place by grouting or plugging the ends with concrete. Fills associated with utilities abandoned in-place could pose some risk of settlement; utilities that are plugged could also pose some risk of future collapse or erosion should they leak or become damaged. The potential risks are relatively low for small diameter pipes (4 inches or less) abandoned in-place and increasingly higher with increasing diameter.

7.3 Subgrade Preparation

After the site has been properly cleared, stripped, and necessary excavations have been made, exposed surface soils in those areas to receive fill, slabs-on-grade, or pavements should be scarified to a depth of 6 inches, moisture conditioned, and compacted in accordance with the recommendations for fill presented in the "Compaction" section. In existing agricultural fields, the scarified depth may need to be increased to 12 inches. The finished compacted subgrade should be firm and non-yielding under the weight of compaction equipment.

7.4 Ground Water

Based on our subsurface exploration, the site was generally capped by a clay layer on the order of 20 feet. The thickness and composition of this clay stratum appeared to be relatively consistent across the site. As shown in Table 1, free ground water was encountered during our January 2000 field investigation at depths ranging from 14 to 19 feet. Monitoring wells installed at the site during this investigation did not encounter free ground water during drilling to a maximum depth of 20 feet. However, ground water was recorded at a depth of 7 and 10½ feet for MW-21, and MW-22 one day after the completion of drilling, respectively.

Based on the information collected for this and previous investigations, temporary excavations greater than 6 feet below existing grades may potentially be impacted by shallow ground water, depending how long excavations are left open. This depth might be higher during winter months. In our opinion, provided excavations are completed and backfilled within the same day, they will most likely remain relatively dry. Excavations left open overnight will likely accumulate ground water. If significant ground water does accumulate, it should be removed from excavations prior to backfilling. Contractors completing excavations on site should anticipate the need for local dewatering.

7.5 Material for Fill

All on-site soils below the stripped layer having an organic content of less than 3 percent by weight are suitable for use as fill at the site. In general, fill material should not contain rocks or lumps larger than 6 inches in greatest dimension, with no more than 15 percent larger than 2½ inches. Imported and non-expansive fill material should be inorganic and should have a Plasticity Index of 15 or less. Import should have sufficient binder to prevent caving of the foundation and utility trenches. Proposed import material should be approved by a member of our staff prior to delivery to the site.

7.6 Compaction

All fill, as well as scarified surface soils in those areas to receive fill or slabs-on-grade, should be compacted to at least 90 percent relative compaction as determined by ASTM Test Designation D1557, latest edition. Fill greater than 5 feet in thickness should be compacted to at least 95 percent compaction for the portion below the upper 5 feet. Fill should be placed in lifts no greater than 8 inches in uncompacted thickness at a moisture content near the laboratory optimum. Each successive lift should be firm and non-yielding under the weight of construction equipment.

In pavement areas, the upper 6 inches of subgrade and full depth of aggregate base should be compacted to at least 95 percent relative compaction (ASTM D1557, latest edition). Aggregate base and all import soils should be compacted at a moisture content near the laboratory optimum.

7.7 Wet Weather Conditions

Earthwork contractors should be made aware of the moisture sensitivity of silty and clayey soils and potential compaction difficulties. If construction is undertaken during wet weather conditions, the surficial soils may become saturated, soft and unworkable. Subgrade stabilization techniques might include the use of engineering fabrics and/or crushed rock or chemical treatment. Therefore, we recommend that consideration be given to construction during late spring, summer, or fall months.

7.8 Trench Backfill

Bedding and shading materials to be used around underground utility pipes should be predominantly granular and should be placed and compacted in accordance with project specifications, local requirements or governing jurisdiction. General fill to be used above shading materials should be placed and compacted in accordance with local requirements or the recommendations contained in this section, whichever is more stringent.

On-site soils may be used as general fill above shading materials provided they meet the requirements of the "Material for Fill" section of this report. General fill should be placed in lifts not exceeding 8 inches in uncompacted thickness and should be compacted to at least 90 percent relative compaction (ASTM D1557, latest edition) by mechanical means only. Jetting of trench backfill will not be allowed.

Where granular backfill is used in trenches, we recommend that a cut-off plug of impermeable material be placed where such trenches enter the building and pavement areas. This would reduce the likelihood of water entering the trenches from the landscaped areas and seeping through the trench backfill into the building and pavement areas.

7.9 Temporary Slopes and Trench Excavations

The contractor should be responsible for all temporary slopes and trenches excavated at the site and design of any required temporary shoring. Shoring, bracing, and benching should be performed by the contractor in accordance with the strictest governing safety standards.

7.10 Surface Drainage

Positive surface water drainage gradients should be provided adjacent to the structures to direct surface water away from foundations and slabs towards suitable discharge facilities. Ponding of surface water should not be allowed on or adjacent to structures, slabs-on-grade, or pavements. Roof runoff should be carried away from foundations and slabs and directed to suitable discharge facilities.

7.11 Construction Observation

All grading and earthwork should be performed under the observation of our representative to check that the site is properly prepared, that selected fill materials are satisfactory, and that placement and compaction of fills is performed in accordance with our recommendations and the project specifications. Sufficient notification to us prior to earthwork is essential. The project plans and specifications should incorporate all recommendations contained in this report.

8.0 FOUNDATIONS

8.1 Footings

The proposed buildings may be supported on conventional continuous and/or isolated spread footings bearing on natural, undisturbed soil or compacted fill. All footings should have a minimum width of 18 inches and should extend at least 18 inches below lowest adjacent finished grade. Lowest adjacent finished grade may be taken as the bottom of interior slab-on-grade or the finished exterior grade, excluding landscape topsoil, whichever is lower.

Footings constructed in accordance with the above recommendations would be capable of supporting maximum allowable bearing pressures of 2,000 pounds per square foot (psf) for dead loads, 3,000 psf for combined dead and live loads, and 4,000 psf for all loads including wind or seismic. These allowable bearing pressures are based upon factors of safety of 3.0, 2.0, and 1.5 for dead, dead plus live, and seismic loads, respectively.

These maximum allowable bearing pressures are net values; the weight of the footing may be neglected for design purposes. All footings located adjacent to utility trenches should have their bearing surfaces below an imaginary 1:1 (horizontal:vertical) plane projected upward from the bottom edge of the trench to the footing.

All continuous footings should be reinforced with top and bottom steel to provide structural continuity and to help span local irregularities. Footing excavations should be kept moist by regular sprinkling with water to prevent desiccation. It is essential that we observe the all footing excavations before reinforcing steel is placed.

Based on our conversation with Mr. Jim Passaglia with Dasse Design, Inc., the project structural engineer, interior column dead plus live loads of 600 kips are expected for the new buildings. Column spacing of 50-by-50 feet and 36-by-36 feet are planned for the new one- and two-story buildings, respectively. For our settlement analysis, we assumed that bearing pressures would not exceed the design values recommend above, that column loads would not exceed 600 kips, and that footings would not bear deeper than 5 feet below finished floor elevations or 3 feet below existing grades. Based on these parameters, we estimate that total foundation settlement under static loading will be on the order of 1¼ inches.

However, because some settlement will occur as immediate settlement during construction, we estimate that total post-construction settlement under static loading will be on the order of 1-inch and that post-construction differential settlement should be less than $\frac{3}{4}$ -inch between adjacent foundation elements. If these estimated settlements exceed acceptable magnitudes, then expected differential settlements could be reduced by connecting footings with continuous grade beams or by raising the founding elevation of the footings. We should be retained to review final loads, bearing pressures and founding elevations to confirm our settlements estimates.

8.2 Slabs-on-Grade

We recommend that slabs-on-grade used in conjunction with shallow footings be supported on at least 6 inches of non-expansive fill prepared in accordance with the recommendations presented in the "Subgrade Preparation" section of this report. Before slab construction, the subgrade surface should be proof-rolled to provide a smooth, firm surface for slab support. Slab reinforcing should be provided in accordance with the anticipated use and loading of the slab.

To limit moisture rise through slabs-on-grade, we recommend a moisture barrier be installed beneath the floor slab. This should consist of 2 inches of clean, fine sand over a minimum 10-mil-thick vapor barrier. At least 4 inches of free-draining gravel such as $\frac{1}{2}$ -inch or $\frac{3}{4}$ -inch crushed rock with no more than 5 percent passing the ASTM No. 200 sieve should be placed beneath the vapor barrier to serve as a capillary break. Pea gravel should not be used as a capillary break as it provides weak lateral resistance during seismic ground shaking. The sand should be lightly moistened just prior to placing the concrete. The sand, vapor barrier, and crushed rock may be considered the upper 6 inches of non-expansive fill beneath the slabs as recommended above. If a higher degree of moisture protection is desired, the vapor barrier should be sealed at seams and all penetrations.

8.3 Lateral Loads

Lateral loads may be resisted by friction between the footings and the supporting subgrade. A maximum allowable frictional resistance of 0.30 may be used for design. In addition, lateral resistance may be provided by passive pressure acting against foundations poured neat against competent soil. We recommend that an allowable passive pressure based on an equivalent fluid pressure of 300 pounds per cubic foot be used in design.

9.0 RETAINING WALLS

9.1 Lateral Earth Pressures

Any proposed retaining walls should be designed to resist lateral earth pressures from adjoining natural materials, backfill, and surcharge loads. Provided that adequate drainage is provided as recommended below, we recommend that walls restrained from movement at the top be designed to resist an equivalent fluid

pressure of 45 pounds per cubic foot (pcf) plus a uniform pressure of $8H$ pounds per square foot, where H is the distance in feet between the bottom of the footing and the top of the wall. Restrained walls should also be designed to resist an additional uniform pressure equivalent to one-half of any surcharge loads applied at the surface. Any unrestrained retaining walls with adequate drainage should be designed to resist an equivalent fluid pressure of 45 pcf plus one-third of any surcharge loads.

The above lateral earth pressures assume level backfill conditions and sufficient drainage behind the walls to prevent build-up of hydrostatic pressure from surface water infiltration and/or a rise in the ground water level. If adequate drainage is not provided, we recommend an equivalent fluid pressure of 40 pcf be added to the values recommended above for both restrained and unrestrained walls. Damp-proofing of the walls should be included in areas where wall moisture and efflorescence would be undesirable.

9.2 Drainage

Adequate drainage may be provided by a subdrain system behind the walls. This system should consist of a 4-inch minimum diameter perforated pipe placed near the base of the wall (perforations placed downward). The pipe should be bedded and backfilled with Class 2 Permeable Material per Caltrans Standard Specifications, latest edition. The permeable backfill should extend at least 2 feet out from the wall and to within 2 feet of outside finished grade. Alternatively, 1/2-inch to 3/4-inch crushed rock may be used in place of the Class 2 Permeable Material provided the crushed rock and pipe are enclosed in filter fabric, such as TCMirafi 40/30A or equivalent. The upper 2 feet of wall backfill should consist of relatively impervious compacted on-site clayey soil. The subdrain outlet should be connected to a free-draining outlet or sump.

Miradrain, Geotech Drainage Panels, or Enkadrain drainage matting may be used for wall drainage as an alternative to the Class 2 Permeable Material or drain rock backfill. The drainage panel should be connected to the perforated pipe at the base of the wall.

9.3 Backfill

Backfill placed behind the walls should be compacted to at least 90 percent relative compaction using light compaction equipment. If heavy compaction equipment is used, the walls should be temporarily braced.

9.4 Foundation

Retaining walls may be supported on a continuous spread footing designed in accordance with the recommendations presented in the "Footings" section of this report. Lateral load resistance for the walls may be developed in accordance with the recommendations presented in the "Lateral Loads" section.

10.0 PAVEMENTS

10.1 Asphalt Concrete

We obtained a representative bulk sample of the surface soil from the parking area and performed an R-value test to provide data for pavement design. The results of the test are included in Appendix B and indicate an R-value of 28. Because surface soils vary across the site, we judged an R-value of 20 to be applicable for design. Using estimated traffic indices for various pavement-loading requirements, we developed the following recommended pavement sections based on Procedure 608 of the Caltrans Highway Design Manual, presented in Table 11. Pavement design alternatives presented below should be confirmed at the time of construction.

Table 11. Recommended Asphalt Concrete Pavement Design Alternatives
Pavement Components
Design R-Value = 20

General Traffic Condition	Design Traffic Index	Asphalt Concrete (Inches)	Aggregate Baserock* (Inches)	Total Thickness (Inches)
Automobile	4.0	2.5	5.5	8.0
Parking	4.5	2.5	7.0	9.5
Automobile	5.0	3.0	7.5	10.5
Parking Channel	5.5	3.0	9.5	12.5
Truck Access &	6.0	3.5	9.5	13.0
Parking Areas	6.5	4.0	9.5	13.5

*Caltrans Class 2 aggregate base; minimum R-value equal to 78.

The traffic indices used in our pavement design are considered reasonable values for the proposed development and should provide a pavement life of approximately 20 years with a normal amount of flexible pavement maintenance. The traffic parameters used for design were selected based on engineering judgment and not on information furnished to us such as an equivalent wheel load analysis or a traffic study.

10.2 Asphalt Concrete, Aggregate Base and Subgrade

Asphalt concrete and aggregate base should conform to and be placed in accordance with the requirements of Caltrans Standard Specifications, latest edition, except that ASTM Test Designation D1557 should be used to determine the relative compaction of the aggregate base. Pavement subgrade should be prepared and compacted as described in the "Earthwork" section of this report.

10.3 Exterior Concrete Sidewalk

Exterior concrete sidewalks should be at least 4 inches thick and underlain by at least 4 inches of Class 2 aggregate base compacted to a minimum of 90 percent relative compaction in accordance with ASTM Test Method D1557, latest edition.

11.0 LIMITATIONS

This report has been prepared for the sole use of US DataPort, specifically for design of the computer data center in San Jose, California. The opinions presented in this report have been formulated in accordance with generally accepted geotechnical engineering practices that exist in the San Francisco Bay Area at the time this report was prepared. No other warranty, expressed or implied, is made or should be inferred. We are not responsible for data presented by others.

The opinions, conclusions and recommendations contained in this report are based upon information obtained from explorations at widely separated locations, site reconnaissance, review of data made available to us, and upon local experience and engineering judgment. The recommendations presented in this report are based on the assumption that soil and geologic conditions at or between borings do not deviate substantially from those encountered. In addition, geotechnical issues may arise that are not apparent at this time.

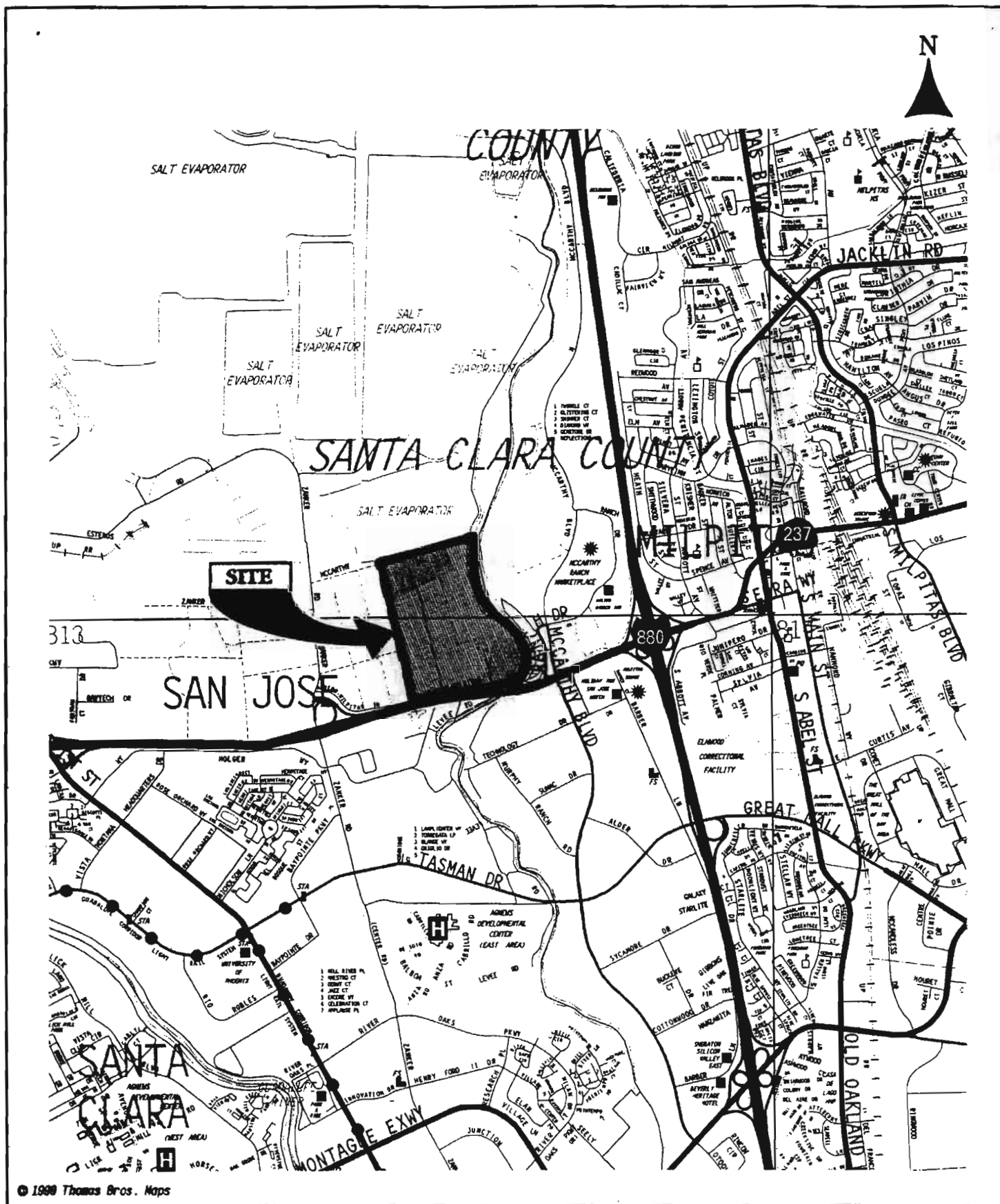
The geotechnical engineer should be retained to review final plans and specifications when they are available to verify these documents are consistent with the intent of the geotechnical recommendations. The recommendations provided in this report are based on the assumption that we will be retained to provide observation and testing services during construction in order to evaluate compliance with our recommendations. If we are not retained for these services, Lowney Associates cannot assume any responsibility for any potential claims that may arise during or after construction as a result of misuse or misinterpretation of Lowney Associates' report by others. Furthermore, Lowney Associates will cease to be the Geotechnical-Engineer-of-Record at the time another consultant is retained for follow-up service to this report.

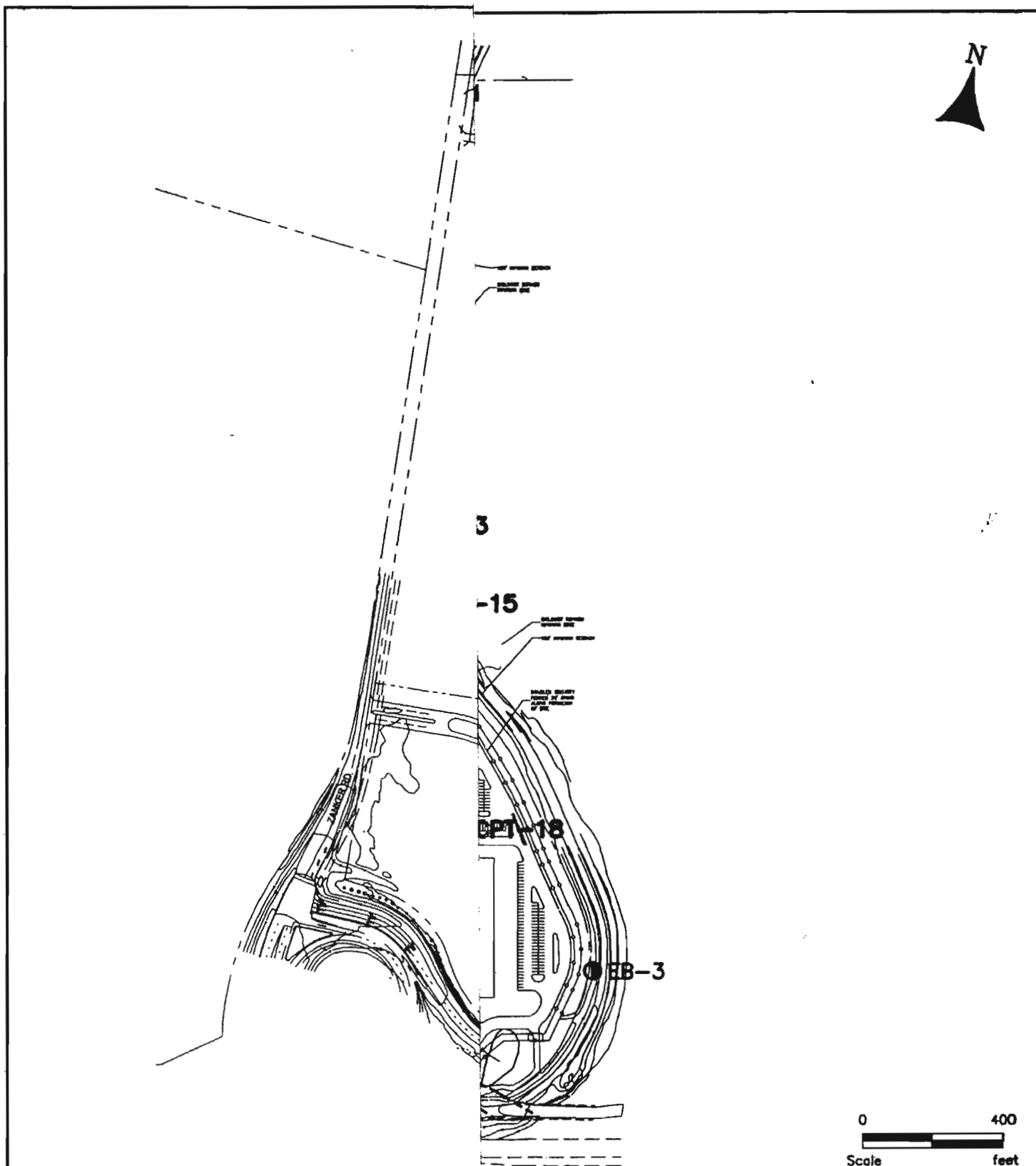
The opinions presented in this report are valid as of the present date for the property evaluated. Changes in the condition of a property can occur with the passage of time, whether due to natural processes or the works of man, on this or adjacent properties. In addition, changes in applicable standards of practice can occur, whether from legislation or the broadening of knowledge. Accordingly, the opinions presented in this report may be invalidated, wholly or partially, by changes outside of our control. Therefore, this report is subject to review and should not be relied upon after a period of three years, nor should it be used, or is it applicable, for any property other than that evaluated.

12.0 REFERENCES

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LEGEND

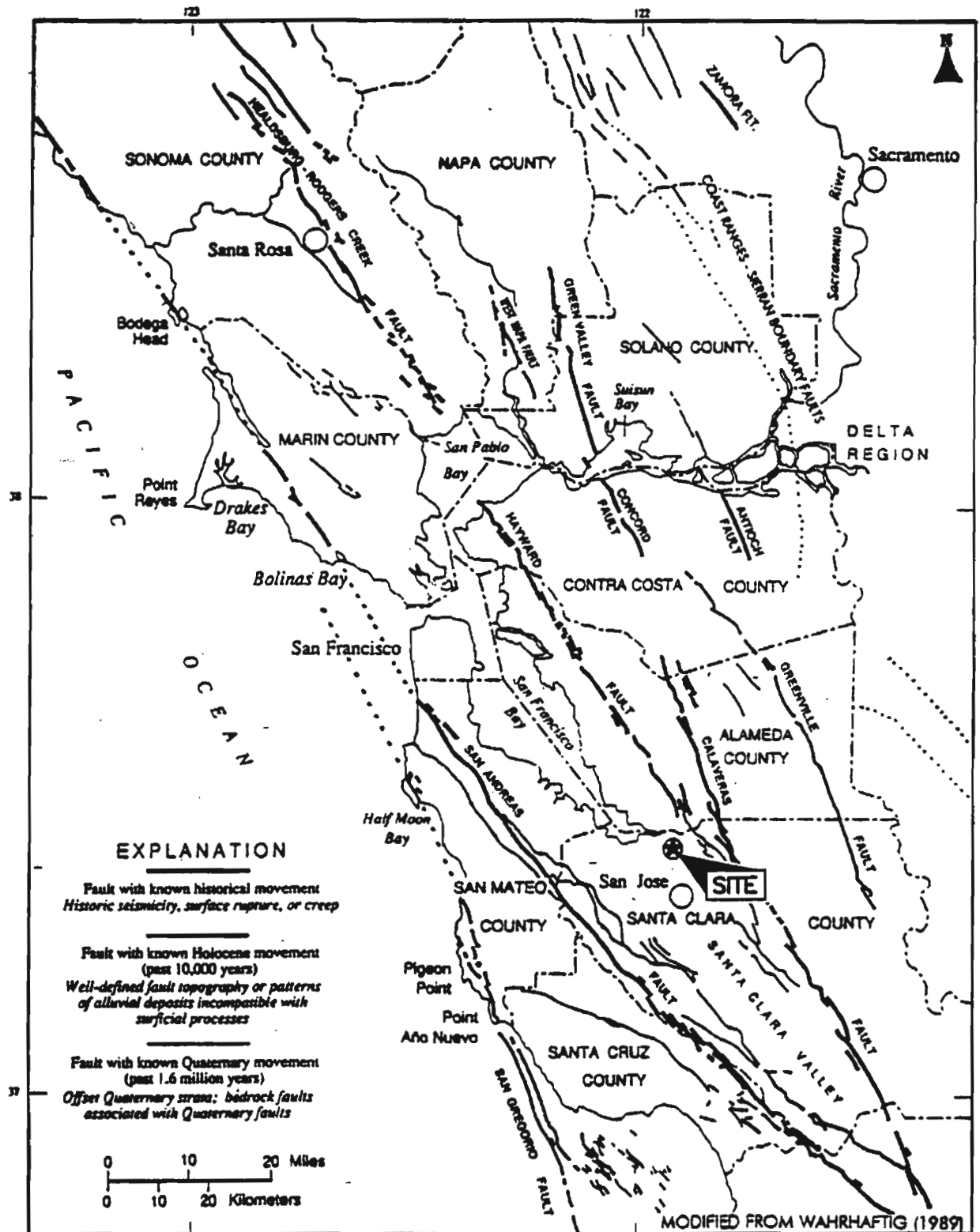
- ⊕ - Approximate location of exploration point
- ⊕ - Approximate location of cone point
- - Approximate location of monitoring point
- ⊙ - Approximate location of previous point

SITE PLAN
US DATAPORT
San Jose, California

LOVNEY ASSOCIATES
 Environmental/Geotechnical/Engineering Services

FIGURE 2

587-12H



REGIONAL FAULT MAP
US DATAPORT
San Jose, California

APPENDIX A

FIELD INVESTIGATION

The field investigation consisted of a surface reconnaissance and a subsurface exploration program using both truck-mounted, rotary-wash drilling equipment and Cone Penetration Test (CPT) sounding equipment. Five 4-7/8-inch-diameter exploratory borings were drilled on July 5, and 6, 2000, to depths ranging from 25 to 60 feet. Twelve CPT soundings were advanced on July 10, 11 and August 10, 2000, to a maximum depth of 100 feet. The approximate locations of the exploratory borings and CPT soundings are shown on the Site Plan, Figure 2. The soils encountered were continuously logged in the field by our representative and described in accordance with the Unified Soil Classification System (ASTM D2488). The logs of the borings, as well as a key to the classification of the soil, are included as part of this appendix.

The horizontal locations of borings and CPTs were approximately determined by portable Global Positioning Systems (GPS) equipment. Elevations of the borings were not determined. The locations of the borings should be considered accurate only to the degree implied by the method used.

Representative soil samples were obtained from the borings at selected depths. All samples were returned to our laboratory for evaluation and appropriate testing. The standard penetration resistance blow counts were obtained by dropping a 140-pound hammer through a 30-inch free fall. The 2-inch O.D. split spoon sampler was driven 18 inches and the number of blows was recorded for each 6 inches of penetration (ASTM D1586). In addition, 2.5-inch I.D. samples were obtained using a Modified California Sampler driven into the soil with the 140-pound hammer previously described. Unless otherwise indicated, the blows per foot recorded on the boring log represent the accumulated number of blows required to drive the last 12 inches. The various samplers are denoted at the appropriate depth on the boring logs and symbolized as shown on Figure A-1.

Field tests included an evaluation of the undrained shear strength of soil samples using a Torvane device, and the unconfined compressive strength of the soil samples using a pocket penetrometer device. The results of these tests are presented on the individual boring logs at the appropriate sample depths.

The attached boring logs and related information depict subsurface conditions at the locations indicated and on the date designated on the logs. Subsurface conditions at other locations may differ from conditions occurring at these boring locations. The passage of time may result in altered subsurface conditions due to environmental changes. In addition, any stratification lines on the logs represent the approximate boundary between soil types and the transition may be gradual.

* * * * *

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

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	BOULDER
	FINE	MEDIUM	COARSE	FINE	COARSE		

GRAIN SIZES



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: EB-4

Sheet 1 of 2

DRILL RIG: FAILING

BORING TYPE: 4-7/8" ROTARY WASH

LOGGED BY: JGH

START DATE: 7-5-00

FINISH DATE: 7-5-00

PROJECT NO: 587-12H

PROJECT: U.S. DATAPORT

LOCATION: SAN JOSE, CA

COMPLETION DEPTH: 35.0 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 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)	PERCENT PASSING NO. 200 SIEVE	Undrained Shear Strength (ksf)
	0		SURFACE ELEVATION:							
			SANDY CLAY (SC) medium stiff, brown, fine sand, low plasticity	SC						
			SILTY CLAY (CL) stiff, moist, brown, trace fine sand, low plasticity	CL	12					
					13		25	96		
	5									
				CL	20		26	102		
					22		25	99		
	10									
			SILTY CLAY (CL) very stiff, moist, gray with brown mottles, moderate plasticity	CL	36		27	96		
	15									
				CL	56		22	108		
	20									
			SILTY CLAY (CL) stiff, moist, brown, some fine sand, low plasticity	CL	41		25	105		
	25									
				CL	35		21	110		
	30									

Continued Next Page

GROUND WATER OBSERVATIONS:

FREE GROUNDWATER WAS NOT DETERMINED

Northing: 1,981,640

Easting: 6,145,260

LA CORP GDT 8/25/00 MV* FLL

EXPLORATORY BORING: EB-5

Sheet 1 of 1

DRILL RIG: FAILING

BORING TYPE: 4-7/8" ROTARY WASH

LOGGED BY: JGH

START DATE: 7-5-00

FINISH DATE: 7-5-00

PROJECT NO: 587-12H

PROJECT: U.S. DATAPORT

LOCATION: SAN JOSE, CA

COMPLETION DEPTH: 25.0 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 this location with time. The description presented is a simplification 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)	PERCENT PASSING NO. 200 SIEVE	Undrained Shear Strength (ksf)
	0								○ Pocket Penetrometer △ Torvane ● Unconfined Compression ▲ U-U Triaxial Compression
	0	SILTY CLAY (CL) stiff, very moist, brown, some fine sand, low plasticity	CL	26	✕	19	107		
	2	SANDY SILT (ML) medium stiff to stiff, moist, brown, fine sand, low plasticity	ML	10	✕	19	97		
	5	SILTY CLAY (CL) medium stiff, moist, grayish brown, moderate plasticity	CL	26	✕	27	101		
	8		CL	24	✕	24	98		
	12	SILTY CLAY (CL) very stiff, moist, brown with black specks, low plasticity	CL	44	✕	19	106		
	18	CLAYEY SILT WITH SAND (ML) very stiff, moist, brown with gray mottles, fine sand, low plasticity	ML	19	✕	24	103		
	23	SAND (SP) medium dense, wet, brown, fine sand	SP	28	✕	22		6	
	25	Bottom of Boring at 25 feet							
	30								

GROUND WATER OBSERVATIONS:

FREE GROUNDWATER WAS NOT DETERMINED

Northing: 1,981,454

Easting: 6,146,097

EXPLORATORY BORING: EB-6

Sheet 1 of 1

DRILL RIG: FAILING

BORING TYPE: 4-7/8" ROTARY WASH

LOGGED BY: JGH

START DATE: 7-5-00

FINISH DATE: 7-5-00

PROJECT NO: 587-12H

PROJECT: U.S. DATAPORT

LOCATION: SAN JOSE, CA

COMPLETION DEPTH: 30.0 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 this location with time. The description presented is a simplification of actual conditions encountered. Transitions between soil types may be gradual.

MATERIAL DESCRIPTION AND REMARKS

SURFACE ELEVATION:

gravel access road with aggregate base

SILTY CLAY (CL)

stiff, moist, gray, trace fine sand, moderate plasticity, Plasticity Index = 9, Liquid Limit = 28

medium stiff

very stiff

SILTY CLAY (CL)

very stiff, moist, gray with brown mottles and white streaks, low plasticity

very stiff

Bottom of Boring at 30 feet

SOIL TYPE

PENETRATION RESISTANCE (BLOWS/FT.)

SAMPLER

MOISTURE CONTENT (%)

DRY DENSITY (PCF)

PERCENT PASSING NO. 200 SIEVE

Undrained Shear Strength (ksf)

○ Pocket Penetrometer

△ Torvane

● Unconfined Compression

▲ U-U Triaxial Compression

1.0 2.0 3.0 4.0

ELEVATION (FT)

DEPTH (FT)

SOIL LEGEND

0

5

10

15

20

25

30

CL

CL

18

5

28

57

35

36

73

22

30

21

25

23

24

88

93

106

102

105

103

GROUND WATER OBSERVATIONS:

FREE GROUNDWATER WAS NOT DETERMINED

Northing: 1,980,856

Easting: 6,145,756

LA CORP GDT 8/25/00 MV" FLL

EXPLORATORY BORING: EB-7

Sheet 1 of 2

DRILL RIG: FAILING

BORING TYPE: 4-7/8" ROTARY WASH

LOGGED BY: JGH

START DATE: 7-6-00

FINISH DATE: 7-6-00

PROJECT NO: 587-12H

PROJECT: U.S. DATAPORT

LOCATION: SAN JOSE, CA

COMPLETION DEPTH: 60.0 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 this location with time. The description presented is a simplification 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)	PERCENT PASSING NO. 200 SIEVE	Undrained Shear Strength (ksf)
	0								○ Pocket Penetrometer △ Torvane ● Unconfined Compression ▲ U-U Triaxial Compression 1.0 2.0 3.0 4.0
	0	SILT (ML) stiff, moist, brown, with some fine sand, low plasticity	ML	15	16				
	5	SILTY CLAY (CL) stiff, moist, gray, moderate plasticity	CL	8	26			85	
	10			28	24			98	○
	15			21	23			102	○ △
	20	SILTY CLAY (CL) stiff to very stiff, moist, brown with gray mottles and black specs, moderate plasticity	CL	50	19			104	○ △
	25			29	24			100	○ △
	30	increasing fine sand	CL	22	24			103	○
	35			63	17			118	△

Continued Next Page

GROUND WATER OBSERVATIONS:

FREE GROUNDWATER WAS NOT DETERMINED

Northing: 1,980,620

Easting: 6,146,320

EXPLORATORY BORING: EB-7 Cont'd

Sheet 2 of 2

DRILL RIG: FAILING

BORING TYPE: 4-7/8" ROTARY WASH

LOGGED BY: JGH

START DATE: 7-6-00

FINISH DATE: 7-6-00

PROJECT NO: 587-12H

PROJECT: U.S. DATAPORT

LOCATION: SAN JOSE, CA

COMPLETION DEPTH: 60.0 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 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)	PERCENT PASSING NO. 200 SIEVE	Undrained Shear Strength (ksf)
	35		SILTY CLAY (CL) stiff to very stiff, moist, brown with gray mottles and black specs, moderate plasticity increasing fine subrounded gravel	CL	38	⊗	23	107		○
	40		SANDY CLAY (CL) medium stiff, wet, brown, fine sand, moderate plasticity	CL	21	⊗	24	105		○
	45		SILTY CLAY (CL) stiff, moist, gray with orangish brown mottles, moderate plasticity		26	⊗	28	97		○
	50		some fine sand	CL	23	⊗	21	109		○
	55		trace fine gravel		31	⊗	28	96		○
	60		SILTY CLAY (CL) stiff, moist, bluish-gray to grayish brown mottled, moderate plasticity	CL	44	⊗	32	94		○
			Bottom of Boring at 60 feet							

GROUND WATER OBSERVATIONS:

FREE GROUNDWATER WAS NOT DETERMINED

Northing: 1,980,620

Easting: 6,146,320

LA CORP GDT 8/25/00 MW/ ELL

EXPLORATORY BORING: EB-8

Sheet 1 of 2

DRILL RIG: FAILING

BORING TYPE: 4-7/8" ROTARY WASH

LOGGED BY: JGH

START DATE: 7-5-00

FINISH DATE: 7-5-00

PROJECT NO: 587-12H

PROJECT: U.S. DATAPORT

LOCATION: SAN JOSE, CA

COMPLETION DEPTH: 35.0 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 this location with time. The description presented is a simplification of actual conditions encountered. Transitions between soil types may be gradual.

MATERIAL DESCRIPTION AND REMARKS

SURFACE ELEVATION:

Gravel access road with aggregate base

SANDY CLAY (CL)
medium stiff to stiff, wet, brown, fine sand, low plasticity

SILTY CLAY (CL)
very stiff, moist, grayish brown, moderate plasticity

color grades to brown

some fine sand

Continued Next Page

SOIL TYPE

PENETRATION
RESISTANCE
(BLOWS/FT.)

SAMPLER

MOISTURE
CONTENT (%)

DRY DENSITY
(PCF)

PERCENT PASSING
NO. 200 SIEVE

Undrained Shear Strength
(ksf)

- Pocket Penetrometer
- △ Torvane
- Unconfined Compression
- ▲ U-U Triaxial Compression

1.0 2.0 3.0 4.0

GROUND WATER OBSERVATIONS:

FREE GROUNDWATER WAS NOT DETERMINED

Northing: 1,979,680

Easting: 6,146,120

EXPLORATORY BORING: EB-8 Cont'd

Sheet 2 of 2

DRILL RIG: FAILING

BORING TYPE: 4-7/8" ROTARY WASH

LOGGED BY: JGH

START DATE: 7-5-00

FINISH DATE: 7-5-00

PROJECT NO: 587-12H

PROJECT: U.S. DATAPORT

LOCATION: SAN JOSE, CA

COMPLETION DEPTH: 35.0 FT.

This log is a part of a report by Lowmeyer 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 this location with time. The description presented is a simplification of actual conditions encountered. Transitions between soil types may be gradual.

MATERIAL DESCRIPTION AND REMARKS

ELEVATION (FT)	DEPTH (FT)	SOIL LEGEND	SOIL TYPE	PENETRATION RESISTANCE (BLOWS/FT.)	SAMPLER	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	PERCENT PASSING NO. 200 SIEVE	Undrained Shear Strength (ksf)
									○ Pocket Penetrometer △ Torvane ● Unconfined Compression ▲ U-U Triaxial Compression 1.0 2.0 3.0 4.0
	30		CL	24		19	111		 
	35	Bottom of Boring at 35 feet							
	40								
	45								
	50								
	55								
	60								

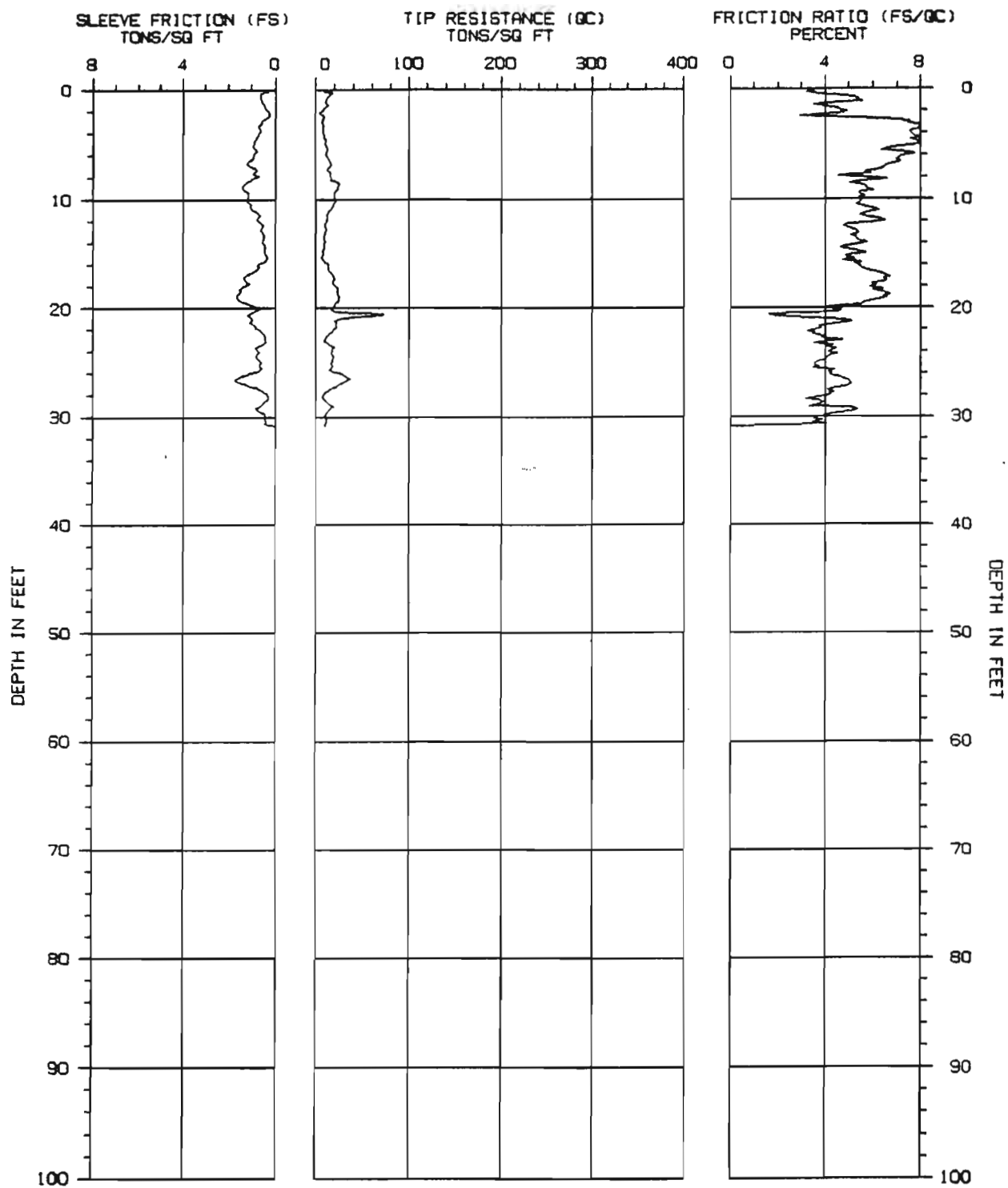
GROUND WATER OBSERVATIONS:

FREE GROUNDWATER WAS NOT DETERMINED

Northing: 1,979,680

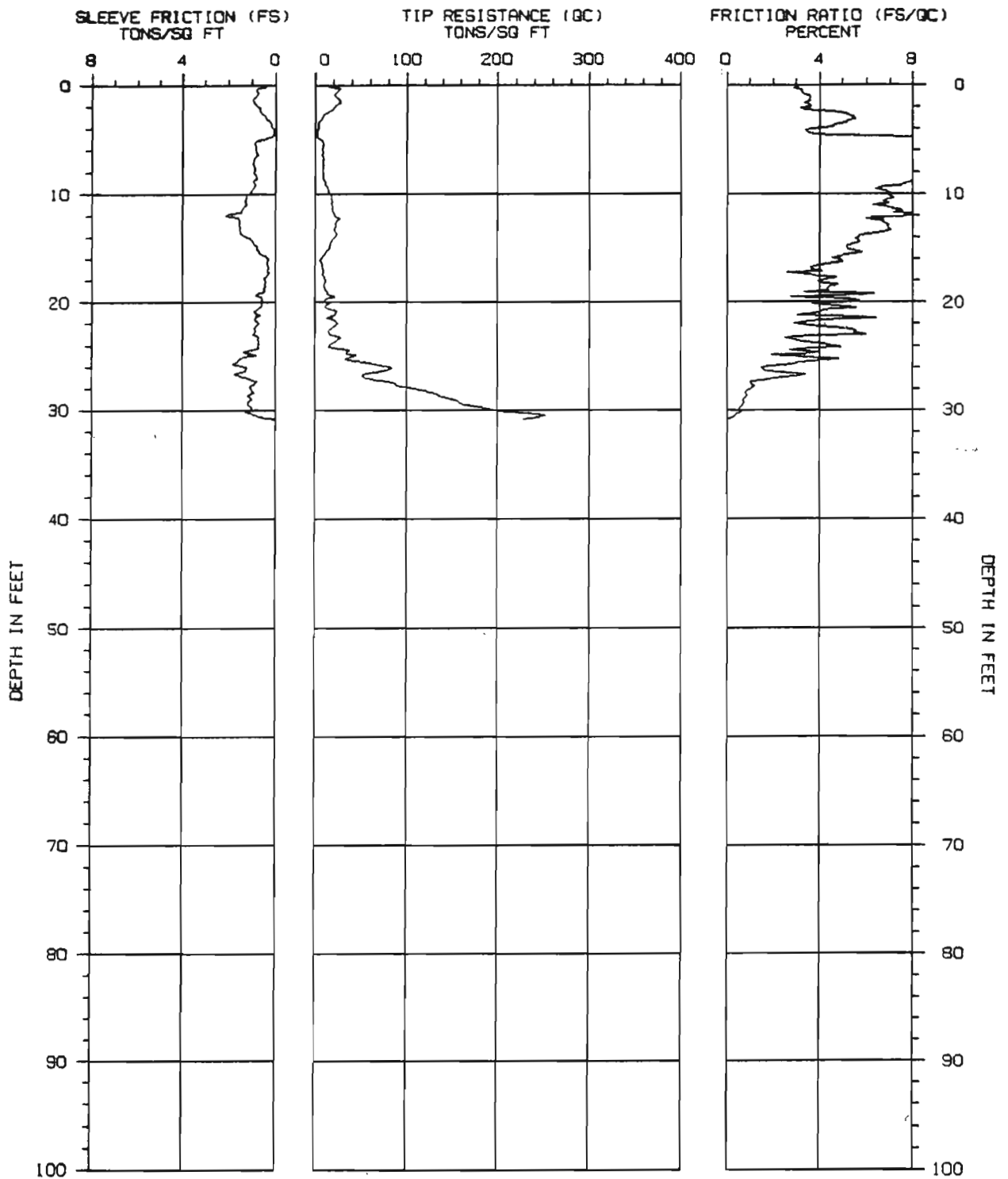
Easting: 6,146,120

LA CORP GDT 8/25/00 MV* FLL



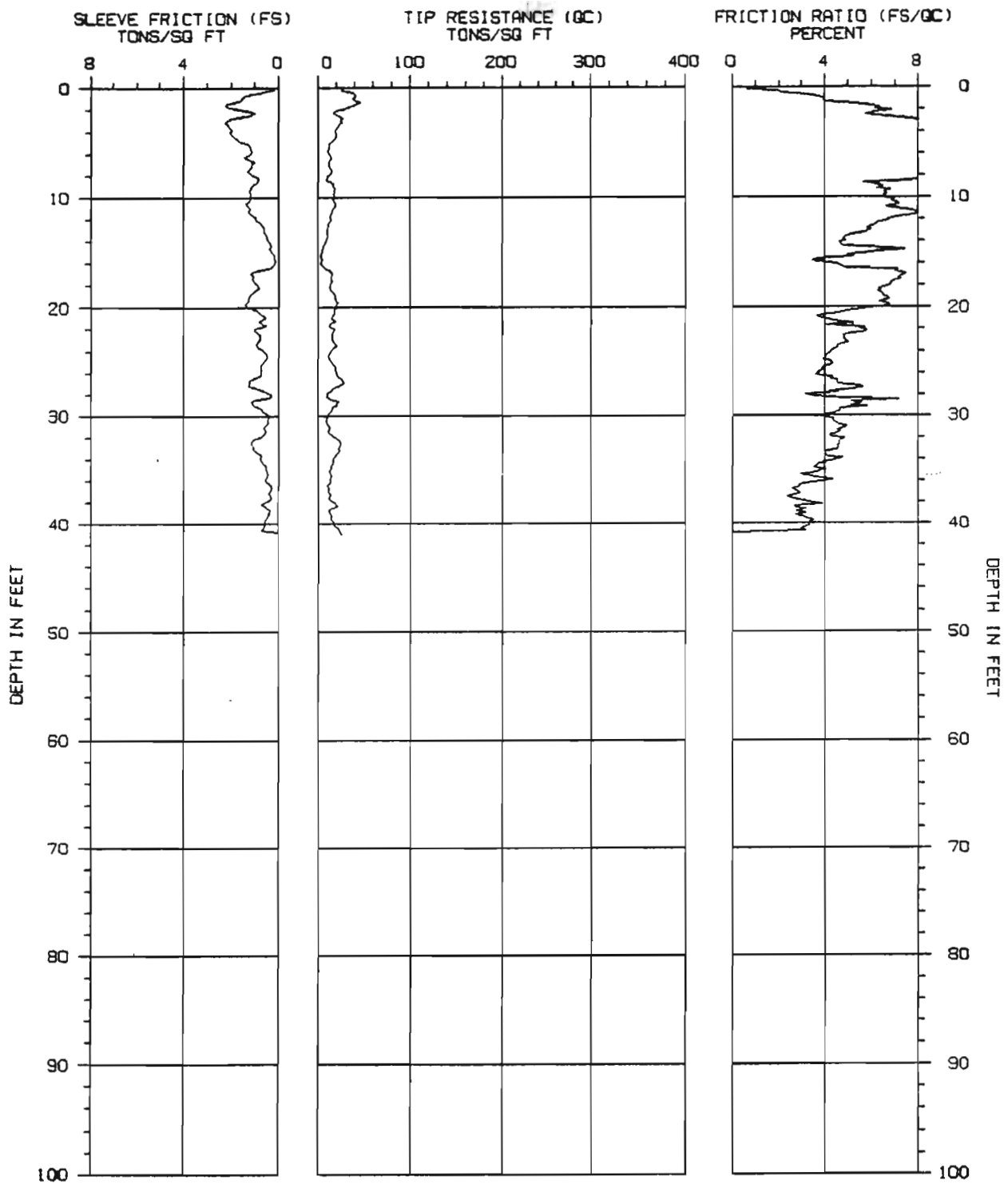
TIP RESISTANCE NOT CORRECTED FOR END AREA EFFECT

CONE PENETRATION TEST LOG - CPT-9



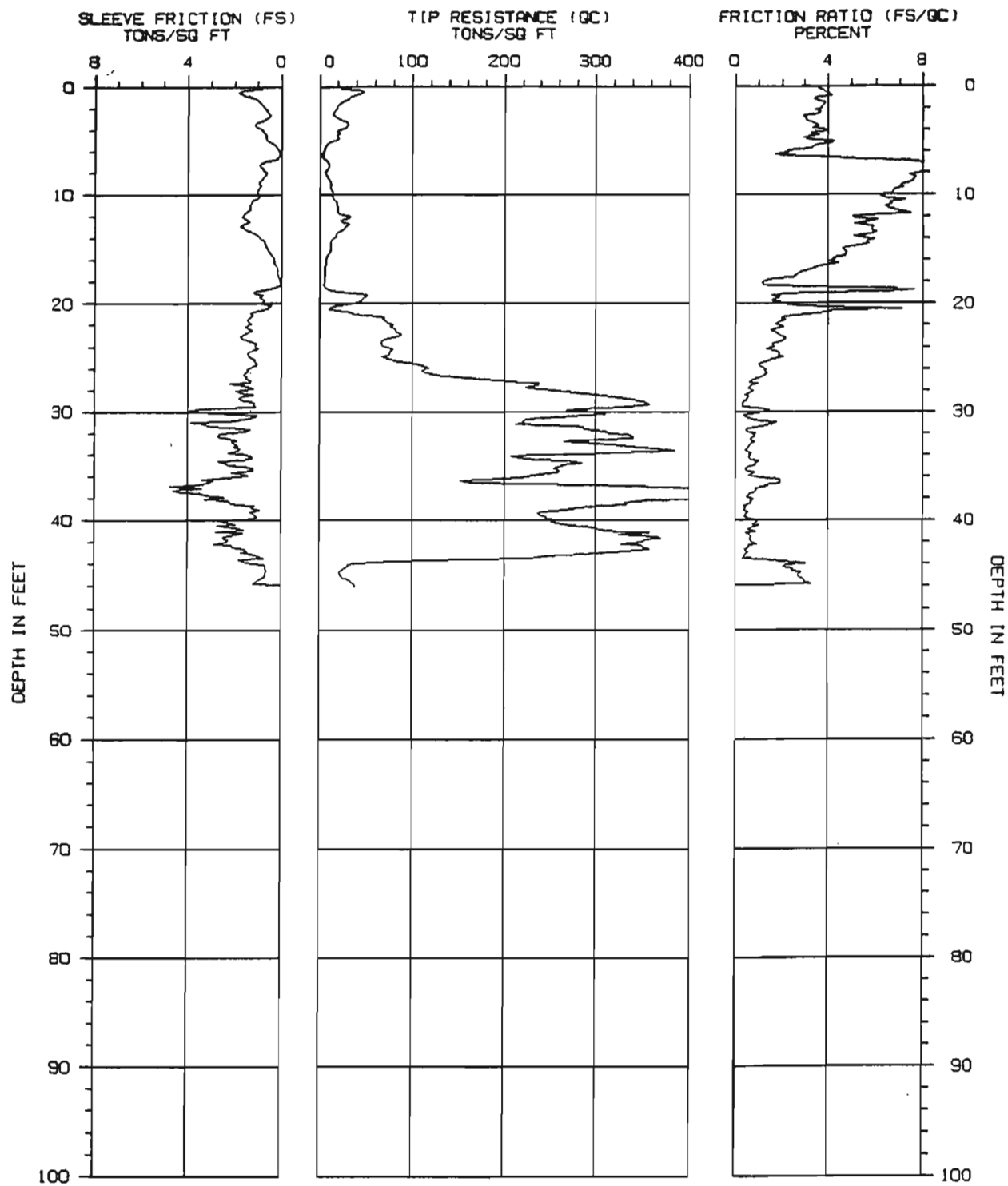
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CONE PENETRATION TEST LOG - CPT-10



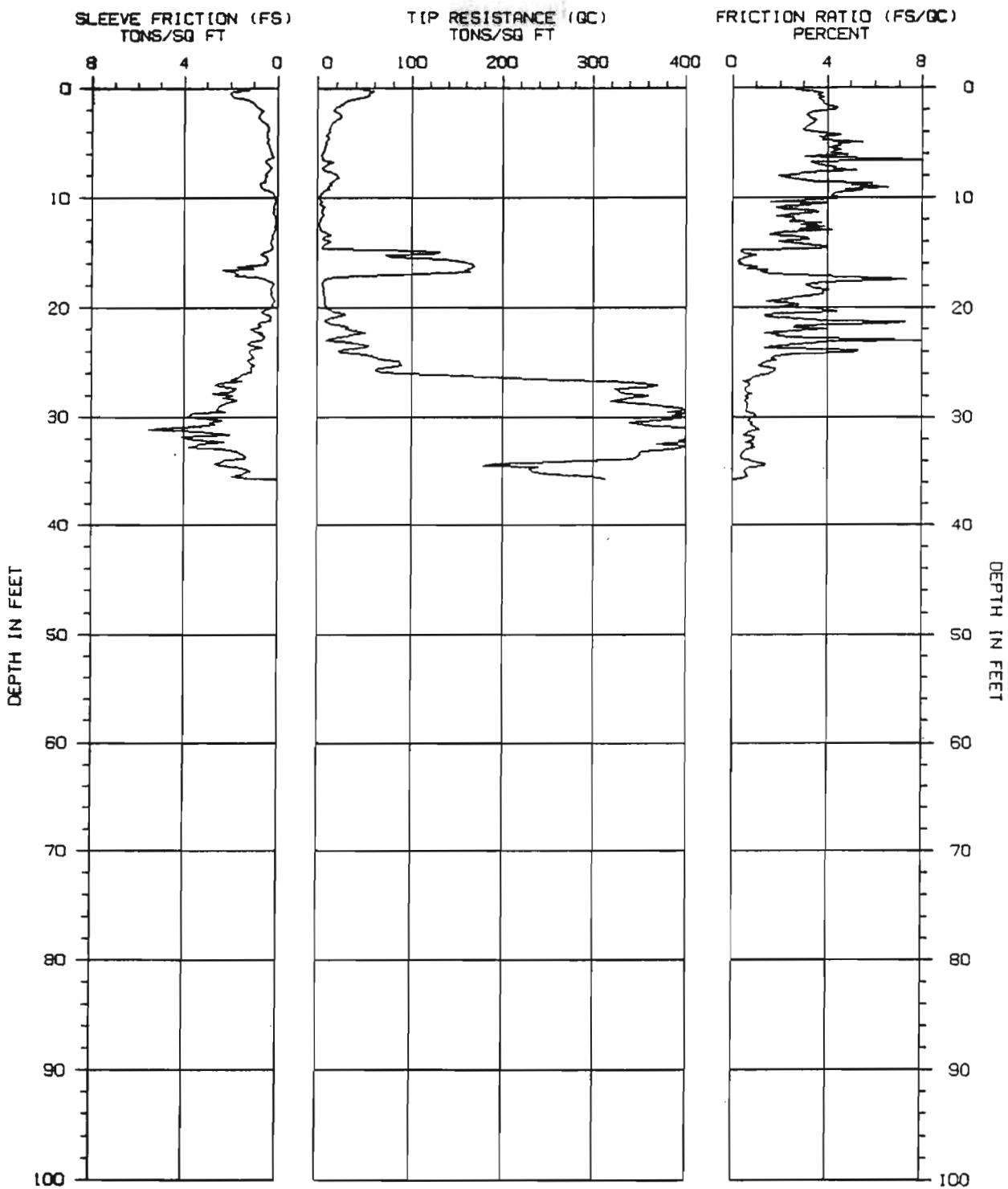
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CONE PENETRATION TEST LOG - CPT-11



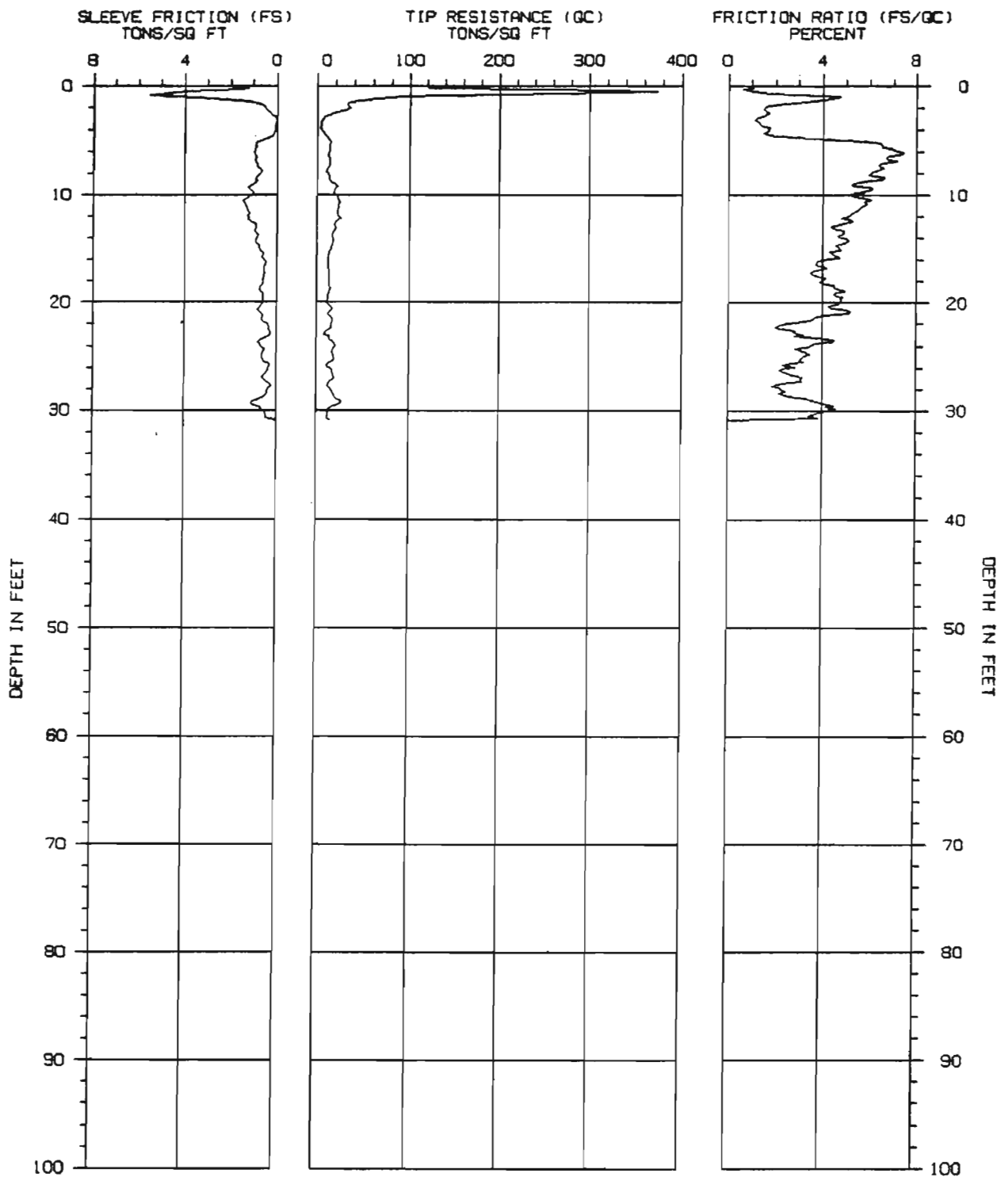
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CONE PENETRATION TEST LOG - CPT-12



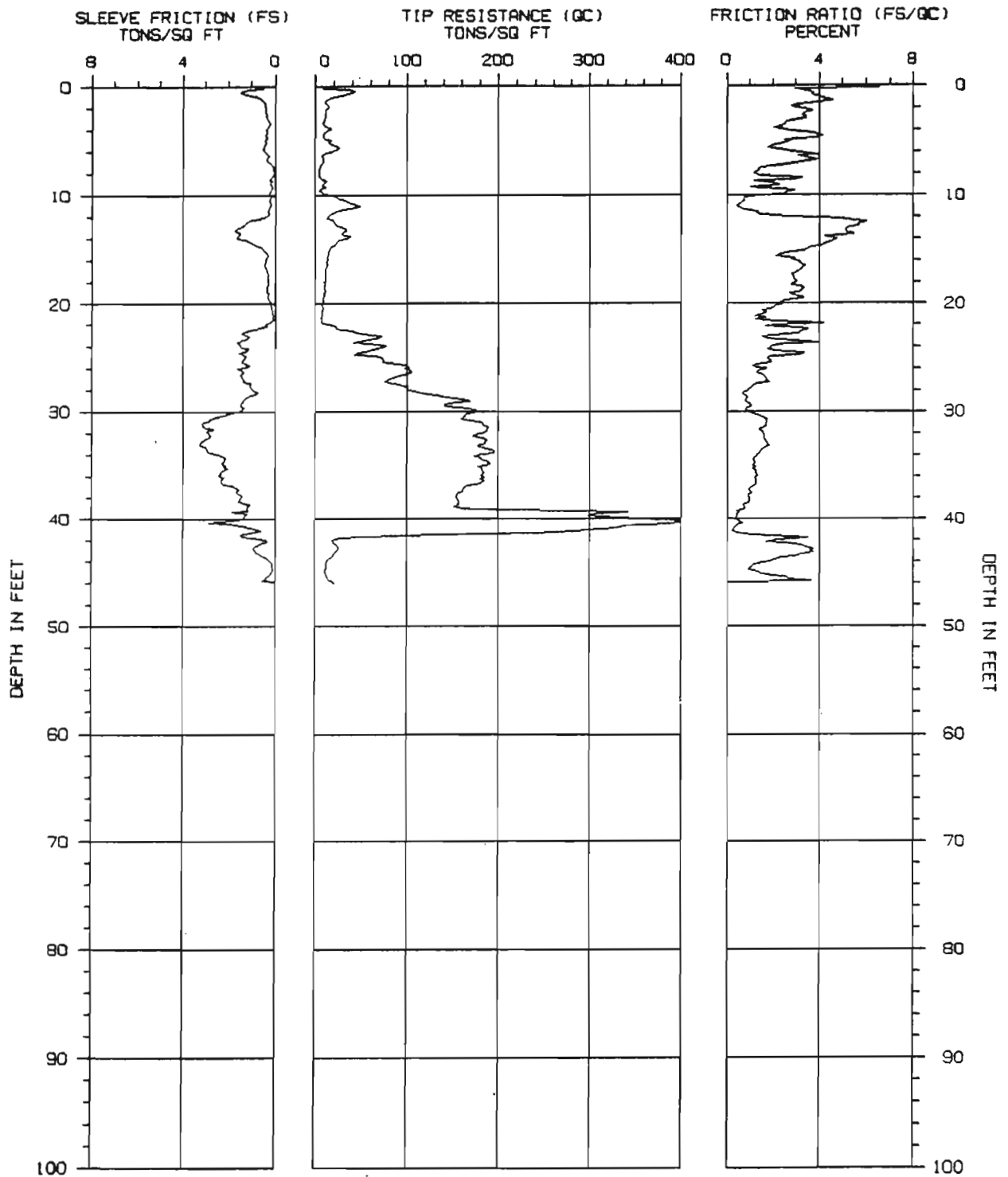
TIP RESISTANCE NOT CORRECTED FOR END AREA EFFECT

CONE PENETRATION TEST LOG - CPT-13



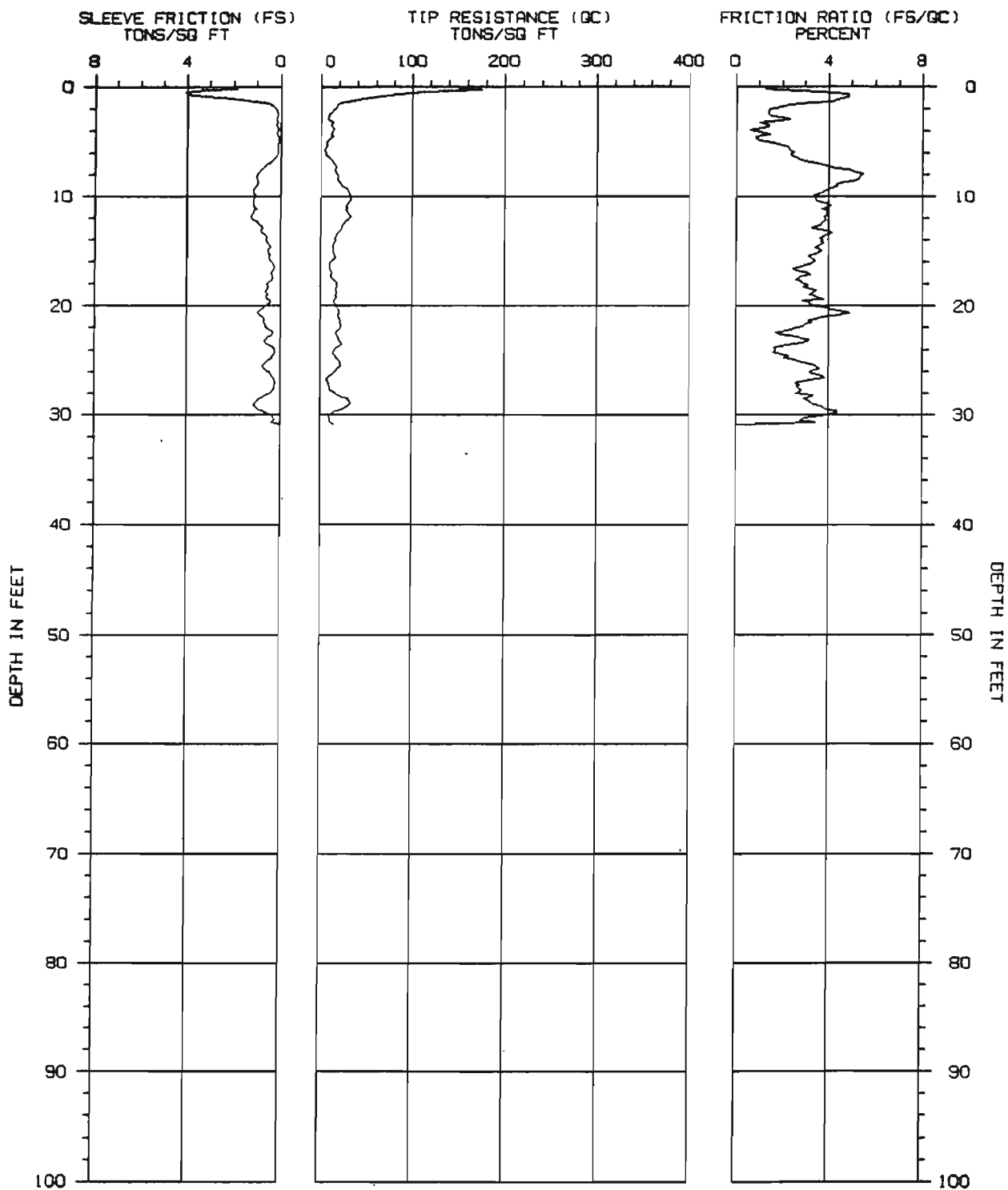
TIP RESISTANCE NOT CORRECTED FOR END AREA EFFECT

CONE PENETRATION TEST LOG - CPT-14



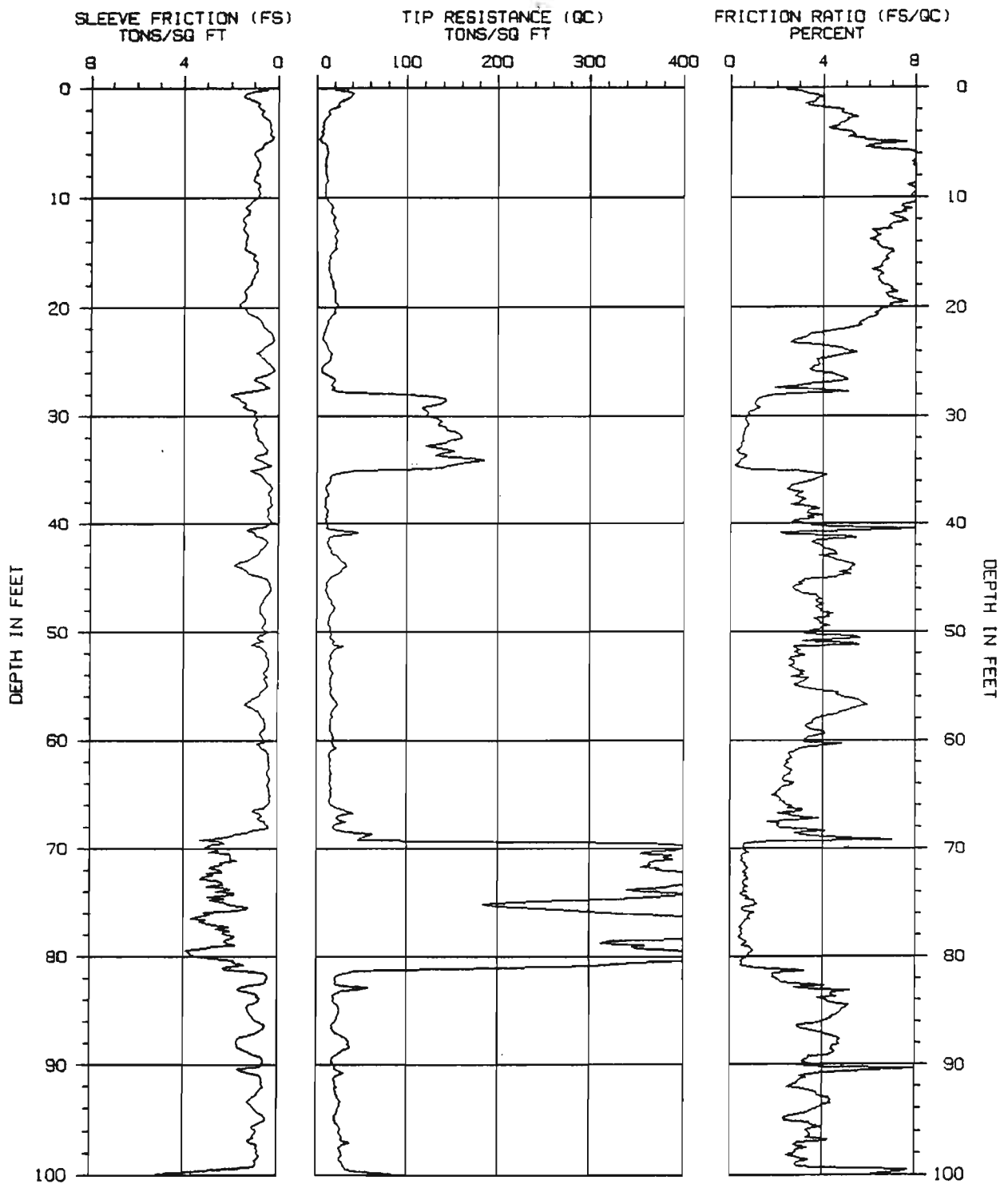
TIP RESISTANCE NOT CORRECTED FOR END AREA EFFECT

CONE PENETRATION TEST LOG - CPT-15



TIP RESISTANCE NOT CORRECTED FOR END AREA EFFECT

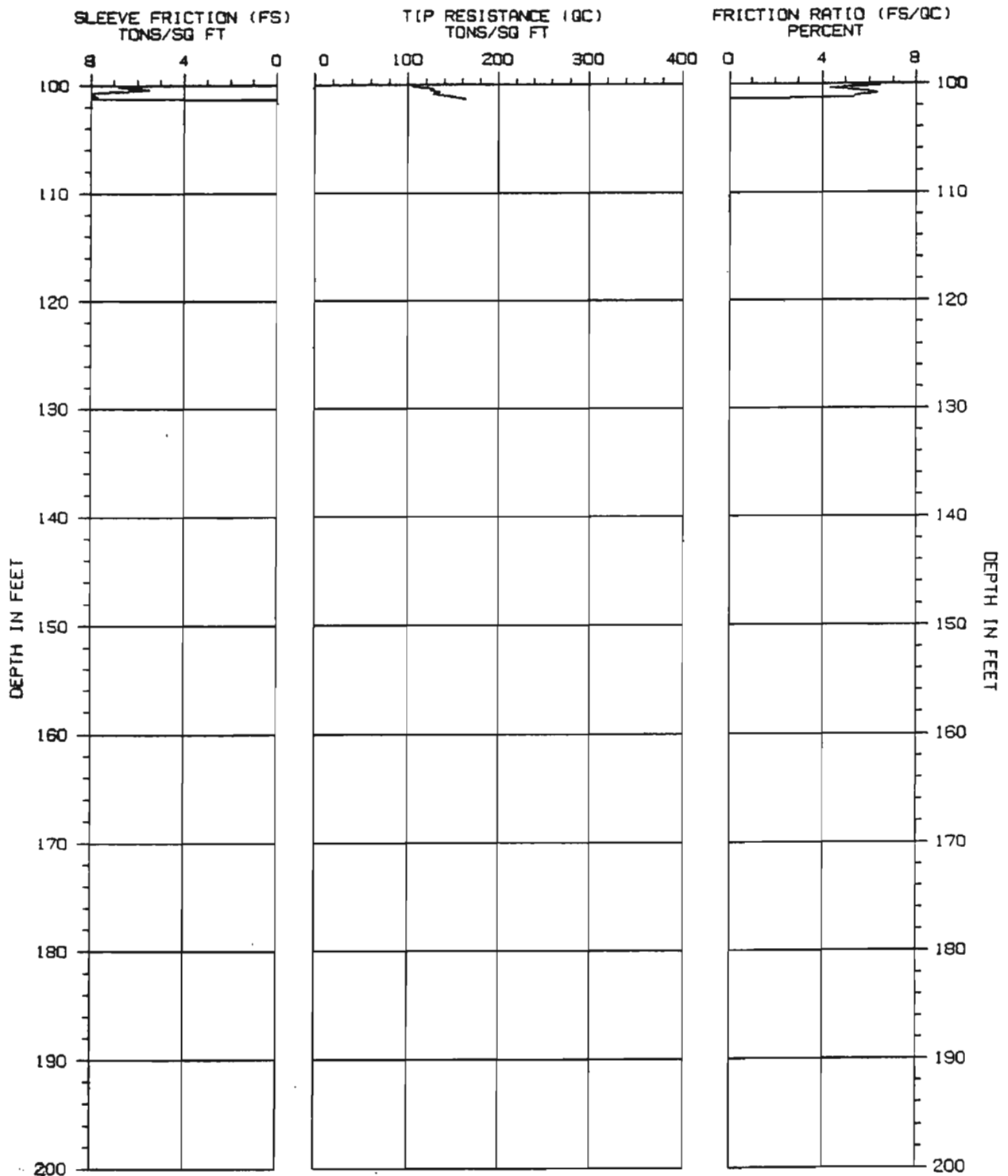
CONE PENETRATION TEST LOG - CPT-16



TIP RESISTANCE NOT CORRECTED FOR END AREA EFFECT

1 of 2

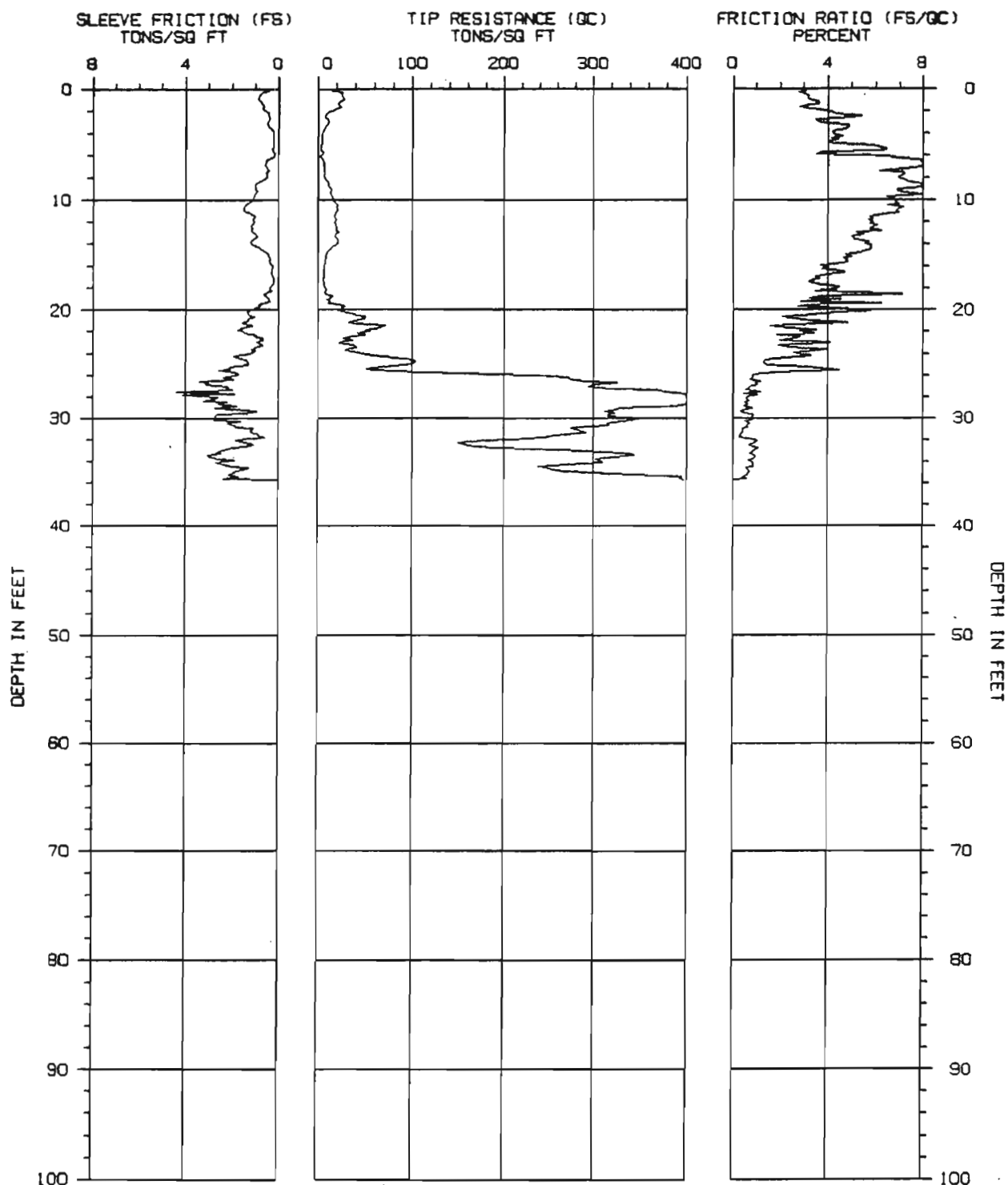
CONE PENETRATION TEST LOG - CPT-17



TIP RESISTANCE NOT CORRECTED FOR END AREA EFFECT

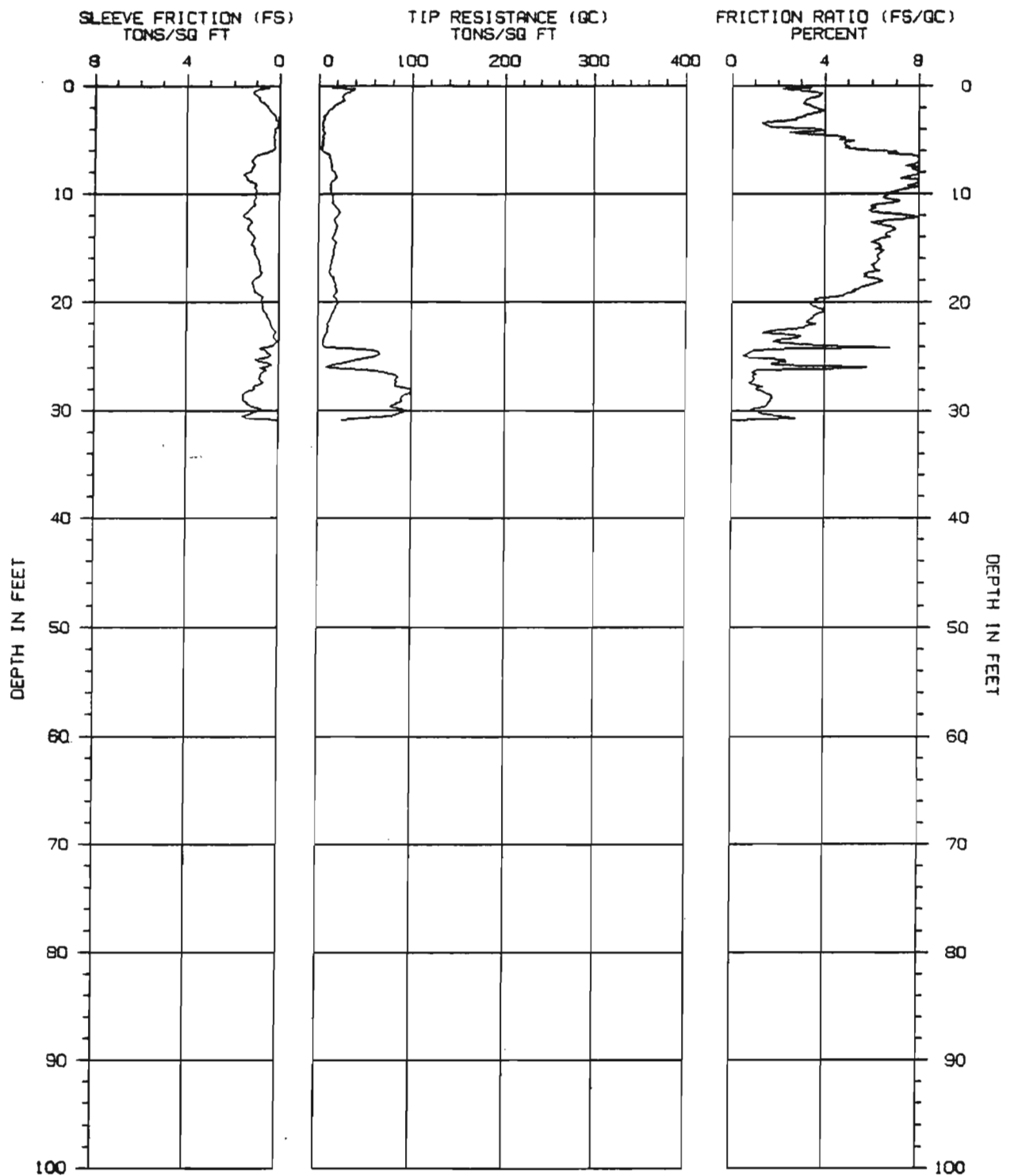
2 of 2

CONE PENETRATION TEST LOG - CPT-17



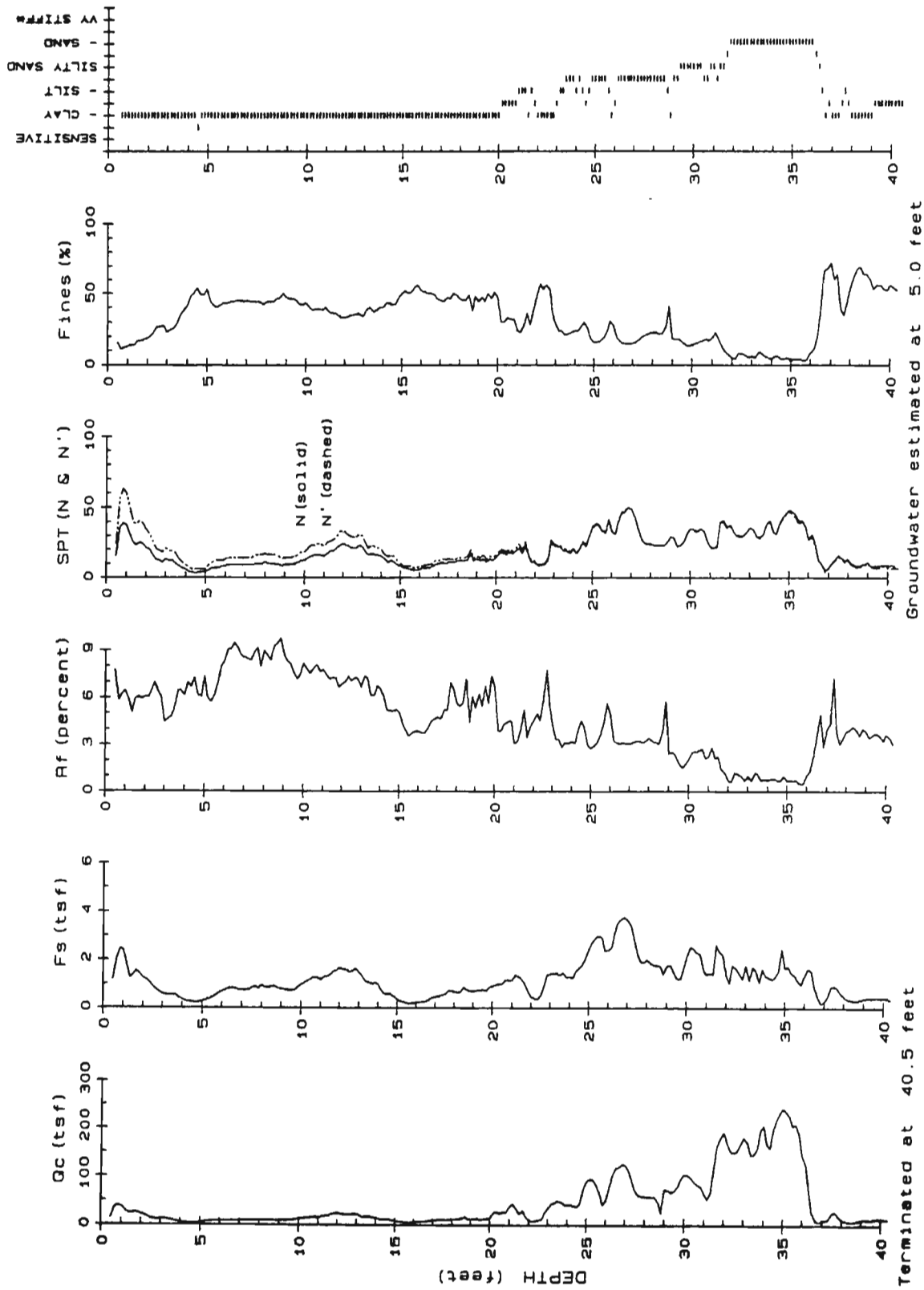
TIP RESISTANCE NOT CORRECTED FOR END AREA EFFECT

CONE PENETRATION TEST LOG - CPT-18



TIP RESISTANCE NOT CORRECTED FOR END AREA EFFECT

CONE PENETRATION TEST LOG - CPT-19



CONE PENETRATION TEST LOG - CPT-20

APPENDIX B

PREVIOUS FIELD INVESTIGATION

The field investigation consisted of a surface reconnaissance and a subsurface exploration program using an all-terrain, crawler rig. Three 8-inch-diameter exploratory borings were drilled on January 26, 2000, to a maximum depth of 30 feet. The approximate locations of the exploratory borings are shown on the Site Plan, Figure 2. The soils encountered were continuously logged in the field by our representative and described in accordance with the Unified Soil Classification System (ASTM D2488). The logs of the borings, as well as a key to the classification of the soil, are included as part of this appendix.

The locations of borings were approximately determined by pacing from existing site boundaries. Elevations of the borings were not determined. The locations of the borings should be considered accurate only to the degree implied by the method used.

Representative soil samples were obtained from the borings at selected depths. All samples were returned to our laboratory for evaluation and appropriate testing. The standard penetration resistance blow counts were obtained by dropping a 140-pound hammer through a 30-inch free fall. The 2-inch O.D. split spoon sampler was driven 18 inches and the number of blows was recorded for each 6 inches of penetration (ASTM D1586). In addition, 2.5-inch I.D. samples were obtained using a Modified California Sampler driven into the soil with the 140-pound hammer previously described. Unless otherwise indicated, the blows per foot recorded on the boring log represent the accumulated number of blows required to drive the last 12 inches. The various samplers are denoted at the appropriate depth on the boring logs and symbolized as shown on Figure A-1.

Field tests included an evaluation of the undrained shear strength of soil samples using a Torvane device, and the unconfined compressive strength of the soil samples using a pocket penetrometer device. The results of these tests are presented on the individual boring logs at the appropriate sample depths.

The attached boring logs and related information depict subsurface conditions only at the locations indicated and at the particular date designated on the logs. Subsurface conditions at other locations may differ from conditions occurring at these boring locations. The passage of time may result in altered subsurface conditions due to environmental changes. In addition, any stratification lines on the logs represent the approximate boundary between soil types and the transition may be gradual.

* * * * *

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

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
	FINE	MEDIUM	COARSE	FINE	COARSE	
						BOULDERS

GRAIN SIZES

	TERZAGHI SPLIT SPOON STANDARD PENETRATION		MODIFIED CALIFORNIA		D & M UNDERWATER SAMPLER		SHELBY TUBE		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

RELATIVE DENSITY

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

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: EB-1

Sheet 1 of 1

DRILL RIG: CME-850

BORING TYPE: 8-INCH HOLLOW STEM

LOGGED BY: JGH

START DATE: 1-26-00 FINISH DATE: 1-26-00

PROJECT NO: 587-12

PROJECT: HIGHWAY 237/COYOTE CREEK 65-ACRE SITE

LOCATION: SAN JOSE, CA

COMPLETION DEPTH: 30.0 FT.

ELEVATION (FT)	DEPTH (FT)	SOIL LEGEND	MATERIAL DESCRIPTION AND REMARKS	SOIL TYPE	PENETRATION RESISTANCE (BLOW/FT.)	SAMPLER	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	PERCENT PASSING NO. 200 SIEVE	Undrained Shear Strength (ksf)			
										1.0	2.0	3.0	4.0
	0		SURFACE ELEVATION:										
			CLAYEY SAND (SC) loose, moist, brown, fine sand	SC	7	X	21						
			SANDY CLAY (CL) stiff, moist, brown, fine sand, trace sand seams, low plasticity	CL	5	X	22	96		△	○		
	5		SILTY CLAY (CL) stiff, moist, brown, trace fine sand inclusions, moderate plasticity		4	X	27	92					
			color grading to dark brown, very stiff		13	X	24	106		△	○		
	10		gray mottles, hard	CL	32	X	21	102			△		○
	15				10	X	26			△	○		
	20		SILTY SAND (SM) loose, wet, brown, fine to medium sands		6	X	24		29				
				SM	6	X	24						
	25												
	30		SANDY GRAVEL (GW) dense, wet, brown, sub-angular to sub-rounded, fine to coarse sands, trace clayey fines	GW	34	X	9						
			Bottom of Boring = 30 feet										
	35												

GROUND WATER OBSERVATIONS:

▽: FREE GROUND WATER MEASURED DURING DRILLING AT 19.0 FEET

LA CORP. DOT 2/14/00 MAY

EXPLORATORY BORING: EB-2

Sheet 1 of 1

DRILL RIG: CME-850

BORING TYPE: 8-INCH HOLLOW STEM

LOGGED BY: JGH

START DATE: 1-26-00

FINISH DATE: 1-26-00

PROJECT NO: 587-12

PROJECT: HIGHWAY 237/COYOTE CREEK 65-ACRE SITE

LOCATION: SAN JOSE, CA

COMPLETION DEPTH: 20.0 FT.

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ELEVATION (FT)	DEPTH (FT)	SOIL LEGEND	MATERIAL DESCRIPTION AND REMARKS	SOIL TYPE	PENETRATION RESISTANCE (BLOWS/FT.)	SAMPLER	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	PERCENT PASSING NO. 200 SIEVE	Undrained Shear Strength (kbf)
										○ Pocket Penetrometer △ Torvane ● Unconfined Compression ▲ U-U Triaxial Compression
			SURFACE ELEVATION:							1.0 2.0 3.0 4.0
	0		SILTY CLAY (CL) stiff, moist, brown, trace fine sand, low plasticity		8	×	27	98		△ ○
	5		wet, very stiff	CL	11	×	32	89		△ ○
	10				15	×	27	98		△ ○
	15		SILTY CLAY (CL) stiff, wet, brown/gray mottled, low plasticity	CL	13	×	27	97		△ ○
	20		hard		25	×	28	92		△ ○
	25		Bottom of Boring = 20 feet		10	×	21	107		△ ○
	30									
	35									

GROUND WATER OBSERVATIONS:

▽: FREE GROUND WATER MEASURED DURING DRILLING AT 6.5 FEET

LA CORP GDT 2/14/00 MV*

EXPLORATORY BORING: EB-3

Sheet 1 of 1

DRILL RIG: CME-850

BORING TYPE: 8-INCH HOLLOW STEM

LOGGED BY: JGH

START DATE: 1-28-00

FINISH DATE: 1-28-00

PROJECT NO: 587-12

PROJECT: HIGHWAY 237/COYOTE CREEK 65-ACRE SITE

LOCATION: SAN JOSE, CA

COMPLETION DEPTH: 25.0 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 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)	PERCENT PASSING NO. 200 SIEVE	Undrained Shear Strength (ksf)			
										○ Pocket Penetrometer	△ Torvane	● Unconfined Compression	▲ U-U Triaxial Compression
			SURFACE ELEVATION:							1.0	2.0	3.0	4.0
	0		SANDY SILT (ML) loose, moist, brown, fine sand, trace sand lenses	ML	6	24							
	5		SANDY SILT (ML) loose, moist, gray/brown mottled, fine sand, trace to some clayey fines	ML	6 3	9 30							
	10			ML	5	34			58				
	14		sandy clay seam		9	18			18				
	15		SAND (SW) loose, wet, gray, fine to coarse sands, trace fine gravel	SW									
	20		SILTY CLAY (CL) very stiff, wet, gray/brown mottled, trace fine sand, low to moderate plasticity	CL	3	28							
	25				22	17	108			△	○		
	25		Bottom of Boring = 25 feet										
	30												
	35												

GROUND WATER OBSERVATIONS:

▽: FREE GROUND WATER MEASURED DURING DRILLING AT 14.0 FEET

LA CORP GDT 2/14/00 MVS

APPENDIX C

LABORATORY PROGRAM

The laboratory testing program was directed toward a quantitative and qualitative evaluation of the physical and mechanical properties of the soils underlying the site and to aid in verifying soil classification.

Moisture Content: The natural water content was determined (ASTM D2216) on 44 samples of the materials recovered from the borings. These water contents are recorded on the boring logs at the appropriate sample depths.

Dry Densities: In place dry density determinations (ASTM D2937) were performed on 41 samples to measure the unit weight of the subsurface soils. Results of these tests are shown on the boring logs at the appropriate sample depths.

Plasticity Index: One Plasticity Index determination (ASTM D4318) was performed on a sample of the subsurface soils to measure the range of water contents over which this material exhibits plasticity. The Plasticity Index was used to classify the soil in accordance with the Unified Soil Classification System and to evaluate the soil expansion potential. Results of this test are presented on the Plasticity Chart of this appendix and on the log of the boring at the appropriate sample depth.

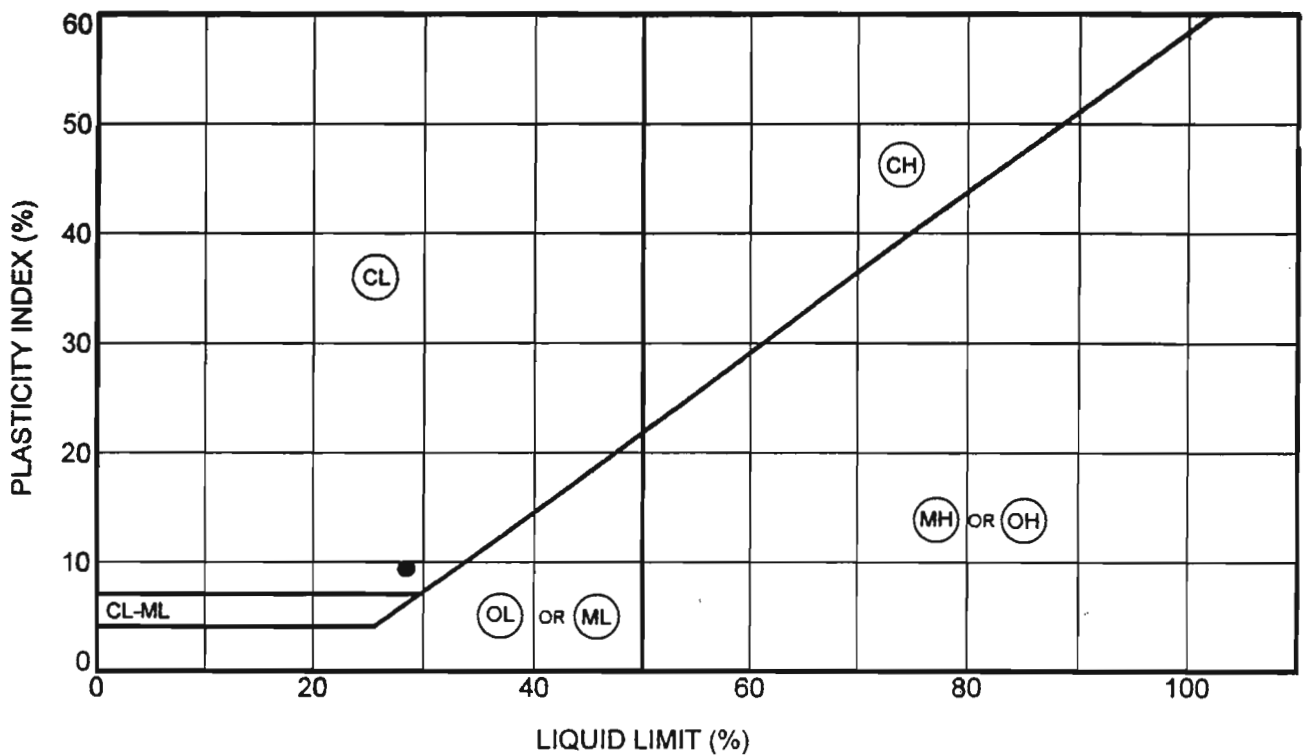
Washed Sieve Analyses: The percent soil fraction passing the No. 200 sieve (ASTM D1140) was determined on two samples of the subsurface soils to aid in the classification of these soils. Results of these tests are shown on the boring logs at the appropriate sample depths.

R-Value: An R-value resistance test (California Test Method No. 301) was performed on a representative sample of the surface soils at the site to provide data for the pavement design. The test indicated an R-value of 28 at an exudation pressure of 300 pounds per square inch. The results of the test are presented on Table C-1.

Table C-1. Results of R-Value Tests

Sample	Description of Material	Water Content (%)	Dry Density (pcf)	Exudation Pressure (psi)	"R" value	Expansion Pressure (psf)
B-1	Brown Clay with Fine Sand	14	117.1	369	34	151
		16.8	110.6	166	6	30
		15.4	112.4	211	18	65

* * * * *

[illegible]

APPENDIX D

PROBABILISTIC SEISMIC HAZARD ANALYSIS

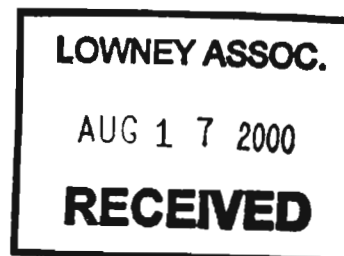
Robert Pyke, Consulting Engineer

August 15, 2000

Lowney Associates
405 Clyde Avenue
Mountain View CA 94043

Attention: Barry Butler

Re: San Jose Site A
Seismic Hazard Evaluation



Dear Barry,

At your request I have conducted a seismic hazard analysis in order to develop 2, 5 and 10 percent damped response spectra for horizontal ground motions at this site with a probability of exceedance of 10 and 2 percent in 50 years and 10 percent in 100 years.

In order to obtain the 5 percent damped spectral accelerations with the desired probabilities of exceedance I have conducted a formal probabilistic seismic hazard analysis using the hazard analysis procedure that was originally suggested by Cornell (1968) and is embodied in the computer program EQRISK, as described by McGuire (1976). The locations of the source zones and the assumed source zone parameters that were used are based on data presented by Shedlock et al. (1980), Ellsworth et al. (1982), Wesnousky (1986), USGS (1988, 1990), Petersen et al. (1996) and Schwartz et al. (1998,1999).

Since EQRISK models only areal sources rather than line sources, fault zones are normally modelled as strips having widths of about 5 km. However, in this case, because ground motion at the site will be controlled by larger events on the various branches of the San Andreas fault system for which fault rupture must pass opposite the site regardless of the point of initiation and the length of the rupture, these zones were truncated to shorter lengths in order to force use of appropriate distances in computing spectral accelerations.

Further, since EQRISK otherwise assumes that the occurrence of earthquakes is randomly distributed in time, the activities assigned to the zones representing the larger earthquakes have been adjusted using a procedure suggested by Cornell and Winterstein (1988) and data from USGS (1990) in order to account for the date of last occurrence of major earthquakes on the San Andreas and Hayward fault systems, assuming windows of exposure of 50 years and 100 years. For the Hayward fault it has been assumed that the Northern and Southern segments can rupture independently and the activity of the Northern segment has been increased to take into account the present uncertainty regarding the date of last rupture. A separate source zone has been used

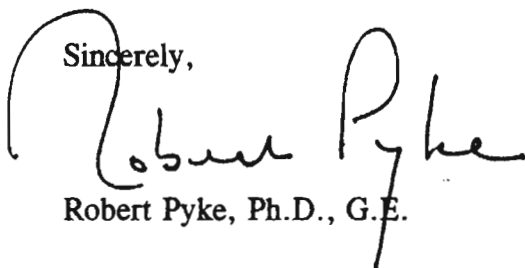
to model the southern extension of the Hayward fault which lies close to the site. While recent microseismicity indicates that activity transfers from the Calaveras fault south of Sunol to the Hayward fault somewhat north of the site, the possibility of an earthquake in the San Jose foothills area should not be ignored. The possibility that smaller events will occur away from major mapped faults or on minor faults is also accounted for by the inclusion of "background" activity. The assumed source zone parameters are listed in Table 1.

The attenuation relationships for 5 percent damped spectral acceleration on soil sites developed by Abrahamson and Silva (1997) were used in the analyses. The 5 percent damped response spectra obtained for probabilities of exceedance of 10 and 2 percent in 50 years and 10 percent in 100 years are shown on the attached figures along with the corresponding response spectra for 2 and 10 percent structural damping obtained using scaling factors derived from Newmark and Hall (1982). The 5 percent damped values are also listed in a table that has been e-mailed to you.

Should spectra for vertical motions be required I recommend that these be assumed to equal the horizontal values for periods up to 0.15 seconds, dropping to half the horizontal values at periods of 0.5 seconds and above.

As discussed with you, I also investigated using an alternate approach to developing ground surface response spectra that involved running the seismic hazard analysis for spectral acceleration on (soft) rock, fitting acceleration histories to these response spectra, propagating the motions up through a typical profile for this site, and then computing the surface response spectra. The profile used in the site response analyses was based on the shear wave velocities measured in conjunction with CPT-17 and is summarized in the computer output shown in Table 2. However, because, with the exception of the top 20 feet, the site is relatively stiff, the site response analyses did little to change the rock input motion except for amplifying the peak in the input motions at around 0.2 to 0.3 seconds, and I believe that for this site it turns out to be more reasonable to directly use the results of the seismic hazard analyses using an attenuation relationship that is largely based on motions recorded at deep soil sites.

Sincerely,

A handwritten signature in black ink, appearing to read "Robert Pyke". The signature is fluid and cursive, with the first name "Robert" and last name "Pyke" clearly distinguishable.

Robert Pyke, Ph.D., G.E.

References:

Seismic Hazard

Abrahamson, N.A., and Silva, W.J., "Empirical Response Spectral Attenuation Relations for Shallow Crustal Earthquakes", *Seismological Research Letters*, Vol. 68, No. 1, January 1997.

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Hall, N.T., "Holocene History of the San Andreas Fault Between Crystal Springs Reservoir and San Andreas Dam", *Bulletin of the Seismological Society of America*, Vol. 74, No. 1, February 1984.

McGuire, R.K., "FORTRAN Computer Program for Seismic Risk Analysis", *U.S. Geological Survey, Open-File Report 76-67*, 1976.

Newmark, N.M. and Hall, W.J., "Earthquake Spectra and Design", *Earthquake Engineering Research Institute*, 1982.

Petersen, M.D., et al., "Probabilistic Seismic Hazard Assessment for the State of California", *California Division of Mines and Geology, Open-File Report 96-08*, 1996.

Shedlock, K.M., McGuire, R.K., and Herd, D.G., "Earthquake Recurrence in the San Francisco Bay Region from Fault Slip and Seismic Moment", *U.S. Geological Survey Open-File Report 80-999*, 1980.

Schwartz, D.P., et al., "Paleoseismic Investigations in the Santa Cruz Mountain, California", *Journal of Geophysical Research*, Vol. 103, No. B8, August 1998.

Schwartz, D.P., et al., "Earthquake Probabilities in the San Francisco Bay Region: 2000 to 2030 - A Summary of Findings", *Working Group on California Earthquake Probabilities, USGS Open File Report 99-517*, 1999.

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Table 1 - SOURCE ZONES

	GROSS SOURCE	Mmin	Mmax	b	EVENTS/YR	
					50 years	100 years
1	Northern San Andreas	8.00	8.25	.1000	.0020	.0032
2	Peninsula S.A. Large	6.50	7.00	.1000	.0080	.0140
3	Rogers Creek Large	6.50	7.00	.1000	.0070	.0100
4	Hayward Large North	6.50	7.00	.1000	.0100	.0130
5	Hayward Large South	6.50	7.00	.1000	.0080	.0110
6	Hayward South Ext.	5.50	6.50	.1000	.0060	.0060
7	Concord / Green Valley	4.00	6.80	.9000	.0500	.0500
8	Calaveras Large	6.50	7.00	.1000	.0060	.0060
9	Greenville	4.00	6.50	.9000	.0500	.0500
10	Background	4.00	5.50	.9000	.3000	.3000

Table 2 - TESS Output

TESS - Version 5.02
Copyright, 1998, TAGASoft Limited
Compiled by rmp on 10/25/98 using the
Microsoft FORTRAN Optimizing Compiler v.5.1

DATE: 7:30:2000
TIME: 18:49:48
INPUT/OUTPUT FILE NAME: a
INPUT MOTION READ FROM: lucia.oth

San Jose Site A

Base Profile - Motion A.

UNITS ARE KIPS, FEET AND SECONDS

INPUT DATA

LAYER DATA

DEPTH TO WATER TABLE = .00
TRAVEL TIMES ARE RELATIVE TO A TIMESTEP OF .010 SECONDS

LAYER NO.	MTYPE	LAYER THICKNESS	UNIT WT	OCR	KO	SIGV	VS	GMAX	SHEAR STRENGTH	REFERENCE STRAIN	INITIAL SHEAR STRESS	TRAVEL TIME RATIO
1	1	10.00	.100			.19	320.00	318.01	.954	.300	.000	.320
2	1	10.00	.100			.56	470.00	686.02	2.058	.300	.000	.470
3	1	10.00	.110			.99	800.00	2186.34	6.559	.300	.000	.800
4	1	10.00	.110			1.47	800.00	2186.34	6.559	.300	.000	.800
5	1	10.00	.110			1.94	800.00	2186.34	6.559	.300	.000	.800
6	1	10.00	.110			2.42	800.00	2186.34	6.559	.300	.000	.800
7	1	10.00	.110			2.89	800.00	2186.34	6.559	.300	.000	.800

SHEAR WAVE VELOCITY IN BASE = 1500.
UNIT WEIGHT OF BASE = .130

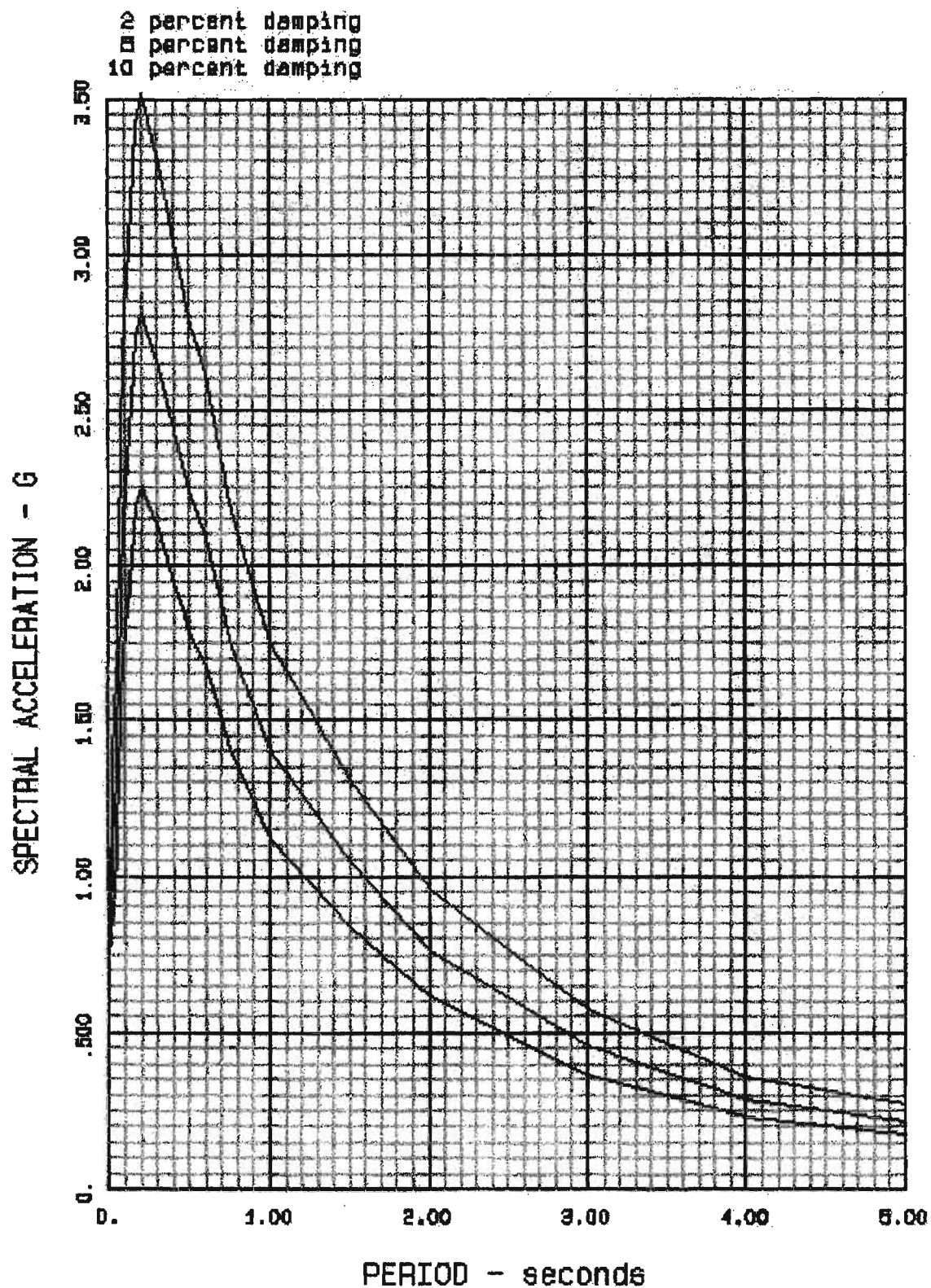
 OUTPUT FOR Motion A
 WITH A PEAK ACCELERATION OF .60 G

 MAXIMUM RESPONSE VALUES AT TOP OF OR IN EACH LAYER

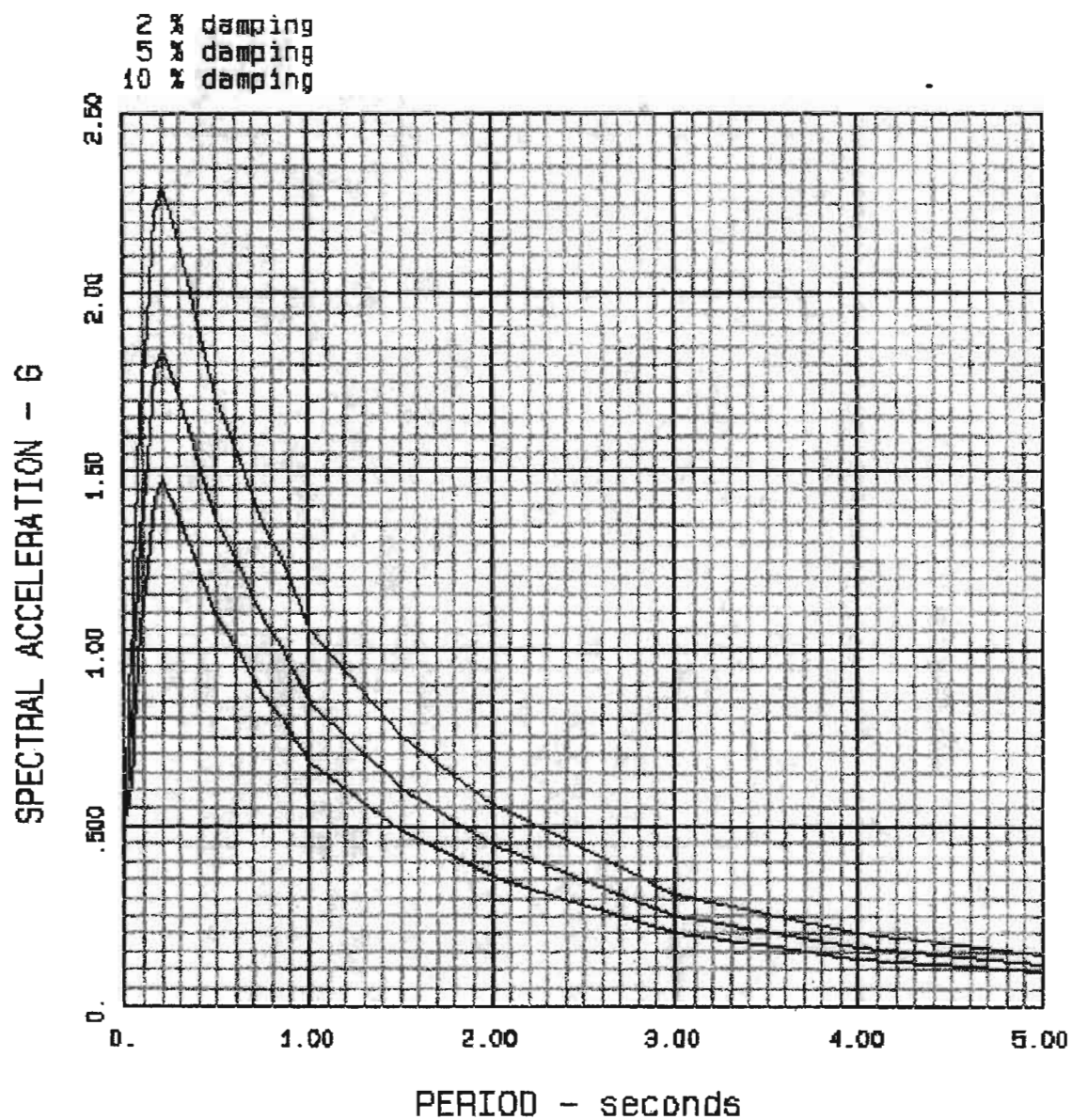
LAYER NO.	DEPTH TO TOP	AMAX	VMAX	DMAX	DFINAL	TAUMAX	CYCLIC GAMMAX	FINAL DELTA	FINAL DETAG	FINAL DETAU	UMAX	UFINAL	DEPTH TO MIDLAYER
1	.00	.766	2.181	.163	-.073	.383	.257	.897	.897	.897	.000	.000	5.00
2	10.00	.672	1.993	.152	-.072	1.013	.350	.902	.902	.902	.000	.000	15.00
3	20.00	.481	1.754	.120	-.053	1.379	.084	.955	.955	.955	.000	.000	25.00
4	30.00	.475	1.647	.112	-.051	1.735	.125	.945	.945	.945	.000	.000	35.00
5	40.00	.463	1.492	.096	-.045	2.100	.178	.937	.937	.937	.000	.000	45.00
6	50.00	.445	1.332	.069	-.032	2.496	.236	.928	.928	.928	.000	.000	55.00
7	60.00	.502	1.164	.037	-.017	2.793	.291	.925	.925	.925	.000	.000	65.00
BASE	70.00	.404	1.122										

 NORMAL TERMINATION

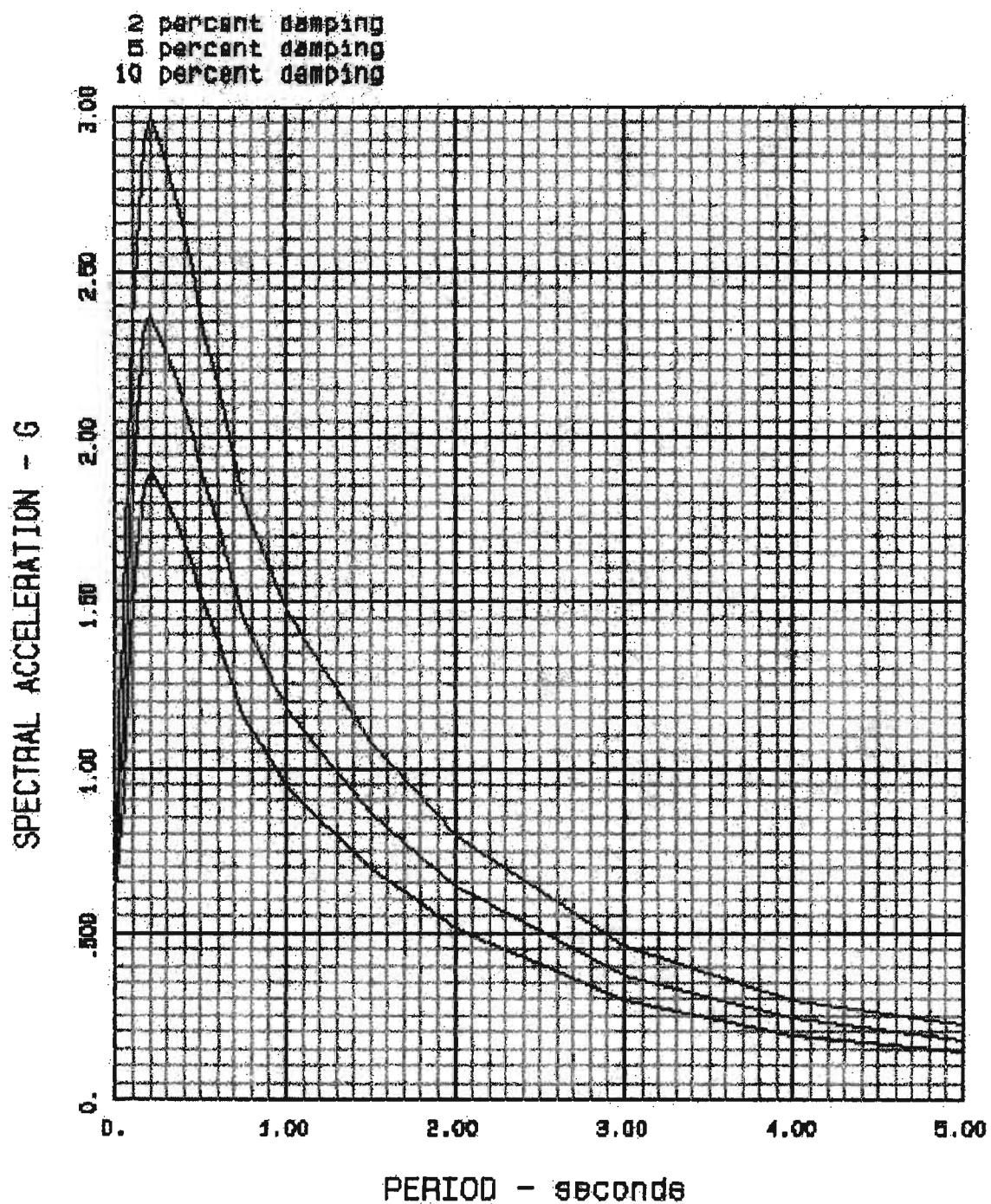
 ELAPSED TIME = 0 MINS 2 SECS



Uniform Hazard Spectra
2 percent in 50 years



Uniform Hazard Spectra
10 percent in 50 years



Uniform Hazard Spectra
10 percent in 100 years

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6.0 Land Use

Technical Area: Land Use

CEC Author: Negar Vahidi and Marc Campopiano

LECEF Author: Jerry Salamy

BACKGROUND

Section 8.4.1.2.5 of the AFC qualitatively discusses recreation uses in the surrounding area but does not provide specific details on their proximity.

DATA REQUEST

36. Please provide the distance (in miles) to the recreation features described in Section 8.4.1.2.5.

Response: The recreation areas identified in Section 8.4.1.2.5 of the AFC are the Alviso Park, a community center on Liberty Street, the Don Edwards San Francisco Bay National Wildlife Refuge, the Alviso Marina County Park, the Juan Bautista de Anza National Historic Trail, and the San Francisco Bay Trail. Table LU-36 presents the distance of these recreation features from the LECEF site.

Table LU-36 Distance to Recreation Facilities

Recreation Feature	Distance to the LECEF Site
Alviso Park	1.4 Miles
Community center on Liberty Street	<1 Mile
Don Edwards San Francisco Bay National Wildlife Refuge	1.5 Miles
Alviso Marina County Park	<1 Mile
Juan Bautista de Anza National Historic Trail	<1 Mile
San Francisco Bay Trail	0.5 Mile

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7.0 Noise

Technical Area: Noise

CEC Author: Brewster Birdsall

LECEF Author: Mark Bastasch

BACKGROUND

The CEC Staff typically assesses project impacts by comparing the steady state noise level due to the power plant to the average (or typical) L_{90} values obtained during nighttime hours. A 5 dB noise level increase is a threshold of potential significance. Additionally, City of San Jose noise standards are in terms of 24-hour day-night noise levels (L_{dn}). The existing conditions at the nearest residential receptor (Location 5) were not characterized by the Applicant with a 25-hour measurement. As a result, the nighttime L_{90} values and the 24-hour L_{dn} are not fully investigated in the AFC. Traffic noise and noise from suburban activity commonly decrease to a minimum at the late night/early morning hours (between 2 a.m. and 4 a.m.). Because the noise data presented in the AFC do not adequately characterize the nighttime and 24-hour noise levels at the nearest residences, the CEC cannot adequately evaluate the noise effects of the project at the nearest residences.

DATA REQUEST

37. Please provide an analysis of the ambient L_{90} and L_{dn} noise levels at the nearest residences to address compliance of the project with the 5 dB noise level increase threshold and the City of San Jose noise standards.

Response: Continuous noise level measurements were conducted near the closest residences (M5) on Friday, September 21st through Sunday, September 23rd, 2001. The 10 p.m. to 5 a.m. L_{90} average was 51 and 49 dBA for the first and second night respectively. The minimum 10-minute L_{90} for the entire 47 hour monitoring period was 45 dBA. The average L_{eq} for the entire 47 hour monitoring period was 56 dBA. These levels are consistent with the spot measurements presented in Table 8.5-9 of the AFC.

The plant level at M5 is predicted to be 39 dBA (refer to Table 8.5-12 of the AFC), which is 10 dBA below the lowest measured nighttime average L_{90} . Therefore, operation the plant will not result in increased noise levels at M5 on an L_{90} or L_{dn} basis.

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BACKGROUND

Figure 8.4-2 shows the Coyote Creek Corridor as being designated PP (Public Park), and the Applicant's noise monitoring (Location 2) corresponds to this land use. The planned San Francisco Bay Trail mentioned on p. 8.5-4 is not identified on the maps included in the noise or land use analysis.

DATA REQUEST

38. Please identify the location of the planned San Francisco Bay Trail on a vicinity map and discuss the potential sensitivity of this land use to noise increases that would be caused by the project.

Response: The planned San Francisco Bay Trail was identified on Figure 8.11-2 of the AFC. It is on the eastern edge of Coyote Creek and the southern edge of the project site along Alviso Milpitas road. The noise impacts to this planned trail were addressed by the City of San Jose in the Final EIR for the CREC project. The noise levels from the LECEF are less than those identified for CREC. LECEF noise levels vary between 48 dBA DNL to 55 dBA DNL (42 dBA and 49 dBA) along the projects northern and eastern boundary as identified in Figure 8.5-6 of the AFC. These noise levels are similar to those experienced in a private business office (Table 8.5-2 of the AFC) and will not adversely impact the use of the planned trail.

BACKGROUND

Table 8.5-15 (AFC, p. 8.5-18) for construction noise indicates that composite noise for the "clean-up" phase will be similar to noise levels for "clearing" phases, despite the table indicating that rock drilling equipment would be used during "clean-up".

DATA REQUEST

39. Please discuss the activities that could occur during "clean-up" that would require use of rock drills and identify the assumptions used in Table 8.5-15 to determine composite noise levels.

Response: There are no known construction activities for LECEF that will require the use of rock drills. Composite noise levels from the "Power Plant Construction Noise Guide" are presented below in Table NO-39 (Barnes, J.D., L.N. Miller, and E.W. Wood. 1977. Power Plant Construction Noise Guide. Bolt Beranek and Newman, Inc. Cambridge, Massachusetts. Prepared for Empire State Electric Energy Research Corporation, Schenectady, New York.) These values are "intended to represent long-term averages for an entire construction phase; shorter-term levels could be higher or lower as a result of non-typical or short-term activities. The composite levels are representative of weekday, daytime noise levels

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at the fifteen power plant construction sites visited. The tolerance is approximately 3 dB."

Experience has shown that noise levels are typically lower than predicted and that the most annoying noise is from the back-up beepers which are required by OSHA.

TABLE NO-39
Leq (dBA) Sound Levels For Construction Phases at Various Distances

Construction Phase	2390 ft	3420 ft	4800 ft	6660 ft	9120 ft
Excavation	55	50	45	40	35
Concrete Pouring	51	46	41	36	31
Steel Erection	55	50	45	40	35
Mechanical	50	45	40	35	30
Clean-up	45	40	35	30	25

Source: Barnes et. al. 1977.

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8.0 Reliability

Technical Area: Reliability

CEC Author: Steve Baker

LECEF Author: Gary Carr and Todd Stewart

BACKGROUND

The Los Esteros CEF is intended to provide reliable power to the U.S. Dataport server farm; the AFC claims that the project will exhibit an annual availability factor approaching 100 percent (AFC, § 2.2.2). One means of achieving high reliability is to provide redundant examples of certain pieces of critical equipment. The AFC claims to describe redundancy, but there are two deficiencies in this description:

- The section dealing with redundancy (AFC § 2.4.2 et seq.) lists, in fact, no redundancy other than the fact that four CTGs operate in parallel.
- The AFC claims (AFC § 2.4.2) that “[r]edundancy following final design may differ.”

DATA REQUEST

40. Please verify that the project will, in fact, exhibit no redundancy of critical equipment, as described in section 2.4.2 et seq. of the AFC. If this is not to be the case, please describe the planned redundancy, and discuss the likelihood that “redundancy following final design” will be greater or less than described in the response to this data request.

Response: The LECEF project follows a standard of n+1 redundancy as a minimum for critical equipment. For example LECEF will have three 50 percent capacity fuel gas compressors and LECEF is connected to two high-pressure gas transmission pipelines to assure a reliable fuel supply. An additional air compressor and chemical feed pump is provided. Additional capacity in terms of hours of on site storage of process and cooling water assure continued plant operation in the event of a water supply or treatment system outage.

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9.0 Socioeconomics

Technical Area: Socioeconomics

CEC Author: Rebecca Morgenstern and Daniel Gorfain

LECEF Author: Fatuma Yusuf and John Carrier

BACKGROUND

On page 8.8-1, the AFC states that there is a mobile home park in the immediate vicinity of the proposed site, but then states the nearest residences are over a half-mile away. Mobile home parks provide residences for people.

DATA REQUEST

41. Please provide a map that shows the nearby residences, mobile home park, bus yard, and wildlife refuge as well as the location of the proposed site and associated linear facilities.

Response: The mobile home park residences are those referred to as being over a half-mile away, as presented in Figure SO-41.

42. Please provide the distances of residences, including the mobile home park, from both the center of the project and the boundary of the proposed project site.

Response: The distances from the center of the project site to the following residential areas are given in the table below. The difference in distance from the project center and the project edge is within rounding error.

TABLE SO-42
Key to Features on Figure SO-41

ID #	Type	Distance (Miles)
1	R-1, Single-family Residential	0.9
2	R-3, Multi-family Residential	1.1
3	R-3, Multi-family Residential	1.7
4	R-1, Single-family Residential	1.4
5	Valley Transit Authority Bus Maintenance Facility	0.2
6	Mobile Home Park	0.6
7	Mobile Home Park	2.2
8	Alviso Residential Core	1.8
9	Don Edwards National Wildlife Refuge	1.5

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BACKGROUND

The data source provided on page 8.8-2 in Table 8.8-1 is unclear. Table 8.8-1 uses two different sources of data, from ABAG and DOF, and both sources were cited for year 2000 data.

DATA REQUEST

43. Please explain why the data sources were selected; was US Census data not available?

Response: United States Census data is only available in 10-year increment, DOF provides estimates for the years between the Census.

44. Please state which source is used for the projected data?

Response: The projected data was retrieved from the California Department of Finance.

45. What is the data source for the 2000 data?

Response: United States Census Bureau.

BACKGROUND

The data provided on page 8.8-2, Table 8.8-2 shows trends for two different increments (5 yr. and 10 yr.) but are presented to show growth rate trends. There is no source for the data provided in Table 8.8-2.

DATA REQUEST

46. Please explain your reasoning for presenting inconsistent increments.

Response: Data was available for 1995, but not for 1985. We included the 1995 data to provide 5-year data points for the most recent 15 years, i.e., 1990, 1995, and 2000. We include the 1980 data to provide a longer growth trend for comparison purposes.

47. Please provide a source for the data presented in Table 8.8-2.

Response: They are calculated from data in Table 8.8-1.

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BACKGROUND

On page 8.8-3, the discussion of minority populations uses different data sources and compares US Census Data with DOF Data

DATA REQUEST

48. Please explain why two different data sources were used and discuss any inconsistencies in the data from the different data sources.

Response: Data from two different sources were used to provide a sense of the more recent changes in ethnic distribution since Census data is only available in 10-year increments.

BACKGROUND

On page 8.8-4, Section 8.8.2.3, Economy and Employment, the AFC presents out of date information about the high-tech industry. Recent events over the past year in the local, national and global economy have dramatically changed in the high-tech industry and in regards to energy. The source is cited for 1995.

DATA REQUEST

49. Please reassess Section 8.8.2.3, Economy and Employment in light of current trends, particularly in the previous boom and recently depressed high-tech industry. Please present more current information, specifically within the years 1996 to 2001, and consider the changed economy in California, Santa Clara County and the City of San Jose and present the current outlook.

Response: Employment data from California EDD is only available for 2000. The most current County Snapshot document for Santa Clara county from the EDD website (www.calmis.ca.gov) is based on 1999 employment statistics. EDD provides a labor analysis summary for each county and, based on past trends, provides future expected trends in those labor markets. Their analysis is not yet available for such recent events.

BACKGROUND

On page 8.8-4, Section 8.8.2.3, Economy and Employment the AFC does not specify which category high-tech industry jobs fall under. Table 8.8-4 is referenced in the discussion about high-tech jobs.

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DATA REQUEST

50. Please state which category high-tech jobs are considered in Table 8.8-4 and specify jobs that attribute directly to the high-tech industry.

Response: Research on specific information pertaining to what EDD considers/classifies as "high-tech" industry yielded no specific information. Industries thought of as "high tech" are found in the manufacturing, communication and service sectors. Thus, there is no way to actually single out "high-tech" industries or "high-tech" jobs.

51. If possible, please update table 8.8-4 with current data from sources such as the US Census or Department of Finance or the sources currently used in Table 8.8-4.

Response: The 2000 data is the most current employment by industry data.

BACKGROUND

Table 8.8-4 Sources cited are from 1995 and 1999, however data is for year 2000. There is no indication that these figures are projected.

DATA REQUEST

52. Please explain how data for year 2000 is presented using data from 1995 and 1999.

Response: Citing of the ABAG source was an error. The data is from CEDD and the date on the CEDD source needs to be changed to 2001.

BACKGROUND

On pages 8.8-8 and 8.8-9, Section 8.8.2.5, the AFC only discusses current conditions and does not discuss thresholds or what the increases in need for public services may be as a result of the proposed project.

DATA REQUEST

53. Please provide a table that includes the current capacity and the threshold for public services. Specifically, please include the following information for 1995, 1999, 2000, and 2001 (if possible).

- a. Do the schools have the capacity to absorb potential student that may enroll during construction?

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Response: School district officials indicated that by law the school district is required to enroll children in the area so long as they have evidence to show that they are residing in the school district area. In addition, there has been a decline in enrollment in the past 3 years (from 14,654 in 1998/99 to 14,587 in 1999/2000 to 13,565 in 2000/2001). The preliminary enrollment estimates for the current academic calendar (2001/2002) indicates that this trend is continuing. Thus, based on historic levels, the school district should be able to absorb more than 1,000 students.

- b. Please confirm that, after the project is completed and during construction, police and emergency medical services meet response times, meet city and county standards, and would not require the purchase of any additional equipment or hire any additional personal.

Response: According to the police department the impact on emergency response times during construction and operation of the project is negligible. (Dalaison, 2001)

BACKGROUND

The AFC discusses socioeconomics in three geographic areas: Santa Clara County, the City of San Jose, and San Jose MSA. The AFC provides Figures 8.8-1 and 8.8-2. In order to properly assess any potential disproportionate affect on minority populations in compliance with Executive Order 12898, it is important to clearly define the boundaries considered in discussions throughout the Socioeconomic section.

DATA REQUEST

- 54. Please confirm that there is virtually no overlap in the location of minority and low-income population with the 6-mile radius surrounding the proposed project.

Response: There is no way to confirm overlap or lack of overlap simply because the level of detail for the ethnicity data and that for the income data are not the same. The Census reports ethnicity data at the smallest block level, but to protect the identity of low-income people, the Census groups the block data and only reports income data at the Block Group level, which is a larger area than the Census Block but smaller than the Census Tract.

- 55. Please provide a map and draw 1, 2 and 6-mile range from the boundary of the project site. The map should clearly illustrate the proposed project site and the Santa Clara County boundary, The City of San Jose Boundary and San Jose MSA.

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Response: Figures 8.8-1 and 8.8-2 have been revised as Figures 8.8-1R and 8.8-2R to show the data requested. Please note that Santa Clara County constitutes the San Jose MSA.

56. Specifically, does San Jose MSA completely encompass the 6-mile radius from the boundary of the proposed project site?

Response: No.

57. On Figures 8.8-1 and 8.8-2, please include 1, 2 and 6-mile range from the boundary of the project site.

Response: See Data Response #55, above.

BACKGROUND

On page 8.8-10, Section 8.8.3.2, the last bullet on the significance criteria "Disrupt or divide the physical arrangement of an established community", is not listed in the CEQA environmental checklist.

DATA REQUEST

58. Please explain your reasoning for including this in the significance criteria.

Response: Thank you for bringing that to our attention. It was an error that was a carryover from the Land Use section. Please disregard that criterion.

BACKGROUND

On page 8.8-11, Section 8.8.3.3.3, Housing Impacts, states that there are 10,000 - 12,000 hotel and motel rooms in Santa Clara County. However, this does not state whether there are 10,000 – 12,000 vacant rooms or 10,000 – 12,000 total number of rooms.

DATA REQUEST

59. Please provide a table showing the total number of hotel and motel rooms in Santa Clara County and the vacancy of hotel and motel rooms. Please also show vacancy rates at different times of the year. Also, please include the range of rates for the hotel and motel rooms and if the range of rates is different at different times of the year.

Response: Vacancy rates are not readily available and cannot be obtained without individually calling each hotel. However, of interest is a recent article in the Sacramento Bee ("Landlords' Grip Loosens," p. D1, October 28, 2001) states that the

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average apartment vacancy rate in the Bay Area has increased from 3.1% vacancy to 5.1% during the last three years, with the average rental rate being \$1,538/month.

60. Are any overnight recreational vehicle campgrounds in the vicinity of the project that allow overnight stay? If so, please provide vacancy and rates at different times of the year.

Response: Only three nearby trailer parks were identified. All of the trailer parks had zero vacancy rates (Trailer Tel, 2001; Garden City Trailer Park, 2001; Johnsonville Mobile and R.V. Park in Milpitas, 2001).

BACKGROUND

On page 8.8-16, Section 8.8.5, Environmental Justice, the AFC compares the 6-mile radius percent minority with that of the County average, but does not provide the same reasoning for people with low income. The justification presented also only discusses minorities and not persons with low income.

DATA REQUEST

61. Please include a comparison table that compares the minority population and low-income people in the City of San Jose, Santa Clara County and San Jose MSA.

Response: As mentioned earlier, Santa Clara County comprises the San Jose MSA.

TABLE SO-61

Comparison of Minority and Low-Income Population, Santa Clara County and City of San Jose

	1990 Minority	2000 Minority	1990 Low-Income	2000 Low-Income ^a
6-Mile Range	41%	60.6%	6.4%	NA
City of San Jose	37%	52.5% ^b	9.3%	NA
Santa Clara County (San Jose MSA)	30.9%	46.2%	7.5%	NA

^a 2000 low-income Census data is expected to be made available in April 2002.

^b The percentage of minority population given here is from the Census 2000 data whereas the percentage noted in the text (Section 8.8-5 Environmental Justice) is from the California Department of Finance (DOF, 2001) and was arrived at as a difference between the total population and the percentage of whites. Even though the 52.5% given in this table is different from the 64% noted in the text it is still within the two to three standard deviations required by the USEPA guidelines (see Appendix 8.8A: Environmental Justice).

NA = Not available

Source: 1990 and 2000 Census

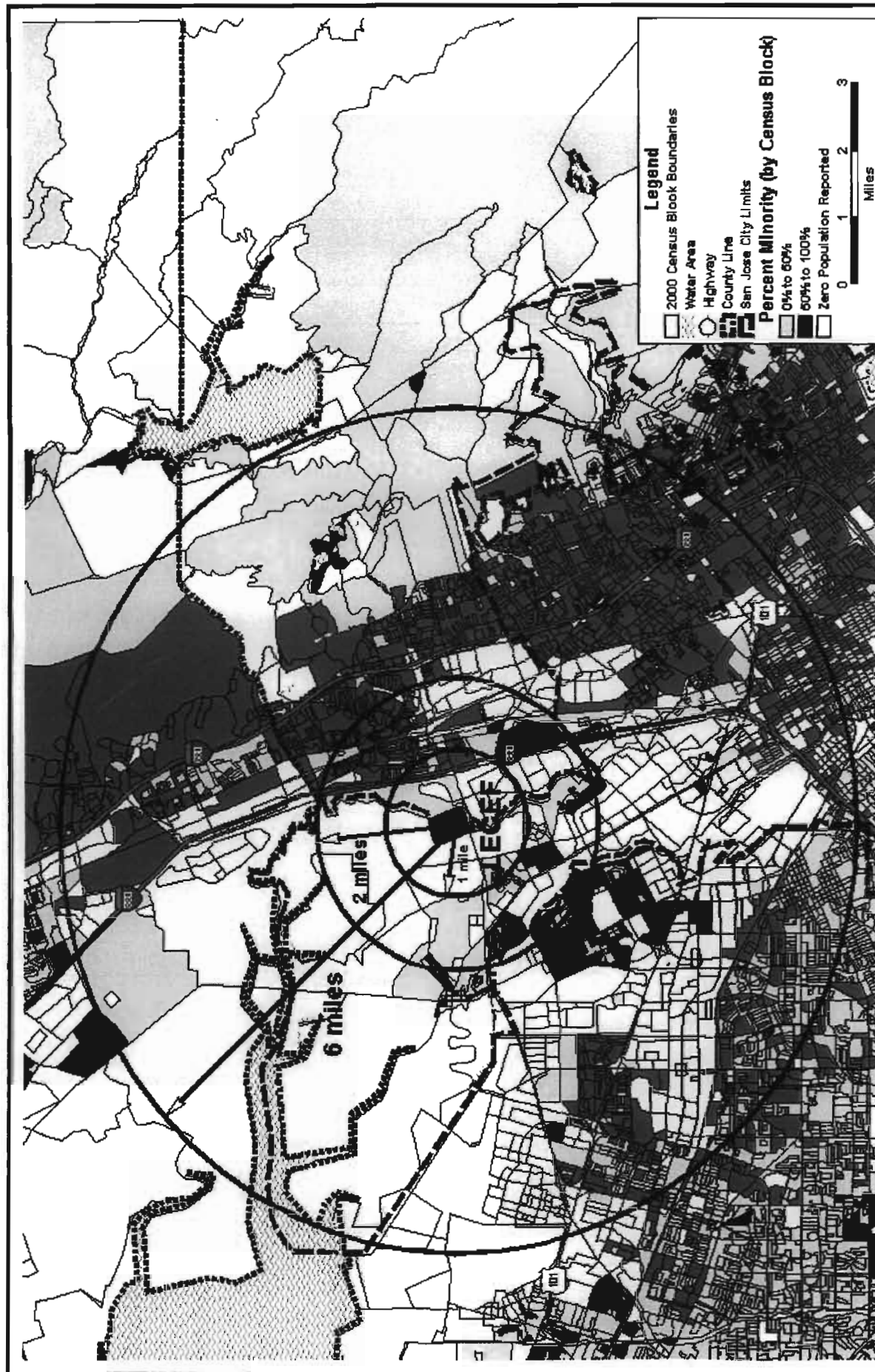


FIGURE 8.8-1R
PERCENT MINORITY BY CENSUS BLOCK
 APPLICATION FOR CERTIFICATION FOR
 LOS ESTEROS CRITICAL ENERGY FACILITY

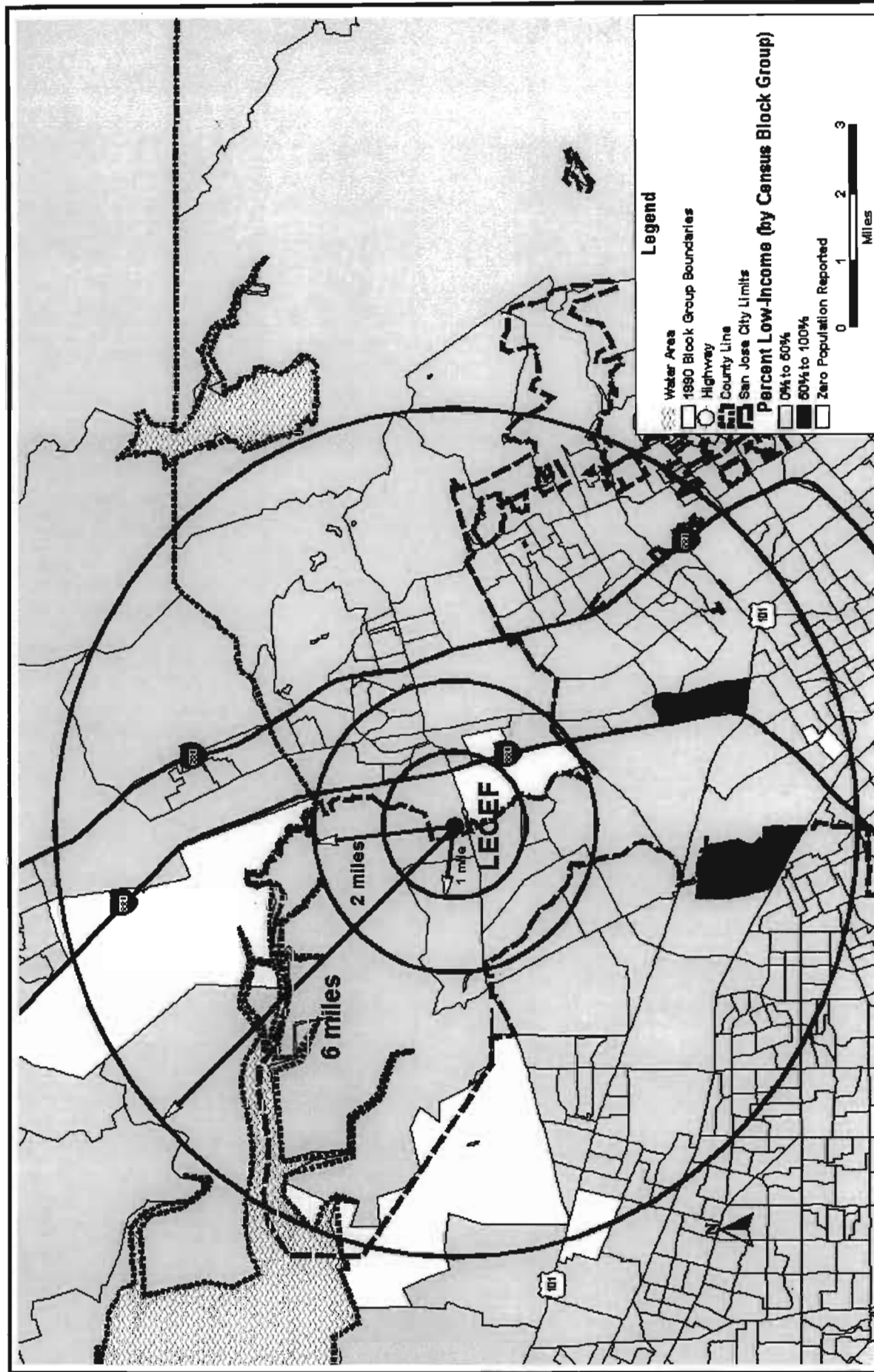


FIGURE 8.8-2R
PERCENT LOW INCOME BY CENSUS BLOCK GROUP
 APPLICATION FOR CERTIFICATION FOR
 LOS ESTEROS CRITICAL ENERGY FACILITY

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10.0 Traffic and Transportation

Technical Area: Traffic and Transportation

CEC Author: Matt Darrow

LECEF Author: Jeanne Acutanza

BACKGROUND

In Section 8.10.1.3 no data is provided to confirm/support the results in Table 8.10-1. This table reports the existing intersection levels of service for intersections in the vicinity of the project. It appears that the results were obtained from the listed source, which is the US Dataport PDZ DEIR, Table 6.

This section also calls out LOS for freeway segments in the vicinity of the project. Table 8.10-2 lists the segments, volumes, and LOS. No analysis methodology is spelled out for freeway segments.

DATA REQUEST

65. Please provide traffic volumes, turning movement volumes, and LOS calculations that support the data in Table 8.10-1.

Response: The traffic volumes were retrieved from the US DataPort DEIR. Attachment TT-65 contains a copy of the traffic impact analysis from the DEIR.

66. Please provide LOS analysis methodology for freeway segments along with calculations that support the data in Table 8.10-2.

Response: The LOS analysis methodology for freeway segments is described in the DEIR of the US DataPort and follows:

*(From the DataPort DEIR) As prescribed in the CMP technical guidelines, the level of service for freeway segments is estimated based on vehicle density. Density is calculated by the following formula: $D = V / (N * S)$. The vehicle density on a segment is correlated to level of service as shown in the table below. The CMP requires that mixed-flow lanes and auxiliary lanes be analyzed separately from HOV (carpool) lanes. The CMP specifies that a capacity of 2,200 vphpl be used for segments four lanes wide in both directions. The CMP defines an acceptable level of service for freeway segments as LOS E or better.*

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Freeway Level of Service Based on Density

Level of Service	Density (vehicles/mile/lane)
A	< 10.0
B	10.1 - 16.0
C	16.1 – 24.0
D	24.1 – 46.0
E	46.1 – 55.0
F	> 55

The LOS calculations that support the data in Table 8.10-2 are found in Attachment TT-65.

BACKGROUND

In Section 8.10.1.3 the text refers to Figures 8.10-2 and 8.10-3. Figure 8.10-2 shows the traffic analysis areas within the region while Figure 8.10-3 presents the existing daily and peak hour traffic volumes on the major roadways. These figures are not attached/included.

DATA REQUEST

67. Please provide these figures and clarify which study intersections fall under which jurisdiction.

Response: The reference to Figure 8.10-2 should be deleted. Figure 8.10-2 is the Study Area Roadway Improvements as presented in the Data Adequacy Response Package filed on September 14, 2001. Figure 8.10-3 is the Study Area Roadway Network and Existing Traffic Volumes which has been provided and includes traffic volumes on the major roadways adjacent to the project site as presented in the Data Adequacy Response Package filed on September 14, 2001. Table 8.10-1 identifies each intersection under the appropriate jurisdiction consisting of City of San Jose, City of Santa Clara, and City of Milpitas. Table 8.10-2 identifies the freeway segments that were analyzed.

68. Please clarify in the report which LOS analysis methodology (and year)/significance criteria apply to which of the studied intersections and freeway segments.

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Response: The paragraph preceding Table 8.10-1 describes the LOS methodology and standards for each jurisdiction. Table 8.10-1 gives each intersection analyzed including count date and LOS under the appropriate jurisdiction.

BACKGROUND

According to Section 8.10.2.3, construction phase trip generation numbers are based on the Santa Clara/San Jose average automobile occupancy (AVO) during the commute hour. This average is 1.3 persons per vehicle. This value may not be suitable for construction workers commuting to the jobsite.

DATA REQUEST

69. Please provide justification that the 1.3 AVO rate should also apply to construction workers commuting to the jobsite.

Response: The 1.3 AVO rate is based on 1990 census data in Santa Clara County and San Jose. Since the census data was for San Jose, the traffic levels will impact construction workers as well as other types of workers although the AVO may even be higher. The AVO of 1.3 may be conservative as US Census data indicates that the work trip AVO to industrial areas is higher than travel to urban or suburban Centers where transit shares are higher.

70. Please describe any proposed methods of encouraging carpooling activities among construction workers at the site.

Response: Employer commuter options including carpooling, public transit, and alternative transportation modes should be encouraged. Alternative modes include bicycle and pedestrian modes of travel. Carpooling programs account for less than 5% of the actual carpooling that is measured in surveys in that it is often done as an efficiency or social measure.

BACKGROUND

Section 8.10.2.3 fails to mention the consideration of non-hazardous truck delivery impacts during the construction phase.

DATA REQUEST

71. Please provide information regarding the analysis of construction phase truck deliveries.

Response: Construction of the facility will require the use and installation of heavy equipment and associated systems. Construction materials will be delivered frequently to the site by trucks. The number of trucks used during construction is

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expected to be low. An estimated 10 trucks will be used on a daily basis during construction. Most major pieces of construction equipment will remain on the project site right-of-way during construction.

The vehicles used to transport heavy equipment and construction materials will require transportation permits when they exceed the size, weight, width, or length thresholds set forth in Section 35780 of the California Vehicle Code, Sections 117 and 660-711 of the California Streets and Highways Code, and Sections 1411.1 to 1411.6 of the California Code of Regulations.

BACKGROUND

Section 8.10.2.3 contains Table 8.10-5, which is called Estimated Daily and PM Peak Hour Construction Volumes and LOS for the Access Roads. This table summarizes the results of the construction phase trip generation impacts on various roadways and intersection in the vicinity of the project. The intersections that were analyzed for significant impacts were Zanker Rd./SR 237 (north and south), Zanker Rd./Tasman Dr., and Zanker Rd./Montague Expressway. State Route 237 was analyzed between North First Street and I-880. In order to analyze the impacts to these intersections and highway segments, it was first necessary to decide how the trips that were generated during construction were assigned and distributed to the roadway network. These assumptions include determining the additional traffic volumes at each of the studied locations listed above. This data is not clearly defined.

DATA REQUEST

72. Please provide information on how the generated construction trips were assigned and distributed to the local intersections and roadways.

Response: The construction trips were assigned and distributed to the local intersections and roadways using trip distribution and assignment assumptions based on typical travel patterns in the area, socio-economic data and existing turn movement counts. The traffic volumes are found in Appendix C of the US DataPort DEIR (Attachment TT-65).

73. Please provide construction traffic volumes, turning movement volumes, and LOS calculations that support the results in Table 8.10-5.

Response: The project construction traffic turn movement volumes with the distribution and assignment and the LOS calculations that support the data in Table 8.10-5 are found in Appendix D of the US DataPort DEIR (Attachment TT-65).

BACKGROUND

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Section 8.10.2.3 considers impacts that occur to the roadway network during the construction phase. This section does not present information that suggests that any collision analysis was done for the study intersections.

DATA REQUEST

74. Please provide collision analysis data.

Response: Accident information has been requested from Santa Clara County and the City of San Jose. It will be provided soon after it is received.

BACKGROUND

In Section 8.10.2.2 hazardous material delivery is discussed. The report states that delivery routes will occur on prearranged routes and will comply with all laws, ordinances, regulations, and standards. No specific route is discussed.

DATA REQUEST

75. Please provide a proposed hazardous material delivery route and describe the land usage along the route.

Response: The hazardous material routes will most likely consist of Zanker Road, State Route 237, and State Route 880.

BACKGROUND

In Section 8.10.1.3 there is a discussion on the Santa Clara County CMP LOS threshold minimums but no significance criteria is mentioned in this section. Section 8.10.2.3 summarizes certain intersections and freeway segments and concludes that construction phase trips will produce no significant impacts to the roadway network. No significance criteria were checked before concluding that there were no impacts.

DATA REQUEST

76. Please provide/clarify the significance criteria for the relevant local jurisdictions (Santa Clara County, San Jose, etc.). Check the affected roadway network with these significance criteria. For example, if a segment is already at LOS F what criteria is used to define a significant impact.

Response: The level of service criteria is presented in Section 8.10.1.3 of the AFC in the two paragraphs before Table 8.10-1. The affected roadway network does not fall below LOS D with the exception of the two intersections that were at LOS E and F before adding the project to the roadway network. The intersections meet the LOS standards with the addition of project traffic with the exception of the two

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intersections that are already LOS E and F. Page 19 of the Congestion Management Program Handbook cites, "What are permissible level of service standards?"

California Government Code 65089(b)(1)(B) (see Appendix A, page A-3) requires that level of service standards must be established no worse than:

- (1) Level of service E; or
- (2) Level of service F, if that is the current level of service."

Section 8.10.1.3 also indicates that some of the intersections are covered by the North San Jose Deficiency Plan and the Congestion Management Program. Other significance criteria for these jurisdictions or for CalTrans was not available.

77. Clearly define which intersections and freeway segments fall under which local jurisdiction.

Response: Table 8.10-1 identifies each intersection under the appropriate jurisdiction consisting of City of San Jose, City of Santa Clara, and City of Milpitas. Table 8.10-2 identifies the freeway segments that were analyzed. This table can be used as a reference for the jurisdictions of the intersections and freeway segments.

BACKGROUND

In Section 8.10.2.3 Table 8.10-5 lists the PM Peak LOS without the project at the Zanker/Montague intersection as F. According to Table 8.10-1 this same LOS is E.

DATA REQUEST

78. Please verify which LOS is correct.

Response: The level of service in Table 8.10-1 is correct.

BACKGROUND

In Section 8.10.1.2 there is a discussion about the percentage of trucks on the California State Highway system. This discussion presents truck percentages on SR 237, US 101, and I-880. Specifically, the truck percentage on US 101 at SR 85 is listed as 5.6% whereas the Caltrans website lists this as 11.7 percent.

DATA REQUEST

79. Please provide the correct truck percentage on US 101 at SR 85.

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Response: It appears that there are two places where US 101 intersects with SR 95. The truck percentage on US 101 at SR 85 (San Jose, Junction Route 85, Milepost 26.69) is 11.7 percent and should have been the truck percentage provided in Section 8.10.1.2. The truck percentage on US 101 at SR 85 (Mountain View, Junction Route 85 South, Milepost 48.103) is 5.6 percent.

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Attachment TT-65 US DataPort Draft Environmental Impact Report Traffic Analysis and Appendices

USDataPort - San Jose

Administrative Draft
Environmental Impact Report
Transportation Impact Analysis

Prepared for:
USDataport, Inc.

Prepared by:
Hexagon Transportation Consultants, Inc.

June 9, 2000

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Executive Summary

This report presents the results of the traffic impact analysis conducted for the USDataPort development in Alviso, California. The project site is bounded by Zanker Road to the west, SR 237 to the south, and Coyote Creek to the east. The site consists of the Lynham and Cilker properties as well as 40 acres of City of San Jose land. The project as proposed would contain 2.2 million square feet (m.s.f.) of co-location/telecommunication/data center space. Access to the site would be provided exclusively via a project access road from Zanker Road.

The potential impacts of the project were evaluated in accordance with the standards set forth by the Cities of San Jose, Milpitas, Santa Clara, and the Congestion Management Program (CMP) of Santa Clara County. The study included the analysis of AM and PM peak-hour traffic conditions for 27 signalized and one unsignalized intersections in the City of San Jose, two signalized intersections in the City of Santa Clara, 11 existing and one future signalized intersections in the City of Milpitas, and 10 freeway segments.

Project Trip Generation

The magnitude of traffic generated by the proposed project was estimated by applying trip generation rates developed through surveys of existing comparable developments. A total of ten facilities were surveyed that consisted of two data-centers, five co-location, and three telecommunication facilities. The overall peak hour average rates for the three types of facilities surveyed was determined to be 0.23 and 0.25 trips per 1,000 s.f. of building area during the AM and PM peak hours, respectively.

Using the surveyed rates, it is estimated that the proposed project would generate 506 trips during the AM peak hour and 550 trips during the PM peak hour. Using the surveyed inbound/outbound splits, the project would produce 380 inbound trips and 127 outbound trips during the AM peak hour and 132 inbound and 418 outbound trips during the PM peak hour. The trip distribution pattern for the proposed project was estimated based on existing travel patterns in the area and the locations of complementary land uses.

Project Impacts

City of San Jose Intersection Impacts

Golden Triangle Intersections

All study intersections located in the City of San Jose, with the exception of freeway ramps and expressways, were evaluated using the Golden Triangle method for intersection level of service analysis. According to the North San Jose Development Policy, a project is defined as causing a significant impact if the weighted average level of service is LOS E or F. The weighted average level of service is calculated for all Golden Triangle intersections to which the project would add greater than one percent to the critical volume. An intersection's critical volume is the sum of the turning movement volumes that dictate the operations of the intersection. Under project conditions, the weighted average level of service at the critical intersections was found to be LOS B during the AM peak hour ($V/C = 0.648$) and LOS A during the PM peak hour ($V/C = 0.595$). Thus, the results of the Golden Triangle intersection analysis indicate that the project development would not have a significant impact on the key study intersections.

North San Jose Deficiency Plan Intersections

All CMP designated study intersections located in the North San Jose are included in the 22 intersection North San Jose Deficiency Plan. All new developments in North San Jose are required to analyze the average delay for these 22 intersections and propose mitigation measures when necessary in order to maintain CMP conformance standards, in addition to participating in the NSJDP. One of the policies of the NSJDP requires the average delay for the 22 CMP intersections to be maintained at 88 seconds or less as calculated with TRAFFIX. The average delay is estimated to be 49 seconds under project conditions. Therefore, the project development will not have a significant impact according to NSJDP policy.

City of Santa Clara Intersection Impacts

Regional CMP Intersections

The results of the intersection level of service analysis using TRAFFIX for CMP intersections located in the City of Santa Clara show that neither of the CMP study intersections would be impacted by the project according to CMP level of service standards for signalized intersections.

City of Milpitas Intersection Impacts

Local City of Milpitas Intersections

The results of the intersection level of service analysis using TRAFFIX for local intersections in the City of Milpitas show that two of the study intersections would be impacted by the project according to City of Milpitas level of service standards for signalized intersections:

Abott Avenue and Calaveras Boulevard
McCarthy Boulevard and SR 237 (N)

Regional CMP Intersections

The results of the intersection level of service analysis using TRAFFIX for CMP intersections located in the City of Milpitas show that neither of the CMP study intersections would be impacted by the project according to CMP level of service standards for signalized intersections:

Intersection Operational Impacts

The intersection operations analysis, based on the TRAFFIX level of service methodology, indicates that under project conditions, the intersection of Zanker Road and Trimble Road would have inadequate storage capacity to accommodate estimated maximum vehicle queues. The intersection of Zanker Road and Tasman Drive that is planned to be fully reconstructed, will need a minimum of two 275' southbound left-turn pockets to accommodate projected vehicle queues. The intersection of the proposed project access road with Zanker Road will need to be constructed with a minimum of two 150' westbound left-turn pockets.

Unsignalized Intersection Impacts

The results of the peak-hour volume signal warrant checks show that the unsignalized study intersection of Zanker Road and Baypointe Drive and the intersection of the project access road with Zanker Road would warrant installation of a traffic signal under project conditions.

Freeway Impacts

The results of the CMP freeway level of service analysis show that three of the study freeway segments analyzed would be impacted under project conditions according to county CMP level of service standards for freeways. Significant project impacts would occur on the following freeway segments:

SR 237, Zanker to I-880, (eastbound PM & westbound AM)
I-880, Tasman to Montague, (southbound PM)
I-880, south of Montague, (northbound AM & southbound PM)

Transit Service Impacts

The evaluation of project effects on transit service showed that due to the anticipated minimal number of employees on site and visitors that would utilize private vehicles to transport equipment, demand for transit service under project conditions would not justify the enhancement of existing service in the immediate vicinity of the site.

Operational Safety Impacts

The existing width of Zanker Road just north of the SR 237 westbound off-ramp is inadequate to serve projected traffic volumes and maintain safe vehicle access to and from the project site. The addition of

conflicting vehicle movements, attributable to the project, to the existing large volumes and speeds of truck traffic along Zanker Road would necessitate the widening of Zanker Road to four lanes. Also, signal warrant checks indicate the need for signalization of the intersection of the project access road with Zanker Road.

Mitigation Measures

Measures have been identified that would satisfactorily mitigate the project impacts described above, to the extent feasible. Freeway impacts could not be mitigated except by widening the freeways. Due to the substantial cost, this measure is not considered feasible for a single development project. Presented below are the identified mitigation measures and the impacts they would mitigate.

City of Milpitas Intersections

Abott Avenue and Calaveras Boulevard. Necessary improvements to mitigate intersection impacts at this intersection would include the addition of a fourth westbound through lane or addition of a free-right turn lane on the north approach. These improvements are infeasible due to the operational problems, such as weaving, that would be caused. There are no other feasible improvements that would mitigate the project impact.

McCarthy Boulevard and SR 237 (N). This intersection does not currently exist, but is planned to be constructed as part of the I-880/SR 237 Interchange improvement project. Necessary improvements to mitigate intersection impacts at this intersection would include the addition of a third westbound through lane. This improvement is infeasible since the west leg of the intersection, SR 237 westbound on-ramp, is being constructed to only accommodate two lanes. There are no other feasible improvements that would mitigate the project impact.

Operational Requirements

Zanker Road and Trimble Road. Extend the existing left-turn pocket on the west approach 125 feet. The extension of the eastbound left-turn pocket is necessitated under background conditions. Since the project would account for a portion of the added traffic volumes to the intersection, it is recommended that the project contribute a fair-share towards the cost of the necessary improvements.

Zanker Road and Project Access Road. Install a traffic signal. The installation of a traffic signal is warranted during the PM peak hour under project conditions. With the signal installation, the intersection should be constructed with a minimum of two 150' westbound left-turn pockets.

Zanker Road and Baypointe Drive. Install a traffic signal. The installation of a traffic signal is warranted under existing, background, and project conditions. Since the project would account for a portion of the added traffic volumes to the intersection, it is recommended that the project contribute a fair share towards the cost of the installation of the signal.

Operational Safety

Zanker Road at Project Access Road. Widen Zanker Road to four lanes from the SR 237 westbound off-ramp to the proposed project access road and signalize the intersection of the project access road with Zanker Road. The existing width of Zanker Road just north of the SR 237 westbound off-ramp is inadequate to serve projected traffic volumes and maintain safe vehicle access to and from the project site. Signal warrant checks indicate the need for signalization of the intersection of the project access road with Zanker Road.

Table ES-1
Intersection Levels of Service Summary

Intersection Levels of Service Summary														
	Peak Hour	Count Date	Existing		Background		Project			Future				
			Ave. Delay	LOS	Ave. Delay	LOS	Ave. Delay	Incr. In Crit. Delay	Incr. In Crit. V/C	Ave. Delay	LOS			
City of San Jose Intersections														
Zanker Rd./SR 237 (N)*	AM	3/28/00	7	B	9	B	10	B	2	0.06	10	B		
	PM	3/28/00	10	B	10	B	10	B	0	0.20	10	B		
Zanker Rd./SR 237 (S)*	AM	3/28/00	14	B	14	B	18	C	0	0.01	19	C		
	PM	3/28/00	9	B	13	B	15	B	2	0.17	15	B		
Zanker Rd./Holger Wy	AM	3/14/00	11	B	17	C	17	C	0	0.01	17	C		
	PM	3/15/00	12	B	20	C	21	C	0	0.01	21	C		
Zanker Rd./Tasman Dr./a/	AM	3/14/00	25	C	24	C	25	D	2	0.03	26	D		
	PM	3/15/00	23	C	25	D	25	C	0	0.01	25	D		
Zanker Rd./River Oaks Pkwy./a/	AM	3/16/00	16	C	17	C	17	C	0	0.02	17	C		
	PM	3/15/00	15	B	15	B	15	B	0	0.02	15	B		
Zanker Rd./Innovation Dr.	AM	3/08/00	15	C	12	B	12	B	0	0.02	12	B		
	PM	3/02/00	19	C	15	C	15	C	0	0.02	15	C		
Zanker Rd./Plumeria Dr.	AM	3/21/00	25	C	24	C	23	C	0	0.02	24	C		
	PM	3/21/00	29	D	29	D	28	D	0	0.02	29	D		
Zanker Rd./Trimble Rd.*/a/	AM	4/12/00	27	D	33	D	34	D	2	0.02	35	D		
	PM	4/11/00	41	E	36	D	38	D	2	0.01	43	E		
Zanker Rd./Bonaventura Dr.	AM	3/30/00	6	B	7	B	7	B	0	0.02	7	B		
	PM	3/30/00	8	B	14	B	14	B	0	0.02	14	B		
Zanker Rd./Charcot Av./a/	AM	3/14/00	20	C	21	C	21	C	0	0.01	21	C		
	PM	3/14/00	27	D	23	C	23	C	0	0.01	24	C		
Zanker Rd./Brokaw Rd.*/a/	AM	2/17/00	35	D	42	E	43	E	2	0.01	46	E		
	PM	2/17/00	41	E	41	E	41	E	0	0.00	44	E		
Bering Dr./Brokaw Rd.	AM	3/14/00	15	C	14	B	14	B	0	0.00	14	B		
	PM	3/14/00	19	C	18	C	18	C	0	0.00	18	C		
US 101/Brokaw Rd.*	AM	5/19/00	22	C	29	D	29	D	0	0.00	29	D		
	PM	5/19/00	24	C	26	D	26	D	0	0.00	26	D		
Clisco Wy/Tasman Dr.	AM	3/16/00	12	B	12	B	12	B	0	0.00	12	B		
	PM	3/15/00	15	C	15	B	15	B	0	0.00	15	B		
Morbridge Dr./Tasman Dr.	AM	3/30/00	12	B	12	B	12	B	0	0.00	13	B		
	PM	3/30/00	12	B	12	B	12	B	0	0.00	12	B		
Baypointe Pkwy./Tasman Dr.	AM	3/29/00	15	B	14	B	14	B	0	0.00	14	B		
	PM	3/29/00	8	B	8	B	8	B	0	0.00	8	B		
North First St./Tasman Dr./a/	AM	3/16/00	31	D	32	D	32	D	0	0.00	32	D		
	PM	3/16/00	36	D	38	D	39	D	1	0.01	41	E		

Table ES-1 (Cont'd)
Intersection Levels of Service Summary

	Peak Hour	Existing			Background			Project				Future		
		Ave. Delay	LOS		Ave. Delay	LOS		Ave. Delay	LOS	Incr. In Crit. Delay	Incr. V/C	Ave. Delay	LOS	
North First St./Rio Robles/a/	AM PM	13 20	B C		23 21	C C		26 21	D C	3 1	0.00 0.01	27 22	D C	
North First St./River Oaks Pkwy./a/	AM PM	24 21	C C		25 23	C C		25 23	C C	0 0	0.00 0.00	27 24	D C	
North First St./Trimble Rd.*	AM PM	34 38	D D		76 77	F F		76 78	F F	1 2	0.00 0.00	85 90	F F	
North First St./Charcot Av./a/	AM PM	34 37	D D		41 36	E D		41 37	E D	1 1	0.00 0.01	44 38	E D	
North First St./Brokaw Rd.*	AM PM	35 34	D D		64 78	F F		64 80	F F	1 3	0.00 0.01	73 91	F F	
De La Cruz Blvd./Trimble Rd.*/a/	AM PM	25 38	D D		24 37	C D		24 37	C D	0 0	0.00 0.00	24 39	C D	
Orchard Pkwy./Trimble Rd./a/	AM PM	15 21	C C		20 31	C D		20 31	C D	0 0	0.00 0.00	20 31	C D	
North First St./Montague Expwy.*/a/	AM PM	48 41	E E		269 88	F F		269 88	F F	1 1	0.00 0.00	418 106	F F	
Zanker Rd./Montague Expwy.*	AM PM	38 42	D E		60 53	F E		68 56	F E	13 3	0.02 0.01	78 58	F E	
O'Toole Av-McCarthy Blvd./Montague Expwy.*	AM PM	68 200	F F		131 194	F F		131 195	F F	0 1	0.00 0.00	318 332	F F	
City of Santa Clara Intersections														
De La Cruz Blvd./Montague Expwy.*/a/	AM PM	41 24	E C		230 48	F E		232 48	F E	2 1	0.00 0.00	283 107	F F	
Mission College Blvd./Montague Expwy.*	AM PM	75 27	F D		439 74	F F		439 75	F F	-1 1	0.00 0.00	480 85	F F	
City of Milpitas Intersections														
Abbot Av./Calaveras Blvd.	AM PM	57 25	E D		83 25	F D		90 26	F D	10 0	0.02 0.01	111 27	F D	
Serra Wy./Calaveras Blvd.	AM PM	11 18	B C		12 18	B C		12 18	B C	0 0	0.02 0.02	12 19	B C	
Abel St./Calaveras Blvd.*	AM PM	33 39	D D		49 54	E E		52 57	E E	5 2	0.02 0.01	60 69	E F	

Table ES-1 (Cont'd)
Intersection Levels of Service Summary

	Peak Hour	Existing		Background		Project			Future	
		Ave. Delay	LOS	Ave. Delay	LOS	Ave. Delay	Incr. In Crit. Delay	Incr. In Crit. V/C	Ave. Delay	Future LOS
South Milpitas Blvd./Calaveras Blvd.*	AM PM	34 44	D E	35 54	D E	35 56	1 4	0.02 0.01	37 65	D F
Hillview Dr./Calaveras Blvd.	AM PM	25 26	C D	26 27	D D	26 27	0 0	0.01 0.01	26 28	D D
McCarthy Blvd./Tasman Dr.	AM PM	19 29	C D	163 30	F D	163 30	1 0	0.00 0.00	175 31	F D
Alder Dr./Tasman Dr.	AM PM	11 40	B D	14 155	B F	14 156	0 1	0.00 0.00	14 180	B F
SB I-880 off ramp/Tasman Dr./a/	AM PM	20 21	C C	43 65	E F	44 65	1 0	0.00 0.00	52 75	E F
NB I-880 off ramp/Great Mall Pkwy./a/	AM PM	25 43	C E	111 84	F F	112 84	1 1	0.00 0.00	126 97	F F
Abel St./Great Mall Pkwy.	AM PM	29 21	D C	110 22	F C	111 22	1 0	0.00 0.00	132 23	F C
McCarthy Blvd./SR 237 (N)/a/	AM PM	N/A N/A	N/A N/A	28 20	D C	42 20	18 0	0.04 0.01	42 20	E C
McCarthy Blvd./SR 237 (S)/a/	AM PM	17 11	C B	17 18	C C	17 20	0 1	0.02 0.05	17 20	C C

/a/ Includes planned improvements under background and project conditions.

* Denotes CMP intersection.

Table ES-2
Golden Triangle Weighted Average

Intersection	Background Critical Volume	Crit. Vol. % Increase	Project Critical Volume	Project Conditions V/C	Project Conditions VxV/C
AM Peak Hour					
Zanker Rd. and Holger Wy.	2,113	1.56%	2,146	0.563	1,208
Zanker Rd. and Tasman Dr./a/	2,281	4.30%	2,379	0.854	2,032
Zanker Rd. and River Oaks Pkwy./a/	1,477	4.54%	1,544	0.580	896
Zanker Rd. and Innovation Dr.	1,402	4.78%	1,469	0.464	682
Zanker Rd. and Plumeria Dr.	1,206	4.81%	1,264	0.511	646
Zanker Rd. and Trimble Rd.*a/	2,990	1.94%	3,048	0.880	2,682
Zanker Rd. and Bonaventura Dr.	997	5.82%	1,055	0.405	427
Zanker Rd. and Charcot Ave./a/	1,535	1.30%	1,555	0.516	802
Zanker Rd. and Brokaw Rd.*a/	2,087	0.96%	2,107	0.968	2,040
Bering Dr. and Brokaw Rd.	1,655	0.24%	1,659	0.456	757
Cisco Wy and Tasman Dr.	1,830	0.60%	1,841	0.453	834
Morbridge Dr. and Tasman Dr.	1,818	0.61%	1,829	0.641	1,172
Baypointe Pkwy and Tasman Dr.	1,038	0.58%	1,044	0.545	569
North First St. and Tasman Dr./a/	2,792	0.00%	2,792	0.822	2,295
North First St. and Rio Robles/a/	2,468	0.61%	2,483	0.818	2,031
North First St. and River Oaks Pkwy./a/	2,633	0.00%	2,633	0.852	2,243
North First St. and Trimble Rd.*	3,674	0.14%	3,679	1.101	4,051
North First St. and Charcot Ave./a/	2,871	0.38%	2,882	0.949	2,735
North First St. and Brokaw Rd.*	2,855	0.14%	2,859	1.114	3,185
De La Cruz Blvd and Trimble Rd.*a/	3,340	0.45%	3,355	0.789	2,647
Orchard Pkwy. and Trimble Rd./a/	1,904	0.26%	1,909	0.601	1,147
		Total	14,460		
		Weighted Average	0.648	LOS B	9,375
PM Peak Hour					
Zanker Rd. and Holger Wy.	1,739	1.90%	1,772	0.580	1,028
Zanker Rd. and Tasman Dr./a/	2,599	1.39%	2,635	0.792	2,087
Zanker Rd. and River Oaks Pkwy./a/	1,330	5.56%	1,404	0.474	665
Zanker Rd. and Innovation Dr.	1,360	5.44%	1,434	0.476	683
Zanker Rd. and Plumeria Dr.	1,426	4.49%	1,490	0.603	898
Zanker Rd. and Trimble Rd.*a/	4,424	0.97%	4,467	0.945	4,221
Zanker Rd. and Bonaventura Dr.	1,295	4.94%	1,359	0.472	641
Zanker Rd. and Charcot Ave./a/	2,314	0.99%	2,337	0.795	1,858
Zanker Rd. and Brokaw Rd.*a/	2,616	0.19%	2,621	0.908	2,380
Bering Dr. and Brokaw Rd.	1,437	0.90%	1,450	0.403	584
Cisco Wy and Tasman Dr.	1,694	0.77%	1,707	0.548	935
Morbridge Dr. and Tasman Dr.	1,614	0.81%	1,627	0.467	760
Baypointe Pkwy and Tasman Dr.	1,648	0.36%	1,654	0.595	984
North First St. and Tasman Dr./a/	3,134	0.54%	3,151	0.929	2,927
North First St. and Rio Robles/a/	2,569	0.66%	2,586	0.862	2,229
North First St. and River Oaks Pkwy./a/	2,087	0.00%	2,087	0.756	1,578
North First St. and Trimble Rd.*	3,605	0.47%	3,622	1.118	4,049
North First St. and Charcot Ave./a/	2,756	0.91%	2,781	0.863	2,400
North First St. and Brokaw Rd.*	3,796	0.45%	3,813	1.157	4,412
De La Cruz Blvd and Trimble Rd.*a/	3,171	0.54%	3,188	0.901	2,872
Orchard Pkwy. and Trimble Rd./a/	2,110	0.24%	2,115	0.718	1,519
		Total	10,094		
		Weighted Average	0.595	LOS A	6,003

Notes:

* Denotes CMP designated intersection

/a/ Includes planned improvements under background and project conditions.

1. Intersections included in average are indicated in bold.

Table ES-3

North San Jose Deficiency Plan Intersection Levels of Service (PM Peak Hour)

Intersection	Background		Project	
	Average Delay/c/	LOS	Average Delay/c/	LOS
SR 237/North First Street (N)/b/	80	F	80	F
SR 237/North First Street (S)/b/	38	D	39	D
North First Street/Trimble Road	77	F	78	F
North First Street/Brokaw Road	78	F	80	F
I-880/North First Street (N)	10	B	10	B
I-880/North First Street (S)	14	B	14	B
SR 237/Zanker Road (N)	10	B	10	B
SR 237/Zanker Road (S)	13	B	15	B
Zanker Road/Trimble Road/b/	36	D	38	D
Zanker Road/Brokaw Road/b/	41	E	41	E
Montague Expressway/North First Street/b/	88	F	88	F
Montague Expressway/Zanker Road /b/	53	E	56	E
Montague Expressway/Trimble Road/b/	39	D	38	D
Montague Expressway/McCarthy Boulevard	194	F	195	F
Montague Expressway/Old Oakland Road	53	E	53	E
Montague Expressway/Trade Zone Boulevard	71	F	71	F
Trimble Road/De La Cruz Boulevard /b/	37	D	37	D
U.S. 101/Brokaw Road	26	D	26	D
I-880/Brokaw Road (W) /b/	22	C	22	C
I-880/Broakw Road (E)	14	B	14	B
Brokaw Road/Old Oakland Road	33	D	33	D
Murphy Avenue/Lundy Avenue	33	D	33	D
Average	48	E	49	E

/a/ Delay capped at 150 % of signal cycle length (per Deficiency Plan for NSJ)

/b/ With planned improvements included under background and project scenarios.

/c/ Whole intersection wighted average stopped delay expressed in seconds per vehicle.

**Table ES-4
Freeway Segment Levels of Service - Project Conditions**

Existing Plus Project Trips										Project Trips								
Freeway	Segment	Direction	Peak Hour	Mixed-Flow Lanes					HOV Lane									
				Ave. Speed/s	# of Lanes	Volume/s	Density	LOS	Ave. Speed/s	# of Lanes	Volume/s	Density	LOS					
SR 237	Mathilda to Lawrence	EB	AM	60	2	3,240	27.0	D	65	1	894	13.8	B	64	50	1.1%	14	0.8%
			PM	65	2	1,978	15.2	B	65	1	414	6.4	A	22	18	0.4%	4	0.2%
SR 237	Lawrence to Great America	EB	AM	60	2	3,561	28.7	D	65	1	153	2.3	A	64	61	1.4%	3	0.1%
			PM	60	2	3,190	26.6	D	65	1	362	5.6	A	22	20	0.4%	2	0.1%
SR 237	Great America to North First	EB	AM	35	2	3,628	51.8	E	65	1	388	6.1	A	64	58	1.3%	6	0.4%
			PM	60	2	2,536	21.1	C	65	1	916	14.1	B	22	16	0.4%	6	0.3%
SR 237	North First to Zanker	EB	AM	60	2	2,710	22.6	C	65	1	204	3.1	A	64	60	1.4%	4	0.2%
			PM	20	2	3,215	80.4	F	60	1	1,427	23.8	C	22	15	0.3%	7	0.4%
SR 237	Zanker to I-880	EB	AM	60	3	5,618	31.2	D	65	1	334	5.1	A	72	68	1.0%	4	0.2%
			PM	10	3	5,101	170.0	F	20	1	1,707	85.4	F	228	171	2.5%	57	3.2%
I-880	south of Montague	NB	AM	25	2	2,892	57.8	F	N/A	N/A	0	N/A	N/A	62	62	1.4%	0	N/A
			PM	15	2	3,072	102.4	F	N/A	N/A	0	N/A	N/A	22	22	0.5%	0	N/A
I-880	Montague to Tasman	NB	AM	65	3	3,516	18.0	C	N/A	N/A	0	N/A	N/A	66	66	1.0%	0	N/A
			PM	15	3	4,053	90.1	F	N/A	N/A	0	N/A	N/A	23	23	0.3%	0	N/A
I-880	Tasman to SR 237	NB	AM	65	3	2,416	12.4	B	N/A	N/A	0	N/A	N/A	66	68	1.0%	0	N/A
			PM	15	3	4,103	91.2	F	N/A	N/A	0	N/A	N/A	23	23	0.3%	0	N/A
I-880	SR 237 to Dixon Landing	NB	AM	65	3	3,611	18.5	C	N/A	N/A	0	N/A	N/A	21	21	0.3%	0	N/A
			PM	10	3	4,475	149.2	F	N/A	N/A	0	N/A	N/A	65	65	0.9%	0	N/A
US 101	south of Trimble	NB	AM	25	3	4,905	85.4	F	60	1	1,562	26.0	D	7	5	0.1%	2	0.1%
			PM	60	3	6,233	34.6	D	65	1	340	5.2	A	3	3	0.0%	0	0.0%
US 101	south of Trimble	SB	AM	65	3	4,213	21.6	C	65	1	510	7.8	A	3	3	0.0%	0	0.0%
			PM	30	3	4,796	53.3	E	60	1	1,792	29.8	D	8	6	0.1%	2	0.1%
I-880	Dixon Landing to SR 237	SB	AM	60	4	6,088	25.4	D	N/A	N/A	0	N/A	N/A	58	58	0.7%	0	N/A
			PM	55	4	7,791	35.4	D	N/A	N/A	0	N/A	N/A	21	21	0.2%	0	N/A
I-880	SR 237 to Tasman	SB	AM	60	3	3,773	21.0	C	N/A	N/A	0	N/A	N/A	23	23	0.3%	0	N/A
			PM	65	3	2,874	14.7	B	N/A	N/A	0	N/A	N/A	74	74	1.1%	0	N/A
I-880	Tasman to Montague	SB	AM	65	3	3,733	19.1	C	N/A	N/A	0	N/A	N/A	23	23	0.3%	0	N/A
			PM	15	3	3,994	88.8	F	N/A	N/A	0	N/A	N/A	74	74	1.1%	0	N/A
I-880	south of Montague	SB	AM	60	2	2,379	31.6	D	N/A	N/A	0	N/A	N/A	22	22	0.5%	0	N/A
			PM	10	2	2,379	119.0	F	N/A	N/A	0	N/A	N/A	69	69	1.6%	0	N/A
SR 237	I-880 to Zanker	WB	AM	15	3	4,491	99.8	F	60	1	2,013	33.6	D	204	141	2.1%	63	3.5%
			PM	60	3	5,425	30.1	D	65	1	557	8.6	A	72	65	1.0%	7	0.4%
SR 237	Zanker to North First	WB	AM	60	2	3,899	32.5	D	65	1	573	8.8	A	22	19	0.4%	3	0.2%
			PM	60	2	2,975	24.8	D	65	1	288	4.4	A	71	65	1.5%	6	0.3%
SR 237	North First to Great America	WB	AM	60	2	4,160	34.7	D	65	1	392	6.0	A	22	20	0.4%	2	0.1%
			PM	60	2	2,995	25.0	D	65	1	868	13.3	B	71	55	1.2%	16	0.9%
SR 237	Great America to Lawrence	WB	AM	60	2	2,761	23.0	C	65	1	201	3.1	A	22	21	0.4%	1	0.1%
			PM	60	2	3,263	27.2	D	65	1	1,088	16.7	C	71	53	1.2%	18	1.0%
SR 237	Lawrence to Mathilda	WB	AM	60	2	2,589	21.6	C	65	1	413	6.4	A	22	19	0.4%	3	0.2%
			PM	55	2	4,078	37.1	D	65	1	943	14.5	B	71	58	1.3%	13	0.7%

/a/ Source: Santa Clara Valley Transportation Authority Congestion Management Program Monitoring Study, 1998.
Note: Bold indicates significant impact.

Table ES-5
Vehicle Queuing and Storage Capacity

Intersection	Peak Hour	Mvmt.	# Lanes /a/	Existing Storage ft.	Vehicle Queue/b/	Required Storage ft./c/	Additional storage needed
Zanker Rd./Project Access	PM	WBL	2	N/A	9	90	Provide two 150' lanes
Zanker Rd./SR 237 (N)	AM	SBL	1	200	1	20	Adequate
	PM	SBL	1	200	2	40	Adequate
Zanker Rd./SR 237 (S)	AM	SBL	1	300	6	120	Adequate
	PM	SBL	1	300	15	300	Adequate
	AM	EBL	1	600	2	40	Adequate
	PM	EBL	1	600	1	20	Adequate
Zanker Rd./Tasman Dr.	AM	EBL	2	N/A	5	50	Adequate
	PM	SBL	2	N/A	28	280	Provide two 275' lanes
Zanker Rd./Trimble Rd.	AM	EBL	1	250	18	360	Extend pocket 125'
Zanker Rd./Charcot Av.	AM	EBL	2	150	15	150	Adequate

/a/ Number of lanes based on existing or planned configurations.

/b/ In # of vehicles, based on average vehicle queue calculated by TRAFFIX.

/c/ Calculated based on Caltrans methodology (Ave. Veh. Queue x Ave length of veh. (20')/# lanes)

1.

Introduction

This report presents the results of the traffic impact analysis conducted for the USDataPort development in Alviso, California. The project site is bounded by Zanker Road to the west, SR 237 to the south, and Coyote Creek to the east. The site consists of the Lynham and Cilker properties as well as 40 acres of City of San Jose land. The project as proposed would contain 2.2 million square feet (m.s.f.) of co-location/telecommunication/data center space. Access to the site would be provided exclusively via a project access road from Zanker Road. The project site and the surrounding study area are shown on Figure 1. The project site plan is shown on Figure 2.

Scope of Study

This study was conducted for the purpose of identifying potential traffic impacts related to the proposed development. The impacts of the project were evaluated following the standards and methodologies set forth by the Cities of San Jose, Santa Clara, Milpitas, and the Santa Clara Valley Transportation Authority (VTA). The VTA administers the county Congestion Management Program (CMP). The traffic analysis is based on peak-hour levels of service for signalized intersections, unsignalized intersections, future signalized intersections, and freeway segments. The study intersections and freeway segments are identified below.

Study Intersections

The study included the analysis of 27 signalized and one unsignalized intersections in the City of San Jose. The 27 signalized intersections include 21 Golden Triangle intersections and 11 North San Jose Deficiency Plan (NSJDP) intersections. Also analyzed were two signalized intersections in the City of Santa Clara, and 11 signalized and one future signalized intersections in the City of Milpitas.

City of San Jose Intersections

Zanker Road and SR 237 (N)*

Zanker Road and SR 237 (S)*
 Zanker Road and Holger Way
 Zanker Road and Tasman Drive
 Zanker Road and River Oaks Parkway
 Zanker Road and Innovation Drive
 Zanker Road and Plumeria Drive
 Zanker Road and Trimble Road*
 Zanker Road and Bonaventura Drive
 Zanker Road and Charcot Avenue
 Zanker Road and Brokaw Road*
 Bering Drive and Brokaw Road
 US 101 and Brokaw Road*
 Cisco Way and Tasman Drive
 Morbridge Drive and Tasman Drive
 Baypointe Parkway and Tasman Drive
 North First Street and Tasman Drive
 North First Street and Rio Robles
 North First Street and River Oaks Parkway
 North First Street and Charcot Avenue
 North First Street and Brokaw Road*
 North First Street and Trimble Road*
 Trimble Road and De La Cruz Boulevard*
 Trimble Road and Orchard Parkway
 Montague Expressway and North First Street*
 Montague Expressway and Zanker Road*
 Montague Expressway and O'Toole Avenue/McCarthy Boulevard*
 Zanker Road and Baypointe Parkway (Unsignalized)

City of Santa Clara Intersections

Montague Expressway and De La Cruz Boulevard*
 Montague Expressway and Mission College Boulevard*

City of Milpitas

Calaveras Boulevard and Abbott Avenue
 Calaveras Boulevard and Serra Way
 Calaveras Boulevard and Abel Street*
 Calaveras Boulevard and South Milpitas Boulevard*
 Calaveras Boulevard and Hillview Drive
 Tasman Drive and McCarthy Boulevard
 Tasman Drive and Alder Drive
 Tasman Drive and SB I-880 off ramp
 Tasman Drive and NB I-880 ramps
 Abel Street and Great Mall Parkway
 McCarthy Boulevard and SR 237 (N) (Future Signalized Intersection)
 McCarthy Boulevard and SR 237 (S) (Future Signalized Intersection)

CMP intersections are denoted with an asterisk (*).



LEGEND



= Project Site



= Future Roadway



= Study Intersection

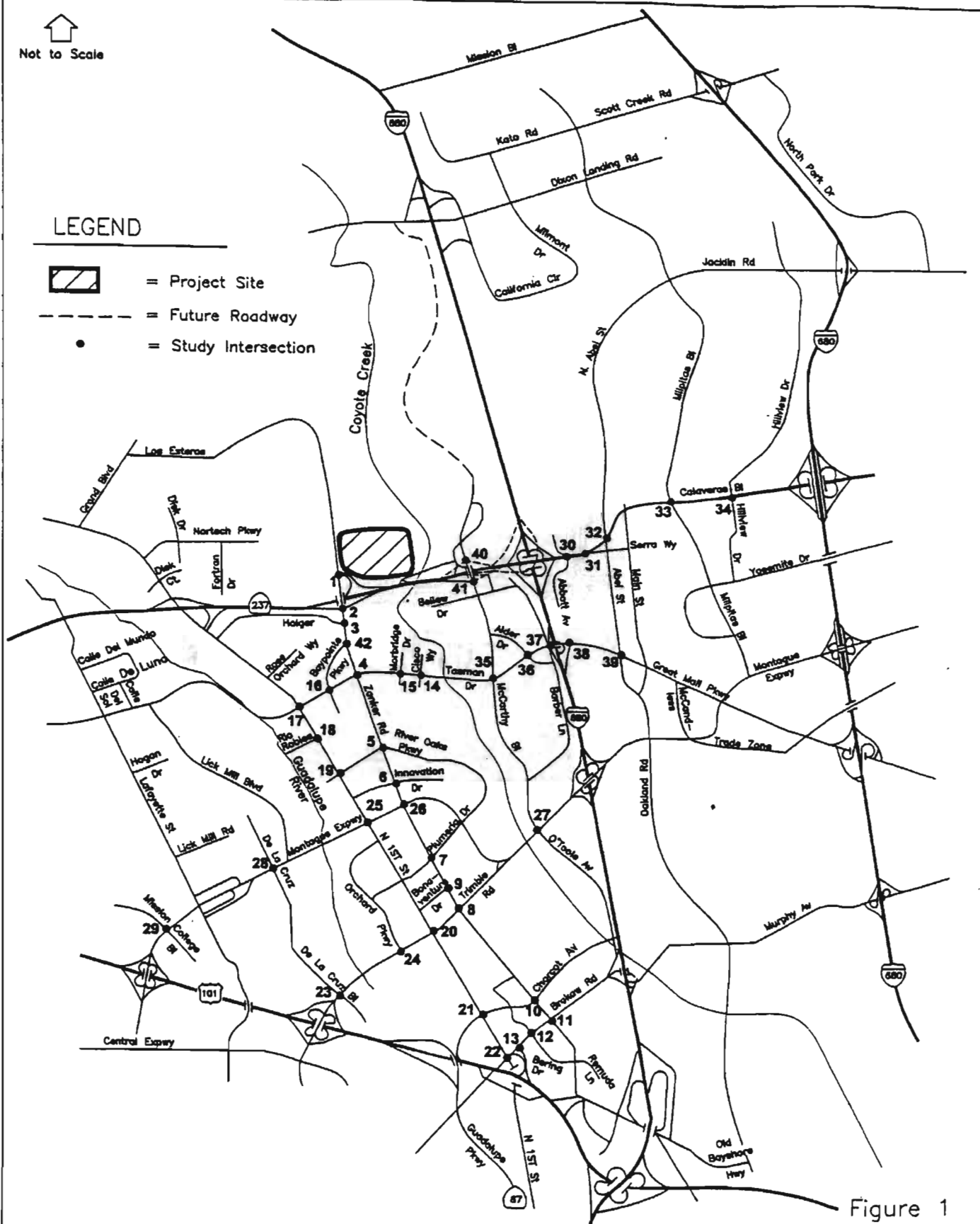


Figure 1

SITE LOCATION

US Dataport



Hexagon

Transportation Consultants, Inc.

ER+HDR

A member of the HDR Group
 4000 B Chabot Road
 San Jose, California 95128-4497
 (408) 261-4000 Fax (408) 261-4000

LEGEND

- PROPERTY LINE
- REPAIRS EDGE AS DESIGNED BY MCGLOTHLIN
- 100' IMPASURAN RETRACTION
- 100' FUTURE POLE SARDINIA
- EXISTING TREE TO REMAIN
- PARKING COUNT



US DataPort

1807 MILPITAS AVENUE
 SAN JOSE, CALIFORNIA 95134

CONCEPTUAL LAND USE PLAN

DATE: 10/12/00
 BY: JAC
 FOR: 2A

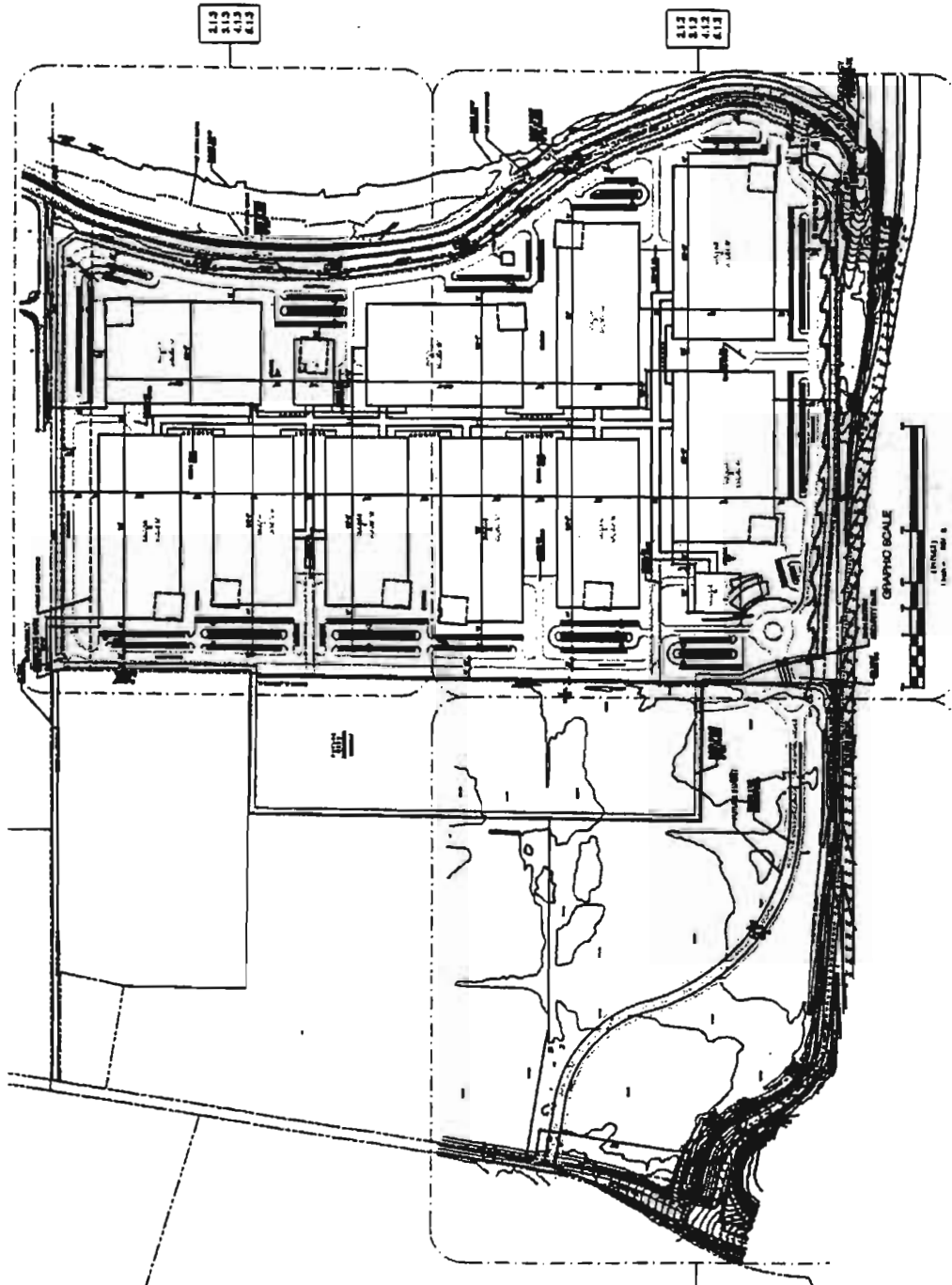


Figure 2

SITE PLAN

US DataPort

Study Freeway Segments

SR 237, Mathilda Avenue to Lawrence Expressway
SR 237, Lawrence Expressway to Great America Parkway
SR 237, Great America Parkway to North First Street
SR 237, North First Street to Zanker Road
SR 237, Zanker Road to I-880
I-880, SR 237 to Dixon Landing Road
I-880, SR 237 to Tasman Drive
I-880, Tasman Drive to Montague Expressway
I-880, south of Montague Expressway
US 101, South of Trimble Road

In summary, the study includes an analysis of 40 existing signalized intersections, one existing unsignalized intersection, one future signalized intersections, and 10 freeway segments in the vicinity of the project site. The 15 designated CMP signalized intersections were evaluated against the standards of the County CMP.

Traffic conditions at the intersections and on the freeway segments were analyzed for the weekday AM and PM peak hours of traffic. The AM peak hour of traffic is generally between 7:00 and 9:00 AM, and the PM peak hour is typically between 4:00 and 6:00 PM. It is during these periods that the most congested traffic conditions occur on an average day.

Traffic conditions were evaluated for the following scenarios:

- Scenario 1:** *Existing Conditions.* Existing conditions were represented by existing peak-hour traffic volumes on the existing roadway network. Existing traffic volumes were obtained from recent traffic counts.
- Scenario 2:** *Background Conditions.* Background conditions were represented by background traffic volumes on the near-term roadway network. Background traffic volumes were estimated by adding to existing peak-hour volumes the projected volumes from approved but not yet completed developments. The latter component is obtained from the cities of San Jose and Milpitas Approved Trips Inventory (ATI), and a list of approved developments in the City of Santa Clara.
- Scenario 3:** *Project Conditions.* Project conditions were represented by background traffic volumes, with the proposed project, on the near-term roadway network. Background traffic volumes with the project (hereafter called *project traffic volumes*) were estimated by adding to background traffic volumes the additional traffic generated by the project. Project conditions were evaluated relative to background conditions in order to determine potential project impacts.
- Scenario 4:** *Future Growth Conditions.* Future growth conditions were represented by future traffic volumes, at the date of project occupancy, on the near-term future roadway network. Traffic volumes under future growth conditions were estimated by applying a growth factor to existing volumes, adding trips from approved developments, and adding project trips. This scenario is evaluated in fulfillment of CMP requirements.

Methodology

This section describes the methods used to determine the traffic conditions for each scenario described above. It includes descriptions of the data requirements, the analysis methodologies, and the applicable level of service standards.

Data Requirements

The data required for the analysis were obtained from new traffic counts, previous traffic studies, the Cities of San Jose, Santa Clara, Milpitas, and the CMP Annual Monitoring Report. The following data were collected from these sources:

- existing traffic volumes
- lane configurations
- signal timing and phasing (for signalized intersections only)
- average speed (for freeway segments only)

Analysis Methodologies and Level of Service Standards

Traffic conditions at the study intersections were evaluated using level of service (LOS). *Level of Service* is a qualitative description of operating conditions ranging from LOS A, or free-flow conditions with little or no delay, to LOS F, or jammed conditions with excessive delays. The various analysis methods are described below.

North San Jose Development Policy

All study intersections located in the City of San Jose are within the North San Jose Development Policy Area, also known as the Golden Triangle, which is formed by US 101, I-880, and SR 237. As such, it is required that the intersections be evaluated using the Golden Triangle method. The Golden Triangle method estimates the level of service based on critical volume-to-capacity (V/C) ratios calculated by TRAFFIX. The volumes of vehicles in the turning movements that dictate the operation of the intersection are divided by the capacities of those movements. The individual ratios are added to obtain the intersection's V/C ratio. The V/C ratio is correlated to a level of service (see Table 1). An acceptable level in the City of San Jose, including the Golden Triangle area, is defined as LOS D or better.

Local City Intersections

The City of Milpitas level of service methodology is TRAFFIX, which is based on the *Highway Capacity Manual* (HCM) method for signalized intersections. TRAFFIX evaluates signalized intersection operations on the basis of average delay time for all vehicles at the intersection. Since TRAFFIX is also the CMP-designated intersection level of service methodology, the Cities of Santa Clara and Milpitas methodology employs the CMP default values for the analysis parameters. The City of Milpitas level of service standard for signalized intersections is LOS D or better. The correlation between average delay and level of service is shown in Table 2.

Table 1
Intersection Level of Service Definitions Based on Volume-to-Capacity Ratio

Level of Service	Interpretation	V/C Ratio
A	Uncongested operations; all queues clear in a single signal cycle.	Less Than 0.600
B	Very light congestion; an occasional approach phase is fully utilized.	0.600-0.699
C	Light congestion; occasional backups on critical approaches.	0.700-0.799
D	Significant congestion on critical approaches, but intersection functional. Cars required to wait through more than one cycle during short peaks. No long-standing queues formed.	0.800-0.899
E	Severe congestion with some long-standing queues on critical approaches. Blockage of intersection may occur if traffic signal does not provide for protected turning move-ments. Traffic queue may block nearby intersections(s) upstream of critical approach(es).	0.900-0.999
F	Total breakdown, stop-and-go operation.	1.000 and Greater

CMP Intersections

TRAFFIX is the designated level of service methodology for the CMP. The only difference between the local intersection analyzed in the Cities of San Jose, Santa Clara, and Milpitas and the CMP intersection analyses is that the CMP level of service standard for signalized intersections is LOS E or better.

Freeway Segments

As prescribed in the CMP technical guidelines, the level of service for freeway segments is estimated based on vehicle density. Density is calculated by the following formula:

$$D = V / (N * S)$$

where:

D= density, in vehicles per mile per lane (vpmpl)

V= peak hour volume, in vehicles per hour (vph)

N= number of travel lanes

S= average travel speed, in miles per hour (mph)

The vehicle density on a segment is correlated to level of service as shown in Table 3. The CMP requires that mixed-flow lanes and auxiliary lanes be analyzed separately from HOV (carpool) lanes. The CMP specifies that a capacity of 2,300 vehicles per hour per lane (vphpl) be used for segments six lanes or wider in both directions and a capacity of 2,200 vphpl be used for segments four lanes wide in both directions. The CMP defines an acceptable level of service for freeway segments as LOS E or better.

Table 2
Intersection Level of Service Definitions Based on Delay

Level of Service	Description	Average Stopped Delay Per Vehicle (Sec.)
A	Operations with very low delay occurring with favorable progression and/or short cycle lengths.	Less than 5.0
B	Operations with low delay occurring with good progression and/or short cycle lengths.	5.1 to 15.0
C	Operations with average delays resulting from fair progression and/or longer cycle lengths. Individual cycle failures begin to appear.	15.1 to 25.0
D	Operations with longer delays due to a combination of unfavorable progression, long cycle lengths, or high V/C ratios. Many vehicles stop and individual cycle failures are noticeable.	25.1 to 40.0
E	Operations with high delay values indicating poor progression, long cycle lengths, and high V/C ratios. Individual cycle failures are frequent occurrences. This is considered to be the limit of acceptable delay.	40.1 to 60.0
F	Operation with delays unacceptable to most drivers occurring due to oversaturation, poor progression, or very long cycle lengths.	Greater than 60.0

Source: Transportation Research Board, Highway Capacity Manual, Special Report 209 (Washington, D.C., 1985), pp. 9-4,9.5.

Table 3
Freeway Level of Service Based on Density

Level of Service	Density (vehicles/mile/lane)
A	<10.0
B	10.1-16.0
C	16.1-24.0
D	24.1-46.0
E	46.1-55.0
F	>55

Unsignalized Intersections

For unsignalized intersections an assessment is made of the need for signalization of the intersection. This assessment is made on the basis of the Peak-Hour Volume Signal Warrant, Warrant # 11 described in the Caltrans *Traffic Manual*. This method makes no evaluation of intersection level of service, but simply provides an indication whether peak-hour traffic volumes are, or would be, sufficient to justify installation of a traffic signal.

Intersection Operations

The operations analysis is based on vehicle queuing for high-demand turning movements at intersections. The basis of the analysis is as follows: (1) the TRAFFIX intersection analysis software is used to estimate the 95th percentile maximum number of queued vehicles per signal cycle for a particular movement; (2) the estimated maximum number of vehicles in the queue is translated into a queue length, assuming 20 feet per vehicle; and (3) the estimated maximum queue length is compared to the existing or planned available storage capacity for the movement. This analysis thus provides a basis for estimating future storage requirements at intersections.

Report Organization

The remainder of this report is divided into six chapters. Chapter 2 describes existing conditions in terms of the existing roadway network, transit service, and existing bicycle and pedestrian facilities. Chapter 3 presents the intersection operations under background conditions. Chapter 4 describes the method used to estimate project traffic, its impact on the transportation system, and the identified mitigation measures. Chapter 5 presents the intersection operations under future conditions. Chapter 6 presents the conclusions of the traffic impact analysis.

2. Existing Conditions

This chapter describes the existing conditions for all of the major transportation facilities in the vicinity of the site, including the roadway network, transit service, and bicycle and pedestrian facilities.

Existing Roadway Network

Freeways near the site are US 101, SR 237, and I-880. These facilities are described below.

US 101 is an eight-lane freeway (three mixed-flow lanes and one high-occupancy vehicle (HOV) lane in each direction). US 101 extends northward through San Francisco and southward through Morgan Hill. Access to and from the site is provided via its interchanges with I-880, Brokaw Road, Trimble Road, and Montague Expressway.

SR 237 is a six-lane freeway located to the south of the site. It extends in an east/west direction, providing access to I-880 and U.S. 101. Two of the six lanes (one in each direction) are designated as HOV lanes. Direct access to the site is provided via its interchange with Zanker Road.

I-880 is a four- to six-lane freeway in the vicinity of the site. It extends north to Oakland and south to Campbell at which point it makes a transition into SR 17 to Santa Cruz. Access to the site is provided via the SR 237/I-880 interchange.

Major arterials near the site are North First Street, Zanker Road, Brokaw Road, Trimble Road, Montague Expressway, Tasman Drive, and Calaveras Boulevard. These roadways are described below.

North First Street is a four-lane arterial that provides access to the site from downtown San Jose, Montague Expressway, and Trimble Road. The Guadalupe Corridor Light Rail Train (LRT) line operates in the median of the roadway between downtown San Jose and Tasman Drive.

Zanker Road provides direct access to the site from SR 237 and all other major arterial in the vicinity of the site. Between SR 237 and Brokaw Road, Zanker Road is a two-lane roadway.

Brokaw Road is a east/west six-lane arterial that runs between its interchanges with I-880 and US 101. This facility provides access to the project site via Zanker Road and North First Street.

Trimble Road is an east/west arterial that extends from Montague Expressway to U.S. 101. It generally operates as a six-lane facility, but narrows west of Orchard Parkway, before crossing the four lane bridge over the Guadalupe River. At its intersection with De La Cruz Boulevard, near the U.S. 101 interchange, Trimble Road becomes De La Cruz Boulevard. Access to the site is provided via an interchange at US 101.

Montague Expressway is a six-lane expressway with one lane in each direction provided for HOVs. During the morning commute period (5:00 AM to 9:00 AM) the westbound HOV lane is restricted to vehicles occupied by two or more people. Likewise, the eastbound HOV lane is restricted during the afternoon commute period (3:00 PM to 7:00 PM). Montague Expressway provides access to I-880 and U.S. 101.

Tasman Drive is a east/west four to six lane divided arterial that extends from Lawrence Expressway to I-880. The Tasman West Light Rail Train line operates in the median of the roadway between Fair Oaks Avenue in Sunnyvale and North First Street in North San Jose. The extension of the light rail line along Tasman Drive east of Baypointe Parkway to Milpitas is currently under construction.

Calaveras Boulevard is a east/west six-lane arterial that runs between I-680 and I-880. West of I-880, Calaveras Boulevard transitions into SR 237.

Existing Bicycle and Pedestrian Facilities

There are county-designated bike paths west of the project site located along the Guadalupe River and south of SR 237 between Lafayette Street and North First Street. These bike paths may also be used by pedestrians. Bike routes are designated on Tasman Drive west of Zanker Road, along Lafayette Street, and McCarthy Boulevard between Montague Expressway and Bellew Drive. The existing bicycle facilities within the study area are shown on Figure 3.

Pedestrian facilities in the project area consist primarily of sidewalks along the streets in most residential and commercial areas, as well as the aforementioned bike/pedestrian paths. Sidewalks are found along virtually all previously described local roadways in the study area and along the local residential streets and collectors near the site.

Existing Transit Service

Existing transit service to the study area is provided by the VTA, CalTrain, Altamont Commuter Express, and by Amtrak. The services are described below and are presented graphically in Figure 4.

VTA

Bus Service

The project site is not served directly by any local bus lines, but several bus lines provide service in the project area. The 33 bus line provides service between Main Street in Milpitas and the Baypointe LRT station in North San Jose with 20-minute headways during commute hours. The 44 line provides service



Not to Scale

LEGEND



= Project Site

--- = Future Roadway

--- = Bike Route

..... = Bike Path

--- = Bike Lane

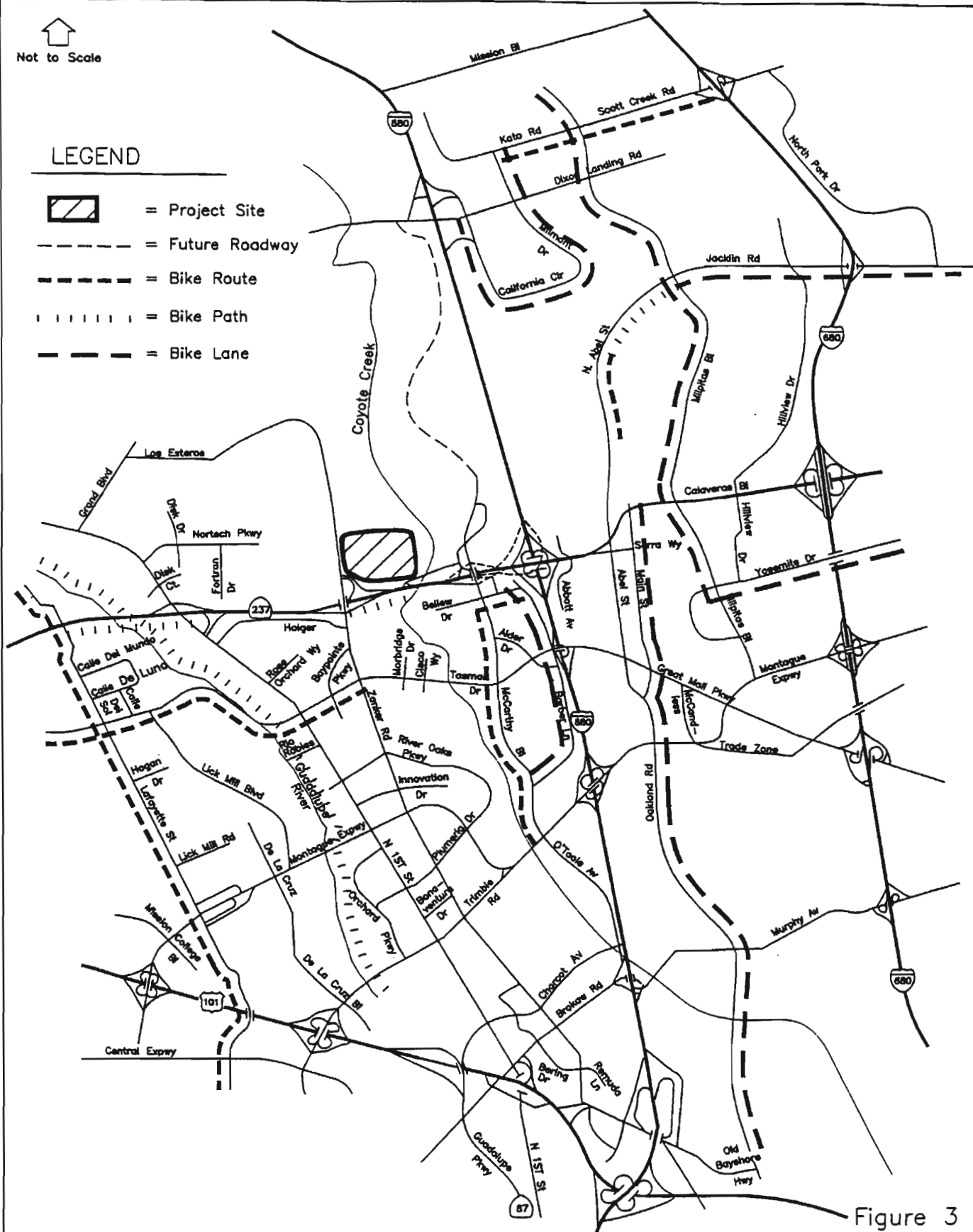


Figure 3

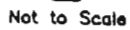
EXISTING BICYCLE FACILITIES



Hexagon

Transportation Consultants, Inc.

US Dataport



= Project Site

--- = Future Roadway

--- = Bus Route

— — — = LRT Line

 Transportation Consultants, Inc.

US Dataport

between the Santa Clara Cal Train Station and North First Street/River Oaks Parkway with 30-60-minute headways during commute hours. The 58 line provides service between West Valley College and Alviso via North First Street, with 30-minute headways during commute hours. The 74 line provides service between Eastridge Mall and the Baypointe LRT station , with 20-minute headways during commute hours.

Light Rail Transit (LRT) Service

The nearest LRT station is located approximately one mile from the project site near the intersection of North First Street and Tasman Drive. The Baypointe LRT station serves as a connection point for the Tasman West and Guadalupe Corridor LRT lines as well as bus lines 33, 58, and 74.

CalTrain

Commuter rail service between San Francisco and Gilroy is provided by CalTrain. The nearest CalTrain stations are the Lawrence and Santa Clara stations approximately five miles from the project site. CalTrain provides service with approximately 30-minute headways during commute hours. The VTA provides shuttle service from the stations to bus lines and LRT.

Amtrak/ACE

Commuter rail service between Stockton and San Jose is provided by the Altamont Commuter Express (ACE). There is a station located approximately two miles from the project site – the Great America Amtrak/ACE station. The station is located at the intersection of Lafayette Street and Calle De Luna. ACE provides service with two trains during AM and PM commute hours. The VTA provides shuttle service from the station to bus lines and LRT.

Existing Intersection Lane Configurations

The existing lane configurations at the study intersections were provided by city staff and confirmed by observations in the field. The existing intersection lane configurations are shown on Figure 5.

Existing Traffic Volumes

Existing peak-hour traffic volumes were obtained from the respective cities and supplemented with manual turning-movement counts at intersections where counts were either unavailable or outdated (more than one year old). The existing peak-hour intersection volumes are shown on Figure 6. The traffic count data are included in Appendix A.

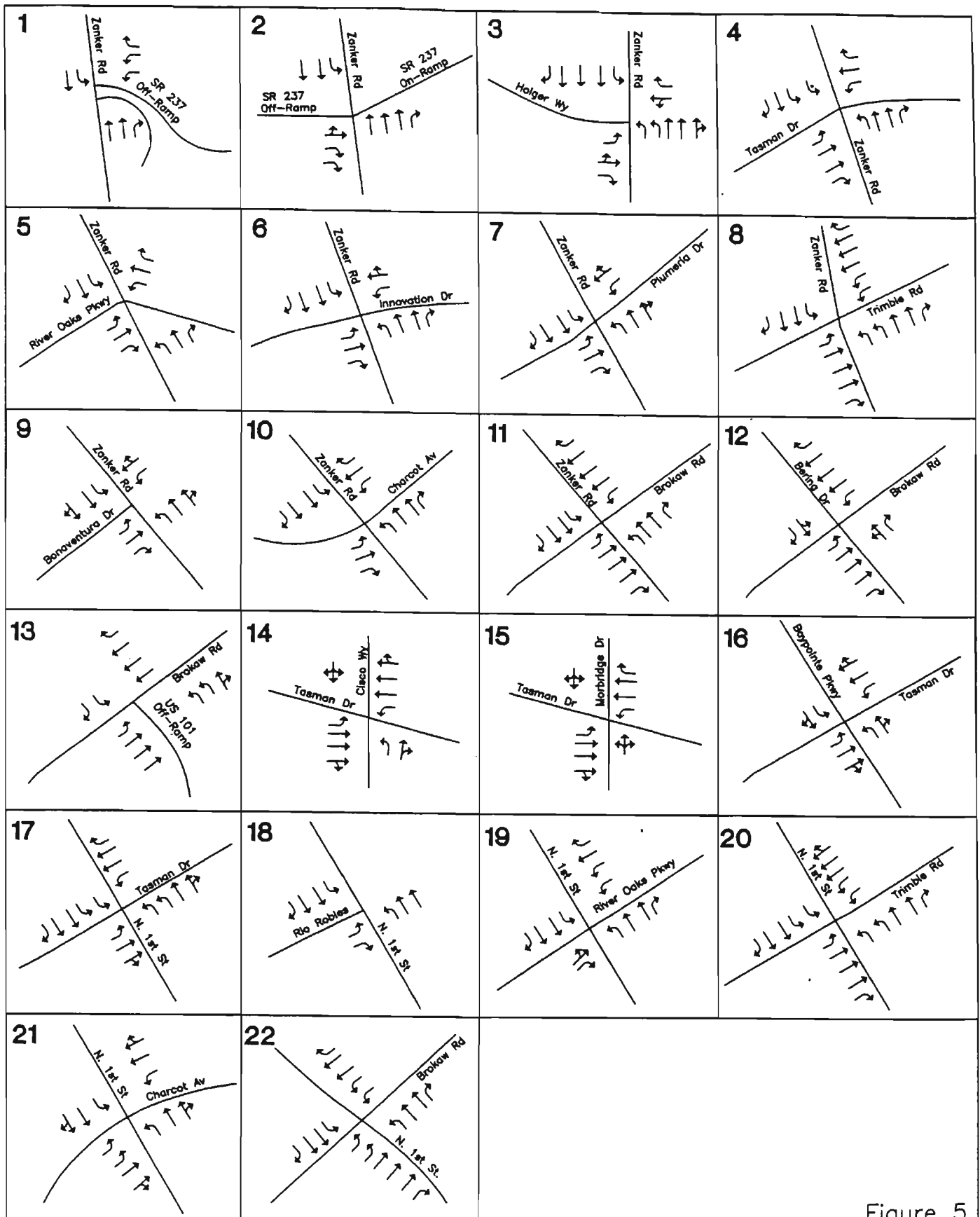


Figure 5

EXISTING LANE CONFIGURATIONS

US Dataport

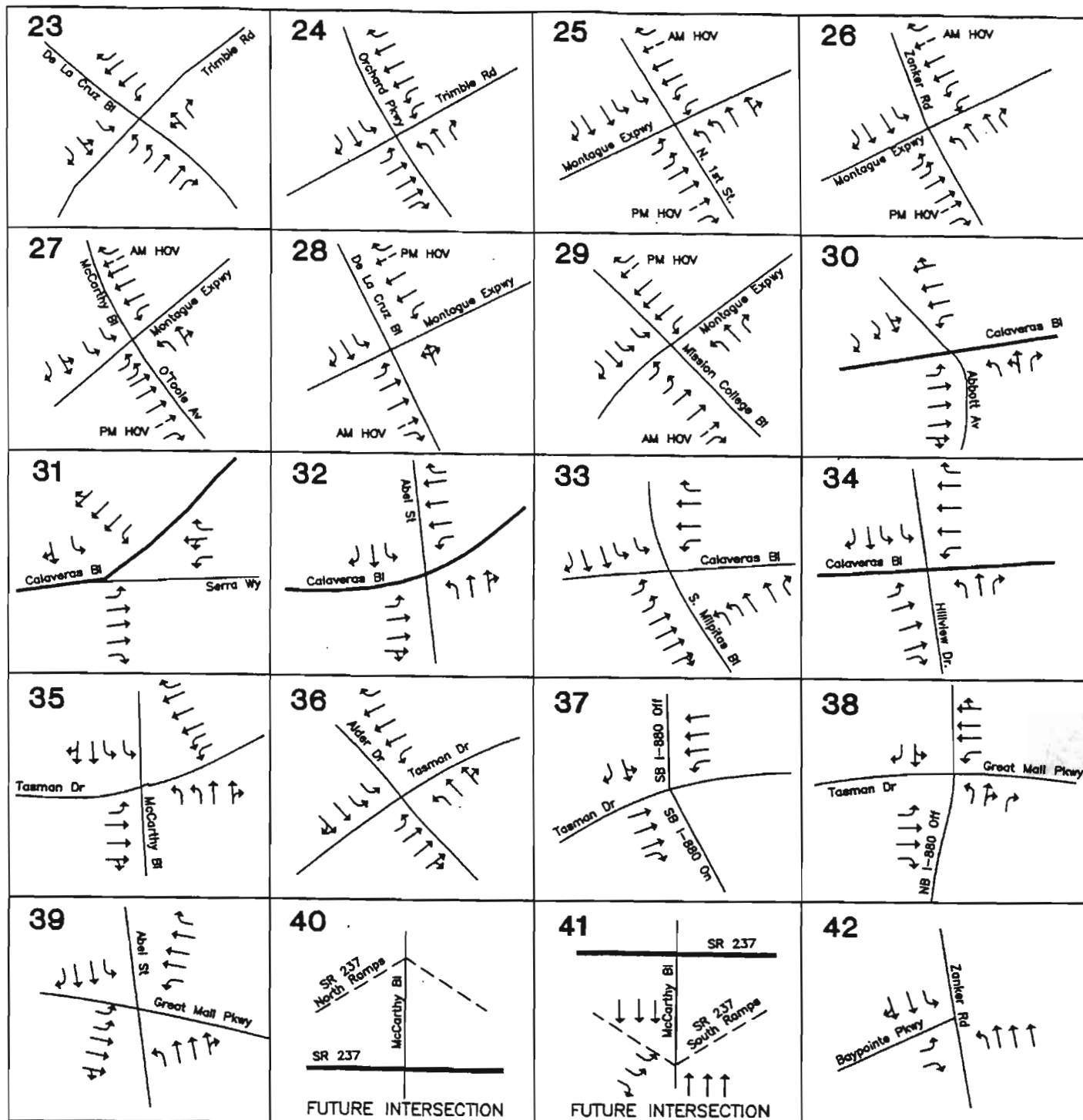


Figure 5

EXISTING LANE CONFIGURATIONS

US Dataport

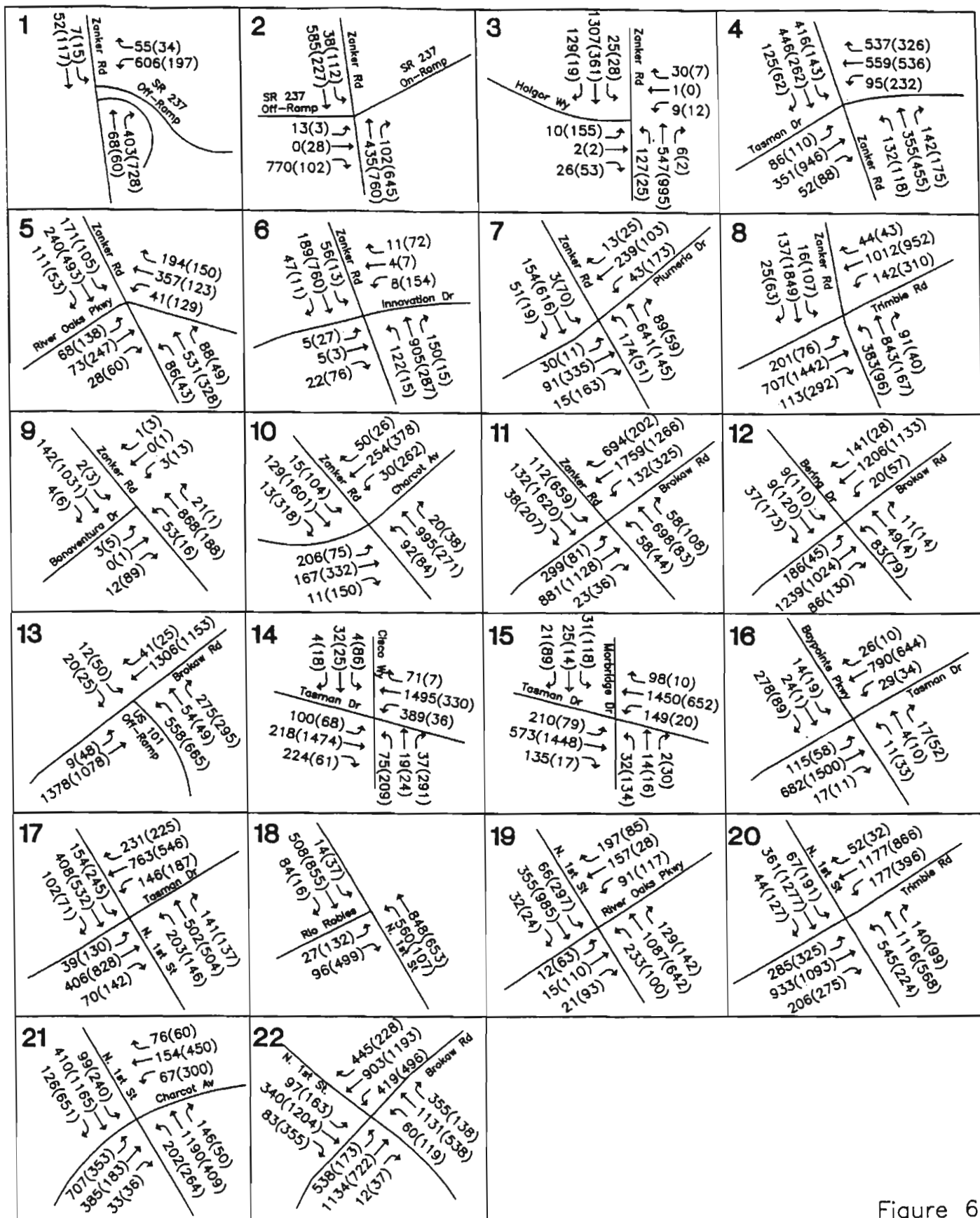


Figure 6

EXISTING TRAFFIC VOLUMES

US Dataport

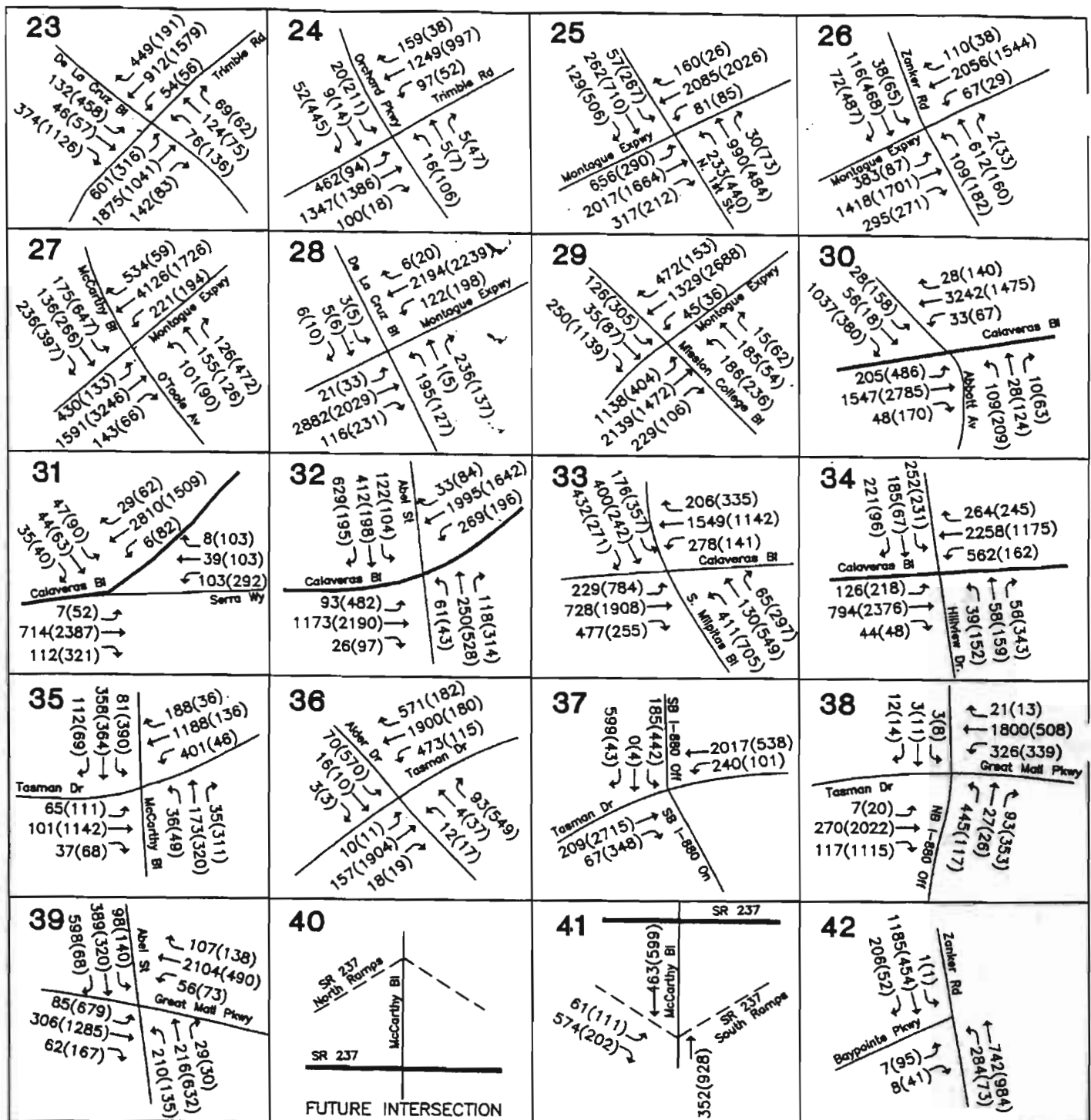


Figure 6

EXISTING TRAFFIC VOLUMES

US Dataport

Existing Intersection Levels of Service

City of San Jose Intersection Analysis

Golden Triangle Intersections

The results of the level of service analysis under existing conditions are summarized in Table 4. The results show that, measured against the City of San Jose level of service standards, two of the signalized Golden Triangle study intersections (both CMP) currently operate at an unacceptable LOS E or worse. All other signalized study intersections currently operate at an acceptable LOS D or better. The levels of service calculation sheets are included in Appendix D.

North San Jose Deficiency Plan Intersections

The level of service results for the 22 NSJDP intersections under existing conditions are summarized in Table 4. The results show that, measured against the CMP level of service standards, one of the NSJDP study intersections, O'Toole-McCarthy Boulevard and Montague Expressway, currently operates at an unacceptable LOS F during both peak hours. All other NSJDP study intersections currently operate at an acceptable LOS E or better. The levels of service calculation sheets are included in Appendix D.

City of Santa Clara Intersection Analysis

Regional CMP Intersections

The level of service results for the CMP intersections under existing conditions are summarized in Table 4. The results show that, measured against the CMP level of service standards, one of the CMP study intersections, Mission College Boulevard and Montague Expressway, currently operates at an unacceptable LOS F during the AM peak hour. The other CMP study intersection currently operates at an acceptable LOS E or better, according to CMP standards.

City of Milpitas Intersection Analysis

Local City of Milpitas Intersections

The results of the level of service analysis under existing conditions are summarized in Table 4. The results show that, measured against the City of Milpitas level of service standards, two signalized study intersections currently operate at an unacceptable LOS E or worse. The levels of service calculation sheets are included in Appendix D.

Regional CMP Intersections

The level of service results for the CMP intersections under existing conditions are summarized in Table 4. The results show that, measured against the CMP level of service standards, neither of the CMP study

Table 4
Existing Intersection Levels of Service

Intersection	Peak Hour	Count Date	Ave. Delay	LOS
<i>City of San Jose Intersections</i>				
Zanker Rd./SR 237 (N)*	AM	3/28/00	7	B
	PM	3/28/00	10	B
Zanker Rd./SR 237 (S)*	AM	3/28/00	14	B
	PM	3/28/00	9	B
Zanker Rd./Holger Wy	AM	3/14/00	11	B
	PM	3/15/00	12	B
Zanker Rd./Tasman Dr./a/	AM	3/14/00	25	C
	PM	3/15/00	23	C
Zanker Rd./River Oaks Pkwy./a/	AM	3/16/00	16	C
	PM	3/15/00	15	B
Zanker Rd./Innovation Dr.	AM	3/08/00	15	C
	PM	3/02/00	19	C
Zanker Rd./Plumeria Dr.	AM	3/21/00	25	C
	PM	3/21/00	29	D
Zanker Rd./Trimble Rd.*a/	AM	4/12/00	27	D
	PM	4/11/00	41	E
Zanker Rd./Bonaventura Dr.	AM	3/30/00	6	B
	PM	3/30/00	8	B
Zanker Rd./Charcot Av./a/	AM	3/14/00	20	C
	PM	3/14/00	27	D
Zanker Rd./Brokaw Rd.*a/	AM	2/17/00	35	D
	PM	2/17/00	41	E
Bering Dr./Brokaw Rd.	AM	3/14/00	15	C
	PM	3/14/00	19	C
US 101/Brokaw Rd.*	AM	5/19/00	22	C
	PM	5/19/00	24	C
Cisco Wy/Tasman Dr.	AM	3/16/00	12	B
	PM	3/15/00	15	C
Morbridge Dr./Tasman Dr.	AM	3/30/00	12	B
	PM	3/30/00	12	B
Baypointe Pkwy./Tasman Dr.	AM	3/29/00	15	B
	PM	3/29/00	8	B
North First St./Tasman Dr./a/	AM	3/16/00	31	D
	PM	3/16/00	36	D
North First St./Rio Robles/a/	AM	3/21/00	13	B
	PM	3/21/00	20	C
North First St./River Oaks Pkwy./a/	AM	3/21/00	24	C
	PM	3/21/00	21	C
North First St./Trimble Rd.*	AM	3/21/00	34	D
	PM	3/21/00	38	D
North First St./Charcot Av./a/	AM	3/15/00	34	D
	PM	3/15/00	37	D
North First St./Brokaw Rd.*	AM	2/24/00	35	D
	PM	2/24/00	34	D
De La Cruz Blvd./Trimble Rd.*a/	AM	5/16/00	25	D
	PM	5/16/00	38	D

Table 4 (Cont'd)
Existing Intersection Levels of Service

Intersection	Peak Hour	Count Date	Ave. Delay	LOS
Orchard Pkwy./Trimble Rd./a/	AM	3/14/00	15	C
	PM	3/14/00	21	C
North First St./Montague Expwy.*a/	AM	5/17/00	48	E
	PM	3/9/00	41	E
Zanker Rd./Montague Expwy.*	AM	4/11/00	38	D
	PM	3/9/00	42	E
O'Toole Av.-McCarthy Blvd./Montague Expwy.*	AM	5/17/00	68	F
	PM	3/16/00	200	F
City of Santa Clara Intersections				
De La Cruz Blvd./Montague Expwy.*a/	AM	10/07/98	41	E
	PM	11/04/98	24	C
Mission College Blvd./Montague Expwy.*	AM	4/15/98	75	F
	PM	11/04/98	27	D
City of Milpitas Intersections				
Abbott Av./Calaveras Blvd.	AM	3/23/00	57	E
	PM	3/23/00	25	D
Serra Wy./Calaveras Blvd.	AM	3/21/00	11	B
	PM	3/15/00	18	C
Abel St./Calaveras Blvd.*	AM	10/08/98	33	D
	PM	10/08/98	39	D
South Milpitas Blvd./Calaveras Blvd.*	AM	10/06/98	34	D
	PM	10/06/98	44	E
Hillview Dr./Calaveras Blvd.	AM	5/4/00	25	C
	PM	5/9/00	26	D
McCarthy Blvd./Tasman Dr.	AM	6/15/99	19	C
	PM	6/15/99	29	D
Alder Dr./Tasman Dr.	AM	6/16/99	11	B
	PM	6/16/99	40	D
SB I-880 off ramp/Tasman Dr./a/	AM	6/17/99	20	C
	PM	6/17/99	21	C
NB I-880 off ramp/Great Mall Pkwy./a/	AM	6/17/99	25	C
	PM	6/17/99	43	E
Abel St./Great Mall Pkwy.	AM	1/26/00	29	D
	PM	10/12/99	21	C
McCarthy Blvd./SR 237 (S) /a/	AM	5/17/00	17	C
	PM	5/17/00	11	B

* Denotes CMP intersection.

intersections currently operate at an unacceptable LOS F during either of the peak hours.

Existing Freeway Levels of Service

Traffic volumes for the subject freeway segments were obtained from the CMP Annual Monitoring Report. The results of the analysis are summarized in Table 5. The results show that seven of the freeway segments analyzed currently operate at an unacceptable LOS F during at least one of the peak hours. All other analyzed freeway segments operate at LOS E or better during the AM and PM peak hours. Note that the LOS F conditions pertain to the mixed-flow lanes only; the HOV lanes, with the exception of one segment, generally operate at an acceptable LOS E or better on all freeway segments analyzed.

Observed Existing Traffic Conditions

Traffic conditions were observed in the field to identify existing operational deficiencies and to confirm the accuracy of calculated levels of service. The purpose of this effort was (1) to identify any existing traffic problems that may not be directly related to level of service, and (2) to identify any locations where the level of service analysis does not accurately reflect existing traffic conditions.

Field observations revealed that for the most part, level of service calculations accurately reflect existing conditions. Any differences between level of service calculations and observations, and any operational problems, are discussed below.

North First Street - With the exceptions of the intersections at Trimble Road, Tasman Drive, and Montague Expressway, intersections along North First Street operate at fairly acceptable levels. The large volume of traffic on First Street creates queues at a few intersections, but due to low volumes of opposing traffic vehicles traveling along First Street proceed unimpeded. Due to the large volumes of traffic from all approaches at the intersections of Trimble Road, Tasman Drive, and Montague Expressway, long vehicle queues develop for peak direction movements that do not clear during allotted green times. At the three intersections vehicles in the through lanes stack back to the previous intersection. Left-turn storage capacities are inadequate and impede through movement traffic. Delays at these intersections are attributable to lack of capacity to accommodate traffic volume demands.

Zanker Road - Intersections along Zanker Road operate at fair levels of service with the exception of the Trimble Road and Montague Expressway intersections that experience delays due to large peak direction traffic volumes. The intersection of Tasman Drive and Zanker Road experiences large delays due to construction of the light rail extension. A large vehicle queue develops at the Zanker Road and SR 237 westbound loop on-ramp due to ramp metering during the PM peak hour. The queue extends back to the Zanker Road and SR 237 eastbound ramps.

Montague Expressway - Delays along Montague Expressway are due to its role as the only major east/west arterial connecting to US 101 and I-880 in the area. The existing capacity of the expressway is inadequate to accommodate existing traffic volume demands. Though every intersection along Montague Expressway operates poorly, the intersections of North First Street, Trimble Road, and McCarthy/O'Toole Boulevard experience large delays. Long vehicle queues were observed on all approaches during both peak hours at the three intersections. There is an imbalance of lane usage as the expressway approaches I-880 due to vehicles accessing the I-880 ramps.

Table 5
Freeway Segment Levels of Service - Existing Conditions

Freeway	Segment	Direction	Peak Hour	Mixed-Flow Lanes				HOV Lane			
				Ave. Speed/a/	# of Lanes	Volume/a/	Density	LOS	Ave. Speed/a/	# of Lanes	Volume/a/
SR 237	Mathilda to Lawrence	EB	AM	60	2	3,190	28.6	D	65	1	880
			PM	65	2	1,960	15.1	B	65	1	410
SR 237	Lawrence to Great America	EB	AM	60	2	3,500	29.2	D	65	1	150
			PM	60	2	3,170	26.4	D	65	1	360
SR 237	Great America to North First	EB	AM	35	2	3,570	51.0	E	65	1	390
			PM	60	2	2,520	21.0	C	65	1	910
SR 237	North First to Zanker	EB	AM	60	2	2,650	22.1	C	65	1	200
			PM	20	2	3,200	80.0	F	60	1	1420
SR 237	Zanker to I-880	EB	AM	60	3	5,550	30.8	D	65	1	330
			PM	10	3	4,830	164.3	F	20	1	1,650
I-880	south of Montague	NB	AM	25	2	2,830	56.8	F	N/A	N/A	0
			PM	15	2	3,050	101.7	F	N/A	N/A	0
I-880	Montague to Tasman	NB	AM	65	3	3,450	17.7	C	N/A	N/A	0
			PM	15	3	4,030	89.6	F	N/A	N/A	0
I-880	Tasman to SR 237	NB	AM	65	3	2,350	12.1	B	N/A	N/A	0
			PM	15	3	4,080	90.7	F	N/A	N/A	0
I-880	SR 237 to Dixon Landing	NB	AM	65	3	3,590	18.4	C	N/A	N/A	0
			PM	10	3	4,410	147.0	F	N/A	N/A	0
US 101	south of Trimble	NB	AM	25	3	4,900	65.3	F	60	1	1,560
			PM	60	3	6,230	34.8	D	65	1	340
US 101	south of Trimble	SB	AM	65	3	4,210	21.6	C	65	1	510
			PM	30	3	4,790	53.2	E	60	1	1,790
I-880	Dixon Landing to SR 237	SB	AM	60	4	6,030	25.1	D	N/A	N/A	0
			PM	55	4	7,770	35.3	D	N/A	N/A	0
I-880	SR 237 to Tasman	SB	AM	60	3	3,750	20.8	C	N/A	N/A	0
			PM	65	3	2,800	14.4	B	N/A	N/A	0
I-880	Tasman to Montague	SB	AM	65	3	3,710	19.0	C	N/A	N/A	0
			PM	15	3	3,920	87.1	F	N/A	N/A	0
I-880	south of Montague	SB	AM	60	2	3,770	31.4	D	N/A	N/A	0
			PM	10	2	2,310	115.5	F	N/A	N/A	0
SR 237	I-880 to Zanker	WB	AM	15	3	4,350	96.7	F	60	1	1950
			PM	60	3	5,360	29.8	D	65	1	550
SR 237	Zanker to North First	WB	AM	60	2	3,880	32.3	D	65	1	570
			PM	60	2	2,910	24.3	D	65	1	260
SR 237	North First to Great America	WB	AM	60	2	4,140	34.5	D	65	1	390
			PM	60	2	2,940	24.5	D	65	1	850
SR 237	Great America to Lawrence	WB	AM	60	2	2,740	22.8	C	65	1	200
			PM	60	2	3,210	26.8	D	65	1	1070
SR 237	Lawrence to Mathilda	WB	AM	60	2	2,570	21.4	C	65	1	410
			PM	55	2	4,020	36.5	D	65	1	930

/a/ Source: Santa Clara Valley Transportation Authority Congestion Management Program Monitoring Study, 1998.

Brokaw Road – With the exception of the intersections at Zanker Road and First Street which operate at unacceptable levels, vehicle traffic on Brokaw Road experiences minor delays with vehicle queues generally clear during every cycle at its intersections. Along most of Brokaw Road, traffic on peak directions stack back to the previous intersection. At the intersection with Zanker Road the eastbound-left turn pocket lacks storage capacity to accommodate the left-turn volume during the AM peak hour. Due to the low eastbound-through volume, queued vehicles are able to stack in the innermost eastbound through lane and clear the left-turn queue during the allotted green time. The southbound left-turn storage capacity is inadequate during the PM peak hour. At the intersection with First Street, the high westbound-left movement volumes trying to access US 101 at the south intersection do not clear, blocking the intersection and impeding eastbound through movement traffic.

Trimble Road – Due to the low volumes of opposing traffic at all intersections with the exception of First Street, vehicles traveling along Trimble Road can proceed unimpeded. At the intersection with First Street vehicle queues in the peak directions, specifically the First Street through movements, do not clear. Long delays and queuing of the westbound through vehicles back to the upstream intersection were observed during the PM peak hour at the intersection with De La Cruz Boulevard.

Tasman Drive - Every intersection along Tasman drive between North First Street and I-880 operates at unacceptable levels of service. The poor conditions are due to volume overflow from the congested east/west facilities of Montague Expressway and SR 237. Delays along Tasman Drive are compounded due to construction detours of the I-880/SR 237 interchange improvement projects.

McCarthy Boulevard – Intersections along McCarthy Boulevard, with the exception of the intersections at Montague Expressway and Tasman Drive, operate fairly well. Due to the high traffic volumes on all approaches at the intersection with Montague Expressway, long vehicle queues were observed on all approaches during both peak hours. During the PM peak hour eastbound-through and southbound-left vehicle queues do not clear during the allotted green time. An imbalance of lane usage as the expressway approaches I-880 due to vehicles accessing the I-880 ramps was also observed. During the PM peak hour large vehicle queues that did not clear during the allotted green time were observed at the intersection with Tasman Drive. The queues are due to the large southbound left-turn and eastbound through movement volumes at the intersection.

Calaveras Boulevard - The intersections along Calaveras Boulevard east of Abel Street operate without any major operational deficiencies during either peak hour. The intersection with and those west of Abel Street experience large delays due to large traffic volumes. Due to the large volumes of traffic from all approaches long vehicle queues develop for peak direction movements that do not clear during allotted green times. At the three intersections vehicles in the through lanes stack back to the previous intersection. Left-turn storage capacities are inadequate and impede through movement traffic. Delays at these intersections are attributable to lack of capacity to accommodate traffic volume demands.

3.

Background Conditions

This chapter describes background traffic conditions. Background conditions are defined as conditions just prior to completion of the proposed development. Traffic volumes for background conditions comprise volumes from existing traffic counts plus traffic generated by other approved developments in the vicinity of the site. This chapter describes the planned intersection improvements, the procedure used to determine background traffic volumes, and the resulting traffic conditions.

Background Roadway Network

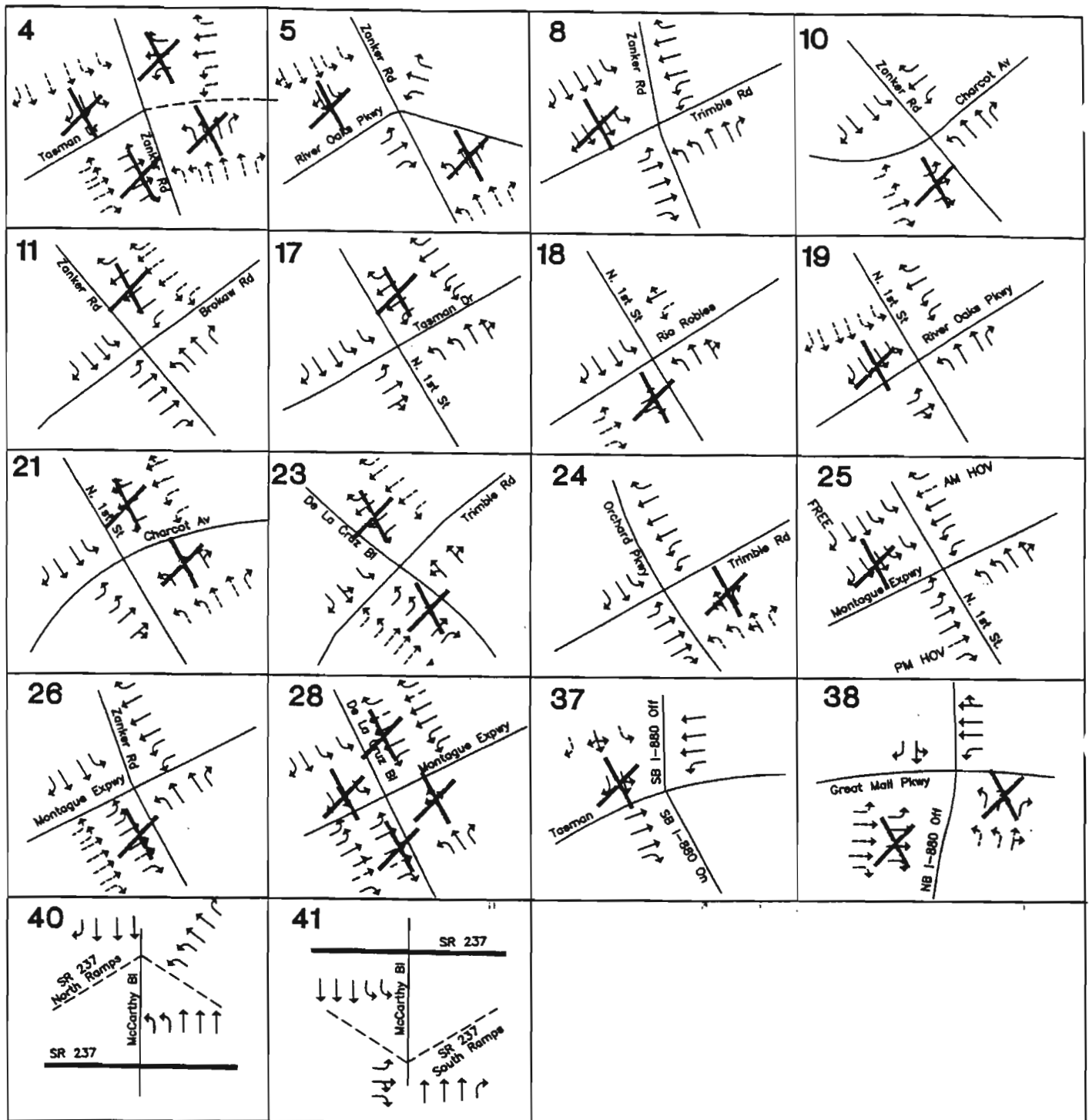
Several intersection and roadway improvements are planned under background conditions. The intersection improvements are either part of a city Capital Improvement Programs (CIP) or have been mandated by a city as a condition of future development to be funded by the developer. The improvements are described below and are shown on Figure 7.

Intersection Improvements

City of San Jose Intersections

Zanker Road and Tasman Drive. The improvement at this intersection consists of a full reconstruction of the intersection. The fully reconstructed intersection would include two left-turn lanes, three through lanes, and one right-turn lane on the north and south approaches; and two left-turn lanes, two through lanes, and one right-turn lane on the east and west approaches. (Developer funded: Cisco Agnews East)

Zanker Road and River Oaks Parkway. The improvement at this intersection consists of the addition of a second northbound through lane, two southbound through lanes, and a second southbound left-turn lane. (Developer funded: Cisco Agnews East/3Com)



LEGEND

← = Improvement

Figure 7

PLANNED INTERSECTION IMPROVEMENTS

US Dataport

Zanker Road and Charcot Avenue. The improvement at this intersection consists of the addition of a second eastbound left-turn lane. (Developer funded: Novell)

Zanker Road and Brokaw Road. The improvement at this intersection consists of the addition of a second westbound left-turn lane. (Developer funded: 3Com)

North First Street and Tasman Drive. The improvement at this intersection consists of the addition of a second westbound left-turn lane. (Developer funded: Cisco)

North First Street and Rio Robles. The improvements at this intersection consist of the addition of the east leg with a left-turn lane and shared through-right turn lane, restriping of the west leg to include one left-turn lane, one through lane, and one right-turn lane, and the addition of a northbound right-turn lane. (Developer funded: Moitoyo/Cisco)

North First Street and River Oaks Parkway. The improvements at this intersection consist of adding a second southbound left-turn lane and a third southbound through lane. (Developer funded: 3Com/Canon/Moitoyo/Cisco)

North First Street and Charcot Avenue. The improvement at this intersection consists of the addition of a second westbound left-turn lane, the addition of a second northbound left-turn lane, and the addition of an exclusive northbound right-turn lane. (Developer funded: Novell/Atmel)

De La Cruz Boulevard and Trimble Road. The improvement at this intersection includes the addition of third westbound and eastbound through lanes. (CIP funded)

Orchard Parkway and Trimble Road. The improvement at this intersection consists of the addition of two northbound left-turn lanes. (Developer funded: CarrAmerica)

North First Street and Montague Expressway. The improvement at this intersection consists of the addition of a southbound free-right-turn lane. (Developer funded: Cisco)

City of Santa Clara

De la Cruz Boulevard and Montague Expressway. The improvement at this intersection consists of the addition of second southbound, westbound, and eastbound left-turn lanes.

City of Milpitas

SB I-880 off-ramp and Tasman Drive. The improvement at this intersection includes converting the eastbound right-turn lane to a free-right, widening the southbound approach to provide one left-turn lane, one shared left-through-right-turn lane, and one right-turn lane. (Developer funded: Cisco Agnews East)

NB I-880 ramps and Great Mall Parkway. The improvement at this intersection consists of restriping the northbound approach to provide two left-turn lanes and one shared right-through lane, and restriping the eastbound approach to provide three through lanes. (Developer funded: Cisco Agnews East)

McCarthy Boulevard and SR 237 (N). This intersection does not currently exist, but will be constructed as part of the I-880/SR 237 Interchange improvement project. The signalized intersection will be constructed to include one right-turn lane and three through lanes at the north approach, one right-turn lane, two through lanes and two left-turn lanes at the east approach, and two left-turn lanes and three through lanes

at the south approach.

McCarthy Boulevard and SR 237 (S). This intersection is partially completed, but will be fully constructed as part of the I-880/SR 237 Interchange improvement project. The signalized intersection will be constructed to include three through lanes and two left-turn lanes at the north approach, one right-turn lane and three through lanes at the south approach, and one right-turn lane, one all-movement lane, and one left-turn lane at the west approach.

Roadway Improvements

Zanker Road. The improvement on this roadway consists of widening the roadway to six-lanes, three lanes in each direction from SR 237 to Tasman Drive and four-lanes, two lanes in each direction from Tasman Drive to River Oaks Parkway. Currently Zanker Road is two lanes between Tasman Drive and River Oaks Parkway and four lanes between River Oaks Parkway and Trimble Road. (Developer funded: Cisco Agnews East)

North First Street. The improvement on this roadway consists of widening the roadway with the addition of a third through lane along southbound First Street that begins just south of Rio Robles and terminates as a free-right to westbound Montague.

Trimble Road. The improvement on this roadway consists of widening Trimble Road to six lanes, three lanes in each direction, between US 101 and De La Cruz Boulevard. This involves widening the bridge over the Guadalupe River. Currently Trimble Road is four lanes between US 101 and De La Cruz Boulevard. (CIP funded)

I-880/SR 237 Interchange Improvements. A full reconstruction of the I-880/SR 237 interchange is under construction. It is estimated that the improvement project will be completed by 2001. With completion of the improvement project, the following changes in the existing roadway system will occur:

- *McCarthy to EB SR 237 on-ramp* – A new on-ramp will serve traffic on McCarthy Boulevard bound for NB I-880 or EB SR 237. Traffic from McCarthy Boulevard bound for SB I-880 will continue to be diverted to Tasman Drive.
- *Direct Connector Ramps* – SB I-880 to WB SR 237 and EB SR 237 to NB I-880 will be served by direct connector ramps.
- *Collector Road* – A collector road will serve EB SR 237 to SB I-880.
- *WB SR 237 (Calaveras) to McCarthy off-ramp* – A new off-ramp from WB SR 237 (Calaveras Boulevard) to McCarthy Boulevard will serve traffic bound for McCarthy Boulevard.
- *McCarthy to WB SR 237 on-ramp* – A new on-ramp will serve traffic from McCarthy Boulevard to WB SR 237 and traffic from WB SR 237 (Calaveras) to WB SR 237 will be diverted through this intersection. Access from Ranch Drive to WB SR 237 will be removed.

McCarthy Boulevard Extension – McCarthy Boulevard which currently terminates just north of Ranch Drive will be extended northward to Dixon Landing Road providing access to the area from I-880.

Background Bicycle and Pedestrian Facilities

Bicycle and pedestrian facilities under background conditions were assumed to remain unchanged from existing conditions.

Background Transit Service

Transit service under background conditions was assumed to remain unchanged from existing conditions.

Background Traffic Volumes

Background peak-hour traffic volumes were estimated by adding to existing volumes the estimated traffic from approved, but not yet constructed, developments. The added traffic from approved, but not yet constructed, developments were provided by the cities of San Jose and Milpitas in the form of Approved Trips Inventory (ATI) and a list for the City of Santa Clara.

Due to the close proximity of the project to the planned I-880/SR 237 Interchange improvements and McCarthy Boulevard extension, it was necessary to account for changes in the roadway system due to construction and completion of the improvement projects. Background peak -hour traffic volumes for Milpitas intersections were adjusted to account for the interchange and roadway improvements with the aid of model forecasts for the new roadway network.

Background traffic volumes are shown on Figure 8. The ATI along with documentation of the volume adjustments are included in Appendix B.

Background Intersection Levels of Service

City of San Jose Intersection Analysis

Golden Triangle Intersections

The results of the level of service analysis under background conditions are summarized in Table 6. The results show that, measured against the City of San Jose level of service standards, four of the signalized Golden Triangle study intersections (three CMP intersections and one non-CMP intersections) are projected to operate at an unacceptable LOS E or worse. The levels of service calculation sheets are included in Appendix D.

North San Jose Deficiency Plan Intersections

The level of service results for the 22 NSJDP intersections under background conditions are summarized in Table 6. The results show that, measured against the CMP level of service standards, five of the NSJDP study intersections are projected to operate at an unacceptable LOS F during at least one of the peak hours. The levels of service calculation sheets are included in Appendix D.

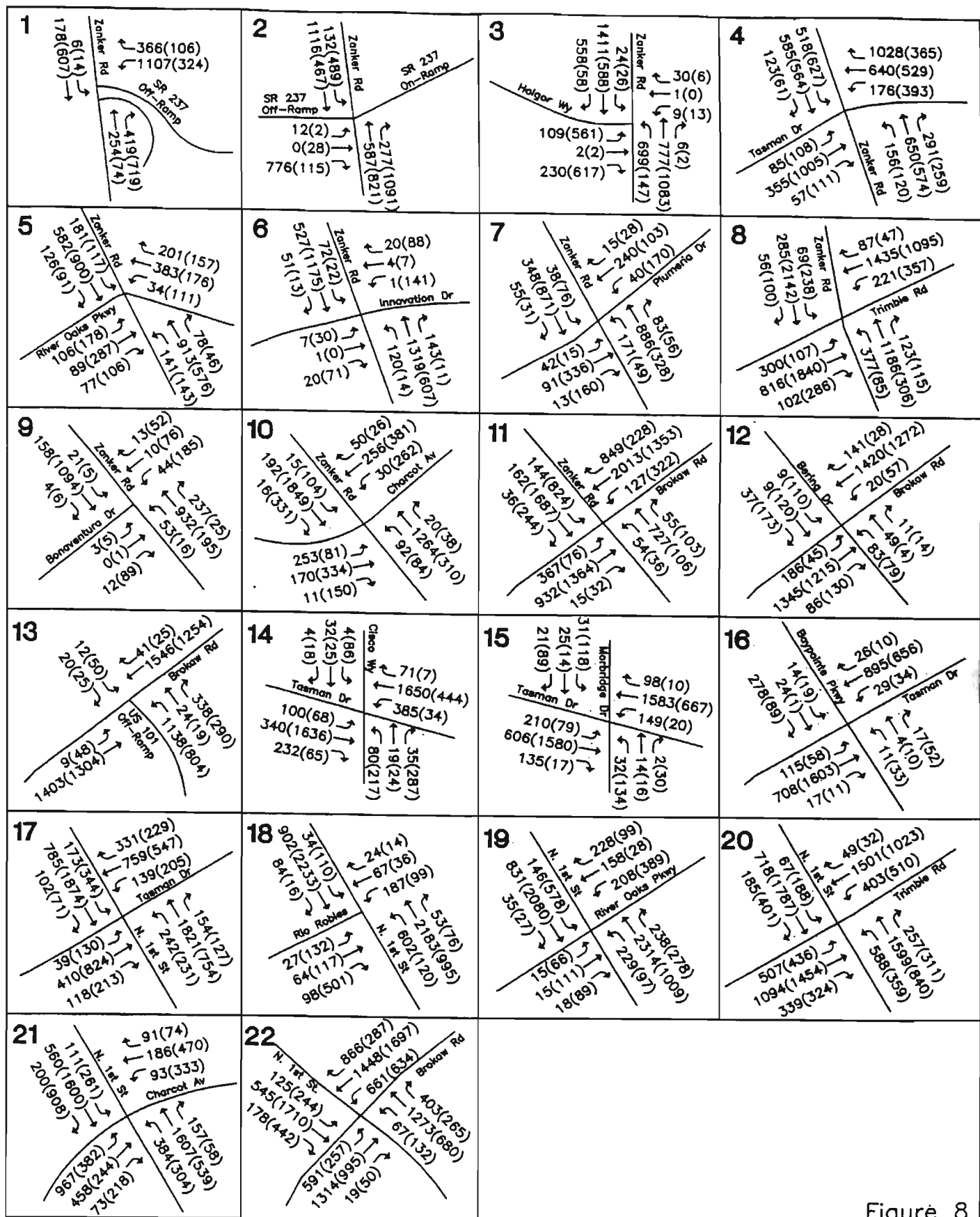


Figure 8

BACKGROUND TRAFFIC VOLUMES US Dataport

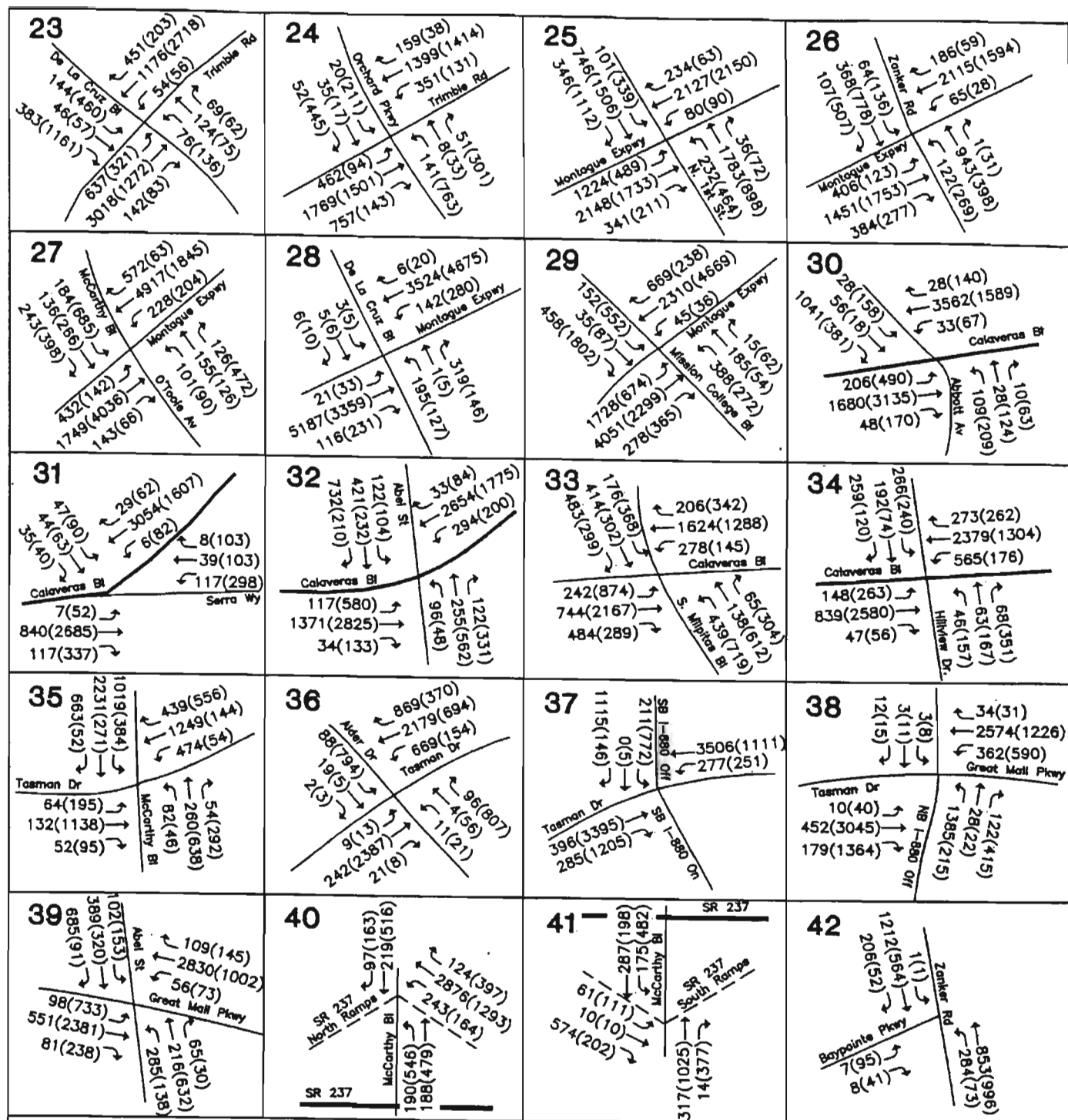


Figure 8

BACKGROUND TRAFFIC VOLUMES

US Dataport

Table 6

Background Intersection Levels of Service

Intersection	Peak Hour	Count Date	Existing		Background	
			Ave. Delay	LOS	Ave. Delay	LOS
City of San Jose Intersections						
Zanker Rd./SR 237 (N)*	AM	3/28/00	7	B	9	B
	PM	3/28/00	10	B	10	B
Zanker Rd./SR 237 (S)*	AM	3/28/00	14	B	14	B
	PM	3/28/00	9	B	13	B
Zanker Rd./Holger Wy	AM	3/14/00	11	B	17	C
	PM	3/15/00	12	B	20	C
Zanker Rd./Tasman Dr./a/	AM	3/14/00	25	C	24	C
	PM	3/15/00	23	C	25	D
Zanker Rd./River Oaks Pkwy./a/	AM	3/16/00	16	C	17	C
	PM	3/15/00	15	B	15	B
Zanker Rd./Innovation Dr.	AM	3/08/00	15	C	12	B
	PM	3/02/00	19	C	15	C
Zanker Rd./Plumeria Dr.	AM	3/21/00	25	C	24	C
	PM	3/21/00	29	D	29	D
Zanker Rd./Trimble Rd.*a/	AM	4/12/00	27	D	33	D
	PM	4/11/00	41	E	36	D
Zanker Rd./Bonaventura Dr.	AM	3/30/00	6	B	7	B
	PM	3/30/00	8	B	14	B
Zanker Rd./Charcot Av./a/	AM	3/14/00	20	C	21	C
	PM	3/14/00	27	D	23	C
Zanker Rd./Brokaw Rd.*a/	AM	2/17/00	35	D	42	E
	PM	2/17/00	41	E	41	E
Bering Dr./Brokaw Rd.	AM	3/14/00	15	C	14	B
	PM	3/14/00	19	C	18	C
US 101/Brokaw Rd.*	AM	5/19/00	22	C	29	D
	PM	5/19/00	24	C	26	D
Cisco Wy/Tasman Dr.	AM	3/16/00	12	B	12	B
	PM	3/15/00	15	C	15	B
Morbridge Dr./Tasman Dr.	AM	3/30/00	12	B	12	B
	PM	3/30/00	12	B	12	B
Baypointe Pkwy./Tasman Dr.	AM	3/29/00	15	B	14	B
	PM	3/29/00	8	B	8	B
North First St./Tasman Dr./a/	AM	3/16/00	31	D	32	D
	PM	3/16/00	36	D	38	D
North First St./Rio Robles/a/	AM	3/21/00	13	B	23	C
	PM	3/21/00	20	C	21	C
North First St./River Oaks Pkwy./a/	AM	3/21/00	24	C	25	C
	PM	3/21/00	21	C	23	C
North First St./Trimble Rd.*	AM	3/21/00	34	D	76	F
	PM	3/21/00	38	D	77	F
North First St./Charcot Av./a/	AM	3/15/00	34	D	41	E
	PM	3/15/00	37	D	36	D
North First St./Brokaw Rd.*	AM	2/24/00	35	D	64	F
	PM	2/24/00	34	D	78	F
De La Cruz Blvd./Trimble Rd.*a/	AM	5/16/00	25	D	24	C
	PM	5/16/00	38	D	37	D

Table 6 (Cont'd)
Background Intersection Levels of Service

Intersection	Peak Hour	Count Date	Existing		Background	
			Ave. Delay	LOS	Ave. Delay	LOS
Orchard Pkwy./Trimble Rd./a/	AM	3/14/00	15	C	20	C
	PM	3/14/00	21	C	31	D
North First St./Montague Expwy.*a/	AM	5/17/00	48	E	269	F
	PM	3/9/00	41	E	88	F
Zanker Rd./Montague Expwy.*	AM	4/11/00	38	D	60	F
	PM	3/9/00	42	E	53	E
O'Toole Av.-McCarthy Blvd./Montague Expwy.*	AM	5/17/00	68	F	131	F
	PM	3/16/00	200	F	194	F
City of Santa Clara Intersections						
De La Cruz Blvd./Montague Expwy.*a/	AM	10/07/98	41	E	230	F
	PM	11/04/98	24	C	48	E
Mission College Blvd./Montague Expwy.*	AM	4/15/98	75	F	439	F
	PM	11/04/98	27	D	74	F
City of Milpitas						
Abott Av./Calaveras Blvd.	AM	3/23/00	57	E	83	F
	PM	3/23/00	25	D	25	D
Serra Wy./Calaveras Blvd.	AM	3/21/00	11	B	12	B
	PM	3/15/00	18	C	18	C
Abel St./Calaveras Blvd.*	AM	10/08/98	33	D	49	E
	PM	10/08/98	39	D	54	E
South Milpitas Blvd./Calaveras Blvd.*	AM	10/06/98	34	D	35	D
	PM	10/06/98	44	E	54	E
Hillview Dr./Calaveras Blvd.	AM	5/4/00	25	C	26	D
	PM	5/9/00	26	D	27	D
McCarthy Blvd./Tasman Dr.	AM	6/15/99	19	C	163	F
	PM	6/15/99	29	D	30	D
Alder Dr./Tasman Dr.	AM	6/16/99	11	B	14	B
	PM	6/16/99	40	D	155	F
SB I-880 off ramp/Tasman Dr./a/	AM	6/17/99	20	C	43	E
	PM	6/17/99	21	C	65	F
NB I-880 off ramp/Great Mall Pkwy./a/	AM	6/17/99	25	C	111	F
	PM	6/17/99	43	E	84	F
Abel St./Great Mall Pkwy.	AM	1/26/00	29	D	110	F
	PM	10/12/99	21	C	22	C
McCarthy Blvd./SR 237 (N) /a/	AM	N/A	N/A	N/A	28	D
	PM	N/A	N/A	N/A	20	C
McCarthy Blvd./SR 237 (S) /a/	AM	5/17/00	17	C	17	C
	PM	5/17/00	11	B	18	C

/a/ Includes planned improvements

* Denotes CMP intersection.

City of Santa Clara Intersection Analysis

Regional CMP Intersections

The level of service results for the CMP intersections under background conditions are summarized in Table 6. The results show that, measured against the CMP level of service standards, both of the CMP study intersections are projected to operate at an unacceptable LOS F during at least one of the peak hours.

City of Milpitas Intersection Analysis

Local City of Milpitas Intersections

The results of the level of service analysis under background conditions are summarized in Table 6. The results show that, measured against the City of Milpitas level of service standards, six of the signalized study intersections are projected to operate at an unacceptable LOS E or worse. The levels of service calculation sheets are included in Appendix D.

Regional CMP Intersections

The level of service results for the CMP intersections under background conditions are summarized in Table 6. The results show that, measured against the CMP level of service standards, neither of the CMP study intersections are projected to operate at an unacceptable LOS F.

Background Freeway Segment Levels of Service

The analysis of freeway segment level of service is not required for background conditions, per CMP requirements.

4.

Project Impacts and Mitigation Measures

This chapter describes project traffic conditions, significant project impacts, and measures that are identified to mitigate project impacts. Included are descriptions of the significance criteria that define an impact, estimates of project-generated traffic, identification of the impacts, and descriptions of the mitigation measures. Project conditions are represented by background traffic conditions with the addition of traffic generated by the project.

Future Roadway Network Under Project Conditions

It is assumed in this analysis that the future near-term roadway network under project conditions would be the same as described under background conditions.

Bicycle and Pedestrian Facilities Under Project Conditions

Bicycle and pedestrian facilities under project conditions were assumed to remain unchanged from existing conditions.

Transit Service Under Project Conditions

Transit service under project conditions was assumed to remain unchanged from existing conditions.

Project Trip Estimates

The magnitude of traffic produced by a new development and the locations where that traffic would appear are estimated using a three-step process: (1) trip generation, (2) trip distribution, and (3) trip assignment. In determining project trip generation, the magnitude of traffic entering and exiting the site is

estimated for the AM and PM peak hours. As part of the project trip distribution, an estimate is made of the directions to and from which the project trips would travel. In the project trip assignment, the project trips are assigned to specific streets and intersections. These procedures are described further in the following sections.

Trip Generation

The magnitude of traffic generated by the proposed project was estimated by applying trip generation rates developed through surveys of existing comparable developments. A total of ten facilities were surveyed that consisted of two data-centers, five co-location, and three telecommunication facilities. The overall peak hour average rates for the three types of facilities surveyed was determined to be 0.23 and 0.25 trips per 1,000 s.f. of building area during the AM and PM peak hours, respectively. The trip generation surveys are included in Appendix F.

Using the surveyed rates, it is estimated that the proposed project would generate 506 trips during the AM peak hour and 550 trips during the PM peak hour. Using the surveyed inbound/outbound splits, the project would produce 380 inbound trips and 127 outbound trips during the AM peak hour and 132 inbound and 418 outbound trips during the PM peak hour.

Table 7
Trip Generation Estimates

Land Use	Size	AM Peak Hour			PM Peak Hour			In	Out	Total
		Pk-Hr Rate /a/	In	Out	Total	Pk-Hr Rate /a/	In			
CoLocation/Teleco/Data	2.2 m.s.f.	0.23	380	127	506	0.25	132	418	550	

/a/ Per 1,000 s.f.

Source: Trip Generation surveys conducted at comparable existing developments.

Trip Distribution

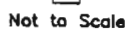
The trip distribution pattern for the proposed project was estimated based on existing travel patterns on the surrounding roadway system and the locations of complementary land uses. The trip distribution pattern is shown graphically on Figure 9.

Trip Assignment

The peak-hour trips generated by the proposed development were assigned to the roadway system in accordance with the trip distribution pattern discussed above. Figure 10 shows the project trip assignment.

Project Intersection Lane Configurations

The intersection lane configurations under project conditions were assumed to be the same as described under background conditions.



LEGEND



= Project Site



= Future Roadway

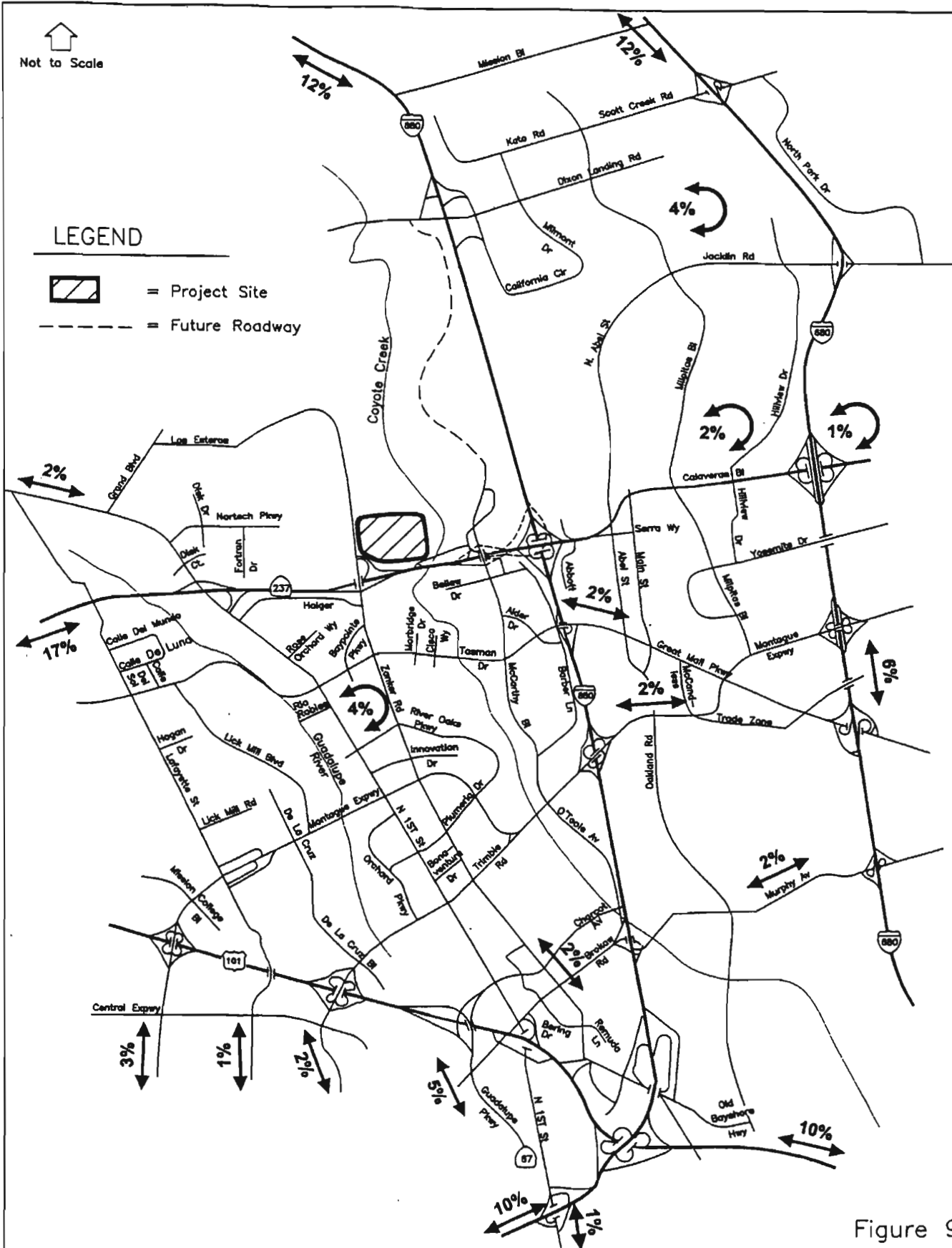


Figure 9

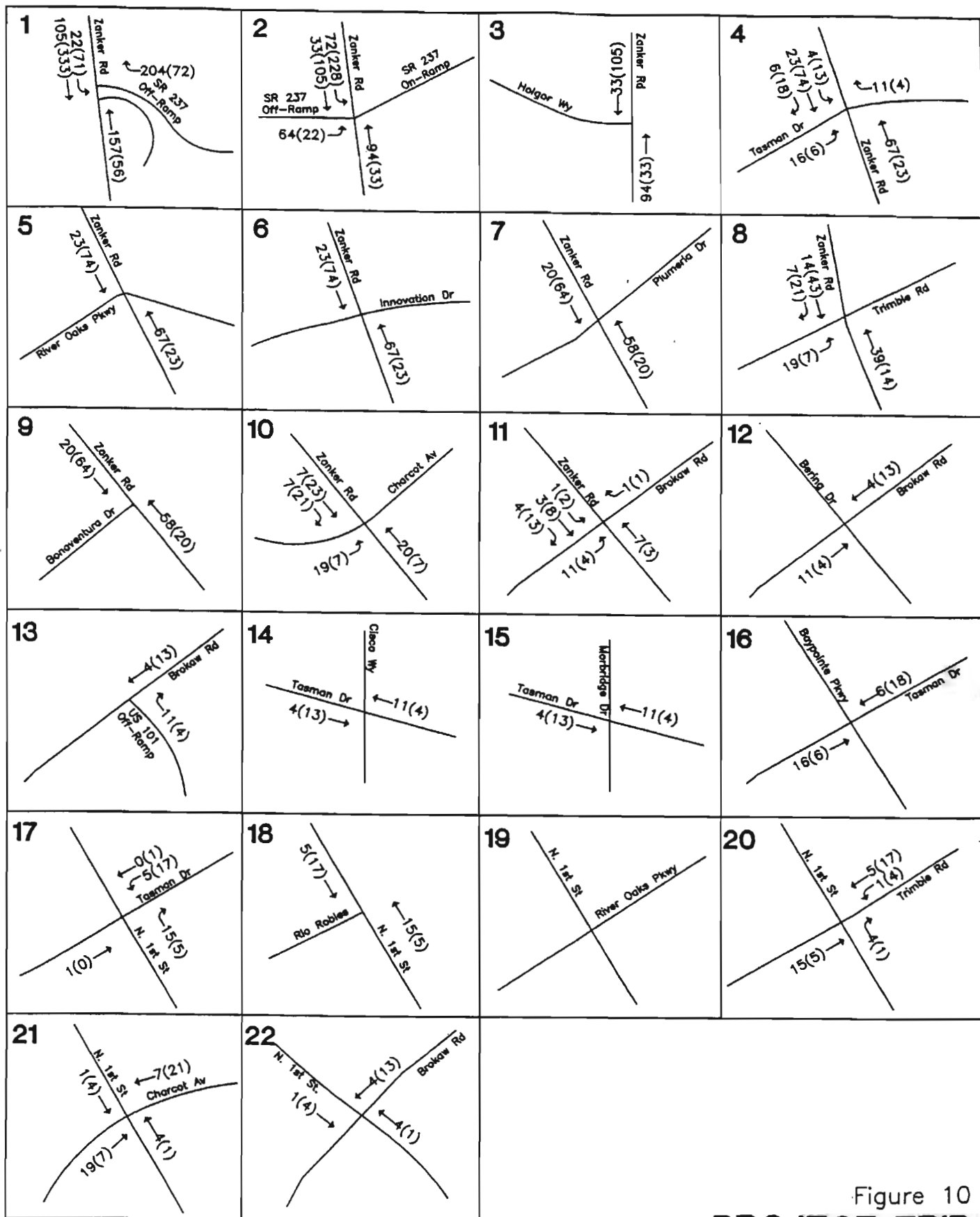
PROJECT TRIP DISTRIBUTION

US Dataport



Hexagon

 Hexagon
 Transportation Consultants, Inc.



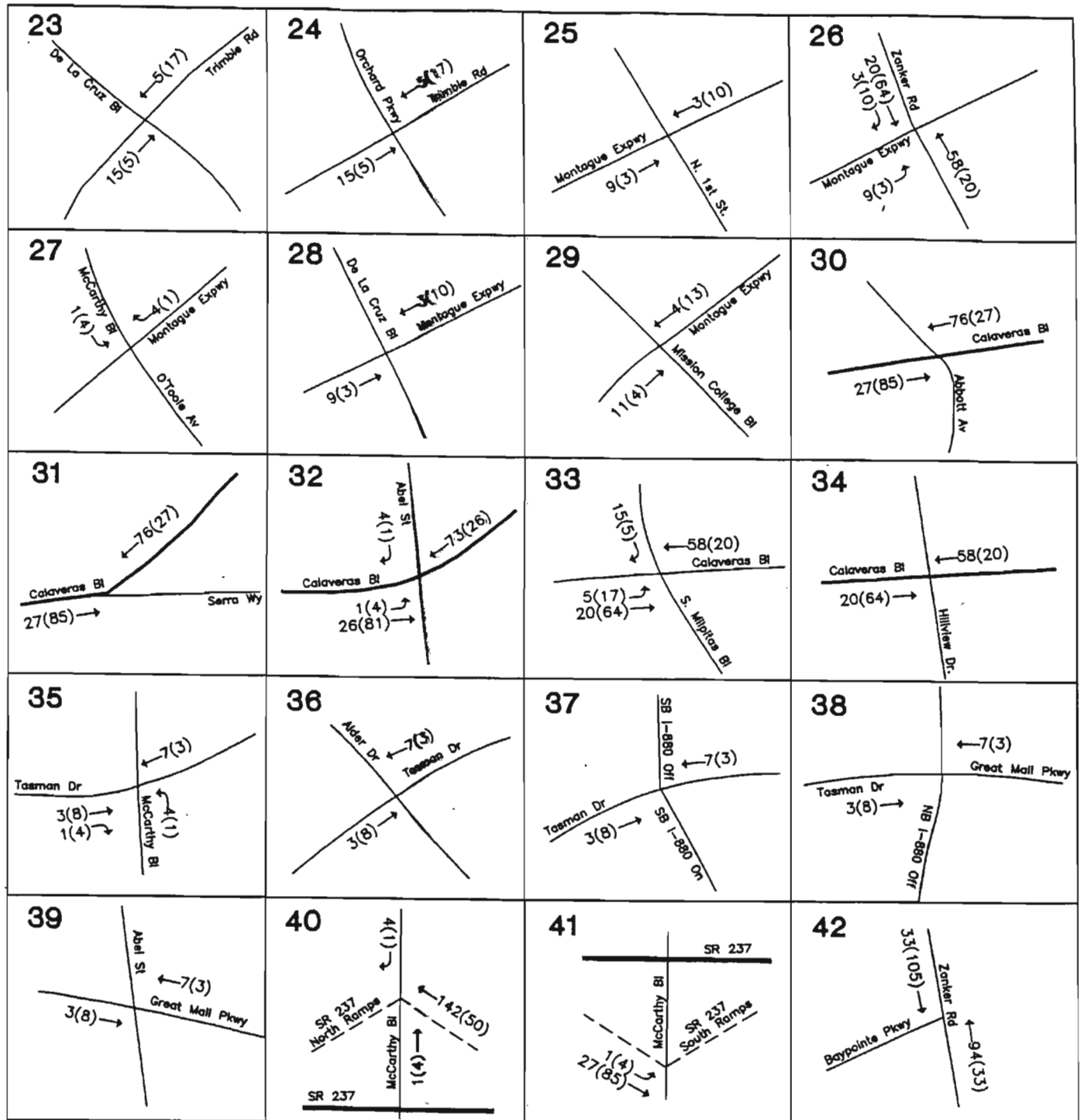


Figure 10
**PROJECT TRIP
 ASSIGNMENT**
 US Dataport

Project Traffic Volumes

Project trips, as represented in the above project trip assignment, were added to background traffic volumes to obtain background plus project traffic volumes. Background traffic volumes plus project trips are typically referred to simply as *project traffic volumes*; this is contrasted with the term *project trips*, which is used to signify the traffic that is produced specifically by the project. The project traffic volumes are shown graphically on Figure 11. Traffic volumes for all components of traffic are tabulated in Appendix C.

Project Intersection Levels of Service

City of San Jose Intersection Analysis

Though the project is located in Alviso, a large amount of project traffic will affect the transportation system in North San Jose. As such the project is required to be evaluated in accordance with the North San Jose Development Policy and North San Jose Deficiency Plan (NSJDP), each of which is described below.

Golden Triangle Intersections

The results of the level of service analysis under project conditions are summarized in Table 8. The results show that, measured against the City of San Jose level of service standards, four of the signalized Golden Triangle study intersections (three CMP intersections and one non-CMP intersections) are projected to operate at an unacceptable LOS E or worse. The level of service calculation sheets are included in Appendix D.

According to the North San Jose Development Policy, a project is defined as causing a significant impact if the weighted average level of service is LOS E or F. The weighted average level of service is calculated for all Golden Triangle intersections to which the project would add greater than one percent to the critical volume. The results of the Golden Triangle intersection analysis indicate that the project development would not have a significant impact on the key intersections. The weighted average level of service at the critical intersections under project conditions was found to be LOS B during both the AM peak hour ($V/C = 0.648$) and LOS A during the PM peak hour ($V/C = 0.595$). (See Table 9.)

North San Jose Deficiency Plan Intersections

The level of service results for the 22 NSJDP intersections under project conditions are summarized in Table 8. The results show that, measured against the CMP level of service standards, five of the NSJDP study intersections are projected to operate at an unacceptable LOS F during at least one of the peak hours under project conditions. The levels of service calculation sheets are included in Appendix D.

The goal of the NSJDP was to allow new development in North San Jose while maintaining a system wide level of service standard in the area. One of the policies of the NSJDP requires the average delay for the 22 CMP intersections to be maintained at 88 seconds or less with the addition of project traffic as calculated with TRAFFIX. All new developments in North San Jose are required to analyze the average

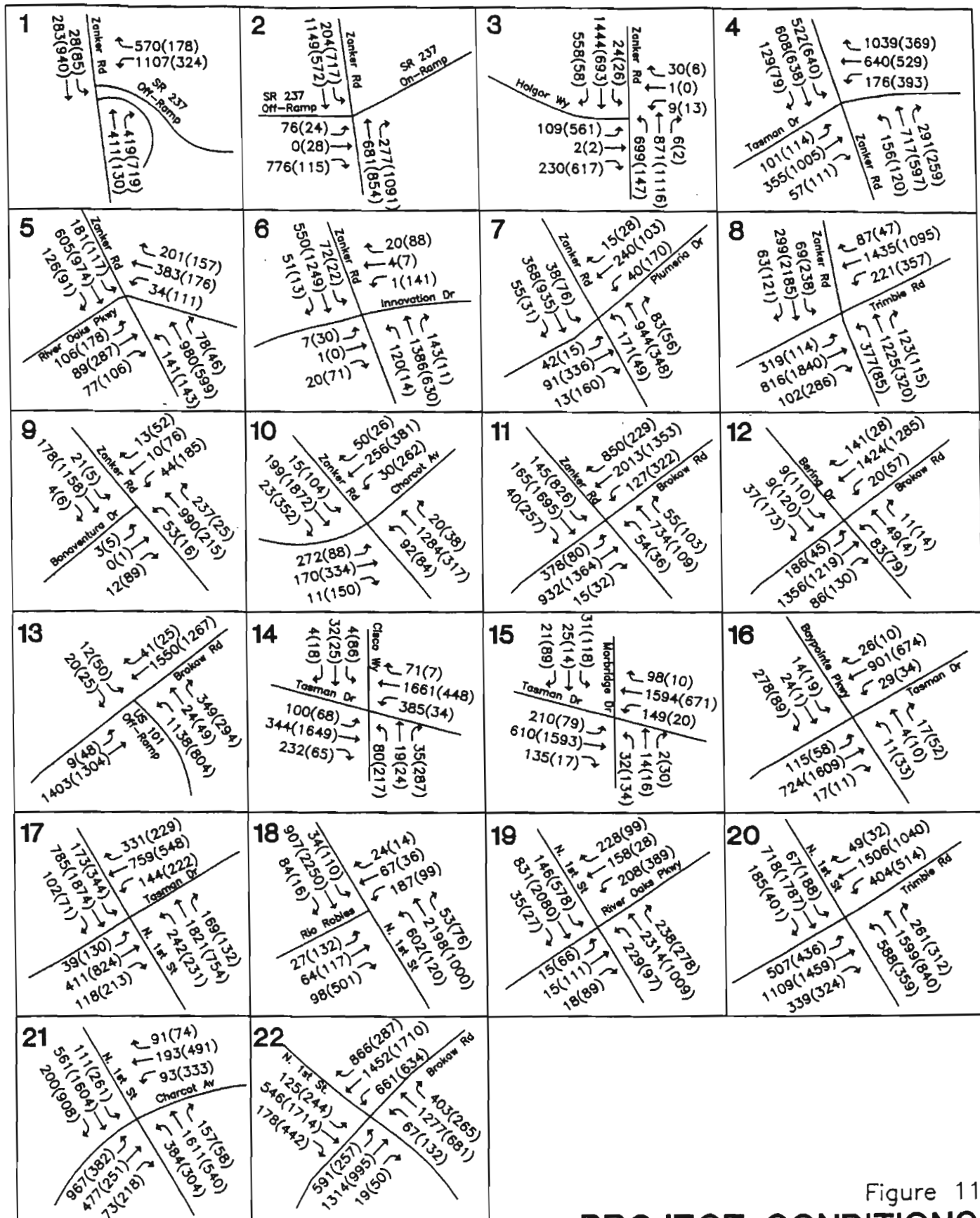


Figure 11
**PROJECT CONDITIONS
 TRAFFIC VOLUMES**
 US Dataport

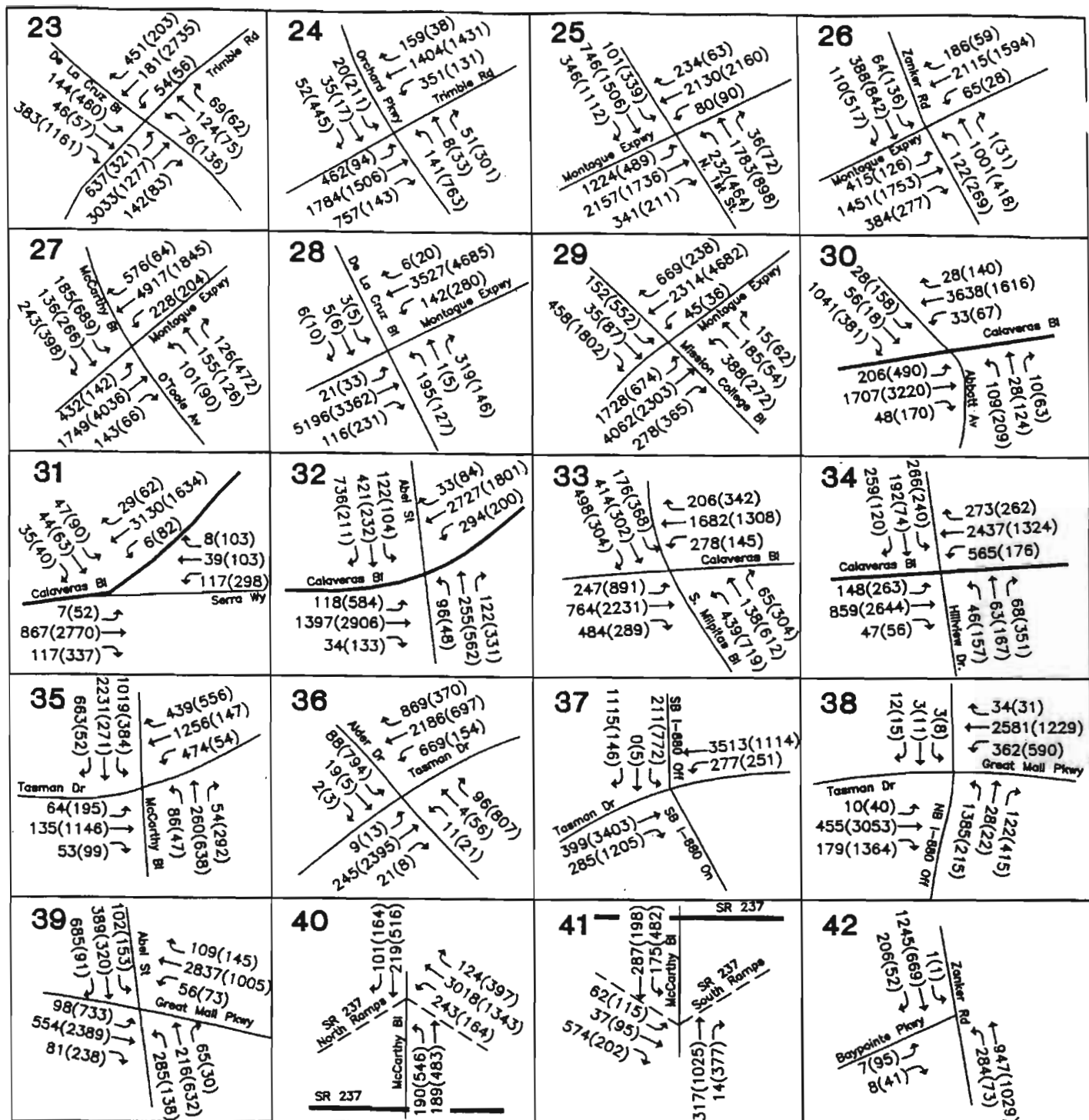


Figure 11
**PROJECT CONDITIONS
 TRAFFIC VOLUMES**
 US Dataport

Table 8
Project Intersection Levels of Service

Intersection	Peak Hour	Background		Project			
		Ave. Delay	LOS	Ave. Delay	LOS	Incr. In Crit. Delay.	Incr. In Crit. V/C
Zanker Rd./SR 237 (N)*	AM	9	B	10	B	2	0.06
	PM	10	B	10	B	0	0.20
Zanker Rd./SR 237 (S)*	AM	14	B	18	C	0	0.01
	PM	13	B	15	B	2	0.17
Zanker Rd./Holger Wy	AM	17	C	17	C	0	0.01
	PM	20	C	21	C	0	0.01
Zanker Rd./Tasman Dr./a/	AM	24	C	25	D	2	0.03
	PM	25	D	25	C	0	0.01
Zanker Rd./River Oaks Pkwy./a/	AM	17	C	17	C	0	0.02
	PM	15	B	15	B	0	0.02
Zanker Rd./Innovation Dr.	AM	12	B	12	B	0	0.02
	PM	15	C	15	C	0	0.02
Zanker Rd./Plumeria Dr.	AM	24	C	23	C	0	0.02
	PM	29	D	28	D	0	0.02
Zanker Rd./Trimble Rd.*a/	AM	33	D	34	D	2	0.02
	PM	36	D	38	D	2	0.01
Zanker Rd./Bonaventura Dr.	AM	7	B	7	B	0	0.02
	PM	14	B	14	B	0	0.02
Zanker Rd./Charcot Av./a/	AM	21	C	21	C	0	0.01
	PM	23	C	23	C	0	0.01
Zanker Rd./Brokaw Rd.*a/	AM	42	E	43	E	2	0.01
	PM	41	E	41	E	0	0.00
Bering Dr./Brokaw Rd.	AM	14	B	14	B	0	0.00
	PM	18	C	18	C	0	0.00
US 101/Brokaw Rd.*	AM	29	D	29	D	0	0.00
	PM	26	D	26	D	0	0.00
Cisco Wy/Tasman Dr.	AM	12	B	12	B	0	0.00
	PM	15	B	15	B	0	0.00
Morbridge Dr./Tasman Dr.	AM	12	B	12	B	0	0.00
	PM	12	B	12	B	0	0.00
Baypointe Pkwy./Tasman Dr.	AM	14	B	14	B	0	0.00
	PM	8	B	8	B	0	0.00
North First St./Tasman Dr./a/	AM	32	D	32	D	0	0.00
	PM	38	D	39	D	1	0.01
North First St./Rio Robles/a/	AM	23	C	26	D	3	0.00
	PM	21	C	21	C	1	0.01
North First St./River Oaks Pkwy./a/	AM	25	C	25	C	0	0.00
	PM	23	C	23	C	0	0.00
North First St./Trimble Rd.*	AM	76	F	76	F	1	0.00
	PM	77	F	78	F	2	0.00
North First St./Charcot Av./a/	AM	41	E	41	E	1	0.00
	PM	36	D	37	D	1	0.01
North First St./Brokaw Rd.*	AM	64	F	64	F	1	0.00
	PM	78	F	80	F	3	0.01
De La Cruz Blvd./Trimble Rd.*a/	AM	24	C	24	C	0	0.00
	PM	37	D	37	D	0	0.00

Table 8
Project Intersection Levels of Service

Intersection	Peak Hour	Background		Project Buildout			
		Ave. Delay	LOS	Ave. Delay	LOS	Incr. In Crit. Delay	Incr. In Crit. V/C
Orchard Pkwy./Trimble Rd./a/	AM	20	C	20	C	0	0.00
	PM	31	D	31	D	0	0.00
North First St./Montague Expwy.*/a/	AM	269	F	269	F	1	0.00
	PM	88	F	88	F	1	0.00
Zanker Rd./Montague Expwy.*	AM	60	F	68	F	13	0.02
	PM	53	E	56	E	3	0.01
O'Toole Av-McCarthy Blvd./Montague Expwy.*	AM	131	F	131	F	0	0.00
	PM	194	F	195	F	1	0.00
City of Santa Clara Intersections							
De La Cruz Blvd./Montague Expwy.*/a/	AM	230	F	232	F	2	0.00
	PM	48	E	48	E	1	0.00
Mission College Blvd./Montague Expwy.*	AM	439	F	439	F	-1	0.00
	PM	74	F	75	F	1	0.00
City of Milpitas Intersections							
Abott Av./Calaveras Blvd.	AM	83	F	90	F	10	0.02
	PM	25	D	26	D	0	0.01
Serra Wy./Calaveras Blvd.	AM	12	B	12	B	0	0.02
	PM	18	C	18	C	0	0.02
Abel St./Calaveras Blvd.*	AM	49	E	52	E	5	0.02
	PM	54	E	57	E	2	0.01
South Milpitas Blvd./Calaveras Blvd.*	AM	35	D	35	D	1	0.02
	PM	54	E	56	E	4	0.01
Hillview Dr./Calaveras Blvd.	AM	26	D	26	D	0	0.01
	PM	27	D	27	D	0	0.01
McCarthy Blvd./Tasman Dr.	AM	163	F	163	F	1	0.00
	PM	30	D	30	D	0	0.00
Alder Dr./Tasman Dr.	AM	14	B	14	B	0	0.00
	PM	155	F	156	F	1	0.00
SB I-880 off ramp/Tasman Dr./a/	AM	43	E	44	E	1	0.00
	PM	65	F	65	F	0	0.00
NB I-880 off ramp/Great Mall Pkwy./a/	AM	111	F	112	F	1	0.00
	PM	84	F	84	F	1	0.00
Abel St./Great Mall Pkwy.	AM	110	F	111	F	1	0.00
	PM	22	C	22	C	0	0.00
McCarthy Blvd./SR 237 (N) /a/	AM	28	D	42	E	18	0.04
	PM	20	C	20	C	0	0.01
McCarthy Blvd./SR 237 (S) /a/	AM	17	C	17	C	0	0.02
	PM	18	C	20	C	1	0.05

/a/ Includes planned improvements.

* Denotes CMP intersection.

Table 9
Golden Triangle Weighted Average

Intersection	Background Critical Volume	Crit. Vol. % Increase	Project Critical Volume	Project Conditions V/C	Project Conditions VxV/C
AM Peak Hour					
Zanker Rd. and Holger Wy.	2,113	1.56%	2,146	0.563	1,208
Zanker Rd. and Tasman Dr./a/	2,281	4.30%	2,379	0.854	2,032
Zanker Rd. and River Oaks Pkwy./a/	1,477	4.54%	1,544	0.580	896
Zanker Rd. and Innovation Dr.	1,402	4.78%	1,469	0.464	682
Zanker Rd. and Plumeria Dr.	1,206	4.81%	1,264	0.511	646
Zanker Rd. and Trimble Rd.*/a/	2,990	1.94%	3,048	0.880	2,682
Zanker Rd. and Bonaventura Dr.	997	5.82%	1,055	0.405	427
Zanker Rd. and Charcot Ave./a/	1,535	1.30%	1,555	0.516	802
Zanker Rd. and Brokaw Rd.*/a/	2,087	0.96%	2,107	0.968	2,040
Bering Dr. and Brokaw Rd.	1,655	0.24%	1,659	0.456	757
Cisco Wy and Tasman Dr.	1,830	0.60%	1,841	0.453	834
Morbridge Dr. and Tasman Dr.	1,818	0.61%	1,829	0.641	1,172
Baypointe Pkwy and Tasman Dr.	1,038	0.58%	1,044	0.545	569
North First St. and Tasman Dr./a/	2,792	0.00%	2,792	0.822	2,295
North First St. and Rio Robles/a/	2,468	0.61%	2,483	0.818	2,031
North First St. and River Oaks Pkwy./a/	2,633	0.00%	2,633	0.852	2,243
North First St. and Trimble Rd.*	3,674	0.14%	3,679	1.101	4,051
North First St. and Charcot Ave./a/	2,871	0.38%	2,882	0.949	2,735
North First St. and Brokaw Rd.*	2,855	0.14%	2,859	1.114	3,185
De La Cruz Blvd and Trimble Rd.*/a/	3,340	0.45%	3,355	0.789	2,647
Orchard Pkwy. and Trimble Rd./a/	1,904	0.26%	1,909	0.601	1,147
		Total	14,460		9,375
		Weighted Average	0.648	LOS B	
PM Peak Hour					
Zanker Rd. and Holger Wy.	1,739	1.90%	1,772	0.580	1,028
Zanker Rd. and Tasman Dr./a/	2,599	1.39%	2,635	0.792	2,087
Zanker Rd. and River Oaks Pkwy./a/	1,330	5.56%	1,404	0.474	665
Zanker Rd. and Innovation Dr.	1,360	5.44%	1,434	0.476	683
Zanker Rd. and Plumeria Dr.	1,426	4.49%	1,490	0.603	898
Zanker Rd. and Trimble Rd.*/a/	4,424	0.97%	4,467	0.945	4,221
Zanker Rd. and Bonaventura Dr.	1,295	4.94%	1,359	0.472	641
Zanker Rd. and Charcot Ave./a/	2,314	0.99%	2,337	0.795	1,858
Zanker Rd. and Brokaw Rd.*/a/	2,616	0.19%	2,621	0.908	2,380
Bering Dr. and Brokaw Rd.	1,437	0.90%	1,450	0.403	584
Cisco Wy and Tasman Dr.	1,694	0.77%	1,707	0.548	935
Morbridge Dr. and Tasman Dr.	1,614	0.81%	1,627	0.467	760
Baypointe Pkwy and Tasman Dr.	1,648	0.36%	1,654	0.595	984
North First St. and Tasman Dr./a/	3,134	0.54%	3,151	0.929	2,927
North First St. and Rio Robles/a/	2,569	0.66%	2,586	0.862	2,229
North First St. and River Oaks Pkwy./a/	2,087	0.00%	2,087	0.756	1,578
North First St. and Trimble Rd.*	3,605	0.47%	3,622	1.118	4,049
North First St. and Charcot Ave./a/	2,756	0.91%	2,781	0.863	2,400
North First St. and Brokaw Rd.*	3,796	0.45%	3,813	1.157	4,412
De La Cruz Blvd and Trimble Rd.*/a/	3,171	0.54%	3,188	0.901	2,872
Orchard Pkwy. and Trimble Rd./a/	2,110	0.24%	2,115	0.718	1,519
		Total	10,094		6,003
		Weighted Average	0.595	LOS A	

Notes:

* Denotes CMP designated intersection

/a/ Includes planned improvements under background and project conditions.

1. Intersections included in average are indicated in bold.

delay for these 22 intersections and propose mitigation measures when necessary in order to maintain CMP conformance standards, in addition to participating in the NSJDP. The average delay is estimated to be 49 seconds under project conditions. (See Table 10.) Therefore, the project will not have a significant impact according to NSJDP policy.

City of Santa Clara Intersection Analysis

Regional CMP Intersections

The level of service results for the CMP intersections under project conditions are summarized in Table 8. The results show that, measured against the CMP level of service standards, both of the CMP study intersections in Santa Clara are projected to operate at an unacceptable LOS F during at least one of the peak hours under project conditions.

Based on CMP standards, described below, the project would not have a significant impact on either of the CMP intersections located in Santa Clara.

The project is said to create a significant adverse impact on traffic conditions at a CMP signalized intersection in the City of Santa Clara if for either peak hour:

1. The level of service at the intersection degrades from an acceptable LOS E or better under background conditions to an unacceptable LOS F under project conditions, or
2. The level of service at the intersection is an unacceptable LOS F under background conditions and the addition of project trips causes both the critical-movement delay at the intersection to increase by four or more seconds and the demand-to-capacity ratio (V/C) to increase by .01 or more.

An exception to this rule applies when the addition of project traffic reduces the amount of average stopped delay for critical movements (i.e. the change in average stopped delay for critical movements is negative). In this case, the threshold of significance is an increase in the critical V/C value by .01 or more.

City of Milpitas Intersection Analysis

Local City of Milpitas Intersections

The results of the level of service analysis under project conditions are summarized in Table 8. The results show that, measured against the City of Milpitas level of service standards, seven of the signalized study intersections are projected to operate at an unacceptable LOS E or worse under project conditions. The levels of service calculation sheets are included in Appendix D.

Project impacts on local City of Milpitas intersections are determined based on the same criteria as those of the CMP described above except that the level of service standard is LOS D. Based on City of Milpitas standards, the project would have a significant impact on two local intersections:

Abott Avenue and Calaveras Boulevard.

Table 10
North San Jose Deficiency Plan Intersection Levels of Service (PM Peak Hour)

Intersection	Background		Project	
	Average Delay/c/	LOS	Average Delay/c/	LOS
SR 237/North First Street (N)/b/	80	F	80	F
SR 237/North First Street (S)/b/	38	D	39	D
North First Street/Trimble Road	77	F	78	F
North First Street/Brokaw Road	78	F	80	F
I-880/North First Street (N)	10	B	10	B
I-880/North First Street (S)	14	B	14	B
SR 237/Zanker Road (N)	10	B	10	B
SR 237/Zanker Road (S)	13	B	15	B
Zanker Road/Trimble Road/b/	36	D	38	D
Zanker Road/Brokaw Road/b/	41	E	41	E
Montague Expressway/North First Street/b/	88	F	88	F
Montague Expressway/Zanker Road /b/	53	E	56	E
Montague Expressway/Trimble Road/b/	39	D	38	D
Montague Expressway/McCarthy Boulevard	194	F	195	F
Montague Expressway/Old Oakland Road	53	E	53	E
Montague Expressway/Trade Zone Boulevard	71	F	71	F
Trimble Road/De La Cruz Boulevard /b/	37	D	37	D
U.S. 101/Brokaw Road	26	D	26	D
I-880/Brokaw Road (W) /b/	22	C	22	C
I-880/Broakw Road (E)	14	B	14	B
Brokaw Road/Old Oakland Road	33	D	33	D
Murphy Avenue/Lundy Avenue	33	D	33	D
Average	48	E	49	E

/a/ Delay capped at 150 % of signal cycle length (per Deficiency Plan for NSJ)

/b/ With planned improvements included under background and project scenarios.

/c/ Whole intersection wieghted average stopped delay expressed in seconds per vehicle.

Regional CMP Intersections

The level of service results for the CMP intersections under project conditions are summarized in Table 8. The results show that, measured against the CMP level of service standards, neither of the CMP study intersections in Milpitas are projected to operate at an unacceptable LOS F during either of the peak hours under project conditions.

Based on CMP standards, described above, the project would not have an adverse impact on any of the CMP intersections located in Milpitas.

Project Freeway Segment Levels of Service

Project traffic volumes on the freeway segments were estimated by adding to existing freeway volumes the estimated project trips on freeway segments. The percentage of HOVs in the traffic stream was assumed to remain unchanged from existing conditions. The results of the analysis are summarized in Table 11. The results show that seven of the freeway segments analyzed would operate at an unacceptable LOS F during at least one of the peak hours under project conditions. Note that the LOS F conditions pertain to the mixed-flow lanes only; the HOV lanes would operate at an acceptable LOS E or better on all freeway segments analyzed, with the exception of one segment.

A project is said to create a significant adverse impact on traffic conditions on a CMP freeway segment if for either peak hour:

1. The level of service on the freeway segment degrades from an acceptable LOS E or better under existing conditions to an unacceptable LOS F under project conditions or,
2. The level of service on the freeway segment is an unacceptable LOS F under project conditions, and
3. The number of project trips on that segment constitutes at least one percent of capacity on that segment.

A significant impact by CMP standards is said to be satisfactorily mitigated when measures are implemented that would restore freeway conditions to LOS E or better. Based on these criteria, the project would have a significant impact on three freeway segments under project conditions:

SR 237, Zanker to I-880, (eastbound PM & westbound AM)
I-880, Tasman to Montague, (southbound PM)
I-880, south of Montague, (northbound AM & southbound PM)

Project Intersection Operations

The analysis of project intersection level of service was supplemented with an analysis of intersection operations for selected unsignalized and signalized intersections. The operations analysis is based on vehicle queuing for high-demand turning movements at intersections. The basis of the analysis is as follows: (1) the TRAFFIX intersection analysis software is used to estimate the 95th percentile maximum

Table 11
Freeway Segment Levels of Service - Project Conditions

Freeway	Segment	Direction	Peak Hour	Existing Plus Project Trips										HOV Lane			
				Mixed-Flow Lanes					# of Lanes					HOV Lane			
				Ave. Speed/	# of Lanes	Volume/	Density	LOS	Ave. Speed/	# of Lanes	Volume/	Density	LOS	Total Volume	Mixed-Flow	Capacity	HOV Lane Capacity
SR 237	Mathilda to Lawrence	EB	AM	60	2	3,240	27.0	D	65	1	894	13.8	B	64	50	1.1%	14
			PM	65	2	1,978	15.2	B	65	1	414	6.4	A	22	18	0.4%	4
SR 237	Lawrence to Great America	EB	AM	60	2	3,581	29.7	D	65	1	153	2.3	A	64	61	1.4%	3
			PM	60	2	3,190	26.8	D	65	1	362	5.6	A	22	20	0.4%	2
SR 237	Great America to North First	EB	AM	35	2	3,628	51.8	E	65	1	396	6.1	A	64	58	1.3%	6
			PM	60	2	2,538	21.1	C	65	1	916	14.1	B	22	18	0.4%	6
SR 237	North First to Zanker	EB	AM	60	2	2,710	22.6	C	65	1	204	3.1	A	64	60	1.4%	4
			PM	60	2	3,215	80.4	F	60	1	1,427	23.8	C	22	15	0.3%	7
SR 237	Zanker to I-880	EB	AM	60	3	5,618	31.2	D	65	1	334	5.1	A	72	68	1.0%	4
			PM	10	3	5,101	170.0	F	20	1	1,707	85.4	F	228	171	2.5%	57
I-880	south of Montague	NB	AM	25	2	2,892	57.8	F	N/A	N/A	0	N/A	N/A	62	62	1.4%	0
			PM	15	2	3,072	102.4	F	N/A	N/A	0	N/A	N/A	22	22	0.5%	0
I-880	Montague to Tasman	NB	AM	65	3	3,518	18.0	C	N/A	N/A	0	N/A	N/A	66	66	1.0%	0
			PM	15	3	4,053	90.1	F	N/A	N/A	0	N/A	N/A	23	23	0.3%	0
I-880	Tasman to SR 237	NB	AM	65	3	2,416	12.4	B	N/A	N/A	0	N/A	N/A	66	66	1.0%	0
			PM	15	3	4,103	91.2	F	N/A	N/A	0	N/A	N/A	23	23	0.3%	0
I-880	SR 237 to Dixon Landing	NB	AM	65	3	3,611	18.5	C	N/A	N/A	0	N/A	N/A	21	21	0.3%	0
			PM	10	3	4,475	149.2	F	N/A	N/A	0	N/A	N/A	65	65	0.9%	0
US 101	south of Trimble	NB	AM	25	3	4,905	65.4	F	60	1	1,582	26.0	D	7	5	0.1%	2
			PM	60	3	6,233	34.6	D	65	1	340	5.2	A	3	3	0.0%	0
US 101	south of Trimble	SB	AM	65	3	4,213	21.6	C	65	1	510	7.8	A	3	3	0.0%	0
			PM	30	3	4,796	53.3	E	60	1	1,792	29.8	D	8	6	0.1%	2
I-880	Dixon Landing to SR 237	SB	AM	60	4	6,088	25.4	D	N/A	N/A	0	N/A	N/A	58	58	0.7%	0
			PM	55	4	7,791	35.4	D	N/A	N/A	0	N/A	N/A	21	21	0.2%	0
I-880	SR 237 to Tasman	SB	AM	60	3	3,773	21.0	C	N/A	N/A	0	N/A	N/A	23	23	0.3%	0
			PM	65	3	2,874	14.7	B	N/A	N/A	0	N/A	N/A	74	74	1.1%	0
I-880	Tasman to Montague	SB	AM	65	3	3,733	19.1	C	N/A	N/A	0	N/A	N/A	23	23	0.3%	0
			PM	15	3	3,894	88.8	F	N/A	N/A	0	N/A	N/A	74	74	1.1%	0
I-880	south of Montague	SB	AM	60	2	3,792	31.6	D	N/A	N/A	0	N/A	N/A	22	22	0.5%	0
			PM	10	2	2,379	119.0	F	N/A	N/A	0	N/A	N/A	69	69	1.6%	0
SR 237	I-880 to Zanker	WB	AM	15	3	4,491	99.8	F	60	1	2,013	33.6	D	204	141	2.1%	63
			PM	60	3	5,425	30.1	D	65	1	557	8.8	A	72	65	1.0%	7
SR 237	Zanker to North First	WB	AM	60	2	3,899	32.5	D	65	1	573	8.8	A	22	19	0.4%	3
			PM	60	2	2,975	24.8	D	65	1	288	4.4	A	71	65	1.5%	6
SR 237	North First to Great America	WB	AM	60	2	4,160	34.7	D	65	1	392	6.0	A	22	20	0.4%	2
			PM	60	2	2,995	25.0	D	65	1	866	13.3	B	71	55	1.2%	16
SR 237	Great America to Lawrence	WB	AM	60	2	2,761	23.0	C	65	1	201	3.1	A	22	21	0.4%	1
			PM	60	2	3,263	27.2	D	65	1	1,088	16.7	C	71	53	1.2%	18
SR 237	Lawrence to Mathilda	WB	AM	60	2	2,589	21.6	C	65	1	413	6.4	A	22	19	0.4%	3
			PM	55	2	4,078	37.1	D	65	1	943	14.5	B	71	58	1.3%	13

/a/ Source: Santa Clara Valley Transportation Authority Congestion Management Program Monitoring Study, 1998.
Note: Bold indicates significant impact.

number of queued vehicles per signal cycle for a particular movement; (2) the estimated maximum number of vehicles in the queue is translated into a queue length, assuming 20 feet per vehicle; and (3) the estimated maximum queue length is compared to the existing or planned available storage capacity for the movement. This analysis thus provides a basis for estimating future storage requirements at intersections.

The analysis indicated that the estimated maximum vehicle queues under project conditions would exceed the existing vehicle storage capacity at the intersection of Zanker Road and Trimble Road. The intersection of Zanker Road and Tasman Drive that is planned to be fully reconstructed, will need a minimum of two 275' southbound left-turn pockets to accommodate projected vehicle queues. The intersection of the proposed project access road with Zanker Road will need to be constructed with a minimum of two 150' westbound left-turn pockets. The TRAFFIX queue estimates and a tabulated summary of the findings is provided in Table 12. The inadequacy of vehicle storage capacity is treated as a project impact, as described in the following chapter.

Table 12
Vehicle Queuing and Storage Capacity

Intersection	Peak Hour	Mvmt.	# Lanes /a/	Existing Storage ft.	Vehicle Queue/b/	Required Storage ft./c/	Additional storage needed
Zanker Rd./Project Access	PM	WBL	2	N/A	9	90	Provide two 150' lanes
Zanker Rd./SR 237 (N)	AM	SBL	1	200	1	20	Adequate
	PM	SBL	1	200	2	40	Adequate
Zanker Rd./SR 237 (S)	AM	SBL	1	300	6	120	Adequate
	PM	SBL	1	300	15	300	Adequate
	AM	EBL	1	600	2	40	Adequate
	PM	EBL	1	600	1	20	Adequate
Zanker Rd./Tasman Dr.	AM	EBL	2	N/A	5	50	Adequate
	PM	SBL	2	N/A	28	280	Provide two 275' lanes
Zanker Rd./Trimble Rd.	AM	EBL	1	250	18	360	Extend pocket 125'
Zanker Rd./Charcot Av.	AM	EBL	2	150	15	150	Adequate

/a/ Number of lanes based on existing or planned configurations.

/b/ In # of vehicles, based on average vehicle queue calculated by TRAFFIX.

/c/ Calculated based on Caltrans methodology (Ave. Veh. Queue x Ave length of veh. (20')/# lanes)

Project Signal Warrants

The peak-hour signal warrant was checked for the existing unsignalized intersection of Zanker Road and Baypointe Drive and the future intersection of the project access road with Zanker Road to determine whether signalization would be justified on the basis of project peak-hour volumes. The analysis showed that the peak-hour volume warrant would be satisfied at the Zanker Road and Baypointe Drive intersection under existing, background, and project conditions. The peak-hour volume warrant would also be satisfied during the PM peak hour under project conditions at the intersection of the project access road with Zanker Road. The signal warrant analysis sheets are included in Appendix E.

For the purpose of this analysis, a project is said to create a potentially significant adverse impact on traffic conditions at an unsignalized intersection if for either peak hour:

The approach volumes on the intersecting streets are sufficiently high to satisfy signal warrant #11, "Peak-Hour Signal Warrant," as described in the *Traffic Manual* published by Caltrans.

In this analysis, a significant impact at an unsignalized intersection can be considered satisfactorily mitigated by installation of a traffic signal.

Operational Safety Impacts

The existing width of Zanker Road just north of the SR 237 westbound off-ramp is inadequate to serve projected traffic volumes and maintain safe vehicle access to and from the project site. The addition of conflicting vehicle movements, attributable to the project, to the existing large volumes and speeds of truck traffic along Zanker Road would necessitate the widening of Zanker Road to four lanes. Also, signal warrant checks indicate the need for signalization of the intersection of the project access road with Zanker Road.

Transit Service Impacts

The evaluation of project effects on transit service showed that due to the anticipated minimal number of employees on site and visitors that would utilize private vehicles to transport equipment, demand for transit service under project conditions would not justify the enhancement of existing service in the immediate vicinity of the site.

Site Access and On-Site Circulation

Access to the site will be provided via a project access road that intersects Zanker Road approximately 550 feet north of the SR 237 westbound off/on ramps. As described above, signalization of the intersection of the project access road with Zanker Road will be needed. The project access road will be constructed as a divided four-lane roadway. Entry to the site will be provided through one main security gate.

Based on the site plan dated June 5, 2000, circulation throughout the site will be facilitated with a private roadway that will run along the perimeter of the site. The roadway will serve parking lots located at each of the proposed building locations.

Intersection Impacts and Mitigation Measures

This section describes the project impacts and the measures that are identified to mitigate the impacts. Included are identification of the impacts and descriptions of the mitigation measures.

Abott Avenue and Calaveras Boulevard

Impact: The level of service would be LOS F under background conditions, and the addition of project traffic would cause the critical-movement delay at the intersection to increase by more than four seconds and the demand-to-capacity ratio (V/C) to increase by more than .01 during AM peak hour. This constitutes a significant impact by City of Milpitas

standards.

Mitigation Measure. Necessary improvements to mitigate intersection impacts at this intersection would include the addition of a fourth westbound through lane or addition of a free-right turn lane on the north approach. These improvements are infeasible due to the operational problems, such as weaving, that would be caused. There are no other feasible improvements that would mitigate the project impact.

McCarthy Boulevard and SR 237 (N)

Impact: Level of service would degrade from LOS D without the project to LOS E with the project during the AM peak hour. This constitutes a significant impact by City of Milpitas standards.

Mitigation Measure. This intersection does not currently exist, but is planned to be constructed as part of the I-880/SR 237 Interchange improvement project. Necessary improvements to mitigate intersection impacts at this intersection would include the addition of a third westbound through lane. This improvement is infeasible since the west leg of the intersection, SR 237 westbound on-ramp, is being constructed to only accommodate two lanes. There are no other feasible improvements that would mitigate the project impact.

Operational Requirements

Described below are the intersection operational deficiencies and the recommended improvements.

Zanker Road and Trimble Road

The TRAFFIX operational analysis shows that the estimated maximum vehicle queue would exceed the available storage capacity for eastbound left-turns in the AM peak hour.

Recommended Improvement. Extend the eastbound left-turn pocket 125 feet. With implementation of this improvement, the storage capacity for eastbound left turns would adequately accommodate the estimated maximum vehicle queues for this movement during the peak hours. The extension of the eastbound left-turn pocket is necessitated under background conditions. Since the project would account for a portion of the added traffic volumes to the intersection, it is recommended that the project contribute a fair share towards the cost of this improvement.

Zanker Road and Project Access Road

The Caltrans peak-hour signal warrant would be satisfied during PM peak-hour conditions with the project.

Recommended Improvement. Install a traffic signal and provide a minimum of two 150' westbound left-turn pockets

Zanker Road and Baypointe Drive

The Caltrans peak-hour signal warrant would be satisfied during both peak-hour conditions with the project.

Recommended Improvement. Install a traffic signal. The installation of a traffic signal is warranted under existing, background, and project conditions. Since the project would account for a portion of the added traffic volumes to the intersection, it is recommended that the project contribute a fair share towards the cost of the installation of the signal.

Freeway Impacts and Mitigation Measures

The analysis showed that the following three freeway segments would be impacted:

SR 237, Zanker to I-880, (eastbound PM & westbound AM)
I-880, Tasman to Montague, (southbound PM)
I-880, south of Montague, (northbound AM & southbound PM)

All study freeway segments are evaluated against the CMP definition of significant impacts for freeway segments using the CMP freeway level of service methodology. The mitigation necessary to reduce significant impacts upon these freeway segments is the widening of the freeway. Due to the substantial cost, this measure is not considered feasible for a single development project. These impacts are therefore considered significant and unavoidable.

Operational Safety

Zanker Road at Project Access Road. Widen Zanker Road to four lanes from the SR 237 westbound off-ramp to the proposed project access road and signalize the intersection of the project access road with Zanker Road. The existing width of Zanker Road just north of the SR 237 westbound off-ramp is inadequate to serve projected traffic volumes and maintain safe vehicle access to and from the project site. Signal warrant checks indicate the need for signalization of the intersection of the project access road with Zanker Road.

5.

Future Conditions

This chapter presents a summary of the traffic conditions that would occur under future growth conditions. The purpose of analyzing future growth conditions is to assess the traffic conditions that would occur at the time that the proposed development becomes occupied. For this analysis, the assumed occupancy date is 2002. The analysis of future growth conditions is required by the CMP and includes an analysis of level of service for CMP intersections only.

Roadway Network Under Future Growth Conditions

All of the roadway improvements that were assumed to be completed under project conditions were also included under future growth conditions. However, future growth conditions do not include implementation of the project mitigation measures. Thus, the intersection lane configurations under future growth conditions were assumed to be the same as described under project conditions.

Future Growth Traffic Volumes

Traffic volumes under future growth conditions were estimated by applying to the existing volumes an annual growth rate of two percent, then adding the trips from approved developments and the project trips.

Intersection Levels of Service Under Future Growth Conditions

CMP Intersection Analysis

The level of service results for the CMP intersections under future growth conditions are summarized in Table 13. The results show that, measured against the CMP level of service standards, 10 of the CMP

study intersections would operate at an unacceptable LOS F during at least one of the peak hours under future growth conditions. All other CMP study intersections would operate at an acceptable LOS E or better, according to CMP standards. The future growth traffic volumes and the intersection level of service calculations are included in Appendix D.

Table 13
Future Intersection Levels of Service

Intersection	Peak Hour	Ave. Delay	LOS
City of San Jose Intersections			
Zanker Rd./SR 237 (N)*	AM	10	B
	PM	10	B
Zanker Rd./SR 237 (S)*	AM	19	C
	PM	15	B
Zanker Rd./Trimble Rd.*/a/	AM	35	D
	PM	43	E
Zanker Rd./Brokaw Rd.*/a/	AM	46	E
	PM	44	E
US 101/Brokaw Rd.*	AM	29	D
	PM	26	D
North First St./Brokaw Rd.*	AM	73	F
	PM	91	F
North First St./Trimble Rd.*	AM	85	F
	PM	90	F
De La Cruz Blvd./Trimble Rd.*/a/	AM	24	C
	PM	39	D
North First St./Montague Expwy.*/a/	AM	418	F
	PM	106	F
Zanker Rd./Montague Expwy.*	AM	78	F
	PM	58	E
O'Toole Av-McCarthy Blvd./Montague Expwy.*	AM	318	F
	PM	332	F
City of Santa Clara Intersections			
De La Cruz Blvd./Montague Expwy.*/a/	AM	283	F
	PM	107	F
Mission College Blvd./Montague Expwy.*	AM	480	F
	PM	85	F
City of Milpitas Intersections			
Abel St./Calaveras Blvd.*	AM	60	E
	PM	69	F
South Milpitas Blvd./Calaveras Blvd.*	AM	37	D
	PM	65	F
* Denotes CMP intersection.			

6. Conclusions

The potential impacts of the project were evaluated in accordance with the standards set forth by the Cities of San Jose, Santa Clara, Milpitas, and the Congestion Management Program (CMP) of Santa Clara County. The study included the analysis of AM and PM peak-hour traffic conditions for 40 signalized intersections, one unsignalized intersection, one future intersection, and 11 freeway segments.

The impacts of the project on intersections and freeways were identified on the basis of the following criteria: (1) the North San Jose Development Policy, (2) the North San Jose Deficiency Plan, (3) the City of Santa Clara level of service standards, (4) the City of Milpitas level of service standards, and (5) the CMP Level of Service standards.

Project impacts on other transportation facilities, such as bicycle facilities and transit, were determined on the basis of engineering judgment.

Project Impacts

Listed below are the transportation facilities that would be impacted by the project and the criteria by which the impacts were determined to occur:

- Abott Avenue and Calaveras Boulevard - MILPITAS LOS
- McCarthy Boulevard and SR 237 (N) - MILPITAS LOS
- Zanker Road and Trimble Road - CSJ Operations
- Zanker Road and Project Access Road - Signal Warrant
- Zanker Road and Baypointe Drive - Signal Warrant
- Zanker Road - Operational Safety

- SR 237, Zanker to I-880, (eastbound PM & westbound AM) - CMP LOS
- I-880, Tasman to Montague, (southbound PM) - CMP LOS
- I-880, south of Montague, (northbound AM & southbound PM) - CMP LOS

Mitigation Measures

The following improvements have been identified to mitigate the project impacts.

Abott Avenue and Calaveras Boulevard. Necessary improvements to mitigate intersection impacts at this intersection would include the addition of a fourth westbound through lane or addition of a free-right turn lane on the north approach. These improvements are infeasible due to the operational problems, such as weaving, that would be caused. There are no other feasible improvements that would mitigate the project impact.

McCarthy Boulevard and SR 237 (N). This intersection does not currently exist, but is planned to be constructed as part of the I-880/SR 237 Interchange improvement project. Necessary improvements to mitigate intersection impacts at this intersection would include the addition of a third westbound through lane. This improvement is infeasible since the west leg of the intersection, SR 237 westbound on-ramp, is being constructed to only accommodate two lanes. There are no other feasible improvements that would mitigate the project impact.

Zanker Road and Trimble Road. Extend the existing left-turn lane on the west approach 125 feet. The extension of the eastbound left-turn lane is necessitated under background conditions. Since the project would account for a portion of the added traffic volumes to the intersection, it is recommended that the project contribute a fair-share towards the cost of the necessary improvements.

Zanker Road and Project Access Road. Install a traffic signal. The installation of a traffic signal is warranted during the PM peak hour under project conditions. With the signal installation, the intersection should be constructed with a minimum of two 150' westbound left-turn pockets.

Zanker Road and Baypointe Drive. Install a traffic signal. The installation of a traffic signal is warranted under existing, background, and project conditions. Since the project would account for a portion of the added traffic volumes to the intersection, it is recommended that the project contribute a fair share towards the cost of the installation of the signal.

Impacted Freeway Segments. The analysis showed that the following three freeway segments would be impacted by both the project:

- SR 237, Zanker to I-880, (eastbound PM & westbound AM)
- I-880, Tasman to Montague, (southbound PM)
- I-880, south of Montague, (northbound AM & southbound PM)

The mitigation necessary to reduce significant impacts upon these freeway segments is the widening of the freeway. Due to the substantial cost, this measure is not considered feasible for a single development project. These impacts are therefore considered significant and unavoidable.

Zanker Road at Project Access Road. Widen Zanker Road to four lanes from the SR 237 westbound off-ramp to the proposed project access road. The existing width of Zanker Road just north of the SR 237 westbound off-ramp is inadequate to serve projected traffic volumes and maintain safe vehicle access to and from the project site. Though signal warrant checks do not indicate the need for signalization of the intersection of the project access road with Zanker Road, installation of a signal may be desirable to improve vehicle safety.

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11.0 Transmission System Engineering

Technical Area: Transmission System Engineering

CEC Author: Mark Hesters

LECEF Author: Steve Miller

BACKGROUND

The AFC includes descriptions of five interconnection options for the proposed project but only provides a one-line diagram for the first alternative (direct connection to the Los Esteros substation). Staff requires one-line diagrams for any interconnection alternative that the applicant has considered or wants certified. Please note that each alternative interconnection for which the applicant seeks certification will undergo the same analysis.

DATA REQUEST

80. Please indicate which interconnection alternatives you are seeking to certify and provide one-line diagrams, interconnection studies, and proposed reliability criteria violation mitigation for these alternatives. Please indicate which alternatives are no longer being considered.

Response: The interconnection alternative to be certified is the tap of the PG&E Nortech to Trimble 115 kV line. This interconnection is described on page 8 of the Generator Transmission Interconnection Study (GTIS). PG&E is pre-building a portion of the lines required to support its proposed Los Esteros substation. The GTIS and the subsequent ISO review granting preliminary interconnection approval include the one-line diagrams, interconnection studies, reliability criteria, and mitigation (none), for this alternative. When PG&E completes at least the 115 kV portion of the proposed Los Esteros substation, LECEF will be directly interconnected to this substation.

BACKGROUND

Staff needs to completely identify downstream transmission facilities required by the interconnection of a new project.

DATA REQUEST

81. Please provide a transient stability and post-transient voltage analysis of the proposed project and for any interconnection alternative that you are seeking to certify.

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Response: Transient stability studies are being completed as a part of the Facilities Cost Report (FCR). These will be provided to the CEC Staff when available. Note that the requirement for post transient analysis has generally been taken to mean analysis of the potential for voltage collapse following a contingency. It is generally understood that the addition of a traditional synchronous generator will only improve the situation. Consequently, no system impact study that we know of includes such an analysis (See the LECEF data adequacy responses 2.13 and 2.14).

BACKGROUND

To assist staff in performing analysis and minimize data requests the base case power flow data is needed.

DATA REQUEST

82. Please provide the power flow base cases (*.sav) and *.drw files(where applicable) used in the GE PSLF model for the interconnection studies.

Response: The power flow base cases (*.sav) have been forwarded to Al McCuen and Mark Hesters via e-mail (dated 10/17/01 from Stephen S. Miller of Commonwealth Associates, Inc). These cases were the basis for the Generator Transmission Interconnection Study (GTIS). Paper copies of the one-line diagrams were provided in response to data adequacy questions 2.13 and 2.14. Calpine will attempt to retrieve the ".drw" files from PG&E and forward these as well.

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12.0 Water and Soil Resources

Technical Area: Water and Soil Resources

CEC Authors: Joe Crea, John Scroggs, & John Kessler

LECEF Author: Dave Jones, Chuck Vosicka, and Todd Stewart

BACKGROUND

The Los Esteros Critical Energy Facility (LECEF) proposes to use recycled water treated to a tertiary level from the San Jose/Santa Clara Water Pollution Control Plant (WPCP). Of its 167 mgd capacity, about 10 mgd is treated to a tertiary level. The LECEF will require about 0.5 mgd average, and 0.82 mgd peak water supply. The LECEF is within the South Bay Water Recycling (SBWR) service area. According to the AFC, (Executive Summary, Page 1-3) "the City of San Jose has adequate recycled water supply to serve the project as indicated in its letter of July 6, 2001 (Appendix 8.14A)". Appendix 8.14A includes the Draft Wastewater Discharge Permit Application for LECEF. The July 6, 2001 letter from the City of San Jose is included in Appendix 7.0. This letter indicates "connections to the recycled water pipeline would also be required to provide sufficient flow to meet the make-up water demand". This letter does not include a statement regarding the adequacy of the recycled water supply.

DATA REQUEST

83. Please provide a summary of other existing and currently planned customers (like LECEF) of recycled water supply from the WPCP, quantifying average and peak (if available) recycled water demands.

Response: A request has been submitted to the City of San Jose regarding the other recycled water users, including the average and peak recycled water demand. When these data are received, they will be forwarded to the CEC.

84. Please provide a City issued "will serve" letter indicating that adequate recycled water supply is available and will be provided from the SBWR System to meet the peak day water demand (0.82 MGD) of the proposed Phase 1 project.

Response: A request has been submitted to the City of San Jose regarding the issuance of a will serve letter indicating that adequate recycled water supply is available and can be provided by the SBWR system to meet LECEF's peak day water demand. When these data are received, they will be forwarded to the CEC.

85. Please revise Figure 2.2-4, Water Flow and Balance Chart, to fully reflect the project description in the AFC. Revisions should include the following: specifying average and peak flow rates in gpm; adding a water storage tank after microfiltration; and clarifying the storm water drainage paths in delineating plant

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drainage discharging into the sanitary sewer from other storm water discharging into the Coyote Creek Bypass.

Response: A revised Figure 2.2-4 will be provided on November 6, 2001.

86. An upset at the WPCP could cause an interruption to the SBWR system that could be significantly longer than 24 hours. Please provide data regarding the reliability of the SBWR system that would support the proposal that a 24-hour emergency supply is adequate.

Response: A request has been submitted to the City of San Jose regarding the reliability of the SBWR system. When these data will be received, they will be forwarded to the CEC.

87. Please clarify whether the source of water supply for construction (up to 100 gpm) is either fresh or recycled water. If fresh water is intended for use, please discuss what facilities or trucking requirements would be required to instead supply water for construction with recycled water.

Response: The source of water supply for construction will not be fresh water. It will either be recycled water or non-potable agricultural irrigation water.

BACKGROUND

To provide potable water for employees of the LECEF the applicant proposes to truck water to the project. No potable water lines are planned as part of the project.

DATA REQUEST

88. Please identify the number of full-time employees proposed to work at the LECEF per work shift and the number of work shifts per day or week who will rely on "trucked in" water for potable water needs.

Response: A total of approximately 30 full time employees will be stationed at the site. Not all these employees will be at the site concurrently. 12-16 employees Monday through Friday during the day would be typical and approximately 3 operators during the back shift and on weekends is expected.

89. Please clarify the source of water for onsite sanitary and safety systems. Will water trucked into the site be used for this purpose or will recycled water be used for toilets with separate potable water used for lavatories, onsite shower, eyewash and drinking water facilities?

Response: Trucked in potable water will be used for toilets, on-site shower, eyewash and drinking water facilities. Use of recycled water would require the

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installation of a separate and distinct plumbing system for the domestic facilities using them.

90. In the City's letter (Appendix 7.0), the applicant is advised that "the site is within the Municipal Water Systems North San Jose Service Area and as such is eligible to receive City water service upon...". construction of appropriate water facilities and payment of applicable fees. The closest point of connection is on Zanker Road south of State Highway 237". Please clarify why the proposed project does not include extension of potable water service from this point of connection.

Response: Phase 3 of the LECEF project, which is installation of the chiller plant equipment to serve the data center will incorporate connection to the municipal water distribution system. It is not cost-effective to make this connection at this phase of the project.

BACKGROUND

In Figure 2.2-4, Water Flow and Balance Chart, hypochlorite feed is proposed ahead of the water treatment unit, which includes microfiltration. The leading manufacturer of microfiltration equipment uses hollow fiber membranes manufactured from polypropylene material. This membrane material is subject to degradation from exposure to oxidants such as chlorine.

DATA REQUEST

91. Please provide a letter from the proposed microfiltration equipment supplier confirming that the microfiltration membrane material proposed at LECEF will not be damaged by the proposed sodium hypochlorite feed.

Response: Provisions will be made to add "aqua ammonia" to the recycled water supply to produce a combined chlorine residual after the addition of hypochlorite. Combined chlorine residual (chloramine) does not damage hollow fiber membranes.

BACKGROUND

The LECEF proposes to discharge its wastewater effluent, if capacity is available, into either a 60-inch or 80-inch diameter existing sanitary sewer line leading to the WPCP. Wastewater effluent will include microfiltration backwash, reverse-osmosis concentrate, electrodialysis waste, cooling tower blowdown and sanitary wastes. The project will discharge about 176,000 gallons/day for average conditions, and 297,000 gallons/day for peak conditions, and can contribute to about a 1% increase in salinity (measured in TDS) in the effluent of the WPCP. In Figure 1.1-3 and Figure 2.1-2 LECEF linear facilities are shown. The recycled water supply point of connection is labeled. However, the proposed 2700 lineal foot sewer

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line alignment and connection to the existing sanitary sewer mains located on Zanker Road are not labeled.

DATA REQUEST

92. Please establish if either the 60 or 80-inch diameter existing sanitary sewer lines have adequate capacity for conveying the LECEF's wastewater effluent, or if new conveyance will be necessary to the headwork's of the WPCP. If new conveyance is required, please revise Figure 2.1-2, LECEF Linear Facilities, accordingly, and provide the additional project description as needed.

Response: After several discussions with the City of San Jose Public Works Department, LECEF will be discharging wastewater effluent directly into the 80-inch diameter trunk line. The City has provided a connection detail. The connection detail will be provided in early November.

93. Please address mitigation alternatives for reducing the estimated concentration of Total Dissolved Solids (TDS) of the wastewater effluent from LECEF (estimated at 2,232 mg/l) that would accomplish avoiding any increase in salinity to the WPCP's total effluent discharge as attributable from the LECEF.

Response: The WPCP is not requiring additional treatment for salinity. The increase in salinity is actually a benefit at the WPCP discharge as it lessens the impact of fresh water intrusion into salt water marsh land.

94. Please provide written evidence of consultation with City of San Jose, expressing their determination that with the addition of LECEF's waste discharge, the WPCP will remain in compliance with its Industrial Waste Discharge Requirements.

Response: A request has been submitted to the City of San Jose regarding their concurrence that the receipt of LECEF's wastewater effluent will not result in SBWR system violating its Industrial Discharge Requirements. When these data are received, they will be forwarded to the CEC.

95. Please revise Figures 1.1-3 and 2.1-2 to include identification of existing and proposed sanitary sewer mains.

Response: After discussions with the SBWR, LECEF will be discharging wastewater effluent directly to the Water Pollution Control Plant. A revised figure 2.1-2 will be submitted in early November.

BACKGROUND

The LECEF will require preparation of Storm Water Pollution Prevention Plans (SWPPP's) for both construction and industrial activities. During construction and grading activities, storm

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water will be routed via ditches and swales into sediment retention basins before discharging into an existing flood control channel. Additional BMP's will be employed to prevent erosion and discharge of any contaminated materials. During operation, plant drains in process areas will be separated from broader storm water drainage, with plant drains passing through an oil/water separator before discharging into the sanitary sewer, and other storm water areas draining via surface flow into perimeter ditches before being discharged into the Coyote Creek Bypass.

DATA REQUEST

96. For the Draft Construction SWPPP, as provided in the September 14, 2001 Data Adequacy Response, please also provide a site map of adequate scale to indicate conceptual placement of specific construction BMP's consistent with the Draft SWPPP for Construction Activity. In particular, please indicate conceptual locations proposed for placement of temporary BMP's for erosion control during grading, such as around the site perimeter where grade is changed during cut and fill activities.

Response: The requested site map will be provided in early November.

97. For the construction SWPPP, please provide discussion under Section 2.10 – Potential Pollutant Sources, of the how soil contaminated with DDT (as identified in the Phase I ESA) will be managed for stockpile, testing and disposal if necessary.

Response: Following additional site assessment activities, a site assessment map will be prepared to further delineate contaminated areas. This map will be compared to the proposed construction excavation plan that will be prepared when the project enters the detailed design phase. Any areas of excavation that overlap contaminated areas will be noted prior to construction work.

During construction, any soil or groundwater encountered from these "overlap" areas will be segregated and held on-site for sampling and analysis. All soil and groundwater requiring testing will be stored onsite until the laboratory analysis is complete. Stockpiled soil will be covered to prevent run-on or runoff from the pile. Groundwater will be stored in "Baker Tanks." The final destination/reuse of the materials will define the degree and type of sampling and analysis needed.

If soil is determined to be contaminated, it will either be treated on-site to remove contamination in accordance with regulatory requirements or be transported off-site to an approved disposal/reuse facility. The approved disposal/reuse facility will have site-specific requirements for sampling and analysis. Typical minimum requirements are a 4-point composite soil sample for every 500 to 1000 cubic yards of soil. Analytes to be tested for will depend on the results of the site assessment work. The City of San Jose has specific testing requirements and volume limits for discharge to its publicly-owned treatment works that will be complied with. If the groundwater does not meet the City's requirements, it will either be treated on-site

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to remove contamination in accordance with regulatory requirements or be transported off-site to an approved disposal/reuse facility.

98. Please provide representative profiles and cross sections indicating existing vs. proposed grade for the LECEF development.

Response: The requested figures will be provided in early November.

99. Please provide a Draft SWPPP for Industrial Activity, delineating general areas where plant process drains will be located and conveyed to the wastewater collection system, from the general storm water drainage systems.

Response: A draft SWPPP for Industrial Activity will be provided in November.

100. For the Draft SWPPP for Industrial Activity, please describe the monitoring program that will be administered to ensure storm water discharged from the LECEF will not introduce pollutants into the Coyote Creek Bypass. In addition, please describe procedures to be followed for containment and cleanup in the event of contamination to storm water.

Response: A draft SWPPP for Industrial Activity will be provided in November and will include a description of the storm water monitoring program and contamination containment/cleanup measures.

101. Please provide a table comparing pre vs. post-development storm water flows for a range of design storms up to the 100-year recurrence interval. We acknowledge that the 100-year storm data has already been provided. Staff also requests similar comparative data for 5, 10, 25, and 50-year recurrence intervals, in order to demonstrate that post-development storm water discharges will not exceed pre-development flows.

Response: Below are the pre versus post development storm runoff flows for a range of storm recurrence intervals.

Occurrence(year)	Pre-development(cfs)	Post-development(cfs)
5	10.6	13.8
10	12.2	15.9
25	13.5	17.7
50	15.2	19.8
100	16.9	22.1

Note: On site runoff from non-process areas will be collected by a perimeter swale to an underground storm drain system and pumped to the Coyote Creek Bypass.

102. Please provide written evidence of consultation with City of San Jose and County of Santa Clara, in the design of the storm water facilities for the LECEF for confirming

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compliance with the City's Excavation and Grading Code and Santa Clara County's Ordinance Nos. NS1203.35 and NS517.55, respectively.

Response: The LECEF site civil engineering firm, Milani and Associates and Calpine staff met with Primo de Guzman and Mike Liw of City of San Jose regarding issues in the design of storm, sewer, water, roadway and grading for the proposed project. Design concepts were presented and were judged generally acceptable by the City. Milani and Associates is in the process of preparing construction documents which will be submitted for review, whereupon the City's formal position will be documented. Consultation letters with the City of San Jose and/or the County of Santa Clara will be provided early November.

BACKGROUND

Construction at the 15-acre LECEF site, including the construction parking and laydown area, will result in soil compaction and the loss of soils for agriculture. An Erosion Control Plan will be necessary to address proper dust and erosion control measures. In addition, a Phase I ESA and partial Phase II ESA identified soil contaminated with pesticides, including DDT, in concentrations whereby contaminated soil could be considered a hazardous waste if removed from the site. The project is located within the Santa Clara groundwater basin. During excavation, the AFC reports that groundwater can be expected between 6 ½ to 19 feet below ground surface.

DATA REQUEST

103. Please provide a Draft Erosion Control Plan that identifies all Best Management Practices that will be implemented at various locations of the proposed LECEF project during construction and operation. The draft Erosion Control Plan shall describe all permanent and temporary measures in written form and depict them on a construction drawing(s) of appropriate scale. The drawings should depict the following: existing vs. proposed contours at a minimal of 1"= 2' interval; storm water facilities and related discharge structures (i.e. energy dissipaters); existing features such as buildings, trees, utilities, etc.; a complete mapping symbols legend that depicts existing vs. proposed features; a construction schedule that provides a sequence from initial earth disturbance for site mobilization to final stabilization; proposed features (i.e. BMP locations for the power plant site and linear facilities); and clarification of areas that will eventually remain as impervious or pervious (vegetated).

Response: Section 3 of the Construction SWPPP submitted to the CEC presents a Draft Erosion Control Plan. The additional drawings requested by the CEC will be provided in November.

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104. Please update the proposed construction schedule for the plant site and linear facilities, and describe particular BMP's that will be used to accommodate excavation and grading activities that are conducted during winter.

Response: The BMP's presented in the previously submitted Construction SWPPP addressed wintertime conditions. A revised construction schedule will be provided in November.

105. Please provide a copy of the partial Phase II ESA.

Response: Attachment WR-106 is a copy of the Phase II ESA.

106. Is it anticipated that contaminated soil will be removed from the site during construction? If so, please provide a list of the potential offsite disposal areas.

Response: If necessary, contaminated soil will be removed from the site by licensed hazardous waste haulers. A list of potential disposal sites is presented in Section 8.13.3.2 of the AFC.

107. Please provide a Draft Health and Safety Plan, and Soil Management Plan, consistent with the U.S. Dataport EIR. Please address whether human exposure to pesticide contaminated soil is a health hazard. If so, please describe how exposure can occur (i.e. to workers by direct skin contact and/or from airborne dust, and to the public from airborne dust). Identify mitigation measures you intend to implement to reduce or eliminate exposure.

Response: Attachment WR-107 presents a draft Soils Management and Health and Safety Plan for the LECEF project construction.

108. The construction of LECEF improvements will likely intercept groundwater resources considering construction is anticipated during winter and spring. Please identify proposed construction measures that will be used to protect groundwater resources during the construction phase.

Response: Proposed construction measures to protect groundwater resources will be provided early November.

109. The proposed onsite storm water detention channels located around the project perimeter may also intercept groundwater. Please identify proposed measures (i.e. lining of the proposed detention channels) that are proposed to prevent the infiltration of groundwater into the detention channels. If the detention channels are at equilibrium with shallow groundwater levels they may not have capacity to provide peak storage of storm water runoff.

Response: Proposed grades will be set generally to existing grades with sliver cut and fill to create a buildable pad. A perimeter swale will collect stormwater runoff

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onsite and adjacent property which will be collected by an underground storm drain system and pump to Coyote Creek Bypass. The depth of perimeter swale ranges from 1 foot to 6 feet. Soil investigation indicates groundwater is at 6.5 feet below ground surface. Design details for the stormwater detention channel will be provided early November.

BACKGROUND

During operation, the LECEF will store hazardous materials in such quantities that a Hazardous Materials Business Plan (HMBP) and Spill Prevention, Control and Countermeasure Plan will be required. The regulations allow combining these into a common document if desired. Cooling water treatment may require the addition of chemicals such as a pH control agent (acid or caustic), a mineral scale dispersant, a corrosive inhibitor and a biocide (hypochlorite or equivalent). The water to be used for NO_x suppression will require additional chemical treatment including sulfuric acid. Onsite storage of these chemicals is proposed.

DATA REQUEST

110. Please provide a draft HMBP for the LECEF.

Response: A draft HMBP will be provided in November.

111. Please provide a draft SPCC Plan for the LECEF.

Response: A draft SPCC will be provided in November.

112. Please identify for each chemical storage and containment system, whether it is located inside a covered area or exposed to rainfall.

Response: The following chemical storage areas are anticipated for the project:

Ammonia – tanks will be covered and placed within secondary containment. The truck loading station will also be contained.

Acid for Water Treatment – tanks will be outside and not covered with secondary containment.

Lube Oils – lube oil drums will be placed in a segregated drum storage area that is covered and has secondary containment.

Water Treatment Chemical Feed Systems – housed within its own building with secondary containment.

**Los Esteros Critical Energy Facility
Data Request Response Set 1
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Cooling Tower Water Chemical Feed Systems – housed in their own building with secondary containment.

Hazardous Waste Storage Area – a separate covered building with segregated secondary containment.

113. Please demonstrate how chemical storage and containment areas are to be drained to the sanitary sewer system with prevention of drainage to the storm water system.

Response: Most process areas at the LECEF will be covered to prevent stormwater from coming in contact process areas and associated equipment. In the event that stormwater does come in contact with process areas, runoff will be retained by curbs or berms in the specific process area. Accumulated runoff will be held for inspection prior to release into the plant sanitary sewer system. If the accumulated stormwater is contaminated, it will be sampled and analyzed to determine the appropriate disposal method in accordance with applicable laws and regulations. If allowed by the City, the accumulated stormwater will routed to the Oil/Water Separator and then into the City of San Jose sanitary sewer system. Monitoring of the discharge will be in accordance with the Industrial Waste Discharge Permit administered by the City of San Jose. Otherwise, the accumulated liquid will be removed by vacuum trucks and transported off-site to an approved disposal facility.

114. In section 2.2-10, the AFC states “the project will not store any hazardous materials other than those used in the electrical generation equipment”. Please explain how this statement is consistent with the proposed onsite storage of chemicals for water treatment.

Response: Please refer to Section 8.12 – Hazardous Materials Handling – of the AFC for a comprehensive discussion of the hazardous materials used and stored onsite. Section 2.2-10 of the AFC contains a typographical error. It should read “the project will not store any hazardous materials other than those used in electrical generation operations.”

BACKGROUND

Flow de-mineralization and water filtration equipment skids are proposed, one for each CTG, and apparently without any redundancy in capacity should equipment fail.

DATA REQUEST

115. Demonstrate how system reliability and redundancy of critical improvements is proposed with this arrangement. Are spare (redundant) pumping, chemical feed and water treatment components proposed on each equipment skid? To improve

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system reliability, evaluate the feasibility of providing a spare de-mineralization and water filtration equipment skid that could serve as a temporary replacement for any of the four dedicated equipment skids.

Response: Three flow de-mineralization and water filtration skids will be provided, each with a capacity to supply 50% of the peak water flow demand of the LECEF. Therefore, if one skid is out of service, the remaining two will provide 100% of the peak demand.

**Los Esteros Critical Energy Facility
Data Request Response Set 1
(01-AFC-12)**

Attachment WR-106 Phase II Soil and Ground Water Quality Evaluation

November 2, 2001

Phase II Soil and Ground Water

Quality Evaluation

55-acre Lin/Hom parcel

San Jose, California

This report has been prepared for:

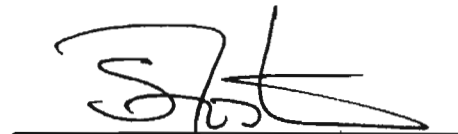
Calpine

620 Coolidge Drive, Suite 200, Folsom, California 95630

July 14, 2000

Project No. 587-12F


James P. Kiernan
Staff Environmental Engineer


Stason I. Foster, P.E.
Senior Principal Engineer



Mountain View

Oakland

Pasadena

San Ramon

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PHASE II SOIL AND GROUND WATER QUALITY EVALUATION

55-ACRE LIN/HOM PARCEL

SAN JOSE, CALIFORNIA

1.0 INTRODUCTION

1.1 Purpose

In this report, we present the results of the soil and ground water quality evaluation performed at the 55-acre Lin/Hom parcel located in San Jose, California (Figure 1). This work was performed for Calpine who is considering purchasing the property for commercial development.

1.2 Site Background

The approximately 55-acre parcel is located near the northwest intersection of Highway 237 and Coyote Creek. The site is located in an agricultural, residential, and commercial area and is bounded by McCarthy Lane to the north; Alviso-Milpitas Road to the south; agricultural, residential, and commercial property to the east; and vacant land to the west (Figure 2). This parcel currently is being used for various agricultural farming purposes.

The site is developed with several nursery/greenhouse complexes and residential structures. As discussed in our Phase I Environmental Site Assessment reports dated February 13, 2000 and April 13, 2000 (draft), underground storage tanks (USTs) (three diesel fuel tanks and one gasoline tank), and several pesticide mixing/storage areas were identified on-site (Figure 2). These areas, coupled with former agricultural use of the property, prompted the performance of this phase of work to evaluate soil and ground water quality.

1.3 Scope of Work

The scope of work performed was outlined in our agreement with you, dated April 26, 2000, and included the following tasks.

- ▼ Drilling of exploratory borings near the USTs and pesticide mixing/storage areas, and from the greenhouse/agricultural areas.
- ▼ Collection of soil and ground water samples for laboratory analysis.

2.0 SOIL AND GROUND WATER QUALITY EVALUATION

To evaluate soil and ground water quality near the former USTs, the pesticide storage and mixing areas, and within the greenhouses located on the parcel, a subsurface investigation was performed on May 9, 10, 11, and 13, 2000. Under the

supervision of Principal Environmental Engineer Stason I. Foster, Environmental Geologist John W. McCain drilled 59 borings to approximate depths between 2½ and 10 feet.

2.1 UST Areas

As shown on Figures 3, 4, and 5, one boring was drilled near each of the existing UST locations. For the diesel UST that reportedly had floated to the ground surface during a flood in approximately 1982, a boring was drilled near the former in-place location to the east of the boiler structure on the Lin property.

Ground water was encountered in three of the four borings at approximate depths of 3 to 4 feet. Soil and ground water sampling protocols are presented in Appendix A.

Soil samples collected from just above the shallow water-bearing zone and ground water grab samples (where encountered) from each boring, were selected for submittal to a state-certified analytical laboratory.

The samples were analyzed for total petroleum hydrocarbons as gasoline and diesel (TPHg and TPHd) (EPA Test Method 8015); benzene, toluene, ethylbenzene, and total xylenes (BTEX) (EPA Test Method 8020); and fuel oxygenates (EPA Test Method 8260). The ground water samples additionally were analyzed for organochlorine pesticides (EPA Test Method 8081). These analyses were selected to help evaluate possible contamination due to the presence of the USTs. The results of these analyses are presented in Tables 1 and 2. Copies of the analytical reports and chain of custody documentation are presented in Appendix A.

Table 1. Analytical Results of Selected Soil Samples – UST Area
(concentrations in parts per million)

Boring Number	Depth (feet)	TPHg	TPHd	BTEX	Fuel Oxygenates
T-1	2½ - 3	<1.0	<1.0	<0.005	<0.005
T-2	2½ - 3	<1.0	<1.0	<0.005	<0.005
T-3	9½ - 10	<1.0	<1.0	<0.005	<0.005
T-4	2½ - 3	<1.0	<1.0	<0.005	<0.005

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

Table 2. Analytical Results of Selected Ground Water Samples-UST Area
(concentrations in parts per million)

Well Number	Date	TPHg	TPHd	BTEX	Fuel Oxygenates	Organochlorine Pesticides
T-1	5/11/00	<50	<50	<0.5	<5	ND
T-2	5/11/00	<50	<50	<0.5	<5	ND
T-4	5/11/00	<50	<50	<0.5	<5	ND

< Indicates that the compound was not detected at or above the stated laboratory reporting limit
ND – Not Detected (detection limits vary)

2.2 Greenhouses and Pesticide Storage/Mixing Areas

2.2.1 Soil Quality

Fifty-five soil samples were collected at a depth of approximately ½ foot from the borings drilled near the greenhouses and the pesticide storage and mixing areas. These samples were analyzed for organochlorine pesticides (EPA Test Method 8081) and the metals mercury, arsenic, selenium, and lead. The pesticide and metals results are presented in Tables 3 and 4, respectively. Sampling locations are shown on Figure 6.

Table 3. Analytical Results of Selected Soil Samples – Organochlorine Pesticides
(concentrations in parts per million)

Boring Number	Depth (feet)	DDT	DDE	DDD	Dieldrin	Heptachlor Epoxide	Endo-sulfan I	Endo-sulfan II	Endrin	Toxaphene
S-1	0 - ½	0.328	1.52	<0.100	<0.100	<0.050	<0.050	<0.100	<0.100	<4.25
S-2	0 - ½	0.328	1.54	<0.100	<0.100	<0.050	<0.050	<0.100	<0.100	<4.25
S-3	0 - ½	0.363	1.83	<0.200	<0.200	<0.100	<0.100	<0.200	<0.200	<8.50
S-4	0 - ½	0.181	1.55	<0.100	<0.100	<0.050	<0.050	<0.100	<0.100	<4.25
S-5	0 - ½	0.049	0.236	<0.020	<0.020	<0.010	<0.010	<0.020	<0.020	<0.850
S-6	0 - ½	0.483	1.80	<0.200	<0.200	<0.100	<0.100	<0.200	<0.200	<8.50
S-7	0 - ½	0.142	1.10	<0.080	<0.080	<0.040	<0.040	<0.080	<0.080	<3.40
S-9	0 - ½	0.127	0.699	<0.080	<0.080	<0.040	<0.040	<0.080	<0.080	<3.40
S-10	0 - ½	0.083	0.806	<0.080	<0.080	<0.040	<0.040	<0.080	<0.080	<3.40
S-11	0 - ½	0.047	0.551	<0.040	<0.040	<0.020	<0.020	<0.040	<0.040	<1.70
S-12	0 - ½	0.121	0.865	<0.080	<0.080	<0.040	<0.040	<0.080	<0.080	<3.40
S-13	0 - ½	0.251	1.07	<0.100	<0.100	<0.050	<0.050	<0.100	<0.100	<4.25
S-14	0 - ½	0.207	1.27	<0.080	<0.080	<0.040	<0.040	<0.080	<0.080	<3.40
S-15	0 - ½	<0.2	0.379	<0.200	<0.200	<0.100	<0.100	<0.200	<0.200	<8.50
S-16	0 - ½	0.088	0.740	<0.040	<0.040	<0.020	<0.020	<0.040	<0.040	<1.70
S-17	0 - ½	0.083	0.347	<0.040	<0.040	<0.020	<0.020	<0.040	<0.040	<1.70
S-18	0 - ½	0.344	1.20	<0.080	<0.080	<0.040	<0.040	<0.080	<0.080	<3.40
S-19	0 - ½	0.163	0.914	<0.100	<0.100	<0.050	<0.050	<0.100	<0.100	<4.25

continued

Table 3. Analytical Results of Selected Soil Samples – Organochlorine Pesticides
(concentrations in parts per million)
(continued)

Boring Number	Depth (feet)	DDT	DDE	DDD	Dieldrin	Heptachlor Epoxide	Endo-sulfan I	Endo-sulfan II	Endrin	Toxaphene
S-20	0 - ½	<0.04	0.481	<0.04	<0.04	<0.02	<0.02	<0.04	<0.04	<1.7
S-21	0 - ½	0.066	<0.04	<0.04	<0.04	0.498	<0.02	<0.04	<0.04	<1.7
S-22	0 - ½	0.115	0.635	<0.04	<0.04	<0.02	<0.02	<0.04	<0.04	<1.7
S-23	0 - ½	0.305	3.09	<0.2	<0.2	<0.1	<0.1	<0.2	<0.2	<8.5
S-24	0 - ½	8.66	1.1	1.27	<0.4	0.389	1.75	<0.4	<0.4	<17
S-25	0 - ½	<0.1	1.01	<0.1	<0.1	<0.05	<0.05	<0.1	<0.1	<4.25
S-26	0 - ½	<0.2	1.73	<0.2	<0.2	<0.1	<0.1	<0.2	<0.2	<8.5
S-27	0 - ½	<0.16	0.949	<0.16	<0.16	<0.04	<0.04	<0.16	<0.16	<3.4
S-28	0 - ½	0.323	1.62	<0.08	<0.08	<0.04	<0.04	<0.08	<0.08	<3.4
S-29	0 - ½	0.023	0.141	0.0094	<0.008	<0.004	<0.004	<0.008	<0.008	<0.34
S-30	0 - ½	0.092	1.02	0.064	<0.08	<0.04	<0.04	<0.08	<0.08	<3.4
S-31	0 - ½	1.78	<0.2	<0.2	<0.2	<0.1	<0.1	<0.2	<0.2	<8.5
S-32	0 - ½	0.045	0.398	<0.04	<0.04	<0.02	<0.02	<0.04	<0.04	<1.7
S-33	0 - ½	0.117	0.454	<0.04	<0.04	<0.02	<0.02	<0.04	<0.04	<1.7
S-34	0 - ½	0.092	0.74	0.044	<0.04	<0.02	<0.02	<0.04	<0.04	<1.7
S-35	0 - ½	0.084	0.644	<0.04	<0.04	<0.02	<0.02	<0.04	<0.04	<1.7
S-36	0 - ½	<0.04	0.642	<0.04	<0.04	<0.02	<0.02	<0.04	<0.04	<1.7
S-37	0 - ½	0.134	0.476	0.049	<0.04	<0.02	<0.02	<0.04	<0.04	<1.7
S-38	0 - ½	0.067	0.304	0.035	<0.004	<0.002	<0.002	<0.004	<0.004	<0.17
S-39	0 - ½	0.0049	0.018	0.013	<0.004	<0.002	<0.002	<0.004	<0.004	<0.17
S-40	0 - ½	0.11	1.63	0.052	<0.04	<0.02	<0.02	<0.04	<0.04	<1.7
S-41	0 - ½	0.393	1.87	0.038	0.019	<0.002	<0.002	<0.004	<0.004	<0.17
S-42	0 - ½	0.175	1.73	0.076	<0.04	<0.02	<0.02	<0.04	<0.04	<1.7
S-43	0 - ½	0.137	1.384	0.039	0.0083	<0.002	<0.002	<0.004	<0.004	<0.17
S-44	0 - ½	0.035	0.205	0.02	<0.004	<0.002	<0.002	<0.004	<0.004	<0.17
S-45	0 - ½	0.308	1.05	0.036	<0.004	<0.002	<0.002	<0.004	<0.004	<0.17
S-46	0 - ½	0.085	0.39	0.0097	<0.004	<0.002	<0.002	<0.004	<0.004	<0.17
S-47	0 - ½	0.013	0.106	<0.008	<0.008	<0.004	<0.004	<0.008	<0.008	<0.34
S-48	0 - ½	<0.5	1.10	<0.1	<0.1	<0.1	<0.5	<0.5	<0.1	<5.0
S-50	0 - ½	0.504	1.45	0.138	<0.1	<0.05	<0.05	<0.1	<0.1	<4.2
S-51	0 - ½	0.271	1.02	0.03	0.017	<0.002	<0.002	<0.004	<0.004	<0.17
S-52*	0 - ½	0.098	0.023	0.014	<0.004	<0.002	<0.002	<0.004	<0.004	12.0
S-53	0 - ½	0.504	1.27	0.085	0.011	<0.002	<0.002	<0.004	<0.004	<0.17
S-54	0 - ½	<0.004	1.51	<0.004	0.01	<0.002	<0.002	0.128	0.062	<0.17
S-55	0 - ½	0.224	1.85	0.056	0.014	<0.002	<0.002	<0.004	<0.004	<0.17
S-56	0 - ½	0.026	0.427	0.035	<0.004	<0.002	<0.002	<0.004	<0.004	<0.17
S-57	0 - ½	0.23	1.99	0.083	0.016	<0.002	<0.002	<0.004	<0.004	<0.17
T-3	9½ - 10	<0.004	<0.004	<0.004	<0.004	<0.002	<0.002	<0.004	<0.004	<0.17
T-4	2½ - 3	<0.004	<0.004	<0.004	<0.004	<0.002	<0.002	<0.004	<0.004	<0.17
PRG	--	12.0	12.0	17.0	0.15	0.27	5,300	5,300	260	2.20
TTL	--	1.0	1.0	1.0	8.0	4.7	NE	NE	0.200	5.0

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

PRG Preliminary Remediation Goal for industrial site use-EPA Region 9, 1999

TTL Total Threshold Limit Concentration

NE Not Established

* Soil Sample S-52 also contained Alpha-BHC (0.13 ppm), Beta-BHC (0.23 ppm), and Delta-BHC (1.40 ppm)

Table 4. Analytical Results of Selected Soil Samples – Metals
(concentrations in parts per million)

Boring Number	Depth (feet)	Arsenic	Lead	Mercury	Selenium
S-1	0 - ½	32	85	<0.05	<25
S-2	0 - ½	35	87	0.06	<25
S-3	0 - ½	28	85	0.06	<25
S-4	0 - ½	57	140	0.08	<25
S-5	0 - ½	39	110	0.06	<25
S-6	0 - ½	48	140	0.06	<25
S-7	0 - ½	36	110	<0.05	<25
S-9	0 - ½	37	91	0.07	<25
S-10	0 - ½	42	110	0.07	<25
S-11	0 - ½	57	150	0.06	<25
S-12	0 - ½	55	160	<0.05	<25
S-13	0 - ½	42	120	0.1	<25
S-14	0 - ½	56	140	0.11	<25
S-15	0 - ½	19	41	0.07	<25
S-16	0 - ½	58	150	0.08	<25
S-17	0 - ½	50	120	<0.05	<25
S-18	0 - ½	34	79	0.08	<25
S-19	0 - ½	35	89	<0.05	<25
S-20	0 - ½	48	120	0.12	<25
S-21	0 - ½	36	85	0.05	<25
S-22	0 - ½	34	85	0.05	<25
S-23	0 - ½	59	150	0.11	<25
S-24	0 - ½	32	90	<0.05	<25
S-25	0 - ½	50	120	0.13	<25
S-26	0 - ½	49	110	0.12	<25
S-27	0 - ½	51	130	0.13	<25
S-28	0 - ½	49	140	0.1	<25
S-29	0 - ½	51	130	<0.05	<25
S-30	0 - ½	55	120	0.08	<25
S-31	0 - ½	34	88	0.05	<25
S-32	0 - ½	36	76	0.06	<25
S-33	0 - ½	42	130	<0.05	<25
S-34	0 - ½	48	140	0.1	<25
S-35	0 - ½	51	130	0.06	<25
S-36	0 - ½	47	140	<0.05	<25
S-37	0 - ½	56	160	0.07	<25
S-38	0 - ½	42	100	0.05	<25
S-39	0 - ½	28	64	0.07	<25
S-40	0 - ½	43	160	0.12	<25
S-41	0 - ½	46	140	<0.05	<25
S-42	0 - ½	52	170	0.09	<25
S-43	0 - ½	55	180	0.11	<25
S-44	0 - ½	43	130	<0.05	<25

continued

Table 4. Analytical Results of Selected Soil Samples – Metals
(concentrations in parts per million)
(continued)

Boring Number	Depth (feet)	Arsenic	Lead	Mercury	Selenium
S-45	0 - ½	55	180	0.06	<25
S-46	0 - ½	65	170	0.07	<25
S-47	0 - ½	11	<5.0	<0.05	<25
S-48	0 - ½	50	130	<0.05	<25
S-50	0 - ½	53	180	0.09	<25
S-51	0 - ½	46	120	0.06	<25
S-52	0 - ½	67	310	0.6	<25
S-53	0 - ½	45	140	<0.05	<25
S-54	0 - ½	58	140	0.06	<25
S-55	0 - ½	39	94	<0.05	<25
S-56	0 - ½	51	130	0.54	<25
S-57	0 - ½	42	94	<0.05	<25
PRG	--	2.7	1,000	610	10,000
TTLIC	--	500	1,000	20	100

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

TTLIC Total Threshold Limit Concentration

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In addition, 19 of the shallow soil samples were analyzed for organophosphorous pesticides (EPA Test Method 8141), N-methyl carbamates (EPA Test Method 8318) and chlorinated herbicides (EPA Test Method 8151). The results of these analyses are shown in Table 5. The only two organophosphorous pesticides detected in the samples were chlorpyrifos and parathion. The only chlorinated herbicide detected in the samples was pentachlorophenol. No N-methyl carbamates were detected in any of the samples and therefore not shown in Table 5.

Table 5. Analytical Results of Selected Soil Samples - Organophosphorous Pesticides and Chlorinated Herbicides
(concentrations in parts per million)

Boring Number	Depth (feet)	Chlorpyrifos (Dursban)	Parathion	Pentachlorophenol (PCP)
S-1	0 - ½	<0.03	<0.04	<0.01
S-2	0 - ½	<0.03	<0.04	<0.01
S-4	0 - ½	<0.03	<0.04	<0.01
S-5	0 - ½	<0.03	<0.04	<0.01
S-6	0 - ½	<0.03	<0.04	<0.01
S-10	0 - ½	<0.03	<0.04	<0.01
S-11	0 - ½	<0.03	<0.04	<0.01

continued

**Table 5. Analytical Results of Selected Soil Samples -
Organophosphorous Pesticides and Chlorinated Herbicides**
(concentrations in parts per million)
(continued)

Boring Number	Depth (feet)	Chlorpyrifos (Dursban)	Parathion	Pentachlorophenol (PCP)
S-13	0 - ½	<0.03	<0.04	<0.01
S-14	0 - ½	<0.03	<0.04	<0.01
S-20	0 - ½	<0.03	<0.04	<0.01
S-21	0 - ½	<0.03	<0.04	<0.01
S-23	0 - ½	<0.03	<0.04	<0.01
S-24	0 - ½	0.100	0.06	0.42
S-25	0 - ½	<0.03	<0.04	<0.01
S-29	0 - ½	<0.03	<0.04	<0.01
S-30	0 - ½	<0.03	<0.04	<0.01
S-39	0 - ½	<0.03	<0.04	<0.01
S-47	0 - ½	<0.03	0.06	<0.01
S-51	0 - ½	<0.03	<0.04	<0.01
PRG	--	2,600	5,300	11.0

< Indicates that the compound was not detected at or above the stated laboratory reporting limit
PRG Preliminary Remediation Goal for industrial site use—EPA Region 9, 1999

2.2.2 Ground Water Quality

To evaluate ground water quality, ground water grab samples were collected from six borings drilled near the pesticide storage and mixing areas (S-24, S-29, S-47, S-50, S-51, and S-53) (Figure 6). The ground water samples were analyzed for organochlorine pesticides and the metals mercury, arsenic, selenium, and lead. The results of the metals analysis are presented in Table 6.

**Table 6. Analytical Results of Selected Ground Water Samples-
Pesticide Storage and Mixing Areas**
(concentrations in parts per billion)

Boring Number	Date	Arsenic	Lead	Mercury	Selenium	Organochlorine Pesticides
S-24	5/10/00	<5.0	<15	<0.2	<15	ND*
S-29	5/11/00	<5.0	30	<0.2	<15	ND
S-47	5/11/00	<5.0	<15	<0.2	<15	ND
S-50	5/11/00	<5.0	<15	<0.2	<15	ND
S-51	5/13/00	14	26	<0.2	<15	ND
S-53	5/13/00	<5.0	30	<0.2	<15	ND
MCL	--	50	15**	2.0	50	

< Indicates that the compound was not detected at or above the stated laboratory reporting limit
MCL Drinking water Maximum Contaminant Levels—California DHS, March 12, 1999
ND) Not Detected (detection limits vary)
* All non-detect except for Endosulfan I at 0.3 ppb.
** Lead Action Level for drinking water

3.0 CONCLUSIONS AND RECOMMENDATIONS

3.1 Soil Quality – Pesticides and Metals

The laboratory analyses of soil samples detected various pesticides. The main pesticide detected was DDT and the related compounds DDD and DDE. The sum of these three compounds is commonly referred to as total DDT. Total DDT levels up to 11.03 ppm were detected in one sample; however, in most samples, the total DDT levels ranged from about 0.5 to 2.5 ppm. In about half the samples, the total DDT concentrations were greater than the 1.0 ppm Total Threshold Limit Concentration (TTLC). The TTLC is the level above which a solid waste is considered hazardous per Title 22 of the California Code of Regulations.

None of the total DDT levels detected exceed the preliminary remediation goal (PRG) of 12.0 ppm for industrial site use. The PRGs are risk-based concentrations developed by EPA Region 9 for use as screening levels in determining if further evaluation is warranted, in prioritizing areas of concern, in establishing initial cleanup goals, and in estimation of potential health risks. The PRGs are chemical concentrations that correspond to fixed levels of risk (either a cancer risk of one in one million [10^{-6}] or a non-carcinogenic hazard quotient of one, whichever occurs at a lower concentration).

Since the DDT levels detected do not exceed the PRGs, the concentrations detected do not appear to pose a significant threat to human health in a commercial or industrial setting. If property use were to be changed to a residential setting, additional work likely would be required. Since the site is planned for commercial use and will be largely capped by buildings and associated concrete drives and parking areas, risk to human health and the environment will be significantly reduced.

Heptachlor epoxide was detected in two of the samples at 0.498 and 0.389 ppm. Although above the PRG (0.27 ppm), this compound does not appear to be a significant concern since it was only infrequently detected; thus, significant exposure is unlikely to occur. The levels detected also are well below the TTLC of 4.7 ppm.

Toxaphene was detected in only one sample (S-52). However, the concentration detected (12.0 ppm) is well above the PRG (2.2 ppm) and TTLC (5.0 ppm). Since this sample was collected from a pesticide storage/mixing area and exceeds both the PRG and TTLC, we recommend that additional sampling be performed in this vicinity to evaluate the vertical and horizontal extent of toxaphene-impacted soil.

Lead and arsenic concentrations detected in soil are higher than typical background levels which are commonly less than 50 ppm and less than 10 ppm, respectively. However, the levels detected are well below their respective TTLC values of 1,000 and 500 ppm. As with the residual pesticides, the metal concentrations detected do not appear to pose a significant threat to human health in a commercial/industrial setting.

Due to the presence of residual pesticides and elevated levels of metals, a construction worker health and safety plan should be developed for the earthwork portion of the proposed development.

We also recommend that further testing for arsenic, lead, and organochlorine pesticides be completed on selected deeper soil samples. This additional testing will help confirm that concentrations of target constituents do not increase with depth. Based on our experience, a reduction in concentrations would be expected in the upper few feet of soil.

If on-site soil is to be off-hauled, additional characterization should be performed prior to transport. Total DDT concentrations in the upper ½ foot of soil appear to exceed California's hazardous waste criteria (TTL of 1.0 ppm). Since off-site disposal of this soil could be costly, we recommend that the planned development be designed to minimize the amount of soil to be exported.

Only two organophosphorous pesticides (chlorpyrifos and parathion) were detected in the soil samples collected. The only chlorinated herbicide detected was pentachlorophenol. The concentrations detected for each of these compounds were well below their respective PRGs for industrial site use. No N-methyl carbamates were detected in any of the soil samples.

3.2 Soil Quality – Petroleum Hydrocarbons

Petroleum hydrocarbons were not detected in the soil samples collected near the existing USTs. We recommend that the USTs be removed in accordance with applicable regulations prior to site development. Although additional soil and ground water sampling will be required as part of the UST removal process, the data collected to date does not indicate that the USTs have significantly impacted the site.

3.3 Ground Water Quality

During this investigation, ground water grab samples were collected from nine borings advanced near the USTs and pesticide storage/mixing areas at the site. No significant levels of petroleum hydrocarbons or pesticides were detected in the ground water samples analyzed.

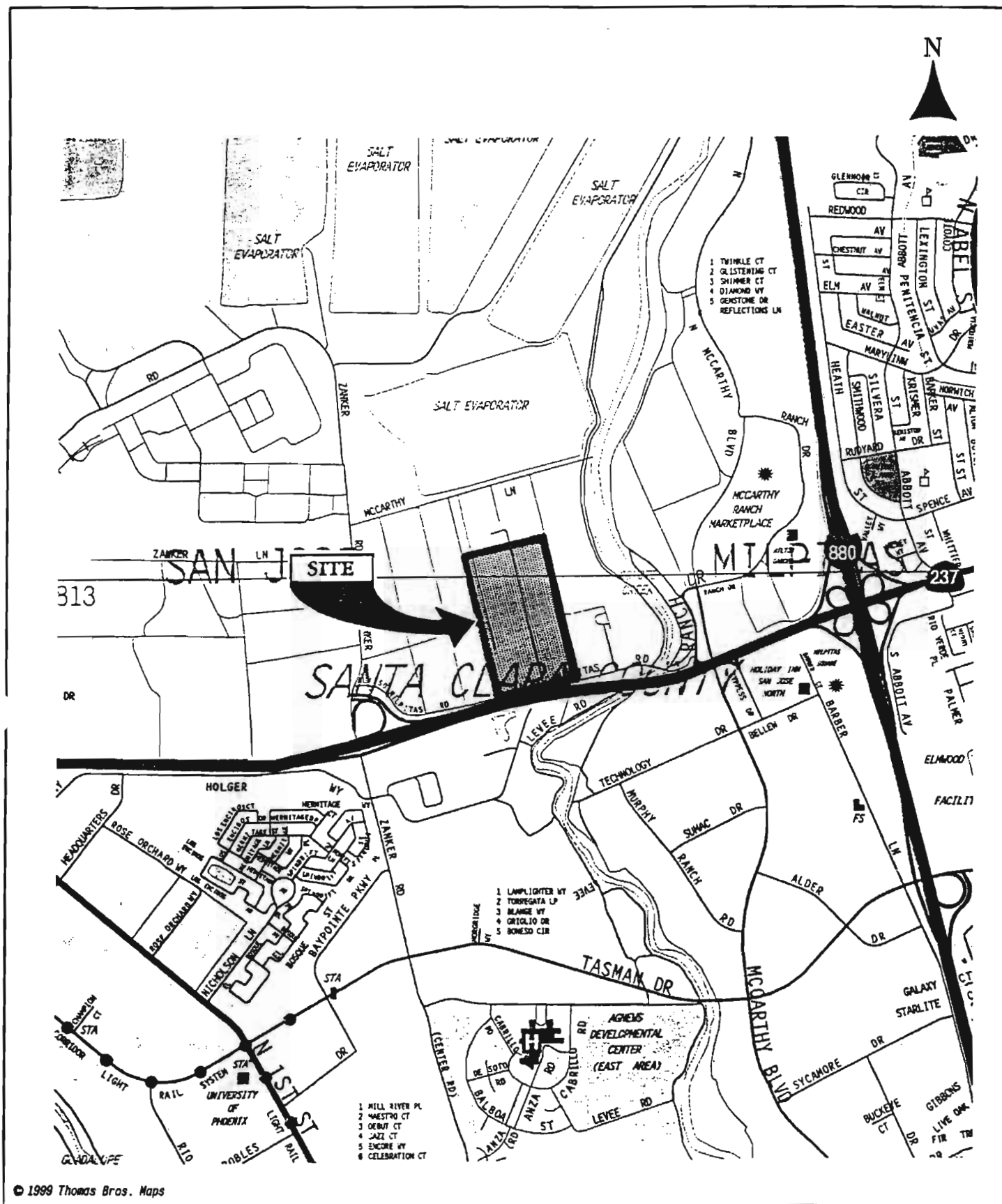
Metal concentrations detected in the ground water samples did not exceed the drinking water maximum contaminant levels (MCLs). Although no MCL has been established for lead, there is an action level of 15 pph for drinking water at the consumer tap. Lead levels were found to exceed this level in three samples. Since shallow on-site ground water is not proposed as a drinking water source, the lead levels detected do not appear to be a significant concern and may be due to sediments contained in the ground water grab samples.

4.0 LIMITATIONS

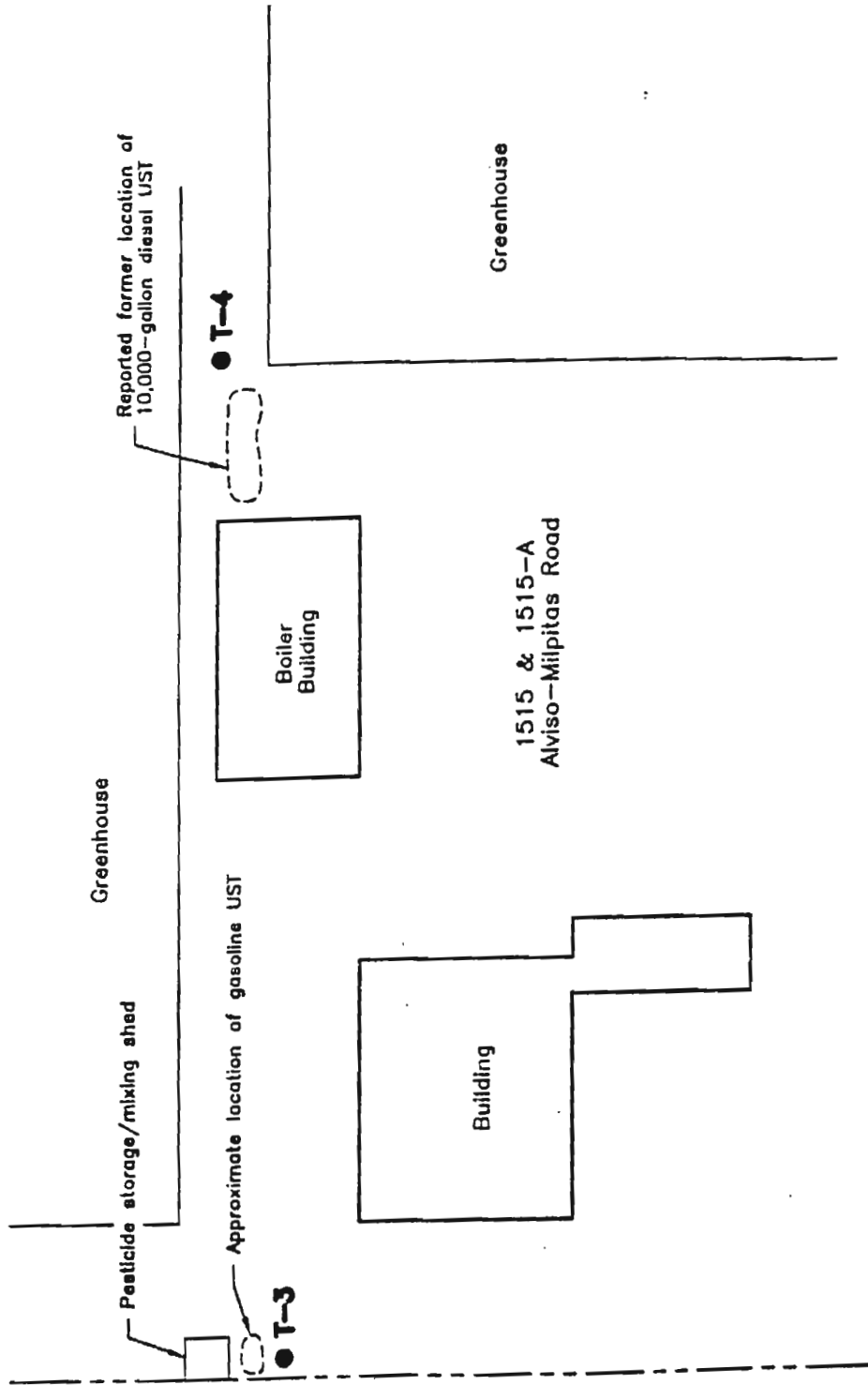
This report was prepared for the use of Calpine in evaluating soil and ground water quality at the 55-acre Lin/Hom parcel at the time of this study. We make no warranty, expressed or implied, except that our services have been performed in accordance with environmental principles generally accepted at 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 hydrochemical 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.

* * * * *



VICINITY MAP
 55-ACRE LIN/HOM PROPERTY
 San Jose, California



LEGEND

- - Approximate location of soil and ground water sample

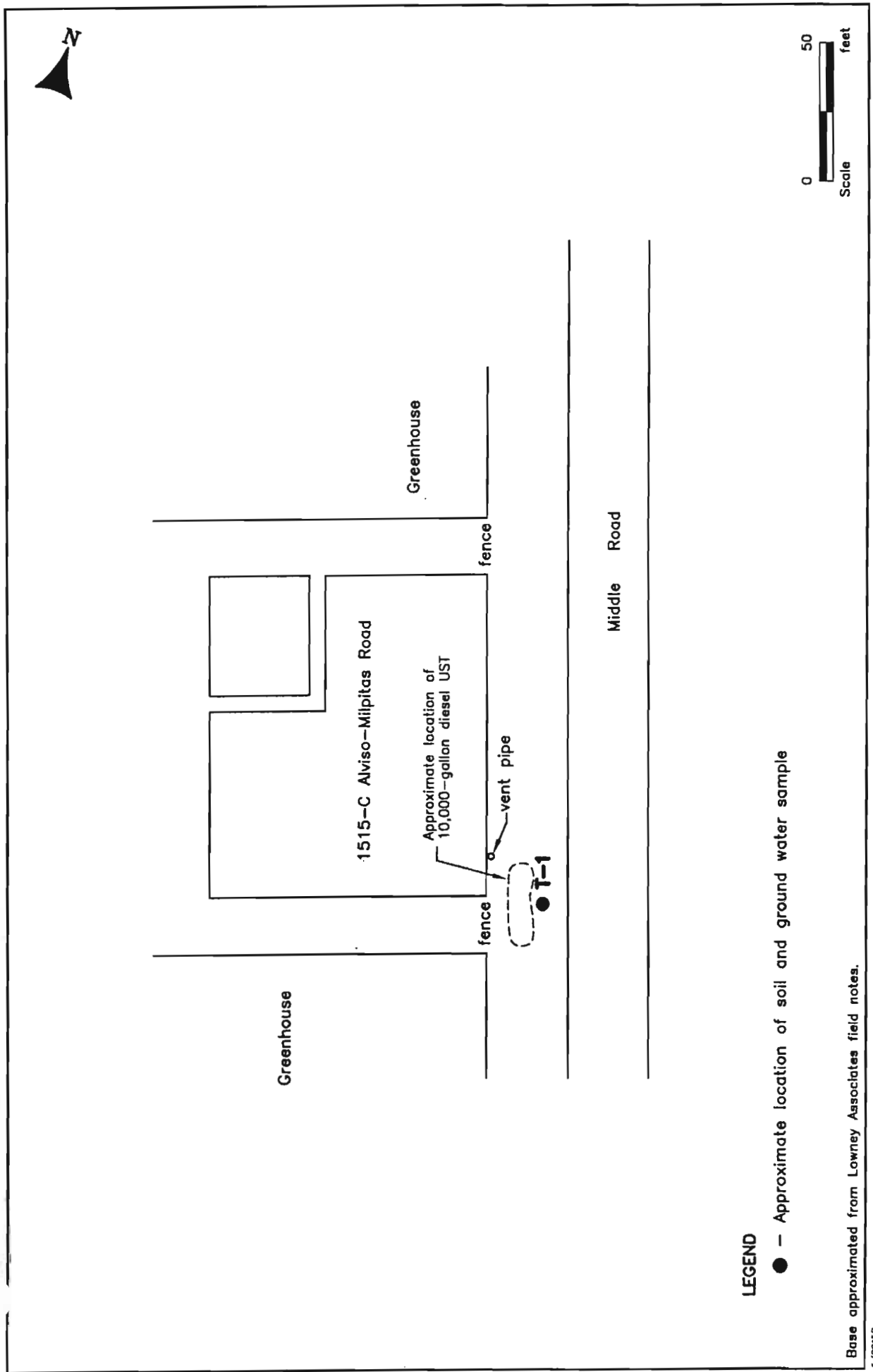


Base approximated from Lowney Associates field notes.

5/6/11

SITE PLAN
55-ACRE LIN/HOM PROPERTY
San Jose, California

LOWNEY ASSOCIATES
Environmental/Geotechnical/Engineering Services



LEGEND

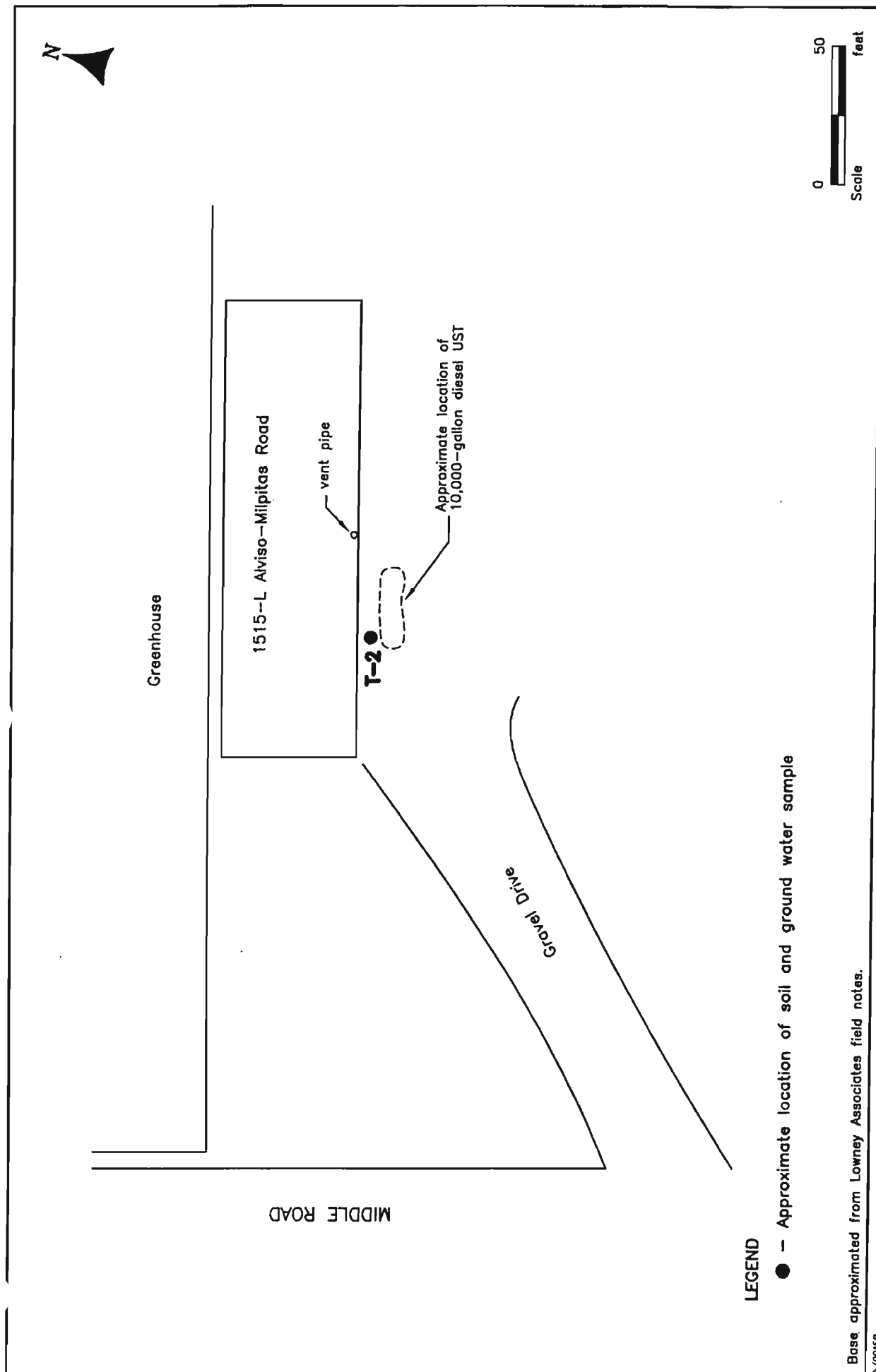
- - Approximate location of soil and ground water sample

Base approximated from Lowney Associates field notes.

5/00'tB

SITE PLAN
55-ACRE LIN/HOM PROPERTY
San Jose, California

LOWNEY ASSOCIATES
Environmental/Geotechnical/Engineering Services



Base approximated from Lowney Associates field notes.

5/00*EB

LEGEND

- - Approximate location of soil and ground water sample

SITE PLAN
55-ACRE LIN/HOM PROPERTY
 San Jose, California

LOWNEY ASSOCIATES
 Environmental/Geotechnical/Engineering Services

APPENDIX A

SAMPLING PROTOCOL AND ANALYTICAL RESULTS

Soil Borings: Fifty-nine soil borings were drilled to depths of approximately 2½ to 10 feet. The borings were drilled using a Geoprobe (macro-core), a hand auger and slide hammer, or a macro-core hand sampler.

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.

Ground Water Sampling: Borings S-29, S-47, and S-50 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 Teflon 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.

A Teflon bailer was used to collect the samples from borings S-24, S-51, and S-53 that were completed to ground water depth. Samples were collected in appropriate sample 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.

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.

Entech Analytical Labs, Inc.

CA ELAP# 2346

525 Del Rey Avenue, Suite E • Sunnyvale, CA 94086 • (408) 735-1550 • Fax (408) 735-1554

June 05, 2000

Doug Young
Lowney Associates
405 Clyde Avenue
Mountain View, CA 94043

Order: 20391

Date Collected: 5/9/00

Project Name: US Data Port 50-Acre Parcel

Date Received: 5/9/00

Project Number: 587-12F

P.O. Number:

Project Notes: 8081 final results.

On May 09, 2000, samples were received under documented chain of custody. Results for the following analyses are attached:

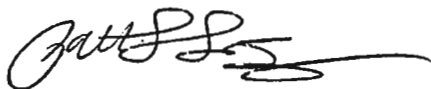
<u>Matrix</u>	<u>Test</u>
Solid	EPA 8081-ATL

<u>Method</u>
EPA 8081

Chemical analysis of these samples has been completed. Summaries of the data are contained on the following pages. USEPA protocols for sample storage and preservation were followed.

Entech Analytical Labs, Inc. is certified by the State of California (#2346). If you have any questions regarding procedures or results, please call me at 408-735-1550.

Sincerely,



Michelle L. Anderson
Lab Director

May 17, 2000

ELAP No.: 1838

Entech Analytical Labs, Inc.
525 Del Rey Avenue, Suite E,
Sunnyvale, CA 94086

ATTN: Michelle Anderson

Client's Project: 20391
Lab No.: 43915-001/017

Enclosed are the results for sample(s) received by Advanced Technology Laboratories and tested for the parameters indicated in the enclosed chain of custody.

Thank you for the opportunity to service the needs of your company. Please feel free to call me at (562) 989 - 4045 if I can be of further assistance to your company.

Sincerely,


Cheryl De Los Reyes
Technical Operations Manager
CDR/ra

Enclosures

This cover letter is an integral part of this analytical report.

This report pertains only to the samples investigated and does not necessarily apply to other apparently identical or similar materials. This report is submitted for the exclusive use of the client to whom it is addressed. Any reproduction of this report or use of this Laboratory's name for advertising or publicity purpose without authorization is prohibited.



Advanced Technology
Laboratories

1510 E. 33rd Street Signal Hill, CA 90807 Tel: 562 989-4045 Fax: 562 989-4040

Date Amended: 06/02/00

EPA Method 8081A

Surrogate Recovery									
Surrogate	%Rec.	Limits							
Tetrachloro-m-xylene	112	30-150							
Decachlorobiphenyl	187*	30-150							

- = Surrogate recoveries outside of limits due to matrix interference

Date: 06/03/02

The cover letter is an integral part of this analytical report.



1510 E. 33rd Street Signal Hill, CA 90807 Tel: 562 989-4045 Fax: 562 989-4040

Client's Project:	20391
Date Received:	05/11/00
Extraction Method:	3550B
Matrix:	Solid
Units:	ug/kg

Date Amended: 06/02/00

EPA Method 8081A

[illegible]

Surrogate Recovery									
Surrogate	%Rec.	Limits							
Tetrachloro-m-xylene	DO	30-150							
Decachlorobiphenyl	173*	30-150							

MDL = Method Detection Limit
ND = Not Detected (Below DLR)
DLR = MDL X Dilution Factor
NA = Not Analyzed

DO = Diluted out
* = Surrogate recoveries outside of limits due to matrix interference

Reviewed/Approved By:

Edgar Morrison ⚡
Organics Supervisor

Date: 06/03/00

The cover letter is an integral part of this analytical report.



Date Amended: 06/02/00

Client's Project: 20391
Date Received: 05/11/00
Extraction Method: 3550B
Matrix: Solid
Units: ug/kg

Date Amended: 06/02/00

EPA Method 8081A

Lab No.:	43915-009																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																		</
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Surrogate Recovery

[illegible]

MDL = Method Detection Limit
ND = Not Detected (Below DLR)
DLR = MDL X Dilution Factor
NA = Not Analyzed

* = Surrogate recoveries outside of limits due to matrix interference

Reviewed/Approved By:

Date: 06/03/00

Edgar Morrison
Organics Supervisor

The cover letter is an integral part of this analytical report.



Advanced Technology

1510 E. 33rd Street Signal Hill CA 90807 Tel: 562 090 1015 Fax: 562 090 1010

Date Amended: 06/02/00

Date Amended: 06/02/00

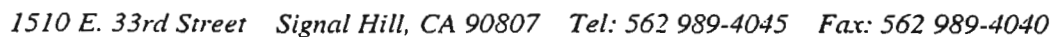
EPA Method 8081A

Surrogate Recovery									
Surrogate	% Rec.	Limits							
Tetrachloro-m-xylene	DO	30-150							
Decachlorobiphenyl	182*	30-150							

DO = Diluted out
* = Surrogate recoveries outside of limits due to matrix interference

Date: 06/03/02

The cover letter is an integral part of this analytical report.



Date Amended: 06/02/00

EPA Method 8081A

Surrogate Recovery

DO = Diluted out
*** = Surrogate recoveries outside of limits due to matrix interference**

Date: 06/03/00

The cover letter is an integral part of this analytical report.



Date Amended: 06/02/00

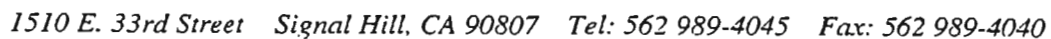
EPA Method 8081A

Surrogate Recovery

* = Surrogate recoveries outside of limits due to matrix interference

Date: 06/03/02

The cover letter is an integral part of this analytical report.



Date Amended: 06/02/00

EPA Method 8081A

Surrogate Recovery									
Surrogate	%Rec.	Limits							
Tetrachloro-m-xylene	103	30-150							
Decachlorobiphenyl	167*	30-150							

^a = Surrogate recoveries outside of limits due to matrix interference

Date: 06/03/00

The cover letter is an integral part of this analytical report.

Date Amended: 06/02/00

EPA Method 8081A

Surrogate Recovery

The cover letter is an integral part of this analytical report.



Client's Project: 20391
Date Received: 05/11/00
Extraction Method: 3550B
Matrix: Solid
Units: ug/kg

[illegible]

Surrogate		%Rec.	Limits								
Tetrachloro-m-xylene		85	30-150								
Decachlorobiphenyl		138	30-150								

MDL = Method Detection Limit
ND = Not Detected (Below DLR).
DLR = MDL X Dilution Factor
NA = Not Analyzed


Edgar Morrison
Organics Supervisor

Date: 06/03/00

The cover letter is an integral part of this analytical report.



Advanced Technology

1510 E. 33rd Street Signal Hill, CA 90807 Tel: 562 989-1045 Fax: 562 989-1040

Method : C:\HPCHEM\1\METHODS\8080523.M (Chemstation Integrator)
Title : 8081 Pesticides Advanced Technology Laboratory
Last Update : Fri May 26 15:43:06 2000
Response via : Initial Calibration

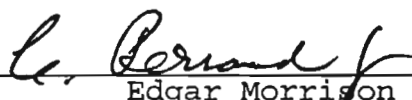
Non-Spiked Sample: G0523081.D

Spike Sample	Spike Duplicate Sample
File ID : G0523083.D	G0523084.D
Sample : 000512blks1.ms	000512blks1.ms
Acq Time: 26 May 2000 5:26 am	26 May 2000 6:12 am

Compound	Sample Conc	Spike Added	Spike Res	Dup Res	Spike %Rec	Dup %Rec	RPD	QC Limits RPD	% Rec
gamma-BHC	0.0	40	33	35	83	86	3	9	50-127
Heptachlor	0.0	40	33	34	83	86	3	12	35-136
Aldrin	0.0	40	33	34	83	85	3	15	47-143
Dieldrin	0.0	80	69	71	86	88	2	8	54-134
Endrin	0.0	80	75	76	94	95	1	16	61-138
4,4'-DDT	0.0	80	74	75	93	94	2	22	15-155

QC BATCH:G008080S209

REVIEWED/APPROVED BY:


Edgar Morrison

Department Supervisor

DATE: 06/02/00

Spike Recovery and RPD Summary Report - SOIL(ug/kg)

Method : C:\HPCHEM\1\METHODS\8080516.M (Chemstation Integrator)
 Title :
 Last Update : Tue May 16 16:47:37 2000
 Response via : Initial Calibration

Non-Spiked Sample: C0516012.D

Spike Sample	Spike Duplicate Sample
File ID : C0516014.D	C0516015.D
Sample : 000512blks1.ms,	000512blks1.ms,
Acq Time: 16 May 2000 4:55 pm	16 May 2000 5:30 pm

Compound	Sample Conc	Spike Added	Spike Res	Dup Res	Spike %Rec	Dup %Rec	RPD	QC Limits	
								RPD	% Rec
gamma-BHC	0.0	40	38	39	95	97	2	11	55-117
Heptachlor	0.1	40	38	38	94	95	1	13	38-120
Aldrin	0.0	40	39	39	97	99	2	17	47-125
Dieldrin	0.0	80	76	77	94	97	2	9	59-123
Endrin	0.0	80	79	79	99	99	0	13	64-131
1,4'-DDT	0.0	80	76	77	95	96	1	20	24-141

QCBATCH#CO08080S209

Reviewed/Approved by:

[Signature]

Edgar Morrison
 Department Supervisor

Date:

5/17/00



Advanced Technology
 Laboratories

1510 E. 33rd Street Signal Hill, CA 90807 Tel: 562 980-4045 Fax: 562 980-4040

Entech Analytical Labs, Inc.

CA ELAP # I-2346

525 Del Rey Avenue, Suite E, Sunnyvale, CA 94086 (408) 735-1550 FAX (408) 735-1554

Subcontract Chain of Custody

Subcontract Lab:	Project Name:	Date Sent:	Due Date:	PO Number:
ATL	20391	5/22/00	5/30/00	20391

Sample Number:	Customer Sample Number:	Matrix:	Test:	Method:	Collect Date:	Collect Time:	Bottle Type:	Preservative:
20391-005	S-6 (1-1½)	Solid	EPA 8081-ATL	EPA 8081	5/9/00		4 oz jar	
20391-006	S-6 (2-2½)	Solid	EPA 8081-ATL	EPA 8081	5/9/00		4 oz jar	
20391-017	S-15 (1-1½)	Solid	EPA 8081-ATL	EPA 8081	5/9/00		4 oz jar	
20391-018	S-15 (2-2½)	Solid	EPA 8081-ATL	EPA 8081	5/9/00		4 oz jar	

Relinquished By:	Received By:	Date:	Time:
Maria Guslis	Golden State	5/24/00	1800
Relinquished By:	Received By:	Date:	Time:
Relinquished By:	Received By:	Date:	Time:

Notes: Hold time up on 5/23/00

Entech Analytical Labs, Inc.

CA ELAP # I-2346

525 Del Rey Avenue, Suite E, Sunnyvale, CA 94086 (408) 735-1550 FAX (408) 735-1554

Subcontract Chain of Custody

Subcontract Lab:	Project Name:	Date Sent:	Due Date:	PO Number:				
ATL	20391	5/10/00	5/16/00	20391				
Sample Number:	Customer Sample Number:	Matrix:	Test:	Method:	Collect Date:	Collect Time:	Bottle Type:	Preservative:
20391-001	S-3 (0-1/2)	Solid	EPA 8081-ATL	EPA 8081	5/9/00		4 oz jar	
20391-004	S-6 (0-1/2)	Solid	EPA 8081-ATL	EPA 8081	5/9/00		4 oz jar	
20391-007	S-7 (0-1/2)	Solid	EPA 8081-ATL	EPA 8081	5/9/00		4 oz jar	
20391-010	S-12 (0-1/2)	Solid	EPA 8081-ATL	EPA 8081	5/9/00		4 oz jar	
20391-013	S-13 (0-1/2)	Solid	EPA 8081-ATL	EPA 8081	5/9/00		4 oz jar	
20391-016	S-15 (0-1/2)	Solid	EPA 8081-ATL	EPA 8081	5/9/00		4 oz jar	
20391-019	S-18 (0-1/2)	Solid	EPA 8081-ATL	EPA 8081	5/9/00		4 oz jar	
20391-022	S-19 (0-1/2)	Solid	EPA 8081-ATL	EPA 8081	5/9/00		4 oz jar	
20391-025	S-21 (0-1/2)	Solid	EPA 8081-ATL	EPA 8081	5/9/00		4 oz jar	
20391-028	S-22 (0-1/2)	Solid	EPA 8081-ATL	EPA 8081	5/9/00		4 oz jar	
20391-031	S-1 (0-1/2)	Solid	EPA 8081-ATL	EPA 8081	5/9/00		4 oz jar	
20391-034	S-2 (0-1/2)	Solid	EPA 8081-ATL	EPA 8081	5/9/00		4 oz jar	
20391-037	S-4 (0-1/2)	Solid	EPA 8081-ATL	EPA 8081	5/9/00		4 oz jar	
20391-040	S-9 (0-1/2)	Solid	EPA 8081-ATL	EPA 8081	5/9/00		4 oz jar	
20391-043	S-10 (0-1/2)	Solid	EPA 8081-ATL	EPA 8081	5/9/00		4 oz jar	
20391-046	S-11 (0-1/2)	Solid	EPA 8081-ATL	EPA 8081	5/9/00		4 oz jar	
20391-049	S-32 (0-1/2)	Solid	EPA 8081-ATL	EPA 8081	5/9/00		4 oz jar	

Relinquished By:	Received By:	Date:	Time:
Leo Rodriguez	Golden State	5/10/00	1800
Relinquished By:	Received By:	Date:	Time:
	Diane Malvan	5-11-00	0900
Relinquished By:	Received By:	Date:	Time:

Notes: EPA 8081+ Chlordane

Entech Analytical Labs, Inc.

CA ELAP# 2346

525 Del Rey Avenue, Suite E • Sunnyvale, CA 94086 • (408) 735-1550 • Fax (408) 735-1554

May 17, 2000

Doug Young

Lowney Associates

405 Clyde Avenue

Mountain View, CA 94043

Order: 20391

Date Collected: 5/9/00

Project Name: US Data Port 50-Acre Parcel

Date Received: 5/9/00

Project Number: 587-12F

P.O. Number:

Project Notes:

On May 09, 2000, samples were received under documented chain of custody. Results for the following analyses are attached:

<u>Matrix</u>	<u>Test</u>	<u>Method</u>
Solid	Arsenic	EPA 6010B
	EPA 8081-ATL	EPA 8081
	EPA 8141-EMA	EPA 8141
	EPA 8318-EMA	EPA 8318
	Lead	EPA 6010B
	Mercury	EPA 7471
	Selenium	EPA 6010B

Chemical analysis of these samples has been completed. Summaries of the data are contained on the following pages. USEPA protocols for sample storage and preservation were followed.

Entech Analytical Labs, Inc. is certified by the State of California (#2346). If you have any questions regarding procedures or results, please call me at 408-735-1550.

Sincerely,



Michelle L. Anderson
Lab Director

Entech Analytical Labs, Inc.

CA ELAP# 2346

525 Del Rey Avenue, Suite E • Sunnyvale, CA 94086 • (408) 735-1550 • Fax (408) 735-1554

Lowney Associates
405 Clyde Avenue
Mountain View, CA 94043
Attn: Doug Young

Date: 5/17/00
Date Received: 5/9/00
Project Name: US Data Port 50-Acre Parcel
Project Number: 587-12F
P.O. Number:
Sampled By: Client

Certified Analytical Report

Order ID: 20391		Lab Sample ID: 20391-001				Client Sample ID: S-3 (0-½)			
Sample Time:		Sample Date: 5/9/00				Matrix: Solid			
Parameter	Result	DF	PQL	DLR	Units	PrepDate	Analysis Date	QC Batch ID	Method
Arsenic	28	5	1	5	mg/Kg	5/11/00	5/14/00	SM000511	EPA 6010B
Lead	85	5	1	5	mg/Kg	5/11/00	5/14/00	SM000511	EPA 6010B
Mercury	0.0640	1	0.05	0.05	mg/Kg	5/15/00	5/16/00	SHG000508	EPA 7471
Selenium	ND	5	5	25	mg/Kg	5/11/00	5/14/00	SM000511	EPA 6010B

Order ID: 20391		Lab Sample ID: 20391-004				Client Sample ID: S-6 (0-½)			
Sample Time:		Sample Date: 5/9/00				Matrix: Solid			
Parameter	Result	DF	PQL	DLR	Units	PrepDate	Analysis Date	QC Batch ID	Method
Arsenic	48	5	1	5	mg/Kg	5/11/00	5/14/00	SM000511	EPA 6010B
Lead	140	5	1	5	mg/Kg	5/11/00	5/14/00	SM000511	EPA 6010B
Mercury	0.0585	1	0.05	0.05	mg/Kg	5/15/00	5/16/00	SHG000508	EPA 7471
Selenium	ND	5	5	25	mg/Kg	5/11/00	5/14/00	SM000511	EPA 6010B

Order ID: 20391		Lab Sample ID: 20391-007				Client Sample ID: S-7 (0-½)			
Sample Time:		Sample Date: 5/9/00				Matrix: Solid			
Parameter	Result	DF	PQL	DLR	Units	PrepDate	Analysis Date	QC Batch ID	Method
Arsenic	36	5	1	5	mg/Kg	5/11/00	5/14/00	SM000511	EPA 6010B
Lead	110	5	1	5	mg/Kg	5/11/00	5/14/00	SM000511	EPA 6010B
Mercury	ND	1	0.05	0.05	mg/Kg	5/15/00	5/16/00	SHG000508	EPA 7471
Selenium	ND	5	5	25	mg/Kg	5/11/00	5/14/00	SM000511	EPA 6010B

Order ID: 20391		Lab Sample ID: 20391-010				Client Sample ID: S-12 (0-½)			
Sample Time:		Sample Date: 5/9/00				Matrix: Solid			
Parameter	Result	DF	PQL	DLR	Units	PrepDate	Analysis Date	QC Batch ID	Method
Arsenic	55	5	1	5	mg/Kg	5/11/00	5/14/00	SM000511	EPA 6010B
Lead	160	5	1	5	mg/Kg	5/11/00	5/14/00	SM000511	EPA 6010B
Mercury	ND	1	0.05	0.05	mg/Kg	5/15/00	5/16/00	SHG000508	EPA 7471
Selenium	ND	5	5	25	mg/Kg	5/11/00	5/14/00	SM000511	EPA 6010B

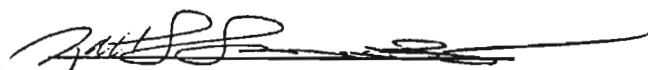
DF = Dilution Factor

ND = Not Detected

DLR = Detection Limit Reported

PQL = Practical Quantitation Limit

Analysis performed by Entech Analytical Labs, Inc. (CA ELAP #2346)



Michelle L. Anderson, Laboratory Director

Page 1 of 5

Environmental Analysis Since 1983

Entech Analytical Labs, Inc.

CA ELAP# 2346

525 Del Rey Avenue, Suite E • Sunnyvale, CA 94086 • (408) 735-1550 • Fax (408) 735-1554

Lowney Associates
405 Clyde Avenue
Mountain View, CA 94043
Attn: Doug Young

Date: 5/17/00
Date Received: 5/9/00
Project Name: US Data Port 50-Acre Parcel
Project Number: 587-12F
P.O. Number:
Sampled By: Client

Certified Analytical Report

Order ID: 20391		Lab Sample ID: 20391-013				Client Sample ID: S-13 (0-½)			
Sample Time:		Sample Date: 5/9/00				Matrix: Solid			
Parameter	Result	DF	PQL	DLR	Units	PrepDate	Analysis Date	QC Batch ID	Method
Arsenic	42	5	1	5	mg/Kg	5/11/00	5/14/00	SM000511	EPA 6010B
Lead	120	5	1	5	mg/Kg	5/11/00	5/14/00	SM000511	EPA 6010B
Mercury	0.0961	1	0.05	0.05	mg/Kg	5/15/00	5/16/00	SHG000508	EPA 7471
Selenium	ND	5	5	25	mg/Kg	5/11/00	5/14/00	SM000511	EPA 6010B

Order ID: 20391		Lab Sample ID: 20391-016				Client Sample ID: S-15 (0-½)			
Sample Time:		Sample Date: 5/9/00				Matrix: Solid			
Parameter	Result	DF	PQL	DLR	Units	PrepDate	Analysis Date	QC Batch ID	Method
Arsenic	19	5	1	5	mg/Kg	5/11/00	5/14/00	SM000511	EPA 6010B
Lead	41	5	1	5	mg/Kg	5/11/00	5/14/00	SM000511	EPA 6010B
Mercury	0.0746	1	0.05	0.05	mg/Kg	5/15/00	5/16/00	SHG000508	EPA 7471
Selenium	ND	5	5	25	mg/Kg	5/11/00	5/14/00	SM000511	EPA 6010B

Order ID: 20391		Lab Sample ID: 20391-019				Client Sample ID: S-18 (0-½)			
Sample Time:		Sample Date: 5/9/00				Matrix: Solid			
Parameter	Result	DF	PQL	DLR	Units	PrepDate	Analysis Date	QC Batch ID	Method
Arsenic	34	5	1	5	mg/Kg	5/11/00	5/14/00	SM000511	EPA 6010B
Lead	79	5	1	5	mg/Kg	5/11/00	5/14/00	SM000511	EPA 6010B
Mercury	0.0808	1	0.05	0.05	mg/Kg	5/15/00	5/16/00	SHG000508	EPA 7471
Selenium	ND	5	5	25	mg/Kg	5/11/00	5/14/00	SM000511	EPA 6010B

Order ID: 20391		Lab Sample ID: 20391-022				Client Sample ID: S-19 (0-½)			
Sample Time:		Sample Date: 5/9/00				Matrix: Solid			
Parameter	Result	DF	PQL	DLR	Units	PrepDate	Analysis Date	QC Batch ID	Method
Arsenic	35	5	1	5	mg/Kg	5/11/00	5/14/00	SM000511	EPA 6010B
Lead	89	5	1	5	mg/Kg	5/11/00	5/14/00	SM000511	EPA 6010B
Mercury	ND	1	0.05	0.05	mg/Kg	5/15/00	5/16/00	SHG000508	EPA 7471
Selenium	ND	5	5	25	mg/Kg	5/11/00	5/14/00	SM000511	EPA 6010B

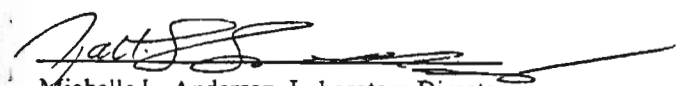
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PQL = Practical Quantitation Limit

Analysis performed by Entech Analytical Labs, Inc. (CA ELAP #2346)


Michelle L. Anderson, Laboratory Director

Page 2 of 5

Environmental Analysis Since 1983

Entech Analytical Labs, Inc.

CA ELAP# 2346

525 Del Rey Avenue, Suite E • Sunnyvale, CA 94086 • (408) 735-1550 • Fax (408) 735-1554

Lowney Associates
405 Clyde Avenue
Mountain View, CA 94043
Attn: Doug Young

Date: 5/17/00
Date Received: 5/9/00
Project Name: US Data Port 50-Acre Parcel
Project Number: 587-12F
P.O. Number:
Sampled By: Client

Certified Analytical Report

Order ID: 20391		Lab Sample ID: 20391-025				Client Sample ID: S-21 (0-½)			
Sample Time:		Sample Date: 5/9/00				Matrix: Solid			
Parameter	Result	DF	PQL	DLR	Units	PrepDate	Analysis Date	QC Batch ID	Method
Arsenic	36	5	1	5	mg/Kg	5/11/00	5/14/00	SM000511	EPA 6010B
Lead	85	5	1	5	mg/Kg	5/11/00	5/14/00	SM000511	EPA 6010B
Mercury	0.0525	1	0.05	0.05	mg/Kg	5/15/00	5/16/00	SHG000508	EPA 7471
Selenium	ND	5	5	25	mg/Kg	5/11/00	5/14/00	SM000511	EPA 6010B

Order ID: 20391		Lab Sample ID: 20391-028				Client Sample ID: S-22 (0-½)			
Sample Time:		Sample Date: 5/9/00				Matrix: Solid			
Parameter	Result	DF	PQL	DLR	Units	PrepDate	Analysis Date	QC Batch ID	Method
Arsenic	34	5	1	5	mg/Kg	5/11/00	5/14/00	SM000511	EPA 6010B
Lead	85	5	1	5	mg/Kg	5/11/00	5/14/00	SM000511	EPA 6010B
Mercury	0.0520	1	0.05	0.05	mg/Kg	5/15/00	5/16/00	SHG000508	EPA 7471
Selenium	ND	5	5	25	mg/Kg	5/11/00	5/14/00	SM000511	EPA 6010B

Order ID: 20391		Lab Sample ID: 20391-031				Client Sample ID: S-1 (0-½)			
Sample Time:		Sample Date: 5/9/00				Matrix: Solid			
Parameter	Result	DF	PQL	DLR	Units	PrepDate	Analysis Date	QC Batch ID	Method
Arsenic	32	5	1	5	mg/Kg	5/11/00	5/14/00	SM000511	EPA 6010B
Lead	85	5	1	5	mg/Kg	5/11/00	5/14/00	SM000511	EPA 6010B
Mercury	ND	1	0.05	0.05	mg/Kg	5/15/00	5/16/00	SHG000508	EPA 7471
Selenium	ND	5	5	25	mg/Kg	5/11/00	5/14/00	SM000511	EPA 6010B

Order ID: 20391		Lab Sample ID: 20391-034				Client Sample ID: S-2 (0-½)			
Sample Time:		Sample Date: 5/9/00				Matrix: Solid			
Parameter	Result	DF	PQL	DLR	Units	PrepDate	Analysis Date	QC Batch ID	Method
Arsenic	35	5	1	5	mg/Kg	5/11/00	5/14/00	SM000511	EPA 6010B
Lead	87	5	1	5	mg/Kg	5/11/00	5/14/00	SM000511	EPA 6010B
Mercury	0.0549	1	0.05	0.05	mg/Kg	5/15/00	5/16/00	SHG000508	EPA 7471
Selenium	ND	5	5	25	mg/Kg	5/11/00	5/14/00	SM000511	EPA 6010B

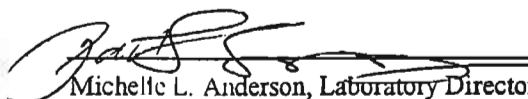
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PQL = Practical Quantitation Limit

Analysis performed by Entech Analytical Labs, Inc. (CA ELAP #2346)


Michelle L. Anderson, Laboratory Director

Page 3 of 5

Environmental Analysis Since 1983

Entech Analytical Labs, Inc.

CA ELAP# 2346

525 Del Rey Avenue, Suite E • Sunnyvale, CA 94086 • (408) 735-1550 • Fax (408) 735-1554

Lowney Associates
405 Clyde Avenue
Mountain View, CA 94043
Attn: Doug Young

Date: 5/17/00
Date Received: 5/9/00
Project Name: US Data Port 50-Acre Parcel
Project Number: 587-12F
P.O. Number:
Sampled By: Client

Certified Analytical Report

Order ID: 20391

Lab Sample ID: 20391-037

Client Sample ID: S-4 (0-½)

Sample Time:

Sample Date: 5/9/00

Matrix: Solid

Parameter	Result	DF	PQL	DLR	Units	PrepDate	Analysis Date	QC Batch ID	Method
Arsenic	57	5	1	5	mg/Kg	5/11/00	5/14/00	SM000511	EPA 6010B
Lead	140	5	1	5	mg/Kg	5/11/00	5/14/00	SM000511	EPA 6010B
Mercury	0.0767	1	0.05	0.05	mg/Kg	5/15/00	5/16/00	SHG000508	EPA 7471
Selenium	ND	5	5	25	mg/Kg	5/11/00	5/14/00	SM000511	EPA 6010B

Order ID: 20391

Lab Sample ID: 20391-040

Client Sample ID: S-9 (0-½)

Sample Time:

Sample Date: 5/9/00

Matrix: Solid

Parameter	Result	DF	PQL	DLR	Units	PrepDate	Analysis Date	QC Batch ID	Method
Arsenic	37	5	1	5	mg/Kg	5/11/00	5/14/00	SM000511	EPA 6010B
Lead	91	5	1	5	mg/Kg	5/11/00	5/14/00	SM000511	EPA 6010B
Mercury	0.0723	1	0.05	0.05	mg/Kg	5/15/00	5/16/00	SHG000508	EPA 7471
Selenium	ND	5	5	25	mg/Kg	5/11/00	5/14/00	SM000511	EPA 6010B

Order ID: 20391

Lab Sample ID: 20391-043

Client Sample ID: S-10 (0-½)

Sample Time:

Sample Date: 5/9/00

Matrix: Solid

Parameter	Result	DF	PQL	DLR	Units	PrepDate	Analysis Date	QC Batch ID	Method
Arsenic	42	5	1	5	mg/Kg	5/11/00	5/14/00	SM000511	EPA 6010B
Lead	110	5	1	5	mg/Kg	5/11/00	5/14/00	SM000511	EPA 6010B
Mercury	0.0727	1	0.05	0.05	mg/Kg	5/15/00	5/16/00	SHG000508	EPA 7471
Selenium	ND	5	5	25	mg/Kg	5/11/00	5/14/00	SM000511	EPA 6010B

Order ID: 20391

Lab Sample ID: 20391-046

Client Sample ID: S-11 (0-½)

Sample Time:

Sample Date: 5/9/00

Matrix: Solid

Parameter	Result	DF	PQL	DLR	Units	PrepDate	Analysis Date	QC Batch ID	Method
Arsenic	57	5	1	5	mg/Kg	5/11/00	5/14/00	SM000511	EPA 6010B
Lead	150	5	1	5	mg/Kg	5/11/00	5/14/00	SM000511	EPA 6010B
Mercury	0.0592	1	0.05	0.05	mg/Kg	5/15/00	5/16/00	SHG000508	EPA 7471
Selenium	ND	5	5	25	mg/Kg	5/11/00	5/14/00	SM000511	EPA 6010B

DF = Dilution Factor

ND = Not Detected

DLR = Detection Limit Reported

PQL = Practical Quantitation Limit

Analysis performed by Entech Analytical Labs, Inc. (CA ELAP #2346)


Michelle L. Anderson, Laboratory Director

Page 4 of 5

Environmental Analysis Since 1983

Entech Analytical Labs, Inc.

CA ELAP# 2346

525 Del Rey Avenue, Suite E • Sunnyvale, CA 94086 • (408) 735-1550 • Fax (408) 735-1554

Lowney Associates
405 Clyde Avenue
Mountain View, CA 94043
Attn: Doug Young

Date: 5/17/00
Date Received: 5/9/00
Project Name: US Data Port 50-Acre Parcel
Project Number: 587-12F
P.O. Number:
Sampled By: Client

Certified Analytical Report

Order ID: 20391

Lab Sample ID: 20391-049

Client Sample ID: S-32 (0-½)

Sample Time:

Sample Date: 5/9/00

Matrix: Solid

Parameter	Result	DF	PQL	DLR	Units	PrepDate	Analysis Date	QC Batch ID	Method
Arsenic	36	5	1	5	mg/Kg	5/11/00	5/14/00	SM000511	EPA 6010B
Lead	76	5	1	5	mg/Kg	5/11/00	5/14/00	SM000511	EPA 6010B
Mercury	0.0560	1	0.05	0.05	mg/Kg	5/15/00	5/16/00	SHG000508	EPA 7471
Selenium	ND	5	5	25	mg/Kg	5/11/00	5/14/00	SM000511	EPA 6010B

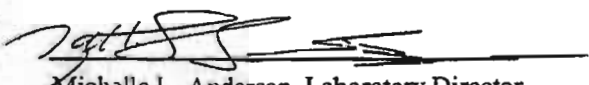
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ND = Not Detected

DLR = Detection Limit Reported

PQL = Practical Quantitation Limit

Analysis performed by Entech Analytical Labs, Inc. (CA ELAP #2346)


Michelle L. Anderson, Laboratory Director

Page 5 of 5

Environmental Analysis Since 1983

Analytical Report

May 16, 2000

Client: Lori Tyler
Entech Analytical Labs, Inc.
525 Del Rey Avenue, Ste. E
Sunnyvale, CA 94086
Telephone: (408) 735-1550
Fax: (408) 735-1554

Project No: 20391

PO No: 20391

Client Sample ID: 20391-004

Sample Date:

EMA Sample No: 00051104-01

Date Received: 5/11/2000

Sample Matrix: Soil

Analytical Method: EPA 8141A (s)

Extraction Method: EPA 3550

Date Extracted: 5/12/2000

Date Completed: 5/15/2000

Surrogate: Ethion

Surrogate Level: 0.5 µg/g

Recovery: 104%

Analyte	Amount ppm	MBL ppm
Acephale*	ND	.05
Azinphos-methyl (Guthion)	ND	.05
Bolstar (Sulprofos)	ND	.05
Carbophenothion (Trithion)*	ND	.05
Chlorfenvinphos (Supona)*	ND	.05
Chlorpyrifos (Dursban)	ND	.03
Ciodrin (Crotaphos)*	ND	.05
Courmaphos (Co-Raf)	ND	.05
Demeton (Systox) O analogue	ND	.05
Demeton (Systox) S analogue	ND	.05
Diazinon	ND	.03
Dicrotophos (Didrin)*	ND	.05
Dimethoate (Cygon)	ND	.03
Dioxathion (Delnav)*	ND	.05
Disulfoton (Disyston)	ND	.05
EPN	ND	.05
Ethion*	ND	.05
Fenamiphos (Nemacur)*	ND	.05
Fenitrothion (Sumithion)*	ND	.05
Fenthion (Baytex)	ND	.05
Fonofos (Dyfonate)	ND	.05
Hostathion (Triazophos)*	ND	.05
Imidan (Phosmet)*	ND	.05
Isofenphos (Oftanol)*	ND	.05
Malathion	ND	.05
Methamidophos*	ND	.03
Methidathion (Supracide)*	ND	.05
Methyl Parathion	ND	.05
Mevinphos (Phosdrin)*	ND	.05
Molinate (Ordram)	ND	.05
Parathion	ND	.04
Phorate (Thimet)	ND	.05
Phosalone (Zolone)*	ND	.03
Phosphamidon (Dimecron)*	ND	.08
Profenofos (Cruacron)*	ND	.05
Propetamphos (Salrolin)*	ND	.05
Ronnel (Fenchlorfos)	ND	.05
Tetrachlorvinphos (Gardona)*	ND	.05
Thiobencard (Bolero)	ND	.05
Thionazin (Zinophos)*	ND	.05

Analytical Report

May 16, 2000

Client: Lori Tyler
Entech Analytical Labs, Inc.
525 Del Rey Avenue, Ste. E
Sunnyvale, CA 94086

Telephone: (408) 735-1550
Fax: (408) 735-1554

Analyte	Amount ppm	MRL ppm
Aldicarb	ND	.03
Aldicarb Sulfone	ND	.03
Aldicarb Sulfoxide	ND	.03
Carbaryl	ND	.03
Carbofuran	ND	.05
3-OH Carbofuran	ND	.05
Methiocarb	ND	.05
Methomyl	ND	.03
O-phenyl phenol	ND	.03
Oxamyl	ND	.05

Project No: 20391

PO No: 20391

Client Sample ID: 20391-004

Sample Date:

EMA Sample No: 00051104-01

Date Received: 5/11/2000

Sample Matrix: Soil

Analytical Method: EPA 8318 (s)

Extraction Method: EPA 3550

Date Extracted: 5/12/2000

Date Completed: 5/15/2000

Surrogate:

Surrogate Level:

Recovery:

Analytical Report

May 16, 2000

Client: Lori Tyler
Entech Analytical Labs, Inc.
525 Del Rey Avenue, Ste. E
Sunnyvale, CA 94086

Telephone: (408) 735-1550
Fax: (408) 735-1554

Project No: 20391

PO No: 20391

Client Sample ID: 20391-013

Sample Date:

EMA Sample No: 00051104-02

Date Received: 5/11/2000

Sample Matrix: Soil

Analytical Method: EPA 8141A (s)

Extraction Method: EPA 3550

Date Extracted: 5/12/2000

Date Completed: 5/15/2000

Surrogate: Ethion

Surrogate Level: 0.5 µg/g

Recovery: 99.3%

Analyte	Amount ppm	MBL ppm
Acephate*	ND	.05
Azinphos-methyl (Guthion)	ND	.05
Bolstar (Sulprofos)	ND	.05
Carbophenothion (Trithion)*	ND	.05
Chlorfenvinphos (Supona)*	ND	.05
Chlorpyrifos (Dursban)	ND	.03
Ciodrin (Crotophos)*	ND	.05
Courmaphos (Co-Ral)	ND	.05
Demeton (Systox) O analogue	ND	.05
Demeton (Systox) S analogue	ND	.05
Diazinon	ND	.03
Dicrotophos (Didrin)*	ND	.05
Dimethoate (Cygon)	ND	.03
Dioxathion (Delnav)*	ND	.05
Disulfoton (Disyston)	ND	.05
EPN	ND	.05
Ethion*	ND	.05
Fenamiphos (Nemacur)*	ND	.05
Fenitrothion (Sumithion)*	ND	.05
Fenthion (Baytex)	ND	.05
Fonofos (Dyfonate)	ND	.05
Hostathion (Triazophos)*	ND	.05
Imidan (Phosmet)*	ND	.05
Isofenphos (Oftanol)*	ND	.05
Malathion	ND	.05
Methamidophos*	ND	.03
Methidathion (Supracide)*	ND	.05
Methyl Parathion	ND	.05
Mevinphos (Phosdrin)*	ND	.05
Molinate (Ordram)	ND	.05
Parathion	ND	.04
Phorate (Thimet)	ND	.05
Phosalone (Zolone)*	ND	.03
Phosphamidon (Dimecron)*	ND	.08
Profenofos (Cruacron)*	ND	.05
Propetamphos (Safrotin)*	ND	.05
Ronnel (Fenchlorfos)	ND	.05
Tetrachlorvinphos (Gardona)*	ND	.05
Thiobencard (Bolero)	ND	.05
Thionazin (Zinophos)*	ND	.05

Analytical Report

May 16, 2000

Client: Lori Tyler
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Sunnyvale, CA 94086

Telephone: (408) 735-1550

Fax: (408) 735-1554

Analyte	Amount ppm	MRL ppm
Aldicarb	ND	.03
Aldicarb Sulfone	ND	.03
Aldicarb Sulfoxide	ND	.03
Carbaryl	ND	.03
Carbofuran	ND	.05
3-OH Carbofuran	ND	.05
Methiocarb	ND	.05
Methomyl	ND	.03
O-phenyl phenol	ND	.03
Oxamyl	ND	.05

Project No: 20391

PO No: 20391

Client Sample ID: 20391-013

Sample Date:

EMA Sample No: 00051104-02

Date Received: 5/11/2000

Sample Matrix: Soil

Analytical Method: EPA 8318 (s)

Extraction Method: EPA 3550

Date Extracted: 5/12/2000

Date Completed: 5/15/2000

Surrogate:

Surrogate Level:

Recovery:

Analytical Report

May 16, 2000

Client: Lori Tyler
Entech Analytical Labs, Inc.
525 Del Rey Avenue, Ste. E
Sunnyvale, CA 94086

Telephone: (408) 735-1550
Fax: (408) 735-1554

Project No: 20391

PO No: 20391

Client Sample ID: 20391-025

Sample Date:

EMA Sample No: 00051104-03

Date Received: 5/11/2000

Sample Matrix: Soil

Analytical Method: EPA 8141A (s)

Extraction Method: EPA 3550

Date Extracted: 5/12/2000

Date Completed: 5/15/2000

Surrogate: Ethion

Surrogate Level: 0.5 µg/g

Recovery: 103%

Analyte	Amount ppm	MBL ppm
Accephate*	ND	.05
Azinphos-methyl (Guthion)	ND	.05
Bolstar (Sulprofos)	ND	.05
Carbophenothion (Trithion)*	ND	.05
Chlorfenvinphos (Supona)*	ND	.05
Chlorpyrifos (Dursban)	ND	.03
Clodrin (Crotaphos)*	ND	.05
Coumaphos (Co-Ral)	ND	.05
Demeton (Systox) O analogue	ND	.05
Demeton (Systox) S analogue	ND	.05
Diazinon	ND	.03
Dicrotophos (Didrin)*	ND	.05
Dimethoate (Cygon)	ND	.03
Dioxathion (Delnav)*	ND	.05
Disulfoton (Disyston)	ND	.05
EPN	ND	.05
Ethion*	ND	.05
Fenamiphos (Nemacur)*	ND	.05
Fenitrothion (Sumithion)*	ND	.05
Fenthion (Baytex)	ND	.05
Fonofos (Dyfonate)	ND	.05
Hostathion (Triazophos)*	ND	.05
Imidan (Phosmet)*	ND	.05
Isolofenphos (Oftanol)*	ND	.05
Malathion	ND	.05
Methamidophos*	ND	.03
Methidathion (Supracide)*	ND	.05
Methyl Parathion	ND	.05
Mevinphos (Phosdrin)*	ND	.05
Molinate (Ordram)	ND	.05
Parathion	ND	.04
Phorate (Thimet)	ND	.05
Phosalone (Zolone)*	ND	.03
Phosphamidon (Dimecron)*	ND	.08
Profenofos (Cruacron)*	ND	.05
Propetamphos (Safrotin)*	ND	.05
Ronnel (Fenchlorfos)	ND	.05
Tetrachlorvinphos (Gardona)*	ND	.05
Thiobencard (Bolero)	ND	.05
Thionazin (Zinphos)*	ND	.05

Analytical Report

May 16, 2000

Client: Lori Tyler
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Telephone: (408) 735-1550

Fax: (408) 735-1554

Analyte	Amount ppm	MRL ppm
Aldicarb	ND	.03
Aldicarb Sulfone	ND	.03
Aldicarb Sulfoxide	ND	.03
Carbaryl	ND	.03
Carbofuran	ND	.05
3-OH Carbofuran	ND	.05
Methiocarb	ND	.05
Methomyl	ND	.03
O-phenyl phenol	ND	.03
Oxamyl	ND	.05

Project No: 20391

PO No: 20391

Client Sample ID: 20391-025

Sample Date:

EMA Sample No: 00051104-03

Date Received: 5/11/2000

Sample Matrix: Soil

Analytical Method: EPA 8318 (s)

Extraction Method: EPA 3550

Date Extracted: 5/12/2000

Date Completed: 5/15/2000

Surrogate:

Surrogate Level:

Recovery:

Analytical Report

May 16, 2000

Client: Lori Tyler
Entech Analytical Labs, Inc.
525 Del Rey Avenue, Ste. E
Sunnyvale, CA 94086

Telephone: (408) 735-1550
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Project No: 20391

PO No: 20391

Client Sample ID: 20391-031

Sample Date:

EMA Sample No: 00051104-04

Date Received: 5/11/2000

Sample Matrix: Soil

Analytical Method: EPA 8141A (s)

Extraction Method: EPA 3550

Date Extracted: 5/12/2000

Date Completed: 5/15/2000

Surrogate: Ethlon

Surrogate Level: 0.5 µg/g

Recovery: 102%

Analyte	Amount ppm	MR ppm
Acephate*	ND	.05
Azinphos-methyl (Guthion)	ND	.05
Bolstar (Sulprofos)	ND	.05
Carbophenothion (Trithion)*	ND	.05
Chlorfenvinphos (Supona)*	ND	.05
Chlorpyrifos (Dursban)	ND	.03
Clodrin (Crotophos)*	ND	.05
Courmaphos (Co-Ral)	ND	.05
Demeton (Systox) O analogue	ND	.05
Demeton (Systox) S analogue	ND	.05
Diazinon	ND	.03
Dicrotophos (Didrin)*	ND	.05
Dimethoate (Cygon)	ND	.03
Dioxathion (DeNav)*	ND	.05
Disulfoton (Disyston)	ND	.05
EPN	ND	.05
Ethion*	ND	.05
Fenamiphos (Nemacur)*	ND	.05
Fenitrothion (Sumithion)*	ND	.05
Fenthion (Baytex)	ND	.05
Fonofos (Dyfonate)	ND	.05
Hostathion (Triazophos)*	ND	.05
Imidan (Phosmet)*	ND	.05
Isofenphos (Oftanol)*	ND	.05
Malathion	ND	.05
Methamidophos*	ND	.03
Methidathion (Supracide)*	ND	.05
Methyl Parathion	ND	.05
Mevinphos (Phosdrin)*	ND	.05
Molinate (Ordram)	ND	.05
Parathion	ND	.04
Phorate (Thimet)	ND	.05
Phosalone (Zolone)*	ND	.03
Phosphamidon (Dimecron)*	ND	.08
Profenofos (Cruacron)*	ND	.05
Propetamphos (Safrotin)*	ND	.05
Ronnel (Fenchlorfos)	ND	.05
Tetrachlorvinphos (Gardona)*	ND	.05
Thiobencard (Bolero)	ND	.05
Thionazin (Zinophos)*	ND	.05

Analytical Report

May 16, 2000

Client: Lori Tyler
Entech Analytical Labs, Inc.
525 Del Rey Avenue, Ste. E
Sunnyvale, CA 94086

Telephone: (408) 735-1550

Fax: (408) 735-1554

Analyte

Amount
ppm

MBL
ppm

Aldicarb
Aldicarb Sulfone
Aldicarb Sulfoxide
Carbaryl
Carbofuran
3-OH Carbofuran
Methiocarb
Methomyl
O-phenyl phenol
Oxamyl

ND .03
ND .03
ND .03
ND .03
ND .05
ND .05
ND .05
ND .03
ND .03
ND .05

Project No: 20391

PO No: 20391

Client Sample ID: 20391-031

Sample Date:

EMA Sample No: 00051104-04

Date Received: 5/11/2000

Sample Matrix: Soil

Analytical Method: EPA 8318 (a)

Extraction Method: EPA 3550

Date Extracted: 5/12/2000

Date Completed: 5/15/2000

Surrogate:

Surrogate Level:

Recovery:

Analytical Report

May 16, 2000

Client: Lori Tyler
Entech Analytical Labs, Inc.
525 Del Rey Avenue, Ste. E
Sunnyvale, CA 94086

Telephone: (408) 735-1550

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Project No: 20391

PO No: 20391

Client Sample ID: 20391-034

Sample Date:

EMA Sample No: 00051104-05

Date Received: 5/11/2000

Sample Matrix: Soil

Analytical Method: EPA 8141A (s)

Extraction Method: EPA 3550

Date Extracted: 5/12/2000

Date Completed: 5/15/2000

Surrogate: Ethion

Surrogate Level: 0.5 µg/g

Recovery: 110%

Analyte	Amount ppm	MBL ppm
Acephate*	ND	.05
Azinphos-methyl (Guthion)	ND	.05
Bolstar (Sulprofos)	ND	.05
Carbophenothion (Trithion)*	ND	.05
Chlorfenvinphos (Supona)*	ND	.05
Chlorpyrifos (Dursban)	ND	.03
Clodrin (Crotophos)*	ND	.05
Coumaphos (Co-Ral)	ND	.05
Demeton (Systox) O analogue	ND	.05
Demeton (Systox) S analogue	ND	.05
Diazinon	ND	.03
Dicrotophos (Didrin)*	ND	.05
Dimethoate (Cygon)	ND	.03
Dioxathion (Delnav)*	ND	.05
Disulfoton (Disyston)	ND	.05
EPN	ND	.05
Ethion*	ND	.05
Fenamiphos (Nemacur)*	ND	.05
Fenitrothion (Sumithion)*	ND	.05
Fenthion (Baytex)	ND	.05
Fonofos (Dyfonate)	ND	.05
Hostathion (Triazophos)*	ND	.05
Imidan (Phosmet)*	ND	.05
Isofenphos (Oftanol)*	ND	.05
Malathion	ND	.05
Methamidophos*	ND	.03
Methidathion (Supracide)*	ND	.05
Methyl Parathion	ND	.05
Mevinphos (Phosdrin)*	ND	.05
Molinate (Ordram)	ND	.05
Parathion	ND	.04
Phorate (Thimet)	ND	.05
Phosalone (Zolone)*	ND	.03
Phosphamidon (Dimetron)*	ND	.08
Profenofos (Cruacron)*	ND	.05
Propetamphos (Safrolin)*	ND	.05
Ronnel (Fenchlorfos)	ND	.05
Tetrachlorvinphos (Gardona)*	ND	.05
Thiobencard (Bolero)	ND	.05
Thionazin (Zinophos)*	ND	.05

Analytical Report

May 16, 2000

Client: Lori Tyler
Entech Analytical Labs, Inc.
525 Del Rey Avenue, Ste. E
Sunnyvale, CA 94086

Telephone: (408) 735-1550

Fax: (408) 735-1554

Analyte

Amount	MBL
ppm	ppm

Aldicarb	ND	.03
Aldicarb Sulfone	ND	.03
Aldicarb Sulfoxide	ND	.03
Carbaryl	ND	.03
Carbofuran	ND	.05
3-OH Carbofuran	ND	.05
Methiocarb	ND	.05
Methomyl	ND	.03
O-phenyl phenol	ND	.03
Oxamyl	ND	.05

Project No: 20391

PO No: 20391

Client Sample ID: 20391-034

Sample Date:

EMA Sample No: 00051104-05

Date Received: 5/11/2000

Sample Matrix: Soil

Analytical Method: EPA 8318 (s)

Extraction Method: EPA 3550

Date Extracted: 5/12/2000

Date Completed: 5/15/2000

Surrogate:

Surrogate Level:

Recovery:

Analytical Report

May 16, 2000

Client: Lori Tyler
Entech Analytical Labs, Inc.
525 Del Rey Avenue, Ste. E
Sunnyvale, CA 94086

Telephone: (408) 735-1550
Fax: (408) 735-1554

Project No: 20391

PO No: 20391

Client Sample ID: 20391-037

Sample Date:

EMA Sample No: 00051104-06

Date Received: 5/11/2000

Sample Matrix: Soil

Analytical Method: EPA 8141A (s)

Extraction Method: EPA 3550

Date Extracted: 5/12/2000

Date Completed: 5/15/2000

Surrogate: Ethion

Surrogate Level: 0.5 µg/g

Recovery: 92.9%

Analyte	Amount ppm	MBL ppm
Acaphate*	ND	.05
Azinphos-methyl (Guthion)	ND	.05
Bolstar (Sulprofos)	ND	.05
Carbophenothion (Trithion)*	ND	.05
Chlorfenvinphos (Supona)*	ND	.05
Chlorpyrifos (Dursban)	ND	.03
Ciodrin (Crotaphos)*	ND	.05
Courmaphos (Co-Ral)	ND	.05
Demeton (Systox) O analogue	ND	.05
Demeton (Systox) S analogue	ND	.05
Diazinon	ND	.03
Dicrotophos (Didrin)*	ND	.05
Dimethoate (Cygon)	ND	.03
Dioxathion (Deinav)*	ND	.05
Disulfoton (Disyston)	ND	.05
EPN	ND	.05
Ethion*	ND	.05
Fenamiphos (Nemacur)*	ND	.05
Fenitrothion (Sumithion)*	ND	.05
Fenthion (Baytex)	ND	.05
Fonofos (Dyfonate)	ND	.05
Hostathion (Triazophos)*	ND	.05
Imidan (Phosmet)*	ND	.05
Isolenphos (Oftanol)*	ND	.05
Malathion	ND	.05
Methamidophos*	ND	.03
Methidathion (Supracide)*	ND	.05
Methyl Parathion	ND	.05
Mevinphos (Phosdrin)*	ND	.05
Molinate (Ordram)	ND	.05
Parathion	ND	.04
Phorate (Thimet)	ND	.05
Phosalone (Zolone)*	ND	.03
Phosphamidon (Dimecron)*	ND	.08
Profenofos (Crucron)*	ND	.05
Propetamphos (Safrotin)*	ND	.05
Ronnel (Fenchiorfos)	ND	.05
Tetrachlorvinphos (Gardona)*	ND	.05
Thiobencard (Bolero)	ND	.05
Thionazin (Zinophos)*	ND	.05

Analytical Report

May 16, 2000

Client: Lori Tyler
Entech Analytical Labs, Inc.
525 Del Rey Avenue, Ste. E
Sunnyvale, CA 94086

Telephone: (408) 735-1550
Fax: (408) 735-1554

Analyte	Amount ppm	MRL ppm
Aldicarb	ND	.03
Aldicarb Sulfone	ND	.03
Aldicarb Sulfoxide	ND	.03
Carbaryl	ND	.03
Carbofuran	ND	.05
3-OH Carbofuran	ND	.05
Methiocarb	ND	.05
Methomyl	ND	.03
O-phenyl phenol	ND	.03
Oxamyl	ND	.05

Project No: 20391

PO No: 20391

Client Sample ID: 20391-037

Sample Date:

EMA Sample No: 00051104-06

Date Received: 5/11/2000

Sample Matrix: Soil

Analytical Method: EPA 8318 (s)

Extraction Method: EPA 3550

Date Extracted: 5/12/2000

Date Completed: 5/15/2000

Surrogate:

Surrogate Level:

Recovery:

Analytical Report

May 16, 2000

Client: Lori Tyler
Entech Analytical Labs, Inc.
525 Del Rey Avenue, Ste. E
Sunnyvale, CA 94086

Telephone: (408) 735-1550
Fax: (408) 735-1554

Project No: 20391

PO No: 20391

Client Sample ID: 20391-043

Sample Date:

EMA Sample No: 00051104-07

Date Received: 5/11/2000

Sample Matrix: Soil

Analytical Method: EPA 8141A (s)

Extraction Method: EPA 3550

Date Extracted: 5/12/2000

Date Completed: 5/15/2000

Surrogate: Ethion

Surrogate Level: 0.5 µg/g

Recovery: 104%

Analyte	Amount ppm	MRL ppm
Acephate*	ND	.05
Azinphos-methyl (Guthion)	ND	.05
Bolstar (Sulprofos)	ND	.05
Carbophenothion (Trithion)*	ND	.05
Chlorfenvinphos (Supona)*	ND	.05
Chlorpyrifos (Dursban)	ND	.03
Clodrin (Crotophos)*	ND	.05
Courmaphos (Co-Ral)	ND	.05
Demeton (Systox) O analogue	ND	.05
Demeton (Systox) S analogue	ND	.05
Diazinon	ND	.03
Dicrotophos (Didrin)*	ND	.05
Dimethoate (Cygon)	ND	.03
Dioxathion (Delnav)*	ND	.05
Disulfoton (Disyston)	ND	.05
EPN	ND	.05
Ethion*	ND	.05
Fenamiphos (Nemacur)*	ND	.05
Fenitrothion (Sumithion)*	ND	.05
Fenthion (Baytex)	ND	.05
Fonofos (Dyfonate)	ND	.05
Hostathion (Triazophos)*	ND	.05
Imidan (Phosmet)*	ND	.05
Isofenphos (Oftanol)*	ND	.05
Malathion	ND	.05
Methamidophos*	ND	.03
Methidathion (Supracide)*	ND	.05
Methyl Parathion	ND	.05
Mevinphos (Phosdrin)*	ND	.05
Molinate (Ordram)	ND	.05
Parathion	ND	.04
Phorate (Thimet)	ND	.05
Phosalone (Zolone)*	ND	.03
Phosphamidon (Dimecron)*	ND	.08
Profenofos (Cruacron)*	ND	.05
Propetamphos (Safrotin)*	ND	.05
Ronnel (Fenchlorfos)	ND	.05
Tetrachlorvinphos (Gardona)*	ND	.05
Thiobencard (Bolero)	ND	.05
Thionazin (Zinophos)*	ND	.05

Analytical Report

May 16, 2000

Client: Lori Tyler
Entech Analytical Labs, Inc.
525 Del Rey Avenue, Ste. E
Sunnyvale, CA 94086

Telephone: (408) 735-1550

Fax: (408) 735-1554

Analyte

Amount	MRL
ppm	ppm

Aldicarb	ND	.03
Aldicarb Sulfone	ND	.03
Aldicarb Sulfoxide	ND	.03
Carbaryl	ND	.03
Carbofuran	ND	.05
3-OH Carbofuran	ND	.05
Methiocarb	ND	.05
Methomyl	ND	.03
O-phenyl phenol	ND	.03
Oxamyl	ND	.05

Project No: 20391

PO No: 20391

Client Sample ID: 20391-043

Sample Date:

EMA Sample No: 00051104-07

Date Received: 5/11/2000

Sample Matrix: Soil

Analytical Method: EPA 8318 (s)

Extraction Method: EPA 3550

Date Extracted: 5/12/2000

Date Completed: 5/15/2000

Surrogate:

Surrogate Level:

Recovery:

Analytical Report

May 18, 2000

Client: Lori Tyler
Entech Analytical Labs, Inc.
525 Del Rey Avenue, Ste. E
Sunnyvale, CA 94086

Telephone: (408) 735-1550

Fax: (408) 735-1554

Project No: 20391

PO No: 20391

Client Sample ID: 20391-046

Sample Date:

EMA Sample No: 00051104-08

Date Received: 5/11/2000

Sample Matrix: Soil

Analytical Method: EPA 8141A (s)

Extraction Method: EPA 3550

Date Extracted: 5/12/2000

Date Completed: 5/15/2000

Surrogate: Ethion

Surrogate Level: 0.5 µg/g

Recovery: 80.5%

Analyte	Amount ppm	MBL ppm
Acephate*	ND	.05
Azinphos-methyl (Guthion)	ND	.05
Bolstar (Sulprofos)	ND	.05
Carbophenothion (Trithion)*	ND	.05
Chlorfenvinphos (Supona)*	ND	.05
Chlorpyrifos (Dursban)	ND	.03
Ciodrin (Crotophos)*	ND	.05
Courmaphos (Co-Ral)	ND	.05
Demeton (Systox) O analogue	ND	.05
Demeton (Systox) S analogue	ND	.05
Diazinon	ND	.03
Dicrotophos (Didrin)*	ND	.05
Dimethoate (Cygon)	ND	.03
Dioxathion (Deinav)*	ND	.05
Disulfoton (Disyston)	ND	.05
EPN	ND	.05
Ethion*	ND	.05
Fenamiphos (Nemacur)*	ND	.05
Fenitrothion (Sumithion)*	ND	.05
Fenthion (Baytex)	ND	.05
Fonofos (Dyfonate)	ND	.05
Hostathion (Triazophos)*	ND	.05
Imidan (Phosmet)*	ND	.05
Isotefnphos (Oftanol)*	ND	.05
Malathion	ND	.05
Methamidophos*	ND	.03
Methidathion (Supracide)*	ND	.05
Methyl Parathion	ND	.05
Mevinphos (Phosdrin)*	ND	.05
Molinate (Ordram)	ND	.05
Parathion	ND	.04
Phorate (Thimet)	ND	.05
Phosalone (Zolone)*	ND	.03
Phosphamidon (Dimecron)*	ND	.08
Profenofos (Cruacron)*	ND	.05
Propetamphos (Salrofin)*	ND	.05
Ronnel (Fenchlorfos)	ND	.05
Tetrachlorvinphos (Gardona)*	ND	.05
Thiobencard (Bolero)	ND	.05
Thionazin (Zinophos)*	ND	.05

Analytical Report

May 16, 2000

Client: Lori Tyler
Entech Analytical Labs, Inc.
525 Del Rey Avenue, Ste. E
Sunnyvale, CA 94086

Telephone: (408) 735-1550
Fax: (408) 735-1554

Analyte

Amount MRL
ppm ppm

Aldicarb	ND	.03
Aldicarb Sulfone	ND	.03
Aldicarb Sulfoxide	ND	.03
Carbaryl	ND	.03
Carbofuran	ND	.05
3-OH Carbofuran	ND	.05
Methiocarb	ND	.05
Methomyl	ND	.03
O-phenyl phenol	ND	.03
Oxamyl	ND	.05

Project No: 20391

PO No: 20391

Client Sample ID: 20391-046

Sample Date:

EMA Sample No: 00051104-08

Date Received: 5/11/2000

Sample Matrix: Soil

Analytical Method: EPA 8318 (s)

Extraction Method: EPA 3550

Date Extracted: 5/12/2000

Date Completed: 5/15/2000

Surrogate:

Surrogate Level:

Recovery:

Analytical Report

May 16, 2000

Client: Lori Tyler
Entech Analytical Labs, Inc.
525 Del Rey Avenue, Ste. E
Sunnyvale, CA 94086

Telephone: (408) 735-1550
Fax: (408) 735-1554

Project No: 20391

PO No: 20391

Client Sample ID: 20399-001

Sample Date:

EMA Sample No: 00051104-09

Date Received: 5/11/2000

Sample Matrix: Soil

Analytical Method: EPA 8141A (s)

Extraction Method: EPA 3550

Date Extracted: 5/12/2000

Date Completed: 5/15/2000

Surrogate: Ethion

Surrogate Level: 0.5 µg/g

Recovery: 99.8%

Analyte	Amount ppm	MRL ppm
Acephate*	ND	.05
Azinphos-methyl (Guthion)	ND	.05
Bolstar (Sulprofos)	ND	.05
Carbophenothion (Trithion)*	ND	.05
Chlorfenvinphos (Supona)*	ND	.05
Chlorpyrifos (Dursban)	ND	.03
Ciodrin (Crotaphos)*	ND	.05
Courmaphos (Co-Ral)	ND	.05
Demeton (Systox) O analogue	ND	.05
Demeton (Systox) S analogue	ND	.05
Diazinon	ND	.03
Diclotophos (Didrin)*	ND	.05
Dimethoate (Cygon)	ND	.03
Dioxathion (Delnav)*	ND	.05
Disulfoton (Disyston)	ND	.05
EPN	ND	.05
Ethion*	ND	.05
Fenamiphos (Nemacur)*	ND	.05
Fenitrothion (Sumithion)*	ND	.05
Fenthion (Baytex)	ND	.05
Fonofos (Dyfonate)	ND	.05
Hostathion (Triazophos)*	ND	.05
Imidan (Phosmet)*	ND	.05
Isofenphos (Oftanol)*	ND	.05
Malathion	ND	.05
Methamidophos*	ND	.03
Methidathion (Supracide)*	ND	.05
Methyl Parathion	ND	.05
Mevinphos (Phosdrin)*	ND	.05
Molinate (Ordram)	ND	.05
Parathion	ND	.04
Phorate (Thimet)	ND	.05
Phosalone (Zolone)*	ND	.03
Phosphamidon (Dimecron)*	ND	.08
Profenofos (Crucron)*	ND	.05
Propetamphos (Salrotin)*	ND	.05
Ronnel (Fenchlorfos)	ND	.05
Tetrachlorvinphos (Gardona)*	ND	.05
Thiobencard (Bolero)	ND	.05
Thionazin (Zinophos)*	ND	.05

Analytical Report

May 16, 2000

Client: Lori Tyler
Entech Analytical Labs, Inc.
525 Del Rey Avenue, Ste. E
Sunnyvale, CA 94086

Telephone: (408) 735-1550

Fax: (408) 735-1554

Analyte

Amount	MBL
ppm	ppm

Aldicarb	ND	.03
Aldicarb Sulfone	ND	.03
Aldicarb Sulfoxide	ND	.03
Carbaryl	ND	.03
Carbofuran	ND	.05
3-OH Carbofuran	ND	.05
Methiocarb	ND	.05
Methomyl	ND	.03
O-phenyl phenol	ND	.03
Oxamyl	ND	.05

Project No: 20391

PO No: 20391

Client Sample ID: 20399-001

Sample Date:

EMA Sample No: 00051104-09

Date Received: 5/11/2000

Sample Matrix: Soil

Analytical Method: EPA 8318 (s)

Extraction Method: EPA 3550

Date Extracted: 5/12/2000

Date Completed: 5/15/2000

Surrogate:

Surrogate Level:

Recovery:

Analytical Report

May 16, 2000

Client: Lori Tyler
Entech Analytical Labs, Inc.
525 Del Rey Avenue, Ste. E
Sunnyvale, CA 94086
Telephone: (408) 735-1550
Fax: (408) 735-1554

Project No: 20391

PO No: 20391

Client Sample ID: 20399-004

Sample Date:

EMA Sample No: 00051104-10

Date Received: 5/11/2000

Sample Matrix: Soil

Analytical Method: EPA 8141A (s)

Extraction Method: EPA 3550

Date Extracted: 5/12/2000

Date Completed: 5/15/2000

Surrogate: Ethion

Surrogate Level: 0.5 µg/g

Recovery: 92.8%

Analyte	Amount ppm	MBL ppm
Acephate*	ND	.05
Azinphos-methyl (Guthion)	ND	.05
Bolstar (Sulprofos)	ND	.05
Carbophenothion (Trithion)*	ND	.05
Chlorfenvinphos (Supona)*	ND	.05
Chlorpyrifos (Dursban)	ND	.03
Ciodrin (Crotaphos)*	ND	.05
Courmaphos (Co-Ral)	ND	.05
Demeton (Systox) O analogue	ND	.05
Demeton (Systox) S analogue	ND	.05
Diazinon	ND	.03
Dicrotophos (Didrin)*	ND	.05
Dimethoate (Cygon)	ND	.03
Dioxathion (Delnav)*	ND	.05
Disulfoton (Disyston)	ND	.05
EPN	ND	.05
Ethion*	ND	.05
Fenamiphos (Nemacur)*	ND	.05
Fenitrothion (Sumithion)*	ND	.05
Fenthion (Baytex)	ND	.05
Fonofos (Dyfonate)	ND	.05
Hostathion (Triazophos)*	ND	.05
Imidan (Phosmet)*	ND	.05
Isolenphos (Oltanol)*	ND	.05
Malathion	ND	.05
Methamidophos*	ND	.03
Methidathion (Supracide)*	ND	.05
Methyl Parathion	ND	.05
Mevinphos (Phosdrin)*	ND	.05
Molinate (Ordram)	ND	.05
Parathion	ND	.04
Phorate (Thimet)	ND	.05
Phosalone (Zolone)*	ND	.03
Phosphamidon (Dimecron)*	ND	.08
Profenofos (Cruacron)*	ND	.05
Propetamphos (Safrotin)*	ND	.05
Ronnel (Fenchlorfos)	ND	.05
Tetrachlorvinphos (Gardona)*	ND	.05
Thiobencard (Bolero)	ND	.05
Thionazin (Zinophos)*	ND	.05

Analytical Report

May 16, 2000

Client: Lori Tyler
Entech Analytical Labs, Inc.
525 Del Rey Avenue, Ste. E
Sunnyvale, CA 94086
Telephone: (408) 735-1550
Fax: (408) 735-1554

Analyte

Amount ppm	MBL ppm
ND	.03
ND	.03
ND	.03
ND	.03
ND	.05
ND	.05
ND	.05
ND	.03
ND	.03
ND	.05

Aldicarb
Aldicarb Sulfone
Aldicarb Sulfoxide
Carbaryl
Carbofuran
3-OH Carbofuran
Methiocarb
Methomyl
O-phenyl phenol
Oxamyl

Project No: 20391

PO No: 20391

Client Sample ID: 20399-004

Sample Date:

EMA Sample No: 00051104-10

Date Received: 5/11/2000

Sample Matrix: Soil

Analytical Method: EPA 8318 (s)

Extraction Method: EPA 3550

Date Extracted: 5/12/2000

Date Completed: 5/15/2000

Surrogate:

Surrogate Level:

Recovery:

Analytical Report

May 16, 2000

Client: Lori Tyler
Entech Analytical Labs, Inc.
525 Del Rey Avenue, Ste. E
Sunnyvale, CA 94086

Telephone: (408) 735-1550

Fax: (408) 735-1554

Project No: 20391

PO No: 20391

Client Sample ID:

Sample Date:

EMA Sample No: 00051104-00

Date Received: 5/11/2000

Sample Matrix: Blank

Analytical Method: EPA 8141A (s)

Extraction Method: EPA 3550

Date Extracted: 5/12/2000

Date Completed: 5/15/2000

Surrogate: Ethlon

Surrogate Level: 0.5 µg/g

Recovery: 108%

Analyte	Amount ppm	MBL ppm
Acephate*	ND	.05
Azinphos-methyl (Guthion)	ND	.05
Bolstar (Sulprofos)	ND	.05
Carbophenothion (Trithion)*	ND	.05
Chlorfenvinphos (Supona)*	ND	.05
Chlorpyrifos (Dursban)	ND	.03
Ciodrin (Crotophos)*	ND	.05
Courmaphos (Co-Ral)	ND	.05
Demeton (Systox) O analogue	ND	.05
Demeton (Systox) S analogue	ND	.05
Diazinon	ND	.03
Dicrotophos (Didrin)*	ND	.05
Dimethoate (Cygon)	ND	.03
Dioxathion (Deinav)*	ND	.05
Disulfoton (Disyston)	ND	.05
EPN	ND	.05
Ethion*	ND	.05
Fenamiphos (Nemacur)*	ND	.05
Fenitrothion (Sumithion)*	ND	.05
Fenthion (Baytex)	ND	.05
Fonofos (Dytonate)	ND	.05
Hostathion (Triazophos)*	ND	.05
Imidan (Phosmet)*	ND	.05
Isofenphos (Oftanol)*	ND	.05
Malathion	ND	.05
Methamidophos*	ND	.03
Methidathion (Supracide)*	ND	.05
Methyl Parathion	ND	.05
Mevinphos (Phosdrin)*	ND	.05
Molinate (Ordram)	ND	.05
Parathion	ND	.04
Phorate (Thimet)	ND	.05
Phosalone (Zolone)*	ND	.03
Phosphamidon (Dimecron)*	ND	.08
Profenofos (Cruacron)*	ND	.05
Propetamphos (Safrotin)*	ND	.05
Ronnel (Fenchlorfos)	ND	.05
Tetrachlorvinphos (Gardona)*	ND	.05
Thiobencard (Bolero)	ND	.05
Thionazin (Zinophos)*	ND	.05

Analytical Report

May 16, 2000

Client: Lori Tyler
Entech Analytical Labs, Inc.
525 Del Rey Avenue, Ste. E
Sunnyvale, CA 94086

Telephone: (408) 735-1550

Fax: (408) 735-1554

Analyte

Amount	MRL
ppm	ppm

Aldicarb	ND	.03
Aldicarb Sulfone	ND	.03
Aldicarb Sulfoxide	ND	.03
Carbaryl	ND	.03
Carbofuran	ND	.05
3-OH Carbofuran	ND	.05
Methiocarb	ND	.05
Methomyl	ND	.03
O-phenyl phenol	ND	.03
Oxamyl	ND	.05

Project No: 20391

PO No: 20391

Client Sample ID:

Sample Date:

EMA Sample No: 00051104-00

Date Received: 5/11/2000

Sample Matrix: Blank

Analytical Method: EPA 8318 (s)

Extraction Method: EPA 3550

Date Extracted: 5/12/2000

Date Completed: 5/15/2000

Surrogate:

Surrogate Level:

Recovery:

Environmental Micro Analysis, Inc.

40 N. East Street, Suite B, Woodland, CA 95776

Phone: (530) 666-6890 Fax: (530) 666-2987

California State Certification # 2211

QUALITY CONTROL REPORT

Client: Entech Analytical Labs, Inc.
525 Del Rey Avenue, Suite E
Sunnyvale, CA 94086
Phone: (408) 735-1550 FAX: (408) 735-1554

For Client ID: Sample No.: 20391-004, 20391-013, 20391-025, 20391-031, 20391-034, 20391-037,
20391-043, 20391-046, 20399-001, 20399-004

For EMA ID: For 00051104 Data Set

Matrix: Soil

Date Analyzed: 8141A - 05/15/00
8318A- 05/15/00

Organophosphate Pesticides - EPA Method 8141A

<u>Parameter</u>	<u>Spike Level</u>	<u>Recovery in Percent</u>	
	<u>ppm</u>	<u>Spike</u>	<u>Duplicate</u>
Diazinon	0.5	74.6	77.9
Methyl Parathion	0.5	98.4	99.7
Azinphos Methyl (Guthion)	0.5	104	91.0

Carbamate Screen - EPA Method 8318A

<u>Parameter</u>	<u>Spike Level</u>	<u>Recovery in Percent</u>	
	<u>ppm</u>	<u>Spike</u>	<u>Duplicate</u>
Aldicarb	0.5	83.2	71.4
Methiocarb	0.5	100	96.9

Entech Analytical Labs, Inc.

CA ELAP # I-2346

525 Del Rey Avenue, Suite E, Sunnyvale, CA 94086 (408) 735-1550 FAX (408) 735-1554

Subcontract Chain of Custody

Subcontract Lab:	Project Name:	Date Sent:	Due Date:	PO Number:
EMA	20391	5/10/00	5/16/00	20391

Sample Number:	Customer Sample Number:	Matrix:	Test:	Method:	Collect Date:	Collect Time:	Bottle Type:	Preservative:
20391-004	S-6 (0-1/2)	Solid	EPA 8141-EMA	EPA 8141	5/9/00		4 oz jar	
20391-004	S-6 (0-1/2)	Solid	EPA 8318-EMA	EPA 8318	5/9/00		4 oz jar	
20391-013	S-13 (0-1/2)	Solid	EPA 8150-EMA	EPA 8150	5/9/00		4 oz jar	
20391-013	S-13 (0-1/2)	Solid	EPA 8318-EMA	EPA 8318	5/9/00		4 oz jar	
20391-025	S-21 (0-1/2)	Solid	EPA 8141-EMA	EPA 8141	5/9/00		4 oz jar	
20391-025	S-21 (0-1/2)	Solid	EPA 8318-EMA	EPA 8318	5/9/00		4 oz jar	
20391-031	S-1 (0-1/2)	Solid	EPA 8141-EMA	EPA 8141	5/9/00		4 oz jar	
20391-031	S-1 (0-1/2)	Solid	EPA 8318-EMA	EPA 8318	5/9/00		4 oz jar	
20391-034	S-2 (0-1/2)	Solid	EPA 8141-EMA	EPA 8141	5/9/00		4 oz jar	
20391-034	S-2 (0-1/2)	Solid	EPA 8318-EMA	EPA 8318	5/9/00		4 oz jar	
20391-037	S-4 (0-1/2)	Solid	EPA 8318-EMA	EPA 8318	5/9/00		4 oz jar	
91-043	S-10 (0-1/2)	Solid	EPA 8141-EMA	EPA 8141	5/9/00		4 oz jar	
91-043	S-10 (0-1/2)	Solid	EPA 8318-EMA	EPA 8318	5/9/00		4 oz jar	
20391-046	S-11 (0-1/2)	Solid	EPA 8141-EMA	EPA 8141	5/9/00		4 oz jar	
20391-046	S-11 (0-1/2)	Solid	EPA 8318-EMA	EPA 8318	5/9/00		4 oz jar	

Relinquished By:	Received By:	Date:	Time:
Mara Grusis	Golden State	5/10/00	1800
Relinquished By:	Received By:	Date:	Time:
Relinquished By:	Received By:	Date:	Time:

Notes: EPA 8318 (n-methyl carbamates)

Please add 8141 to -037, mg 5/11/00

QUALITY CONTROL RESULTS SUMMARY

Laboratory Control Spikes

METHOD: EPA 6010

QC Batch #: SM000524

Matrix: Solid

Units: mg/kg

Date Analyzed: 05/25/00

Date Digested: 05/25/00

Digestion Method: EPA 3050

Spiked Sample: Blank Spike

PARAMETER	Method #	MB mg/kg	SA mg/kg	SR mg/kg	SP mg/kg	SP %R	SPD mg/kg	SPD %R	RPD	QC LIMITS	
										RPD	%R
Antimony	6010	<1.0	50.	0.0	41.	83	40.	80	3.3	25.0	75-125
Arsenic	6010	<1.0	50.	0.0	49.	98	48.	97	1.2	25.0	75-125
Barium	6010	<1.0	50.	0.0	53.	105	52.	104	1.0	25.0	75-125
Beryllium	6010	<1.0	50.	0.0	40.	81	40.	80	0.6	25.0	75-125
Cadmium	6010	<1.0	50.	0.0	38.	75	38.	76	0.4	25.0	75-125
Chromium	6010	<1.0	50.	0.0	52.	104	52.	104	0.4	25.0	75-125
Cobalt	6010	<1.0	50.	0.0	39.	78	39.	78	0.5	25.0	75-125
Copper	6010	<1.0	50.	0.0	50.	100	49.	99	0.8	25.0	75-125
Lead	6010	<1.0	50.	0.0	42.	85	43.	86	1.5	25.0	75-125
Molybdenum	6010	<1.0	50.	0.0	42.	84	42.	84	0.4	25.0	75-125
Nickel	6010	<1.0	50.	0.0	43.	87	43.	87	0.0	25.0	75-125
Selenium	6010	<1.0	50.	0.0	42.	85	42.	84	0.5	25.0	75-125
Silver	6010	<1.0	50.	0.0	51.	102	50.	101	0.9	25.0	75-125
Thallium	6010	<1.0	50.	0.0	44.	87	43.	87	0.6	25.0	75-125
Vanadium	6010	<1.0	50.	0.0	52.	103	51.	103	0.4	25.0	75-125
Zinc	6010	<1.0	50.	0.0	38.	76	38.	76	0.3	25.0	75-125

Definition of Terms:

na: Not Analyzed in QC batch

MB: Method Blank

SA: Spike Added

SR: Sample Result

SP: Spike Result

SP (%R): Spike % Recovery

SPD: Spike Duplicate Result

SPD (%R): Spike Duplicate % Recovery

tech Analytical Labs, Inc.

525 Del Rey Avenue, Suite E
Sunnyvale, CA 94086

QUALITY CONTROL RESULTS SUMMARY

Laboratory Control Spikes

METHOD: EPA 6010

QC Batch #: SM000511

Matrix: Solid

Units: mg/kg

Date Analyzed: 05/14/00

Date Digested: 05/11/00

Digestion Method: EPA 3050

Spiked Sample: Blank Spike

PARAMETER	Method #	MB mg/kg	SA mg/kg	SR mg/kg	SP mg/kg	SP %R	SPD mg/kg	SPD %R	RPD	QC LIMITS	
										RPD	%R
Arsenic	6010	<1.0	50.	0.0	49.	97	46.	93	4.7	25.0	75-125
Lead	6010	<1.0	50.	0.0	52.	103	49.	98	4.5	25.0	75-125
Selenium	6010	<1.0	50.	0.0	49.	99	47.	95	4.2	25.0	75-125

Definition of Terms:

na: Not Analyzed in QC batch

MB: Method Blank

SA: Spike Added

SR: Sample Result

SP: Spike Result

SP (%R): Spike % Recovery

SPD: Spike Duplicate Result

SPD (%R): Spike Duplicate % Recovery

Entech Analytical Labs, Inc.

525 Del Rey Avenue, Suite E
Sunnyvale, CA 94086

QUALITY CONTROL RESULTS SUMMARY

Laboratory Control Spike

METHOD: EPA 7471

QC Batch #: SHG000508

Matrix: Solid

Units: mg/kg

Date Analyzed: 05/16/00

Quality Control Sample: Blank Spike

PARAMETER	Method #	MB mg/kg	SA mg/kg	SR mg/kg	SP mg/kg	SP %R	SPD mg/kg	SPD %R	RPD	QC LIMITS %R
Mercury	7471	<0.10	0.20	0.00	0.17	85	0.17	85	1.0	44-145

Definition of Terms:

MB: Method Blank

SA: Spike Added

SR: Sample Result

SP: Spike Result

SP (%R) Spike % Recovery

SPD Spike Duplicate Result

SPD (%R) Spike Duplicate % Recovery

Fax Transmittal

☐ Mountain View Office 405 Clyde Avenue Mountain View, CA 94043 Tel: 650.967.2363 Fax: 650.967.2785	☒ Oakland Office 129 Filbert Street Oakland, CA 94607 Tel: 510.267.1970 Fax: 510.267.1972	☐ Pasadena Office 1785 Locust Street, Suite 10 Pasadena, CA 91106 Tel: 626.396.1490 Fax: 626.396.1491	☐ San Ramon Office 2258 Camino Ramon San Ramon, CA 94583 Tel: 925.275.2550 Fax: 925.275.2555
---	--	---	--

To: Entech	From: John McCain
Attn: Alan	Date: 5/12/00
Fax: 408-735-1554	Pages: 4 (Including Cover)
CC:	Project: US DataPort 50-Acre Parcel
	Job #: 587-12F

Please notify us if you received this fax in error by calling the office indicated above.

Remarks: ☐ Urgent ☒ For your review ☐ Reply ASAP ☐ Please comment

Alan:

Please find the amended chain of custody for the samples received by you 5/9/00 and 5/10/00. The following changes were made:

- ✓ 1. Do not run sample S-10 (0 - ½') for Methods 8151, 8141, or 8318.
- ✓ 2. Do not run sample S-20 (0 - ½') for Methods 8151, 8141, or 8318.
- ✓ 3. Do not run sample S-25 (0 - ½') for Methods 8151, 8141, or 8318.

If you have any questions or concerns, please feel free to contact me at 510-267-1970; my extension is 206.

LOWNEY ASSOCIATES

John McCain

Mail copy to follow: ☐ Yes ☒ No

Time Sent: 4:55pm

Sent By: Jm

LOWNEY ASSOCIATES

CHAIN OF CUSTODY RECORD

Send Results To:

☒ Mountain View Office
405 Clyde Avenue
Mountain View, CA 94043
415-967-2365

☐ Oakland Office
129 Fillbert Street
Oakland, CA 94607
510-267-1970

Fax Copy To:

☒ 415-967-2785 (fax)

☐ 510-267-1972 (fax)

Object Name:

3 Data Port 50-Acre Parcel

Number: 587-12F

Port To: Doug Young

Sampler (print): John McLean

Sampler (signature): John McLean

Requirements:

Turnaround

Requirements

☐ 10 working days

☒ 5 working days

☐ 3 working days

☐ 48 hours

☐ 24 hours

☐ 2-3 hours (MUSH)

Laboratory I.D.

Level A (standard) ☐ Level B ☐ Level C ☐ Level D

Sample Matrix

Date

Time

of Cont.

20391-001

-002

-003

-004

-005

-006

-007

-008

-009

-010

-011

-012

88 MAY 9 17:14

Remarks

HOLD

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Published By:

John McLean

Date:

5-9-00

Time:

1703

Published By:

Doug Young

Date:

5/9/00

Time:

1530

Published By:

John McLean

Date:

5/9/00

Time:

1703

Received By:

John McLean

Date:

5/9/00

Time:

1530

Received By:

John McLean

Date:

5/9/00

Time:

1703

PM Initials

☐ **Oakland Office**
129 Filbert Street
• Oakland, CA 94607
510-267-1970
☐ 510-267-1972 (fax)

1.

LOWNEY ASSOCIATES

CHAIN OF CUSTODY RECORD

Send Results To:

Mountain View Office
405 Clyde Avenue
Mountain View, CA 94043
415-967-2365

Oakland Office
129 Filbert Street
Oakland, CA 94607
510-267-1970

Fax Copy To:

415-967-2705 (fax)

510-267-1972 (fax)

Object Name:

US Data Port 50-Ave Parcel

Number

587-12 F

Port To:

Doug Young

Printer (Print):

John McCain

Printer (Signature):

John McCain

Requirements:

Level A (standard) ☐ Level B ☐ Level C ☐ Level D ☐

Sample I.D. Date Time Sample Matrix # of Cont.

32(0-1/2) 5-9-00 ✓ Soil ↓ ↓
32(1-1 1/2) ↓
32(2-2 1/2) ✓

Turnaround

Requirements

☐ 10 working days

☒ 5 working days

☐ 3 working days

☐ 48 hours

☐ 24 hours

☐ 2-3 hours (turnin)

Laboratory I.D.

20391-049

-050

-051

Organic/Inorganic Pesticides
Mercury, Arsenic
Selenium, Lead

X

X

X

X

X

X

Remarks

HOLD

HOLD

88 MAY 9 17

Received By:

John McCain

Date: 5-9-00

Time: 1303

Received By:

Doug Young

Date: 5/9/00

Time: 1504

Received By:

Doug Young

Date:

Time:

1530

Received By:

John McCain

Date:

Time:

1700

PM Initials

Send Remittance To: ~~Monetables View Offices~~
409 Clyde Avenue
Monetables View, GA 32045
415-687-7965

☐ Oakland Mallon
 179 Milburn Blvd
 -Oakland, CA 94607
 510-267-1970
☐ 510-267-1971 (Sur)

USDA Port 50-Acre Parcel

Kimberly Nova Young

Number of days 5074. 2463. 2463.

Signature: _____

10

1. *Chlorophyll a* (Chl a) is the primary photosynthetic pigment in most plants and algae. It is a green pigment that absorbs light energy in the blue and red regions of the visible spectrum. Chl a is essential for the light-dependent reactions of photosynthesis, where it converts light energy into chemical energy in the form of ATP and NADPH.

Opus 10 & Opus 11 (Paganini) Violin

Sample ID.	Date	Time
1	10/10/19	10:00
2	10/10/19	10:05
3	10/10/19	10:10
4	10/10/19	10:15
5	10/10/19	10:20
6	10/10/19	10:25
7	10/10/19	10:30
8	10/10/19	10:35
9	10/10/19	10:40
10	10/10/19	10:45
11	10/10/19	10:50
12	10/10/19	10:55
13	10/10/19	11:00
14	10/10/19	11:05
15	10/10/19	11:10
16	10/10/19	11:15
17	10/10/19	11:20
18	10/10/19	11:25
19	10/10/19	11:30
20	10/10/19	11:35
21	10/10/19	11:40
22	10/10/19	11:45
23	10/10/19	11:50
24	10/10/19	11:55
25	10/10/19	12:00
26	10/10/19	12:05
27	10/10/19	12:10
28	10/10/19	12:15
29	10/10/19	12:20
30	10/10/19	12:25
31	10/10/19	12:30
32	10/10/19	12:35
33	10/10/19	12:40
34	10/10/19	12:45
35	10/10/19	12:50
36	10/10/19	12:55
37	10/10/19	13:00
38	10/10/19	13:05
39	10/10/19	13:10
40	10/10/19	13:15
41	10/10/19	13:20
42	10/10/19	13:25
43	10/10/19	13:30
44	10/10/19	13:35
45	10/10/19	13:40
46	10/10/19	13:45
47	10/10/19	13:50
48	10/10/19	13:55
49	10/10/19	14:00
50	10/10/19	14:05
51	10/10/19	14:10
52	10/10/19	14:15
53	10/10/19	14:20
54	10/10/19	14:25
55	10/10/19	14:30
56	10/10/19	14:35
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59	10/10/19	14:50
60	10/10/19	14:55
61	10/10/19	15:00
62	10/10/19	15:05
63	10/10/19	15:10
64	10/10/19	15:15
65	10/10/19	15:20
66	10/10/19	15:25
67	10/10/19	15:30
68	10/10/19	15:35
69	10/10/19	15:40
70	10/10/19	15:45
71	10/10/19	15:50
72	10/10/19	15:55
73	10/10/19	16:00
74	10/10/19	16:05
75	10/10/19	16:10
76	10/10/19	16:15
77	10/10/19	16:20
78	10/10/19	16:25
79	10/10/19	16:30
80	10/10/19	16:35
81	10/10/19	16:40
82	10/10/19	16:45
83	10/10/19	16:50
84	10/10/19	16:55
85	10/10/19	17:00
86	10/10/19	17:05
87	10/10/19	17:10
88	10/10/19	17:15
89	10/10/19	17:20
90	10/10/19	17:25
91	10/10/19	17:30
92	10/10/19	17:35
93	10/10/19	17:40
94	10/10/19	17:45
95	10/10/19	17:50
96	10/10/19	17:55
97	10/10/19	18:00
98	10/10/19	18:05
99	10/10/19	18:10
100	10/10/19	18:15

5-470-1/2 59-00

21-11-45

91C-47-3

[illegible]

3122

61-775-0

5-9 (2-27)

5-10 (0-1/2) ✓

500 (1-11)

10/10/09

5-10 (2-2-2)

5-11 (0-1/2)

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
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Approved for Release by NSA on 08-25-2014 pursuant to E.O. 13526

Yellow-bellied Sapsucker

7

Applied P & Ch Laboratory

13760 Magnolia Ave. Chino CA 91710

Tel: (909) 590-1828 Fax: (909) 590-1488

Submitted to:

Entech Analytical Labs, Inc.

Attention: Allan Aks

525 Del Rey, Suite E

Sunnyvale CA 94086

Tel: (408) 735-1550 Fax: (408) 735-1554

APCL Analytical Report

Service ID #: 801-002936A

Received: 05/11/00

Collected by:

Extracted: 05/12/00

Collected on: 05/09/00

Tested: 05/17/00

Reported: 05/18/00

Sample Description: Soil

Project Description: 20391

Analysis of Soil Samples

Component Analyzed	Method	Unit	PQL	Analysis Result			
				20391-004 00-02936-1	20391-013 00-02936-2	20391-025 00-02936-3	20391-031 00-02936-4
Chlorinated herbicides							
Acifluorfen	8151	µg/kg	20	ND	ND	ND	ND
Bentazon (Basagran)	8151	µg/kg	10	ND	ND	ND	ND
Chloramben	8151	µg/kg	10	ND	ND	ND	ND
2,4-D	8151	µg/kg	10	ND	ND	ND	ND
2,4-DB	8151	µg/kg	10	ND	ND	ND	ND
Dalapon (dichloroacetic acid)	8151	µg/kg	20	ND	ND	ND	ND
Dicamba	8151	µg/kg	10	ND	ND	ND	ND
3,5-Dichlorobenzoic	8151	µg/kg	10	ND	ND	ND	ND
Dichloroprop	8151	µg/kg	10	ND	ND	ND	ND
Dinoseb (DNBP)	8151	µg/kg	20	ND	ND	ND	ND
MCPA	8151	mg/kg	2	ND	ND	ND	ND
MCPP	8151	mg/kg	2	ND	ND	ND	ND
4-Nitrophenol	8151	µg/kg	10	ND	ND	ND	ND
Pentachlorophenol (PCP)	8151	µg/kg	10	ND	ND	ND	ND
Picloram	8151	µg/kg	10	ND	ND	ND	ND
2,4,5-T	8151	µg/kg	10	ND	ND	ND	ND
2,4,5-TP (Silvex)	8151	µg/kg	10	ND	ND	ND	ND

Component Analyzed	Method	Unit	PQL	Analysis Result			
				20391-034	20391-037	20391-043	20391-046
				00-02936-5	00-02936-6	00-02936-7	00-02936-8
Chlorinated herbicides							
Acifluorfen	8151	µg/kg	20	ND	ND	ND	ND
Bentazon (Basagran)	8151	µg/kg	10	ND	ND	ND	ND
Chloramben	8151	µg/kg	10	ND	ND	ND	ND
2,4-D	8151	µg/kg	10	ND	ND	ND	ND
2,4-DB	8151	µg/kg	10	ND	ND	ND	ND
Dalapon (dichloroacetic acid)	8151	µg/kg	20	ND	ND	ND	ND
Dicamba	8151	µg/kg	10	ND	ND	ND	ND
3,5-Dichlorobenzoic	8151	µg/kg	10	ND	ND	ND	ND

Applied P & Ch Laboratory

13760 Magnolia Ave. Chino CA 91710

Tel: (909) 590-1828 Fax: (909) 590-1498

APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result			
				20391-034	20391-037	20391-043	20391-046
				00-02936-5	00-02936-6	00-02936-7	00-02936-8
Dichloroprop	8151	$\mu\text{g}/\text{kg}$	10	ND	ND	ND	ND
Dinoseb (DNBP)	8151	$\mu\text{g}/\text{kg}$	20	ND	ND	ND	ND
MCPA	8151	mg/kg	2	ND	ND	ND	ND
MCPP	8151	mg/kg	2	ND	ND	ND	ND
4-Nitrophenol	8151	$\mu\text{g}/\text{kg}$	10	ND	ND	ND	ND
Pentachlorophenol (PCP)	8151	$\mu\text{g}/\text{kg}$	10	ND	ND	ND	ND
Picloram	8151	$\mu\text{g}/\text{kg}$	10	ND	ND	ND	ND
2,4,5-T	8151	$\mu\text{g}/\text{kg}$	10	ND	ND	ND	ND
2,4,5-TP (Silvex)	8151	$\mu\text{g}/\text{kg}$	10	ND	ND	ND	ND

PQL: Practical Quantitation Limit. MDL: Method Detection Limit.

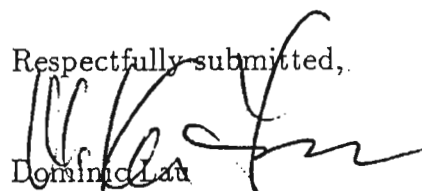
CRDL: Contract Required Detection Limit

N.D.: Not Detected or less than the practical quantitation limit.

"-": Analysis is not required.

J: Reported between PQL and MDL.

Respectfully submitted,


Dominic Lau

Laboratory Director

Applied P & Ch Laboratory

Entech Analytical Labs, Inc.

CA ELAP # I-2346

525 Del Rey Avenue, Suite E, Sunnyvale, CA 94086 (408) 735-1550 FAX (408) 735-1554

Subcontract Chain of Custody

Subcontract Lab:	Project Name:	Date Sent:	Due Date:	PO Number:				
APCL	20391	5/10/00	5/16/00	20391				
Sample Number:	Customer Sample Number:	Matrix:	Test:	Method:	Collect Date:	Collect Time:	Bottle Type:	Preservative:
20391-004	S-6 (0-1/2)	Solid	EPA 8151-APCL	EPA 8151	5/9/00		4 oz jar	
20391-013	S-13 (0-1/2)	Solid	EPA 8150-APCL	EPA 8150	5/9/00		4 oz jar	
20391-025	S-21 (0-1/2)	Solid	EPA 8151-APCL	EPA 8151	5/9/00		4 oz jar	
20391-031	S-1 (0-1/2)	Solid	EPA 8151-APCL	EPA 8151	5/9/00		4 oz jar	
20391-034	S-2 (0-1/2)	Solid	EPA 8151-APCL	EPA 8151	5/9/00		4 oz jar	
20391-037	S-4 (0-1/2)	Solid	EPA 8151-APCL	EPA 8151	5/9/00		4 oz jar	
20391-043	S-10 (0-1/2)	Solid	EPA 8151-APCL	EPA 8151	5/9/00		4 oz jar	
20391-046	S-11 (0-1/2)	Solid	EPA 8150-APCL	EPA 8150	5/9/00		4 oz jar	

2936

Relinquished By:	Received By:	Date:	Time:
<i>Mara Guslis</i>	<i>Golden State</i>	<i>5/10/00</i>	<i>1800</i>
Relinquished By:	Received By:	Date:	Time:
	<i>[Signature]</i>	<i>5/11/2000</i>	<i>0845</i>
Relinquished By:	Received By:	Date:	Time:

Notes:

Intech Analytical Labs, Inc.

525 Del Rey Avenue, Suite E • Sunnyvale, CA 94086 • (408) 735-1550 • Fax (408) 735-1554

Subcontract Chain of Custody

[illegible]

Relinquished By:	Received By:	Date:	Time:
Maria Giusli	Golden State	5/11/00	1800
Relinquished By:	Received By:	Date:	Time:
Relinquished By:	Received By:	Date:	Time:

Notes: _____

Entech Analytical Labs, Inc.

525 Del Rey Avenue, Suite E • Sunnyvale, CA 94086 • (408) 735-1550 • Fax (408) 735-1554

Subcontract Chain of Custody

[illegible]

Relinquished By:	Received By:	Date:	Time:
Mara Guskis	Golden State	5/11/00	1800
Relinquished By:	Received By:	Date:	Time:
		5/12/00	0845
Relinquished By:	Received By:	Date:	Time:

Notes: _____

Applied P & Ch Laboratory

13760 Magnolia Ave. Chino CA 91710

Tel: (909) 590-1828 Fax: (909) 590-1488

APCL QA/QC Report

*: LCS/LCSD is used.

Notation: ICV - Initial Calibration Verification
CCV - Continuation Calibration Verification
LCS - Lab Control Spike
MS - Matrix Spike
MSD - Matrix Spike Duplicate
ICS - Interference Check Standard -
MD - Matrix Duplicate
N.D. - Not detected or less than PQL

CCB - Continuation Calibration Blank
M-blank - Method Blank
SP Level - Spike Level
%Rec - Recovery Percent
%RPD - Relative Percent Differences
%Diff - Control Limit for %RPD
ICP-SD - ICP Serial Dilution
N.A. - Not Applicable

Respectfully submitted,



Kevin Xie, Ph. D.,
QA Director
Applied P & Ch Laboratory

Applied P & Ch Laboratory

13760 Magnolia Ave. Chino CA 91710

Tel: (909) 590-1828 Fax: (909) 590-1498

APCL QA/QC Report

Submitted to:

Entech Analytical Labs, Inc.

Attention: Allan Aks

525 Del Rey, Suite E

Sunnyvale, CA 94086

Tel: (408) 735-1550 Fax: (408) 735-1554

Service ID #: 801-002970

Collected by:

Collected on: 05/10-11/00

Sample description:

Soil

Project: 20433

Received: 05/12/00

Tested: 05/17/00

Reported: 5/19/00

Analysis of Soil

801-002970QC

Component Name	Analysis Batch #	CCV (µg/L)	CCV %Rec	M-Blank	Conc. Unit	SP Level	LCS %Rec	MS %Rec	MSD %Rec	MS/MSD %RPD	Control Limit %Rec	Limit %Diff
Chlorinated herbicides												
Dalapon (dichloroacetic acid)	00G2569	250	96	N.D.	µg/kg	-	-	-	-	-	-	-
3,5-Dichlorobenzoic	00G2569	250	113	N.D.	µg/kg	-	-	-	-	-	-	-
4-Nitrophenol	00G2569	250	90	N.D.	µg/kg	-	-	-	-	-	-	-
Dicamba	00G2569	250	101	N.D.	µg/kg	-	-	-	-	-	-	-
MCPP	00G2569	25000	103	N.D.	mg/kg	-	-	-	-	-	-	-
Dichloroprop	00G2569	250	102	N.D.	µg/kg	-	-	-	-	-	-	-
MCPA	00G2569	25000	109	N.D.	mg/kg	-	-	-	-	-	-	-
2,4-D	00G2569	250	114	N.D.	µg/kg	50.0	108	108*	100*	8	55-125	35
Pentachlorophenol (PCP)	00G2569	250	106	N.D.	µg/kg	-	-	-	-	-	-	-
2,4,5-TP (Silvex)	00G2569	250	107	N.D.	µg/kg	50.0	89	89*	88*	1	54-127	36
2,4,5-T	00G2569	250	110	N.D.	µg/kg	50.0	90	90*	82*	9	50-128	39
Dinoseb (DNBP)	00G2569	250	96	N.D.	µg/kg	-	-	-	-	-	-	-
Chloramben	00G2569	250	104	N.D.	µg/kg	-	-	-	-	-	-	-
2,4-DB	00G2569	250	103	N.D.	µg/kg	-	-	-	-	-	-	-
Bentazon (Basagran)	00G2569	250	103	N.D.	µg/kg	-	-	-	-	-	-	-
DCPA (Dacthal)	00G2569	250	102	N.D.	µg/kg	-	-	-	-	-	-	-
Picloram	00G2569	250	105	N.D.	µg/kg	-	-	-	-	-	-	-
Acifluorfen	00G2569	250	102	N.D.	µg/kg	-	-	-	-	-	-	-

Applied P & Ch Laboratory

13760 Magnolia Ave. Chino CA 91710

Tel: (909) 590-1828 Fax: (909) 590-1498

APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result		
				20433-003	20433-004	20433-005
				00-02970-3	00-02970-4	00-02970-5
Dicamba	8151	- $\mu\text{g/kg}$	10	ND	ND	ND
3,5-Dichlorobenzoic	8151	$\mu\text{g/kg}$	10	ND	ND	ND
Dichloroprop	8151	$\mu\text{g/kg}$	10	ND	ND	ND
Dinoseb (DNBP)	8151	$\mu\text{g/kg}$	20	ND	ND	ND
MCPA	8151	mg/kg	2	ND	ND	ND
MCPP	8151	mg/kg	2	ND	ND	ND
4-Nitrophenol	8151	$\mu\text{g/kg}$	10	ND	ND	ND
Pentachlorophenol (PCP)	8151	$\mu\text{g/kg}$	10	ND	ND	ND
Picloram	8151	$\mu\text{g/kg}$	10	ND	ND	ND
2,4,5-T	8151	$\mu\text{g/kg}$	10	ND	ND	ND
2,4,5-TP (Silvex)	8151	$\mu\text{g/kg}$	10	ND	ND	ND

PQL: Practical Quantitation Limit.

MDL: Method Detection Limit.

CRDL: Contract Required Detection Limit

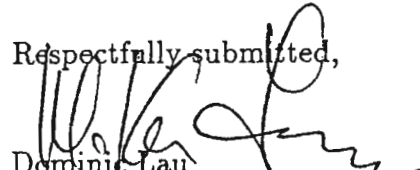
N.D.: Not Detected or less than the practical quantitation limit.

"-": Analysis is not required.

J: Reported between PQL and MDL.

Listed Dilution Factors (DF) are relative to the method default DF. All unlisted DFs are 1.0

Respectfully submitted,


Dominic Lau

Laboratory Director

Applied P & Ch Laboratory

Applied P & Ch Laboratory

13760 Magnolia Ave. Chino CA 91710

Tel: (909) 590-1828 Fax: (909) 590-1498

APCL Analytical Report

Submitted to:

Entech Analytical Labs, Inc.

Attention: Allan Aks

525 Del Rey, Suite E

Sunnyvale CA 94086

Tel: (408) 735-1550 Fax: (408) 735-1554

Service ID #: 801-002970

Collected by:

Collected on: 05/10-11/00

Sample Description: Soil

Project Description: 20433

Received: 05/12/00

Extracted: 05/15/00

Tested: 05/17/00

Reported: 05/18/00

Analysis of Soil Samples

Component Analyzed	Method	Unit	PQL	Analysis Result	
				20433-001	20433-002
				00-02970-1	00-02970-2
Chlorinated herbicides					
Dilution Factor				1	10
Acifluorfen	8151	µg/kg	20	ND	< 200
Bentazon (Basagran)	8151	µg/kg	10	ND	< 100
Chloramben	8151	µg/kg	10	ND	< 100
2,4-D	8151	µg/kg	10	ND	< 100
2,4-DB	8151	µg/kg	10	ND	< 100
Dalapon (dichloroacetic acid)	8151	µg/kg	20	ND	< 200
Dicamba	8151	µg/kg	10	ND	< 100
3,5-Dichlorobenzoic	8151	µg/kg	10	ND	< 100
Dichloroprop	8151	µg/kg	10	ND	< 100
Dinoseb (DNBP)	8151	µg/kg	20	ND	< 200
MCPA	8151	mg/kg	2	ND	< 20
MCP	8151	mg/kg	2	ND	< 20
4-Nitrophenol	8151	µg/kg	10	ND	< 100
Pentachlorophenol (PCP)	8151	µg/kg	10	ND	420
Picloram	8151	µg/kg	10	ND	< 100
2,4,5-T	8151	µg/kg	10	ND	< 100
2,4,5-TP (Silvex)	8151	µg/kg	10	ND	< 100

Component Analyzed	Method	Unit	PQL	Analysis Result		
				20433-003	20433-004	20433-005
				00-02970-3	00-02970-4	00-02970-5
Chlorinated herbicides						
Dilution Factor				1	1	1
Acifluorfen	8151	µg/kg	20	ND	ND	ND
Bentazon (Basagran)	8151	µg/kg	10	ND	ND	ND
Chloramben	8151	µg/kg	10	ND	ND	ND
2,4-D	8151	µg/kg	10	ND	ND	ND
2,4-DB	8151	µg/kg	10	ND	ND	ND
Dalapon (dichloroacetic acid)	8151	µg/kg	20	ND	ND	ND

entech Analytical Labs, Inc.

525 Del Rey Avenue, Suite E • Sunnyvale, CA 94086 • (408) 735-1550 • Fax (408) 735-1554

Subcontract Chain of Custody

[illegible]

Relinquished By: <i>Maria Grulis</i>	Received By: <i>Golden State</i>	Date: <i>5/11/00</i>	Time: <i>1800</i>
Relinquished By: <i>[Signature]</i>	Received By:	Date: <i>5/12/00</i>	Time: <i>07:15</i>
Relinquished By:	Received By:	Date:	Time:

Notes: Ex 8318. (n-methylcarbamates)

Entech Analytical Labs, Inc.

525 Del Rey Avenue, Suite E • Sunnyvale, CA 94086 • (408) 735-1550 • Fax (408) 735-1554

Subcontract Chain of Custody

[illegible]

Relinquished By:	Received By:	Date:	Time:
Maria Grusis	Golden State	5/11/00	1800
Relinquished By:	Received By:	Date:	Time:
Relinquished By:	Received By:	Date:	Time:

Notes: Exa 8318. (n-methylcarbamates)

Environmental Micro Analysis, Inc.

40 N. East Street, Suite B, Woodland, CA 95776

Phone: (530) 666-6890 Fax: (530) 666-2987

California State Certification # 2211

QUALITY CONTROL REPORT

Client: Entech Analytical Labs, Inc.
525 Del Rey Avenue, Suite E
Sunnyvale, CA 94086
Phone: (408) 735-1550 FAX: (408) 735-1554

For Client ID: Sample No.: 20433-001, 20433-002, 20433-003, 20433-004, 20433-005

For EMA ID: For 00051204 Data Set

Matrix: Soil Date Analyzed: 8141A - 05/15/00
8318A- 05/15/00

Organophosphate Pesticides - EPA Method 8141A

<u>Parameter</u>	<u>Spike Level</u>	<u>Recovery In Percent</u>	
	<u>ppm</u>	<u>Spike</u>	<u>Duplicate</u>
zinon	0.5	74.6	77.9
diethyl Parathion	0.5	98.4	99.7
Azinphos Methyl (Guthion)	0.5	104	91.0

Carbamate Screen - EPA Method 8318A

<u>Parameter</u>	<u>Spike Level</u>	<u>Recovery In Percent</u>	
	<u>ppm</u>	<u>Spike</u>	<u>Duplicate</u>
Aldicarb	0.5	83.2	71.4
Methiocarb	0.5	100	96.9

Analytical Report

May 16, 2000

Client: Lori Tyler
Entech Analytical Labs, Inc.
525 Del Rey Avenue, Ste. E
Sunnyvale, CA 94086
Telephone: (408) 735-1550
Fax: (408) 735-1554

Analyte	Amount ppm	MRL ppm
Aldicarb	ND	.03
Aldicarb Sulfone	ND	.03
Aldicarb Sulfoxide	ND	.03
Carbaryl	ND	.03
Carbofuran	ND	.05
3-OH Carbofuran	ND	.05
Methiocarb	ND	.05
Methomyl	ND	.03
O-phenyl phenol	ND	.03
Oxamyl	ND	.05

Project No: 20433

PO No:

Client Sample ID:

Sample Date:

EMA Sample No: 00051204-00

Date Received: 5/12/2000

Sample Matrix: Blank

Analytical Method: EPA 8318 (s)

Extraction Method: EPA 3550

Date Extracted: 5/12/2000

Date Completed: 5/15/2000

Surrogate:

Surrogate Level:

Recovery:

Analytical Report

May 16, 2000

Client: Lori Tyler
Entech Analytical Labs, Inc.
525 Del Rey Avenue, Ste. E
Sunnyvale, CA 94086

Telephone: (408) 735-1550
Fax: (408) 735-1554

Project No: 20433

PO No:

Client Sample ID:

Sample Date:

EMA Sample No: 00051204-00

Date Received: 5/12/2000

Sample Matrix: Blank

Analytical Method: EPA 8141A (s)

Extraction Method: EPA 3550

Date Extracted: 5/12/2000

Date Completed: 5/15/2000

Surrogate: Ethion

Surrogate Level: 0.5 µg/g

Recovery: 108%

Analyte	Amount ppm	MBL ppm
Acephate*	ND	.05
Azinphos-methyl (Guthion)	ND	.05
Bolstar (Sulprofos)	ND	.05
Carbophenothion (Trithion)*	ND	.05
Chlorfenvinphos (Supona)*	ND	.05
Chlorpyrifos (Dursban)	ND	.03
Ciodrin (Crotaphos)*	ND	.05
Courmaphos (Co-Ral)	ND	.05
Demeton (Systox) O analogue	ND	.05
Demeton (Systox) S analogue	ND	.05
Diazinon	ND	.03
Diclotophos (Didrin)*	ND	.05
Dimethoate (Cygon)	ND	.03
Dioxathion (Deinav)*	ND	.05
Disulfoton (Disyston)	ND	.05
EPN	ND	.05
Ethion*	ND	.05
Fenamiphos (Nemacur)*	ND	.05
Fenitrothion (Sumithion)*	ND	.05
Fenthion (Baytex)	ND	.05
Fonofos (Dyfonate)	ND	.05
Hostathion (Triazophos)*	ND	.05
Imidan (Phosmet)*	ND	.05
Isofenphos (Oftanol)*	ND	.05
Malathion	ND	.05
Methamidophos*	ND	.03
Methidathion (Supracide)*	ND	.05
Methyl Parathion	ND	.05
Mevinphos (Phosdrin)*	ND	.05
Molinate (Ordram)	ND	.05
Parathion	ND	.04
Phorate (Thimet)	ND	.05
Phosalone (Zolone)*	ND	.03
Phosphamidon (Dimecron)*	ND	.08
Profenofos (Crucron)*	ND	.05
Propetamphos (Safrotin)*	ND	.05
Ronnel (Fenchlorfos)	ND	.05
Tetrachlorvinphos (Gardona)*	ND	.05
Thiobencard (Bolero)	ND	.05
Thionazin (Zinophos)*	ND	.05

Analytical Report

May 16, 2000

Client: Lori Tyler
Entech Analytical Labs, Inc.
525 Del Rey Avenue, Ste. E
Sunnyvale, CA 94086
Telephone: (408) 735-1550
Fax: (408) 735-1554

Analyte

Aldicarb
Aldicarb Sulfone
Aldicarb Sulfoxide
Carbaryl
Carbofuran
3-OH Carbofuran
Methiocarb
Methomyl
O-phenyl phenol
Oxamyl

Amount ppm	MBL ppm
ND	.03
ND	.03
ND	.03
ND	.03
ND	.05
ND	.05
ND	.05
ND	.03
ND	.03
ND	.05

Project No: 20433

PO No:

Client Sample ID: Sample No:
20433-005
S-47 (0-1/2')

Sample Date: 5/11/2000
EMA Sample No: 00051204-05
Date Received: 5/12/2000
Sample Matrix: Soil

Analytical Method: EPA 8318 (a)
Extraction Method: EPA 3550

Date Extracted: 5/12/2000
Date Completed: 5/15/2000

Surrogate:
Surrogate Level:

Recovery:

Analytical Report

May 18, 2000

Client: Lori Tyler
Entech Analytical Labs, Inc.
525 Del Rey Avenue, Ste. E
Sunnyvale, CA 94086

Telephone: (408) 735-1550
Fax: (408) 735-1554

Project No: 20433

PO No:

Client Sample ID: Sample No:
20433-005
S-47 (0-1/2')

Sample Date: 5/11/2000

EMA Sample No: 00051204-05

Date Received: 5/12/2000

Sample Matrix: Soil

Analytical Method: EPA 8141A (s)

Extraction Method: EPA 3550

Date Extracted: 5/12/2000

Date Completed: 5/15/2000

Surrogate: Ethion

Surrogate Level: 0.5 µg/g

Recovery: 99.9%

Analyte	Amount ppm	MBL ppm
Acephate*	ND	.05
Azinphos-methyl (Guthion)	ND	.05
Bolstar (Sulprofos)	ND	.05
Carbophenothion (Trithion)*	ND	.05
Chlorfenvinphos (Supona)*	ND	.05
Chlorpyrifos (Dursban)	ND	.03
Ciodrin (Crotophos)*	ND	.05
Courmaphos (Co-Ral)	ND	.05
Demeton (Systox) O analogue	ND	.05
Demeton (Systox) S analogue	ND	.05
Diazinon	ND	.03
Dicrotophos (Didrin)*	ND	.05
Dimethoate (Cygon)	ND	.03
Dioxathion (Delnav)*	ND	.05
Disulfoton (Disyston)	ND	.05
EPN	ND	.05
Ethion*	ND	.05
Fenamiphos (Nemacur)*	ND	.05
Fenitrothion (Sumithion)*	ND	.05
Fenthion (Baytex)	ND	.05
Fonofos (Dylonate)	ND	.05
Hostathion (Triazophos)*	ND	.05
Imidan (Phosmet)*	ND	.05
Isofenphos (Oftanol)*	ND	.05
Malathion	ND	.05
Methamidophos*	ND	.03
Methidathion (Supracide)*	ND	.05
Methyl Parathion	ND	.05
Mevinphos (Phosdrin)*	ND	.05
Molinate (Ordram)	ND	.05
Parathion	0.06	.04
Phorate (Thimet)	ND	.05
Phosalone (Zolone)*	ND	.03
Phosphamidon (Dimecron)*	ND	.08
Profenofos (Cruacron)*	ND	.05
Propetamphos (Safrofin)*	ND	.05
Ronnel (Fenchlorfos)	ND	.05
Tetrachlorvinphos (Gardona)*	ND	.05
Thiobencard (Bolero)	ND	.05
Thionazin (Zinophos)*	ND	.05

Analytical Report

May 16, 2000

Client: Lori Tyler
Entech Analytical Labs, Inc.
525 Del Rey Avenue, Ste. E
Sunnyvale, CA 94086

Telephone: (408) 735-1550

Fax: (408) 735-1554

Analyte

Amount
ppm

MBL
ppm

Aldicarb	ND	.03
Aldicarb Sulfone	ND	.03
Aldicarb Sulfoxide	ND	.03
Carbaryl	ND	.03
Carbofuran	ND	.05
3-OH Carbofuran	ND	.05
Methiocarb	ND	.05
Methomyl	ND	.03
O-phenyl phenol	ND	.03
Oxamyl	ND	.05

Project No: 20433

PO No:

Client Sample ID: Sample No:
20433-004
S-39 (0-1/2')

Sample Date: 5/11/2000

EMA Sample No: 00051204-04

Date Received: 5/12/2000

Sample Matrix: Soil

Analytical Method: EPA 8318 (s)

Extraction Method: EPA 3550

Date Extracted: 5/12/2000

Date Completed: 5/15/2000

Surrogate:

Surrogate Level:

Recovery:

Analytical Report

May 16, 2000

Client: Lori Tyler
Entech Analytical Labs, Inc.
525 Del Rey Avenue, Ste. E
Sunnyvale, CA 94086

Telephone: (408) 735-1550

Fax: (408) 735-1554

Project No: 20433

PO No:

Client Sample ID: Sample No:
20433-004
S-39 (0-1/2')

Sample Date: 5/11/2000

EMA Sample No: 00051204-04

Date Received: 5/12/2000

Sample Matrix: Soil

Analytical Method: EPA 8141A (s)

Extraction Method: EPA 3550

Date Extracted: 5/12/2000

Date Completed: 5/15/2000

Surrogate: Ethion

Surrogate Level: 0.5 µg/g

Recovery: 91.0%

Analyte	Amount ppm	MBL ppm
Acephate*	ND	.05
Azinphos-methyl (Guthion)	ND	.05
Bolstar (Sulprofos)	ND	.05
Carbophenothion (Trithion)*	ND	.05
Chlorfenvinphos (Supona)*	ND	.05
Chlorpyrifos (Dursban)	ND	.03
Ciodrin (Crotaphos)*	ND	.05
Courmaphos (Co-Ral)	ND	.05
Demeton (Systox) O analogue	ND	.05
Demeton (Systox) S analogue	ND	.05
Diazinon	ND	.03
Dicrotophos (Didrin)*	ND	.05
Dimethoate (Cygon)	ND	.03
Dioxathion (Delnav)*	ND	.05
Disulfoton (Disyston)	ND	.05
EPN	ND	.05
Ethion*	ND	.05
Fenamiphos (Nemacur)*	ND	.05
Fenitrothion (Sumithion)*	ND	.05
Fenthion (Baytex)	ND	.05
Fonofos (Dyfonate)	ND	.05
Hostathion (Triazophos)*	ND	.05
Imidan (Phosmet)*	ND	.05
Isotenphos (Oftanol)*	ND	.05
Malathion	ND	.05
Methamidophos*	ND	.03
Methidathion (Supracide)*	ND	.05
Methyl Parathion	ND	.05
Mevinphos (Phosdrin)*	ND	.05
Mollinate (Ordram)	ND	.05
Parathion	ND	.04
Phorate (Thimet)	ND	.05
Phosalone (Zolone)*	ND	.03
Phosphamidon (Dimecron)*	ND	.08
Profenofos (Cruacron)*	ND	.05
Propetamphos (Satrotin)*	ND	.05
Ronnel (Fenchlorfos)	ND	.05
Tetrachlorvinphos (Gardona)*	ND	.05
Thiobencard (Bolero)	ND	.05
Thionazin (Zinophos)*	ND	.05

Analytical Report

May 16, 2000

Client: Lori Tyler
Entech Analytical Labs, Inc.
525 Del Rey Avenue, Ste. E
Sunnyvale, CA 94086

Telephone: (408) 735-1550

Fax: (408) 735-1554

Analyte

Aldicarb
Aldicarb Sulfone
Aldicarb Sulfoxide
Carbaryl
Carbofuran
3-OH Carbofuran
Methiocarb
Methomyl
O-phenyl phenol
Oxamyl

Amount
ppm

MRL
ppm

ND .03
ND .03
ND .03
ND .03
ND .05
ND .05
ND .05
ND .03
ND .03
ND .05

Project No: 20433

PO No:

Client Sample ID: Sample No:
20433-003
S-29 (0-1/2')

Sample Date: 5/11/2000

EMA Sample No: 00051204-03

Date Received: 5/12/2000

Sample Matrix: Soil

Analytical Method: EPA 8318 (s)

Extraction Method: EPA 3550

Date Extracted: 5/12/2000

Date Completed: 5/15/2000

Surrogate:

Surrogate Level:

Recovery:

Analytical Report

May 16, 2000

Client: Lori Tyler
Entech Analytical Labs, Inc.
525 Del Rey Avenue, Ste. E
Sunnyvale, CA 94086

Telephone: (408) 735-1550
Fax: (408) 735-1554

Project No: 20433

PO No:

Client Sample ID: Sample No:
20433-003
S-29 (0-1/2')

Sample Date: 5/11/2000

EMA Sample No: 00051204-03

Date Received: 5/12/2000

Sample Matrix: Soil

Analytical Method: EPA 8141A (s)

Extraction Method: EPA 3550

Date Extracted: 5/12/2000

Date Completed: 5/15/2000

Surrogate: Ethion

Surrogate Level: 0.5 µg/g

Recovery: 102%

Analyte	Amount ppm	MBL ppm
Acephate*	ND	.05
Azinphos-methyl (Guthion)	ND	.05
Bolstar (Sulprofos)	ND	.05
Carbophenothion (Trithion)*	ND	.05
Chlorfenvinphos (Supona)*	ND	.05
Chlorpyrifos (Dursban)	ND	.03
Clodrin (Crotophos)*	ND	.05
Courmaphos (Co-Ral)	ND	.05
Demeton (Systox) O analogue	ND	.05
Demeton (Systox) S analogue	ND	.05
Diazinon	ND	.03
Dicrotophos (Didrin)*	ND	.05
Dimethoate (Cygon)	ND	.03
Dioxathion (Deinav)*	ND	.05
Disulfoton (Disyston)	ND	.05
EPN	ND	.05
Ethion*	ND	.05
Fenamiphos (Nemacur)*	ND	.05
Fenitrothion (Sumithion)*	ND	.05
Fenthion (Baytex)	ND	.05
Fonofos (Dyfonate)	ND	.05
Hostathion (Triazophos)*	ND	.05
Imidan (Phosmet)*	ND	.05
Isofenphos (Oftanol)*	ND	.05
Malathion	ND	.05
Methamidophos*	ND	.03
Methidathion (Supracide)*	ND	.05
Methyl Parathion	ND	.05
Mevinphos (Phosdrin)*	ND	.05
Molinate (Ordram)	ND	.05
Parathion	ND	.04
Phorate (Thimet)	ND	.05
Phosalone (Zolone)*	ND	.03
Phosphamidon (Dimecron)*	ND	.08
Protenofos (Cruacron)*	ND	.05
Propetamphos (Safrotin)*	ND	.05
Ronnel (Fenchlorfos)	ND	.05
Tetrachlorvinphos (Gardona)*	ND	.05
Thiobencard (Bolero)	ND	.05
Thionazin (Zinphos)*	ND	.05

Analytical Report

May 16, 2000

Client: Lori Tyler
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Telephone: (408) 735-1550
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Analyte

Amount ppm	MBL ppm
ND	.03
ND	.03
ND	.03
ND	.03
ND	.05
ND	.05
ND	.05
ND	.03
ND	.03
ND	.05

Aldicarb
Aldicarb Sulfone
Aldicarb Sulfoxide
Carbaryl
Carbofuran
3-OH Carbofuran
Methiocarb
Methomyl
O-phenyl phenol
Oxamyl

Project No: 20433

PO No:

Client Sample ID: Sample No:
20433-002
S-24 (0-1/2')

Sample Date: 5/10/2000
EMA Sample No: 00051204-02
Date Received: 5/12/2000
Sample Matrix: Soil

Analytical Method: EPA 8318 (a)

Extraction Method: EPA 3550

Date Extracted: 5/12/2000

Date Completed: 5/15/2000

Surrogate:

Surrogate Level:

Recovery:

Analytical Report

May 16, 2000

Client: Lori Tyler
Entech Analytical Labs, Inc.
525 Del Rey Avenue, Ste. E
Sunnyvale, CA 94086

Telephone: (408) 735-1550
Fax: (408) 735-1554

Project No: 20433

PO No:

Client Sample ID: Sample No:
20433-002
S-24 (0-1/2')

Sample Date: 5/10/2000

EMA Sample No: 00051204-02

Date Received: 5/12/2000

Sample Matrix: Soil

Analytical Method: EPA 8141A (s)

Extraction Method: EPA 3550

Date Extracted: 5/12/2000

Date Completed: 5/15/2000

Surrogate: Ethion

Surrogate Level: 0.5 µg/g

Recovery: 98.7%

Analyte	Amount ppm	MR ppm
Acephate*	ND	.05
Azinphos-methyl (Guthion)	ND	.05
Bolstar (Sulprofos)	ND	.05
Carbophenothion (Trithion)*	ND	.05
Chlorfenvinphos (Supona)*	ND	.05
Chlorpyrifos (Dursban)	0.10	.03
Clodrin (Crotophos)*	ND	.05
Coumaphos (Co-Ral)	ND	.05
Demeton (Systox) O analogue	ND	.05
Demeton (Systox) S analogue	ND	.05
Diazinon	ND	.03
Dicropthos (Didrin)*	ND	.05
Dimethoate (Cygon)	ND	.03
Dioxathion (Deinav)*	ND	.05
Disulfoton (Disyston)	ND	.05
EPN	ND	.05
Ethion*	ND	.05
Fenamiphos (Nemacur)*	ND	.05
Fenitrothion (Sumithion)*	ND	.05
Fenthion (Baytex)	ND	.05
Fonofos (Dytonate)	ND	.05
Hostathion (Triazophos)*	ND	.05
Imidan (Phosmet)*	ND	.05
Isofenphos (Oftanol)*	ND	.05
Malathion	ND	.05
Methamidophos*	ND	.03
Methidathion (Supracide)*	ND	.05
Methyl Parathion	ND	.05
Mevinphos (Phosdrin)*	ND	.05
Molinate (Ordram)	ND	.05
Parathion	0.06	.04
Phorate (Thimet)	ND	.05
Phosalone (Zolone)*	ND	.03
Phosphamidon (Dimecron)*	ND	.08
Profenofos (Cruacron)*	ND	.05
Propetamphos (Safrofin)*	ND	.05
Ronnel (Fenchlorfos)	ND	.05
Tetrachlorvinphos (Gardona)*	ND	.05
Thiobencard (Bolero)	ND	.05
Thionazin (Zinophos)*	ND	.05

Analytical Report

May 16, 2000

Client: Lori Tyler
Entech Analytical Labs, Inc.
525 Del Rey Avenue, Ste. E
Sunnyvale, CA 94086

Telephone: (408) 735-1550

Fax: (408) 735-1554

Analyte	Amount ppm	MBL ppm
Aldicarb	ND	.03
Aldicarb Sulfone	ND	.03
Aldicarb Sulfoxide	ND	.03
Carbaryl	ND	.03
Carbofuran	ND	.05
3-OH Carbofuran	ND	.05
Methiocarb	ND	.05
Methomyl	ND	.03
O-phenyl phenol	ND	.03
Oxamyl	ND	.05

Project No: 20433

PO No:

Client Sample ID: Sample No:
20433-001
S-5 (0-1/2')

Sample Date: 5/11/2000

EMA Sample No: 00051204-01

Date Received: 5/12/2000

Sample Matrix: Soil

Analytical Method: EPA 8318 (s)

Extraction Method: EPA 3550

Date Extracted: 5/12/2000

Date Completed: 5/15/2000

Surrogate:

Surrogate Level:

Recovery:

Analytical Report

May 16, 2000

Client: Lari Tyler
Entech Analytical Labs, Inc.
525 Del Rey Avenue, Ste. E
Sunnyvale, CA 94086

Telephone: (408) 735-1550

Fax: (408) 735-1554

Project No: 20433

PO No:

Client Sample ID: Sample No:
20433-001
S-5 (0-1/2')

Sample Date: 5/11/2000

EMA Sample No: 00051204-01

Date Received: 5/12/2000

Sample Matrix: Soil

Analytical Method: EPA 8141A (s)

Extraction Method: EPA 3550

Date Extracted: 5/12/2000

Date Completed: 5/15/2000

Surrogate: Ethion

Surrogate Level: 0.5 µg/g

Recovery: 95.8%

Analyte	Amount ppm	MBL ppm
Acephate*	ND	.05
Azinphos-methyl (Guthion)	ND	.05
Bolstar (Sulprofos)	ND	.05
Carbophenothion (Trithion)*	ND	.05
Chlorfenvinphos (Supona)*	ND	.05
Chlorpyrifos (Dursban)	ND	.03
Ciodrin (Crotaphos)*	ND	.05
Courmaphos (Co-Ral)	ND	.05
Demeton (Systox) O analogue	ND	.05
Demeton (Systox) S analogue	ND	.05
Diazinon	ND	.03
Dicrotophos (Didrin)*	ND	.05
Dimethoate (Cygon)	ND	.03
Dioxathion (Deinav)*	ND	.05
Disulfoton (Disyston)	ND	.05
EPN	ND	.05
Ethion*	ND	.05
Fenamiphos (Nemacur)*	ND	.05
Fenitrothion (Sumithion)*	ND	.05
Fenthion (Baytex)	ND	.05
Fonofos (Dyfonate)	ND	.05
Hostathion (Triazophos)*	ND	.05
Imidan (Phosmet)*	ND	.05
Isofenphos (Oftanol)*	ND	.05
Malathion	ND	.05
Methamidophos*	ND	.03
Methidathion (Supracide)*	ND	.05
Methyl Parathion	ND	.05
Mevinphos (Phosdrin)*	ND	.05
Molinate (Ordran)	ND	.05
Parathion	ND	.04
Phorate (Thimet)	ND	.05
Phosalone (Zolone)*	ND	.03
Phosphamidon (Dimecron)*	ND	.08
Profenofos (Crucron)*	ND	.05
Propetamphos (Safrotin)*	ND	.05
Ronnel (Fenchlorfos)	ND	.05
Tetrachlorvinphos (Gardona)*	ND	.05
Thiobencard (Bolero)	ND	.05
Thionazin (Zinophos)*	ND	.05

Entech Analytical Labs, Inc.

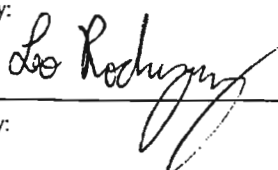
CA ELAP # I-2346

525 Del Rey Avenue, Suite E, Sunnyvale, CA 94086 (408) 735-1550 FAX (408) 735-1554

Subcontract Chain of Custody

Subcontract Lab:	Project Name:	Date Sent:	Due Date:	PO Number:
ATL	20433	5/12/00	5/18/00	20433

Sample Number:	Customer Sample Number:	Matrix:	Test:	Method:	Collect Date:	Collect Time:	Bottle Type:	Preservative:
20433-001	S-5 (0-1/2')	Solid	EPA 8081-ATL	EPA 8081	5/11/00		4 oz jar/Amber	
20433-002	S-24(0-1/2')	Solid	EPA 8081-ATL	EPA 8081	5/10/00		4 oz jar/Amber	
20433-003	S-29(0-1/2')	Solid	EPA 8081-ATL	EPA 8081	5/11/00		4 oz jar/Amber	
20433-004	S-39(0-1/2')	Solid	EPA 8081-ATL	EPA 8081	5/11/00		4 oz jar/Amber	
20433-005	S-47(0-1/2')	Solid	EPA 8081-ATL	EPA 8081	5/11/00		4 oz jar/Amber	
20433-006	S-17(0-1/2')	Solid	EPA 8081-ATL	EPA 8081	5/11/00		4 oz jar/Amber	
20433-007	S-40(0-1/2')	Solid	EPA 8081-ATL	EPA 8081	5/10/00		4 oz jar/Amber	
20433-010	T-3(9 1/2-10')	Solid	EPA 8081-ATL	EPA 8081	5/11/00		4 oz jar/Amber	
20433-011	T-4(2 1/2-3')	Solid	EPA 8081-ATL	EPA 8081	5/11/00		4 oz jar/Amber	
20433-012	S-24	Liquid	EPA 8081-ATL	EPA 8081	5/11/00	4:20 PM	4 oz jar/Amber	
20433-013	S-29	Liquid	EPA 8081-ATL	EPA 8081	5/11/00	8:00 AM	4 oz jar/Amber	
20433-014	S-47	Liquid	EPA 8081-ATL	EPA 8081	5/11/00	9:00 AM	4 oz jar/Amber	
20433-015	T-1	Liquid	EPA 8081-ATL	EPA 8081	5/11/00	10:00 AM	4 oz jar/Amber	
20433-016	T-2	Liquid	EPA 8081-ATL	EPA 8081	5/11/00	10:45 AM	4 oz jar/Amber	
20433-017	T-4	Liquid	EPA 8081-ATL	EPA 8081	5/11/00	3:15 PM	4 oz jar/Amber	
20433-036	S-42(0-1/2')	Solid	EPA 8081-ATL	EPA 8081	5/10/00		4 oz jar/Amber	

Relinquished By:	Received By:	Date:	Time:
	Golden State	5/12/00	1800
Relinquished By:	Received By:	Date:	Time:
	Diane Galvan	5-13-00	0900
Relinquished By:	Received By:	Date:	Time:

Notes: EPA 8081 + Chlordane

Entech Analytical Labs, Inc.

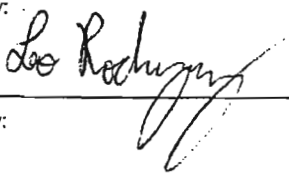
CA ELAP # I-2346

525 Del Rey Avenue, Suite E, Sunnyvale, CA 94086 (408) 735-1550 FAX (408) 735-1554

Subcontract Chain of Custody

Subcontract Lab: ATL Project Name: 20433 Date Sent: 5/12/00 Due Date: 5/18/00 PO Number: 20433

Sample Number:	Customer Sample Number:	Matrix:	Test:	Method:	Collect Date:	Collect Time:	Bottle Type:	Preservative:
20433-001	S-5 (0-1/2')	Solid	EPA 8081-ATL	EPA 8081	5/11/00		4 oz jar/Amber	
20433-002	S-24(0-1/2')	Solid	EPA 8081-ATL	EPA 8081	5/10/00		4 oz jar/Amber	
20433-003	S-29(0-1/2')	Solid	EPA 8081-ATL	EPA 8081	5/11/00		4 oz jar/Amber	
20433-004	S-39(0-1/2')	Solid	EPA 8081-ATL	EPA 8081	5/11/00		4 oz jar/Amber	
20433-005	S-47(0-1/2')	Solid	EPA 8081-ATL	EPA 8081	5/11/00		4 oz jar/Amber	
20433-006	S-17(0-1/2')	Solid	EPA 8081-ATL	EPA 8081	5/11/00		4 oz jar/Amber	
20433-007	S-40(0-1/2')	Solid	EPA 8081-ATL	EPA 8081	5/10/00		4 oz jar/Amber	
20433-010	T-3(9 1/2-10')	Solid	EPA 8081-ATL	EPA 8081	5/11/00		4 oz jar/Amber	
20433-011	T-4(2 1/2-3')	Solid	EPA 8081-ATL	EPA 8081	5/11/00		4 oz jar/Amber	
20433-012	S-24	Liquid	EPA 8081-ATL	EPA 8081	5/11/00	4:20 PM	4 oz jar/Amber	
20433-013	S-29	Liquid	EPA 8081-ATL	EPA 8081	5/11/00	8:00 AM	4 oz jar/Amber	
20433-014	S-47	Liquid	EPA 8081-ATL	EPA 8081	5/11/00	9:00 AM	4 oz jar/Amber	
20433-015	T-1	Liquid	EPA 8081-ATL	EPA 8081	5/11/00	10:00 AM	4 oz jar/Amber	
20433-016	T-2	Liquid	EPA 8081-ATL	EPA 8081	5/11/00	10:45 AM	4 oz jar/Amber	
20433-017	T-4	Liquid	EPA 8081-ATL	EPA 8081	5/11/00	3:15 PM	4 oz jar/Amber	
20433-036	S-42(0-1/2')	Solid	EPA 8081-ATL	EPA 8081	5/10/00		4 oz jar/Amber	

Relinquished By: 	Received By: Golden State	Date: 5/12/00	Time: 1800
Relinquished By:	Received By:	Date:	Time:
Relinquished By:	Received By:	Date:	Time:

Notes: EPA 8081 + Chlordane

Method : C:\HPCHEM\1\METHODS\8080523.M (Chemstation Integrator)
Title : 8081 Pesticides Advanced Technology Laboratory
Last Update : Wed May 24 07:55:35 2000
Response via : Initial Calibration

Non-Spiked Sample: G0523011.D

Spike Sample	Spike Duplicate Sample
File ID : G0523012.D	G0523013.D
Sample : 000516blks1.ms	000516blks1.ms
Acq Time: 23 May 2000 11:17 pm	24 May 2000 12:03 am

Compound	Sample Conc	Spike Added	Spike Res	Dup Res	Spike %Rec	Dup %Rec	RPD	QC RPD	Limits % Rec
gamma-BHC	0.0	40	35	34	87	86	2	15	55-117
Heptachlor	0.0	40	35	34	87	86	2	13	38-120
Aldrin	0.0	40	36	36	90	89	2	17	47-125
Dieldrin	0.0	80	70	68	87	85	2	9	59-123
Endrin	0.0	80	75	73	94	91	2	13	64-131
4,4'-DDT	0.0	80	74	73	93	91	2	20	24-141

QC BATCH:G008080W212

Reviewed/Approved by:

E. Morrison
Edgar Morrison

Department Supervisor

Date: 05/24/00



Method : C:\HPCHEM\1\METHODS\8080520.M (Chemstation Integrator)
Title : 8081 Pesticides Advanced Technology Laboratory
Last Update : Thu May 18 16:22:53 2000
Response via : Initial Calibration

Non-Spiked Sample: G0520011.D

Spike Sample	Spike Duplicate Sample
File ID : G0520013.D	G0520014.D
Sample : 000517blks1.ms,	000517blks1.ms,
Acq Time: 20 May 2000 7:05 pm	20 May 2000 7:51 pm

Compound	Sample Conc	Spike Added	Spike Res	Dup Res	Spike %Rec	Dup %Rec	RPD	QC RPD	Limits % Rec
gamma-BHC	0.0	40	41	39	101	98	4	9	55-117
Heptachlor	0.0	40	41	39	102	99	3	12	38-120
Aldrin	0.0	40	42	41	106	103	3	15	47-125
Dieldrin	0.0	80	82	78	102	98	4	8	59-123
Endrin	0.0	80	88	85	110	107	3	16	64-131
4,4'-DDT	0.0	80	88	85	109	106	3	22	24-141

QC Batch #:G008080S213

Reviewed/Approved by: Edgar Morrison

Edgar Morrison
Department Supervisor

Date: 5/22/00



Client's Project: 20433
Date Received: 05/13/00
Extraction Method: 3510C
Matrix: Water
Units: ug/L

	Lab No.: _____	LCS _____									
	Client Sample I.D.: _____	--									
	Date Sampled: _____	--									
	QC Batch #: _____	G008080W212									
	Date Extracted: _____	05/16/00									
	Date Analyzed : _____	05/24/00									
	Analyst Initials: _____	NN									
	Dilution Factor: _____	1									
	ANALYTE	MDL	%Rec.	Limits							
	Alpha-BHC	0.05	26-136	96							
	Gamma-BHC (Lindane)	0.05	26-136	98							
	Beta-BHC	0.05	26-136	91							
	Heptachlor	0.05	26-136	91							
	Delta-BHC	0.05	26-136	98							
	Aldrin	0.05	26-136	94							
	Heptachlor Epoxide	0.05	26-136	93							
	Endosulfan I	0.05	26-136	97							
	4,4'-DDE	0.1	26-136	99							
	Dieldrin	0.1	26-136	100							
	Endrin	0.1	26-136	104							
	4,4'-DDD	0.1	26-136	97							
	Endosulfan II	0.1	26-136	99							
	4,4'-DDT	0.1	26-136	103							
	Endrin Aldehyde	0.1	26-136	86							
	Endosulfan Sulfate	0.1	26-136	105							
	Methoxychlor	0.5	26-136	115							
	Chlordane	0.5	NS	NS							
	Toxaphene	5	NS	NS							
	Alpha-Chlordane	0.05	26-136	95							
	Gamma-Chlordane	0.05	26-136	93							

[illegible]

MDL = Method Detection Limit
ND = Not Detected (Below DLR).
DLR = MDL X Dilution Factor
NA = Not Analyzed

Reviewed/Approved By:

Edgar Morrison
Organics Supervisor

Date:

$$5 \mid 24 \mid 100$$

The cover letter is an integral part of this analytical report.



Advanced Technology
Laboratories

1510 E. 33rd Street Signal Hill, CA 90807 Tel: 562 989-4045 Fax: 562 989-4040

Client's Project: 20433
Date Received: 05/13/00
Extraction Method: 3510C
Matrix: Liquid
Units: ug/L

[illegible]

Surrogate Recovery									
Surrogate	% Rec.	Limits							
Tetrachloro-m-xylene	82	30-150							
Decachlorobiphenyl	128	30-150							

MDL = Method Detection Limit
ND = Not Detected (Below DLR).
DLR = MDL X Dilution Factor
NA = Not Analyzed

Reviewed/Approved By:

L. Persson f

Edgar Morrison
Organics Supervisor

Date: 05/24/00

The cover letter is an integral part of this analytical report.



Client's Project:	20433
Date Received:	05/13/00
Extraction Method:	3510C
Matrix:	Liquid
Units:	ug/L

Lab No.:	43987-014				
Client Sample I.D.:	20433-016 T-2				
Date Sampled:	05/11/00				
QC Batch #:	G008080W212				
Date Extracted:	05/16/00				
Date Analyzed :	05/24/00				
Analyst Initials:	NN				
Dilution Factor:	1				

Surrogate Recovery

MDL = Method Detection Limit
ND = Not Detected (Below DLR).
DLR = MDL X Dilution Factor
NA = Not Analyzed

Edgar Morrison
Organics Supervisor

Date: 05/24/00

The cover letter is an integral part of this analytical report.



Client's Project: 20433
Date Received: 05/13/00
Extraction Method: 3510C
Matrix: Liquid
Units: ug/L

[illegible][illegible]

Reviewed/Approved By: Edgar Morrison
Edgar Morrison
Organics Supervisor

Date: 05/24/00

The cover letter is an integral part of this analytical report.



Advanced Technology
Laboratories

1510 E. 33rd Street Signal Hill, CA 90807 Tel: 562 989-4045 Fax: 562 989-4040

Client's Project: 20433
Date Received: 05/13/00
Extraction Method: 3510C
Matrix: Liquid
Units: ug/L

Lab No.:	43987-012					
Client Sample I.D.:	20433-014 S-47					
Date Sampled:	05/11/00					
QC Batch #:	G008080W212					
Date Extracted:	05/16/00					
Date Analyzed :	05/24/00					
Analyst Initials:	NN					
Dilution Factor:	1					

Surrogate Recovery									
Surrogate	% Rec.	Limits							
Tetrachloro-m-xylene	75	30-150							
Decachlorobiphenyl	122	30-150							

MDL = Method Detection Limit
ND = Not Detected (Below DLR).
DLR = MDL X Dilution Factor
NA = Not Analyzed

Reviewed/Approved By:

Edgar Morrison
Organics Supervisor

Date: 05/24/00

The cover letter is an integral part of this analytical report.



Client's Project: 20433
Date Received: 05/13/00
Extraction Method: 3510C
Matrix: Liquid
Units: ug/L

Lab No.:	43987-011		
Client Sample I.D.:	20433-013 S-29		
Date Sampled:	05/11/00		
QC Batch #:	G0E8080W J12		
Date Extracted:	05/16/00		
Date Analyzed :	05/24/00		
Analyst Initials:	NN		
Dilution Factor:	1		
ANALYTE	MDL	DLR	Results
Alpha-BHC	0.05	0.05	ND
Gamma-BHC (Lindane)	0.05	0.05	ND
Beta-BHC	0.05	0.05	ND
Heptachlor	0.05	0.05	ND
Delta-BHC	0.05	0.05	ND
Aldrin	0.05	0.05	ND
Heptachlor Epoxide	0.05	0.05	ND
Endosulfan I	0.05	0.05	ND
4,4'-DDE	0.1	0.1	ND
Dieldrin	0.1	0.1	ND
Endrin	0.1	0.1	ND
4,4'-DDD	0.1	0.1	ND
Endosulfan II	0.1	0.1	ND
4,4'-DDT	0.1	0.1	ND
Endrin Aldehyde	0.1	0.1	ND
Endosulfan Sulfate	0.1	0.1	ND
Methoxychlor	0.5	0.5	ND
Chlordane	0.5	0.5	ND
Toxaphene	5	5	ND
Alpha-Chlordane	0.05	0.05	ND
Gamma-Chlordane	0.05	0.05	ND

Surrogate	% Rec.	Limits
Tetrachloro-m-xylene	76	30-150
Decachlorobiphenyl	114	30-150

Reviewed/Approved By: E. Persaud for
Edgar Morrison
Organics Supervisor

Date: 05/24/00

The cover letter is an integral part of this analytical report.



Advanced Technology

1510 E. 33rd Street Signal Hill, CA 90807 Tel: 562 989-1015 Fax: 562 989-1010

Client's Project: 20433
Date Received: 05/13/00
Extraction Method: 3510C
Matrix: Liquid
Units: ug/L

Lab No.:	Method Blank	43987-010			
Client Sample I.D.:	-	20433-012 S-24			
Date Sampled:	-	05/11/00			
QC Batch #:	G008080W212	G008080W212			
Date Extracted:	05/16/00	05/16/00			
Date Analyzed :	05/24/00	05/24/00			
Analyst Initials:	NN	NN			
Dilution Factor:	1	2			
ANALYTE	MDL	DLR	Results	DLR	Results
Alpha-BHC	0.05	0.05	ND	0.10	ND
Gamma-BHC (Lindane)	0.05	0.05	ND	0.10	ND
Beta-BHC	0.05	0.05	ND	0.10	ND
Heptachlor	0.05	0.05	ND	0.10	ND
Delta-BHC	0.05	0.05	ND	0.10	ND
Aldrin	0.05	0.05	ND	0.10	ND
Heptachlor Epoxide	0.05	0.05	ND	0.10	ND
Endosulfan I	0.05	0.05	ND	0.10	0.3
4,4'-DDE	0.1	0.1	ND	0.20	ND
Dieldrin	0.1	0.1	ND	0.20	ND
Endrin	0.1	0.1	ND	0.20	ND
4,4'-DDD	0.1	0.1	ND	0.20	ND
Endosulfan II	0.1	0.1	ND	0.20	ND
4,4'-DDT	0.1	0.1	ND	0.20	ND
Endrin Aldehyde	0.1	0.1	ND	0.20	ND
Endosulfan Sulfate	0.1	0.1	ND	0.20	ND
Methoxychlor	0.5	0.5	ND	1.00	ND
Chlordane	0.5	0.5	ND	1.00	ND
Toxaphene	5	5	ND	10	ND
Alpha-Chlordane	0.05	0.05	ND	0.10	ND
Gamma-Chlordane	0.05	0.05	ND	0.10	ND

[illegible]

Reviewed/Approved By: E. Morrison Jr
Edgar Morrison
Organics Supervisor

Date: 05/24/00



Advanced Technology

1510 E. 33rd Street Signal Hill, CA 90807 Tel: 562 989-4045 Fax: 562 989-4040

Client's Project: 20433
Date Received: 05/13/00
Extraction Method: 3550B
Matrix: Solid
Units: ng/kg

[illegible][illegible]

Reviewed/Approved By: Edgar Morrison
Edgar Morrison
Organics Supervisor

Date: 5/22/00



Advanced Technology

1510 E. 33rd Street Signal Hill, CA 90807 Tel: 562 989-4045 Fax: 562 989-4040

Client's Project: 20433
Date Received: 05/13/00
Extraction Method: 3550B
Matrix: Solid
Units: ug/kg

Lab No.:	43987-008		
Client Sample I.D.:	20433-010 T-3(9 1/2-10")		
Date Sampled:	05/11/00		
QC Batch #:	G008080S213		
Date Extracted:	05/17/00		
Date Analyzed :	05/20/00		
Analyst Initials:	DT		
Dilution Factor:	1		
ANALYTE	MDL	DLR	Results
Alpha-BHC	2	2	ND
Gamma-BHC (Lindane)	2	2	ND
Beta-BHC	2	2	ND
Heptachlor	2	2	ND
Delta-BHC	2	2	ND
Aldrin	2	2	ND
Heptachlor Epoxide	2	2	ND
Endosulfan I	2	2	ND
4,4'-DDE	4	4	ND
Dieldrin	4	4	ND
Endrin	4	4	ND
4,4'-DDD	4	4	ND
Endosulfan II	4	4	ND
4,4'-DDT	4	4	ND
Endrin Aldehyde	4	4	ND
Endosulfan Sulfate	4	4	ND
Methoxychlor	17	17	ND
gamma-Chlordane	2	2	ND
alpha-Chlordane	2	2	ND
Toxaphene	170	170	ND
Total Chlordane	17	4	ND

Surrogate Recovery								
Surrogate	%Rec.	Limits						
Tetrachloro-m-xylene	131	30-150						
Decachlorobiphenyl	131	30-150						

Reviewed/Approved By: Edgar Morrison
Edgar Morrison
Organics Supervisor

Date: 5/22/00

The cover letter is an integral part of this analytical report.



Client's Project: 20433
Date Received: 05/13/00
Extraction Method: 3550B
Matrix: Solid
Units: ug/kg

Lab No.:	43987-006		
Client Sample I.D.:	20433-006 S-17(0-1/2')		
Date Sampled:	05/11/00		
OC Batch #:	G008080S213		
Date Extracted:	05/17/00		
Date Analyzed :	05/20/00		
Analyt Initials:	DT		
Dilution Factor:	10		
ANALYTE	MDL	DLR	Results
Alpha-BHC	2	20	ND
Gamma-BHC (Lindane)	2	20	ND
Beta-BHC	2	20	ND
Heptachlor	2	20	ND
Delta-BHC	2	20	ND
Aldrin	2	20	ND
Heptachlor Epoxide	2	20	ND
Endosulfan I	2	20	ND
4,4'-DDE	4	40	347
Dieldrin	4	40	ND
Endrin	4	40	ND
4,4'-DDD	4	40	ND
Endosulfan II	4	40	ND
4,4'-DDT	4	40	83
Endrin Aldehyde	4	40	ND
Endosulfan Sulfate	4	40	ND
Methoxychlor	17	170	ND
gamma-Chlordane	2	20	ND
alpha-Chlordane	2	20	ND
Toxaphene	170	1700	ND
Total Chlordane	17	40	ND

[illegible]

Reviewed/Approved By:

Date: 02/02/00

The cover letter is an integral part of this analytical report.



Advanced Technology

1510 E. 33rd Street Signal Hill CA 90807 Tel: 562 980-1015 Fax: 562 980-1010

Client's Project: 20433
Date Received: 05/13/00
Extraction Method: 3550B
Matrix: Solid
Units: ug/kg

Lab No.:	43987-005		
Client Sample I.D.:	20433-005 S-47(0-1/2')		
Date Sampled:	05/11/00		
QC Batch #:	G008080S213		
Date Extracted:	05/17/00		
Date Analyzed :	05/20/00		
Analyst Initials:	DT		
Dilution Factor:	2		
ANALYTE	MDL	DLR	Results
Alpha-BHC	2	4	ND
Gamma-BHC (Lindane)	2	4	ND
Beta-BHC	2	4	ND
Heptachlor	2	4	ND
Delta-BHC	2	4	ND
Aldrin	2	4	ND
Heptachlor Epoxide	2	4	ND
Endosulfan I	2	4	ND
4,4'-DDE	4	8	106
Dieldrin	4	8	ND
Endrin	4	8	ND
4,4'-DDD	4	8	ND
Endosulfan II	4	8	ND
4,4'-DDT	4	8	13
Endrin Aldehyde	4	8	ND
Endosulfan Sulfate	4	8	ND
Methoxychlor	17	34	ND
gamma-Chlordane	2	4	ND
alpha-Chlordane	2	4	ND
Toxaphene	170	340	ND
Total Chlordane	17	8	ND

[illegible]

Reviewed/Approved By: 
Edgar Morrison
Organics Supervisor

Date: 5/22/00

The cover letter is an integral part of this analytical report.



Advanced Technology

1510 E. 33rd Street Signal Hill CA 90807 Tel: 562 980-1015 Fax: 562 980-1010

Client's Project: 20433
Date Received: 05/13/00
Extraction Method: 3550B
Matrix: Solid
Units: ug/kg

Lab No:	43987-016		
Client Sample ID:	20433-036 S-42(0 1/2')		
Date Sampled:	05/10/00		
QC Batch #:	G008080S213		
Date Extracted:	05/17/00		
Date Analyzed:	05/20/00		
Analyst Initials:	DT		
Dilution Factor:	10		
ANALYTE	MDL	DLR	Results
Alpha-BHC	2	20	ND
Gamma-BHC (Lindane)	2	20	ND
Beta-BHC	2	20	ND
Heptachlor	2	20	ND
Delta-BHC	2	20	ND
Aldrin	2	20	ND
Heptachlor Epoxide	2	20	ND
Endosulfan I	2	20	ND
4,4'-DDE	4	80	1730*
Dieldrin	4	40	ND
Endrin	4	40	ND
4,4'-DDD	4	40	76
Endosulfan II	4	40	ND
4,4'-DDT	4	40	175
Endrin Aldehyde	4	40	ND
Endosulfan Sulfate	4	40	ND
Methoxychlor	17	170	ND
gamma-Chlordane	2	20	ND
alpha-Chlordane	2	20	ND
p,p'-DDE	170	1700	ND
Total Chlordane	17	40	ND

[illegible]

- * = Not analyzed
- * = Dilution factor is 20.
- * = Surrogate recoveries outside of limits due to matrix interference.

Edgar Morrison
Organics Supervisor

Date: 6/22/00

The cover letter is an integral part of this analytical report.

Client's Project: 20433
Date Received: 05/13/00
Extraction Method: 3550B
Matrix: Solid
Units: ug/kg

Lab No.:	43987-007		
Client Sample I.D.:	20433-007 S-40(0-1/2')		
Date Sampled:	05/10/00		
QC Batch #:	G008080S213		
Date Extracted:	05/17/00		
Date Analyzed :	05/20/00		
Analyst Initials:	DT		
Dilution Factor:	10		
ANALYTE	MDL	DLR	Results
Alpha-BHC	2	20	ND
Gamma-BHC (Lindane)	2	20	ND
Beta-BHC	2	20	ND
Heptachlor	2	20	ND
Delta-BHC	2	20	ND
Aldrin	2	20	ND
Heptachlor Epoxide	2	20	ND
Endosulfan I	2	20	ND
4,4'-DDE	4	80	1630*
Dieldrin	4	40	ND
Endrin	4	40	ND
4,4'-DDD	4	40	52
Endosulfan II	4	40	ND
4,4'-DDT	4	40	110
Endrin Aldehyde	4	40	ND
Endosulfan Sulfate	4	40	ND
Methoxychlor	17	170	ND
gamma-Chlordane	2	20	ND
alpha-Chlordane	2	20	ND
Toxaphene	170	1700	ND
Total Chlordane	17	40	ND

[illegible]

- * = Dilution factor is 20.
- * = Surrogate recoveries outside of limits due to matrix interference.

Date: 5/22/00

The cover letter is an integral part of this analytical report.

Date Amended: 05/22/00

Date Amended: 05/22/00

Client's Project: 20433
Date Received: 05/13/00
Extraction Method: 3550B
Matrix: Solid
Units: ug/kg

Date Amended: 05/22/00

EPA Method 8081

Lab No.:	43987-002																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																				
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Surrogate Recovery

[illegible]

MDL = Method Detection Limit
ND = Not Detected (Below DLR).
DLR = MDL X Dilution Factor
NA = Not Analyzed
* = Needs to be diluted

Reviewed/Approved By:

Edgar Morrison
Organics Supervisor

Date:

The cover letter is an integral part of this analytical report.



Advanced Technology

1510 E. 33rd Street Signal Hill, CA 90807 Tel: 562 980-1015 Fax: 562 980-1010

Client's Project: 20433
Date Received: 05/13/00
Extraction Method: 3550B
Matrix: Solid
Units: ug/kg

Date Amended: 05/22/00

EPA Method 8081

[illegible]

Surrogate Recovery											
Surrogate	%Rec.	Limits	%Rec.	Limits							
Tetrachloro-m-xylene		30-150	103	30-150							
Decachlorobiphenyl		30-150	134	30-150							

MDL - Method Detection Limit
ND - Not Detected (Below DLR).
DLR - MDL X Dilution Factor
NA - Not Analyzed

Reviewed/Approved By:

Edgar Morrison
Organics Supervisor

Date:

The cover letter is an integral part of this analytical report.



Advanced Technology

1510 E. 33rd Street Signal Hill CA 90807 Tel: 562 989-1015 Fax: 562 989-1010

May 24, 2000

ELAP No.: 1838

Entech Analytical Labs, Inc.
525 Del Rey Avenue, Suite E,
Sunnyvale, CA 94086

ATTN: Michelle Anderson

Client's Project: 20433
Lab No.: 43987-001/016

Enclosed are the results for sample(s) received by Advanced Technology Laboratories and tested for the parameters indicated in the enclosed chain of custody.

Thank you for the opportunity to service the needs of your company. Please feel free to call me at (562) 989 - 4045 if I can be of further assistance to your company.

Sincerely,



Cheryl De Los Reyes
Technical Operations Manager
CDR/ra

Enclosures

This cover letter is an integral part of this analytical report.

This report pertains only to the samples investigated and does not necessarily apply to other apparently identical or similar materials. This report is submitted for the exclusive use of the client to whom it is addressed. Any reproduction of this report or use of this Laboratory's name for advertising or publicity purpose without authorization is prohibited.



Entech Analytical Labs, Inc.

CA ELAP# 2346

525 Del Rey Avenue, Suite E • Sunnyvale, CA 94086 • (408) 735-1550 • Fax (408) 735-1554

May 24, 2000

Doug Young

Lowney Associates

405 Clyde Avenue

Mountain View, CA 94043

Order: 20433

Date Collected: 5/10/00

Project Name: US Data Port 50-Acre Parcel

Date Received: 5/11/00

Project Number: 587-12F

P.O. Number:

Project Notes:

On May 11, 2000, samples were received under documented chain of custody. Results for the following analyses are attached:

<u>Matrix</u>	<u>Test</u>	<u>Method</u>
Liquid	EPA 8081-ATL	EPA 8081

Chemical analysis of these samples has been completed. Summaries of the data are contained on the following pages. USEPA protocols for sample storage and preservation were followed.

Entech Analytical Labs, Inc. is certified by the State of California (#2346). If you have any questions regarding procedures or results, please call me at 408-735-1550.

Sincerely,



Michelle L. Anderson
Lab Director

2000-05-0623

Entech Analytical Labs, Inc.

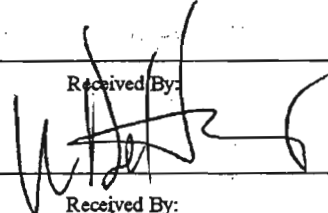
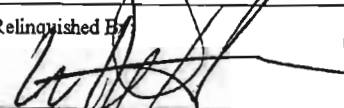
CA ELAP # I-2346

525 Del Rey Avenue, Suite E, Sunnyvale, CA 94086 (408) 735-1550 FAX (408) 735-1554

Subcontract Chain of Custody

Subcontract Lab:	Project Name:	Date Sent:	Due Date:	PO Number:				
Chroma Lab	20433	5/31/00	6/1/00	20433				
Sample Number:	Customer Sample Number:	Matrix:	Test:	Method:	Collect Date:	Collect Time:	Bottle Type:	Preservative:
20433-032	S-48 (0-1/2')	Solid	EPA 8081-Chroma	EPA 8081	5/11/00		4 oz jar	

RUSH

Relinquished By:	Received By:	Date:	Time:
		5/31/00	1220
Relinquished By:	Received By:	Date:	Time:
	Denise Harrington	5/31/00	1258
Relinquished By:	Received By:	Date:	Time:

Notes: 24 Hr Rush!!!

CHROMALAB, INC.

Environmental Services (SDB)

Submission #: 2000-05-0623

To: Entech Analytical Labs, Inc.

Attn:

Test Method: 8081

Prep Method: 3550/8081

Legend & Notes

Organochlorine Pesticides Analysis

Analysis Flags

sdo

Surrogate(s) diluted out

1220 Quarry Lane * Pleasanton, CA 94566-4756

Telephone: (925) 484-1919 * Facsimile: (925) 484-1096

Printed on: 06/05/2000 15:00

Page 5 of 5

CHROMALAB, INC.

Environmental Services (SDB)

Submission #: 2000-05-0623

To: Entech Analytical Labs, Inc.

Test Method: 8081

Attn:

Prep Method: 3550/8081

Batch QC Report

Organochlorine Pesticides Analysis

Laboratory Control Spike (LCS/LCSD)		Soil		QC Batch # 2000/05/31-02.13	
LCS:	2000/05/31-02.13-001	Extracted:	05/31/2000 12:50	Analyzed	06/01/2000 16:46
LCSD:	2000/05/31-02.13-002	Extracted:	05/31/2000 12:50	Analyzed	06/01/2000 17:19

Compound	Conc. [ug/Kg]		Exp. Conc. [ug/Kg]		Recovery [%]		RPD	Ctrl. Limits [%]		Flags	
	LCS	LCSD	LCS	LCSD	LCS	LCSD		Recovery	RPD	LCS	LCSD
Aldrin	11.0	13.3	16.7	16.7	65.9	79.6	18.8	37-136	25		
Dieldrin	11.5	13.9	16.7	16.7	68.9	83.2	18.8	58-135	35		
Endrin	12.4	15.1	16.7	16.7	74.3	90.4	19.6	58-134	35		
Heptachlor	11.0	13.3	16.7	16.7	65.9	79.6	18.8	40-136	20		
4,4'-DDT	10.5	13.2	16.7	16.7	62.9	79.0	22.7	55-132	35		
gamma-BHC (Lindane)	11.2	13.6	16.7	16.7	67.1	81.4	19.3	37-137	35		
Surrogate(s)											
2,4,5,6-Tetrachloro-m-xyI	32.0	39.1	50	50	64.0	78.2		50-125			
Decachlorobiphenyl	37.2	43.5	50	50	74.4	87.0		46-142			

1220 Quarry Lane * Pleasanton, CA 94566-4756

Telephone: (925) 484-1919 * Facsimile: (925) 484-1096

CHROMALAB, INC.

Environmental Services (SDB)

Submission #: 2000-05-0623

To: Entech Analytical Labs, Inc.

Test Method: 8081

Attn.: .

Prep Method: 3550/8081

Batch QC Report Organochlorine Pesticides Analysis

Method Blank	Soil	QC Batch # 2000/05/31-02.13
MB: 2000/05/31-02.13-003		Date Extracted: 05/31/2000 12:50

Compound	Result	Rep.Limit	Units	Analyzed	Flag
Aldrin	ND	2.0	ug/Kg	06/01/2000 17:55	
Dieldrin	ND	2.0	ug/Kg	06/01/2000 17:55	
Endrin aldehyde	ND	10	ug/Kg	06/01/2000 17:55	
Endrin	ND	2.0	ug/Kg	06/01/2000 17:55	
Heptachlor	ND	2.0	ug/Kg	06/01/2000 17:55	
Heptachlor epoxide	ND	2.0	ug/Kg	06/01/2000 17:55	
4,4'-DDT	ND	10	ug/Kg	06/01/2000 17:55	
4,4'-DDE	ND	2.0	ug/Kg	06/01/2000 17:55	
4,4'-DDD	ND	2.0	ug/Kg	06/01/2000 17:55	
Endosulfan I	ND	10	ug/Kg	06/01/2000 17:55	
Endosulfan II	ND	10	ug/Kg	06/01/2000 17:55	
alpha-BHC	ND	2.0	ug/Kg	06/01/2000 17:55	
beta-BHC	ND	2.0	ug/Kg	06/01/2000 17:55	
gamma-BHC (Lindane)	ND	2.0	ug/Kg	06/01/2000 17:55	
delta-BHC	ND	2.0	ug/Kg	06/01/2000 17:55	
Endosulfan sulfate	ND	10	ug/Kg	06/01/2000 17:55	
4,4'-Methoxychlor	ND	10	ug/Kg	06/01/2000 17:55	
Toxaphene	ND	100	ug/Kg	06/01/2000 17:55	
alpha-Chlordane	ND	50	ug/Kg	06/01/2000 17:55	
gamma-Chlordane	ND	50	ug/Kg	06/01/2000 17:55	
Surrogate(s)					
2,4,5,6-Tetrachloro-m-xylene	100.2	50-125	%	06/01/2000 17:55	
Decachlorobiphenyl	97.8	46-142	%	06/01/2000 17:55	

CHROMALAB, INC.

Environmental Services (SDB)

Submission #: 2000-05-0623

To: Entech Analytical Labs, Inc.

Test Method: 8081

Attn.: .

Prep Method: 3550/8081

Organochlorine Pesticides Analysis

Sample ID: 20433-032	Lab Sample ID: 2000-05-0623-001
Project: 20433 S48 0'-1/2'	Received: 05/31/2000 12:58
Sampled: 05/11/2000	Extracted: 05/31/2000 12:50
Matrix: Soil	QC-Batch: 2000/05/31-02.13
Sample/Analysis Flag sdo (See Legend & Note section)	

Compound	Result	Rep.Limit	Units	Dilution	Analyzed	Flag
Aldrin	ND	100	ug/Kg	50.00	06/03/2000 00:47	
Dieldrin	ND	100	ug/Kg	50.00	06/03/2000 00:47	
Endrin aldehyde	ND	500	ug/Kg	50.00	06/03/2000 00:47	
Endrin	ND	100	ug/Kg	50.00	06/03/2000 00:47	
Heptachlor	ND	100	ug/Kg	50.00	06/03/2000 00:47	
Heptachlor epoxide	ND	100	ug/Kg	50.00	06/03/2000 00:47	
4,4'-DDT	ND	500	ug/Kg	50.00	06/03/2000 00:47	
4,4'-DDE	1100	100	ug/Kg	50.00	06/03/2000 00:47	
4,4'-DDD	ND	100	ug/Kg	50.00	06/03/2000 00:47	
Endosulfan I	ND	500	ug/Kg	50.00	06/03/2000 00:47	
Endosulfan II	ND	500	ug/Kg	50.00	06/03/2000 00:47	
alpha-BHC	ND	100	ug/Kg	50.00	06/03/2000 00:47	
beta-BHC	ND	100	ug/Kg	50.00	06/03/2000 00:47	
gamma-BHC (Lindane)	ND	100	ug/Kg	50.00	06/03/2000 00:47	
delta-BHC	ND	100	ug/Kg	50.00	06/03/2000 00:47	
Endosulfan sulfate	ND	500	ug/Kg	50.00	06/03/2000 00:47	
4,4'-Methoxychlor	ND	500	ug/Kg	50.00	06/03/2000 00:47	
Toxaphene	ND	5000	ug/Kg	50.00	06/03/2000 00:47	
alpha-Chlordane	ND	2500	ug/Kg	50.00	06/03/2000 00:47	
gamma-Chlordane	ND	2500	ug/Kg	50.00	06/03/2000 00:47	
Surrogate(s)						
2,4,5,6-Tetrachloro-m-xylene	ND	50-125	ug/Kg	50.00	06/03/2000 00:47	
Decachlorobiphenyl	ND	46-142	ug/Kg	50.00	06/03/2000 00:47	

1220 Quarry Lane * Pleasanton, CA 94566-4756

Telephone: (925) 484-1919 * Facsimile: (925) 484-1096

CHROMALAB, INC.

Environmental Services (SDB)

Submission #: 2000-05-0623

Organochlorine Pesticides Analysis

Entech Analytical Labs, Inc.

✉ 525 Del Ray Avenue, Suite E
Sunnyvale, CA 94086

Attn: .

Phone: (408) 735-1550 Fax: (408) 735-1554

Project #: 20433

Project:

Samples Reported

Sample ID	Matrix	Date Sampled	Lab #
20433-032	Soil	05/11/2000	1

1220 Quarry Lane * Pleasanton, CA 94566-4756

Telephone: (925) 484-1919 * Facsimile: (925) 484-1096

CHROMALAB, INC.

Environmental Services (SDB)

Submission #: 2000-05-0623

Date: June 5, 2000

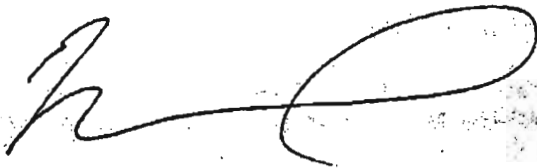
Entech Analytical Labs, Inc.
525 Del Ray Avenue, Suite E
Sunnyvale, CA 94086

Attn.: .

Attached is our report for your samples received on Wednesday May 31, 2000
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 June 30, 2000
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: vvancil@chromalab.com

Sincerely,



Vincent Vancil

Entech Analytical Labs, Inc.

CA ELAP# 2346

525 Del Rey Avenue, Suite E • Sunnyvale, CA 94086 • (408) 735-1550 • Fax (408) 735-1554

June 05, 2000

Doug Young
Lowney Associates
405 Clyde Avenue
Mountain View, CA 94043

Order: 20433

Date Collected: 5/10/00

Project Name: US Data Port 50-Acre Parcel

Date Received: 5/11/00

Project Number: 587-12F

P.O. Number:

Project Notes:

On May 11, 2000, sample was received under documented chain of custody. Results for the following analyses are attached:

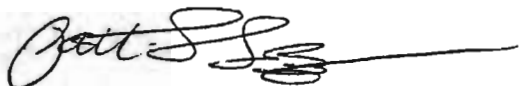
<u>Matrix</u>	<u>Test</u>
Solid	EPA 8081-Chroma

<u>Method</u>
EPA 8081

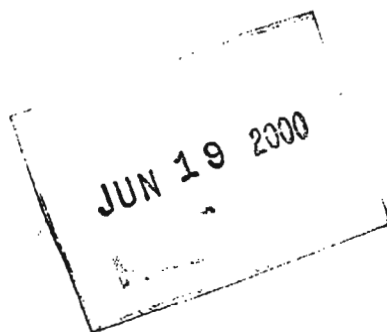
Chemical analysis of these samples has been completed. Summaries of the data are contained on the following pages. USEPA protocols for sample storage and preservation were followed.

Entech Analytical Labs, Inc. is certified by the State of California (#2346). If you have any questions regarding procedures or results, please call me at 408-735-1550.

Sincerely,



Michelle L. Anderson
Lab Director



Entech Analytical Labs, Inc.

CA ELAP# 2346

525 Del Rey Avenue, Suite E • Sunnyvale, CA 94086 • (408) 735-1550 • Fax (408) 735-1554

Lowney Associates
405 Clyde Avenue
Mountain View, CA 94043
Attn: Doug Young

Date: 6/1/00
Date Received: 5/11/00
Project Name: US Data Port 50-Acre Parcel
Project Number: 587-12F
P.O. Number:
Sampled By: John McCain

Certified Analytical Report

Order ID: 20433

Lab Sample ID: 20433-032

Client Sample ID: S-48 (0-1/2')

Sample Time:

Sample Date: 5/11/00

Matrix: Solid

Parameter	Result	DF	PQL	DLR	Units	PrepDate	Analysis Date	QC Batch ID	Method
Arsenic	50	5	1	5	mg/Kg	5/31/00	6/1/00	SM000526	EPA 6010B
Lead	130	5	1	5	mg/Kg	5/31/00	6/1/00	SM000526	EPA 6010B
Mercury	ND	1	0.05	0.05	mg/Kg	6/1/00	6/1/00	SHG000601	EPA 7471
Selenium	ND	5	5	25	mg/Kg	5/31/00	6/1/00	SM000526	EPA 6010B

DF = Dilution Factor

ND = Not Detected

DLR = Detection Limit Reported

PQL = Practical Quantitation Limit

Analysis performed by Entech Analytical Labs, Inc. (CA ELAP #2346)


Michelle L. Anderson, Laboratory Director

Page 1 of 1

Environmental Analysis Since 1983

Entech Analytical Labs, Inc.

CA ELAP# 2346

525 Del Rey Avenue, Suite E • Sunnyvale, CA 94086 • (408) 735-1550 • Fax (408) 735-1554

June 01, 2000

Doug Young
Lowney Associates
405 Clyde Avenue
Mountain View, CA 94043

Order: 20433

Date Collected: 5/10/00

Project Name: US Data Port 50-Acre Parcel

Date Received: 5/11/00

Project Number: 587-12F

P.O. Number:

Project Notes:

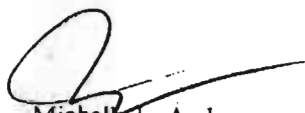
On May 11, 2000, sample was received under documented chain of custody. Results for the following analyses are attached:

<u>Matrix</u>	<u>Test</u>	<u>Method</u>
Solid	Arsenic	EPA 6010B
	Lead	EPA 6010B
	Mercury	EPA 7471
	Selenium	EPA 6010B

Chemical analysis of these samples has been completed. Summaries of the data are contained on the following pages. USEPA protocols for sample storage and preservation were followed.

Entech Analytical Labs, Inc. is certified by the State of California (#2346). If you have any questions regarding procedures or results, please call me at 408-735-1550.

Sincerely,



Michelle L. Anderson
Lab Director

ntech Analytical Labs, Inc.

525 Del Rey Avenue, Suite E
Sunnyvale, CA 94086

QUALITY CONTROL RESULTS SUMMARY

Laboratory Control Spikes

METHOD: EPA 6010

QC Batch #: SM000515

• Matrix: Solid

Units: mg/kg

Date Analyzed: 05/17/00

Date Digested: 05/16/00

Digestion Method: EPA 3050

Spiked Sample: Blank Spike

PARAMETER	Method #	MB mg/kg	SA mg/kg	SR mg/kg	SP mg/kg	SP %R	SPD mg/kg	SPD %R	RPD	QC LIMITS	
										RPD	%R
Arsenic	6010	<1.0	50.	0.0	44.	87	44.	88	0.6	25.0	75-125
Lead	6010	<1.0	50.	0.0	46.	92	46.	93	0.5	25.0	75-125
Selenium	6010	<1.0	50.	0.0	44.	88	45.	89	1.4	25.0	75-125

Definition of Terms:

na: Not Analyzed in QC batch

MB: Method Blank

SA: Spike Added

SR: Sample Result

SP: Spike Result

SP (%R): Spike % Recovery

SPD: Spike Duplicate Result

SPD (%R): Spike Duplicate % Recovery

Entech Analytical Labs, Inc.

CA ELAP# 2346

525 Del Rey Avenue, Suite E • Sunnyvale, CA 94086 • (408) 735-1550 • Fax (408) 735-1554

Lowney Associates
405 Clyde Avenue
Mountain View, CA 94043
Attn: Doug Young

Date: 5/19/00
Date Received: 5/12/00
Project Name: US Data Port 50-Acre Parcel
Project Number: 587-12F
P.O. Number:
Sampled By: John McCain

Certified Analytical Report

Order ID: 20450

Lab Sample ID: 20450-005

Client Sample ID: S-50

Sample Time:

Sample Date: 5/11/00

Matrix: Liquid

Parameter	Result	DF	PQL	DLR	Units	PrepDate	Analysis Date	QC Batch ID	Method
Arsenic	ND	1	0.005	0.005	mg/L	5/17/00	5/18/00	WM000508	EPA 200.7
Lead	ND	1	0.015	0.015	mg/L	5/17/00	5/18/00	WM000508	EPA 200.7
Mercury	ND	1	0.0002	0.0002	mg/L	5/16/00	5/16/00	WHG000507	EPA 245.1
Selenium	ND	1	0.015	0.015	mg/L	5/17/00	5/18/00	WM000508	EPA 200.7
Comment:	Sample filtered through 0.45 micron filter and preserved prior to digestion								

DF = Dilution Factor

ND = Not Detected

DLR = Detection Limit Reported

PQL = Practical Quantitation Limit

Analysis performed by Entech Analytical Labs, Inc. (CA ELAP #2346)


Michelle L. Anderson, Laboratory Director

Page 2 of 2

Environmental Analysis Since 1983

Entech Analytical Labs, Inc.

CA ELAP# 2346

525 Del Rey Avenue, Suite E • Sunnyvale, CA 94086 • (408) 735-1550 • Fax (408) 735-1554

Lowney Associates
405 Clyde Avenue
Mountain View, CA 94043
Attn: Doug Young

Date: 5/19/00
Date Received: 5/12/00
Project Name: US Data Port 50-Acre Parcel
Project Number: 587-12F
P.O. Number:
Sampled By: John McCain

Certified Analytical Report

Order ID: 20450		Lab Sample ID: 20450-001				Client Sample ID: S-33(0-1/2')			
Sample Time:		Sample Date: 5/11/00				Matrix: Solid			
Parameter	Result	DF	PQL	DLR	Units	PrepDate	Analysis Date	QC Batch ID	Method
Arsenic	42	5	1	5	mg/Kg	5/16/00	5/18/00	SM000515	EPA 6010B
Lead	130	5	1	5	mg/Kg	5/16/00	5/18/00	SM000515	EPA 6010B
Mercury	ND	1	0.05	0.05	mg/Kg	5/16/00	5/16/00	SHG000509	EPA 7471
Selenium	ND	5	5	25	mg/Kg	5/16/00	5/18/00	SM000515	EPA 6010B

Order ID: 20450		Lab Sample ID: 20450-002				Client Sample ID: S-34(0-1/2')			
Sample Time:		Sample Date: 5/11/00				Matrix: Solid			
Parameter	Result	DF	PQL	DLR	Units	PrepDate	Analysis Date	QC Batch ID	Method
Arsenic	48	5	1	5	mg/Kg	5/16/00	5/18/00	SM000515	EPA 6010B
Lead	140	5	1	5	mg/Kg	5/16/00	5/18/00	SM000515	EPA 6010B
Mercury	0.0990	1	0.05	0.05	mg/Kg	5/16/00	5/16/00	SHG000509	EPA 7471
Selenium	ND	5	5	25	mg/Kg	5/16/00	5/18/00	SM000515	EPA 6010B

Order ID: 20450		Lab Sample ID: 20450-003				Client Sample ID: S-37(0-1/2')			
Sample Time:		Sample Date: 5/11/00				Matrix: Solid			
Parameter	Result	DF	PQL	DLR	Units	PrepDate	Analysis Date	QC Batch ID	Method
Arsenic	56	5	1	5	mg/Kg	5/16/00	5/18/00	SM000515	EPA 6010B
Lead	160	5	1	5	mg/Kg	5/16/00	5/18/00	SM000515	EPA 6010B
Mercury	0.0700	1	0.05	0.05	mg/Kg	5/16/00	5/16/00	SHG000509	EPA 7471
Selenium	ND	5	5	25	mg/Kg	5/16/00	5/18/00	SM000515	EPA 6010B

Order ID: 20450		Lab Sample ID: 20450-004				Client Sample ID: S-50(0-1/2')			
Sample Time:		Sample Date: 5/11/00				Matrix: Solid			
Parameter	Result	DF	PQL	DLR	Units	PrepDate	Analysis Date	QC Batch ID	Method
Arsenic	53	5	1	5	mg/Kg	5/16/00	5/17/00	SM000515	EPA 6010B
Lead	180	5	1	5	mg/Kg	5/16/00	5/17/00	SM000515	EPA 6010B
Mercury	0.0850	1	0.05	0.05	mg/Kg	5/16/00	5/16/00	SHG000509	EPA 7471
Selenium	ND	5	5	25	mg/Kg	5/16/00	5/17/00	SM000515	EPA 6010B

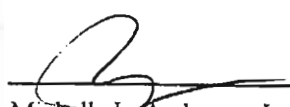
DF = Dilution Factor

ND = Not Detected

DLR = Detection Limit Reported

PQL = Practical Quantitation Limit

Analysis performed by Entech Analytical Labs, Inc. (CA ELAP #2346)


Michelle L. Anderson, Laboratory Director

Page 1 of 2

Environmental Analysis Since 1983

Entech Analytical Labs, Inc.

CA ELAP# 2346

525 Del Rey Avenue, Suite E • Sunnyvale, CA 94086 • (408) 735-1550 • Fax (408) 735-1554

May 19, 2000

Doug Young

Lowney Associates

405 Clyde Avenue

Mountain View, CA 94043

Order: 20450

Date Collected: 5/11/00

Project Name: US Data Port 50-Acre Parcel

Date Received: 5/12/00

Project Number: 587-12F

P.O. Number:

Project Notes:

On May 12, 2000, samples were received under documented chain of custody. Results for the following analyses are attached:

<u>Matrix</u>	<u>Test</u>	<u>Method</u>
Liquid	Arsenic	EPA 200.7
	Lead	EPA 200.7
	Mercury	EPA 245.1
	Selenium	EPA 200.7
Solid	Arsenic	EPA 6010B
	Lead	EPA 6010B
	Mercury	EPA 7471
	Selenium	EPA 6010B

Chemical analysis of these samples has been completed. Summaries of the data are contained on the following pages. USEPA protocols for sample storage and preservation were followed.

Entech Analytical Labs, Inc. is certified by the State of California (#2346). If you have any questions regarding procedures or results, please call me at 408-735-1550.

Sincerely,



Michelle L. Anderson
Lab Director

Entech Analytical Labs, Inc.

CA ELAP # I-2346

525 Del Rey Avenue, Suite E, Sunnyvale, CA 94086 (408) 735-1550 FAX (408) 735-1554

Subcontract Chain of Custody

Subcontract Lab:	Project Name:	Date Sent:	Due Date:	PO Number:
ATL	20450	5/12/00	5/19/00	20450

Sample Number:	Customer Sample Number:	Matrix:	Test:	Method:	Collect Date:	Collect Time:	Bottle Type:	Preservative:
20450-001	S-33(0-1/2')	Solid	EPA 8081-ATL	EPA 8081	5/11/00		4 oz jar/Amber	
20450-002	S-34(0-1/2')	Solid	EPA 8081-ATL	EPA 8081	5/11/00		4 oz jar/Amber	
20450-003	S-37(0-1/2')	Solid	EPA 8081-ATL	EPA 8081	5/11/00		4 oz jar/Amber	
20450-004	S-50(0-1/2')	Solid	EPA 8081-ATL	EPA 8081	5/11/00		4 oz jar/Amber	
20450-005	S-50	Liquid	EPA 8081-ATL	EPA 8081	5/11/00		4 oz jar/Amber	

Relinquished By:	Received By:	Date:	Time:
<i>Lo Rodriguez</i>	<i>Golden State</i>	<i>5/12/00</i>	<i>1800</i>
Relinquished By:	Received By:	Date:	Time:
	<i>Diane Galvan</i>	<i>5-13-00</i>	<i>0900</i>
Relinquished By:	Received By:	Date:	Time:

Notes: epa 8081 + Chlordane

Method : C:\HPCHEM\1\METHODS\8080523.M (Chemstation Integrator)
Title : 8081 Pesticides Advanced Technology Laboratory
Last Update : Wed May 24 07:55:35 2000
Response via : Initial Calibration

Non-Spiked Sample: G0523011.D

Spike Sample	Spike Duplicate Sample
File ID : G0523012.D	G0523013.D
Sample : 000516blks1.ms	000516blks1.ms
Acq Time: 23 May 2000 11:17 pm	24 May 2000 12:03 am

Compound	Sample Conc	Spike Added	Spike Res	Dup Res	Spike %Rec	Dup %Rec	RPD	QC RPD	Limits % Rec
gamma-BHC	0.0	40	35	34	87	86	2	15	55-117
Heptachlor	0.0	40	35	34	87	86	2	13	38-120
Aldrin	0.0	40	36	36	90	89	2	17	47-125
Dieldrin	0.0	80	70	68	87	85	2	9	59-123
Endrin	0.0	80	75	73	94	91	2	13	64-131
1,4'-DDT	0.0	80	74	73	93	91	2	20	24-141

QC BATCH:G008080W212

Reviewed/Approved by: E. Bergeron Date: 05/24/00
Edgar Morrison
Department Supervisor



Spike Recovery and RPD Summary Report - SOIL(ug/kg)

Method : C:\HPCHEM\1\METHODS\8080523.M (Chemstation Integrator)
 Title : 8081 Pesticides Advanced Technology Laboratory
 Last Update : Wed May 24 07:55:35 2000
 Response via : Initial Calibration

Non-Spiked Sample: G0523045.D

Spike
Sample

Spike
Duplicate Sample

File ID : G0523047.D	G0523048.D
Sample : 000518blks1,ms,	000518blks1,msd,
Acq Time: 25 May 2000 1:50 am	25 May 2000 2:36 am

Compound	Sample Conc	Spike Added	Spike Res	Dup Res	Spike %Rec	Dup %Rec	RPD	QC Limits RPD	QC Limits % Rec
gamma-BHC	0.0	40	38	34	95	84	13	9	50-127
Heptachlor	0.0	40	38	34	95	85	10	12	35-136
Aldrin	0.0	40	38	36	95	89	7	15	47-143
Dieldrin	0.0	80	76	71	94	89	6	8	54-134
Endrin	0.0	80	83	73	103	91	12	16	61-138
4,4'-DDT	0.0	80	86	78	107	97	10	22	15-155

QCBATCH#G008080S216

Reviewed/Approved by:

E. Morrison

Edgar Morrison
Department Supervisor

Date:

06/02/00



Advanced Technology

1510 E. 33rd Street Signal Hill, CA 90807 Tel: 562 980-4015 Fax: 562 980-1010

Client's Project: 20450
Date Received: 05/13/00
Extraction Method: 3550B
Matrix: Solid
Units: ug/kg

[illegible][illegible]

MDL = Method Detection Limit
ND = Not Detected (Below DLR).
DLR = MDL X Dilution Factor
NA = Not Analyzed
NS = Not Spiked

Reviewed/Approved By: Edgar Morrison
Edgar Morrison
Organics Supervisor

Date: 06/03/06

The cover letter is an integral part of this analytical report.



Client's Project: 20450
Date Received: 05/13/00
Extraction Method: 3510C
Matrix: Water
Units: µg/L

Lab No.:	Method Blank		43988-005		LCS				
Client Sample I.D.:	—		20450-005 S-50		—				
Date Sampled:	—		05/11/00		—				
QC Batch #:	G008080W212	G008080W212	G008080V212						
Date Extracted:	05/16/00	05/16/00	05/16/00						
Date Analyzed :	05/24/00	05/24/00	05/24/00						
Analyst Initials:	NN	NN	NN						
Dilution Factor:	1	1	1						
ANALYTE	MDL	DLR	Results	DLR	Results	%Rec	Limits		
Alpha-BHC	0.05	0.05	ND	0.05	ND	26-136	96		
Gamma-BHC (Lindane)	0.05	0.05	ND	0.05	ND	26-136	98		
Beta-BHC	0.05	0.05	ND	0.05	ND	26-136	91		
Heptachlor	0.05	0.05	ND	0.05	ND	26-136	91		
Delta-BHC	0.05	0.05	ND	0.05	ND	26-136	98		
Aldrin	0.05	0.05	ND	0.05	ND	26-136	94		
Heptachlor Epoxide	0.05	0.05	ND	0.05	ND	26-136	93		
Endosulfan I	0.05	0.05	ND	0.05	ND	26-136	97		
4,4'-DDE	0.1	0.1	ND	0.10	ND	26-136	99		
Dieldrin	0.1	0.1	ND	0.10	ND	26-136	100		
Endrin	0.1	0.1	ND	0.10	ND	26-136	104		
4,4'-DDD	0.1	0.1	ND	0.10	ND	26-136	97		
Endosulfan II	0.1	0.1	ND	0.10	ND	26-136	99		
4,4'-DDT	0.1	0.1	ND	0.10	ND	26-136	103		
Endrin Aldehyde	0.1	0.1	ND	0.10	ND	26-136	86		
Endosulfan Sulfate	0.1	0.1	ND	0.10	ND	26-136	105		
Methoxychlor	0.5	0.5	ND	0.50	ND	26-136	115		
Chlordane	0.5	0.5	ND	0.50	ND	NS	NS		
Toxaphene	5	5	ND	5	ND	NS	NS		
Alpha-Chlordane	0.05	0.05	ND	0.05	ND	26-136	95		
Gamma-Chlordane	0.05	0.05	ND	0.05	ND	26-136	93		

Surrogate	% Rec	Limits	% Rec	Limits	% Rec	Limits
Tetrachloro-m-xylene	76	30-150	82	30-150	78	30-150
Decachlorobiphenyl	100	30-150	116	30-150	101	30-150

Reviewed/Approved By: Edgar Morrison
Edgar Morrison
Organics Supervisor

Date: 05/24/00

The cover letter is an integral part of this analytical report.



Advanced Technology

1510 F 33rd Street Signal Hill CA 90807 Tel: 562 080-4045 Fax: 562 080 4040

Client's Project: 20450
Date Received: 05/13/00
Extraction Method: 3550B
Matrix: Solid
Units: ug/kg

Date Amended: 06/02/00

EPA Method 8081

[illegible]

Surrogate Recovery

Surrogate	%Rec	Limits							
Tetrachloro-m-xylene	123	30-150							
Decachlorobiphenyl	202*	30-150							

MDL = Method Detection Limit
ND = Not Detected (Below DLR).
DLR = MDL X Dilution Factor
NA = Not Analyzed

^a = Surrogate recoveries outside of limits due to matrix interference

Reviewed/Approved By:

Edgar Morrison
Organics Supervisor

Date: 06/03/20

The cover letter is an integral part of this analytical report.



Advanced Technology

1510 E. 33rd Street Signal Hill, CA 90807 Tel: 562 989-1045 Fax: 562 989-1040

May 23, 2000

ELAP No.: 1838

Entech Analytical Labs, Inc.
525 Del Rey Avenue, Suite E,
Sunnyvale, CA 94086

ATTN: Michelle Anderson

Client's Project: 20450
Lab No.: 43988-001/005

Enclosed are the results for sample(s) received by Advanced Technology Laboratories and tested for the parameters indicated in the enclosed chain of custody.

Thank you for the opportunity to service the needs of your company. Please feel free to call me at (562) 989 - 4045 if I can be of further assistance to your company.

Sincerely,


Cheryl De Los Reyes
Technical Operations Manager
CDR/ra

Enclosures

This cover letter is an integral part of this analytical report.

This report pertains only to the samples investigated and does not necessarily apply to other apparently identical or similar materials. This report is submitted for the exclusive use of the client to whom it is addressed. Any reproduction of this report or use of this Laboratory's name for advertising or publicity purpose without authorization is prohibited.



Entech Analytical Labs, Inc.

CA ELAP# 2346

525 Del Rey Avenue, Suite E • Sunnyvale, CA 94086 • (408) 735-1550 • Fax (408) 735-1554

June 05, 2000

Doug Young
Lowney Associates
405 Clyde Avenue
Mountain View, CA 94043

Order: 20450	Date Collected: 5/11/00
Project Name: US Data Port 50-Acre Parcel	Date Received: 5/12/00
Project Number: 587-12F	P.O. Number:
Project Notes: 8081 final results for solid samples.	

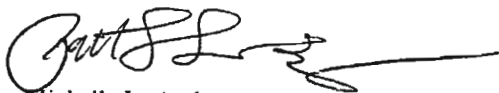
On May 12, 2000, samples were received under documented chain of custody. Results for the following analyses are attached:

<u>Matrix</u>	<u>Test</u>	<u>Method</u>
Solid	EPA 8081-ATL	EPA 8081

Chemical analysis of these samples has been completed. Summaries of the data are contained on the following pages. USEPA protocols for sample storage and preservation were followed.

Entech Analytical Labs, Inc. is certified by the State of California (#2346). If you have any questions regarding procedures or results, please call me at 408-735-1550.

Sincerely,



Michelle L. Anderson
Lab Director

Entech Analytical Labs, Inc.

CA ELAP# 2346

525 Del Rey Avenue, Suite E • Sunnyvale, CA 94086 • (408) 735-1550 • Fax (408) 735-1554

Lowney Associates
405 Clyde Avenue
Mountain View, CA 94043
Attn: Doug Young

Date: 5/18/00
Date Received: 5/11/00
Project Name: US Data Port 50-Acre Parcel
Project Number: 587-12F
P.O. Number:
Sampled By: John McCain

Certified Analytical Report

Order ID: 20433

Lab Sample ID: 20433-017

Client Sample ID: T-4

Sample Time: 3:15 PM

Sample Date: 5/11/00

Matrix: Liquid

Parameter	Result	Flag	DF	PQL	DLR	Units	Analysis Date	QC Batch ID	Method
Diisopropyl Ether	ND		1	5	5	µg/L	5/17/00	WMS000515	EPA 8260B
Ethyl-t-butyl Ether	ND		1	5	5	µg/L	5/17/00	WMS000515	EPA 8260B
Methyl-t-butyl Ether	ND		1	5	5	µg/L	5/17/00	WMS000515	EPA 8260B
tert-Amyl Methyl Ether	ND		1	5	5	µg/L	5/17/00	WMS000515	EPA 8260B
tert-Butanol	ND		1	20	20	µg/L	5/17/00	WMS000515	EPA 8260B

Surrogate**Surrogate Recovery****Control Limits (%)**

4-Bromofluorobenzene

93

65 - 135

Dibromofluoromethane

119

65 - 135

Toluene-d8

101

65 - 135

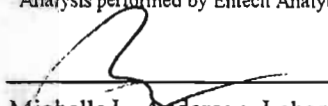
DF = Dilution Factor

ND = Not Detected

DLR = Detection Limit Reported

PQL = Practical Quantitation Limit

Analysis performed by Entech Analytical Labs, Inc. (CA ELAP #2346)


Michelle L. Anderson, Laboratory Director

Page 7 of 7

Environmental Analysis Since 1983

Entech Analytical Labs, Inc.

CA ELAP# 2346

525 Del Rey Avenue, Suite E • Sunnyvale, CA 94086 • (408) 735-1550 • Fax (408) 735-1554

Lowney Associates
405 Clyde Avenue
Mountain View, CA 94043
Attn: Doug Young

Date: 5/18/00
Date Received: 5/11/00
Project Name: US Data Port 50-Acre Parcel
Project Number: 587-12F
P.O. Number:
Sampled By: John McCain

Certified Analytical Report

Order ID: 20433

Lab Sample ID: 20433-016

Client Sample ID: T-2

Sample Time: 10:45 AM

Sample Date: 5/11/00

Matrix: Liquid

Parameter	Result	Flag	DF	PQL	DLR	Units	Analysis Date	QC Batch ID	Method
Diisopropyl Ether	ND		1	5	5	µg/L	5/17/00	WMS000515	EPA 8260B
Ethyl-t-butyl Ether	ND		1	5	5	µg/L	5/17/00	WMS000515	EPA 8260B
Methyl-t-butyl Ether	ND		1	5	5	µg/L	5/17/00	WMS000515	EPA 8260B
tert-Amyl Methyl Ether	ND		1	5	5	µg/L	5/17/00	WMS000515	EPA 8260B
tert-Butanol	ND		1	20	20	µg/L	5/17/00	WMS000515	EPA 8260B

Surrogate**Surrogate Recovery****Control Limits (%)**

4-Bromofluorobenzene

90

65 - 135

Dibromofluoromethane

115

65 - 135

Toluene-d8

101

65 - 135

DF = Dilution Factor

ND = Not Detected

DLR = Detection Limit Reported

PQL = Practical Quantitation Limit

Analysis performed by Entech Analytical Labs, Inc. (CA ELAP #2346)


Michelle L. Anderson, Laboratory Director

Page 6 of 7

Environmental Analysis Since 1983

Entech Analytical Labs, Inc.

CA ELAP# 2346

525 Del Rey Avenue, Suite E • Sunnyvale, CA 94086 • (408) 735-1550 • Fax (408) 735-1554

Lowney Associates

405 Clyde Avenue

Mountain View, CA 94043

Attn: Doug Young

Date: 5/18/00

Date Received: 5/11/00

Project Name: US Data Port 50-Acre Parcel

Project Number: 587-12F

P.O. Number:

Sampled By: John McCain

Certified Analytical Report

Order ID: 20433

Lab Sample ID: 20433-015

Client Sample ID: T-1

Sample Time: 10:00 AM

Sample Date: 5/11/00

Matrix: Liquid

Parameter	Result	Flag	DF	PQL	DLR	Units	Analysis Date	QC Batch ID	Method
Diisopropyl Ether	ND		1	5	5	µg/L	5/17/00	WMS000515	EPA 8260B
Ethyl-t-butyl Ether	ND		1	5	5	µg/L	5/17/00	WMS000515	EPA 8260B
Methyl-t-butyl Ether	ND		1	5	5	µg/L	5/17/00	WMS000515	EPA 8260B
tert-Amyl Methyl Ether	ND		1	5	5	µg/L	5/17/00	WMS000515	EPA 8260B
tert-Butanol	ND		1	20	20	µg/L	5/17/00	WMS000515	EPA 8260B

Surrogate**Surrogate Recovery****Control Limits (%)**

4-Bromofluorobenzene

88

65 - 135

Dibromofluoromethane

112

65 - 135

Toluene-d8

100

65 - 135

DF = Dilution Factor

ND = Not Detected

DLR = Detection Limit Reported

PQL = Practical Quantitation Limit

Analysis performed by Entech Analytical Labs, Inc. (CA ELAP #2346)


Michelle L. Anderson, Laboratory Director

Page 5 of 7

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CA ELAP# 2346

525 Del Rey Avenue, Suite E • Sunnyvale, CA 94086 • (408) 735-1550 • Fax (408) 735-1554

Lowney Associates
405 Clyde Avenue
Mountain View, CA 94043
Attn: Doug Young

Date: 5/18/00
Date Received: 5/11/00
Project Name: US Data Port 50-Acre Parcel
Project Number: 587-12F
P.O. Number:
Sampled By: John McCain

Certified Analytical Report

Order ID: 20433

Lab Sample ID: 20433-011

Client Sample ID: T-4 (2 1/2 -3')

Sample Time:

Sample Date: 5/11/00

Matrix: Solid

Parameter	Result	Flag	DF	PQL	DLR	Units	Analysis Date	QC Batch ID	Method
Diisopropyl Ether	ND		1	5	5	µg/Kg	5/17/00	SMS000516B	EPA 8260B
Ethyl-t-butyl Ether	ND		1	5	5	µg/Kg	5/17/00	SMS000516B	EPA 8260B
Methyl-t-butyl Ether	ND		1	5	5	µg/Kg	5/17/00	SMS000516B	EPA 8260B
tert-Amyl Methyl Ether	ND		1	5	5	µg/Kg	5/17/00	SMS000516B	EPA 8260B
tert-Butanol	ND		1	20	20	µg/Kg	5/17/00	SMS000516B	EPA 8260B

Surrogate**Surrogate Recovery****Control Limits (%)**

4-Bromofluorobenzene

84

65 - 135

Dibromofluoromethane

112

65 - 135

Toluene-d8

94

65 - 135

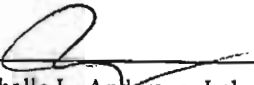
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Project Name: US Data Port 50-Acre Parcel
Project Number: 587-12F
P.O. Number:
Sampled By: John McCain

Certified Analytical Report

Order ID: 20433

Lab Sample ID: 20433-010

Client Sample ID: T-3 (9 1/2 -10')

Sample Time:

Sample Date: 5/11/00

Matrix: Solid

Parameter	Result	Flag	DF	PQL	DLR	Units	Analysis Date	QC Batch ID	Method
Diisopropyl Ether	ND		1	5	5	µg/Kg	5/17/00	SMS000516B	EPA 8260B
Ethyl-t-butyl Ether	ND		1	5	5	µg/Kg	5/17/00	SMS000516B	EPA 8260B
Methyl-t-butyl Ether	ND		1	5	5	µg/Kg	5/17/00	SMS000516B	EPA 8260B
tert-Amyl Methyl Ether	ND		1	5	5	µg/Kg	5/17/00	SMS000516B	EPA 8260B
tert-Butanol	ND		1	20	20	µg/Kg	5/17/00	SMS000516B	EPA 8260B

Surrogate**Surrogate Recovery****Control Limits (%)**

4-Bromofluorobenzene

90

65 - 135

Dibromofluoromethane

159

65 - 135

Toluene-d8

129

65 - 135

Comment: Surrogate recovery out of control limits due to matrix interference

DF = Dilution Factor

ND = Not Detected

DLR = Detection Limit Reported

PQL = Practical Quantitation Limit

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Project Name: US Data Port 50-Acre Parcel
Project Number: 587-12F
P.O. Number:
Sampled By: John McCain

Certified Analytical Report

Order ID: 20433

Lab Sample ID: 20433-009

Client Sample ID: T-2 (2 1/2 -3')

Sample Time:

Sample Date: 5/11/00

Matrix: Solid

Parameter	Result	Flag	DF	PQL	DLR	Units	Analysis Date	QC Batch ID	Method
Diisopropyl Ether	ND		1	5	5	µg/Kg	5/17/00	SMS000516B	EPA 8260B
Ethyl-t-butyl Ether	ND		1	5	5	µg/Kg	5/17/00	SMS000516B	EPA 8260B
Methyl-t-butyl Ether	ND		1	5	5	µg/Kg	5/17/00	SMS000516B	EPA 8260B
tert-Amyl Methyl Ether	ND		1	5	5	µg/Kg	5/17/00	SMS000516B	EPA 8260B
tert-Butanol	ND		1	20	20	µg/Kg	5/17/00	SMS000516B	EPA 8260B

Surrogate**Surrogate Recovery****Control Limits (%)**

4-Bromofluorobenzene

83

65 - 135

Dibromofluoromethane

119

65 - 135

Toluene-d8

101

65 - 135

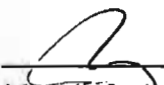
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Project Name: US Data Port 50-Acre Parcel
Project Number: 587-12F
P.O. Number:
Sampled By: John McCain

Certified Analytical Report

Order ID: 20433

Lab Sample ID: 20433-008

Client Sample ID: T-1 (2 1/2 -3')

Sample Time:

Sample Date: 5/11/00

Matrix: Solid

Parameter	Result	Flag	DF	PQL	DLR	Units	Analysis Date	QC Batch ID	Method
Diisopropyl Ether	ND		1	5	5	µg/Kg	5/17/00	SMS000516B	EPA 8260B
Ethyl-t-butyl Ether	ND		1	5	5	µg/Kg	5/17/00	SMS000516B	EPA 8260B
Methyl-t-butyl Ether	ND		1	5	5	µg/Kg	5/17/00	SMS000516B	EPA 8260B
tert-Amyl Methyl Ether	ND		1	5	5	µg/Kg	5/17/00	SMS000516B	EPA 8260B
tert-Butanol	ND		1	20	20	µg/Kg	5/17/00	SMS000516B	EPA 8260B

Surrogate**Surrogate Recovery****Control Limits (%)**

4-Bromofluorobenzene

87

65 - 135

Dibromofluoromethane

113

65 - 135

Toluene-d8

95

65 - 135

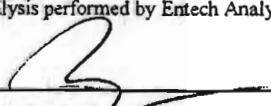
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Date: 5/18/00
Date Received: 5/11/00
Project Name: US Data Port 50-Acre Parcel
Project Number: 587-12F
P.O. Number:
Sampled By: John McCain

Certified Analytical Report

Order ID: 20433		Lab Sample ID: 20433-017				Client Sample ID: T-4				
Sample Time: 3:15 PM		Sample Date: 5/11/00				Matrix: Liquid				
Parameter	Result	Flag	DF	PQL	DLR	Units	Extraction Date	Analysis Date	QC Batch ID	Method
TPH as Diesel	ND		1	50	50	µg/L	5/15/00	5/16/00	DW000504SIO2	EPA 8015 MOD. (Extractable)
					Surrogate Hexacosane		Surrogate Recovery 94		Control Limits (%) 65 - 135	

Comment: TPH-Diesel extraction performed with silica gel cleanup

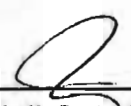
DF = Dilution Factor

ND = Not Detected

DLR = Detection Limit Reported

PQL = Practical Quantitation Limit

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Attn: Doug Young

Date: 5/18/00
Date Received: 5/11/00
Project Name: US Data Port 50-Acre Parcel
Project Number: 587-12F
P.O. Number:
Sampled By: John McCain

Certified Analytical Report

Order ID: 20433		Lab Sample ID: 20433-011				Client Sample ID: T-4 (2 1/2 -3')				
Sample Time:		Sample Date: 5/11/00				Matrix: Solid				
Parameter	Result	Flag	DF	PQL	DLR	Units	Extraction Date	Analysis Date	QC Batch ID	Method
TPH as Diesel	ND		1	1	1	mg/Kg	5/15/00	5/16/00	DS000507SIO2	EPA 8015 MOD. (Extractable)
					Surrogate Hexacosane	Surrogate Recovery			Control Limits (%)	
						87			65 - 135	
Comment:	TPH-Diesel extraction performed with silica gel cleanup									

Order ID: 20433		Lab Sample ID: 20433-015				Client Sample ID: T-1				
Sample Time: 10:00 AM		Sample Date: 5/11/00				Matrix: Liquid				
Parameter	Result	Flag	DF	PQL	DLR	Units	Extraction Date	Analysis Date	QC Batch ID	Method
TPH as Diesel	ND		1	50	50	µg/L	5/15/00	5/15/00	DW000504SIO2	EPA 8015 MOD. (Extractable)
					Surrogate Hexacosane	Surrogate Recovery			Control Limits (%)	
						91			65 - 135	
Comment: TPH-Diesel extraction performed with silica gel cleanup										

Order ID: 20433		Lab Sample ID: 20433-016				Client Sample ID: T-2				
Sample Time: 10:45 AM		Sample Date: 5/11/00				Matrix: Liquid				
Parameter	Result	Flag	DF	PQL	DLR	Units	Extraction Date	Analysis Date	QC Batch ID	Method
TPH as Diesel	ND		1	50	50	µg/L	5/15/00	5/16/00	DW000504SIO2	EPA 8015 MOD. (Extractable)
					Surrogate Hexacosane	Surrogate Recovery 92			Control Limits (%) 65 - 135	
Comment:	TPH-Diesel extraction performed with silica gel cleanup									

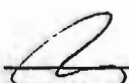
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ND = Not Detected

DLR = Detection Limit Reported

PQL = Practical Quantitation Limit

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Date: 5/18/00
Date Received: 5/11/00
Project Name: US Data Port 50-Acre Parcel
Project Number: 587-12F
P.O. Number:
Sampled By: John McCain

Certified Analytical Report

Order ID: 20433		Lab Sample ID: 20433-008				Client Sample ID: T-1 (2 1/2 -3')				
Sample Time:		Sample Date: 5/11/00				Matrix: Solid				
Parameter	Result	Flag	DF	PQL	DLR	Units	Extraction Date	Analysis Date	QC Batch ID	Method
TPH as Diesel	ND		1	1	1	mg/Kg	5/15/00	5/16/00	DS000507SIO2	EPA 8015 MOD. (Extractable)
Surrogate Hexacosane						Surrogate Recovery 90		Control Limits (%) 65 - 135		
Comment:		TPH-Diesel extraction performed with silica gel cleanup								

Order ID: 20433		Lab Sample ID: 20433-009				Client Sample ID: T-2 (2 1/2 -3')				
Sample Time:		Sample Date: 5/11/00				Matrix: Solid				
Parameter	Result	Flag	DF	PQL	DLR	Units	Extraction Date	Analysis Date	QC Batch ID	Method
TPH as Diesel	ND		1	1	I	mg/Kg	5/15/00	5/16/00	DS000507SIO2	EPA 8015 MOD. (Extractable)
Surrogate Hexacosane						Surrogate Recovery 98		Control Limits (%) 65 - 135		
Comment:		TPH-Diesel extraction performed with silica gel cleanup								

Order ID: 20433		Lab Sample ID: 20433-010				Client Sample ID: T-3 (9 1/2 -10')				
Sample Time:		Sample Date: 5/11/00				Matrix: Solid				
Parameter	Result	Flag	DF	PQL	DLR	Units	Extraction Date	Analysis Date	QC Batch ID	Method
TPH as Diesel	ND		1	1	1	mg/Kg	5/15/00	5/16/00	DS000507SIO2	EPA 8015 MOD. (Extractable)
Surrogate Hexacosane						Surrogate Recovery 87		Control Limits (%) 65 - 135		
Comment:	TPH-Diesel extraction performed with silica gel cleanup									

DF = Dilution Factor

ND = Not Detected

DLR = Detection Limit Reported

PQL = Practical Quantitation Limit

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Date: 5/18/00
Date Received: 5/11/00
Project Name: US Data Port 50-Acre Parcel
Project Number: 587-12F
P.O. Number:
Sampled By: John McCain

Certified Analytical Report

Order ID: 20433

Lab Sample ID: 20433-017

Client Sample ID: T-4

Sample Time: 3:15 PM

Sample Date: 5/11/00

Matrix: Liquid

Parameter	Result	Flag	DF	PQL	DLR	Units	Extraction Date	Analysis Date	QC Batch ID	Method
Benzene	ND		1	0.5	0.5	µg/L		5/12/00	WGC4000512	EPA 8020
Toluene	ND		1	0.5	0.5	µg/L		5/12/00	WGC4000512	EPA 8020
Ethyl Benzene	ND		1	0.5	0.5	µg/L		5/12/00	WGC4000512	EPA 8020
Xylenes, Total	ND		1	0.5	0.5	µg/L		5/12/00	WGC4000512	EPA 8020
			Surrogate		Surrogate Recovery		Control Limits (%)			
			aaa-Trifluorotoluene		99		65 - 135			

Parameter	Result	Flag	DF	PQL	DLR	Units	Extraction Date	Analysis Date	QC Batch ID	Method
TPH as Gasoline	ND		1	50	50	µg/L		5/12/00	WGC4000512	EPA 8015 MOD. (Purgeable)
			Surrogate		Surrogate Recovery		Control Limits (%)			
			aaa-Trifluorotoluene		106		65 - 135			

DF = Dilution Factor

ND = Not Detected

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Certified Analytical Report

Order ID: 20433

Lab Sample ID: 20433-016

Client Sample ID: T-2

Sample Time: 10:45 AM

Sample Date: 5/11/00

Matrix: Liquid

Parameter	Result	Flag	DF	PQL	DLR	Units	Extraction Date	Analysis Date	QC Batch ID	Method
Benzene	ND		1	0.5	0.5	µg/L		5/12/00	WGC4000512	EPA 8020
Toluene	ND		1	0.5	0.5	µg/L		5/12/00	WGC4000512	EPA 8020
Ethyl Benzene	ND		1	0.5	0.5	µg/L		5/12/00	WGC4000512	EPA 8020
Xylenes, Total	ND		1	0.5	0.5	µg/L		5/12/00	WGC4000512	EPA 8020
			Surrogate		Surrogate Recovery		Control Limits (%)			
			aaa-Trifluorotoluene		100		65 - 135			

Parameter	Result	Flag	DF	PQL	DLR	Units	Extraction Date	Analysis Date	QC Batch ID	Method
TPH as Gasoline	ND		1	50	50	µg/L		5/12/00	WGC4000512	EPA 8015 MOD. (Purgeable)
			Surrogate		Surrogate Recovery		Control Limits (%)			
			aaa-Trifluorotoluene		107		65 - 135			

DF = Dilution Factor

ND = Not Detected

DLR = Detection Limit Reported

PQL = Practical Quantitation Limit

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Certified Analytical Report

Order ID: 20433

Lab Sample ID: 20433-015

Client Sample ID: T-1

Sample Time: 10:00 AM

Sample Date: 5/11/00

Matrix: Liquid

Parameter	Result	Flag	DF	PQL	DLR	Units	Extraction Date	Analysis Date	QC Batch ID	Method
Benzene	ND		1	0.5	0.5	µg/L		5/12/00	WGC4000512	EPA 8020
Toluene	ND		1	0.5	0.5	µg/L		5/12/00	WGC4000512	EPA 8020
Ethyl Benzene	ND		1	0.5	0.5	µg/L		5/12/00	WGC4000512	EPA 8020
Xylenes, Total	ND		1	0.5	0.5	µg/L		5/12/00	WGC4000512	EPA 8020

Surrogate
aaa-Trifluorotoluene

Surrogate Recovery
102

Control Limits (%)
65 - 135

Parameter	Result	Flag	DF	PQL	DLR	Units	Extraction Date	Analysis Date	QC Batch ID	Method
TPH as Gasoline	ND		1	50	50	µg/L		5/12/00	WGC4000512	EPA 8015 MOD. (Purgeable)

Surrogate
aaa-Trifluorotoluene

Surrogate Recovery
106

Control Limits (%)
65 - 135

DF = Dilution Factor

ND = Not Detected

DLR = Detection Limit Reported

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Project Number: 587-12F
P.O. Number:
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Certified Analytical Report

Order ID: 20433

Lab Sample ID: 20433-011

Client Sample ID: T-4 (2 1/2 -3')

Sample Time:

Sample Date: 5/11/00

Matrix: Solid

Parameter	Result	Flag	DF	PQL	DLR	Units	Extraction Date	Analysis Date	QC Batch ID	Method
Benzene	ND		1	0.005	0.005	mg/Kg		5/12/00	SGC4000511	EPA 8020
Toluene	ND		1	0.005	0.005	mg/Kg		5/12/00	SGC4000511	EPA 8020
Ethyl Benzene	ND		1	0.005	0.005	mg/Kg		5/12/00	SGC4000511	EPA 8020
Xylenes, Total	ND		1	0.005	0.005	mg/Kg		5/12/00	SGC4000511	EPA 8020

Surrogate	Surrogate Recovery	Control Limits (%)
aaa-Trifluorotoluene	129	65 - 135

Parameter	Result	Flag	DF	PQL	DLR	Units	Extraction Date	Analysis Date	QC Batch ID	Method
TPH as Gasoline	ND		1	1	1	mg/Kg		5/12/00	SGC4000511	EPA 8015 MOD. (Purgeable)
			Surrogate	Surrogate Recovery	Control Limits (%)					
			aaa-Trifluorotoluene	132	65 - 135					

DF = Dilution Factor

ND = Not Detected

DLR = Detection Limit Reported

PQL = Practical Quantitation Limit

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Sampled By: John McCain

Certified Analytical Report

Order ID: 20433

Lab Sample ID: 20433-010

Client Sample ID: T-3 (9 1/2 -10')

Sample Time:

Sample Date: 5/11/00

Matrix: Solid

Parameter	Result	Flag	DF	PQL	DLR	Units	Extraction Date	Analysis Date	QC Batch ID	Method
Benzene	ND		1	0.005	0.005	mg/Kg		5/15/00	SGC4000515	EPA 8020
Toluene	ND		1	0.005	0.005	mg/Kg		5/15/00	SGC4000515	EPA 8020
Ethyl Benzene	ND		1	0.005	0.005	mg/Kg		5/15/00	SGC4000515	EPA 8020
Xylenes, Total	ND		1	0.005	0.005	mg/Kg		5/15/00	SGC4000515	EPA 8020

Surrogate	Surrogate Recovery	Control Limits (%)
aaa-Trifluorotoluene	136	65 - 135

Comment: Surrogate recovery out of control limits due to matrix interference

Parameter	Result	Flag	DF	PQL	DLR	Units	Extraction Date	Analysis Date	QC Batch ID	Method
TPH as Gasoline	ND		1	1	1	mg/Kg		5/15/00	SGC4000515	EPA 8015 MOD. (Purgeable)

Surrogate	Surrogate Recovery	Control Limits (%)
aaa-Trifluorotoluene	141	65 - 135

Comment: Surrogate recovery out of control limits due to matrix interference

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PQL = Practical Quantitation Limit

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Sampled By: John McCain

Certified Analytical Report

Order ID: 20433		Lab Sample ID: 20433-009				Client Sample ID: T-2 (2 1/2 -3')				
Sample Time:		Sample Date: 5/11/00				Matrix: Solid				
Parameter	Result	Flag	DF	PQL	DLR	Units	Extraction Date	Analysis Date	QC Batch ID	Method
Benzene	ND		1	0.005	0.005	mg/Kg		5/15/00	SGC4000515	EPA 8020
Toluene	ND		1	0.005	0.005	mg/Kg		5/15/00	SGC4000515	EPA 8020
Ethyl Benzene	ND		1	0.005	0.005	mg/Kg		5/15/00	SGC4000515	EPA 8020
Xylenes, Total	ND		1	0.005	0.005	mg/Kg		5/15/00	SGC4000515	EPA 8020
Surrogate							Surrogate Recovery		Control Limits (%)	
aaa-Trifluorotoluene							128		65 - 135	
Parameter	Result	Flag	DF	PQL	DLR	Units	Extraction Date	Analysis Date	QC Batch ID	Method
TPH as Gasoline	ND		1	1	1	mg/Kg		5/15/00	SGC4000515	EPA 8015 MOD. (Purgeable)
Surrogate							Surrogate Recovery		Control Limits (%)	
aaa-Trifluorotoluene							134 -		65 - 135	

DF = Dilution Factor

ND = Not Detected

DLR = Detection Limit Reported

PQL = Practical Quantitation Limit

Analysis performed by Entech Analytical Labs, Inc. (CA ELAP #2346)


Michelle L. Anderson, Laboratory Director*Environmental Analysis Since 1983*

Entech Analytical Labs, Inc.

CA ELAP# 2346

525 Del Rey Avenue, Suite E • Sunnyvale, CA 94086 • (408) 735-1550 • Fax (408) 735-1554

Lowney Associates
405 Clyde Avenue
Mountain View, CA 94043
Attn: Doug Young

Date: 5/18/00
Date Received: 5/11/00
Project Name: US Data Port 50-Acre Parcel
Project Number: 587-12F
P.O. Number:
Sampled By: John McCain

Certified Analytical Report

Order ID: 20433

Lab Sample ID: 20433-008

Client Sample ID: T-1 (2 1/2 -3')

Sample Time:

Sample Date: 5/11/00

Matrix: Solid

Parameter	Result	Flag	DF	PQL	DLR	Units	Extraction Date	Analysis Date	QC Batch ID	Method
Benzene	ND		1	0.005	0.005	mg/Kg		5/12/00	SGC4000511	EPA 8020
Toluene	ND		1	0.005	0.005	mg/Kg		5/12/00	SGC4000511	EPA 8020
Ethyl Benzene	ND		1	0.005	0.005	mg/Kg		5/12/00	SGC4000511	EPA 8020
Xylenes, Total	ND		1	0.005	0.005	mg/Kg		5/12/00	SGC4000511	EPA 8020
Surrogate							Surrogate Recovery		Control Limits (%)	
aaa-Trifluorotoluene							126		65 - 135	

Parameter	Result	Flag	DF	PQL	DLR	Units	Extraction Date	Analysis Date	QC Batch ID	Method
TPH as Gasoline	ND		1	.1	1	mg/Kg		5/12/00	SGC4000511	EPA 8015 MOD. (Purgeable)
Surrogate							Surrogate Recovery		Control Limits (%)	
aaa-Trifluorotoluene							134		65 - 135	

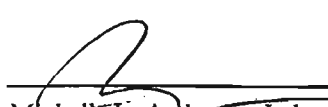
DF = Dilution Factor

ND = Not Detected

DLR = Detection Limit Reported

PQL = Practical Quantitation Limit

Analysis performed by Entech Analytical Labs, Inc. (CA ELAP #2346)


Michelle L. Anderson, Laboratory Director

Environmental Analysis Since 1983

Entech Analytical Labs, Inc.

CA ELAP# 2346

525 Del Rey Avenue, Suite E • Sunnyvale, CA 94086 • (408) 735-1550 • Fax (408) 735-1554

Lowney Associates
405 Clyde Avenue
Mountain View, CA 94043
Attn: Doug Young

Date: 5/19/00
Date Received: 5/11/00
Project Name: US Data Port 50-Acre Parcel
Project Number: 587-12F
P.O. Number:
Sampled By: John McCain

Certified Analytical Report

Order ID: 20433		Lab Sample ID: 20433-013				Client Sample ID: S-29			
Sample Time: 8:00 AM		Sample Date: 5/11/00				Matrix: Liquid			
Parameter	Result	DF	PQL	DLR	Units	PrepDate	Analysis Date	QC Batch ID	Method
Arsenic	ND	1	0.005	0.005	mg/L	5/16/00	5/18/00	WM000506	EPA 200.7
Lead	0.027	1	0.015	0.015	mg/L	5/16/00	5/17/00	WM000506	EPA 200.7
Mercury	ND	1	0.0002	0.0002	mg/L	5/16/00	5/16/00	WHG000507	EPA 245.1
Selenium	ND	1	0.015	0.015	mg/L	5/16/00	5/17/00	WM000506	EPA 200.7
Comment: Sample filtered through 0.45 micron filter and preserved prior to digestion									

Order ID: 20433		Lab Sample ID: 20433-014				Client Sample ID: S-47			
Sample Time: 9:00 AM		Sample Date: 5/11/00				Matrix: Liquid			
Parameter	Result	DF	PQL	DLR	Units	PrepDate	Analysis Date	QC Batch ID	Method
Arsenic	ND	1	0.005	0.005	mg/L	5/16/00	5/18/00	WM000506	EPA 200.7
Lead	ND	1	0.015	0.015	mg/L	5/16/00	5/18/00	WM000506	EPA 200.7
Mercury	ND	1	0.0002	0.0002	mg/L	5/16/00	5/16/00	WHG000507	EPA 245.1
Selenium	ND	1	0.015	0.015	mg/L	5/16/00	5/17/00	WM000506	EPA 200.7
Comment: Sample filtered through 0.45 micron filter and preserved prior to digestion									

Order ID: 20433		Lab Sample ID: 20433-036				Client Sample ID: S-42 (0-1/2")			
Sample Time:		Sample Date: 5/10/00				Matrix: Solid			
Parameter	Result	DF	PQL	DLR	Units	PrepDate	Analysis Date	QC Batch ID	Method
Arsenic	52	5	1	5	mg/Kg	5/15/00	5/17/00	SM000513	EPA 6010B
Lead	170	5	1	5	mg/Kg	5/15/00	5/17/00	SM000513	EPA 6010B
Mercury	0.0900	1	0.05	0.05	mg/Kg	5/15/00	5/15/00	SHG000507	EPA 7471
Selenium	ND	5	5	25	mg/Kg	5/15/00	5/17/00	SM000513	EPA 6010B

DF = Dilution Factor

ND = Not Detected

DLR = Detection Limit Reported

PQL = Practical Quantitation Limit

Analysis performed by Entech Analytical Labs, Inc. (CA ELAP #2346)


Michelle L. Anderson, Laboratory Director

Page 3 of 3

Environmental Analysis Since 1983

Entech Analytical Labs, Inc.

CA ELAP# 2346

525 Del Rey Avenue, Suite E • Sunnyvale, CA 94086 • (408) 735-1550 • Fax (408) 735-1554

Lowney Associates
405 Clyde Avenue
Mountain View, CA 94043
Attn: Doug Young

Date: 5/19/00
Date Received: 5/11/00
Project Name: US Data Port 50-Acre Parcel
Project Number: 587-12F
P.O. Number:
Sampled By: John McCain

Certified Analytical Report

Order ID: 20433		Lab Sample ID: 20433-005				Client Sample ID: S-47 (0-1/2')			
Sample Time:		Sample Date: 5/11/00				Matrix: Solid			
Parameter	Result	DF	PQL	DLR	Units	PrepDate	Analysis Date	QC Batch ID	Method
Arsenic	11	5	1	5	mg/Kg	5/15/00	5/17/00	SM000513	EPA 6010B
Lead	ND	5	1	5	mg/Kg	5/15/00	5/17/00	SM000513	EPA 6010B
Mercury	ND	1	0.05	0.05	mg/Kg	5/16/00	5/16/00	SHG000509	EPA 7471
Selenium	ND	5	5	25	mg/Kg	5/15/00	5/17/00	SM000513	EPA 6010B

Order ID: 20433		Lab Sample ID: 20433-006				Client Sample ID: S-17 (0-1/2')			
Sample Time:		Sample Date: 5/11/00				Matrix: Solid			
Parameter	Result	DF	PQL	DLR	Units	PrepDate	Analysis Date	QC Batch ID	Method
Arsenic	50	5	1	5	mg/Kg	5/15/00	5/17/00	SM000513	EPA 6010B
Lead	120	5	1	5	mg/Kg	5/15/00	5/17/00	SM000513	EPA 6010B
Mercury	ND	1	0.05	0.05	mg/Kg	5/16/00	5/16/00	SHG000509	EPA 7471
Selenium	ND	5	5	25	mg/Kg	5/15/00	5/17/00	SM000513	EPA 6010B

Order ID: 20433		Lab Sample ID: 20433-007				Client Sample ID: S-40 (0-1/2')			
Sample Time:		Sample Date: 5/10/00				Matrix: Solid			
Parameter	Result	DF	PQL	DLR	Units	PrepDate	Analysis Date	QC Batch ID	Method
Arsenic	43	5	1	5	mg/Kg	5/15/00	5/17/00	SM000513	EPA 6010B
Lead	160	5	1	5	mg/Kg	5/15/00	5/17/00	SM000513	EPA 6010B
Mercury	0.1210	1	0.05	0.05	mg/Kg	5/16/00	5/16/00	SHG000509	EPA 7471
Selenium	ND	5	5	25	mg/Kg	5/15/00	5/17/00	SM000513	EPA 6010B

Order ID: 20433		Lab Sample ID: 20433-012				Client Sample ID: S-24			
Sample Time: 4:20 PM		Sample Date: 5/10/00				Matrix: Liquid			
Parameter	Result	DF	PQL	DLR	Units	PrepDate	Analysis Date	QC Batch ID	Method
Arsenic	ND	1	0.005	0.005	mg/L	5/16/00	5/17/00	WM000506	EPA 200.7
Lead	ND	1	0.015	0.015	mg/L	5/16/00	5/17/00	WM000506	EPA 200.7
Mercury	ND	1	0.0002	0.0002	mg/L	5/16/00	5/16/00	WHG000507	EPA 245.1
Selenium	ND	1	0.015	0.015	mg/L	5/16/00	5/17/00	WM000506	EPA 200.7

Comment: Sample filtered through 0.45 micron filter and preserved prior to digestion

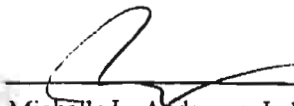
DF = Dilution Factor

ND = Not Detected

DLR = Detection Limit Reported

PQL = Practical Quantitation Limit

Analysis performed by Entech Analytical Labs, Inc. (CA ELAP #2346)


Michelle L. Anderson, Laboratory Director

Page 2 of 3

Environmental Analysis Since 1983

Entech Analytical Labs, Inc.

CA ELAP# 2346

525 Del Rey Avenue, Suite E • Sunnyvale, CA 94086 • (408) 735-1550 • Fax (408) 735-1554

Lowney Associates
405 Clyde Avenue
Mountain View, CA 94043
Attn: Doug Young

Date: 5/19/00
Date Received: 5/11/00
Project Name: US Data Port 50-Acre Parcel
Project Number: 587-12F
P.O. Number:
Sampled By: John McCain

Certified Analytical Report

Order ID: 20433		Lab Sample ID: 20433-001				Client Sample ID: S-5 (0-1/2')			
Sample Time:		Sample Date: 5/11/00				Matrix: Solid			
Parameter	Result	DF	PQL	DLR	Units	PrepDate	Analysis Date	QC Batch ID	Method
Arsenic	39	5	1	5	mg/Kg	5/15/00	5/17/00	SM000513	EPA 6010B
Lead	110	5	1	5	mg/Kg	5/15/00	5/17/00	SM000513	EPA 6010B
Mercury	0.0610	1	0.05	0.05	mg/Kg	5/16/00	5/16/00	SHG000509	EPA 7471
Selenium	ND	5	5	25	mg/Kg	5/15/00	5/17/00	SM000513	EPA 6010B

Order ID: 20433		Lab Sample ID: 20433-002				Client Sample ID: S-24 (0-1/2')			
Sample Time:		Sample Date: 5/10/00				Matrix: Solid			
Parameter	Result	DF	PQL	DLR	Units	PrepDate	Analysis Date	QC Batch ID	Method
Arsenic	32	5	1	5	mg/Kg	5/15/00	5/17/00	SM000513	EPA 6010B
Lead	90	5	1	5	mg/Kg	5/15/00	5/17/00	SM000513	EPA 6010B
Mercury	ND	1	0.05	0.05	mg/Kg	5/16/00	5/16/00	SHG000509	EPA 7471
Selenium	ND	5	5	25	mg/Kg	5/15/00	5/17/00	SM000513	EPA 6010B

Order ID: 20433		Lab Sample ID: 20433-003				Client Sample ID: S-29 (0-1/2')			
Sample Time:		Sample Date: 5/11/00				Matrix: Solid			
Parameter	Result	DF	PQL	DLR	Units	PrepDate	Analysis Date	QC Batch ID	Method
Arsenic	51	5	1	5	mg/Kg	5/15/00	5/17/00	SM000513	EPA 6010B
Lead	130	5	1	5	mg/Kg	5/15/00	5/17/00	SM000513	EPA 6010B
Mercury	ND	1	0.05	0.05	mg/Kg	5/16/00	5/16/00	SHG000509	EPA 7471
Selenium	ND	5	5	25	mg/Kg	5/15/00	5/17/00	SM000513	EPA 6010B

Order ID: 20433		Lab Sample ID: 20433-004				Client Sample ID: S-39 (0-1/2')			
Sample Time:		Sample Date: 5/11/00				Matrix: Solid			
Parameter	Result	DF	PQL	DLR	Units	PrepDate	Analysis Date	QC Batch ID	Method
Arsenic	28	5	1	5	mg/Kg	5/15/00	5/17/00	SM000513	EPA 6010B
Lead	64	5	1	5	mg/Kg	5/15/00	5/17/00	SM000513	EPA 6010B
Mercury	0.0660	1	0.05	0.05	mg/Kg	5/16/00	5/16/00	SHG000509	EPA 7471
Selenium	ND	5	5	25	mg/Kg	5/15/00	5/17/00	SM000513	EPA 6010B

DF = Dilution Factor

ND = Not Detected

DLR = Detection Limit Reported

PQL = Practical Quantitation Limit

Analysis performed by Entech Analytical Labs, Inc. (CA ELAP #2346)


Michelle L. Anderson, Laboratory Director

Page 1 of 3

Environmental Analysis Since 1983

Entech Analytical Labs, Inc.

CA ELAP# 2346

525 Del Rey Avenue, Suite E • Sunnyvale, CA 94086 • (408) 735-1550 • Fax (408) 735-1554

May 19, 2000

Doug Young

Lowney Associates

405 Clyde Avenue

Mountain View, CA 94043

Order: 20433

Date Collected: 5/10/00

Project Name: US Data Port 50-Acre Parcel

Date Received: 5/11/00

Project Number: 587-12F

P.O. Number:

Project Notes:

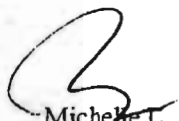
On May 11, 2000, samples were received under documented chain of custody. Results for the following analyses are attached:

<u>Matrix</u>	<u>Test</u>	<u>Method</u>
Liquid	Arsenic	EPA 200.7
	Gas/BTEX	EPA 8015 MOD. (Purgeable)
		EPA 8020
	Lead	EPA 200.7
	Mercury	EPA 245.1
	Oxygenates by EPA 8260B	EPA 8260B
	Selenium	EPA 200.7
	TPH as Diesel w/ Si-Gel Std	EPA 8015 MOD. (Extractable)
	Arsenic	EPA 6010B
	EPA 8141-EMA	EPA 8141
Solid	EPA 8151-APCL	EPA 8151
	EPA 8318-EMA	EPA 8318
	Gas/BTEX	EPA 8015 MOD. (Purgeable)
		EPA 8020
	Lead	EPA 6010B
	Mercury	EPA 7471
	Oxygenates by EPA 8260B	EPA 8260B
	Selenium	EPA 6010B
	TPH as Diesel w/ Si-Gel Std	EPA 8015 MOD. (Extractable)

Chemical analysis of these samples has been completed. Summaries of the data are contained on the following pages. USEPA protocols for sample storage and preservation were followed.

Entech Analytical Labs, Inc. is certified by the State of California (#2346). If you have any questions regarding procedures or results, please call me at 408-735-1550.

Sincerely,



Michelle L. Anderson
Lab Director

OWNEY ASSOCIATES

CHAIN OF CUSTODY RECORD

Send Results To:

Mountain View Office
405 Clyde Avenue
Mountain View, CA 94043
415-967-2365

Oakland Office
129 Pillbest Street
Oakland, CA 94607
510-267-1970

Fax Copy To:

415-967-2785 (fax)

510-267-1972 (fax)

Project Name:

Data Port 50-Acre Parcel

Number:

587-12F

Port To: Doug Young

Printer (print): John McGain

Printer (signature): John McGain

Requirements:

Turnaround

Requirements

☐ 10 working days

☒ 15 working days

☐ 3 working days

☐ 48 hours

☐ 24 hours

☐ 2-3 hours (RUSH)

Laboratory I.D.

Level A (standard) ☐ Level B ☐ Level C ☐ Level D

Sample I.D.

Date

Time

Sample Matrix

of Cont.

1 (2 1/2 - 3')

5-11-06

soil

1

20433-008

X

1 (2 1/2 - 3')

10:00am

water

13

-013

X

2 (2 1/2 - 3')

10:45am

water

13

-016

X

3 (2 1/2 - 3')

soil

1

-035

4 (2 1/2 - 3')

soil

1

-010

X

5 (2 1/2 - 3')

3:15pm

water

13

-017

X

Received By:

John McGain

Date: 5-11-06 Time: 16:06

Received By:

John McGain

Date: 5/11/06 Time: 16:00

PM Initials

Received By:

John McGain

Date: 5/11/06 Time: 16:46

Received By:

John McGain

Date: 5/11/06 Time: 16:46

PM Initials

OWNEY ASSOCIATES

CHAIN OF CUSTODY RECORD

Send Results To:

Mountain View Office
405 Clyde Avenue
Mountain View, CA 94043
415-967-2365

Oakland Office
129 Filbert Street
Oakland, CA 94607
510-267-1970

Fax Copy To:

415-967-2785 (fax)

510-267-1972 (fax)

Project Name:

Data Port 50-Acre Parcel

Number:

587-12F

Art To:

Doug Young

Printer (print):

John McGinn

Printer (signature):

John McGinn

Requirements:

Turnaround Requirements

☐ 10 working days

☒ 3 working days

☐ 3 working days

☐ 48 hours

☐ 24 hours

☐ 2-3 hours (RUSH)

Laboratory I.D.

of Cont.

Sample Matrix

Time

Date

Level D

Level C

Level B

Remarks

20433

20433-004

20433-004

20433-004

20433-004

20433-004

20433-004

20433-004

20433-004

20433-004

Organochlorine Pesticides

Mercury, Arsenic

Selenium, Lead

Chlorinated Hydrocarbons

Organophosphorus Pesticides

N-methylcarbamates

20433-004

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☐ Oakland Office
129 Pillbert Street
Oakland, CA 94607
510-267-1970
☐ 510-267-1972 (fax)

Date: 5/1/08 Time: 6:45

00 MAY 11 16:

□ Oakland Office
129 Millert Bldg
Oakland, CA 94607
510-267-1970

510-267-1972 (fax)

Tempem!

Send Remittance To:
Mountain View Office
409 Clyde Avenue
Mountain View, CA 94013
415-967-2863

☐ Oakley and O'Brien
 1249 Pittsford Street
 • Oakland, CA 94607
 • 510-267-1970
 ☐ 510-267-1972 (fax)

May.12. 2000 12:26PM

No. 0015-~~1~~ P. 11/12.

Test Name:		Data Port 50-Are Parcel		Station 587-12F		To: Doug Young		By: John M. Cain		Date: 5/11/00		Time: 11:00		Page 11/12	
Requirements		10 working days		15 working days		20 working days		40 hours		24 hours		24 hours (100%)		24 hours (100%)	
1	0-1/2"	5-11-00	1	1	1	1	1	1	1	1	1	1	1	1	1
2	1-1/2"	5-11-00	1	1	1	1	1	1	1	1	1	1	1	1	1
3	2-2 1/2"	5-11-00	1	1	1	1	1	1	1	1	1	1	1	1	1
4	0-1/2"	5-11-00	1	1	1	1	1	1	1	1	1	1	1	1	1
5	1-1/2"	5-11-00	1	1	1	1	1	1	1	1	1	1	1	1	1
6	2-2 1/2"	5-11-00	1	1	1	1	1	1	1	1	1	1	1	1	1
7	0-1/2"	5-11-00	1	1	1	1	1	1	1	1	1	1	1	1	1
8	1-1/2"	5-11-00	1	1	1	1	1	1	1	1	1	1	1	1	1
9	2-2 1/2"	5-11-00	1	1	1	1	1	1	1	1	1	1	1	1	1
10	0-1/2"	5-11-00	1	1	1	1	1	1	1	1	1	1	1	1	1
11	1-1/2"	5-11-00	1	1	1	1	1	1	1	1	1	1	1	1	1
12	2-2 1/2"	5-11-00	1	1	1	1	1	1	1	1	1	1	1	1	1
13	0-1/2"	5-11-00	1	1	1	1	1	1	1	1	1	1	1	1	1
14	1-1/2"	5-11-00	1	1	1	1	1	1	1	1	1	1	1	1	1
15	2-2 1/2"	5-11-00	1	1	1	1	1	1	1	1	1	1	1	1	1
16	0-1/2"	5-11-00	1	1	1	1	1	1	1	1	1	1	1	1	1
17	1-1/2"	5-11-00	1	1	1	1	1	1	1	1	1	1	1	1	1
18	2-2 1/2"	5-11-00	1	1	1	1	1	1	1	1	1	1	1	1	1
19	0-1/2"	5-11-00	1	1	1	1	1	1	1	1	1	1	1	1	1
20	1-1/2"	5-11-00	1	1	1	1	1	1	1	1	1	1	1	1	1
21	2-2 1/2"	5-11-00	1	1	1	1	1	1	1	1	1	1	1	1	1
22	0-1/2"	5-11-00	1	1	1	1	1	1	1	1	1	1	1	1	1
23	1-1/2"	5-11-00	1	1	1	1	1	1	1	1	1	1	1	1	1
24	2-2 1/2"	5-11-00	1	1	1	1	1	1	1	1	1	1	1	1	1
25	0-1/2"	5-11-00	1	1	1	1	1	1	1	1	1	1	1	1	1
26	1-1/2"	5-11-00	1	1	1	1	1	1	1	1	1	1	1	1	1
27	2-2 1/2"	5-11-00	1	1	1	1	1	1	1	1	1	1	1	1	1
28	0-1/2"	5-11-00	1	1	1	1	1	1	1	1	1	1	1	1	1
29	1-1/2"	5-11-00	1	1	1	1	1	1	1	1	1	1	1	1	1
30	2-2 1/2"	5-11-00	1	1	1	1	1	1	1	1	1	1	1	1	1

LOWNEY ASSOCIATES

CHAIN OF CUSTODY RECORD

Project Number:

15 Data Port 50-Ave Parcel

Job Number: 587-12F

Report To: Doug Young

Sample for (initials): John M. Cain

Sampler (signature): John M. Cain

QC Requirements:

☒ Level A (standard) ☐ Level B ☐ Level C ☐ Level D

Sample I.D. Date Time Sample Matrix Lot Cont.

139 (0-1/2')	5-11-00		Soil	1	20433-004	
139 (1-1 1/2')					-026	
139 (2-2 1/2')					-027	
140 (0-1/2')	5-10-00				-028	
140 (1-1 1/2')					-029	
140 (2-2 1/2')					-005	
147 (0-1/2')	5-11-00				-030	
147 (1-1 1/2')	5-11-00				-031	
147 (2-2 1/2')					-014	
147		9:00am	water	3	-032	
148 (0-1/2')			Soil	1	-033	
148 (1-1 1/2')					-034	
148 (2-2 1/2')						

Shred/Unshred By: John Cain Date: 5-11-00 Time: 16:00

Shred/Unshred By: John Cain Date: 5-11-00 Time: 16:00

Shred/Unshred By: John Cain Date: 5-11-00 Time: 16:00

Send Results To:

Mountain View Office
405 Clyde Avenue
Mountain View, CA 94043
415-967-2365

Oakland Office
129 Wilcox Street
Oakland, CA 94607
510-267-1970

For Copy To:

510-267-1972 (fax)

20433

Organochlorine Pesticides (GC/MS)	Mercury (GC/MS)	Selenium (GC/MS)	Chlorinated Hydrocarbons (GC/MS)	Organophosphorus Pesticides (GC/MS)	N-nitrosodimethylamine (GC/MS)	Remarks
X	X	X	X	X	X	HOLD
X	X	X	X	X	X	HOLD
X	X	X	X	X	X	HOLD
X	X	X	X	X	X	HOLD
X	X	X	X	X	X	HOLD
X	X	X	X	X	X	HOLD
X	X	X	X	X	X	HOLD
X	X	X	X	X	X	HOLD
X	X	X	X	X	X	HOLD
X	X	X	X	X	X	HOLD

Shred/Unshred By: John Cain

Shred/Unshred By: John Cain

Shred/Unshred By: John Cain

Date: 5/11/00 Time: 16:00

Date: 5/11/00 Time: 16:00

Date: 5/11/00 Time: 16:00

104 Initials

104 Initials

Fax Transmittal

☒ Mountain View Office 405 Clyde Avenue Mountain View, CA 94043 Tel: 650.967.2365 Fax: 650.967.2785	☐ Oakland Office 129 Filbert Street Oakland, CA 94607 Tel: 510.267.1970 Fax: 510.267.1972	☐ Pasadena Office 1785 Locust Street, Suite 10 Pasadena, CA 91106 Tel: 626.396.1490 Fax: 626.396.1491	☐ San Ramon Office 2258 Camino Ramon San Ramon, CA 94583 Tel: 925.275.2550 Fax: 925.275.2555
--	---	---	--

To: *Entech*

Attn: *Andrea*

Fax: ~~408~~ - 408 - 735 - 1554

CC:

From: *James Kiernan*

Date: *5/31/00*

Pages: *2* (Including Cover)

Project: *US Data Port 50-Acre Parcel*

Job #: *587-12F*

Please notify us if you received this fax in error by calling the office indicated above.

Remarks: ☒ Urgent ☐ For your review ☐ Reply ASAP ☐ Please comment

Could you please run the S-48 sample for organochlorine pesticides, mercury, As, Pb, and Se. It was put on hold by mistake. We need this done on 24 hr. turnaround. If there are any problems contact me at X147 or Doug Young. Thank you.

Mail copy to follow: ☐ Yes ☐ No Time Sent: _____ Sent By: _____

Entech Analytical Labs, Inc.

525 Del Rey Avenue, Suite E
Sunnyvale, CA 94086

QUALITY CONTROL RESULTS SUMMARY

Volatile Organic Compounds
Laboratory Control Sample

QC Batch #: SMS000516
Matrix: Solid
Units: $\mu\text{g/kg}$

Date analyzed: 05/16/00
Spiked Sample: Blank Spike

PARAMETER	Method #	SA	SR	SP	SP	SPD	SPD	RPD	QC LIMITS	
		$\mu\text{g/kg}$	$\mu\text{g/kg}$	$\mu\text{g/kg}$	%R	$\mu\text{g/kg}$	%R		RPD	
1,1-Dichloroethene	8240/8260	25	ND	24.0	96	25.5	102	6.1	25	65-135
Benzene	8240/8260	25	ND	23.5	94	24.1	96	2.5	25	65-135
Trichloroethene	8240/8260	25	ND	24.3	97	23.9	96	1.7	25	65-135
Toluene	8240/8260	25	ND	23.7	95	23.4	94	1.3	25	65-135
Chlorobenzene	8240/8260	25	ND	24.8	99	24.9	100	0.4	25	65-135
<i>Surrogates</i>										
Toluene -d8	8240/8260		88%	94%		93%				65-135
Dibromofluoromethane	8240/8260		96%	103%		103%				65-135
4-Bromofluorobenzene	8240/8260		79%	93%		93%				65-135
1,2 - Dichloroethane-d4	8240/8260		90%	93%		94%				65-135

Definition of Terms:

na: Not Analyzed in QC batch
SA: Spike Added
SR: Sample Result
RPD(%): Duplicate Analysis - Relative Percent Difference
SP: Spike Result
SP (%R): Spike % Recovery
SPD: Spike Duplicate Result
SPD (%R): Spike Duplicate % Recovery
NC: Not Calculated

Entech Analytical Labs, Inc.

525 Del Rey Avenue, Suite E
Sunnyvale, CA 94086

QUALITY CONTROL RESULTS SUMMARY

METHOD: Gas Chromatography
Laboratory Control Spikes

QC Batch #: DW000504SiO2

Matrix: Liquid

Units: µg/L

Date analyzed: 05/15/00

Date extracted: 05/15/00

Quality Control Sample: Blank Spike

PARAMETER	Method #	MB µg/L	SA µg/L	SR µg/L	SP µg/L	SP %R	SPD µg/L	SPD %R	RPD	RPD	QC LIMITS %R
Diesel	8015M	<50.0	1000	ND	947	95	971	97	3	25	62-119

Hexacosane(S.S.)

94%

88%

94%

53-119

Definition of Terms:

na: Not Analyzed in QC batch

MB: Method Blank

SA: Spike Added

SR: Sample Result

RPD(%): Duplicate Analysis - Relative Percent Difference

SP: Spike Result

SP (%R) Spike % Recovery

SPD: Spike Duplicate Result

SPD (%R) Spike Duplicate % Recovery

NC: Not Calculated

Entech Analytical Labs, Inc.

525 Del Rey Avenue, Suite E
Sunnyvale, CA 94086

QUALITY CONTROL RESULTS SUMMARY
Laboratory Control Spikes

QC Batch #: DS000507SiO2(col)

Matrix: Solid

Units: mg/Kg

Date analyzed: 05/10/00

Date extracted: 05/08/00

Quality Control Sample: Blank Spike

PARAMETER	Method #	MB mg/Kg	SA mg/Kg	SR mg/Kg	SP mg/Kg	SP %R	SPD mg/Kg	SPD %R	RPD	QC LIMITS RPD	QC LIMITS %R
Diesel	8015M	<1.0	25	ND	22	88	22	88	1.0	30	50-150

Hexacosane

95%

101%

104%

53-119

Calculated Recovery Outside of Control Limits:

Definition of Terms:

MB: Method Blank

na: Not Analyzed in QC batch

SA: Spike Added

SR: Sample Result

RPD(%): Duplicate Analysis - Relative Percent Difference

SP: Spike Result

SP (%R): Spike % Recovery

SPD: Spike Duplicate Result

SPD (%R): Spike Duplicate % Recovery

NC: Not Calculated

Entech Analytical Labs, Inc.

525 Del Rey Avenue, Suite E
Sunnyvale, CA 94086

QUALITY CONTROL RESULTS SUMMARY

METHOD: Gas Chromatography

Laboratory Control Sample

QC Batch #: WGC4000512

Matrix: Liquid

Units: µg/Liter

Date Analyzed: 05/12/00

Quality Control Sample: Blank Spike

PARAMETER	Method #	MB µg/Liter	SA µg/Liter	SR µg/Liter	SP µg/Liter	SP % R	SPD µg/Liter	SPD %R	% RPD	QC LIMITS	
										RPD	%R
Benzene	8020	<0.50	4.7	ND	4.7	99	4.0	84	16.0	25	70-130
Toluene	8020	<0.50	29	ND	26	90	26	90	0.9	25	70-130
Ethyl Benzene	8020	<0.50	5.6	ND	5.1	91	5.0	89	1.4	25	70-130
Xylenes	8020	<0.50	32	ND	30	93	29	91	2.4	25	70-130
Gasoline	8015	<50.0	469	ND	435	93	453	97	4.0	25	70-130
aaa-TFT(S.S.)-FID	8020			113%	101%		106%				65-135
aaa-TFT(S.S.)-PID	8015			110%	92%		103%				65-135

Definition of Terms:

na: Not Analyzed in QC batch

MB: Method Blank

SA: Spike Added

SR: Sample Result

RPD(%): Duplicate Analysis - Relative Percent Difference

SP: Spike Result

SP (%R): Spike % Recovery

SPD: Spike Duplicate Result

SPD (%R): Spike % Recovery

nc: Not Calculated

Entech Analytical Labs, Inc.

525 Del Rey Avenue, Suite E
Sunnyvale, CA 94086

QUALITY CONTROL RESULTS SUMMARY

METHOD: Gas Chromatography
Laboratory Control Sample

QC Batch #: SGC4000515

Matrix: Solid

Units: $\mu\text{g/kg}$

Date Analyzed: 05/15/00

Quality Control Sample: Blank Spike

PARAMETER	Method #	MB $\mu\text{g/kg}$	SA $\mu\text{g/kg}$	SR $\mu\text{g/kg}$	SP $\mu\text{g/kg}$	SP % R	SPD $\mu\text{g/kg}$	SPD %R	% RPD	QC LIMITS	
										RPD	%R
Benzene	8020	<5.0	4.7	ND	4.5	95	4.7	100	5.0	25	80-120
Toluene	8020	<5.0	29	ND	26	90	27	93	3.0	25	80-120
Ethyl Benzene	8020	<5.0	5.6	ND	5.0	90	5.5	99	9.6	25	80-120
Xylenes	8020	<5.0	32	ND	30	92	30	94	1.6	25	80-120
Gasoline	8015	<1000	469	ND	472	101	472	101	0.0	25	75-115
aaa-TFT(S.S.)-FID	8015			110%	102%		121%				65-135
aaa-TFT(S.S.)-PID	8020			104%	94%		109%				65-135

Definition of Terms:

na: Not Analyzed in QC batch

MB: Method Blank

SA: Spike Added

SR: Sample Result

RPD(%): Duplicate Analysis - Relative Percent Difference

SP: Spike Result

SP (%R): Spike % Recovery

SPD: Spike Duplicate Result

SPD (%R): Spike % Recovery

NC: Not Calculated

Entech Analytical Labs, Inc.

525 Del Rey Avenue, Suite E
Sunnyvale, CA 94086

QUALITY CONTROL RESULTS SUMMARY

METHOD: Gas Chromatography
Laboratory Control Sample

QC Batch #: SGC4000511

Matrix: Solid

Units: µg/kg

Date Analyzed: 05/11/00

Quality Control Sample: Blank Spike

PARAMETER	Method #	MB µg/kg	SA µg/kg	SR µg/kg	SP µg/kg	SP % R	SPD µg/kg	SPD %R	% RPD	QC LIMITS	
										RPD	%R
Benzene	8020	<5.0	4.7	ND	5.0	106	4.0	85	22.2	25	80-120
Toluene	8020	<5.0	29	ND	28	96	28	96	0.0	25	80-120
Ethyl Benzene	8020	<5.0	5.6	ND	5.0	89	5.0	89	0.0	25	80-120
Xylenes	8020	<5.0	32	ND	32	99	31	96	3.2	25	80-120
Gasoline	8015	<1000	469	ND	467	100	456	97	2.4	25	75-115
aaa-TFT(S.S.)-FID	8015			114%	102%		104%				65-135
aaa-TFT(S.S.)-PID	8020			107%	99%		99%				65-135

Definition of Terms:

na: Not Analyzed in QC batch

MB: Method Blank

SA: Spike Added

SR: Sample Result

RPD(%): Duplicate Analysis - Relative Percent Difference

SP: Spike Result

SP (%R): Spike % Recovery

SPD: Spike Duplicate Result

SPD (%R): Spike % Recovery

NC: Not Calculated

Entech Analytical Labs, Inc.

525 Del Rey Avenue, Suite E
Sunnyvale, CA 94086

QUALITY CONTROL RESULTS SUMMARY

METHOD: Gas Chromatography
Laboratory Control Sample

QC Batch #: SGC4000511

Matrix: Solid

Units: µg/kg

Date Analyzed: 05/11/00

Quality Control Sample: Blank Spike

PARAMETER	Method #	MB µg/kg	SA µg/kg	SR µg/kg	SP µg/kg	SP % R	SPD µg/kg	SPD %R	% RPD	QC LIMITS	
										RPD	%R
Benzene	8020	<5.0	4.7	ND	5.0	106	4.0	85	22.2	25	80-120
Toluene	8020	<5.0	29	ND	28	96	28	96	0.0	25	80-120
Ethyl Benzene	8020	<5.0	5.6	ND	5.0	89	5.0	89	0.0	25	80-120
Xylenes	8020	<5.0	32	ND	32	99	31	96	3.2	25	80-120
Gasoline	8015	<1000	469	ND	467	100	456	97	2.4	25	75-115
aaa-TFT(S.S.)-FID	8015			114%	102%		104%				65-135
aaa-TFT(S.S.)-PID	8020			107%	99%		99%				65-135

Definition of Terms:

na: Not Analyzed in QC batch

MB: Method Blank

SA: Spike Added

SR: Sample Result

RPD(%): Duplicate Analysis - Relative Percent Difference

SP: Spike Result

SP (%R): Spike % Recovery

SPD: Spike Duplicate Result

SPD (%R): Spike % Recovery

NC: Not Calculated

Entech Analytical Labs, Inc.

525 Del Rey Avenue, Suite E
Sunnyvale, CA 94086

QUALITY CONTROL RESULTS SUMMARY

Laboratory Control Spike

METHOD: EPA 7471

QC Batch #: SHG000507

Matrix: Solid

Units: mg/kg

Date Analyzed: 05/15/00

Quality Control Sample: Blank Spike

PARAMETER	Method #	MB mg/kg	SA mg/kg	SR mg/kg	SP mg/kg	SP %R	SPD mg/kg	SPD %R	RPD	QC LIMITS %R
Mercury	7471	<0.10	0.20	0.00	0.17	87	0.17	86	0.2	44-145

Definition of Terms:

MB: Method Blank

SA: Spike Added

SR: Sample Result

SP: Spike Result

SP (%R) Spike % Recovery

SPD Spike Duplicate Result

SPD (%R) Spike Duplicate % Recovery

Intech Analytical Labs, Inc.

525 Del Rey Avenue, Suite E
Sunnyvale, CA 94086

QUALITY CONTROL RESULTS SUMMARY

METHOD: ICP
Laboratory Control Spikes

QC Batch #: WM000506

Matrix: Liquid
Units: mg/L

Date Analyzed: 05/16/00

Date Digested: 05/12/00

Quality Control Sample: Blank Spike

PARAMETER	Method #	MB mg/L	SA mg/L	SR mg/L	SP mg/L	SP %R	SPD mg/L	SPD % R	RPD	QC LIMITS	
										%R	RPD
Aluminum	200.7	<0.050	5.0	ND	4.99	100	4.83	97	3.3	75- 125	25.0
Antimony	200.7	<0.005	0.50	ND	0.50	100	0.53	105	4.5	75- 125	25.0
Arsenic	200.7	<0.005	0.50	ND	0.49	97	0.45	90	7.7	75- 125	25.0
Barium	200.7	<0.005	0.50	ND	0.53	105	0.52	105	0.2	75- 125	25.0
Beryllium	200.7	<0.005	0.50	ND	0.51	102	0.53	105	3.1	75- 125	25.0
Cadmium	200.7	<0.005	0.50	ND	0.49	97	0.50	100	3.0	75- 125	25.0
Calcium	200.7	<0.050	10.0	ND	10.79	108	10.68	107	1.0	75- 125	25.0
Chromium	200.7	<0.005	0.50	ND	0.49	98	0.51	102	4.0	75- 125	25.0
Cobalt	200.7	<0.005	0.50	ND	0.52	103	0.52	105	1.3	75- 125	25.0
Copper	200.7	<0.005	0.50	ND	0.48	97	0.49	97	0.4	75- 125	25.0
Iron	200.7	<0.050	5.0	ND	6.09	122	6.07	121	0.3	75- 125	25.0
Lead	200.7	<0.005	0.50	ND	0.55	110	0.53	106	4.1	75- 125	25.0
Magnesium	200.7	<0.050	5.0	ND	5.17	103	5.20	104	0.4	75- 125	25.0
Manganese	200.7	<0.005	0.50	ND	0.55	111	0.54	108	2.6	75- 125	25.0
Niobium	200.7	<0.005	0.50	ND	0.53	107	0.53	105	1.3	75- 125	25.0
Nickel	200.7	<0.005	0.50	ND	0.50	100	0.49	98	2.0	75- 125	25.0
Selenium	200.7	<0.005	0.50	ND	0.50	100	0.47	94	6.2	75- 125	25.0
Silver	200.7	<0.005	0.50	ND	0.55	110	0.54	107	2.8	75- 125	25.0
Thallium	200.7	<0.005	0.50	ND	0.45	90	0.40	80	12.3	75- 125	25.0
Vanadium	200.7	<0.005	0.50	ND	0.51	103	0.53	107	3.8	75- 125	25.0
Zinc	200.7	<0.005	0.50	ND	0.50	99	0.49	98	1.2	75- 125	25.0

Definition of Terms:

MB: Method Blank

nc: Not Calculated due to high levels of analyte found in sample

na: Not analyzed in QC batch

SA: Spike Added

SR: Sample Result

SP: Spike Result

SP (%R) Spike % Recovery

SPD Spike Duplicate Result

SPD (%R) Spike % Recovery

Entech Analytical Labs, Inc.

525 Del Rey Avenue, Suite E
Sunnyvale, CA 94086

QUALITY CONTROL RESULTS SUMMARY

METHOD: Cold Vapor Atomic Absorption
Laboratory Control Spikes

QC Batch #: WHG000507

Matrix: Liquid

Units: mg/L

Date Analyzed: 05/16/00

Quality Control Sample: Blank Spike

PARAMETER	Method #	MB mg/L	SA mg/L	SR mg/L	SP mg/L	SP %R	SPD mg/L	SPD %R	RPD	QC LIMITS %R
Mercury	245.1	<0.0002	0.0020	ND	0.0017	84	0.0017	84	0.0	38- 144

Definition of Terms:

MB: Method Blank

SA: Spike Added

SR: Sample Result

SP: Spike Result

SP (%R) Spike % Recovery

SPD Spike Duplicate Result

SPD (%R) Spike Duplicate % Recovery

ntech Analytical Labs, Inc.

525 Del Rey Avenue, Suite E
Sunnyvale, CA 94086

QUALITY CONTROL RESULTS SUMMARY

Laboratory Control Spike

METHOD: EPA 7471

QC Batch #: SHG000509

Matrix: Solid

Units: mg/kg

Date Analyzed: 05/16/00

Quality Control Sample: Blank Spike

PARAMETER	Method #	MB mg/kg	SA mg/kg	SR mg/kg	SP mg/kg	SP %R	SPD mg/kg	SPD %R	RPD	QC LIMITS %R
Mercury	7471	<0.10	0.20	0.00	0.17	84	0.19	93	10.7	44-145

Definition of Terms:

MB: Method Blank

SA: Spike Added

SR: Sample Result

SP: Spike Result

SP (%R) Spike % Recovery

SPD Spike Duplicate Result

SPD (%R) Spike Duplicate % Recovery

Entech Analytical Labs, Inc.

525 Del Rey Avenue, Suite E
Sunnyvale, CA 94086

QUALITY CONTROL RESULTS SUMMARY

Laboratory Control Spike

METHOD: EPA 7471

QC Batch #: SHG000601

Matrix: Solid

Units: mg/kg

Date Analyzed: 06/01/00

Quality Control Sample: Blank Spike

PARAMETER	Method #	MB mg/kg	SA mg/kg	SR mg/kg	SP mg/kg	SP %R	SPD mg/kg	SPD %R	RPD	QC LIMITS %R
Mercury	7471	<0.10	0.20	0.00	0.16	79	0.16	80	1.1	44-145

Definition of Terms:

MB: Method Blank

SA: Spike Added

SR: Sample Result

SP: Spike Result

SP (%R) Spike % Recovery

SPD Spike Duplicate Result

SPD (%R) Spike Duplicate % Recovery

Entech Analytical Labs, Inc.

525 Del Rey Avenue, Suite E
Sunnyvale, CA 94086

QUALITY CONTROL RESULTS SUMMARY

Laboratory Control Spikes
METHOD: EPA 6010

QC Batch #: SM000526

Matrix: Solid

Units: mg/kg

Date Analyzed: 05/30/00

Date Digested: 05/30/00

Digestion Method: EPA 3050

Spiked Sample: Blank Spike

PARAMETER	Method #	MB mg/kg	SA mg/kg	SR mg/kg	SP mg/kg	SP %R	SPD mg/kg	SPD %R	RPD	QC LIMITS	
										RPD	%R
Antimony	6010	<1.0	50.	0.0	47.	94	40.	79	17.0	25.0	75-125
Arsenic	6010	<1.0	50.	0.0	46.	92	38.	76	18.8	25.0	75-125
Barium	6010	<1.0	50.	0.0	50.	99	41.	83	18.1	25.0	75-125
Beryllium	6010	<1.0	50.	0.0	53.	106	43.	85	21.5	25.0	75-125
Cadmium	6010	<1.0	50.	0.0	44.	87	39.	77	12.3	25.0	75-125
Chromium	6010	<1.0	50.	0.0	54.	108	43.	87	22.0	25.0	75-125
Cobalt	6010	<1.0	50.	0.0	51.	101	41.	82	21.4	25.0	75-125
Copper	6010	<1.0	50.	0.0	47.	95	39.	78	19.3	25.0	75-125
Lead	6010	<1.0	50.	0.0	47.	93	41.	82	13.2	25.0	75-125
Molybdenum	6010	<1.0	50.	0.0	52.	104	43.	87	18.3	25.0	75-125
Nickel	6010	<1.0	50.	0.0	51.	103	42.	83	21.2	25.0	75-125
Selenium	6010	<1.0	50.	0.0	47.	93	38.	76	20.3	25.0	75-125
Silver	6010	<1.0	50.	0.0	46.	92	44.	88	4.2	25.0	75-125
Thallium	6010	<1.0	50.	0.0	44.	88	39.	79	11.1	25.0	75-125
Vanadium	6010	<1.0	50.	0.0	51.	102	42.	83	20.1	25.0	75-125
ic	6010	<1.0	50.	0.0	46.	91	39.	78	15.2	25.0	75-125

Definition of Terms:

na: Not Analyzed in QC batch

MB: Method Blank

SA: Spike Added

SR: Sample Result

SP: Spike Result

SP (%R): Spike % Recovery

SPD: Spike Duplicate Result

SPD (%R): Spike Duplicate % Recovery

Entech Analytical Labs, Inc.

525 Del Rey Avenue, Suite E
Sunnyvale, CA 94086

QUALITY CONTROL RESULTS SUMMARY

Laboratory Control Spikes

METHOD: EPA 6010

QC Batch #: SM000513

Matrix: Solid

Units: mg/kg

Date Analyzed: 05/17/00

Date Digested: 05/15/00

Digestion Method: EPA 3050

Spiked Sample: Blank Spike

PARAMETER	Method #	MB	SA	SR	SP	SP	SPD	SPD	RPD	QC LIMITS	
		mg/kg	mg/kg	mg/kg	mg/kg	%R	mg/kg	%R		RPD	%R
Antimony	6010	<1.0	50.	0.0	45.	90	45.	90	0.5	25.0	75-125
Arsenic	6010	<1.0	50.	0.0	42.	85	43.	85	0.1	25.0	75-125
Barium	6010	<1.0	50.	0.0	47.	95	48.	96	1.1	25.0	75-125
Beryllium	6010	<1.0	50.	0.0	46.	92	47.	93	1.1	25.0	75-125
Cadmium	6010	<1.0	50.	0.0	43.	86	44.	88	1.6	25.0	75-125
Chromium	6010	<1.0	50.	0.0	46.	93	47.	94	1.1	25.0	75-125
Cobalt	6010	<1.0	50.	0.0	46.	93	47.	93	1.0	25.0	75-125
Copper	6010	<1.0	50.	0.0	46.	91	46.	92	1.1	25.0	75-125
Lead	6010	<1.0	50.	0.0	46.	93	47.	93	1.0	25.0	75-125
Molybdenum	6010	<1.0	50.	0.0	47.	95	48.	95	0.7	25.0	75-125
Nickel	6010	<1.0	50.	0.0	46.	92	46.	93	0.6	25.0	75-125
Selenium	6010	<1.0	50.	0.0	44.	87	44.	88	1.0	25.0	75-125
Silver	6010	<1.0	50.	0.0	45.	91	46.	91	1.0	25.0	75-125
Thallium	6010	<1.0	50.	0.0	47.	93	45.	91	2.9	25.0	75-125
Vanadium	6010	<1.0	50.	0.0	46.	93	47.	93	1.0	25.0	75-125
Zinc	6010	<1.0	50.	0.0	44.	87	44.	88	1.1	25.0	75-125

Definition of Terms:

na: Not Analyzed in QC batch

MB: Method Blank

SA: Spike Added

SR: Sample Result

SP: Spike Result

SP (%R): Spike % Recovery

SPD: Spike Duplicate Result

SPD (%R): Spike Duplicate % Recovery



ACCULABS, INC.

Sample Log 21440

June 20, 2000

EPA 8081A

Sample Name : S-52(0-1/2) (20879-001)

Project Name : 20879

Project Number :

Sample Date : 05/13/00

Date Extracted : 06/19/00

Extr. Method : EPA 3550

QC Batch : PS000606

Date Analyzed : 06/20/00

Date Received : 06/19/00

Dilution : 1:20

Sample Matrix : Soil

Lab Number : 21440-01

Parameter	MRL	Measured Conc.	Units
alpha-BHC	0.10	0.13	mg/Kg
gamma-BHC	0.10	< 0.10	mg/Kg
beta-BHC	0.10	0.23	mg/Kg
Heptachlor	0.10	< 0.10	mg/Kg
delta-BHC	0.10	1.4	mg/Kg
Aldrin	0.10	< 0.10	mg/Kg
Heptachlor Epoxide	0.10	< 0.10	mg/Kg
gamma-Chlordane	0.10	< 0.10	mg/Kg
Endosulfan 1	0.10	< 0.10	mg/Kg
alpha-Chlordane	0.10	< 0.10	mg/Kg
Dieldrin	0.20	< 0.20	mg/Kg
DDE	0.20	< 0.20	mg/Kg
Endrin	0.20	< 0.20	mg/Kg
Endosulfan 2	0.20	< 0.20	mg/Kg
DDD	0.20	< 0.20	mg/Kg
Endrin Aldehyde	0.20	< 0.20	mg/Kg
DDT	0.20	< 0.20	mg/Kg
Endosulfan Sulfate	0.20	< 0.20	mg/Kg
Methoxychlor	1.0	< 1.0	mg/Kg
Chlordane Technical	2.0	< 2.0	mg/Kg
Toxaphene	4.0	12	mg/Kg
Tetrachloro-m-xylene (sur)		DIL OUT	% Recovery
Decachlorobiphenyl (sur)		DIL OUT	% Recovery

MRL = Method Reporting Limit

Conc. = Concentration

E = Concentration exceeded calibration range.

Approved By :

Tom Kwoka



ACCULABS, INC.

Sample Log 21440

June 20, 2000

EPA 8081A

Sample Name : Method Blank

Project Name : 20879

Project Number :

Sample Date : 05/13/00

Date Extracted : 06/19/00

Extr. Method : EPA 3550

QC Batch : PS000606

Date Analyzed : 06/20/00

Date Received : 06/19/00

Dilution : 1:1

Sample Matrix : Soil

Lab Number : 21440-02

Parameter	MRL	Measured Conc.	Units
alpha-BHC	0.0050	<0.0050	mg/Kg
gamma-BHC	0.0050	<0.0050	mg/Kg
beta-BHC	0.0050	<0.0050	mg/Kg
Heptachlor	0.0050	<0.0050	mg/Kg
delta-BHC	0.0050	<0.0050	mg/Kg
Aldrin	0.0050	<0.0050	mg/Kg
Heptachlor Epoxide	0.0050	<0.0050	mg/Kg
gamma-Chlordane	0.0050	<0.0050	mg/Kg
Endosulfan 1	0.0050	<0.0050	mg/Kg
alpha-Chlordane	0.0050	<0.0050	mg/Kg
Dieldrin	0.010	<0.010	mg/Kg
DDE	0.010	<0.010	mg/Kg
Endrin	0.010	<0.010	mg/Kg
Endosulfan 2	0.010	<0.010	mg/Kg
DDD	0.010	<0.010	mg/Kg
Endrin Aldehyde	0.010	<0.010	mg/Kg
DDT	0.010	<0.010	mg/Kg
Endosulfan Sulfate	0.010	<0.010	mg/Kg
Methoxychlor	0.050	<0.050	mg/Kg
Chlordane Technical	0.10	<0.10	mg/Kg
Toxaphene	0.20	<0.20	mg/Kg
Tetrachloro-m-xylene (sur)		87	% Recovery
Decachlorobiphenyl (sur)		85	% Recovery

MRL = Method Reporting Limit

Conc. = Concentration

E = Concentration exceeded calibration range.

Approved By :

Tom Kwoka

Entech Analytical Labs, Inc.

CA ELAP# 2346

525 Del Rey Avenue, Suite E • Sunnyvale, CA 94086 • (408) 735-1550 • Fax (408) 735-1554

June 20, 2000

Doug Young
Lowney Associates
405 Clyde Avenue
Mountain View, CA 94043

CONFIRMATION OF TOXAPLUSE

Order: 20879

Date Collected: 5/13/00

Project Name: US Data Port 50-Acre Parcel

Date Received: 5/15/00

Project Number: 587-12F

P.O. Number:

Project Notes:

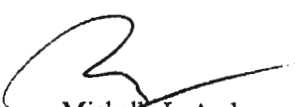
On May 15, 2000, sample was received under documented chain of custody. Results for the following analyses are attached:

<u>Matrix</u>	<u>Test</u>	<u>Method</u>
Solid	EPA 8081-Acculabs	EPA 8081

Chemical analysis of these samples has been completed. Summaries of the data are contained on the following pages. USEPA protocols for sample storage and preservation were followed.

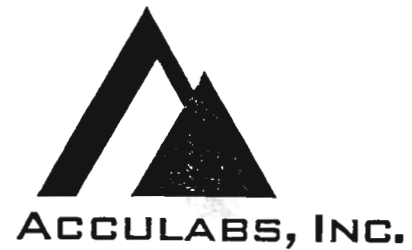
Entech Analytical Labs, Inc. is certified by the State of California (#2346). If you have any questions regarding procedures or results, please call me at 408-735-1550.

Sincerely,


Michelle L. Anderson
Lab Director

JUL 10 2000

Sample Log 21440
June 20, 2000



Michelle Anderson
Entech Analytical Labs, Inc.
525 Del Rey Avenue, Suite E
Sunnyvale, CA 94086

Subject : 1 Soil sample
Project Name : 20879
Project Number :
P.O. Number : 20879

Dear Ms. Anderson,

Chemical analysis on the samples referenced above has been completed. Summaries of the data are contained on the following pages. Sample(s) were received under documented chain-of-custody. USEPA protocols for sample storage and preservation were followed.

Acculabs - Davis is certified by the State of California (# 2330), the State of Arizona (AZ0583) and the State of Nevada. If you have any questions regarding procedures or results, please call me at 530-757-0920.

Sincerely,

A handwritten signature in cursive script that reads "Tom Kwoka".

Tom Kwoka

Oakland Office
129 Millbet Street
-Oakland, CA 94607
510-267-1970

510-267-1972 (fax)

LOWNEY ASSOCIATES

CHAIN OF CUSTODY RECORD

Send Results To:

Mountain View Office
405 Clyde Avenue
Mountain View, CA 94043

Oakland Office
129 Filbert Street
Oakland, CA 94607

Fac Copy To:

415-967-2365

510-267-1970

415-967-2785 (fax)

510-267-1972 (fax)

Project Name:

State Port 50-Ave Parcel

Lab Number:

587-12F

Port To:

Doug Young

Sampler (print):

John McLean

Sampler (signature):

John McLean

Requirements:

Level A (standard) ☐ Level B ☐ Level C ☐ Level D ☐

Sample I.D.

Date

Time

Sample Matrix

of Cont.

Turnaround

Requirements

☐ 10 working days

☒ 15 working days

☐ 3 working days

☐ 48 hours

☐ 24 hours

☐ 2-3 hours (RUSH)

Laboratory I.D.

613

040

041

014

015

Remarks:

Hold

Hold

2 water samples

for metals

filtered & pres

in the field

5-13-00

Issued By:

John McLean

Date:

Time:

Issued By:

Date:

Time:

Issued By:

Date:

Time:

Received By:

John McLean

Date:

Time:

PM Initials

☐ Oakland Office
129 Milbert Street
Oakland, CA 94607
510-267-1970

☐ 510-267-1972 (fax)

equipment

$$\frac{4(2-2\frac{1}{2})}{\sqrt{\quad}}$$

□ 2.3 hours (trial)

CONCLUSIONS

Time!

List of Members

OWNEY ASSOCIATES

CHAIN OF CUSTODY RECORD

Send Results To:

Mountain View Office
405 Clyde Avenue
Mountain View, CA 94043
415-967-2365

Oakland Office
129 Pillbest Street
Oakland, CA 94607
510-267-1970

Fax Copy To:

415-967-2785 (fax)

510-267-1972 (fax)

Project Name:

Data Port 50-Acre Parcel

Number: 587-12F

Officer: Doug Young

Inspector (print): John McGinnis

Inspector (signature): *John McGinnis*

Inspector

Level A (Standard) ☐ Level B ☐ Level C ☐ Level D ☐

Sample I.D. Date Time Sample Matrix # of Cont.

15 (0-1/2")	5-13-00		soil		
15 (1-1/2")					
15 (2-2 1/2")					
16 (0-1/2")					
16 (1-1/2")					
16 (2-2 1/2")					
17 (0-1/2")				2'	
17 (1-1/2")				2'	
17 (2-2 1/2")				2'	
2 (0-1/2")				1	
2 (1-1/2")				↓	
2 (2-2 1/2")				↓	

Turnaround

Requirements

- ☐ 10 working days
☒ 3 working days
☐ 3 working days
☐ 48 hours
☐ 24 hours
☐ 2-3 hours (MUSID)
 Laboratory I.D.

005
024
025
004
026
027
007
028
029
006
030
031

Organochlorine Pesticides
 Mercury (8080)
 Selenium
 Chlorinated Hydrocarbons
 Organophosphorus Pesticides
 N-methylcarbamates
 Lead
 (8151)
 (8141)
 (8318)

88 MAY 15 12:11

Remarks

Hold
Hold
Hold
Hold
Hold
Hold
Hold
Hold

Received By: *Leo Rodriguez* Date: 5/15/00 Time: 1230 PM Initials

Shipped By: *John McGinnis* Date: 5/15/00 Time: 1245

Shipped By: *Leo Rodriguez* Date: 5/15/00 Time: 1245

Shipped By: *John McGinnis* Date: 5/15/00 Time: 1245

ntech Analytical Labs, Inc.

525 Del Rey Avenue, Suite E
Sunnyvale, CA 94086

QUALITY CONTROL RESULTS SUMMARY

Laboratory Control Spike

METHOD: EPA 7471

QC Batch #: SHG000513

Matrix: Solid

Units: mg/kg

Date Analyzed: 05/19/00

Quality Control Sample: Blank Spike

PARAMETER	Method #	MB mg/kg	SA mg/kg	SR mg/kg	SP mg/kg	SP %R	SPD mg/kg	SPD %R	RPD	QC LIMITS %R
Mercury	7471	<0.10	0.20	0.00	0.17	84	0.17	85	0.7	44-145

Definition of Terms:

MB: Method Blank

SA: Spike Added

SR: Sample Result

SP: Spike Result

SP (%R) Spike % Recovery

SPD Spike Duplicate Result

SPD (%R) Spike Duplicate % Recovery

Entech Analytical Labs, Inc.

525 Del Rey Avenue, Suite E
Sunnyvale, CA 94086

QUALITY CONTROL RESULTS SUMMARY

Laboratory Control Spikes
METHOD: EPA 6010

QC Batch #: SM000520

Matrix: Solid

Units: mg/kg

Date Analyzed: 05/19/00

Date Digested: 05/18/00

Digestion Method: EPA 3050

Spiked Sample: Blank Spike

PARAMETER	Method #	MB mg/kg	SA mg/kg	SR mg/kg	SP mg/kg	SP %R	SPD mg/kg	SPD %R	RPD	QC LIMITS	
										RPD	%R
Antimony	6010	<1.0	50.	0.0	47.	93	47.	95	1.2	25.0	75-125
Arsenic	6010	<1.0	50.	0.0	46.	91	48.	95	3.9	25.0	75-125
Barium	6010	<1.0	50.	0.0	50.	101	51.	101	0.2	25.0	75-125
Beryllium	6010	<1.0	50.	0.0	50.	101	50.	101	0.1	25.0	75-125
Cadmium	6010	<1.0	50.	0.0	47.	94	47.	94	0.4	25.0	75-125
Chromium	6010	<1.0	50.	0.0	50.	101	51.	102	1.6	25.0	75-125
Cobalt	6010	<1.0	50.	0.0	50.	101	51.	101	0.5	25.0	75-125
Copper	6010	<1.0	50.	0.0	48.	96	48.	96	0.5	25.0	75-125
Lead	6010	<1.0	50.	0.0	49.	99	51.	102	2.7	25.0	75-125
Molybdenum	6010	<1.0	50.	0.0	50.	100	50.	101	0.3	25.0	75-125
Nickel	6010	<1.0	50.	0.0	51.	101	51.	102	0.6	25.0	75-125
Selenium	6010	<1.0	50.	0.0	47.	93	48.	95	2.4	25.0	75-125
Silver	6010	<1.0	50.	0.0	49.	97	51.	102	4.4	25.0	75-125
Thallium	6010	<1.0	50.	0.0	47.	95	50.	101	6.1	25.0	75-125
Vanadium	6010	<1.0	50.	0.0	50.	99	50.	99	0.2	25.0	75-125
Zinc	6010	<1.0	50.	0.0	47.	93	47.	95	1.3	25.0	75-125

Definition of Terms:

na: Not Analyzed in QC batch

MB: Method Blank

SA: Spike Added

SR: Sample Result

SP: Spike Result

SP (%R): Spike % Recovery

SPD: Spike Duplicate Result

SPD (%R): Spike Duplicate % Recovery

ech Analytical Labs, Inc.

525 Del Rey Avenue, Suite E
Sunnyvale, CA 94086

QUALITY CONTROL RESULTS SUMMARY

METHOD: Cold Vapor Atomic Absorption
Laboratory Control Spikes

QC Batch #: WHG000509
Matrix: Liquid
Units: mg/L

Date Analyzed: 05/18/00
Quality Control Sample: Blank Spike

PARAMETER	Method #	MB mg/L	SA mg/L	SR mg/L	SP mg/L	SP %R	SPD mg/L	SPD %R	RPD	QC LIMITS %R
Mercury	245.1	<0.0002	0.0020	ND	0.0013	67	0.0015	75	11.1	40- 144

Definition of Terms:

MB: Method Blank
SA: Spike Added
SR: Sample Result
SP: Spike Result
SP (%R) Spike % Recovery
SPD Spike Duplicate Result
SPD (%R) Spike Duplicate % Recovery

Entech Analytical Labs, Inc.

525 Del Rey Avenue, Suite E
Sunnyvale, CA 94086

QUALITY CONTROL RESULTS SUMMARY

Laboratory Control Spikes
METHOD: EPA 6010

QC Batch #: SM000518

Matrix: Solid

Units: mg/kg

Date Analyzed: 05/18/00

Date Digested: 05/17/00

Digestion Method: EPA 3050

Spiked Sample: Blank Spike

PARAMETER	Method #	MB mg/kg	SA mg/kg	SR mg/kg	SP mg/kg	SP %R	SPD mg/kg	SPD %R	RPD	QC LIMITS	
										RPD	%R
Antimony	6010	<1.0	50.	0.0	46.	92	46.	91	0.8	25.0	75-125
Arsenic	6010	<1.0	50.	0.0	43.	87	43.	87	0.0	25.0	75-125
Barium	6010	<1.0	50.	0.0	47.	93	47.	94	0.4	25.0	75-125
Beryllium	6010	<1.0	50.	0.0	48.	96	49.	97	0.7	25.0	75-125
Cadmium	6010	<1.0	50.	0.0	45.	90	45.	91	0.6	25.0	75-125
Chromium	6010	<1.0	50.	0.0	48.	96	48.	96	0.3	25.0	75-125
Cobalt	6010	<1.0	50.	0.0	48.	96	48.	96	0.3	25.0	75-125
Copper	6010	<1.0	50.	0.0	44.	89	45.	89	0.3	25.0	75-125
Lead	6010	<1.0	50.	0.0	48.	96	48.	96	0.4	25.0	75-125
Molybdenum	6010	<1.0	50.	0.0	48.	96	49.	97	0.9	25.0	75-125
Nickel	6010	<1.0	50.	0.0	45.	90	45.	91	0.9	25.0	75-125
Selenium	6010	<1.0	50.	0.0	46.	91	46.	93	1.8	25.0	75-125
Silver	6010	<1.0	50.	0.0	45.	90	45.	90	0.1	25.0	75-125
Thallium	6010	<1.0	50.	0.0	43.	86	47.	93	8.6	25.0	75-125
Vanadium	6010	<1.0	50.	0.0	47.	93	47.	94	0.4	25.0	75-125
Zinc	6010	<1.0	50.	0.0	45.	91	46.	91	0.4	25.0	75-125

Definition of Terms:

na: Not Analyzed in QC batch

MB: Method Blank

SA: Spike Added

SR: Sample Result

SP: Spike Result

SP (%R): Spike % Recovery

SPD: Spike Duplicate Result

SPD (%R): Spike Duplicate % Recovery

Entech Analytical Labs, Inc.

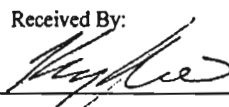
CA ELAP # I-2346

525 Del Rey Avenue, Suite E, Sunnyvale, CA 94086 (408) 735-1550 FAX (408) 735-1554

Subcontract Chain of Custody

Subcontract Lab:	Project Name:	Date Sent:	Due Date:	PO Number:			
APCL	20487	5/16/00	5/22/00	20487			
Sample Number:	Customer Sample Number:	Matrix: Test:	Method:	Collect Date:	Collect Time:	Bottle Type:	Preservative:
20487-007	S-51 (0-1/2)	Solid EPA 8151-APCL	EPA 8151	5/13/00		4 OZ JAR	

3015

Relinquished By:	Received By:	Date:	Time:
Mara Grishis	Golden State	5/16/00	1800
Relinquished By:	Received By:	Date:	Time:
		5/17/00	0900
Relinquished By:	Received By:	Date:	Time:

Notes:

Entech Analytical Labs, Inc.

525 Del Rey Avenue, Suite E
Sunnyvale, CA 94086

QUALITY CONTROL RESULTS SUMMARY

METHOD: ICP
Laboratory Control Spikes

QC Batch #: WM000508

Matrix: Liquid
Units: mg/L

Date Analyzed: 05/17/00

Date Digested: 05/16/00

Quality Control Sample: Blank Spike

PARAMETER	Method #	MB mg/L	SA mg/L	SR mg/L	SP mg/L	SP %R	SPD mg/L	SPD % R	RPD	QC LIMITS	
										%R	RPD
Aluminum	200.7	<0.050	5.0	ND	5.14	103	4.71	94	8.7	75- 125	25.0
Antimony	200.7	<0.005	0.50	ND	0.58	115	0.54	109	5.9	75- 125	25.0
Arsenic	200.7	<0.005	0.50	ND	0.57	114	0.50	100	12.5	75- 125	25.0
Barium	200.7	<0.005	0.50	ND	0.54	107	0.50	100	7.1	75- 125	25.0
Beryllium	200.7	<0.005	0.50	ND	0.60	119	0.53	105	12.1	75- 125	25.0
Cadmium	200.7	<0.005	0.50	ND	0.55	110	0.50	99	10.7	75- 125	25.0
Calcium	200.7	<0.050	10.0	ND	12.13	121	10.60	106	13.5	75- 125	25.0
Chromium	200.7	<0.005	0.50	ND	0.56	111	0.47	95	15.9	75- 125	25.0
Cobalt	200.7	<0.005	0.50	ND	0.55	110	0.49	97	12.4	75- 125	25.0
Copper	200.7	<0.005	0.50	ND	0.48	96	0.43	87	9.6	75- 125	25.0
Lead	200.7	<0.005	0.50	ND	0.55	109	0.51	102	7.4	75- 125	25.0
Magnesium	200.7	<0.050	5.0	ND	5.38	108	5.10	102	5.3	75- 125	25.0
Manganese	200.7	<0.005	0.50	ND	0.58	115	0.51	102	11.9	75- 125	25.0
Molybdenum	200.7	<0.005	0.50	ND	0.54	108	0.50	100	6.9	75- 125	25.0
Nickel	200.7	<0.005	0.50	ND	0.54	107	0.47	94	12.9	75- 125	25.0
Selenium	200.7	<0.005	0.50	ND	0.56	111	0.57	114	3.0	75- 125	25.0
Silver	200.7	<0.005	0.50	ND	0.56	112	0.54	107	4.6	75- 125	25.0
Thallium	200.7	<0.005	0.50	ND	0.50	100	0.45	90	11.2	75- 125	25.0
Vanadium	200.7	<0.005	0.50	ND	0.57	114	0.49	98	14.9	75- 125	25.0
Zinc	200.7	<0.005	0.50	ND	0.59	118	0.53	105	11.4	75- 125	25.0

Definition of Terms:

MB: Method Blank

nc: Not Calculated due to high levels of analyte found in sample

na: Not analyzed in QC batch

SA: Spike Added

SR: Sample Result

SP: Spike Result

SP (%R) Spike % Recovery

SPD Spike Duplicate Result

SPD (%R) Spike % Recovery

Applied P & Ch Laboratory

13760 Magnolia Ave. Chino CA 91710

Tel: (909) 590-1828 Fax: (909) 590-1498

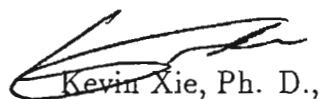
APCL QA/QC Report

*: LCS/LCSD is used.

Notation: ICV - Initial Calibration Verification
CCV - Continuation Calibration Verification
LCS - Lab Control Spike
MS - Matrix Spike
MSD - Matrix Spike Duplicate
ICS - Interference Check Standard
MD - Matrix Duplicate
N.D. - Not detected or less than PQL

CCB - Continuation Calibration Blank
M-blank - Method Blank
SP Level - Spike Level
%Rec - Recovery Percent
%RPD - Relative Percent Differences
%Diff - Control Limit for %RPD
ICP-SD - ICP Serial Dilution
N.A. - Not Applicable

Respectfully submitted,


Kevin Xie, Ph. D.,
QA Director
Applied P & Ch Laboratory

Entech Analytical Labs, Inc.

CA ELAP # I-2346

525 Del Rey Avenue, Suite E, Sunnyvale, CA 94086 (408) 735-1550 FAX (408) 735-1554

Subcontract Chain of Custody

Subcontract Lab:	Project Name:	Date Sent:	Due Date:	PO Number:				
APCL	20487	5/16/00	5/22/00	20487				
Sample Number:	Customer Sample Number:	Matrix:	Test:	Method:	Collect Date:	Collect Time:	Bottle Type:	Preservative:
20487-007	S-51 (0-½)	Solid	EPA 8151-APCL	EPA 8151	5/13/00		4 OZ JAR	

Relinquished By:	Received By:	Date:	Time:
Maria Grishis	Golden State	5/16/00	1800
Relinquished By:	Received By:	Date:	Time:
Relinquished By:	Received By:	Date:	Time:

Notes:

Applied P & Ch Laboratory

13760 Magnolia Ave. Chino CA 91710

Tel: (909) 590-1828 Fax: (909) 590-1498

APCL Analytical Report

Submitted to:

Entech Analytical Labs, Inc.

Attention: Alan Aks

525 Del Rey, Suite E

Sunnyvale CA 94086

Tel: (408) 735-1550 Fax: (408) 735-1554

Service ID #: 801-003015

Collected by:

Collected on: 05/13/00

Sample Description: Soil

Project Description: 20487

Received: 05/17/00

Extracted: 05/18/00

Tested: 05/18/00

Reported: 05/22/00

Analysis of Soil Samples

Component Analyzed	Method	Unit	PQL	Analysis Result
				20487-007
				00-03015-1
Chlorinated herbicides				
Acifluorfen	8151	µg/kg	20	ND
Bentazon (Basagran)	8151	µg/kg	10	ND
Chloramben	8151	µg/kg	10	ND
2,4-D	8151	µg/kg	10	ND
2,4-DB	8151	µg/kg	10	ND
Dalapon (dichloroacetic acid)	8151	µg/kg	20	ND
Dicamba	8151	µg/kg	10	ND
3,5-Dichlorobenzoic	8151	µg/kg	10	ND
Dichloroprop	8151	µg/kg	10	ND
Dinoseb (DNBP)	8151	µg/kg	20	ND
MCPA	8151	mg/kg	2	ND
MCPP	8151	mg/kg	2	ND
4-Nitrophenol	8151	µg/kg	10	ND
Pentachlorophenol (PCP)	8151	µg/kg	10	ND
Picloram	8151	µg/kg	10	ND
2,4,5-T	8151	µg/kg	10	ND
2,4,5-TP (Silvex)	8151	µg/kg	10	ND

PQL: Practical Quantitation Limit.

MDL: Method Detection Limit.

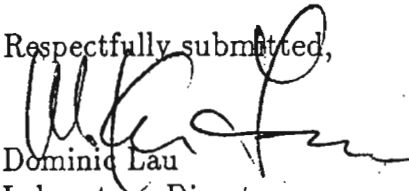
CRDL: Contract Required Detection Limit

N.D.: Not Detected or less than the practical quantitation limit.

"-": Analysis is not required.

J: Reported between PQL and MDL.

Respectfully submitted,


Dominic Lau

Laboratory Director

Applied P & Ch Laboratory

Applied P & Ch Laboratory

13760 Magnolia Ave. Chino CA 91710

Tel: (909) 590-1828 Fax: (909) 590-1498

APCL QA/QC Report

Submitted to:

Entech Analytical Labs, Inc.

Attention: Alan Aks

525 Del Rey, Suite E

Sunnyvale, CA 94086

Tel: (408) 735-1550 Fax: (408) 735-1554

Service ID #: 801-003015

Collected by:

Collected on: 05/13/00

Sample description:

Soil

Project: 20487

Received: 05/17/00

Tested: 05/18/00

Reported: 5/30/00

Analysis of Soil

801-003015QC

Component Name	Analysis Batch #	CCV (µg/L)	CCV %Rec	M-Blank	Conc. Unit	SP Level	LCS %Rec	MS %Rec	MSD %Rec	MS/MSD %RPD	Control Limit %Rec	Limit %Diff
Chlorinated herbicides												
Dalapon (dichloroacetic acid)	00G2642	250	92	N.D.	µg/kg	-	-	-	-	-	-	-
3,5-Dichlorobenzoic	00G2642	250	114	N.D.	µg/kg	-	-	-	-	-	-	-
4-Nitrophenol	00G2642	250	99	N.D.	µg/kg	-	-	-	-	-	-	-
Dicamba	00G2642	250	102	N.D.	µg/kg	-	-	-	-	-	-	-
MCPP	00G2642	25000	110	N.D.	mg/kg	-	-	-	-	-	-	-
Dichloroprop	00G2642	250	100	N.D.	µg/kg	-	-	-	-	-	-	-
MCPA	00G2642	25000	111	N.D.	mg/kg	-	-	-	-	-	-	-
2,4-D	00G2642	250	113	N.D.	µg/kg	50.0	117	117*	117*	0	55-125	35
Pentachlorophenol (PCP)	00G2642	250	106	N.D.	µg/kg	-	-	-	-	-	-	-
2,4,5-TP (Silvex)	00G2642	250	106	N.D.	µg/kg	50.0	87	87*	87*	0	54-127	36
2,4,5-T	00G2642	250	110	N.D.	µg/kg	50.0	109	109*	110*	2	50-128	39
Dinoseb (DNBP)	00G2642	250	89	N.D.	µg/kg	-	-	-	-	-	-	-
Chloramben	00G2642	250	94	N.D.	µg/kg	-	-	-	-	-	-	-
2,4-DB	00G2642	250	90	N.D.	µg/kg	-	-	-	-	-	-	-
Bentazon (Basagran)	00G2642	250	99	N.D.	µg/kg	-	-	-	-	-	-	-
DCPA (Dacthal)	00G2642	250	95	N.D.	µg/kg	-	-	-	-	-	-	-
Picloram	00G2642	250	96	N.D.	µg/kg	-	-	-	-	-	-	-
Acifluorfen	00G2642	250	100	N.D.	µg/kg	-	-	-	-	-	-	-

Entech Analytical Labs, Inc.

CA ELAP# 2346

525 Del Rey Avenue, Suite E • Sunnyvale, CA 94086 • (408) 735-1550 • Fax (408) 735-1554

Lowney Associates
405 Clyde Avenue
Mountain View, CA 94043
Attn: Doug Young

Date: 5/22/00
Date Received: 5/15/00
Project Name: US Data Port 50-Acre Parcel
Project Number: 587-12F
P.O. Number:
Sampled By: John McCain

Certified Analytical Report

Order ID: 20487

Lab Sample ID: 20487-009

Client Sample ID: S-53 (0-½')

Sample Time:

Sample Date: 5/13/00

Matrix: Solid

Parameter	Result	DF	PQL	DLR	Units	PrepDate	Analysis Date	QC Batch ID	Method
Arsenic	45	5	1	5	mg/Kg	5/18/00	5/22/00	SM000520	EPA 6010B
Lead	140	5	1	5	mg/Kg	5/18/00	5/22/00	SM000520	EPA 6010B
Mercury	ND	1	0.05	0.05	mg/Kg	5/19/00	5/19/00	SHG000513	EPA 7471
Selenium	ND	1	5	5	mg/Kg	5/18/00	5/22/00	SM000520	EPA 6010B

Order ID: 20487

Lab Sample ID: 20487-010

Client Sample ID: S-54 (0-½')

Sample Time:

Sample Date: 5/13/00

Matrix: Solid

Parameter	Result	DF	PQL	DLR	Units	PrepDate	Analysis Date	QC Batch ID	Method
Arsenic	58	5	1	5	mg/Kg	5/18/00	5/22/00	SM000520	EPA 6010B
Lead	140	5	1	5	mg/Kg	5/18/00	5/22/00	SM000520	EPA 6010B
Mercury	0.0574	1	0.05	0.05	mg/Kg	5/19/00	5/19/00	SHG000513	EPA 7471
Selenium	ND	5	5	25	mg/Kg	5/18/00	5/22/00	SM000520	EPA 6010B

Order ID: 20487

Lab Sample ID: 20487-011

Client Sample ID: S-55 (0-½')

Sample Time:

Sample Date: 5/13/00

Matrix: Solid

Parameter	Result	DF	PQL	DLR	Units	PrepDate	Analysis Date	QC Batch ID	Method
Arsenic	39	5	1	5	mg/Kg	5/18/00	5/22/00	SM000520	EPA 6010B
Lead	94	5	1	5	mg/Kg	5/18/00	5/22/00	SM000520	EPA 6010B
Mercury	ND	1	0.05	0.05	mg/Kg	5/19/00	5/19/00	SHG000513	EPA 7471
Selenium	ND	5	5	25	mg/Kg	5/18/00	5/22/00	SM000520	EPA 6010B

Order ID: 20487

Lab Sample ID: 20487-012

Client Sample ID: S-56 (0-½')

Sample Time:

Sample Date: 5/13/00

Matrix: Solid

Parameter	Result	DF	PQL	DLR	Units	PrepDate	Analysis Date	QC Batch ID	Method
Arsenic	51	5	1	5	mg/Kg	5/18/00	5/22/00	SM000520	EPA 6010B
Lead	130	5	1	5	mg/Kg	5/18/00	5/22/00	SM000520	EPA 6010B
Mercury	0.5350	1	0.05	0.05	mg/Kg	5/19/00	5/19/00	SHG000513	EPA 7471
Selenium	ND	5	5	25	mg/Kg	5/18/00	5/22/00	SM000520	EPA 6010B

DF = Dilution Factor

ND = Not Detected

DLR = Detection Limit Reported

PQL = Practical Quantitation Limit

Analysis performed by Entech Analytical Labs, Inc. (CA ELAP #2346)


Michelle L. Anderson, Laboratory Director

Page 3 of 4

Environmental Analysis Since 1983

Entech Analytical Labs, Inc.

CA ELAP# 2346

525 Del Rey Avenue, Suite E • Sunnyvale, CA 94086 • (408) 735-1550 • Fax (408) 735-1554

Lowney Associates
405 Clyde Avenue
Mountain View, CA 94043
Attn: Doug Young

Date: 5/22/00
Date Received: 5/15/00
Project Name: US Data Port 50-Acre Parcel
Project Number: 587-12F
P.O. Number:
Sampled By: John McCain

Certified Analytical Report

Order ID: 20487

Lab Sample ID: 20487-013

Client Sample ID: S-57 (0-½')

Sample Time:

Sample Date: 5/13/00

Matrix: Solid

Parameter	Result	DF	PQL	DLR	Units	PrepDate	Analysis Date	QC Batch ID	Method
Arsenic	42	5	1	5	mg/Kg	5/18/00	5/22/00	SM000520	EPA 6010B
Lead	94	5	1	5	mg/Kg	5/18/00	5/22/00	SM000520	EPA 6010B
Mercury	ND	1	0.05	0.05	mg/Kg	5/19/00	5/19/00	SHG000513	EPA 7471
Selenium	ND	5	5	25	mg/Kg	5/18/00	5/22/00	SM000520	EPA 6010B

DF = Dilution Factor

ND = Not Detected

DLR = Detection Limit Reported

PQL = Practical Quantitation Limit

Analysis performed by Entech Analytical Labs, Inc. (CA ELAP #2346)


Michelle L. Anderson, Laboratory Director

Page 4 of 4

Environmental Analysis Since 1983

Entech Analytical Labs, Inc.

CA ELAP# 2346

525 Del Rey Avenue, Suite E • Sunnyvale, CA 94086 • (408) 735-1550 • Fax (408) 735-1554

Lowney Associates
405 Clyde Avenue
Mountain View, CA 94043
Attn: Doug Young

Date: 5/22/00
Date Received: 5/15/00
Project Name: US Data Port 50-Acre Parcel
Project Number: 587-12F
P.O. Number:
Sampled By: John McCain

Certified Analytical Report

Order ID: 20487

Lab Sample ID: 20487-001

Client Sample ID: S-38 (0-½')

Sample Time:

Sample Date: 5/13/00

Matrix: Solid

Parameter	Result	DF	PQL	DLR	Units	PrepDate	Analysis Date	QC Batch ID	Method
Arsenic	42	5	1	5	mg/Kg	5/18/00	5/22/00	SM000518	EPA 6010B
Lead	100	5	1	5	mg/Kg	5/18/00	5/22/00	SM000518	EPA 6010B
Mercury	0.0512	1	0.05	0.05	mg/Kg	5/19/00	5/19/00	SHG000513	EPA 7471
Selenium	ND	5	5	25	mg/Kg	5/18/00	5/22/00	SM000518	EPA 6010B

Order ID: 20487

Lab Sample ID: 20487-002

Client Sample ID: S-41 (0-½')

Sample Time:

Sample Date: 5/13/00

Matrix: Solid

Parameter	Result	DF	PQL	DLR	Units	PrepDate	Analysis Date	QC Batch ID	Method
Arsenic	46	5	1	5	mg/Kg	5/18/00	5/22/00	SM000518	EPA 6010B
Lead	140	5	1	5	mg/Kg	5/18/00	5/22/00	SM000518	EPA 6010B
Mercury	ND	1	0.05	0.05	mg/Kg	5/19/00	5/19/00	SHG000513	EPA 7471
Selenium	ND	5	5	25	mg/Kg	5/18/00	5/22/00	SM000518	EPA 6010B

Order ID: 20487

Lab Sample ID: 20487-003

Client Sample ID: S-43 (0-½')

Sample Time:

Sample Date: 5/13/00

Matrix: Solid

Parameter	Result	DF	PQL	DLR	Units	PrepDate	Analysis Date	QC Batch ID	Method
Arsenic	55	5	1	5	mg/Kg	5/18/00	5/22/00	SM000520	EPA 6010B
Lead	180	5	1	5	mg/Kg	5/18/00	5/22/00	SM000520	EPA 6010B
Mercury	0.1090	1	0.05	0.05	mg/Kg	5/19/00	5/19/00	SHG000513	EPA 7471
Selenium	ND	5	5	25	mg/Kg	5/18/00	5/22/00	SM000520	EPA 6010B

Order ID: 20487

Lab Sample ID: 20487-004

Client Sample ID: S-44 (0-½')

Sample Time:

Sample Date: 5/13/00

Matrix: Solid

Parameter	Result	DF	PQL	DLR	Units	PrepDate	Analysis Date	QC Batch ID	Method
Arsenic	43	5	1	5	mg/Kg	5/18/00	5/22/00	SM000520	EPA 6010B
Lead	130	5	1	5	mg/Kg	5/18/00	5/22/00	SM000520	EPA 6010B
Mercury	ND	1	0.05	0.05	mg/Kg	5/19/00	5/19/00	SHG000513	EPA 7471
Selenium	ND	5	5	25	mg/Kg	5/18/00	5/22/00	SM000520	EPA 6010B

DF = Dilution Factor

ND = Not Detected

DLR = Detection Limit Reported

PQL = Practical Quantitation Limit

Analysis performed by Entech Analytical Labs, Inc. (CA ELAP #2346)



Michelle L. Anderson, Laboratory Director

Page 1 of 4

Environmental Analysis Since 1983

Entech Analytical Labs, Inc.

CA ELAP# 2346

525 Del Rey Avenue, Suite E • Sunnyvale, CA 94086 • (408) 735-1550 • Fax (408) 735-1554

Lowney Associates
405 Clyde Avenue
Mountain View, CA 94043
Attn: Doug Young

Date: 5/22/00
Date Received: 5/15/00
Project Name: US Data Port 50-Acre Parcel
Project Number: 587-12F
P.O. Number:
Sampled By: John McCain

Certified Analytical Report

Order ID: 20487		Lab Sample ID: 20487-005				Client Sample ID: S-45 (0-½')			
Sample Time:		Sample Date: 5/13/00				Matrix: Solid			
Parameter	Result	DF	PQL	DLR	Units	PrepDate	Analysis Date	QC Batch ID	Method
Arsenic	55	5	1	5	mg/Kg	5/18/00	5/22/00	SM000520	EPA 6010B
Lead	180	5	1	5	mg/Kg	5/18/00	5/22/00	SM000520	EPA 6010B
Mercury	0.0570	1	0.05	0.05	mg/Kg	5/19/00	5/19/00	SHG000513	EPA 7471
Selenium	ND	5	5	25	mg/Kg	5/18/00	5/22/00	SM000520	EPA 6010B

Order ID: 20487		Lab Sample ID: 20487-006				Client Sample ID: S-46 (0-½')			
Sample Time:		Sample Date: 5/13/00				Matrix: Solid			
Parameter	Result	DF	PQL	DLR	Units	PrepDate	Analysis Date	QC Batch ID	Method
Arsenic	65	5	1	5	mg/Kg	5/18/00	5/22/00	SM000520	EPA 6010B
Lead	170	5	1	5	mg/Kg	5/18/00	5/22/00	SM000520	EPA 6010B
Mercury	0.0657	1	0.05	0.05	mg/Kg	5/19/00	5/19/00	SHG000513	EPA 7471
Selenium	ND	5	5	25	mg/Kg	5/18/00	5/22/00	SM000520	EPA 6010B

Order ID: 20487		Lab Sample ID: 20487-007				Client Sample ID: S-51 (0-½')			
Sample Time:		Sample Date: 5/13/00				Matrix: Solid			
Parameter	Result	DF	PQL	DLR	Units	PrepDate	Analysis Date	QC Batch ID	Method
Arsenic	46	5	1	5	mg/Kg	5/18/00	5/22/00	SM000520	EPA 6010B
Lead	120	5	1	5	mg/Kg	5/18/00	5/22/00	SM000520	EPA 6010B
Mercury	0.0582	1	0.05	0.05	mg/Kg	5/19/00	5/19/00	SHG000513	EPA 7471
Selenium	ND	5	5	25	mg/Kg	5/18/00	5/22/00	SM000520	EPA 6010B

Order ID: 20487		Lab Sample ID: 20487-008				Client Sample ID: S-52 (0-½')			
Sample Time:		Sample Date: 5/13/00				Matrix: Solid			
Parameter	Result	DF	PQL	DLR	Units	PrepDate	Analysis Date	QC Batch ID	Method
Arsenic	67	5	1	5	mg/Kg	5/18/00	5/22/00	SM000520	EPA 6010B
Lead	310	5	1	5	mg/Kg	5/18/00	5/22/00	SM000520	EPA 6010B
Mercury	0.5980	2	0.05	0.1	mg/Kg	5/19/00	5/19/00	SHG000513	EPA 7471
Selenium	ND	5	5	25	mg/Kg	5/18/00	5/22/00	SM000520	EPA 6010B

DF = Dilution Factor

ND = Not Detected

DLR = Detection Limit Reported

PQL = Practical Quantitation Limit

Analysis performed by Entech Analytical Labs, Inc. (CA ELAP #2346)


Michelle L. Anderson, Laboratory Director

Page 2 of 4

Environmental Analysis Since 1983

Entech Analytical Labs, Inc.

CA ELAP # I-2346

525 Del Rey Avenue, Suite E, Sunnyvale, CA 94086 (408) 735-1550 FAX (408) 735-1554

Subcontract Chain of Custody

Subcontract Lab:	Project Name:	Date Sent:	Due Date:	PO Number:
EMA	20487	5/16/00	5/22/00	20487

Sample Number:	Customer Sample Number:	Matrix:	Test:	Method:	Collect Date:	Collect Time:	Bottle Type:	Preservative:
20487-007	S-51 (0-1/4)	Solid	EPA 8141-EMA	EPA 8141	5/13/00		4 OZ JAR	
20487-007	S-51 (0-1/4)	Solid	EPA 8318-EMA	EPA 8318	5/13/00		4 OZ JAR	

Relinquished By:	Received By:	Date:	Time:
<i>Maria Griselis</i>	<i>Golden State</i>	<i>5/16/00</i>	<i>1800</i>
Relinquished By:	Received By:	Date:	Time:
	<i>J. Bauer</i>	<i>5/17/00</i>	<i>0928</i>
Relinquished By:	Received By:	Date:	Time:

Notes: 8318 (n-METHYL CARBAMATES)

Entech Analytical Labs, Inc.

CA ELAP# 2346

525 Del Rey Avenue, Suite E • Sunnyvale, CA 94086 • (408) 735-1550 • Fax (408) 735-1554

May 22, 2000

Doug Young
Lowney Associates
405 Clyde Avenue
Mountain View, CA 94043

Order: 20487

Date Collected: 5/13/00

Project Name: US Data Port 50-Acre Parcel

Date Received: 5/15/00

Project Number: 587-12F

P.O. Number:

Project Notes:

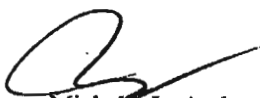
On May 15, 2000, samples were received under documented chain of custody. Results for the following analyses are attached:

<u>Matrix</u>	<u>Test</u>	<u>Method</u>
Solid	Arsenic	EPA 6010B
	EPA 8151-APCL	EPA 8151
	Lead	EPA 6010B
	Mercury	EPA 7471
	Selenium	EPA 6010B

Chemical analysis of these samples has been completed. Summaries of the data are contained on the following pages. USEPA protocols for sample storage and preservation were followed.

Entech Analytical Labs, Inc. is certified by the State of California (#2346). If you have any questions regarding procedures or results, please call me at 408-735-1550.

Sincerely,



Michelle L. Anderson
Lab Director

Environmental Micro Analysis, Inc.

40 N. East Street, Suite B, Woodland, CA 95776

Phone: (530) 666-6890 Fax: (530) 666-2987

California State Certification # 2211

QUALITY CONTROL REPORT

Client: Entech Analytical Labs, Inc.
525 Del Rey Avenue, Suite E
Sunnyvale, CA 94086
Phone: (408) 735-1550 FAX: (408) 735-1554

For Client ID: Sample No.: 20487-007

For EMA ID: For 00051702 Data Set

Matrix: Soil

Date Analyzed: 8141A - 05/22/00
8318A- 05/23/00

Organophosphate Pesticides - EPA Method 8141A

<u>Parameter</u>	<u>Spike Level</u>	<u>Recovery in Percent</u>	
	<u>ppm</u>	<u>Spike</u>	<u>Duplicate</u>
inphos Methyl (Guthion)	0.5	78.0	70.8
Methyl Parathion	0.5	86.6	88.3
Tetrachlorvinphos	0.5	95.7	98.7

Carbamate Screen - EPA Method 8318A

<u>Parameter</u>	<u>Spike Level</u>	<u>Recovery in Percent</u>	
	<u>ppm</u>	<u>Spike</u>	<u>Duplicate</u>
Oxamyl	0.5	95.8	93.6
Methiocarb	0.5	100	99.4

Entech Analytical Labs, Inc.

CA ELAP # I-2346

525 Del Rey Avenue, Suite E, Sunnyvale, CA 94086 (408) 735-1550 FAX (408) 735-1554

Subcontract Chain of Custody

Subcontract Lab:	Project Name:	Date Sent:	Due Date:	PO Number:
EMA	20487	5/16/00	5/22/00	20487

Sample Number:	Customer Sample Number:	Matrix:	Test:	Method:	Collect Date:	Collect Time:	Bottle Type:	Preservative:
20487-007	S-51 (0-1/2)	Solid	EPA 8141-EMA	EPA 8141	5/13/00		4 OZ JAR	
20487-007	S-51 (0-1/2)	Solid	EPA 8318-EMA	EPA 8318	5/13/00		4 OZ JAR	

Relinquished By:	Received By:	Date:	Time:
Maria Grisel	Golden State	5/16/00	1800
Relinquished By:	Received By:	Date:	Time:
Relinquished By:	Received By:	Date:	Time:

Notes: 8318 (n-METHYL CARBAMATES)

Analytical Report

May 23, 2000

Client: Lori Tyler
Entech Analytical Labs, Inc.
525 Del Rey Avenue, Ste. E
Sunnyvale, CA 94086
Telephone: (408) 735-1550
Fax: (408) 735-1554

Project No: 20487

PO No: 20487

Client Sample ID: Blank

Sample Date: 5/13/2000
EMA Sample No: 00051702-00
Date Received: 5/17/2000
Sample Matrix:
Analytical Method: EPA 8141A (s)
Extraction Method: EPA 3550
Date Extracted: 5/19/2000
Date Completed: 5/22/2000
Surrogate: Ethlon
Surrogate Level: 0.5 µg/g
Recovery: 99.5 %

Analyte	Amount ppm	MBL ppm
Acephate*	ND	.05
Azinphos-methyl (Guthion)	ND	.05
Bolstar (Sulprofos)	ND	.05
Carbophenothion (Trithion)*	ND	.05
Chlorfenvinphos (Supona)*	ND	.05
Chlorpyrifos (Dursban)	ND	.03
Ciodrin (Crotophos)*	ND	.05
Courmaphos (Co-Ral)	ND	.05
Demeton (Systox) O analogue	ND	.05
Demeton (Systox) S analogue	ND	.05
Diazinon	ND	.03
Dicrotophos (Didrin)*	ND	.05
Dimethoate (Cygon)	ND	.03
Dioxathion (Delnav)*	ND	.05
Disulfoton (Disyston)	ND	.05
EPN	ND	.05
Ethion*	ND	.05
Fenamiphos (Nemacur)*	ND	.05
Fenitrothion (Sumithion)*	ND	.05
Fenthion (Baytex)	ND	.05
Fonofos (Dyfonate)	ND	.05
Hostathion (Triazophos)*	ND	.05
Imidan (Phosmet)*	ND	.05
Isofenphos (Oftanol)*	ND	.05
Malathion	ND	.05
Methamidophos*	ND	.03
Methidathion (Supracide)*	ND	.05
Methyl Parathion	ND	.05
Mevinphos (Phosdrin)*	ND	.05
Molinate (Ordram)	ND	.05
Parathion	ND	.04
Phorate (Thimet)	ND	.05
Phosalone (Zolone)*	ND	.03
Phosphamidon (Dimecron)*	ND	.08
Profenofos (Cruacron)*	ND	.05
Propetamphos (Safrotin)*	ND	.05
Ronnel (Fenchlorfos)	ND	.05
Tetrachlorvinphos (Gardona)*	ND	.05
Thiobencard (Bolero)	ND	.05
Thionazin (Zinophos)*	ND	.05

Analytical Report

May 23, 2000

Client: Lori Tyler
Entech Analytical Labs, Inc.
525 Del Rey Avenue, Ste. E
Sunnyvale, CA 94086

Telephone: (408) 735-1550
Fax: (408) 735-1554

Analyte	Amount ppm	MRP ppm
Aldicarb	ND	.03
Aldicarb Sulfone	ND	.03
Aldicarb Sulfoxide	ND	.03
Carbaryl	ND	.03
Carbofuran	ND	.05
3-OH Carbofuran	ND	.05
Methiocarb	ND	.05
Methomyl	ND	.03
O-phenyl phenol	ND	.03
Oxamyl	ND	.05

Project No: 20487

PO No: 20487

Client Sample ID: Blank

Sample Date: 5/13/2000
EMA Sample No: 00051702-00
Date Received: 5/17/2000
Sample Matrix:

Analytical Method: EPA 8318 (s)

Extraction Method: EPA 3550

Date Extracted: 5/19/2000

Date Completed: 5/23/2000

Surrogate:

Surrogate Level:

Recovery:

Analytical Report

May 23, 2000

Client: Lori Tyler
Entech Analytical Labs, Inc.
525 Del Rey Avenue, Ste. E
Sunnyvale, CA 94086

Telephone: (408) 735-1550

Fax: (408) 735-1554

Project No: 20487

PO No: 20487

Client Sample ID: 20487-007
S-51 (0-1/2)

Sample Date: 5/13/2000

EMA Sample No: 00051702-01

Date Received: 5/17/2000

Sample Matrix: Soil

Analytical Method: EPA 8141A (s)

Extraction Method: EPA 3550

Date Extracted: 5/19/2000

Date Completed: 5/22/2000

Surrogate: Ethion

Surrogate Level: 0.5 µg/g

Recovery: 80.5 %

Analyte	Amount ppm	MBL ppm
Acephate*	ND	.05
Azinphos-methyl (Guthion)	ND	.05
Bolstar (Sulprofos)	ND	.05
Carbophenothion (Trithion)*	ND	.05
Chlorfenvinphos (Supona)*	ND	.05
Chlorpyrifos (Dursban)	ND	.03
Codrin (Crotaphos)*	ND	.05
Courmaphos (Co-Ral)	ND	.05
Demeton (Systox) O analogue	ND	.05
Demeton (Systox) S analogue	ND	.05
Diazinon	ND	.03
Dicrotophos (Didrin)*	ND	.05
Dimethoate (Cygon)	ND	.03
Dioxathion (Deinav)*	ND	.05
Disulfoton (Disyston)	ND	.05
EPN	ND	.05
Ethion*	ND	.05
Fenamiphos (Nemacur)*	ND	.05
Fenitrothion (Sumithion)*	ND	.05
Fenthion (Baytex)	ND	.05
Fonofos (Dytonate)	ND	.05
Hostathion (Triazophos)*	ND	.05
Imidan (Phosmet)*	ND	.05
Isofenphos (Oftanol)*	ND	.05
Malathion	ND	.05
Methamidophos*	ND	.03
Methidathion (Supracide)*	ND	.05
Methyl Parathion	ND	.05
Mevinphos (Phosdrin)*	ND	.05
Molinate (Ordram)	ND	.05
Parathion	ND	.04
Phorate (Thimet)	ND	.05
Phosalone (Zolone)*	ND	.03
Phosphamidon (Dimecron)*	ND	.08
Profenofos (Cruacron)*	ND	.05
Propetamphos (Safrotin)*	ND	.05
Ronnel (Fenchlorfos)	ND	.05
Tetrachlorvinphos (Gardona)*	ND	.05
Thiobencard (Bolero)	ND	.05
Thionazin (Zinophos)*	ND	.05

Analytical Report

May 23, 2000

Client: Lori Tyler
Entech Analytical Labs, Inc.
525 Del Rey Avenue, Ste. E
Sunnyvale, CA 94086
Telephone: (408) 735-1550
Fax: (408) 735-1554

Analyte	Amount ppm	MRM ppm
Aldicarb	ND	.03
Aldicarb Sulfone	ND	.03
Aldicarb Sulfoxide	ND	.03
Carbaryl	ND	.03
Carbofuran	ND	.05
3-OH Carbofuran	ND	.05
Methiocarb	ND	.05
Methomyl	ND	.03
O-phenyl phenol	ND	.03
Oxamyl	ND	.05

Project No: 20487

PO No: 20487

Client Sample ID: 20487-007
S-51 (0-1/2)

Sample Date: 5/13/2000
EMA Sample No: 00051702-01
Date Received: 5/17/2000
Sample Matrix: Soil

Analytical Method: EPA 8318 (s)
Extraction Method: EPA 3550
Date Extracted: 5/19/2000
Date Completed: 5/23/2000

Surrogate:

Surrogate Level:

Recovery:

Antech Analytical Labs, Inc.

CA ELAP # I-2346

525 Del Rey Avenue, Suite E, Sunnyvale, CA 94086 (408) 735-1550 FAX (408) 735-1554

Subcontract Chain of Custody

Subcontract Lab: ATL Project Name: 20487 Date Sent: 5/16/00 Due Date: 5/22/00 PO Number: 20487

Sample Number:	Customer Sample Number:	Matrix:	Test:	Method:	Collect Date:	Collect Time:	Bottle Type:	Preservative:
20487-001	S-38 (0-1/2)	Solid	EPA 8081-ATL	EPA 8081	5/13/00		4 OZ JAR	
20487-002	S-41 (0-1/2)	Solid	EPA 8081-ATL	EPA 8081	5/13/00		4 OZ JAR	
20487-003	S-43 (0-1/2)	Solid	EPA 8081-ATL	EPA 8081	5/13/00		4 OZ JAR	
20487-004	S-44 (0-1/2)	Solid	EPA 8081-ATL	EPA 8081	5/13/00		4 OZ JAR	
20487-005	S-45 (0-1/2)	Solid	EPA 8081-ATL	EPA 8081	5/13/00		4 OZ JAR	
20487-006	S-46 (0-1/2)	Solid	EPA 8081-ATL	EPA 8081	5/13/00		4 OZ JAR	
20487-007	S-51 (0-1/2)	Solid	EPA 8081-ATL	EPA 8081	5/13/00		4 OZ JAR	
20487-008	S-52 (0-1/2)	Solid	EPA 8081-ATL	EPA 8081	5/13/00		4 OZ JAR	
20487-009	S-53 (0-1/2)	Solid	EPA 8081-ATL	EPA 8081	5/13/00		4 OZ JAR	
20487-010	S-54 (0-1/2)	Solid	EPA 8081-ATL	EPA 8081	5/13/00		4 OZ JAR	
20487-011	S-55 (0-1/2)	Solid	EPA 8081-ATL	EPA 8081	5/13/00		4 OZ JAR	
20487-012	S-56 (0-1/2)	Solid	EPA 8081-ATL	EPA 8081	5/13/00		4 OZ JAR	
20487-013	S-57 (0-1/2)	Solid	EPA 8081-ATL	EPA 8081	5/13/00		4 OZ JAR	
20487-014	S-51	Liquid	EPA 8081-ATL	EPA 8081	5/13/00	10:00 AM	4 OZ JAR	
20487-015	S-53	Liquid	EPA 8081-ATL	EPA 8081	5/13/00	1:00 PM	4 OZ JAR	

Relinquished By:	Received By:	Date:	Time:
Maria Grissis	Golden State	5/16/00	1800
Relinquished By:	Received By:	Date:	Time:
Relinquished By:	Received By:	Date:	Time:

Notes: epa 8081 + chlordane

Entech Analytical Labs, Inc.

CA ELAP # I-2346

525 Del Rey Avenue, Suite E, Sunnyvale, CA 94086 (408) 735-1550 FAX (408) 735-1554

Subcontract Chain of Custody

Subcontract Lab:	Project Name:	Date Sent:	Due Date:	PO Number:
ATL	20487	5/16/00	5/22/00	20487

Sample Number:	Customer Sample Number:	Matrix:	Test:	Method:	Collect Date:	Collect Time:	Bottle Type:	Preservative:
20487-001	S-38 (0-1/2)	Solid	EPA 8081-ATL	EPA 8081	5/13/00		4 OZ JAR	
20487-002	S-41 (0-1/2)	Solid	EPA 8081-ATL	EPA 8081	5/13/00		4 OZ JAR	
20487-003	S-43 (0-1/2)	Solid	EPA 8081-ATL	EPA 8081	5/13/00		4 OZ JAR	
20487-004	S-44 (0-1/2)	Solid	EPA 8081-ATL	EPA 8081	5/13/00		4 OZ JAR	
20487-005	S-45 (0-1/2)	Solid	EPA 8081-ATL	EPA 8081	5/13/00		4 OZ JAR	
20487-006	S-46 (0-1/2)	Solid	EPA 8081-ATL	EPA 8081	5/13/00		4 OZ JAR	
20487-007	S-51 (0-1/2)	Solid	EPA 8081-ATL	EPA 8081	5/13/00		4 OZ JAR	
20487-008	S-52 (0-1/2)	Solid	EPA 8081-ATL	EPA 8081	5/13/00		4 OZ JAR	
20487-009	S-53 (0-1/2)	Solid	EPA 8081-ATL	EPA 8081	5/13/00		4 OZ JAR	
20487-010	S-54 (0-1/2)	Solid	EPA 8081-ATL	EPA 8081	5/13/00		4 OZ JAR	
20487-011	S-55 (0-1/2)	Solid	EPA 8081-ATL	EPA 8081	5/13/00		4 OZ JAR	
20487-012	S-56 (0-1/2)	Solid	EPA 8081-ATL	EPA 8081	5/13/00		4 OZ JAR	
20487-013	S-57 (0-1/2)	Solid	EPA 8081-ATL	EPA 8081	5/13/00		4 OZ JAR	
20487-014	S-51	Liquid	EPA 8081-ATL	EPA 8081	5/13/00	10:00 AM	4 OZ JAR	
20487-015	S-53	Liquid	EPA 8081-ATL	EPA 8081	5/13/00	1:00 PM	4 OZ JAR	

Relinquished By:	Received By:	Date:	Time:
Maria Grissis	Golden State	5/16/00	1800
Relinquished By:	Received By:	Date:	Time:
	Diego Galvan	5-17-00	0900
Relinquished By:	Received By:	Date:	Time:

Notes: epa 8081 + chlordane

Method : C:\HPCHEM\1\METHODS\8080520.M (Chemstation Integrator)
 Title : 8081 Pesticides Advanced Technology Laboratory
 Last Update : Thu May 18 16:22:53 2000
 Response via : Initial Calibration

Non-Spiked Sample: G0520072.D

Spike
Sample

Spike
Duplicate Sample

File ID :	G0520075.D	G0520076.D
Sample :	000519blks1.ms,	000519blks1.ms,
Acq Time:	22 May 2000 7:06 pm	22 May 2000 7:52 pm

Compound	Sample Conc	Spike Added	Spike Res	Dup Res	Spike %Rec	Dup %Rec	RPD	QC Limits RPD	% Rec
gamma-BHC	0.0	40	36	36	90	91	1	9	50-127
Heptachlor	0.0	40	37	38	93	94	1	12	35-136
Aldrin	0.0	40	38	38	95	96	1	15	47-143
Dieldrin	0.0	80	73	73	91	92	0	8	54-134
Endrin	0.0	80	84	84	105	105	1	16	61-138
4,4'-DDT	0.0	80	81	82	102	102	1	22	15-155

QC Batch #:G008080S220

Reviewed/Approved by:


 Edgar Morrison
 Department Supervisor

Date:

5/23/00



Spike Recovery and RPD Summary Report - WATER(ug/l)

Method : C:\HPCHEM\1\METHODS\8080520.M (Chemstation Integrator)
Title : 8081 Pesticides Advanced Technology Laboratory
Last Update : Thu May 18 16:16:52 2000
Response via : Initial Calibration

Non-Spiked Sample: G0520048.D

Spike Sample	Spike Duplicate Sample
File ID : G0520054.D	G0520055.D
Sample : 000519blkwl,MS,	000519blkwl,MSD,
Acq Time: 22 May 2000 3:08 am	22 May 2000 3:54 am

Compound	Sample Conc	Spike Added	Spike Res	Dup Res	Spike %Rec	Dup %Rec	RPD	QC Limits RPD	% Rec
gamma-BHC	0.0	40	33	32	82	81	2	15	55-117
Heptachlor	0.0	40	34	35	86	87	1	13	38-120
Aldrin	0.0	40	34	35	86	89	3	17	47-125
Dieldrin	0.0	80	66	65	83	81	2	9	59-123
Endrin	0.0	80	71	69	88	86	3	13	64-131
4,4'-DDT	0.0	80	75	72	93	90	4	20	24-141

QC Batch #:G008080W221

Reviewed/Approved by:



Edgar Morrison

Department Supervisor

Date: 5/22/00



Advanced Technology

1510 E. 33rd Street, Signal Hill, CA 90807 Tel: 562 880 1015 Fax: 562 880 1016

Client: Entech Analytical Labs, Inc.
Attn: Michelle Anderson

Client's Project: 20487
Sample Received: 05/17/00
Extraction Method: 3510C
Matrix: Liquid
Units: ug/L

EPA Method 8081

Lab No.:	Method Blank		44037-014												
Client Sample I.D.:	--		20487-014 S-51												
Date Sampled:	--		05/13/00												
QC Batch #:	G008080W221		G008080W221												
Date Extracted:	05/19/00		05/19/00												
Date Analyzed :	05/22/00		05/22/00												
Analyst Initials:	DT		DT												
Dilution Factor:	1		1												
ANALYTE	MDL	DLR	Results	DLR	Results	DLR	Results	DLR	Results	DLR	Results	DLR	Results	DLR	Results
Alpha-BHC	0.05	0.05	ND	0.05	ND										
Gamma-BHC (Lindane)	0.05	0.05	ND	0.05	ND										
Beta-BHC	0.05	0.05	ND	0.05	ND										
Heptachlor	0.05	0.05	ND	0.05	ND										
Delta-BHC	0.05	0.05	ND	0.05	ND										
Aldrin	0.05	0.05	ND	0.05	ND										
Heptachlor Epoxide	0.05	0.05	ND	0.05	ND										
Endosulfan I	0.05	0.05	ND	0.05	ND										
4,4'-DDE	0.1	0.1	ND	0.10	ND										
Dieldrin	0.1	0.1	ND	0.10	ND										
Endrin	0.1	0.1	ND	0.10	ND										
4,4'-DDD	0.1	0.1	ND	0.10	ND										
Endosulfan II	0.1	0.1	ND	0.10	ND										
4,4'-DDT	0.1	0.1	ND	0.10	ND										
Endrin Aldehyde	0.1	0.1	ND	0.10	ND										
Endosulfan Sulfate	0.1	0.1	ND	0.10	ND										
Heptachlor	0.5	0.5	ND	0.50	ND										
Chlordane	0.5	0.5	ND	0.50	ND										
Toxaphene	5	5	ND	5	ND										
Alpha-Chlordane	0.05	0.05	ND	0.05	ND										
Gamma-Chlordane	0.05	0.05	ND	0.05	ND										

Surrogate Recovery															
Surrogate	%Rec.	Limits	%Rec.	Limits											
Tetrachloro-m-xylene	77	30-150	108	30-150											
Decachlorobiphenyl	80	30-150	113	30-150											

MDL = Method Detection Limit
ND = Not Detected (Below DLR)
DLR = MDL X Dilution Factor
NA = Not Analyzed

Reviewed/Approved By: Edgar Morrison
Organics Supervisor

Date: 5/23/00

The cover letter is an integral part of this analytical report.

Client: Entech Analytical Labs, Inc.
Attn: Michelle Anderson

Client's Project: 20487
Date Received: 05/17/00
Extraction Method: 3510C
Matrix: Water
Units: ug/L

EPA Method 8081

Lab No.:	44037-015														
Client Sample I.D.:	20487-015 S-53														
Date Sampled:	05/13/00														
QC Batch #:	G008080W221														
Date Extracted:	05/19/00														
Date Analyzed :	05/22/00														
Analyst Initials:	DT														
Dilution Factor:	1														
ANALYTE	MDL	DLR	Results	DLR	Results	DLR	Results	DLR	Results	DLR	Results	DLR	Results	DLR	Results
Alpha-BHC	0.05	0.05	ND												
Gamma-BHC (Lindane)	0.05	0.05	ND												
Beta-BHC	0.05	0.05	ND												
Heptachlor	0.05	0.05	ND												
Delta-BHC	0.05	0.05	ND												
Aldrin	0.05	0.05	ND												
Heptachlor Epoxide	0.05	0.05	ND												
Endosulfan I	0.05	0.05	ND												
4,4'-DDE	0.1	0.1	ND												
Dieldrin	0.1	0.1	ND												
Endrin	0.1	0.1	ND												
4,4'-DDD	0.1	0.1	ND												
Endosulfan II	0.1	0.1	ND												
4,4'-DDT	0.1	0.1	ND												
Endrin Aldehyde	0.1	0.1	ND												
Endosulfan Sulfate	0.1	0.1	ND												
Methoxychlor	0.5	0.5	ND												
Chlordane	0.5	0.5	ND												
Toxaphene	5	5	ND												
Alpha-Chlordane	0.05	0.05	ND												
Gamma-Chlordane	0.05	0.05	ND												

Surrogate Recovery														
Surrogate	%Rec.	Limits												
Tetrachloro-m-xylene	101	30-150												
Decachlorobiphenyl	104	30-150												

MDL = Method Detection Limit
ND = Not Detected (Below DLR)
DLR = MDL X Dilution Factor
NA = Not Analyzed

Reviewed/Approved By: Edgar Morrison
Organics Supervisor

Date: 5/23/00

The cover letter is an integral part of this analytical report.



Advanced Technology
Laboratories

1510 E. 33rd Street Signal Hill, CA 90807 Tel: 562 989-4045 Fax: 562 989-4040

Client: Entech Analytical Labs, Inc.
Attn: Michelle Anderson

Client's Project: 20487
Date Received: 05/17/00
Extraction Method: 3550B
Matrix: Solid
Units: ug/kg

EPA Method 8081

Lab No.:	44037-012														
Client Sample I.D.:	20487-012 S-56 (0-1/2)														
Date Sampled:	05/13/00														
QC Batch #:	G008080S220														
Date Extracted:	05/19/00														
Date Analyzed :	05/22/00														
Analyst Initials:	DT														
Dilution Factor:		1													
ANALYTE	MDL	DLR	Results	DLR	Results	DLR	Results	DLR	Results	DLR	Results	DLR	Results	DLR	Results
Alpha-BHC	2	2	ND												
Gamma-BHC (Lindane)	2	2	ND												
Beta-BHC	2	2	ND												
Heptachlor	2	2	ND												
Delta-BHC	2	2	ND												
Aldrin	2	2	ND												
Heptachlor Epoxide	2	2	ND												
Endosulfan I	2	2	ND												
4,4'-DDE	4	4	427												
Dieldrin	4	4	ND												
Endrin	4	4	ND												
4,4'-DDD	4	4	35												
Endosulfan II	4	4	ND												
4,4'-DDT	4	4	26												
Endrin Aldehyde	4	4	ND												
Endosulfan Sulfate	4	4	ND												
Heptachlor	17	17	ND												
Gamma-Chlordane	2	2	ND												
alpha-Chlordane	2	2	ND												
Toxaphene	170	170	ND												
Total Chlordane	17	4	ND												

Surrogate Recovery

Surrogate	% Rec.	Limits													
Tetrachloro-m-xylene	106	30-150													
Decachlorobiphenyl	110	30-150													

MDL = Method Detection Limit
ND = Not Detected (Below DLR)
DLR = MDL X Dilution Factor
NA = Not Analyzed

Reviewed/Approved By: _____

Edgar Morrison
Organics Supervisor

Date: _____

5/23/00

The cover letter is an integral part of this analytical report.



Advanced Technology

1510 E. 33rd Street, Signal Hill, CA 90807 Tel: 562.980.1015 Fax: 562.980.1010

Client: Entech Analytical Labs, Inc.
 Attn: Michelle Anderson

Client's Project: 20487
 Date Received: 05/17/00
 Extraction Method: 3550B
 Matrix: Solid
 Units: ug/kg

EPA Method 8081

Lab No.:	44037-013														
Client Sample I.D.:	20487-013 S-57 (0-1/2)														
Date Sampled:	05/13/00														
QC Batch #:	G008080S220														
Date Extracted:	05/19/00														
Date Analyzed :	05/22/00														
Analyst Initials:	DT														
Dilution Factor:	1														
ANALYTE	MDL	DLR	Results	DLR	Results	DLR	Results	DLR	Results	DLR	Results	DLR	Results	DLR	Results
Alpha-BHC	2	2	ND												
Gamma-BHC (Lindane)	2	2	ND												
Beta-BHC	2	2	ND												
Heptachlor	2	2	ND												
Delta-BHC	2	2	ND												
Aldrin	2	2	ND												
Heptachlor Epoxide	2	2	ND												
Endosulfan I	2	2	ND												
4,4'-DDE	4	4	1990												
Dieldrin	4	4	16												
Endrin	4	4	ND												
4,4'-DDD	4	4	83												
Endosulfan II	4	4	ND												
4,4'-DDT	4	4	230												
Endrin Aldehyd	4	4	ND												
Endosulfan Sulfate	4	4	ND												
Methoxychlor	17	17	ND												
gamma-Chlordane	2	2	ND												
alpha-Chlordane	2	2	ND												
Toxaphene	170	170	ND												
Total Chlordane	17	4	ND												

Surrogate Recovery

Surrogate	%Rec.	Limits													
Tetrachloro-m-xylene	107	30-150													
Decachlorobiphenyl	115	30-150													

MDL = Method Detection Limit
 ND = Not Detected (Below DLR)
 DLR = MDL X Dilution Factor
 NA = Not Analyzed

Reviewed/Approved By: _____

Edgar Morrison
 Edgar Morrison
 Organics Supervisor

Date: _____

5/23/00

The cover letter is an integral part of this analytical report.



Advanced Technology

1510 E. 33rd Street Signal Hill, CA 90807 Tel: 562.980.1015 Fax: 562.980.1010

Client: Entech Analytical Labs, Inc.
 Attn: Michelle Anderson
 Client's Project: 20487
 Date Received: 05/17/00
 Extraction Method: 3550B
 Matrix: Solid
 Units: ug/kg

EPA Method 8081

Lab No.:	44037-010														
Client Sample I.D.:	20487-010 S-54 (0-1/2)														
Date Sampled:	05/13/00														
QC Batch #:	G008080S220														
Date Extracted:	05/19/00														
Date Analyzed:	05/22/00														
Analyst Initials:	DT														
Dilution Factor:	1														
ANALYTE	MDL	DLR	Results	DLR	Results	DLR	Results	DLR	Results	DLR	Results	DLR	Results	DLR	Results
Alpha-BHC	2	2	ND												
Gamma-BHC (Lindane)	2	2	ND												
Beta-BHC	2	2	ND												
Heptachlor	2	2	ND												
Delta-BHC	2	2	ND												
Aldrin	2	2	ND												
Heptachlor Epoxide	2	2	ND												
Endosulfan I	2	2	ND												
4,4'-DDE	4	4	1510												
Dieldrin	4	4	10												
Endrin	4	4	62												
4,4'-DDD	4	4	ND												
Endosulfan II	4	4	128												
4,4'-DDT	4	4	ND												
Endrin Aldehyde	4	4	ND												
Endosulfan Sulfate	4	4	ND												
Heptachlor	17	17	ND												
gamma-Chlordane	2	2	ND												
alpha-Chlordane	2	2	ND												
Toxaphene	170	170	ND												
Total Chlordane	17	4	ND												

Surrogate Recovery

Surrogate	%Rec.	Limits													
Tetrachloro-m-xylene	102	30-150													
Decachlorobiphenyl	106	30-150													

MDL = Method Detection Limit
 ND = Not Detected (Below DLR)
 DLR = MDL X Dilution Factor
 NA = Not Analyzed

Reviewed/Approved By: _____

Edgar Morrison
 Organics Supervisor

Date: 5/23/00

The cover letter is an integral part of this analytical report.



Advanced Technology

1510 E. 33rd Street, Signal Hill, CA 90807 T: 562.980.1015 F: 562.980.1010

Client: Entech Analytical Labs, Inc.
Attn: Michelle Anderson

Client's Project: 20487
Date Received: 05/17/00
Extraction Method: 3550B
Matrix: Solid
Units: ug/kg

EPA Method 8081

Lab No.:	44037-011														
Client Sample I.D.:	20487-011 S-55 (0-1/2)														
Date Sampled:	05/13/00														
QC Batch #:	G008080S220														
Date Extracted:	05/19/00														
Date Analyzed :	05/22/00														
Analyst Initials:	DT														
Dilution Factor:	1														
ANALYTE	MDL	DLR	Results	DLR	Results	DLR	Results	DLR	Results	DLR	Results	DLR	Results	DLR	Results
Alpha-BHC	2	2	ND												
Gamma-BHC (Lindane)	2	2	ND												
Beta-BHC	2	2	ND												
Heptachlor	2	2	ND												
Delta-BHC	2	2	ND												
Aldrin	2	2	ND												
Heptachlor Epoxide	2	2	ND												
Endosulfan I	2	2	ND												
4,4'-DDE	4	4	1850												
Dieldrin	4	4	14												
Endrin	4	4	ND												
4,4'-DDD	4	4	56												
Endosulfan II	4	4	ND												
4,4'-DDT	4	4	224												
Endrin Aldehyde	4	4	ND												
Endosulfan Sulfate	4	4	ND												
Methoxychlor	17	17	ND												
gamma-Chlordane	2	2	ND												
alpha-Chlordane	2	2	ND												
Toxaphene	170	170	ND												
Total Chlordane	17	4	ND												

Surrogate Recovery

Surrogate	%Rec.	Limits													
Tetrachloro-m-xylene	105	30-150													
Decachlorobiphenyl	110	30-150													

MDL = Method Detection Limit
ND = Not Detected (Below DLR)
DLR = MDL X Dilution Factor
NA = Not Analyzed

Reviewed/Approved By: _____

Edgar Morrison
Organics Supervisor

Date: _____

5/23/00

The cover letter is an integral part of this analytical report.



Advanced Technology

1510 E. 33rd Street Signal Hill, CA 90807 Tel: 562 989-4045 Fax: 562 989-4040

Client: Entech Analytical Labs, Inc.
 Attn: Michelle Anderson
 Client's Project: 20487
 Date Received: 05/17/00
 Extraction Method: 3550B
 Matrix: Solid
 Units: ug/kg

Date Amended: 06/07/00

EPA Method 8081

Lab No.:	44037-008														
Client Sample I.D.:	20487-008 S-52 (0-1/2)														
Date Sampled:	05/13/00														
QC Batch #:	G008080S220														
Date Extracted:	05/19/00														
Date Analyzed :	05/22/00														
Analyst Initials:	DT														
Dilution Factor:	1														
ANALYTE	MDL	DLR	Results	DLR	Results	DLR	Results	DLR	Results	DLR	Results	DLR	Results	DLR	Results
Alpha-BHC	2	2	ND												
Gamma-BHC (Lindane)	2	2	ND												
Beta-BHC	2	2	ND												
Heptachlor	2	2	ND												
Delta-BHC	2	2	ND												
Aldrin	2	2	ND												
Heptachlor Epoxide	2	2	ND												
Endosulfan I	2	2	ND												
4,4'-DDE	4	4	23												
Dieldrin	4	4	ND												
Endrin	4	4	ND												
4,4'-DDD	4	4	14												
Endosulfan II	4	4	ND												
4,4'-DDT	4	4	98												
Endrin Aldehyde	4	4	ND												
Endosulfan Sulfate	4	4	ND												
Methoxychlor	17	17	ND												
gamma-Chlordane	2	2	ND												
beta-Chlordane	2	2	ND												
Toxaphene	170	3400	12900*												
Total Chlordane	17	4	ND												

Surrogate Recovery

Surrogate	% Rec.	Limits													
Tetrachloro-m-xylene	99	30-150													
Decachlorobiphenyl	94	30-150													

MDL = Method Detection Limit
 ND = Not Detected (Below DLR)
 DLR = MDL X Dilution Factor
 NA = Not Analyzed

* = Dilution factor is 20. Analyzed on 05/23/00

Reviewed/Approved By:

Edgar Morrison

Edgar Morrison
 Organics Supervisor

Date: 06/07/00

The cover letter is an integral part of this analytical report.



Advanced Technology
 Environmental Services

1510 E. 33rd Street Signal Hill, CA 90807 Tel: 562 989-4045 Fax: 562 989-4040

Client: Entech Analytical Labs, Inc.
Attn: Michelle Anderson

Client's Project: 20487
Date Received: 05/17/00
Extraction Method: 3550B
Matrix: Solid
Units: ug/kg

EPA Method 8081

Lab No.:	44037-009														
Client Sample I.D.:	20487-009 S-53 (0-1/2)														
Date Sampled:	05/13/00														
QC Batch #:	G008080S220														
Date Extracted:	05/19/00														
Date Analyzed:	05/22/00														
Analyst Initials:	DT														
Dilution Factor:	1														
ANALYTE	MDL	DLR	Results	DLR	Results	DLR	Results	DLR	Results	DLR	Results	DLR	Results	DLR	Results
Alpha-BHC	2	2	ND												
Gamma-BHC (Lindane)	2	2	ND												
Beta-BHC	2	2	ND												
Heptachlor	2	2	ND												
Delta-BHC	2	2	ND												
Aldrin	2	2	ND												
Heptachlor Epoxide	2	2	ND												
Endosulfan I	2	2	ND												
4,4'-DDE	4	4	1270												
Dieldrin	4	4	11												
Endrin	4	4	ND												
4,4'-DDD	4	4	85												
Endosulfan II	4	4	ND												
4,4'-DDT	4	4	504												
Endrin Aldehyde	4	4	ND												
Endosulfan Sulfate	4	4	ND												
Methoxychlor	17	17	ND												
gamma-Chlordane	2	2	ND												
alpha-Chlordane	2	2	ND												
Toxaphene	170	170	ND												
Total Chlordane	17	4	ND												

Surrogate Recovery

Surrogate	%Rec.	Limits													
Tetrachloro-m-xylene	97	30-150													
Decachlorobiphenyl	97	30-150													

MDL = Method Detection Limit
ND = Not Detected (Below DLR)
DLR = MDL X Dilution Factor
NA = Not Analyzed

Reviewed/Approved By: _____

Edgar Morrison
Organics Supervisor

Date: _____

5/23/00

The cover letter is an integral part of this analytical report.



Advanced Technology

1510 E. 33rd Street, Signal Hill, CA 90807, T: 562.980.1015, F: 562.980.1010

Client: Entech Analytical Labs, Inc.
Attn: Michelle Anderson

Client's Project: 20487
Date Received: 05/17/00
Extraction Method: 3550B
Matrix: Solid
Units: ng/kg

EPA Method 8081

Lab No.:	44037-006													
Client Sample I.D.:	20487-006 S-46 (0-1/2)													
Date Sampled:	05/13/00													
QC Batch #:	G008080S220													
Date Extracted:	05/19/00													
Date Analyzed:	05/22/00													
Analyst Initials:	DT													
Dilution Factor:	1													
ANALYTE	MDL	DLR	Results	DLR	Results	DLR	Results	DLR	Results	DLR	Results	DLR	Results	DLR
Alpha-BHC	2	2	ND											
Gamma-BHC (Lindane)	2	2	ND											
Beta-BHC	2	2	ND											
Heptachlor	2	2	ND											
Delta-BHC	2	2	ND											
Aldrin	2	2	ND											
Heptachlor Epoxide	2	2	ND											
Endosulfan I	2	2	ND											
4,4'-DDE	4	4	390											
Dieldrin	4	4	ND											
Endrin	4	4	ND											
4,4'-DDD	4	4	9.7											
Endosulfan II	4	4	ND											
4,4'-DDT	4	4	85											
Endrin Aldehyde	4	4	ND											
Endosulfan Sulfate	4	4	ND											
Methoxychlor	17	17	ND											
Gamma-Chlordane	2	2	ND											
Alpha-Chlordane	2	2	ND											
Toxaphene	170	170	ND											
Total Chlordane	17	4	ND											

Surrogate Recovery

Surrogate	% Rec.	Limits												
Tetrachloro-m-xylene	108	30-150												
Decachlorobiphenyl	113	30-150												

MDL = Method Detection Limit
ND = Not Detected (Below DLR)
DLR = MDL X Dilution Factor
NA = Not Analyzed

Reviewed/Approved By: _____

Edgar Morrison
Organics Supervisor

Date: _____

5/23/00

The cover letter is an integral part of this analytical report.



Advanced Technology
Laboratories

1510 E. 33rd Street Signal Hill, CA 90807 Tel: 562 989-4045 Fax: 562 989-4040

Client: Entech Analytical Labs, Inc.
Attn: Michelle Anderson

Client's Project: 20487
Date Received: 05/17/00
Extraction Method: 3550B
Matrix: Solid
Units: ug/kg

EPA Method 8081

Lab No.:	44037-007														
Client Sample I.D.:	20487-007 S-51 (0-1/2)														
Date Sampled:	05/13/00														
QC Batch #:	G008080S220														
Date Extracted:	05/19/00														
Date Analyzed :	05/22/00														
Analyst Initials:	DT														
Dilution Factor:	1														
ANALYTE	MDL	DLR	Results	DLR	Results	DLR	Results	DLR	Results	DLR	Results	DLR	Results	DLR	Results
Alpha-BHC	2	2	ND												
Gamma-BHC (Lindane)	2	2	ND												
Beta-BHC	2	2	ND												
Heptachlor	2	2	ND												
Delta-BHC	2	2	ND												
Aldrin	2	2	ND												
Heptachlor Epoxide	2	2	ND												
Endosulfan I	2	2	ND												
4,4'-DDE	4	4	1020												
Dieldrin	4	4	17												
Endrin	4	4	ND												
4,4'-DDD	4	4	30												
Endosulfan II	4	4	ND												
4,4'-DDT	4	4	271												
Endrin Aldehyde	4	4	ND												
Endosulfan Sulfate	4	4	ND												
Methoxychlor	17	17	ND												
gamma-Chlordane	2	2	ND												
alpha-Chlordane	2	2	ND												
Toxaphene	170	170	ND												
Total Chlordane	17	4	ND												

Surrogate Recovery

Surrogate	% Rec.	Limits													
Tetrachloro-m-xylene	105	30-150													
Decachlorobiphenyl	109	30-150													

MDL = Method Detection Limit
ND = Not Detected (Below DLR)
DLR = MDL X Dilution Factor
NA = Not Analyzed

Reviewed/Approved By: _____

Edgar Morrison
Organics Supervisor

Date: _____

5/23/00

The cover letter is an integral part of this analytical report.



Advanced Technology

1510 E. 33rd Street Signal Hill, CA 90807 Tel: 562 989-4015 Fax: 562 989-4010

Client: Entech Analytical Labs, Inc.
Attn: Michelle Anderson

Client's Project: 20487
Date Received: 05/17/00
Extraction Method: 3550B
Matrix: Solid
Units: ug/kg

Date Amended: 05/24/00

EPA Method 8081

Lab No.:	44037-005														
Client Sample I.D.:	20487-005 S-45 (0-1/2)														
Date Sampled:	05/13/00														
QC Batch #:	G008080S220														
Date Expected:	05/19/00														
Date Analyzed:	05/22/00														
Analyst Initials:	DT														
Dilution Factor:	1														
ANALYTE	MDL	DLR	Results	DLR	Results	DLR	Results	DLR	Results	DLR	Results	DLR	Results	DLR	Results
Alpha-BHC	2	2	ND												
Gamma-BHC (Lindane)	2	2	ND												
Beta-BHC	2	2	ND												
Heptachlor	2	2	ND												
Delta-BHC	2	2	ND												
Aldrin	2	2	ND												
Heptachlor Epoxide	2	2	ND												
Endosulfan I	2	2	ND												
4,4'-DDE	4	4	1050												
Dieldrin	4	4	ND												
Endrin	4	4	ND												
4,4'-DDD	4	4	36												
Endosulfan II	4	4	ND												
4,4'-DDT	4	4	308												
Endrin Aldehyde	4	4	ND												
Endosulfan Sulfate	4	4	ND												
Methoxychlor	17	17	ND												
Gamma-Chlordane	2	2	ND												
Alpha-Chlordane	2	2	ND												
Toxaphene	170	170	ND												
Total Chlordane	17	4	ND												

Surrogate Recovery

Surrogate	%Rec.	Limits													
Tetrachloro-m-xylene	109	30-150													
Decachlorobiphenyl	114	30-150													

MDL = Method Detection Limit
ND = Not Detected (Below DLR)
DLR = MDL X Dilution Factor
NA = Not Analyzed

Reviewed/Approved By: _____

Edgar Morrison
Organics Supervisor

Date: _____

5/24/00

The cover letter is an integral part of this analytical report.



Advanced Technology

1510 E. 33rd Street Signal Hill, CA 90807 Tel: 562 989-4045 Fax: 562 989-4040

Client: Entech Analytical Labs, Inc.
Attn: Michelle Anderson

Client's Project: 20487
Date Received: 05/17/00
Extraction Method: 3550B
Matrix: Solid
Units: ug/kg

EPA Method 8081

Lab No.:	44037-004												
Client Sample ID.:	20487-004 S-44 (0-1/2)												
Date Sampled:	05/13/00												
QC Batch #:	G008080S220												
Date Extracted:	05/19/00												
Date Analyzed:	05/22/00												
Analyst Initials:	DT												
Dilution Factor:	1												
ANALYTE	MDL	DLR	Results	DLR	Results	DLR	Results	DLR	Results	DLR	Results	DLR	Results
Alpha-BHC	2	2	ND										
Gamma-BHC (Lindane)	2	2	ND										
Beta-BHC	2	2	ND										
Heptachlor	2	2	ND										
Delta-BHC	2	2	ND										
Aldrin	2	2	ND										
Heptachlor Epoxide	2	2	ND										
Endosulfan I	2	2	ND										
4,4'-DDE	4	4	205										
Dieldrin	4	4	ND										
Endrin	4	4	ND										
4,4'-DDD	4	4	20										
Endosulfan II	4	4	ND										
4,4'-DDT	4	4	35										
Endrin Aldehyde	4	4	ND										
Endosulfan Sulfate	4	4	ND										
Methoxychlor	17	17	ND										
gamma-Chlordane	2	2	ND										
alpha-Chlordane	2	2	ND										
Toxaphene	170	170	ND										
Total Chlordane	17	4	ND										

Surrogate Recovery

Surrogate	%Rec.	Limits											
Tetrachloro-m-xylene	110	30-150											
Decachlorobiphenyl	113	30-150											

MDL = Method Detection Limit
ND = Not Detected (Below DLR)
DLR = MDL X Dilution Factor
NA = Not Analyzed

Reviewed/Approved By: _____

Edgar Morrison
Organics Supervisor

Date: _____

5/23/00

The cover letter is an integral part of this analytical report.



Advanced Technology

1510 E. 33rd Street Signal Hill, CA 90807 Tel: 562 989-1045 Fax: 562 989-1040

Client: Entech Analytical Labs, Inc.
Attn: Michelle Anderson

Client's Project: 20487
Date Received: 05/17/00
Extraction Method: 3550B
Matrix: Solid
Units: ug/kg

EPA Method 8081

Lab No.:	44037-003												
Client Sample I.D.:	20487-003 S-43 (0-1/2)												
Date Sampled:	05/13/00												
QC Batch #:	G008080S220												
Date Extracted:	05/19/00												
Date Analyzed:	05/22/00												
Analyst Initials:	DT												
Dilution Factor:	1												
ANALYTE	MDL	DLR	Results	DLR	Results	DLR	Results	DLR	Results	DLR	Results	DLR	Results
Alpha-BHC	2	2	ND										
Gamma-BHC (Lindane)	2	2	ND										
Beta-BHC	2	2	ND										
Heptachlor	2	2	ND										
Delta-BHC	2	2	ND										
Aldrin	2	2	ND										
Heptachlor Epoxide	2	2	ND										
Endosulfan I	2	2	ND										
4,4'-DDE	4	4	1384										
Dieldrin	4	4	8.3										
Endrin	4	4	ND										
4,4'-DDD	4	4	39										
Endosulfan II	4	4	ND										
4,4'-DDT	4	4	137										
Endrin Aldehyde	4	4	ND										
Endosulfan Sulfate	4	4	ND										
methoxychlor	17	17	ND										
Gamma-Chlordane	2	2	ND										
alpha-Chlordane	2	2	ND										
Toxaphene	170	170	ND										
Total Chlordane	17	4	ND										

Surrogate Recovery

Surrogate	%Rec.	Limits											
Tetrachloro-m-xylene	110	30-150											
Decachlorobiphenyl	113	30-150											

MDL = Method Detection Limit
ND = Not Detected (Below DLR)
DLR = MDL X Dilution Factor
NA = Not Analyzed

Reviewed/Approved By: _____

Edgar Morrison
Organics Supervisor

Date: _____

5/23/00

The cover letter is an integral part of this analytical report.



Advanced Technology

1510 E. 33rd Street Signal Hill, CA 90807 Tel: 562 989-4045 Fax: 562 989-4040

Client: Entech Analytical Labs, Inc.
Attn: Michelle Anderson

Client's Project: 20487
Date Received: 05/17/00
Extraction Method: 3550B
Matrix: Solid
Units: ug/kg

EPA Method 8081

Lab No.:	44037-002														
Client Sample I.D.:	20487-002 S-41 (0-1/2)														
Date Sampled:	05/13/00														
QC Batch #:	G908080S220														
Date Extracted:	05/19/00														
Date Analyzed :	05/22/00														
Analyst Initials:	DT														
Dilution Factor:	1														
ANALYTE	MDL	DLR	Results	DLR	Results	DLR	Results	DLR	Results	DLR	Results	DLR	Results	DLR	Results
Alpha-BHC	2	2	ND												
Gamma-BHC (Lindane)	2	2	ND												
Beta-BHC	2	2	ND												
Heptachlor	2	2	ND												
Delta-BHC	2	2	ND												
Aldrin	2	2	ND												
Heptachlor Epoxide	2	2	ND												
Endosulfan I	2	2	ND												
4,4'-DDE	4	4	1870												
Dieldrin	4	4	19												
Endrin	4	4	ND												
4,4'-DDD	4	4	38												
Endosulfan II	4	4	ND												
4,4'-DDT	4	4	393												
Endrin Aldehyde	4	4	ND												
Endosulfan Sulfate	4	4	ND												
Methoxychlor	17	17	ND												
gamma-Chlordane	2	2	ND												
alpha-Chlordane	2	2	ND												
Toxaphene	170	170	ND												
Total Chlordane	17	4	ND												

Surrogate Recovery

Surrogate	%Rec.	Limits													
Tetrachloro-m-xylene	109	30-150													
Decachlorobiphenyl	112	30-150													

MDL = Method Detection Limit
ND = Not Detected (Below DLR)
DLR = MDL X Dilution Factor
NA = Not Analyzed

Reviewed/Approved By: _____

Edgar Morrison
Organics Supervisor

Date: 5/23/00

The cover letter is an integral part of this analytical report.



Client: Entech Analytical Labs, Inc.
Attn: Michelle Anderson

Client's Project: 20487
Date Received: 05/17/00
Extraction Method: 3550B
Matrix: Solid
Units: ug/kg

EPA Method 8081

Lab No.:	Method Blank	44037-001												
Client Sample I.D.:	—	20487-001 S-38 (0-1/2)												
Date Sampled:	—	05/13/00												
QC Batch #:	G008080S220	G008080S220												
Date Extracted:	05/19/00	05/19/00												
Date Analyzed:	05/22/00	05/22/00												
Analyst Initials:	DT	DT												
Dilution Factor:	1	1												
ANALYTE	MDL	DLR	Results	DLR	Results	DLR	Results	DLR	Results	DLR	Results	DLR	Results	DLR
Alpha-BHC	2	2	ND	2	ND									
Gamma-BHC (Lindane)	2	2	ND	2	ND									
Beta-BHC	2	2	ND	2	ND									
Heptachlor	2	2	ND	2	ND									
Delta-BHC	2	2	ND	2	ND									
Aldrin	2	2	ND	2	ND									
Heptachlor Epoxide	2	2	ND	2	ND									
Endosulfan I	2	2	ND	2	ND									
4,4'-DDE	4	4	ND	4	304									
Dieldrin	4	4	ND	4	ND									
Endrin	4	4	ND	4	ND									
4,4'-DDD	4	4	ND	4	35									
Endosulfan II	4	4	ND	4	ND									
4,4'-DDT	4	4	ND	4	67									
Endrin Aldehyde	4	4	ND	4	ND									
Endosulfan Sulfate	4	4	ND	4	ND									
Methoxychlor	17	17	ND	17	ND									
gamma-Chlordane	2	2	ND	2	ND									
alpha-Chlordane	2	2	ND	2	ND									
Toxaphene	170	170	ND	170	ND									
Total Chlordane	17	4	ND	4	ND									

Surrogate Recovery

Surrogate	%Rec.	Limits	%Rec.	Limits										
Tetrachloro-m-xylene	108	30-150	113	30-150										
Decachlorobiphenyl	112	30-150	116	30-150										

MDL = Method Detection Limit
ND = Not Detected (Below DLR)
DLR = MDL X Dilution Factor
NA = Not Analyzed

Reviewed/Approved By: _____

Edgar Morrison

Organics Supervisor

Date: _____

5/23/00

The cover letter is an integral part of this analytical report.



Advanced Technology

1510 E. 33rd Street Signal Hill, CA 90807 Tel: 562 989-4045 Fax: 562 989-4040

June 9, 2000

ELAP No.: 1838

Entech Analytical Labs, Inc.
525 Del Rey Avenue, Suite E,
Sunnyvale, CA 94086

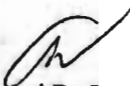
ATTN: Michelle Anderson

Client's Project: 20487
Lab No.: 44037-001/015

Enclosed are the results for sample(s) received by Advanced Technology Laboratories and tested for the parameters indicated in the enclosed chain of custody.

Thank you for the opportunity to service the needs of your company. Please feel free to call me at (562) 989 - 4045 if I can be of further assistance to your company.

Sincerely,


Cheryl De Los Reyes
Technical Operations Manager
CDR/jh

Enclosures

This cover letter is an integral part of this analytical report.

This report pertains only to the samples investigated and does not necessarily apply to other apparently identical or similar materials. This report is submitted for the exclusive use of the client to whom it is addressed. Any reproduction of this report or use of this Laboratory's name for advertising or publicity purpose without authorization is prohibited.



Entech Analytical Labs, Inc.

CA ELAP# 2346

525 Del Rey Avenue, Suite E • Sunnyvale, CA 94086 • (408) 735-1550 • Fax (408) 735-1554

Lowney Associates
405 Clyde Avenue
Mountain View, CA 94043
Attn: Doug Young

Date: 5/23/00
Date Received: 5/15/00
Project Name: US Data Port 50-Acre Parcel
Project Number: 587-12F
P.O. Number:
Sampled By: John McCain

Certified Analytical Report

Order ID: 20487		Lab Sample ID: 20487-014				Client Sample ID: S-51			
Sample Time: 10:00 AM		Sample Date: 5/13/00				Matrix: Liquid			
Parameter	Result	DF	PQL	DLR	Units	PrepDate	Analysis Date	QC Batch ID	Method
Arsenic	0.014	1	0.005	0.005	mg/L	5/18/00	5/22/00	WM000508	EPA 200.7
Lead	0.026	1	0.015	0.015	mg/L	5/18/00	5/22/00	WM000508	EPA 200.7
Mercury	ND	1	0.0002	0.0002	mg/L	5/18/00	5/18/00	WHG000509	EPA 245.1
Selenium	ND	1	0.015	0.015	mg/L	5/18/00	5/22/00	WM000508	EPA 200.7

Order ID: 20487		Lab Sample ID: 20487-015				Client Sample ID: S-53			
Sample Time: 1:00 PM		Sample Date: 5/13/00				Matrix: Liquid			
Parameter	Result	DF	PQL	DLR	Units	PrepDate	Analysis Date	QC Batch ID	Method
Arsenic	ND	1	0.005	0.005	mg/L	5/18/00	5/22/00	WM000508	EPA 200.7
Lead	0.030	1	0.015	0.015	mg/L	5/18/00	5/22/00	WM000508	EPA 200.7
Mercury	ND	1	0.0002	0.0002	mg/L	5/18/00	5/18/00	WHG000509	EPA 245.1
Selenium	ND	1	0.015	0.015	mg/L	5/18/00	5/22/00	WM000508	EPA 200.7

DF = Dilution Factor

ND = Not Detected

DLR = Detection Limit Reported

PQL = Practical Quantitation Limit

Analysis performed by Entech Analytical Labs, Inc. (CA ELAP #2346)


Michelle L. Anderson, Laboratory Director

Page 1 of 1

Environmental Analysis Since 1983

Entech Analytical Labs, Inc.

CA ELAP# 2346

525 Del Rey Avenue, Suite E • Sunnyvale, CA 94086 • (408) 735-1550 • Fax (408) 735-1554

May 24, 2000

Doug Young

Lowney Associates

405 Clyde Avenue

Mountain View, CA 94043

Order: 20487

Date Collected: 5/13/00

Project Name: US Data Port 50-Acre Parcel

Date Received: 5/15/00

Project Number: 587-12F

P.O. Number:

Project Notes:

On May 15, 2000, samples were received under documented chain of custody. Results for the following analyses are attached:

<u>Matrix</u>	<u>Test</u>	<u>Method</u>
Liquid	Arsenic	EPA 200.7
	EPA 8081-ATL	EPA 8081
	Lead	EPA 200.7
	Mercury	EPA 245.1
	Selenium	EPA 200.7
Solid	EPA 8081-ATL	EPA 8081
	EPA 8141-EMA	EPA 8141
	EPA 8318-EMA	EPA 8318

Chemical analysis of these samples has been completed. Summaries of the data are contained on the following pages. USEPA protocols for sample storage and preservation were followed.

Entech Analytical Labs, Inc. is certified by the State of California (#2346). If you have any questions regarding procedures or results, please call me at 408-735-1550.

Sincerely,



Michelle L. Anderson
Lab Director

☐ Oakland Office
129 Pilbert Street
Oakland, CA 94607
510-267-1970

☐ 510-267-1972 (fax)

Temperatures:

Entech Analytical Labs, Inc.

525 Del Rey Avenue, Suite E
Sunnyvale, CA 94086

QUALITY CONTROL RESULTS SUMMARY

METHOD: ICP
Laboratory Control Spikes

QC Batch #: WM000508

Matrix: Liquid
Units: mg/L

Date Analyzed: 5/17 - 5/31/00

Date Digested: 05/16/00

Quality Control Sample: Blank Spike

PARAMETER	Method #	MB mg/L	SA mg/L	SR mg/L	SP mg/L	SP %R	SPD mg/L	SPD % R	RPD	QC LIMITS	
										%R	RPD
Aluminum	200.7	<0.050	5.0	ND	5.14	103	4.71	94	8.7	75- 125	25.0
Antimony	200.7	<0.005	0.50	ND	0.58	115	0.54	109	5.9	75- 125	25.0
Arsenic	200.7	<0.005	0.50	ND	0.57	114	0.50	100	12.5	75- 125	25.0
Barium	200.7	<0.005	0.50	ND	0.54	107	0.50	100	7.1	75- 125	25.0
Beryllium	200.7	<0.005	0.50	ND	0.60	119	0.53	105	12.1	75- 125	25.0
Cadmium	200.7	<0.005	0.50	ND	0.55	110	0.50	99	10.7	75- 125	25.0
Calcium	200.7	<0.050	10.0	ND	12.13	121	10.60	106	13.5	75- 125	25.0
Chromium	200.7	<0.005	0.50	ND	0.56	111	0.47	95	15.9	75- 125	25.0
Cobalt	200.7	<0.005	0.50	ND	0.55	110	0.49	97	12.4	75- 125	25.0
Copper	200.7	<0.005	0.50	ND	0.48	96	0.43	87	9.6	75- 125	25.0
Lead	200.7	<0.005	0.50	ND	0.55	109	0.51	102	7.4	75- 125	25.0
Magnesium	200.7	<0.050	5.0	ND	5.38	108	5.10	102	5.3	75- 125	25.0
Manganese	200.7	<0.005	0.50	ND	0.58	115	0.51	102	11.9	75- 125	25.0
Molybdenum	200.7	<0.005	0.50	ND	0.54	108	0.50	100	6.9	75- 125	25.0
Nickel	200.7	<0.005	0.50	ND	0.54	107	0.47	94	12.9	75- 125	25.0
Potassium	200.7	<0.050	10.0	ND	9.03	90	8.60	86	4.9	60- 140	25.0
Selenium	200.7	<0.005	0.50	ND	0.56	111	0.57	114	3.0	75- 125	25.0
Silver	200.7	<0.005	0.50	ND	0.56	112	0.54	107	4.6	75- 125	25.0
Sodium	200.7	<0.050	10.0	ND	8.48	85	8.53	85	0.6	60- 140	25.0
Thallium	200.7	<0.005	0.50	ND	0.50	100	0.45	90	11.2	75- 125	25.0
Vanadium	200.7	<0.005	0.50	ND	0.57	114	0.49	98	14.9	75- 125	25.0
Zinc	200.7	<0.005	0.50	ND	0.59	118	0.53	105	11.4	75- 125	25.0

Definition of Terms:

MB: Method Blank

nc: Not Calculated due to high levels of analyte found in sample

na: Not analyzed in QC batch

SA: Spike Added

SR: Sample Result

SP: Spike Result

SP (%R) Spike % Recovery

SPD Spike Duplicate Result

SPD (%R) Spike % Recovery

Entech Analytical Labs, Inc.

525 Del Rey Avenue, Suite E
Sunnyvale, CA 94086

QUALITY CONTROL RESULTS SUMMARY

METHOD: Cold Vapor Atomic Absorption
Laboratory Control Spikes

QC Batch #: WHG000507
Matrix: Liquid
Units: mg/L

Date Analyzed: 05/16/00
Quality Control Sample: Blank Spike

PARAMETER	Method #	MB mg/L	SA mg/L	SR mg/L	SP mg/L	SP %R	SPD mg/L	SPD %R	RPD	QC LIMITS %R
Mercury	245.1	<0.0002	0.0020	ND	0.0017	84	0.0017	84	0.0	38- 144

Definition of Terms:

MB: Method Blank
SA: Spike Added
SR: Sample Result
SP: Spike Result
SP (%R) Spike % Recovery
SPD Spike Duplicate Result
SPD (%R) Spike Duplicate % Recovery

Entech Analytical Labs, Inc.

525 Del Rey Avenue, Suite E
Sunnyvale, CA 94086

QUALITY CONTROL RESULTS SUMMARY

Laboratory Control Spike

METHOD: EPA 7471

QC Batch #: SHG000509

Matrix: Solid

Units: mg/kg

Date Analyzed: 05/16/00

Quality Control Sample: Blank Spike

PARAMETER	Method #	MB mg/kg	SA mg/kg	SR mg/kg	SP mg/kg	SP %R	SPD mg/kg	SPD %R	RPD	QC LIMITS %R
Mercury	7471	<0.10	0.20	0.00	0.17	84	0.19	93	10.7	44-145

Definition of Terms:

MB: Method Blank

SA: Spike Added

SR: Sample Result

SP: Spike Result

SP (%R) Spike % Recovery

SPD Spike Duplicate Result

SPD (%R) Spike Duplicate % Recovery

Entech Analytical Labs, Inc.

CA ELAP # I-2346

525 Del Rey Avenue, Suite E, Sunnyvale, CA 94086 (408) 735-1550 FAX (408) 735-1554

Subcontract Chain of Custody

21440

Subcontract Lab:	Project Name:	Date Sent:	Due Date:	PO Number:				
ACCULABS	20879	6/16/00	6/20/00	20879				
Sample Number:	Customer Sample Number:	Matrix:	Test:	Method:	Collect Date:	Collect Time:	Bottle Type:	Preservative:
20879-001	5-52(0-1/2)	Solid	EPA 8081-Acculabs	EPA 8081	5/13/00		BRASS	?

Relinquished By:	Received By:	Date:	Time:
<i>[Signature]</i>	<i>Golden State</i>	6/16/00	1800
Relinquished By:	Received By:	Date:	Time:
<i>Golden State</i>	<i>Larry G. Lynn</i>	6-17-00	1000
Relinquished By:	Received By:	Date:	Time:

Notes: 48 HOUR RUSH !!!!!!!

Acculabs Inc. - Davis

EPA 8081 QC Report

Matrix:	Soil	Date Extracted:	6/19/00
QC Batch:	PS000606	Date Analyzed:	6/20/00
QC Limits Set:	8/18/99	Spiked Sample ID :	21437-02 *

Parameter	Spike Conc		LCS		Matrix Spike		Matrix Spike Dup		Control Chart Limits	
	mg/kg		% Rec		% Rec		% Rec		Lower	Upper
gamma-BHC	0.050		77		117		110		62	117
Heptachlor	0.050		82		87		91		63	117
Aldrin	0.050		77		85		85		71	107
Dieldrin	0.100		88		151		124		68	117
Endrin	0.100		87		109		161		40	161
4,4'-DDT	0.100		66		218		157		43	128

Surrogate Compounds	Control Chart Limits	
	Lower	Upper
Tetrachloro-m-xylene	75	144
Decachlorobiphenyl	78	141

* Sample had a high concentration of toxaphene, which interfered with recovery for Dieldrin, Endrin, and DDT.


Tom Kwoka
Laboratory Director

Entech Analytical Labs, Inc.

CA ELAP# 2346

525 Del Rey Avenue, Suite E • Sunnyvale, CA 94086 • (408) 735-1550 • Fax (408) 735-1554

Lowney Associates
405 Clyde Avenue
Mountain View, CA 94043
Attn: Doug Young

Date: 5/17/00
Date Received: 5/10/00
Project Name: US Data Port 50-Acre Parcel
Project Number: 587-12F
P.O. Number:
Sampled By: Ryan Gerber

Certified Analytical Report

Order ID: 20399		Lab Sample ID: 20399-001				Client Sample ID: S-25 0-1/2			
Sample Time: 4:30 PM		Sample Date: 5/9/00				Matrix: Solid			
Parameter	Result	DF	PQL	DLR	Units	PrepDate	Analysis Date	QC Batch ID	Method
Arsenic	50	5	1	5	mg/Kg	5/11/00	5/14/00	SM000511	EPA 6010B
Lead	120	5	1	5	mg/Kg	5/11/00	5/14/00	SM000511	EPA 6010B
Mercury	0.1340	1	0.05	0.05	mg/Kg	5/15/00	5/15/00	SHG000507	EPA 7471
Selenium	ND	5	5	25	mg/Kg	5/11/00	5/14/00	SM000511	EPA 6010B

Order ID: 20399		Lab Sample ID: 20399-002				Client Sample ID: S-26 0-1/2			
Sample Time: 5:00 PM		Sample Date: 5/9/00				Matrix: Solid			
Parameter	Result	DF	PQL	DLR	Units	PrepDate	Analysis Date	QC Batch ID	Method
Arsenic	49	5	1	5	mg/Kg	5/11/00	5/14/00	SM000511	EPA 6010B
Lead	110	5	1	5	mg/Kg	5/11/00	5/14/00	SM000511	EPA 6010B
Mercury	0.1200	1	0.05	0.05	mg/Kg	5/15/00	5/15/00	SHG000507	EPA 7471
Selenium	ND	5	5	25	mg/Kg	5/11/00	5/14/00	SM000511	EPA 6010B

Order ID: 20399		Lab Sample ID: 20399-003				Client Sample ID: S-27 0-1/2			
Sample Time: 5:30 PM		Sample Date: 5/9/00				Matrix: Solid			
Parameter	Result	DF	PQL	DLR	Units	PrepDate	Analysis Date	QC Batch ID	Method
Arsenic	51	5	1	5	mg/Kg	5/11/00	5/14/00	SM000511	EPA 6010B
Lead	130	5	1	5	mg/Kg	5/11/00	5/14/00	SM000511	EPA 6010B
Mercury	0.1330	1	0.05	0.05	mg/Kg	5/15/00	5/15/00	SHG000507	EPA 7471
Selenium	ND	5	5	25	mg/Kg	5/11/00	5/14/00	SM000511	EPA 6010B

Order ID: 20399		Lab Sample ID: 20399-004				Client Sample ID: S-30 0-1/2			
Sample Time: 4:00 PM		Sample Date: 5/9/00				Matrix: Solid			
Parameter	Result	DF	PQL	DLR	Units	PrepDate	Analysis Date	QC Batch ID	Method
Arsenic	55	5	1	5	mg/Kg	5/12/00	5/13/00	SM000510	EPA 6010B
Lead	120	5	1	5	mg/Kg	5/12/00	5/13/00	SM000510	EPA 6010B
Mercury	0.0748	1	0.05	0.05	mg/Kg	5/15/00	5/15/00	SHG000507	EPA 7471
Selenium	ND	5	5	25	mg/Kg	5/12/00	5/13/00	SM000510	EPA 6010B

DF = Dilution Factor

ND = Not Detected

DLR = Detection Limit Reported

PQL = Practical Quantitation Limit

Analysis performed by Entech Analytical Labs, Inc. (CA ELAP #2346)


Michelle L. Anderson, Laboratory Director

Page 1 of 1

Environmental Analysis Since 1983

Entech Analytical Labs, Inc.

CA ELAP# 2346

525 Del Rey Avenue, Suite E • Sunnyvale, CA 94086 • (408) 735-1550 • Fax (408) 735-1554

May 17, 2000

Doug Young

Lowney Associates

405 Clyde Avenue

Mountain View, CA 94043

Order: 20399

Date Collected: 5/9/00

Project Name: US Data Port 50-Acre Parcel

Date Received: 5/10/00

Project Number: 587-12F

P.O. Number:

Project Notes:

On May 10, 2000, samples were received under documented chain of custody. Results for the following analyses are attached:

<u>Matrix</u>	<u>Test</u>	<u>Method</u>
Solid	Arsenic	EPA 6010B
	EPA 8081-ATL	EPA 8081
	EPA 8141-EMA	EPA 8141
	EPA 8151-APCL	EPA 8151
	EPA 8318-EMA	EPA 8318
	Lead	EPA 6010B
	Mercury	EPA 7471
	Selenium	EPA 6010B

Chemical analysis of these samples has been completed. Summaries of the data are contained on the following pages. USEPA protocols for sample storage and preservation were followed.

Entech Analytical Labs, Inc. is certified by the State of California (#2346). If you have any questions regarding procedures or results, please call me at 408-735-1550.

Sincerely,


Michelle L. Anderson
Lab Director

Applied P & Ch Laboratory

13760 Magnolia Ave. Chino CA 91710

Tel: (909) 590-1828 Fax: (909) 590-1498

APCL Analytical Report

Submitted to:
Entech Analytical Labs, Inc.
Attention: Allan Aks
525 Del Rey, Suite E
Sunnyvale CA 94086
Tel: (408) 735-1550 Fax: (408) 735-1554

Service ID #: 801-002936B Received: 05/11/00
Collected by: Extracted: 05/12/00
Collected on: 05/09/00 Tested: 05/17/00
Reported: 05/18/00
Sample Description: Soil
Project Description: 20399

Analysis of Soil Samples

Component Analyzed	Method	Unit	PQL	Analysis Result	
				20399-001	20399-004
				00-02936-9	00-02936-10
Chlorinated herbicides					
Acifluorfen	8151	µg/kg	20	ND	ND
Bentazon (Basagran)	8151	µg/kg	10	ND	ND
Chloramben	8151	µg/kg	10	ND	ND
2,4-D	8151	µg/kg	10	ND	ND
2,4-DB	8151	µg/kg	10	ND	ND
Dalapon (dichloroacetic acid)	8151	µg/kg	20	ND	ND
Dicamba	8151	µg/kg	10	ND	ND
3,5-Dichlorobenzoic	8151	µg/kg	10	ND	ND
Dichloroprop	8151	µg/kg	10	ND	ND
Dinoseb (DNBP)	8151	µg/kg	20	ND	ND
MCPA	8151	mg/kg	2	ND	ND
MCPP	8151	mg/kg	2	ND	ND
4-Nitrophenol	8151	µg/kg	10	ND	ND
Pentachlorophenol (PCP)	8151	µg/kg	10	ND	ND
Picloram	8151	µg/kg	10	ND	ND
2,4,5-T	8151	µg/kg	10	ND	ND
2,4,5-TP (Silvex)	8151	µg/kg	10	ND	ND

PQL: Practical Quantitation Limit. MDL: Method Detection Limit.

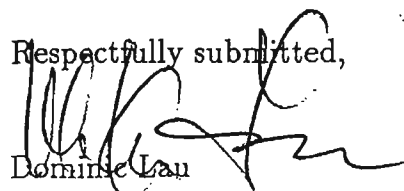
CRDL: Contract Required Detection Limit

N.D.: Not Detected or less than the practical quantitation limit.

"-": Analysis is not required.

J: Reported between PQL and MDL.

Respectfully submitted,


Dominic Lau

Laboratory Director
Applied P & Ch Laboratory

Entech Analytical Labs, Inc.

CA ELAP # I-2346

525 Del Rey Avenue, Suite E, Sunnyvale, CA 94086 (408) 735-1550 FAX (408) 735-1554

Subcontract Chain of Custody

Subcontract Lab:	Project Name:	Date Sent:	Due Date:	PO Number:
EMA	20399	5/10/00	5/17/00	20399

Sample Number:	Customer Sample Number:	Matrix:	Test:	Method:	Collect Date:	Collect Time:	Bottle Type:	Preservative:
20399-001	S-25 0-1/2	Solid	EPA 8141-EMA	EPA 8141	5/9/00	4:30 PM	4 oz jar	
20399-001	S-25 0-1/2	Solid	EPA 8318-EMA	EPA 8318	5/9/00	4:30 PM	4 oz jar	
20399-004	S-28 0-1/2	Solid	EPA 8141-EMA	EPA 8141	5/9/00	4:00 PM	4 oz jar	
20399-004	S-28 0-1/2	Solid	EPA 8318-EMA	EPA 8318	5/9/00	4:00 PM	4 oz jar	

A Please cancel 20399-001 for 8318, 8141
Notify Allan AKS asap if this is not
possible

AA
5/12/00

Relinquished By:	Received By:	Date:	Time:
Mara Gmely	Golden State	5/10/00	1800
Relinquished By:	Received By:	Date:	Time:
Relinquished By:	Received By:	Date:	Time:

Notes: EPA 8318 (n-methyl carbamates)

Applied P & Ch Laboratory

13760 Magnolia Ave. Chino CA 91710

Tel: (909) 590-1828 Fax: (909) 590-1498

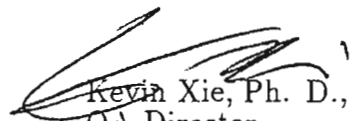
APCL QA/QC Report

*: LCS/LCSD is used.

Notation: ICV - Initial Calibration Verification
CCV - Continuation Calibration Verification
LCS - Lab Control Spike
MS - Matrix Spike
MSD - Matrix Spike Duplicate
ICS - Interference Check Standard
MD - Matrix Duplicate
N.D. - Not detected or less than PQL

CCB - Continuation Calibration Blank
M-blank - Method Blank
SP Level - Spike Level
%Rec - Recovery Percent
%RPD - Relative Percent Differences
%Diff - Control Limit for %RPD
ICP-SD - ICP Serial Dilution
N.A. - Not Applicable

Respectfully submitted,


Kevin Xie, Ph. D.,
QA Director
Applied P & Ch Laboratory

Applied P & Ch Laboratory

13760 Magnolia Ave. Chino CA 91710

Tel: (909) 590-1828 Fax: (909) 590-1498

APCL QA/QC Report

Submitted to:

Entech Analytical Labs, Inc.

Attention: Allan Aks

525 Del Rey, Suite E

Sunnyvale, CA 94086

Tel: (408)735-1550 Fax: (408)735-1554

Service ID #: 801-002936

Collected by:

Collected on: 05/09/00

Sample description:

Soil

Project: 20391

Received: 05/11/00

Tested: 05/17/00

Reported: 5/19/00

Analysis of Soil

801-002936QC

Component Name	Analysis Batch #	CCV (µg/L)	CCV %Rec	M-Blank	Conc. Unit	SP Level	LCS %Rec	MS %Rec	MSD %Rec	MS/MSD %RPD	Control Limit %Rec	%Diff
Chlorinated herbicides												
Dalapon (dichloroacetic acid)	00G2532	250	97	N.D.	µg/kg	-	-	-	-	-	-	-
3,5-Dichlorobenzoic	00G2532	250	113	N.D.	µg/kg	-	-	-	-	-	-	-
4-Nitrophenol	00G2532	250	89	N.D.	µg/kg	-	-	-	-	-	-	-
Dicamba	00G2532	250	101	N.D.	µg/kg	-	-	-	-	-	-	-
MCPP	00G2532	25000	102	N.D.	mg/kg	-	-	-	-	-	-	-
Dichloroprop	00G2532	250	102	N.D.	µg/kg	-	-	-	-	-	-	-
MCPA	00G2532	25000	106	N.D.	mg/kg	-	-	-	-	-	-	-
2,4-D	00G2532	250	112	N.D.	µg/kg	50.0	107	107*	116*	8	55-125	35
Pentachlorophenol (PCP)	00G2532	250	105	N.D.	µg/kg	-	-	-	-	-	-	-
2,4,5-TP (Silvex)	00G2532	250	107	N.D.	µg/kg	50.0	87	87*	87*	1	54-127	36
2,4,5-T	00G2532	250	108	N.D.	µg/kg	50.0	110	110*	108*	2	50-128	39
Dinoseb (DNBP)	00G2532	250	96	N.D.	µg/kg	-	-	-	-	-	-	-
Chloramben	00G2532	250	103	N.D.	µg/kg	-	-	-	-	-	-	-
2,4-DB	00G2532	250	100	N.D.	µg/kg	-	-	-	-	-	-	-
Bentazon (Basagran)	00G2532	250	102	N.D.	µg/kg	-	-	-	-	-	-	-
DCPA (Dacthal)	00G2532	250	102	N.D.	µg/kg	-	-	-	-	-	-	-
Picloram	00G2532	250	111	N.D.	µg/kg	-	-	-	-	-	-	-
Acifluorfen	00G2532	250	112	N.D.	µg/kg	-	-	-	-	-	-	-

Entech Analytical Labs, Inc.

CA ELAP # I-2346

525 Del Rey Avenue, Suite E, Sunnyvale, CA 94086 (408) 735-1550 FAX (408) 735-1554

Subcontract Chain of Custody

Subcontract Lab:	Project Name:	Date Sent:	Due Date:	PO Number:
APCL	20399	5/10/00	5/17/00	20399

Sample Number:	Customer Sample Number:	Matrix:	Test:	Method:	Collect Date:	Collect Time:	Bottle Type:	Preservative:
20399-001	S-25 0-1/2	Solid	EPA 8151-APCL	EPA 8151	5/9/00	4:30 PM	4 oz jar	
20399-004	S-28 0-1/2	Solid	EPA 8151-APCL	EPA 8151	5/9/00	4:00 PM	4 oz jar	

2936

Relinquished By:	Received By:	Date:	Time:
Maria Grubis Golden State		5/10/00	1800
Relinquished By:	Received By:	Date:	Time:
	<i>[Signature]</i>	5/11/2000	0845
Relinquished By:	Received By:	Date:	Time:

Notes:

Entech Analytical Labs, Inc.

CA ELAP # I-2346

525 Del Rey Avenue, Suite E, Sunnyvale, CA 94086 (408) 735-1550 FAX (408) 735-1554

Subcontract Chain of Custody

Subcontract Lab:	Project Name:	Date Sent:	Due Date:	PO Number:
APCL	20399	5/10/00	5/17/00	20399

Sample Number:	Customer Sample Number:	Matrix:	Test:	Method:	Collect Date:	Collect Time:	Bottle Type:	Preservative:
20399-001	S-25 0-1/2	Solid	EPA 8151-APCL	EPA 8151	5/9/00	4:30 PM	4 oz jar	
20399-004	S-28 0-1/2	Solid	EPA 8151-APCL	EPA 8151	5/9/00	4:00 PM	4 oz jar	

Please cancel 20399-001 for 8/15/00
Contact Allen Ales ASP if this
is not possible
5/12/00
AA

Relinquished By:	Received By:	Date:	Time:
Maria Gyles Golden State		5/10/00	1800
Relinquished By:	Received By:	Date:	Time:
Relinquished By:	Received By:	Date:	Time:

Notes:

NEW ASSOCIATES **CLAIM OR CUSTODY RECORD**

☐ Checkbook C
 5100 10th Ave.
 Oakland, CA 94607
 510-587-1570
 510-587-1571 (fax)

☐ Checkbook V
 4970 Clyde Avenue
 Alameda, CA 94004
 510-587-2565
 510-587-2751 (fax)

With Mass. with 500
 Mass. 500-1000

Project Name
 115 Data Port 50 Acre

Job Number
 507-12F

Director
 DAUG YOUNG

Supervisor
 RYAN GERRER

Supervisor
 Ryan GERRER

QC Representative

115 Data Port 50 Acre

Date
 5/9/20

Time
 16:00

Location
 Soil

Date
 5/9/20

Time
 16:00

Location
 Soil

Date
 5/9/20

Time
 16:00

Location
 Soil

Date
 5/9/20

Time
 16:00

Location
 Soil

Date
 5/9/20

Time
 16:00

Location
 Soil

Date
 5/9/20

Time
 16:00

Location
 Soil

Date
 5/9/20

Time
 16:00

Normalized
 Magnitude

☐ 21 working days

☐ 5 working days

☐ 8 working days

☐ 4 hours

☐ 4 hours

☐ 4 hours (MUN)

Laboratory

Date

Time

Location

Date

Time

Location

Date

Time

Location

Date

Time

Location

Date

Time

Location

Date

Time

Location

Date

Time

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 Magnitude

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Time

Normalized
 Magnitude

☐ 21 working days

☐ 5 working days

☐ 8 working days

☐ 4 hours

☐ 4 hours

☐ 4 hours (MUN)

Laboratory

Date

Time

Location

Date

Time

Location

Date

Time

Location

Date

Time

Location

Fax Transmittal

☐ Mountain View Office
405 Clyde Avenue
Mountain View, CA 94043
Tel: 650.967.2363
Fax: 650.967.2785

☒ Oakland Office
129 Filbert Street
Oakland, CA 94607
Tel: 510.267.1970
Fax: 510.267.1972

☐ Pasadena Office
1785 Locust Street, Suite 10
Pasadena, CA 91106
Tel: 626.396.1490
Fax: 626.396.1491

☐ San Ramon Office
2258 Camino Ramon
San Ramon, CA 94583
Tel: 925.275.2550
Fax: 925.275.2555

To: Entech

From: John McCain

Attn: Alan

Date: 5/12/00

Fax: 408-735-1554

Pages: 4 (Including Cover)

CC:

Project: US DataPort 50-Acre Parcel

Job #: 587-12F

Please notify us if you received this fax in error by calling the office indicated above.

Remarks:

☐

Urgent

☒

For your review

☐

Reply ASAP

☐

Please comment

Alan:

Please find the amended chain of custody for the samples received by you 5/9/00 and 5/10/00. The following changes were made:

- ✓ 1. Do not run sample S-10 (0 - ½") for Methods 8151, 8141, or 8318.
- ✓ 2. Do not run sample S-20 (0 - ½") for Methods 8151, 8141, or 8318.
- ✓ 3. Do not run sample S-25 (0 - ½") for Methods 8151, 8141, or 8318.

If you have any questions or concerns, please feel free to contact me at 510-267-1970; my extension is 206.

LOWNEY ASSOCIATES

John McCain

Mail copy to follow: ☐ Yes

☒ No

Time Sent:

4:55pm

Sent By:

JM

Client: Entech Analytical Labs, Inc.
Attn: Michelle Anderson

Client's Project: 20399
Date Received: 05/11/00
Extraction Method: 3550B
Matrix: Solid
Units: ug/kg

Date Amended: 05/30/00

Method: 3051

Lab No.:	Method Blank	43917-001			
Client Sample I.D.:	-	20399-001 S-25 0-1/2			
Date Sampled:	-	05/09/00			
QC Batch #:	C008080S209	C008080S209			
Date Extracted:	05/12/00	05/12/00			
Date Analyzed:	05/17/00	05/17/00			
Analyst Initials:	NN	NN			
Dilution Factor:	1	25			
ANALYTE	MDL	DER	Results	DER	Results
Alpha-BHC	2	2	ND	50	ND
Gamma-BHC (Lindane)	2	2	ND	50	ND
Beta-BHC	2	2	ND	50	ND
Heptachlor	2	2	ND	50	ND
Delta-BHC	2	2	ND	50	ND
Aldrin	2	2	ND	50	ND
Heptachlor Epoxide	2	2	ND	50	ND
Endosulfan I	2	2	ND	50	ND
4,4'-DDE	4	4	ND	100	1010
Dieldrin	4	4	ND	100	ND
Endrin	4	4	ND	100	ND
4,4'-DDD	4	4	ND	100	ND
Endosulfan II	4	4	ND	100	ND
4,4'-DDT	4	4	ND	100	ND
Endrin Aldehyde	4	4	ND	100	ND
Endosulfan Sulfate	4	4	ND	100	ND
Methoxychlor	17	17	ND	425	ND
Gamma-Chlordane	2	2	ND	50	ND
alpha-Chlordane	2	2	ND	50	ND
Toxaphene	170	170	ND	4250	ND
Chlordane	17	17	ND	425	ND

Surrogate Recoveries

Surrogate	%Rec.	Limits	%Rec.	Limits
Tetrachloro-m-xylene	81	30-150	*	30-150
Decachlorobiphenyl	137	30-150	188**	30-150

MDL = Method Detection Limit
ND = Not Detected (Below DLR)
DLR = MDL X Dilution Factor
NA = Not Analyzed

* = Surrogates dilute out
** = Surrogate recoveries outside of calibration range.

Reviewed/Approved By:


Edgar Morrison
Organics Supervisor

Date: 5/30/00

The cover letter is an integral part of this analytical report.



Advanced Technology
Laboratories

1510 E. 33rd Street Signal Hill, CA 90807 Tel: 562 989-4045 Fax: 562 989-4040

LOWNEY ASSOCIATES

CHAIN OF CUSTODY RECORD

Send Results To:

☒ Mountain View Office
405 Clyde Avenue
Mountain View, CA 94043
415-967-2365

☐ Oakland Office
129 Filbert Street
Oakland, CA 94607
510-267-1970

Max Copy To:

☒ 415-967-2785 (fax)

☐ 510-267-1972 (fax)

Project Name:

US Data Port 50 Acre

Job Number:

587-12F

Report To:

DOUG YOUNG

Sampler (print):

RYAN GERBER

Sampler (signature):

Ryan Gerber

CR Requirements:

Level A (standard) ☐ Level B ☐ Level C ☐ Level D ☐

Turnaround Requirements

- ☐ 10 working days
☒ 5 working days
☐ 3 working days
☐ 48 hours
☐ 24 hours
☐ 2-3 hours (RUSH) Laboratory I.D.

of Cont.

Sample Matrix

Time

Date

Sample I.D.

Level D

Sample I.D.	Date	Time	Sample Matrix	# of Cont.	Level D	Turnaround Requirements	Test Results	Remarks
S-25 0-1/2	5/9/00	16:30	Soil	1				
1-1-1/2								
2-2-1/2								
2-26 0-1/2	5/9/00	17:00						
1-1-1/2								
2-2-1/2								
2-27 0-1/2		17:30						
1-1-1/2								
2-2-1/2								
3-30 0-1/2		16:00						
1-1-1/2								
2-2-1/2								

Received By: *Ryan Gerber* Date: 5/9/00 Time: 12:25

Received By: *Ryan Gerber* Date: 5/10/00 Time: 12:25

Received By: *Ryan Gerber* Date: 5/10/00 Time: 12:25

Client: Entech Analytical Labs, Inc.
Attn: Michelle Anderson

Client's Project: 20399
Date Received: 05/11/00
Extraction Method: 3550B
Matrix: Solid
Units: ug/kg

Date Amended: 05/30/00

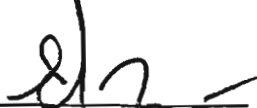
Lab No.: 43917-003			
Client Sample ID: 20399-003 S-27 0-1/2			
Date Sampled: 05/09/00			
QC Batch #: C008080509			
Date Extracted: 05/12/00			
Date Analyzed: 05/17/00			
Analyst Initials: NN			
Dilution Factor: 20			
ANALYTE	MDL	DLR	Result
Alpha-BHC	2	40	ND
Gamma-BHC (Lindane)	2	40	ND
Beta-BHC	2	40	ND
Heptachlor	2	40	ND
Delta-BHC	2	40	ND
Aldrin	2	40	ND
Heptachlor Epoxide	2	40	ND
Endosulfan I	2	40	ND
4,4'-DDE	4	160	949
Dieldrin	4	160	ND
Endrin	4	160	ND
4,4'-DDD	4	160	ND
Endosulfan II	4	160	ND
4,4'-DDT	4	160	ND
Endrin Aldehyde	4	160	ND
Endosulfan Sulfate	4	160	ND
Methoxychlor	17	340	ND
gamma-Chlordane	2	40	ND
alpha-Chlordane	2	40	ND
Toxaphene	170	3400	ND
Chlordane	17	40	ND

Surrogate Recovery		
Surrogate	%Rec.	Limits
Tetrachloro-m-xylene	109	30-150
Decachlorobiphenyl	201**	30-150

MDL = Method Detection Limit
ND = Not Detected (Below DLR)
DLR = MDL X Dilution Factor
NA = Not Analyzed

** = Surrogate recoveries outside of calibration range.

Reviewed/Approved By:


Edgar Morrison
Organics Supervisor

Date: 5/30/00

The cover letter is an integral part of this analytical report.



Advanced Technology
Laboratories

1510 E. 33rd Street Signal Hill, CA 90807 Tel: 562 989-4045 Fax: 562 989-4040

Date Amended: 05/30/00

IGA-Method 808E

Lab No.:	43917-002																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																				
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Surrogate Recovery

[illegible]

- * Surrogates dilute out

Date: 5/30/00

The cover letter is an integral part of this analytical report.



1510 E. 33rd Street Signal Hill, CA 90807 Tel: 562 989-4045 Fax: 562 989-4040

Client: Entech Analytical Labs, Inc.
Attn: Michelle Anderson

Client's Project: 20399
Date Received: 05/11/00
Extraction Method: 3550B
Matrix: Solid
Units: ug/kg

EPA Method 8081A

Lab No.:	LCS								
Client Sample ID.:	---								
Date Sampled:	---								
OC Batch #:	C008080S209								
Date Extracted:	05/12/00								
Date Analyzed:	05/17/00								
Analyst Initials:	NN								
Dilution Factor:	20								
ANALYTE	MDL	%Rec	Limits						
Alpha-BHC	2	97	26-143						
Gamma-BHC (Lindane)	2	101	26-143						
Beta-BHC	2	95	26-143						
Heptachlor	2	94	26-143						
Delta-BHC	2	103	26-143						
Aldrin	2	94	26-143						
Heptachlor Epoxide	2	94	26-143						
Endosulfan I	2	100	26-143						
4,4'-DDE	4	104	26-143						
Dieldrin	4	105	26-143						
Endrin	4	102	26-143						
4,4'-DDD	4	103	26-143						
Endosulfan II	4	104	26-143						
4,4'-DDT	4	109	26-143						
Endrin Aldehyde	4	93	26-143						
Endosulfan Sulfate	4	111	26-143						
Methoxychlor	17	118	26-143						
gamma-Chlordane	2	97	26-143						
alpha-Chlordane	2	98	26-143						
naphene	170	NS	NS						
alordane	17	NS	NS						

Surrogate Recoveries

Surrogate	%Rec	Limits							
Tetrachloro-m-xylene	85	30-150							
Decachlorobiphenyl	138	30-150							

MDL = Method Detection Limit
ND = Not Detected (Below DLR)
DLR = MDL X Dilution Factor
NA = Not Analyzed

Reviewed/Approved By:


Edgar Morrison
Organics Supervisor

Date: 5/30/00

The cover letter is an integral part of this analytical report.

Client: Entech Analytical Labs, Inc.
Attn: Michelle Anderson

Client's Project: 20399
Date Received: 05/11/00
Extraction Method: 3550B
Matrix: Solid
Units: ug/kg

Date Amended: 06/26/00

EPA Method 8081A

Lab No.:	Method Blank	43917-004	LCS						
Client Sample ID:	—	20399-004 S-30 0-1/2	—						
Date Sampled:	—	05/09/00	—						
QC Batch #:	3008080S210	3008080S210	3008080S210						
Date Extracted:	05/15/00	05/15/00	05/15/00						
Date Analyzed:	05/20/00	05/20/00	05/20/00						
Analyst Initials:	SB	SB	SB						
Dilution Factor:	1	20	1						
ANALYTE	MDL	DER	Results	DER	Results	%Rec	Limits		
Alpha-BHC	2	2	ND	40	ND	93	26-143		
Gamma-BHC (Lindane)	2	2	ND	40	ND	94	26-143		
Beta-BHC	2	2	ND	40	ND	92	26-143		
Heptachlor	2	2	ND	40	ND	92	26-143		
Delta-BHC	2	2	ND	40	ND	100	26-143		
Aldrin	2	2	ND	40	ND	96	26-143		
Heptachlor Epoxide	2	2	ND	40	ND	94	26-143		
Endosulfan I	2	2	ND	40	ND	94	26-143		
4,4'-DDE	4	4	ND	80	1020	97	26-143		
Dieldrin	4	4	ND	80	ND	100	26-143		
Endrin	4	4	ND	80	ND	94	26-143		
4,4'-DDD	4	4	ND	80	64	100	26-143		
Endosulfan II	4	4	ND	80	ND	97	26-143		
4,4'-DDT	4	4	ND	80	92	101	26-143		
Endrin Aldehyde	4	4	ND	80	ND	127	26-143		
Endosulfan Sulfate	4	4	ND	80	ND	100	26-143		
Methoxychlor	17	17	ND	340	ND	106	26-143		
gamma-Chlordane	2	2	ND	40	ND	96	26-143		
alpha-Chlordane	2	2	ND	40	ND	96	26-143		
Toxaphene	170	170	ND	3400	ND	NA	NA		

Surrogate Recovery									
Surrogate	%Rec.	Limits	%Rec.	Limits	%Rec.	Limits			
Tetrachloro-m-xylene	89	30-150	84	30-150	97	30-150			
Decachlorobiphenyl	101	30-150	102	30-150	102	30-150			

MDL = Method Detection Limit
ND = Not Detected (Below DLR)
DLR = MDL X Dilution Factor
NA = Not Analyzed

Reviewed/Approved By:

Edgar Morrison
Organics Supervisor

Date:

6/26/00

The cover letter is an integral part of this analytical report.



Advanced Technology

1510 E. 33rd Street Signal Hill, CA 90807 Tel: 562 980-4045 Fax: 562 980-4040

Entech Analytical Labs, Inc.

CA ELAP # I-2346

525 Del Rey Avenue, Suite E, Sunnyvale, CA 94086 (408) 735-1550 FAX (408) 735-1554

Subcontract Chain of Custody

Subcontract Lab:	Project Name:	Date Sent:	Due Date:	PO Number:
ATL	20399	5/10/00	5/17/00	20399

Sample Number:	Customer Sample Number:	Matrix:	Test:	Method:	Collect Date:	Collect Time:	Bottle Type:	Preservative:
20399-001	S-25 0-1/2	Solid	EPA 8081-ATL	EPA 8081	5/9/00	4:30 PM	4 oz jar	
20399-002	S-26 0-1/2	Solid	EPA 8081-ATL	EPA 8081	5/9/00	5:00 PM	4 oz jar	
20399-003	S-27 0-1/2	Solid	EPA 8081-ATL	EPA 8081	5/9/00	5:30 PM	4 oz jar	
20399-004	S-28 0-1/2	Solid	EPA 8081-ATL	EPA 8081	5/9/00	4:00 PM	4 oz jar	

Relinquished By:

Leo Rodriguez

Received By:

Golden State

Date:

5/10/00

Time:

1800

Relinquished By:

Received By:

Diane Galvan

Date:

5-11-00

Time:

0900

Relinquished By:

Received By:

Date:

Time:

Notes:

Spike Recovery and RPD Summary Report - SOIL(ug/kg)

Method : C:\HPCHEM\1\METHODS\8080516.M (Chemstation Integrator)
 Title :
 Last Update : Tue May 16 16:47:37 2000
 Response via : Initial Calibration

Non-Spiked Sample: C0516012.D

Spike Sample	Spike Duplicate Sample
File ID : C0516014.D	C0516015.D
Sample : 000512blks1,msd,	000512blks1,msd,
Acq Time: 16 May 2000 4:55 pm	16 May 2000 5:30 pm

Compound	Sample Conc	Spike Added	Spike Res	Dup Res	Spike %Rec	Dup %Rec	RPD	QC Limits RPD	QC Limits % Rec
gamma-BHC	0.0	40	38	39	95	97	2	11	55-117
Heptachlor	0.1	40	38	38	94	95	1	13	38-120
Aldrin	0.0	40	39	39	97	99	2	17	47-125
Dieldrin	0.0	80	76	77	94	97	2	9	59-123
Endrin	0.0	80	79	79	99	99	0	13	64-131
1,4'-DDT	0.0	80	76	77	95	96	1	20	24-141

CBATCH#C008080S209

Reviewed/Approved by:


 Edgar Morrison
 Department Supervisor

Date:

5/17/00



Advanced Technology
 Laboratories

1510 E. 33rd Street Signal Hill, CA 90807 Tel: 562 980-4045 Fax: 562 980-4040

May 19, 2000

ELAP No.: 1838

Entech Analytical Labs, Inc.
525 Del Rey Avenue, Suite E,
Sunnyvale, CA 94086

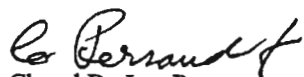
ATTN: Michelle Anderson

Client's Project: 20420
Lab No.: 43953-001/008

Enclosed are the results for sample(s) received by Advanced Technology Laboratories and tested for the parameters indicated in the enclosed chain of custody.

Thank you for the opportunity to service the needs of your company. Please feel free to call me at (562) 989 - 4045 if I can be of further assistance to your company.

Sincerely,



Cheryl De Los Reyes
Technical Operations Manager
CDR/ra

Enclosures

This cover letter is an integral part of this analytical report.

This report pertains only to the samples investigated and does not necessarily apply to other apparently identical or similar materials. This report is submitted for the exclusive use of the client to whom it is addressed. Any reproduction of this report or use of this Laboratory's name for advertising or publicity purpose without authorization is prohibited.



Advanced Technology
Laboratories

1510 E. 33rd Street Signal Hill, CA 90807 Tel: 562 989-4045 Fax: 562 989-4040

Entech Analytical Labs, Inc.

CA ELAP# 2346

525 Del Rey Avenue, Suite E • Sunnyvale, CA 94086 • (408) 735-1550 • Fax (408) 735-1554

May 22, 2000

Doug Young

Lowney Associates

405 Clyde Avenue

Mountain View, CA 94043

Order: 20420

Date Collected: 5/10/00

Project Name: US Data Port 50-Acre Parcel

Date Received: 5/10/00

Project Number: 587-12F

P.O. Number:

Project Notes:

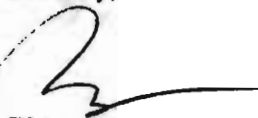
On May 10, 2000, samples were received under documented chain of custody. Results for the following analyses are attached:

<u>Matrix</u>	<u>Test</u>	<u>Method</u>
Solid	EPA 8081-ATL	EPA 8081

Chemical analysis of these samples has been completed. Summaries of the data are contained on the following pages. USEPA protocols for sample storage and preservation were followed.

Entech Analytical Labs, Inc. is certified by the State of California (#2346). If you have any questions regarding procedures or results, please call me at 408-735-1550.

Sincerely,



Michelle L. Anderson
Lab Director

Client's Project: 20420
Date Received: 05/12/00
Extraction Method: 3550B
Matrix: Solid
Units: ug/kg

Date Amended: 05/25/00

EPA Method 8081

[illegible]

Surrogate Recovery

[illegible]

MDL = Method Detection Limit
ND = Not Detected (Below DLR).
DLR = MDL X Dilution Factor
NA = Not Analyzed

* = Surrogate recoveries outside of limits due to matrix interference

Reviewed/Approved By: Edgar Morrison
Organics Supervisor

Date:

The cover letter is an integral part of this analytical report.



Advanced Technology

1510 E. 33rd Street Signal Hill CA 90807 Tel. 562 090 1015 Fax. 562 090 1010

Client's Project: 20420
Date Received: 05/12/00
Extraction Method: 3550B
Matrix: Solid
Units: ug/kg

Date Amended: 05/25/00

EPA Method 8081

[illegible]

Surrogate Recovery

Surrogate	%Rec	Limits
Tetrachloro-m-xylene	89	30-150
Decachlorobiphenyl	122	30-150

MDL = Method Detection Limit
ND = Not Detected (Below DLR)
DLR = MDL X Dilution Factor
NA = Not Analyzed

Reviewed/Approved By:

Edgar Morrison
Organics Supervisor

Date:

The cover letter is an integral part of this analytical report.



*Advanced Technology
Laboratories*

1510 E. 33rd Street Signal Hill, CA 90807 Tel: 562 989-4045 Fax: 562 989-4040

Client's Project: 20420
Date Received: 05/12/00
Extraction Method: 3550B
Matrix: Solid
Units: ug/kg

Date Amended: 05/25/00

EPA Method 8081

Lab No.:	43953-008																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																			
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Surrogate Recovery

[illegible]

MDL = Method Detection Limit
ND = Not Detected (Below DLR).
DLR = MDL X Dilution Factor
NA = Not Analyzed
DO = Diluted Out

^a = Surrogate recoveries outside of limits due to matrix interference

Reviewed/Approved By: Edgar Morrison
Organics Supervisor

Date: 5/25/00

The cover letter is an integral part of this analytical report.



Method : C:\HPCHEM\1\METHODS\8080520.M (Chemstation Integrator)
 Title : 8081 Pesticides Advanced Technology Laboratory
 Last Update : Thu May 18 16:22:53 2000
 Response via : Initial Calibration

Non-Spiked Sample: G0520011.D

Spike Sample	Spike Duplicate Sample
File ID : G0520013.D	G0520014.D
Sample : 000517blks1,ms,	000517blks1,msd,
Acq Time: 20 May 2000 7:05 pm	20 May 2000 7:51 pm

Compound	Sample Conc	Spike Added	Spike Res	Dup Res	Spike %Rec	Dup %Rec	RPD	QC RPD	Limits % Rec
gamma-BHC	0.0	40	41	39	101	98	4	9	55-117
Heptachlor	0.0	40	41	39	102	99	3	12	38-120
Aldrin	0.0	40	42	41	106	103	3	15	47-125
Dieldrin	0.0	80	82	78	102	98	4	8	59-123
Endrin	0.0	80	88	85	110	107	3	16	64-131
4,4'-DDT	0.0	80	88	85	109	106	3	22	24-141

QC Batch #:G008080S213

Reviewed/Approved by: Edgar Morrison

Edgar Morrison
 Department Supervisor

Date: 5/25/00



Advanced Technology
 Laboratory

1510 E. 33rd Street Signal Hill, CA 90807 T-1-562-989-4015 F-1-562-989-4010

Client: Entech Analytical Labs, Inc.
Attn: Michelle Anderson

Client's Project: 20420
Date Received: 05/12/00
Extraction Method: 3550B
Matrix: Solid
Units: ug/kg

EPA Method 8081

Lab No.:	LCS																		
Client Sample I.D.:	—																		
Date Sampled:	—																		
QC Batch #:	C008080S213																		
Date Extracted:	05/17/00																		
Date Analyzed:	05/19/00																		
Analyst Initials:	NN																		
Dilution Factor:	1																		
ANALYTE	MDL	%Rec	Limits																
Alpha-BHC	2	109	26-143																
Gamma-BHC (Lindane)	2	110	26-143																
Beta-BHC	2	106	26-143																
Heptachlor	2	112	26-143																
Delta-BHC	2	110	26-143																
Aldrin	2	108	26-143																
Heptachlor Epoxide	2	108	26-143																
Endosulfan I	2	109	26-143																
4,4'-DDE	4	110	26-143																
Dieldrin	4	111	26-143																
Endrin	4	116	26-143																
4,4'-DDD	4	108	26-143																
Endosulfan II	4	108	26-143																
4,4'-DDT	4	105	26-143																
Endrin Aldehyde	4	98	26-143																
Endosulfan Sulfate	4	109	26-143																
Methoxychlor	17	93	26-143																
gamma-Chlordane	2	109	26-143																
alpha-Chlordane	2	106	26-143																
Toxaphene	170	NS	NS																
Total Chlordane	17	NS	NS																

Surrogate Recovery

Surrogate	%Rec	Limits																	
Tetrachloro-m-xylene	58	30-150																	
Decachlorobiphenyl	74	30-150																	

MDL = Method Detection Limit
ND = Not Detected (Below DLR)
DLR = MDL X Dilution Factor
NA = Not Analyzed
NS = Not Spiked

Reviewed/Approved By: _____

Edgar Morrison
Organics Supervisor

Date: _____

5/26/00

The cover letter is an integral part of this analytical report.



Advanced Technology

1510 E. 33rd Street Signal Hill, CA 90807 Tel: 562.980.1045 Fax: 562.980.1046

Entech Analytical Labs, Inc.

CA ELAP# 2346

525 Del Rey Avenue, Suite E • Sunnyvale, CA 94086 • (408) 735-1550 • Fax (408) 735-1554

May 18, 2000

Doug Young

Lowney Associates

405 Clyde Avenue

Mountain View, CA 94043

Order: 20420

Date Collected: 5/10/00

Project Name: US Data Port 50-Acre Parcel

Date Received: 5/10/00

Project Number: 587-12F

P.O. Number:

Project Notes:

On May 10, 2000, samples were received under documented chain of custody. Results for the following analyses are attached:

<u>Matrix</u>	<u>Test</u>	<u>Method</u>
Solid	Arsenic	EPA 6010B
	EPA 8141-EMA	EPA 8141
	EPA 8151-APCL	EPA 8151
	EPA 8318-EMA	EPA 8318
	Lead	EPA 6010B
	Mercury	EPA 7471
	Selenium	EPA 6010B

Chemical analysis of these samples has been completed. Summaries of the data are contained on the following pages. USEPA protocols for sample storage and preservation were followed.

Entech Analytical Labs, Inc. is certified by the State of California (#2346). If you have any questions regarding procedures or results, please call me at 408-735-1550.

Sincerely,



Michelle L. Anderson
Lab Director

Entech Analytical Labs, Inc.

CA ELAP # I-2346

525 Del Rey Avenue, Suite E, Sunnyvale, CA 94086 (408) 735-1550 FAX (408) 735-1554

Subcontract Chain of Custody

Subcontract Lab:	Project Name:	Date Sent:	Due Date:	PO Number:
ATL	20420	5/11/00	5/17/00	20420

Sample Number:	Customer Sample Number:	Matrix:	Test:	Method:	Collect Date:	Collect Time:	Bottle Type:	Preservative:
20420-001	S-28 (0-1/2')	Solid	EPA 8081-ATL	EPA 8081	5/10/00		4 oz jar	
20420-002	S-31 (0-1/2')	Solid	EPA 8081-ATL	EPA 8081	5/10/00		4 oz jar	
20420-003	S-35 (0-1/2')	Solid	EPA 8081-ATL	EPA 8081	5/10/00		4 oz jar	
20420-004	S-36 (0-1/2')	Solid	EPA 8081-ATL	EPA 8081	5/10/00		4 oz jar	
20420-005	S-14 (0-1/2')	Solid	EPA 8081-ATL	EPA 8081	5/10/00		4 oz jar	
20420-006	S-16 (0-1/2')	Solid	EPA 8081-ATL	EPA 8081	5/10/00		4 oz jar	
20420-007	S-20 (0-1/2')	Solid	EPA 8081-ATL	EPA 8081	5/10/00		4 oz jar	
20420-008	S-23 (0-1/2')	Solid	EPA 8081-ATL	EPA 8081	5/10/00		4 oz jar	

Relinquished By:	Received By:	Date:	Time:
Maria Guskis	Golden State	5/11/00	1600
Relinquished By:	Received By:	Date:	Time:
	Diane Galvan	5-12-00	0900
Relinquished By:	Received By:	Date:	Time:

Notes: Report 8081 + chlordane

Entech Analytical Labs, Inc.

CA ELAP# 2346

525 Del Rey Avenue, Suite E • Sunnyvale, CA 94086 • (408) 735-1550 • Fax (408) 735-1554

Lowney Associates
405 Clyde Avenue
Mountain View, CA 94043
Attn: Doug Young

Date: 5/17/00
Date Received: 5/10/00
Project Name: US Data Port 50-Acre Parcel
Project Number: 587-12F
P.O. Number:
Sampled By: John McCain

Certified Analytical Report

Order ID: 20420

Lab Sample ID: 20420-005

Client Sample ID: S-14 (0-1/2')

Sample Time:

Sample Date: 5/10/00

Matrix: Solid

Parameter	Result	DF	PQL	DLR	Units	PrepDate	Analysis Date	QC Batch ID	Method
Arsenic	56	5	1	5	mg/Kg	5/15/00	5/16/00	SM000510	EPA 6010B
Lead	140	5	1	5	mg/Kg	5/15/00	5/16/00	SM000510	EPA 6010B
Mercury	0.1070	1	0.05	0.05	mg/Kg	5/15/00	5/15/00	SHG000507	EPA 7471
Selenium	ND	5	5	25	mg/Kg	5/15/00	5/16/00	SM000510	EPA 6010B

Order ID: 20420

Lab Sample ID: 20420-006

Client Sample ID: S-16 (0-1/2')

Sample Time:

Sample Date: 5/10/00

Matrix: Solid

Parameter	Result	DF	PQL	DLR	Units	PrepDate	Analysis Date	QC Batch ID	Method
Arsenic	58	5	1	5	mg/Kg	5/15/00	5/16/00	SM000510	EPA 6010B
Lead	150	5	1	5	mg/Kg	5/15/00	5/16/00	SM000510	EPA 6010B
Mercury	0.0790	1	0.05	0.05	mg/Kg	5/15/00	5/15/00	SHG000507	EPA 7471
Selenium	ND	5	5	25	mg/Kg	5/15/00	5/16/00	SM000510	EPA 6010B

Order ID: 20420

Lab Sample ID: 20420-007

Client Sample ID: S-20 (0-1/2')

Sample Time:

Sample Date: 5/10/00

Matrix: Solid

Parameter	Result	DF	PQL	DLR	Units	PrepDate	Analysis Date	QC Batch ID	Method
Arsenic	48	5	1	5	mg/Kg	5/15/00	5/16/00	SM000510	EPA 6010B
Lead	120	5	1	5	mg/Kg	5/15/00	5/16/00	SM000510	EPA 6010B
Mercury	0.1170	1	0.05	0.05	mg/Kg	5/15/00	5/15/00	SHG000507	EPA 7471
Selenium	ND	5	5	25	mg/Kg	5/15/00	5/16/00	SM000510	EPA 6010B

Order ID: 20420

Lab Sample ID: 20420-008

Client Sample ID: S-23 (0-1/2')

Sample Time:

Sample Date: 5/10/00

Matrix: Solid

Parameter	Result	DF	PQL	DLR	Units	PrepDate	Analysis Date	QC Batch ID	Method
Arsenic	59	5	1	5	mg/Kg	5/15/00	5/16/00	SM000510	EPA 6010B
Lead	150	5	1	5	mg/Kg	5/15/00	5/16/00	SM000510	EPA 6010B
Mercury	0.1070	1	0.05	0.05	mg/Kg	5/15/00	5/15/00	SHG000507	EPA 7471
Selenium	ND	5	5	25	mg/Kg	5/15/00	5/16/00	SM000510	EPA 6010B

DF = Dilution Factor

ND = Not Detected

DLR = Detection Limit Reported

PQL = Practical Quantitation Limit

Analysis performed by Entech Analytical Labs, Inc. (CA ELAP #2346)


Michelle L. Anderson, Laboratory Director

Page 2 of 2

Environmental Analysis Since 1983

Entech Analytical Labs, Inc.

CA ELAP# 2346

525 Del Rey Avenue, Suite E • Sunnyvale, CA 94086 • (408) 735-1550 • Fax (408) 735-1554

Lowney Associates
405 Clyde Avenue
Mountain View, CA 94043
Attn: Doug Young

Date: 5/17/00
Date Received: 5/10/00
Project Name: US Data Port 50-Acre Parcel
Project Number: 587-12F
P.O. Number:
Sampled By: John McCain

Certified Analytical Report

Order ID: 20420		Lab Sample ID: 20420-001				Client Sample ID: S-28 (0-1/2')			
Sample Time:		Sample Date: 5/10/00				Matrix: Solid			
Parameter	Result	DF	PQL	DLR	Units	PrepDate	Analysis Date	QC Batch ID	Method
Arsenic	49	5	1	5	mg/Kg	5/15/00	5/16/00	SM000510	EPA 6010B
Lead	140	5	1	5	mg/Kg	5/15/00	5/16/00	SM000510	EPA 6010B
Mercury	0.1020	1	0.05	0.05	mg/Kg	5/15/00	5/15/00	SHG000507	EPA 7471
Selenium	ND	5	5	25	mg/Kg	5/15/00	5/16/00	SM000510	EPA 6010B

Order ID: 20420		Lab Sample ID: 20420-002				Client Sample ID: S-31 (0-1/2')			
Sample Time:		Sample Date: 5/10/00				Matrix: Solid			
Parameter	Result	DF	PQL	DLR	Units	PrepDate	Analysis Date	QC Batch ID	Method
Arsenic	34	5	1	5	mg/Kg	5/15/00	5/16/00	SM000510	EPA 6010B
Lead	88	5	1	5	mg/Kg	5/15/00	5/16/00	SM000510	EPA 6010B
Mercury	0.0530	1	0.05	0.05	mg/Kg	5/15/00	5/15/00	SHG000507	EPA 7471
Selenium	ND	5	5	25	mg/Kg	5/15/00	5/16/00	SM000510	EPA 6010B

Order ID: 20420		Lab Sample ID: 20420-003				Client Sample ID: S-35 (0-1/2')			
Sample Time:		Sample Date: 5/10/00				Matrix: Solid			
Parameter	Result	DF	PQL	DLR	Units	PrepDate	Analysis Date	QC Batch ID	Method
Arsenic	51	5	1	5	mg/Kg	5/15/00	5/16/00	SM000510	EPA 6010B
Lead	130	5	1	5	mg/Kg	5/15/00	5/16/00	SM000510	EPA 6010B
Mercury	0.0560	1	0.05	0.05	mg/Kg	5/15/00	5/15/00	SHG000507	EPA 7471
Selenium	ND	5	5	25	mg/Kg	5/15/00	5/16/00	SM000510	EPA 6010B

Order ID: 20420		Lab Sample ID: 20420-004				Client Sample ID: S-36 (0-1/2')			
Sample Time:		Sample Date: 5/10/00				Matrix: Solid			
Parameter	Result	DF	PQL	DLR	Units	PrepDate	Analysis Date	QC Batch ID	Method
Arsenic	47	5	1	5	mg/Kg	5/15/00	5/16/00	SM000510	EPA 6010B
Lead	140	5	1	5	mg/Kg	5/15/00	5/16/00	SM000510	EPA 6010B
Mercury	ND	1	0.05	0.05	mg/Kg	5/15/00	5/15/00	SHG000507	EPA 7471
Selenium	ND	5	5	25	mg/Kg	5/15/00	5/16/00	SM000510	EPA 6010B

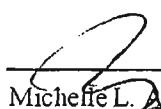
DF = Dilution Factor

ND = Not Detected

DLR = Detection Limit Reported

PQL = Practical Quantitation Limit

Analysis performed by Entech Analytical Labs, Inc. (CA ELAP #2346)


Michelle L. Anderson, Laboratory Director

Page 1 of 2

Environmental Analysis Since 1983

Analytical Report

May 16, 2000

Client: Lori Tyler
Entech Analytical Labs, Inc.
525 Del Rey Avenue, Ste. E
Sunnyvale, CA 94086
Telephone: (408) 735-1550
Fax: (408) 735-1554

Analyte	Amount ppm	MBL ppm
Aldicarb	ND	.03
Aldicarb Sulfone	ND	.03
Aldicarb Sulfoxide	ND	.03
Carbaryl	ND	.03
Carbofuran	ND	.05
3-OH Carbofuran	ND	.05
Methiocarb	ND	.05
Methomyl	ND	.03
O-phenyl phenol	ND	.03
Oxamyl	ND	.05

Project No: 20420

PO No:

Client Sample ID: Sample No:
20420-005
S-14 (0-1/2')

Sample Date: 5/10/2000

EMA Sample No: 00051203-01

Date Received: 5/12/2000

Sample Matrix: Soil

Analytical Method: EPA 8318 (s)

Extraction Method: EPA 3550

Date Extracted: 5/12/2000

Date Completed: 5/15/2000

Surrogate:

Surrogate Level:

Recovery:

Analytical Report

May 16, 2000

Client: Lori Tyler
Entech Analytical Labs, Inc.
525 Del Rey Avenue, Ste. E
Sunnyvale, CA 94086

Telephone: (408) 735-1550
Fax: (408) 735-1554

Project No: 20420

PO No:

Client Sample ID: Sample No:
20420-005
S-14 (0-1/2')

Sample Date: 5/10/2000

EMA Sample No: 00051203-01

Date Received: 5/12/2000

Sample Matrix: Soil

Analytical Method: EPA 8141A (s)

Extraction Method: EPA 3550

Date Extracted: 5/12/2000

Date Completed: 5/15/2000

Surrogate: Ethion

Surrogate Level: 0.5 µg/g

Recovery: 92.2%

Analyte	Amount ppm	MBL ppm
Acephate*	ND	.05
Azinphos-methyl (Guthion)	ND	.05
Bolstar (Sulprofos)	ND	.05
Carbophenothion (Trithion)*	ND	.05
Chlorfenvinphos (Supona)*	ND	.05
Chlorpyrifos (Dursban)	ND	.03
Ciodrin (Crotophos)*	ND	.05
Courmaphos (Co-Ral)	ND	.05
Demeton (Systox) O analogue	ND	.05
Demeton (Systox) S analogue	ND	.05
Diazinon	ND	.03
Dicrotophos (Didrin)*	ND	.05
Dimethoate (Cygon)	ND	.03
Dioxathion (Deinav)*	ND	.05
Disulfoton (Disyston)	ND	.05
EPN	ND	.05
Ethion*	ND	.05
Fenamiphos (Nemacur)*	ND	.05
Fenitrothion (Sumithion)*	ND	.05
Fenthion (Baytex)	ND	.05
Fonofos (Dylonate)	ND	.05
Hostathion (Triazophos)*	ND	.05
Imidan (Phosmet)*	ND	.05
Isofenphos (Oftanol)*	ND	.05
Malathion	ND	.05
Methamidophos*	ND	.03
Methidathion (Supracide)*	ND	.05
Methyl Parathion	ND	.05
Mevinphos (Phosdrin)*	ND	.05
Molinate (Ordram)	ND	.05
Parathion	ND	.04
Phorate (Thimet)	ND	.05
Phosalone (Zolone)*	ND	.03
Phosphamidon (Dimecron)*	ND	.08
Profenofos (Cruacron)*	ND	.05
Propetamphos (Safrotin)*	ND	.05
Ronnel (Fenchlorfos)	ND	.05
Tetrachlorvinphos (Gardona)*	ND	.05
Thiobencard (Bolero)	ND	.05
Thionazin (Zinophos)*	ND	.05

Analytical Report

May 16, 2000

Client: Lori Tyler
Entech Analytical Labs, Inc.
525 Del Rey Avenue, Ste. E
Sunnyvale, CA 94086

Telephone: (408) 735-1550

Fax: (408) 735-1554

Analyte

Amount MRL
ppm ppm

Aldicarb	ND	.03
Aldicarb Sulfone	ND	.03
Aldicarb Sulfoxide	ND	.03
Carbaryl	ND	.03
Carbofuran	ND	.05
3-OH Carbofuran	ND	.05
Methiocarb	ND	.05
Methomyl	ND	.03
O-phenyl phenol	ND	.03
Oxamyl	ND	.05

Project No: 20420

PO No:

Client Sample ID: Sample No:
20420-007
S-20 (0-1/2')

Sample Date: 5/10/2000

EMA Sample No: 00051203-02

Date Received: 5/12/2000

Sample Matrix: Soil

Analytical Method: EPA 8318 (s)

Extraction Method: EPA 3550

Date Extracted: 5/12/2000

Date Completed: 5/15/2000

Surrogate:

Surrogate Level:

Recovery:

Analytical Report

May 16, 2000

Client: Lori Tyler
Entech Analytical Labs, Inc.
525 Del Rey Avenue, Ste. E
Sunnyvale, CA 94086

Telephone: (408) 735-1550
Fax: (408) 735-1554

Project No: 20420

PO No:

Client Sample ID: Sample No:
20420-007
S-20 (0-1/2')

Sample Date: 5/10/2000

EMA Sample No: 00051203-02

Date Received: 5/12/2000

Sample Matrix: Soil

Analytical Method: EPA 8141A (s)

Extraction Method: EPA 3550

Date Extracted: 5/12/2000

Date Completed: 5/15/2000

Surrogate: Ethion

Surrogate Level: 0.5 µg/g

Recovery: 103%

Analyte	Amount ppm	MBL ppm
Acephate*	ND	.05
Azinphos-methyl (Guthion)	ND	.05
Bolstar (Sulprofos)	ND	.05
Carbophenothion (Trithion)*	ND	.05
Chlorfenvinphos (Supona)*	ND	.05
Chlorpyrifos (Dursban)	ND	.03
Cicdrin (Crotophos)*	ND	.05
Coumaphos (Co-Ral)	ND	.05
Demeton (Systox) O analogue	ND	.05
Demeton (Systox) S analogue	ND	.05
Diazinon	ND	.03
Dicrotophos (Dikrin)*	ND	.05
Dimethoate (Cygon)	ND	.03
Dioxathion (Delnav)*	ND	.05
Disulfoton (Disyston)	ND	.05
EPN	ND	.05
Ethion*	ND	.05
Fenamiphos (Nemacur)*	ND	.05
Fenitrothion (Sumithion)*	ND	.05
Fenthion (Baytex)	ND	.05
Fonofos (Dyfonate)	ND	.05
Hostathion (Triazophos)*	ND	.05
Imidan (Phosmet)*	ND	.05
Isofenphos (Oftanol)*	ND	.05
Malathion	ND	.05
Methamidophos*	ND	.03
Methidathion (Supracide)*	ND	.05
Methyl Parathion	ND	.05
Mevinphos (Phosdrin)*	ND	.05
Molinate (Ordram)	ND	.05
Parathion	ND	.04
Phorate (Thimet)	ND	.05
Phosalone (Zolone)*	ND	.03
Phosphamidon (Dimecron)*	ND	.08
Profenofos (Cruacron)*	ND	.05
Propetamphos (Safrotin)*	ND	.05
Ronnel (Fenchlorfos)	ND	.05
Tetrachlorvinphos (Gardona)*	ND	.05
Thiobencard (Bolero)	ND	.05
Thionazin (Zinophos)*	ND	.05

Analytical Report

May 16, 2000

Client: Lori Tyler
Entech Analytical Labs, Inc.
525 Del Rey Avenue, Ste. E
Sunnyvale, CA 94086

Telephone: (408) 735-1550
Fax: (408) 735-1554

Analyte	Amount ppm	MBL ppm
Aldicarb	ND	.03
Aldicarb Sulfone	ND	.03
Aldicarb Sulfoxide	ND	.03
Carbaryl	ND	.03
Carbofuran	ND	.05
3-OH Carbofuran	ND	.05
Methiocarb	ND	.05
Methomyl	ND	.03
O-phenyl phenol	ND	.03
Oxamyl	ND	.05

Project No: 20420

PO No:

Client Sample ID: Sample No:
20420-008
S-23 (0-1/2')

Sample Date: 5/10/2000
EMA Sample No: 00051203-03
Date Received: 5/12/2000
Sample Matrix: Soil

Analytical Method: EPA 8318 (s)
Extraction Method: EPA 3550
Date Extracted: 5/12/2000
Date Completed: 5/15/2000

Surrogate:
Surrogate Level:
Recovery:

Analytical Report

May 16, 2000

Client: Lori Tyler
Entech Analytical Labs, Inc.
525 Del Rey Avenue, Ste. E
Sunnyvale, CA 94086

Telephone: (408) 735-1550
Fax: (408) 735-1554

Project No: 20420

PO No:

Client Sample ID: Sample No:
20420-008
S-23 (0-1/2')

Sample Date: 5/10/2000

EMA Sample No: 00051203-03

Date Received: 5/12/2000

Sample Matrix: Soil

Analytical Method: EPA 8141A (s)

Extraction Method: EPA 3550

Date Extracted: 5/12/2000

Date Completed: 5/15/2000

Surrogate: Ethion

Surrogate Level: 0.5 µg/g

Recovery: 91.3%

Analyte	Amount ppm	MBL ppm
Acephate*	ND	.05
Azinphos-methyl (Guthion)	ND	.05
Bolstar (Sulprofos)	ND	.05
Carbophenothion (Trithion)*	ND	.05
Chlorfenvinphos (Supona)*	ND	.05
Chlorpyrifos (Dursban)	ND	.03
Ciodrin (Crotophos)*	ND	.05
Courmaphos (Co-Ral)	ND	.05
Demeton (Syslox) O analogue	ND	.05
Demeton (Syslox) S analogue	ND	.05
Diazinon	ND	.03
Dicrotophos (Didrin)*	ND	.05
Dimethoate (Cygon)	ND	.03
Dioxathion (Delnav)*	ND	.05
Disulfoton (Disyston)	ND	.05
EPN	ND	.05
Ethion*	ND	.05
Fenamiphos (Nemacur)*	ND	.05
Fenitrothion (Sumithion)*	ND	.05
Fenthion (Baytex)	ND	.05
Fonofos (Dyfonate)	ND	.05
Hostathion (Triazophos)*	ND	.05
Imidan (Phosmet)*	ND	.05
Isofenphos (Oftanol)*	ND	.05
Malathion	ND	.05
Methamidophos*	ND	.03
Methidathion (Supracide)*	ND	.05
Methyl Parathion	ND	.05
Mevinphos (Phosdrin)*	ND	.05
Molinate (Ordram)	ND	.05
Parathion	ND	.04
Phorate (Thimet)	ND	.05
Phosalone (Zolone)*	ND	.03
Phosphamidon (Dimecron)*	ND	.08
Profenofos (Cruacron)*	ND	.05
Propetamphos (Safrotin)*	ND	.05
Ronnel (Fenchlorfos)	ND	.05
Tetrachlorvinphos (Gardona)*	ND	.05
Thiobencard (Bolero)	ND	.05
Thionazin (Zinophos)*	ND	.05

Analytical Report

May 16, 2000

Client: Lori Tyler
Entech Analytical Labs, Inc.
525 Del Rey Avenue, Ste. E
Sunnyvale, CA 94086

Telephone: (408) 735-1550

Fax: (408) 735-1554

Analyte

Amount
ppm

MBL
ppm

Aldicarb
Aldicarb Sulfone
Aldicarb Sulfoxide
Carbaryl
Carbofuran
3-OH Carbofuran
Methiocarb
Methomyl
O-phenyl phenol
Oxamyl

ND .03
ND .03
ND .03
ND .03
ND .05
ND .05
ND .05
ND .03
ND .03
ND .05

Project No: 20420

PO No:

Client Sample ID:

Sample Date:

EMA Sample No: 00051203-00

Date Received: 5/12/2000

Sample Matrix: Blank

Analytical Method: EPA 8318 (s)

Extraction Method: EPA 3550

Date Extracted: 5/12/2000

Date Completed: 5/15/2000

Surrogate:

Surrogate Level:

Recovery:

Analytical Report

May 16, 2000

Client: Lori Tyler
Entech Analytical Labs, Inc.
525 Del Rey Avenue, Ste. E
Sunnyvale, CA 94086
Telephone: (408) 735-1550
Fax: (408) 735-1554

Project No: 20420

PO No:

Client Sample ID:

Sample Date:

EMA Sample No: 00051203-00

Date Received: 5/12/2000

Sample Matrix: Blank

Analytical Method: EPA 8141A (s)

Extraction Method: EPA 3550

Date Extracted: 5/12/2000

Date Completed: 5/15/2000

Surrogate: Ethion

Surrogate Level: 0.5 µg/g

Recovery: 108%

Analyte	Amount ppm	MBL ppm
Acephate*	ND	.05
Azinphos-methyl (Guthion)	ND	.05
Bolstar (Sulprofos)	ND	.05
Carbophenothion (Trithion)*	ND	.05
Chlorfenvinphos (Supona)*	ND	.05
Chlorpyrifos (Dursban)	ND	.03
Clorzin (Crotophos)*	ND	.05
Courmaphos (Co-Ral)	ND	.05
Demeton (Systox) O analogue	ND	.05
Demeton (Systox) S analogue	ND	.05
Diazinon	ND	.03
Diclotophos (Dldrin)*	ND	.05
Dimethoate (Cygon)	ND	.03
Dioxathion (Delnav)*	ND	.05
Disulfoton (Disyston)	ND	.05
EPN	ND	.05
Ethion*	ND	.05
Fenamiphos (Nemacur)*	ND	.05
Fenitrothion (Sumithion)*	ND	.05
Fenthion (Baytex)	ND	.05
Fonofos (Dyfonate)	ND	.05
Hostathion (Triazophos)*	ND	.05
Imidan (Phosmet)*	ND	.05
Isofenphos (Oftanol)*	ND	.05
Malathion	ND	.05
Methamidophos*	ND	.03
Methidathion (Supracide)*	ND	.05
Methyl Parathion	ND	.05
Mevinphos (Phosdrin)*	ND	.05
Molinate (Ordram)	ND	.05
Parathion	ND	.04
Phorate (Thimet)	ND	.05
Phosalone (Zolone)*	ND	.03
Phosphamidon (Dimecron)*	ND	.08
Profenofos (Cruacron)*	ND	.05
Propetamphos (Safrotin)*	ND	.05
Ronnel (Fenchlorfos)	ND	.05
Tetrachlorvinphos (Gardona)*	ND	.05
Thiobencard (Bolero)	ND	.05
Thionazin (Zinophos)*	ND	.05

Entech Analytical Labs, Inc.

CA ELAP # I-2346

525 Del Rey Avenue, Suite E, Sunnyvale, CA 94086 (408) 735-1550 FAX (408) 735-1554

Subcontract Chain of Custody

Subcontract Lab:	Project Name:	Date Sent:	Due Date:	PO Number:
EMA	20420	5/11/00	5/17/00	20420

Sample Number:	Customer Sample Number:	Matrix:	Test:	Method:	Collect Date:	Collect Time:	Bottle Type:	Preservative:
20420-005	S-14 (0-1/2')	Solid	EPA 8141-EMA	EPA 8141	5/10/00		4 oz jar	
20420-005	S-14 (0-1/2')	Solid	EPA 8318-EMA	EPA 8318	5/10/00		4 oz jar	
20420-007	S-20 (0-1/2')	Solid	EPA 8141-EMA	EPA 8141	5/10/00		4 oz jar	
20420-007	S-20 (0-1/2')	Solid	EPA 8318-EMA	EPA 8318	5/10/00		4 oz jar	
20420-008	S-23 (0-1/2')	Solid	EPA 8141-EMA	EPA 8141	5/10/00		4 oz jar	
20420-008	S-23 (0-1/2')	Solid	EPA 8318-EMA	EPA 8318	5/10/00		4 oz jar	

PLEASE CANCEL 20420-007 ^{for 6141, 6318} if possible.
NOTIFY Allan AKS if analysis has already been started.

AA
5/12/00

Relinquished By:	Received By:	Date:	Time:
Maria Grubis	Golden State	5/11/00	1800
Relinquished By:	Received By:	Date:	Time:
Relinquished By:	Received By:	Date:	Time:

Notes: epa 8318 (n-methyl carbamates)

Environmental Micro Analysis, Inc.

40 N. East Street, Suite B, Woodland, CA 95776

Phone: (530) 666-6890 Fax: (530) 666-2987

California State Certification # 2211

QUALITY CONTROL REPORT

Client: Entech Analytical Labs, Inc.
525 Del Rey Avenue, Suite E
Sunnyvale, CA 94086
Phone: (408) 735-1550 FAX: (408) 735-1554

For Client ID: Sample No.: 20420-005, 20420-007, 20420-008

For EMA ID: For 00051203 Data Set

Matrix: Soil Date Analyzed: 8141A - 05/15/00
8318A- 05/15/00

Organophosphate Pesticides - EPA Method 8141A

<u>Parameter</u>	<u>Spike Level</u>	<u>Recovery in Percent</u>	
	<u>ppm</u>	<u>Spike</u>	<u>Duplicate</u>
Diazinon	0.5	74.6	77.9
Methyl Parathion	0.5	98.4	99.7
Azinphos Methyl (Guthion)	0.5	104	91.0

Carbamate Screen - EPA Method 8318A

<u>Parameter</u>	<u>Spike Level</u>	<u>Recovery in Percent</u>	
	<u>ppm</u>	<u>Spike</u>	<u>Duplicate</u>
Aldicarb	0.5	83.2	71.4
Methiocarb	0.5	100	96.9

Applied P & Ch Laboratory

13760 Magnolia Ave. Chino CA 91710

Tel: (909) 590-1828 Fax: (909) 590-1498

APCL Analytical Report

Submitted to:

Entech Analytical Labs, Inc.

Attention: Allan Aks

525 Del Rey, Suite E

Sunnyvale CA 94086

Tel: (408) 735-1550 Fax: (408) 735-1554

Service ID #: 801-002968

Collected by:

Collected on: 05/10/00

Sample Description: Soil

Project Description: 20420

Received: 05/12/00

Extracted: 05/15/00

Tested: 05/16-17/00

Reported: 05/18/00

Analysis of Soil Samples

Component Analyzed	Method	Unit	PQL	Analysis Result		
				20420-005	20420-007	20420-008
				00-02968-1	00-02968-2	00-02968-3
Chlorinated herbicides						
Acifluorfen	8151	µg/kg	20	ND	ND	ND
Bentazon (Basagran)	8151	µg/kg	10	ND	ND	ND
Chloramben	8151	µg/kg	10	ND	ND	ND
2,4-D	8151	µg/kg	10	ND	ND	ND
2,4-DB	8151	µg/kg	10	ND	ND	ND
Dalapon (dichloroacetic acid)	8151	µg/kg	20	ND	ND	ND
Dicamba	8151	µg/kg	10	ND	ND	ND
3,5-Dichlorobenzoic	8151	µg/kg	10	ND	ND	ND
Dichloroprop	8151	µg/kg	10	ND	ND	ND
Dinoseb (DNBP)	8151	µg/kg	20	ND	ND	ND
MCPA	8151	mg/kg	2	ND	ND	ND
MCPP	8151	mg/kg	2	ND	ND	ND
4-Nitrophenol	8151	µg/kg	10	ND	ND	ND
Pentachlorophenol (PCP)	8151	µg/kg	10	ND	ND	ND
Picloram	8151	µg/kg	10	ND	ND	ND
2,4,5-T	8151	µg/kg	10	ND	ND	ND
2,4,5-TP (Silvex)	8151	µg/kg	10	ND	ND	ND

PQL: Practical Quantitation Limit. MDL: Method Detection Limit.

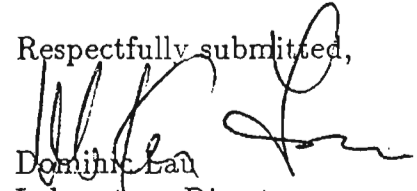
CRDL: Contract Required Detection Limit

N.D.: Not Detected or less than the practical quantitation limit.

"-": Analysis is not required.

J: Reported between PQL and MDL.

Respectfully submitted,


Dominic Lau

Laboratory Director

Applied P & Ch Laboratory

Entech Analytical Labs, Inc.

CA ELAP # I-2346

525 Del Rey Avenue, Suite E, Sunnyvale, CA 94086 (408) 735-1550 FAX (408) 735-1554

Subcontract Chain of Custody

Subcontract Lab:	Project Name:	Date Sent:	Due Date:	PO Number:
EMA	20420	5/11/00	5/17/00	20420

Sample Number:	Customer Sample Number:	Matrix:	Test:	Method:	Collect Date:	Collect Time:	Bottle Type:	Preservative:
20420-005	S-14 (0-1/2')	Solid	EPA 8141-EMA	EPA 8141	5/10/00		4 oz jar	
20420-005	S-14 (0-1/2')	Solid	EPA 8318-EMA	EPA 8318	5/10/00		4 oz jar	
20420-007	S-20 (0-1/2')	Solid	EPA 8141-EMA	EPA 8141	5/10/00		4 oz jar	
20420-007	S-20 (0-1/2')	Solid	EPA 8318-EMA	EPA 8318	5/10/00		4 oz jar	
20420-008	S-23 (0-1/2')	Solid	EPA 8141-EMA	EPA 8141	5/10/00		4 oz jar	
20420-008	S-23 (0-1/2')	Solid	EPA 8318-EMA	EPA 8318	5/10/00		4 oz jar	

Relinquished By:	Received By:	Date:	Time:
Mara Gusli's Golden State	State	5/11/00	1800
Relinquished By:	Received By:	Date:	Time:
		5/12/00	09:15
Relinquished By:	Received By:	Date:	Time:

Notes: epa 8318 (n-methyl carbamates)

Applied P & Ch Laboratory

13760 Magnolia Ave. Chino CA 91710

Tel: (909) 590-1828 Fax: (909) 590-1498

APCL QA/QC Report

*: LCS/LCSD is used.

Notation: ICV - Initial Calibration Verification
CCV - Continuation Calibration Verification
LCS - Lab Control Spike
MS - Matrix Spike
MSD - Matrix Spike Duplicate
ICS - Interference Check Standard
MD - Matrix Duplicate
N.D. - Not detected or less than PQL

CCB - Continuation Calibration Blank
M-blank - Method Blank
SP Level - Spike Level
%Rec - Recovery Percent
%RPD - Relative Percent Differences
%Diff - Control Limit for %RPD
ICP-SD - ICP Serial Dilution
N.A. - Not Applicable

Respectfully submitted,



Kevin Xie, Ph. D.,
QA Director
Applied P & Ch Laboratory

Applied P & Ch Laboratory

13760 Magnolia Ave. Chino CA 91710

Tel: (909) 590-1828 Fax: (909) 590-1498

APCL QA/QC Report

Submitted to:

Entech Analytical Labs, Inc.

Attention: Allan Aks

525 Del Rey, Suite E

Sunnyvale, CA 94086

Tel: (408)735-1550 Fax: (408)735-1554

Service ID #: 801-002968

Collected by:

Collected on: 05/10/00

Sample description:

Soil

Project: 20420

Received: 05/12/00

Tested: 05/16-17/00

Reported: 5/19/00

Analysis of Soil

801-002968QC

Component Name	Analysis Batch #	CCV (µg/L)	CCV %Rec	M-Blank	Conc. Unit	SP Level	LCS %Rec	MS %Rec	MSD %Rec	MS/MSD %RPD	Control Limit %Rec	Limit %Diff
Chlorinated herbicides												
Dalapon (dichloroacetic acid)	00G2569	250	96	N.D.	µg/kg	-	-	-	-	-	-	-
3,5-Dichlorobenzoic	00G2569	250	113	N.D.	µg/kg	-	-	-	-	-	-	-
4-Nitrophenol	00G2569	250	90	N.D.	µg/kg	-	-	-	-	-	-	-
Dicamba	00G2569	250	101	N.D.	µg/kg	-	-	-	-	-	-	-
MCPPP	00G2569	25000	103	N.D.	mg/kg	-	-	-	-	-	-	-
Dichloroprop	00G2569	250	102	N.D.	µg/kg	-	-	-	-	-	-	-
MCPA	00G2569	25000	109	N.D.	mg/kg	-	-	-	-	-	-	-
2,4-D	00G2569	250	114	N.D.	µg/kg	50.0	108	108*	100*	8	55-125	35
Pentachlorophenol (PCP)	00G2569	250	106	N.D.	µg/kg	-	-	-	-	-	-	-
2,4,5-TP (Silvex)	00G2569	250	107	N.D.	µg/kg	50.0	89	89*	88*	1	54-127	36
2,4,5-T	00G2569	250	110	N.D.	µg/kg	50.0	90	90*	82*	9	50-128	39
Dinoseb (DNBP)	00G2569	250	96	N.D.	µg/kg	-	-	-	-	-	-	-
Chloramben	00G2569	250	104	N.D.	µg/kg	-	-	-	-	-	-	-
2,4-DB	00G2569	250	103	N.D.	µg/kg	-	-	-	-	-	-	-
Bentazon (Basagran)	00G2569	250	103	N.D.	µg/kg	-	-	-	-	-	-	-
DCPA (Dacthal)	00G2569	250	102	N.D.	µg/kg	-	-	-	-	-	-	-
Picloram	00G2569	250	105	N.D.	µg/kg	-	-	-	-	-	-	-
Acifluorfen	00G2569	250	102	N.D.	µg/kg	-	-	-	-	-	-	-

Entech Analytical Labs, Inc.

CA ELAP # I-2346

525 Del Rey Avenue, Suite E, Sunnyvale, CA 94086 (408) 735-1550 FAX (408) 735-1554

Subcontract Chain of Custody

Subcontract Lab:	Project Name:	Date Sent:	Due Date:	PO Number:
APCL	20420	5/11/00	5/17/00	20420

Sample Number:	Customer Sample Number:	Matrix:	Test:	Method:	Collect Date:	Collect Time:	Bottle Type:	Preservative:
20420-005	S-14 (0-1/2')	Solid	EPA 8151-APCL	EPA 8151	5/10/00		4 oz jar	
20420-007	S-20 (0-1/2')	Solid	EPA 8151-APCL	EPA 8151	5/10/00		4 oz jar	
20420-008	S-23 (0-1/2')	Solid	EPA 8151-APCL	EPA 8151	5/10/00		4 oz jar	

2968

Relinquished By:	Received By:	Date:	Time:
<i>Maria Grishis</i>	<i>Golden State</i>	<i>5/11/00</i>	<i>1800</i>
Relinquished By:	Received By:	Date:	Time:
	<i>[Signature]</i>	<i>5/12/00</i>	<i>0845</i>
Relinquished By:	Received By:	Date:	Time:

Notes:

Entech Analytical Labs, Inc.

CA ELAP # I-2346

525 Del Rey Avenue, Suite E, Sunnyvale, CA 94086 (408) 735-1550 FAX (408) 735-1554

Subcontract Chain of Custody

Subcontract Lab:	Project Name:	Date Sent:	Due Date:	PO Number:
APCL	20420	5/11/00	5/17/00	20420

Sample Number:	Customer Sample Number:	Matrix:	Test:	Method:	Collect Date:	Collect Time:	Bottle Type:	Preservative:
20420-005	S-14 (0-1/2')	Solid	EPA 8151-APCL	EPA 8151	5/10/00		4 oz jar	
20420-007	S-20 (0-1/2')	Solid	EPA 8151-APCL	EPA 8151	5/10/00		4 oz jar	
20420-008	S-23 (0-1/2')	Solid	EPA 8151-APCL	EPA 8151	5/10/00		4 oz jar	

please cancel 20420-007 for 6157
notify Allen AKS asap if this is not possible.
AA 5/12/00

Relinquished By:	Received By:	Date:	Time:
Maria Grubis	Golden State	5/11/00	1800
Relinquished By:	Received By:	Date:	Time:
Relinquished By:	Received By:	Date:	Time:

Notes:

atech Analytical Labs, Inc.

525 Del Rey Avenue, Suite E
Sunnyvale, CA 94086

QUALITY CONTROL RESULTS SUMMARY

Laboratory Control Spikes

METHOD: EPA 6010

QC Batch #: SM000510

Matrix: Solid

Units: mg/kg

Date Analyzed: 05/13/00

Date Digested: 05/11/00

Digestion Method: EPA 3050

Spiked Sample: Blank Spike

PARAMETER	Method #	MB	SA	SR	SP	SP	SPD	SPD	RPD	QC LIMITS	
		mg/kg	mg/kg	mg/kg	mg/kg	%R	mg/kg	%R		RPD	%R
Antimony	6010	<1.0	50.	0.0	49.	98	49.	98	0.7	25.0	75-125
Arsenic	6010	<1.0	50.	0.0	44.	89	45.	89	0.4	25.0	75-125
Barium	6010	<1.0	50.	0.0	49.	98	49.	98	0.6	25.0	75-125
Beryllium	6010	<1.0	50.	0.0	48.	96	48.	96	0.1	25.0	75-125
Cadmium	6010	<1.0	50.	0.0	47.	94	47.	95	0.3	25.0	75-125
Chromium	6010	<1.0	50.	0.0	47.	94	47.	95	0.2	25.0	75-125
Cobalt	6010	<1.0	50.	0.0	48.	96	48.	96	0.2	25.0	75-125
Copper	6010	<1.0	50.	0.0	47.	93	47.	93	0.4	25.0	75-125
Lead	6010	<1.0	50.	0.0	47.	94	47.	95	1.5	25.0	75-125
Molybdenum	6010	<1.0	50.	0.0	52.	104	52.	104	0.1	25.0	75-125
Nickel	6010	<1.0	50.	0.0	48.	96	48.	96	0.1	25.0	75-125
Selenium	6010	<1.0	50.	0.0	49.	98	48.	96	1.6	25.0	75-125
Silver	6010	<1.0	50.	0.0	44.	87	44.	87	0.2	25.0	75-125
Thallium	6010	<1.0	50.	0.0	51.	102	52.	105	3.0	25.0	75-125
Vanadium	6010	<1.0	50.	0.0	50.	101	50.	101	0.1	25.0	75-125
zinc	6010	<1.0	50.	0.0	45.	89	45.	89	0.0	25.0	75-125

Definition of Terms:

na: Not Analyzed in QC batch

MB: Method Blank

SA: Spike Added

SR: Sample Result

SP: Spike Result

SP (%R): Spike % Recovery

SPD: Spike Duplicate Result

SPD (%R): Spike Duplicate % Recovery

Entech Analytical Labs, Inc.

525 Del Rey Avenue, Suite E
Sunnyvale, CA 94086

QUALITY CONTROL RESULTS SUMMARY

Laboratory Control Spikes
METHOD: EPA 6010

QC Batch #: SM000526
Matrix: Solid
Units: mg/kg

Date Analyzed: 05/30/00
Date Digested: 05/30/00
Digestion Method: EPA 3050
Spiked Sample: Blank Spike

PARAMETER	Method #	MB mg/kg	SA mg/kg	SR mg/kg	SP mg/kg	SP %R	SPD mg/kg	SPD %R	RPD	QC LIMITS	
										RPD	%R
Antimony	6010	<1.0	50.	0.0	47.	94	40.	79	17.0	25.0	75-125
Arsenic	6010	<1.0	50.	0.0	46.	92	38.	76	18.8	25.0	75-125
Barium	6010	<1.0	50.	0.0	50.	99	41.	83	18.1	25.0	75-125
Beryllium	6010	<1.0	50.	0.0	53.	106	43.	85	21.5	25.0	75-125
Cadmium	6010	<1.0	50.	0.0	44.	87	39.	77	12.3	25.0	75-125
Chromium	6010	<1.0	50.	0.0	54.	108	43.	87	22.0	25.0	75-125
Cobalt	6010	<1.0	50.	0.0	51.	101	41.	82	21.4	25.0	75-125
Copper	6010	<1.0	50.	0.0	47.	95	39.	78	19.3	25.0	75-125
Lead	6010	<1.0	50.	0.0	47.	93	41.	82	13.2	25.0	75-125
Molybdenum	6010	<1.0	50.	0.0	52.	104	43.	87	18.3	25.0	75-125
Nickel	6010	<1.0	50.	0.0	51.	103	42.	83	21.2	25.0	75-125
Selenium	6010	<1.0	50.	0.0	47.	93	38.	76	20.3	25.0	75-125
Silver	6010	<1.0	50.	0.0	46.	92	44.	88	4.2	25.0	75-125
Thallium	6010	<1.0	50.	0.0	44.	88	39.	79	11.1	25.0	75-125
Vanadium	6010	<1.0	50.	0.0	51.	102	42.	83	20.1	25.0	75-125
Zinc	6010	<1.0	50.	0.0	46.	91	39.	78	15.2	25.0	75-125

Definition of Terms:

na: Not Analyzed in QC batch
MB: Method Blank
SA: Spike Added
SR: Sample Result
SP: Spike Result
SP (%R): Spike % Recovery
SPD: Spike Duplicate Result
SPD (%R): Spike Duplicate % Recovery

Fax Transmittal

☐ **Mountain View Office**
405 Clyde Avenue
Mountain View, CA 94043
Tel: 650.967.2365
Fax: 650.967.2785

☒ **Oakland Office**
129 Filbert Street
Oakland, CA 94607
Tel: 510.267.1970
Fax: 510.267.1972

☐ **Pasadena Office**
1785 Locust Street, Suite 10
Pasadena, CA 91106
Tel: 626.396.1490
Fax: 626.396.1491

☐ **San Ramon Office**
2258 Camino Ramon
San Ramon, CA 94583
Tel: 925.275.2550
Fax: 925.275.2555

To: Entech

Attn: Alan

Fax: 408-735-1554

CC:

From: John McCain

Date: 5/12/00

Pages: 4 (Including Cover)

Project: US DataPort 50-Acre Parcel

Job #: 567-12F

Please notify us if you received this fax in error by calling the office indicated above.

Remarks: ☐ Urgent ☒ For your review ☐ Reply ASAP ☐ Please comment

Alan:

Please find the amended chain of custody for the samples received by you 5/9/00 and 5/10/00. The following changes were made:

- ✓ 1. Do not run sample S-10 (0 - ½') for Methods 8151, 8141, or 8318.
- ✓ 2. Do not run sample S-20 (0 - ½') for Methods 8151, 8141, or 8318.
- ✓ 3. Do not run sample S-25 (0 - ½') for Methods 8151, 8141, or 8318.

If you have any questions or concerns, please feel free to contact me at 510-267-1970; my extension is 206.

LOWNEY ASSOCIATES

John McCain

Mail copy to follow: ☐ Yes ☒ No

Time Sent: 4:55pm Sent By: JM

Entech Analytical Labs, Inc.

525 Del Rey Avenue, Suite E
Sunnyvale, CA 94086

QUALITY CONTROL RESULTS SUMMARY

Laboratory Control Spike

METHOD: EPA 7471

QC Batch #: SHG000507

Matrix: Solid

Units: mg/kg

Date Analyzed: 05/15/00

Quality Control Sample: Blank Spike

PARAMETER	Method #	MB mg/kg	SA mg/kg	SR mg/kg	SP mg/kg	SP %R	SPD mg/kg	SPD %R	RPD	QC LIMITS %R
Mercury	7471	<0.10	0.20	0.00	0.17	87	0.17	86	0.2	44-145

Definition of Terms:

MB: Method Blank

SA: Spike Added

SR: Sample Result

SP: Spike Result

SP (%R) Spike % Recovery

SPD Spike Duplicate Result

SPD (%R) Spike Duplicate % Recovery

LOWNEY ASSOCIATES

CHAIN OF CUSTODY RECORD

20420

Project Name:

50-Acre Parcel

587-12F

Spot For: Doug Young

Analyst (print): John McLean

Analyst (signature): John McLean

Requirements:

- Turnaround Requirements
- ☐ 10 working days
 - ☒ 15 working days
 - ☐ 18 working days
 - ☐ 45 hours
 - ☐ 24 hours

02-8 hours (turnaround)

Level A (standard) ☐ Level B ☐ Level C ☐ Level D ☐

Sample ID Date Time Sample Matrix Level D

of Cont.

20420-001

-009

-010

-002

-011

-012

-003

-013

-014

-004

-015

-016

Remarks:

HOLD

HOLD

HOLD

HOLD

HOLD

HOLD

HOLD

HOLD

Send Results To: ☒ Oakland Office
129 Filbert Street
Oakland, CA 94607
510-267-1970

Mountain View Office
403 Clyde Avenue
Mountain View, CA 94043
415-967-2963

Box Copy To: ☒ 510-267-2785 (fax)
☐ 510-267-1772 (fax)

May 18, 2000 12:02 PM

No. 0027 P. 25/26

Inspected By: John McLean Date: 5-10-00

Inspected By: Date: Time:

Received By: Date: 5/10/00 Time: 11:17

Received By: Date: 5/10/00 Time: 17:22

PM Inlets

LOWNLEY ASSOCIATES

CHAIN OF CUSTODY RECORD

and Results To:

Mountain View Office
405 Clyde Avenue
Mountain View, CA 94043
415-967-2365

Oakland Office
129 Hillcrest Street
Oakland, CA 94607
510-267-1970

Fax Copy To:

415-967-2705 (fax)

510-267-1972 (fax)

Object Name:

Delta Port 50-Ave Parcel

Number:

587-12F

Port To:

Doug Young

Sampler (Print):

John McCain

Sampler (Signature):

John McCain

Requirements:

Turnaround

Requirements

☐ 10 working days

☒ 15 working days

☐ 3 working days

☐ 48 hours

☐ 24 hours

☐ 2-3 hours (RUSH)

Laboratory ID:

Level A (Standard) ☐ Level B ☐ Level C ☐ Level D ☐

Sample ID

Date

Time

Sample Matrix

of Cont.

80 MAY 10 17:

Sample ID	Date	Time	Sample Matrix	# of Cont.	Turnaround Requirements	Requirements	Organochlorine Pesticides (3050)	Mercury (3050)	Selenium (3050)	Chlorinated Hydrocarbons (3151)	Organophosphorus Pesticides (8141)	N-methyl-cabazamates (8318)	Remarks
8(0-1/2')	5-10-00		Soil	1	20420-001	-009	X	X	X				HOLD
8(1-1 1/2')	✓				-010	-002	X	X	X				HOLD
8(2-2 1/2')	✓				-011	-012							HOLD
1(0-1/2')	✓				-003	-013	X	X	X				HOLD
31(1-1 1/2')	✓				-014	-004	X	X	X				HOLD
31(2-2 1/2')	✓				-015	-016							HOLD
35(0-1/2')	✓												
35(1-1 1/2')	✓												
35(2-2 1/2')	✓												
36(0-1/2')	✓												
36(1-1 1/2')	✓												
36(2-2 1/2')	✓												

Published By:

John McCain

Date:

5-10-00

Time:

Published By:

John McCain

Date:

5-10-00

Time:

Received By: Doug Young

Date: 5/10/00

Time: 1617

PM Initials

Received By: Arash Zeynham

Date: 5/10/00

Time: 1800

PM Initials

Published By:

John McCain

Date:

5-10-00

Time:

LOWNEY ASSOCIATES

CHAIN OF CUSTODY RECORD

Send Results To:

Mountain View Office
405 Clyde Avenue
Mountain View, CA 94043
415-967-2365

Oakland Office
129 Fillmore Street
Oakland, CA 94607
510-267-1970

Fac Copy To:

415-967-2785 (fax)

510-267-1972 (fax)

Project Name:

5 Data Port 50-Acre Parcel

Job Number:

587-12F

Report To:

Doug Young

Sampler (print):

John McLean

Sampler (signature):

John McLean

Requirements:

Turnaround

Requirements

☐ 10 working days

☒ 15 working days

☐ 3 working days

☐ 48 hours

☐ 24 hours

☐ 2-3 hours (RUSH)

Laboratory I.D.

Level A (standard) ☐ Level B ☐ Level C ☐ Level D ☐

of Cont.

Sample Matrix

Time

Date

Sample I.D.

14(0-1/2')	5-10-01	✓	501	1	20420-005	-017
14(1-1 1/2')	✓	✓			-018	-006
14(2-2 1/2')	✓	✓			-019	-020
16(0-1/2')	✓	✓			-007	-021
16(1-1 1/2')	✓	✓			-022	-008
16(2-2 1/2')	✓	✓			-023	-024
20(0-1/2')	✓	✓				
20(1-1 1/2')	✓	✓				
20(2-2 1/2')	✓	✓				
23(0-1/2')	✓	✓				
23(1-1 1/2')	✓	✓				
23(2-2 1/2')	✓	✓				

Exhibited By:

John McLean

Date: 5-10-00

Time:

Exhibited By:

John McLean

Date:

Time:

Exhibited By:

John McLean

Date:

Time:

Received By: John McLean

Date: 5/10/00

Time: 1612

Received By: John McLean

Date: 5/10/00

Time: 1712

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Exhibited By:

John McLean

Date:

Time:

ANALYSIS REQUESTED

Organochlorine Pesticides
Mercury (8080)
Selenium
Chlorinated Hydrocarbons
Organophosphorus Pesticides
N-methylcarbamates
(8141)
(8318)

Remarks

HOLD

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PM Initial:

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**Los Esteros Critical Energy Facility
Data Request Response Set 1
(01-AFC-12)**

Attachment WR-107 Soil Management and Health and Safety Plan

**Soil Management and
Health and Safety Plan**

Los Esteros Critical Energy Facility
San Jose, California

**Soil Management and
Health and Safety Plan**

Los Esteros Critical Energy Facility
San Jose, California

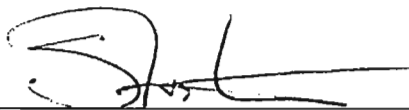
This report has been prepared for:

Calpine C*Power

6601 Koll Center Parkway, Suite 100, Pleasanton, California 94566

July 27, 2001

Project No. 587-12J



Stason I. Foster, P.E.
Principal Environmental Engineer



Mountain View

Oakland

Fullerton

San Ramon

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SOIL MANAGEMENT AND HEALTH AND SAFETY PLAN
LOS ESTEROS CRITICAL ENERGY FACILITY
SAN JOSE, CALIFORNIA

1.0 INTRODUCTION

On behalf of Calpine, Lowney Associates has developed this Soil Management, and Health and Safety Plan (HSP). This document provides guidance for the management of soil impacted with residual pesticides. It is intended to inform on-site workers of the potential hazards associated with earthwork activities involving the impacted soil.

This HSP was developed to provide general health and safety guidance such that earthwork activities can be conducted in a safe manner. Per Cal/OSHA requirements (California Code of Regulations, Title 8), each contractor working at this site must prepare a health and safety plan that addresses the safety and health hazards of each phase of site operations and includes the requirements and procedures for employee protection. Each contractor is solely responsible for the health and safety of their own employees.

It should be recognized that this development is unique; conditions can occur that may affect the health and safety of on-site workers. If additional contamination is encountered and/or suspected, the contractor's Site Safety Officer (SSO) and Lowney Associates must be notified immediately, and work in the area of the additional contamination must be stopped until appropriate actions can be taken.

1.1 Project Background

The approximately 55-acre parcel is located near the northwest intersection of Highway 237 and Coyote Creek. The site is located in an agricultural, residential, and commercial area and is bounded by McCarthy Lane to the north; Alviso-Milpitas Road to the south; agricultural, residential, and commercial property to the east; and vacant land to the west. Until recently, this parcel was being used for various agricultural farming purposes.

The site is developed with several nursery/greenhouse complexes and residential structures. As discussed in our Phase I Environmental Site Assessment report dated April 13, 2000, underground storage tanks (USTs) (three diesel fuel tanks and one gasoline tank), and several pesticide mixing/storage areas were identified on-site. These areas, coupled with former agricultural use of the property, prompted the performance of a soil and ground water quality investigation. The results of that work were presented in our Phase II report dated July 14, 2000 and supplemental soil quality evaluation report dated July 20, 2000.

As part of the agricultural use of the site, pesticides (such as DDT) were applied to the crops in the normal course of farming operations. The laboratory analyses of soil samples detected various pesticides (and related metals) at sporadic concentrations. In general, the pesticides appear to be limited to the upper 2 feet of soil at the site. The main pesticide detected was DDT and the related compounds DDD and DDE. The sum of these three compounds is commonly referred to as total DDT. Total DDT levels up to 11.03 ppm were detected in one sample; however, in most samples, the total DDT levels ranged from about 0.5 to 2.5 ppm. In about half the samples, the total DDT concentrations were greater than the 1 ppm Total Threshold Limit Concentration (TTLC). The TTLC is the level above which a solid waste is considered hazardous per Title 22 of the California Code of Regulations. Note, however, that the soil is not considered a waste (and therefore is not a hazardous waste) unless it is intended to be discarded or disposed. The presence and concentrations of pesticides in the soil are expected and normal for farming operations.

None of the total DDT levels detected exceed the EPA's preliminary remediation goal (PRG) of 12 ppm for industrial site use. The PRGs are risk-based concentrations developed by EPA Region 9 for use as screening levels in determining if further evaluation is warranted, in prioritizing areas of concern, in establishing initial cleanup goals, and in estimation of potential health risks.

Removal and appropriate off-site disposal of impacted soil from two pesticide storage/mixing areas must be performed. Prior to site redevelopment, the existing water supply wells, USTs, and septic systems also must be abandoned or removed.

Petroleum hydrocarbons were not detected in the soil samples collected near the existing USTs and no significant levels of petroleum hydrocarbons or pesticides were detected in the ground water samples analyzed.

1.2 Project Description

We understand that the development will consist of a new energy center. The center will most likely be completed in several phases. When completed, it will consist of recycled water storage tanks, cooling towers, gas turbine generators and transformers, a 115kv switchyard building and control room, a service building, and other pertinent equipment and structures. In addition, paved site access roads also are planned.

Grading plans are not yet finalized; however, we assume that cuts and fills up to 3 feet may be expected. New underground utilities also are planned as part of the over all site development. Soil within two former pesticide storage/mixing areas, at which the highest pesticide levels were detected, will be excavated and disposed off-site at an appropriate facility.

2.0 PROJECT SAFETY AUTHORITY

2.1 Health and Safety Personnel

2.1.1 Safety Officer

The contractor must appoint a SSO for the project. The SSO is an individual who is responsible to the employer and has the authority, training, experience, and knowledge necessary to implement the site HSP and verify compliance with applicable safety and health requirements. The contractor will be solely responsible for the health and safety of their employees as well as for compliance with all applicable federal, state, and local laws and guidelines.

The SSO should verify that all on-site personnel are qualified, trained, and prepared to implement the HSP and safely perform the planned site work. Field personnel should be required to indicate in writing that they have read and understand the provisions of the HSP.

Safe work practices should be emphasized during safety meetings to be conducted by the SSO and implemented throughout the project.

3.0 HAZARD ASSESSMENT AND CONTROL MEASURES

This HSP provides standard operating procedures for personnel involved in activities that may expose them to chemical hazards associated with the impacted soil. Physical hazards also exist. For example, the heavy equipment that will be used to complete site development presents a potential for physical hazards.

Field personnel are required to control chemical exposure primarily through the use of safe work practices and engineering controls (see Sections 4.0, 5.0, 6.0, and 7.0).

3.1 Chemical Hazards

The chemicals of concern (COCs) at the site are lead, arsenic, and organochlorine pesticides; specifically DDD, DDE, DDT, toxaphene, and BHC in soil. Chemical hazards associated with the site soils are summarized in Table 1. The maximum concentrations of the COCs detected in soil samples from the site are presented in Table 1. The table also includes the Cal/OSHA Permissible Exposure Limits (PELs), concentrations in air that would be immediately dangerous to life and health (IDLH), potential exposure pathways, and symptoms of acute exposure.

Table 1. Health Hazard Information for Constituents of Concern

COC	MAXIMUM CONCENTRATION DETECTED (mg/kg) ⁽¹⁾	PEL ⁽²⁾	IDLH ⁽⁴⁾	ROUTES OF ENTRY ⁽⁵⁾	ACUTE EXPOSURE SYMPTOMS ⁽⁵⁾
Lead	310	0.05 mg/m ³ 8-hour TWA 0.03 mg/m ³ Action Level	100 mg/m ³	Inhalation, ingestion	Irritation of mucous membranes, weakness, weight loss, abdominal pain, anemia, colic.
Arsenic	67	0.01 mg/m ³ 8-hour TWA	5 mg/m ³	Inhalation, dermal contact, ingestion	Nasal and respiratory irritation, digestive distress.
DDT	Total DDT (DDD+DDE+DDT) 11.03	1 mg/m ³ 8-hour TWA	500 mg/m ³	Inhalation, ingestion, dermal contact	Irritated eyes, skin, dizziness, confusion, headache, tremors.
Toxaphene	15	0.5 mg/m ³	200 mg/m ³	Inhalation, ingestion, dermal contact	Irritated eyes, skin, dizziness, confusion, headache, tremors, and convulsions.
BHC	Alpha BHC = 0.13 Beta BHC = 0.24 Delta BHC = 1.4	0.5 mg/m ³	50 mg/m ³	Inhalation, ingestion, dermal contact	Irritated eyes, skin, dizziness, confusion, headache, tremors, and convulsions.

(1) mg/kg = milligrams of contaminant per kilogram of soil.

(2) PEL = Permissible Exposure Limit given in Title 8, CCR, Section 5155.

(3) mg/m³ = milligrams per cubic meter.

(4) IDLH = Immediately Dangerous to Life and Health.

(5) Routes of entry and acute exposure to symptoms given in NIOSH *Pocket Guide to Chemical Hazards* (U.S. Department of Health and Human Services, June 1997).

*Note: Because an individual may not be exhibiting the acute health effects, they still may be exposed to hazardous levels.

The PELs listed in Table 1 are identified as the time-weighted average (TWA₈) concentrations for a normal 8-hour workday and a 40-hour workweek, to which nearly all workers repeatedly may be exposed without adverse health effects (Title 8, CCR, Section 5155), unless otherwise noted. The IDLH values represent a maximum level from which a person could escape within 30 minutes, without suffering escape-impairing symptoms or irreversible health effects (NIOSH Pocket Guide to Chemical Hazards). The concentrations of the COCs reported in the

impacted soil are based on a weight-to-weight volume ratio. The airborne criteria listed above (PELs and IDLH) are reported as a weight-to-volume ratio in air, and therefore are not directly comparable to the soil concentrations.

3.1.1 Exposure Pathways

The main potential exposure pathways for the COCs in the soil include incidental ingestion and inhalation of windblown dust, and direct skin contact (dermal contact) with soil during the field activities. The windblown dust potential exposure pathway must be mitigated by appropriate dust control measures (see Section 7.0) implemented during the earthwork activities in impacted soil.

Absorption and ingestion pathways must be mitigated by following safe work practices and through the use of PPE.

3.1.2 Lead

Lead contamination in soil is present at the site, likely resulting from the use of agricultural chemicals. Lead can affect the body via inhalation and ingestion pathways. Overexposure can result in weakness in the fingers, wrists, and/or ankles. Chronic overexposure can cause severe damage to the blood-forming, nervous, urinary, and reproductive systems. The overall potential for significant lead exposure during earthwork activities is expected to be low. Exposures will be reduced during field operations using a combination of engineering controls (dust suppression with water mist) and safe work practices.

3.1.3 Arsenic

Arsenic is likely associated with the former application of farming chemicals. Arsenic can affect the body via inhalation (i.e., dust) and ingestion exposure pathways. Overexposure can result in irritation of the stomach, intestines, skin, throat and lungs. Chronic overexposure can cause damage to the blood, skin and nervous systems. The EPA has identified arsenic as a probable human carcinogen. The overall potential for occupationally significant arsenic exposure during implementation of the earthwork activities is expected to be low. Exposures will be reduced during field operations using a combination of engineering controls (dust suppression with water mist) and safe work practices.

3.1.4 DDT

DDT can affect the body via inhalation (i.e., dust), ingestion, and absorption through skin contact. Overexposure can result in headaches, dizziness, tremors, and irritation of the eyes and skin. Chronic overexposure can cause damage to the nervous system, kidneys, and liver. The overall potential for occupationally significant DDT exposure during implementation of the earthwork activities is expected to be low. Exposures will be reduced during field operations using a combination of engineering controls (dust suppression with water mist) and safe work practices.

3.1.5 Toxaphene

Toxaphene can affect the body via inhalation (i.e., dust), ingestion, and absorption through skin contact. Overexposure can result in headaches, dizziness, tremors, irritation of the eyes and skin, and high acute exposures can cause convulsions. Chronic overexposure can cause damage to the nervous system, kidneys, and liver. Toxaphene is also considered carcinogenic. The overall potential for occupationally significant exposure during implementation of the earthwork activities is expected to be low. Exposures will be minimized during field operations using a combination of engineering controls (dust suppression with water mist) and safe work practices.

3.1.6 BHC

BHC, or hexachloro-cyclohexane, also known as lindane, can affect the body via inhalation (i.e., dust), ingestion, and absorption through skin contact. Overexposure can result in headaches, dizziness, tremors, irritation of the eyes and skin, and high acute exposures can cause convulsions. Chronic overexposure can cause damage to the nervous system, kidneys, and liver. BHC is considered carcinogenic. The overall potential for occupationally significant BHC exposure during implementation of the earthwork activities is expected to be low. Exposures will be minimized during field operations using a combination of engineering controls (dust suppression with water mist) and safe work practices.

3.2 Physical Hazards

Physical hazards associated with construction activities, such as occupational noise, heavy equipment, heat-related disorders, slips, trips, falls, falling objects, flying debris, electrical shock, buried utilities, overhead power lines, and excavations, may be present on-site and can present a greater risk of injury than the COCs in soil at the site. These hazards must be addressed by each contractor's site-specific health and safety plan. Activities within the scope of this project must comply with all applicable regulations, including Cal/OSHA standards.

4.0 SAFETY EQUIPMENT, PERSONAL HYGIENE, AND SANITATION

4.1 Personal Protective Equipment (PPE)

PPE and clothing are used to isolate individuals from the COCs and physical hazards. The minimum level of protection for workers performing earthwork activities is generally Level D (as defined by the EPA [July 1998]) and should include the following:

1. Work coveralls
2. Reflective/visible safety vests
3. Work gloves
4. Steel-toed boots
5. Safety glasses, as necessary
6. Hard hat, as necessary
7. Hearing protection, as necessary

4.2 Sanitation

Potable water, toilet facilities, and washing facilities must be provided at the site by the contractor, in accordance with Title 8 CCR 5192.

5.0 SITE CONTROL

This section provides a description of the site control areas that should be established during earthwork activities by the contractor. Site control procedures are established to control the potential spread of contamination from the site. The site should be fenced prior to initiation of earthwork activities. Access and egress should be controlled via gates. The gates that provide site access should be locked after working hours. Signs instructing visitors to check in at the project support area should be posted at all entrances to the site.

5.1 Work Zone

Each area within which earthwork activities are being performed should be considered a "Work Zone". Unauthorized access to these areas should be controlled and authorized individuals should be familiar with the health and safety plan. Eating, drinking, smoking, chewing tobacco, or applying cosmetics should be prohibited in the Work Zone.

Any item taken into the Work Zone becoming visibly dirty should be assumed to be contaminated, and must be decontaminated in the decontamination zone before the item leaves the site. Construction vehicles, equipment, and materials brought into the Work Zone should remain in the Work Zone until no longer necessary to the project, and/or until properly decontaminated.

Each access route to a Work Zone must be posted with signs that read:

WARNING CONTAMINATED WORK AREA POISON NO SMOKING OR EATING	WARNING This Site contains chemicals known to the State of California to cause cancer or other reproductive toxicity. AUTHORIZED PERSONNEL ONLY
---	--

5.2 Decontamination Zone

A decontamination zone should be established on-site such that dust, debris, and soil are removed from equipment and transportation vehicles prior to leaving the site. Depending on whether the soil is wet from rain, decontamination methods may consist of dry decontamination methods (brushing and vacuuming), or wet

decontamination methods (steam cleaning and/or high-pressure washing), or a combination of these without the use of detergents.

The decontamination zone should contain at a minimum:

1. Methods for equipment decontamination (wash basins for tools, brushes, etc.).
2. Washbasins, scrub brushes, and a water source for the decontamination of reusable equipment. Soap, water and towel should also be available for washing hands.
3. Emergency response and first aid equipment and fire extinguishers.
4. Clearly marked trash barrels or drums with plastic liners for the placement and disposal of expendable items such as gloves and protective clothing.

The specific use of this zone must be reviewed during the site-specific training conducted by the contractor's SSO.

5.3 Support/Staging Zone

The "Support/Staging Zone" should be set up on-site to provide for administrative and support functions (command post, first-aid station, rest area, truck staging, etc.) necessary to keep the field activities running smoothly.

6.0 DECONTAMINATION PROCEDURES

6.1 Equipment Decontamination

Decontamination procedures must be performed to reduce the physical transfer of impacted materials from the project area. Before being removed from the site, all vehicles and equipment with visible accumulations of soil that are potentially contaminated must be thoroughly rinsed/hosed down with water and/or dry brushed to remove residual soil. Equipment decontamination must take place in the decontamination zone.

Washtubs with soap and water and rinse tubs should be provided for cleaning of reusable equipment. Decontamination water can be collected in an on-site collection receptacle and used for dust control.

6.2 Personnel Decontamination

Workers should minimize the amount of dirt or dust on their hands, face, clothing, and shoes. If any of these are visibly soiled, they should be cleaned. These activities must be performed prior to leaving the site.

Personnel decontamination should included removing coveralls and work gloves, and washing hands and face prior to eating drinking, or smoking.

In the event that emergency life-saving first aid and/or medical treatment are required, decontamination procedures should be omitted. Site personnel should accompany the contaminated victims to the medical facility to advise on matters involving decontamination.

7.0 DUST CONTROL AND SOIL MANAGEMENT

7.1 Dust Control

An effective means of dust control must be utilized to minimize the generation of dust associated with the earthwork activities, truck traffic onto and off the site, and the effects of ambient wind traversing exposed soil.

The contractor should provide water trucks at all times during excavation/grading activities for dust control. Impacted soil must be sufficiently moisture conditioned to minimize dust emissions during excavation and grading. If dust is observed, the area is not wet enough; the equipment operators must wait for additional moisture conditioning.

The success of dust control measures depends upon the involvement and cooperation of each worker at the site. If equipment operators see dust being emitted from their piece of equipment while working in areas potentially containing contamination, it is their responsibility to stop work until additional moisture conditioning can be provided. Since dust control is of paramount importance, workers at the site must do their part to assure that this is accomplished.

If visible dust from impacted soil is observed, work should be stopped and measures to increase the effectiveness of dust control activities should be evaluated.

7.2 Soil Management

In about half of the samples collected from near surface soil (upper ½ foot), the total DDT concentrations were greater than the 1 ppm Total Threshold Limit Concentration (TTLC). The TTLC is the level above which a solid waste is considered hazardous per Title 22 of the California Code of Regulations. Note, however, that the soil is not considered a waste (and therefore is not a hazardous waste) unless it is intended to be discarded or disposed. Since off-site disposal of this soil could be costly, we have recommended that the planned development be designed to minimize the amount of soil to be exported.

If on-site soil is to be off-hauled, additional characterization should be performed prior to transport. Total DDT concentrations in the upper ½ foot of soil appear to exceed California's hazardous waste criteria (TTLC of 1 ppm). A representative sample(s) of the soil to be off-hauled must be collected and analyzed in accordance with disposal facilities requirements. Soil must only be disposed at an appropriately licensed facility; transportation also must be performed in accordance with applicable regulations.

If shallow soil is to be excavated for disposal, this work must be performed by individuals with appropriate HAZWOPER training (40-hour OSHA) since this soil will potentially be classified as hazardous waste. This training also will apply to workers involved with excavating impacted soil from the two pesticide storage/mixing areas. Training requirements are further discussed in Section 9.

8.0 AIR MONITORING

Exposure to metals and pesticides above the PELs are not expected. An evaluation of expected worst-case exposure conditions can be performed using the following equation.

Dust Concentration [mg/m^3] x soil concentration [mg/kg]/ $10^6 \text{ mg}/\text{kg}$ = *Anticipated Exposure Concentration*.

Using a conservative (worst case) dust concentration of $5 \text{ mg}/\text{m}^3$, which corresponds to very thick and dark dust cloud, and the highest detected total DDT concentration of $11.03 \text{ mg}/\text{kg}$, the anticipated exposure concentration is $0.000055 \text{ mg}/\text{m}^3$. This is well below the PEL for DDT of $1.0 \text{ mg}/\text{m}^3$.

Repeating this calculation for lead using the maximum detected concentration of $310 \text{ mg}/\text{kg}$, the anticipated exposure concentration is $0.0016 \text{ mg}/\text{m}^3$. This is well below the PEL for lead of $0.05 \text{ mg}/\text{m}^3$.

Similarly, the anticipated exposure concentrations for arsenic, toxaphene, and BHC are $0.00034 \text{ mg}/\text{m}^3$, $0.000075 \text{ mg}/\text{m}^3$, and $0.000007 \text{ mg}/\text{m}^3$, respectively. These also are well below the PELs of $0.01 \text{ mg}/\text{m}^3$, $0.5 \text{ mg}/\text{m}^3$, and $0.5 \text{ mg}/\text{m}^3$, respectively.

Based on these conservative calculations, the use of respirators will not be required and the need for air monitoring, other than visual observations for dust control, is not anticipated.

9.0 TRAINING

The contractor's SSO must conduct a safety briefing at the beginning of the project to ensure that on-site workers involved in earthwork activities understand the provisions of the HSP. Health and safety training and hazard communication must be implemented as addressed below and in accordance with each contractor's site-specific health and safety plan. All earthwork personnel must be familiar with the provisions of this HSP and verify in writing that they have read it and understand it.

9.1 Site-Specific Training Program

A site-specific training program must be instituted prior to on-site work. Attendees at all meetings should be documented by signature. The site-specific training relating to impacted soil should include discussion of the following.

1. The health effects (acute and chronic) of the chemical and physical hazards that may be encountered at the site
2. Proper control measures for the chemical and physical hazards that may be encountered
3. The importance of dust control at the site
4. Proper personal hygiene procedures
5. Decontamination of equipment and personnel
6. Vehicle and tool decontamination procedures
7. Emergency procedures
8. Proper management of impacted soil

Additional training pertaining to applicable physical hazards should be addressed in each contractor's site-specific HSP.

9.2 HAZWOPER Training and Medical Surveillance Requirements

Employees conducting excavation of soil that is intended to be disposed must have completed a 40-Hour HAZWOPER training course, including respirator and personal protective equipment training. A minimum of three days of actual field experience under the direct supervision of a trained, experienced supervisor also is required. This training or an approved refresher course must be current (within the last 12 months).

Employees that are required to have HAZWOPER training also are required to participate in a Medical Surveillance Program. All field personnel must have completed either a baseline or annual medical monitoring examination within 12 months of their assignment to the site. Only medically qualified personnel, as determined by the examining physician, are permitted to conduct field activities.

10.0 EMERGENCY AND CONTINGENCY PLANNING

10.1 Relevant First Aid Procedures

Minor injuries, including minor cuts, scrapes, and abrasions should be treated on-site. If an injured individual requires further attention, the individual should be immediately transported to the nearest hospital. A map illustrating the route to the nearest emergency medical facility must be present on-site.

10.2 Emergency Treatment

When transporting an injured person to a hospital, this HSP must be taken with the injured person to assist medical personnel with diagnosis and treatment.

In all cases of chemical overexposure, standard procedures are to be followed as outlined below for poison management, first aid, and, if applicable, CPR. The following are four different routes of exposure and their respective first aid/poison management procedures.

1. **Ingestion:** Refer to the material data safety sheets (MSDS) (if construction chemical product, i.e. gasoline) for specific recommendations and/or CALL THE POISON CONTROL CENTER AT 911 FOR INSTRUCTIONS.
2. **Inhalation:** **Move the person from the contaminated environment.** Initiate CPR if necessary. Call, or have someone call, for medical assistance. Refer to the MSDS, if available, for additional specific information. If necessary, transport the victim to the nearest hospital as soon as possible.
3. **Skin Contact:** **Immediately wash off skin with a large amount of water.** Remove any contaminated clothing and rewash skin using soap, if available. Transport the injured person to a medical facility if necessary.
4. **Eyes:** **Hold eyelids open and rinse the eyes immediately with copious amounts of water for 15 minutes.** If possible, have the person remove his/her contact lenses (if worn). Never permit the eyes to be rubbed. Transport the injured person to a hospital as soon as possible.

10.3 Evacuation Procedures

Various emergencies may warrant a site evacuation. Although these conditions are not anticipated, they may include fire, explosion, chemical release, or other event that could cause personal injury. Emergency evacuation procedures must be discussed in the contractor's site-specific HSP.

11.0 ACCIDENT PREVENTION, INVESTIGATION, AND REPORTING

The contractor's site-specific HSP must include a discussion of accident prevention measures, investigation, and reporting procedures to be implemented at the site.

12.0 INTERNAL AND EXTERNAL COMMUNICATIONS

Methods for internal and external communication should be addressed in the contractor's site-specific HSP.

13.0 REFERENCES

American Conference of Governmental Industrial Hygienists. March 1, 1998. *2000 TLVs® and BEIs®. Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices.*

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* * * * *

**Los Esteros Critical Energy Facility
Data Request Response Set 1
(01-AFC-12)**

13.0 Worker Safety and Fire Protection

Technical Area: Worker Safety and fire Protection

CEC Author: Alvin Greenberg

LECEF Author: Todd Stewart and Jerry Salamy

BACKGROUND

To assess the potential for impacts on workers and the public associated with an accidental fire at the facility, staff needs specific information about the level of staffing, on-site fire response, and the source and amount of fire water available at the hydrants.

DATA REQUEST

116. Please provide a description of the number of trained staff that would be on-site at any given time, their duties and responsibilities in the event of a fire at the facility, and their ability to respond to a fire using on-site fire-fighting resources including automatic and manual activated systems.

Response: The facilities operations staff will consist of approximately 30 full-time employees. Not all of these employees will be on-site all of the time. Five of the staff will work standard 8-hours days, Monday-Friday. There will also always be three operators, who will work rotating 12-hour shifts. Table WS-117 identifies the anticipated job classifications and schedules.

TABLE WS-117

Typical Plant Operation Workforce

Department	Personnel	Shift	Work days
Operations	20 Operating Technicians	Rotating 12-hour shift, 3 operators per shift, 4 relief operators	7 days a week
Maintenance	5 Maintenance Technicians (1 Mechanical, 1 Electrical, 2 Water Treatment, and 1 Instrumentation)	Standard 8-hour days	5 days a week (Maintenance technicians will also work unscheduled days and hours as required [weekends])
Administration	5 Administrators (1, Plant Manager, 1 Operations Manager, 2 Plant Administrator, and 1 Plant Engineer)	Standard 8-hour days	5 days a week with additional coverage as required

**Los Esteros Critical Energy Facility
Data Request Response Set 1
(01-AFC-12)**

Fire Protection Systems

Before describing the fire protection duties and responsibilities of the operations staff, it is important to describe the fire protection systems of the facility. The facility will be equipped with several fire protection systems. These include: Facility Firewater Supply System; Water Based Fire Suppression System; FM200 Fire Suppression System and Fire Alarm System. These are discussed in more detail below.

Firewater Supply System

The fire protection system will be designed in accordance with NFPA 850, *Recommended Practice for Fire Protection for Electric Generating Plants and High Voltage Direct Converter Stations*. The plant will be equipped with both automatic and manual activated fire protection systems with detection and extinguishing equipment at all locations having potential fire hazard due to the presence of combustible materials or where major property damage could result.

The normal supply of fire fighting water is recycled water from SBWR. The access to this water is through a series of hydrants located throughout the facility. In case of disruption to the recycled water supply line, a dedicated fire water storage supply, sized in accordance with National Fire Protection Association 850 to provide at least 2 hours of protection from the onsite worst-case single fire. The on site fire water storage consists of a dedicated 250,000 gallons in the Reverse Osmosis feed storage tank, a 400,000 gallon tank of backup cooling water and an additional 400,000 gallons in the enlarged cooling tower basin for a total supply of in excess of 1,000,000 gallons. An electric jockey pump and electric-motor-driven main fire pump will be provided to increase the water pressure in the plant fire mains to the level required to serve all fire fighting systems. In addition, a diesel engine-driven fire pump will be provided to pressurize the fire loop if the power supply to the main fire pump fails. A fire pump controller will be provided for the back-up fire pump.

All three fire pumps will discharge to a dedicated underground fire loop piping system. Both the fire hydrants and the fixed suppression systems if necessary will be supplied from the fire water loop.

The plant Administrative Maintenance and Control Building, water treatment facility, and other structures will be equipped with portable fire extinguishers, as required by the local fire department.

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Water-Based Fire Suppression Systems

Water-based fire suppression systems will be included for the following buildings and areas:

- Generator Bearings and Lube Oil Equipment and Reservoir

The cooling tower will be constructed of fiberglass having a flame-spread rating of 25 or less and will therefore not be sprinklered.

FM200 Fire Suppression Systems

A FM200 (CO₂) fire suppression systems or equivalent with extended discharge capabilities will be provided for designated portions of all three gas-fired turbine generators. Protected areas include: the turbine and gas fuel compartments, generators, and accessory equipment compartments. In addition, the system will also have fire detection sensors all compartments. Actuating one sensor will provide a high-temperature alarm on the combustion turbine control panel. Actuating a second sensor will trip the combustion turbine, turn-off ventilation, close ventilation openings, and automatically release FM200. The FM200 will be discharged at a design concentration adequate to extinguish the fire.

Fire Alarm Systems

The facility will have a fire alarm and detection system. In addition to providing occupant notification for the buildings, the system also will monitor numerous smoke and heat detectors, fire suppression system alarm and supervisory devices, manual pull stations, and fire pump status. Specifically, the fire alarm control panel located in the Control Room will include the following components:

- Once central fire detection control panel to monitor status of zones, with visual indications, audible alarm, and test provisions;
- HVAC duct smoke detectors;
- Area fire/smoke detectors where required for automatic suppression system;
- Area fire/smoke detectors for alarms only in the control room and the administration/maintenance/warehouse building;
- Fire alarm horns (audible throughout the site);
- Fire alarm lights (in high noise areas)

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- Manual pull stations;
- Interconnecting cabling

Employee Duties and Responsibilities

Employees trained in fire protection include the operators, maintenance technicians, plant manager, operations manager, plant engineer, and maintenance manager. In the event of a fire, an alarm will sound on the fire alarm control panel in the plant Control Room. The operator will sound the internal fire alarm and report the fire by dialing 911. If the fire is small, is not spreading rapidly, and is not threatening further danger by explosion or contact with toxic gases, an operator or other trained staff member mentioned above, will put the fire out by using a fire extinguisher or other fire-fighting equipment.

For a large fire, the operator will sound the evacuation siren for plant personnel and dial 911. The operator will then assign someone to meet fire department personnel at the plant entrance gate. In addition, an emergency shutdown of the plant may occur and the employees on site will be evacuated. Trained fire department personnel will fight the fire.

117. Please identify the source of water which would be used in the event of fire. Also indicate the amount dedicated to fire-fighting, the flow rates, and any backup systems to maintain water pressure.

Response: Recycled water will be used for fire-fighting. A redundant supply of approximately 1,000,000 gallons and will be stored in onsite storage tank as well as in the enlarged cooling tower basin.

118. Please identify any economic impacts on the ability of the San Jose Fire Department to adequately respond to a fire at the proposed power plant.

Response: The LECEF project is not expected to have a significant economic impact on the San Jose Fire Department other than those associated with routine fire inspections. Any economic impact the City of San Jose will be more than offset by the project's property tax assessment. Based on Section 8.8.3.4.8 of the AFC (page 8.8-16), the LECEF project will pay Santa Clara County between \$152,400 to \$198,120 in property taxes annually for the life of the project. This property tax estimate is based on the simple-cycle project configuration, which is expected to operate for less than 3 years from the date of licensing by the CEC. After which the LECEF project will be retrofitted to a combined-cycle facility which will increase the property value and result in increase property taxes.

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14.0 Visual Resources

Technical Area: Visual Resources

CEC Authors: Michael Clayton, Brewster Birdsall, and Eric Knight

LECEF Author: Tom Priestley

BACKGROUND

Staff will need to make use of the Applicant's figures presented in the AFC and supplemental filings.

DATA REQUEST

119. Please provide a CD containing electronic versions of the following figures: 2.1-1, 2.1-2, 2.2-1, 2.2-2, 8.11-1 (to be revised per Data Adequacy requirement), and 8.11-2.

Response: This information will be provided in November.

120. Please provide a CD containing electronic versions of the existing figures to be revised and new figures as requested in the following Data Requests.

Response: This information will be provided in November.

BACKGROUND

Figure 2.2-2 provides power plant elevation diagrams but only denotes the height of the HRSG stacks.

DATA REQUEST

121. Please identify the heights of the facilities shown in Figure 2.2-2.

Response: This information will be provided in November.

BACKGROUND

Two key observation points (KOPs) were established in order to evaluate both the visual setting and the potential for project-induced visual impacts. Photographs were obtained at each KOP and presented along with visual simulations of the proposed project. Section 8.11.2.1 *Analysis Procedure* (pp. 8.11-7 and 8) states that "Visual simulations were produced to illustrate the 'after' visual conditions from each of these points, providing the viewer with a clear image of the location, scale, and visual appearance of the proposed project." However,

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the images presented (setting photographs as well as simulations) are substantially less than life-size scale when viewed at a standard reading/viewing distance of 18 inches. The presentation of images at such a reduced scale does not accurately represent the views that would be experienced at the KOPs because the images substantially understate the prominence of visible landscape features as well as potential visual impacts.

Also, the simulations show the HRSG stacks at their original height of 125 feet instead of the proposed 90-foot heights referenced in the Application. However, Section 2.20 *Visual Resources* of the Applicant's Responses to Data Adequacy refers to the HRSG stacks as being "80-foot high stacks..." and "...90-foot high stacks..." The simulations also do not include the 8-foot sound wall along the south and east perimeter nor any necessary transmission interconnection towers and take-off structures.

DATA REQUEST

122. Please clarify the currently proposed HRSG stack height.

Response: The HRSG exhaust stack heights will be 90 feet.

123. Please re-scale all setting and simulation images to achieve life-size scale. If re-scaling results in substantial degradation of the image, please provide new setting and simulation images at life-size scale. After obtaining appropriately scaled images, please provide photocopies of high quality 11"x17" color images of the existing views and simulations.

Response: This information will be provided in November.

124. Please revise the visual simulations prepared for KOPs 1 and 2 (Figures 8.11-3B and 8.11-4B respectively) to include accurate HRSG stack heights, the 8-foot sound wall, and any necessary transmission towers and take-off structures.

Response: This information will be provided in November.

BACKGROUND

Section 8.11.1.2.2 *Transmission Line Route* indicates that the 200-foot transmission line could be aboveground.

DATA REQUEST

125. Please identify the heights of required and potential electric transmission facilities including transmission line structures and take-off structures.

Response: This information will be provided in November.

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BACKGROUND

Section 8.11.1.2.3 *Natural Gas Line Route* states that the proposed gas line would connect to the existing PG&E gas line along the northern edge of SR 237.

DATA REQUEST

126. Please identify if a gas metering station would be required at the point of interconnection with the PG&E gas line and whether or not the metering station would be aboveground.

Response: A gas metering station will be design and installed by PG&E. The metering station will be above ground.

127. If there is to be an aboveground gas metering station, please describe the station's visual characteristics, dimensions, and visibility.

Response: The gas metering station will be low profile and include a high accuracy custody transfer meter and associated valves and instrumentation. The metering station will not be visible beyond the 8-foot sound wall.

BACKGROUND

Section 8.11.1.4 *Sensitive Viewing Areas and Key Observation Points* identifies the establishment of two Key Observation Points (KOPs) – one on SR 237 and one on Zanker Road. Approximately 1.7 to 1.8 miles to the west of the proposed project site is the community of Alviso. A number of residences along Grand Boulevard presently have unobstructed lines of sight to the proposed project site. There are also a number of goals and policies contained in the Alviso Master Plan (AFC Table 8.11-5) that pertain to the preservation and enhancement of views and visual character outside of the village area. Staff believes that it is important to carefully evaluate the proposed project's potential visual impacts on this historic and developing community. Also, the discussion of LORS consistency with respect to the Alviso Master Plan refers to the screening provided by the U.S. DataPort project. However, staff considers the U.S. DataPort project to be highly speculative at this point in time and not an appropriate context for consideration of the Los Esteros Project.

DATA REQUEST

128. Please establish a new Key Observation Point (KOP 3) along Grand Boulevard in Alviso. The new KOP should be sited to provide an unobstructed line of sight to the proposed project site that is representative of the residential views of the project site along Grand Boulevard.

Response: This information will be provided in November.

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129. Please provide an evaluation of the potential visual impacts that would be experienced from this KOP. The discussion should be equivalent in detail to that provided for KOPs 1 and 2. As part of this evaluation, please provide an existing view photograph and visual simulation from the new KOP. The new images must be at "life-size scale." Please provide photocopies of high quality 11"x17" color images of the existing view and simulation.

Response: This information will be provided in November.

130. In light of the speculative nature of the U.S. DataPort Project, please revise the LORS analysis with respect to the Alviso Master Plan. The consistency analysis should be based on the proposed project's intrinsic characteristics and should not assume the presence of the U.S. DataPort Project.

Response: This information will be provided in November.

BACKGROUND

Section 8.11.1.4 *Sensitive Viewing Areas and Key Observation Points* also identifies the presence of "several residences" on the site that would be removed as part of the implementation of the LECEF and U.S. DataPort projects. However, Section 2.20 *Visual Resources* of the Applicant's Responses to Data Adequacy variously refers to the residences on the U.S. DataPort site as being two and then three. As previously mentioned, staff considers the U.S. DataPort project as highly speculative at this point in time and not an appropriate context for consideration of the Los Esteros Project.

DATA REQUEST

131. Please clarify the number of existing residences on the U.S. DataPort site.

Response: There are two residences on the U.S. Dataport site.

132. Please clarify if all on-site residences referenced in Section 8.11.1.4 would be removed as part of the proposed project.

Response: All existing residences will be removed as part of the U.S. Dataport project.

133. If any residences are to remain following implementation of the proposed project, please identify the number of residents at this location and please establish an additional Key Observation Point (KOP 4) in the residential area and evaluate the potential visual impacts to these residents from the proposed project. The discussion should be equivalent in detail to that provided for KOPs 1, 2, and new KOP 3. As part of this evaluation, please provide an existing view photograph and visual simulation

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from the new KOP. The new images must be at "life-size scale." Please provide photocopies of high quality 11"x17" color images of the existing view and simulation.

Response: All existing residences will be removed as part of the U.S. Dataport project.

BACKGROUND

Section 8.11.2.2.2 *Landscaping* describes the planting scheme to be implemented around the project's perimeter to provide project screening. Staff considers any project-induced visual impact extending beyond five years after completion of project construction to be a long-term visual impact.

DATA REQUEST

134. Please provide two additional visual simulations of the project landscaping as viewed from KOPs 1, 2, and 3 (and 4 if necessary for the on-site residences). One simulation should show the landscaping at five years of growth. A second simulation should show the landscaping at maturity if greater than five years. The images are not to include U.S. DataPort since that project is considered highly speculative and not an appropriate context for evaluation of the Los Esteros Project. The new images must be at "life-size scale." Please provide photocopies of high quality 11"x17" color images of the existing view and simulation.

Response: This information will be provided in November.

135. If the time to landscaping maturity is greater than five years, please identify the timeframe to landscaping maturity.

Response: This information will be provided in November.

BACKGROUND

Section 8.11.2.2.3 *Lighting* describes lighting control measures for project operation but does not describe the extent to which lighting would be visible from the KOPs nor is lighting during project construction discussed.

DATA REQUEST

136. Please describe existing visible night lighting at the project site and in the immediate project vicinity.

Response: This information will be provided in November.

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137. Please describe the extent to which nighttime lighting during project operation would be visible from each KOP.

Response: This information will be provided in November.

138. Please describe night lighting to be used during project construction and lighting control measures to be employed.

Response: This information will be provided in November.

BACKGROUND

Section 8.11.3 *Assessment of Significance of Overall Visual Impacts* (pp. 8.11-13 and 14) discusses the potential visual impacts to the future Bay Trail as presently proposed. However, this discussion is presented in the visual context of the U.S. DataPort project which staff considers to be highly speculative.

DATA REQUEST

139. Please describe the potential visual impacts of the LECEF to the proposed Bay Trail and spur trail adjacent to the proposed project site. This discussion should not assume the presence of the U.S. DataPort project since that project is considered highly speculative and not an appropriate context for evaluation of the Los Esteros Project.

Response: This information will be provided in November.

BACKGROUND

Section 8.11.4 *Cumulative Impacts* (p. 8.11-15) states that the proposed project would not "...create an incremental impact to visual resources that would be significant..." but does not adequately identify projects that are either under construction or approved for construction that would potentially be visible in the same field of view as the proposed project.

DATA REQUEST

140. Please provide a list of all projects either under construction or approved for construction north of SR 237, west of I-880 and east of 1st Street and Grand Boulevard in Alviso.

Response: This information will be provided in November.

141. Also, please provide a map that shows the location of all cumulative projects identified in the previous data request.

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Response: This information will be provided in November.

BACKGROUND

The cooling towers proposed for use at the LECEF represent a potential source of visible plumes. Staff understands that the cooling towers are proposed to operate during high-ambient-temperature conditions (AFC §8.1.5.2.2) and that the potential for plume formation would be low. The AFC includes certain cell parameter data related to exhaust temperature, volumetric flow, and drift rate (AFC Table 8.1-8 and Appendix 8.1, and AFC §8.11.2.2.4); however, no operating scenarios were identified. To verify the applicant's claim of no significant visual impact (AFC §8.11.2.3.3), the operating conditions of the cooling towers should be identified in more detail.

DATA REQUEST

142. Describe the operating design of the cooling towers. Identify under what ambient conditions (i.e., the minimum ambient temperature) the cooling towers would operate.

Response: The cooling towers will operate to serve three loads: inlet air chillers, auxiliary loads, and gas compressor cooling loads. In general, the chillers will reduce the inlet air to the turbines down to a temperature of 50F. Consequently, the chillers will not operate when the ambient temperature is at 50F or less. The auxiliary and gas compressor loads will be met by the cooling towers under all ambient conditions. Of the total maximum design load of 82.9 MMbtu/hr for the cooling towers, up to 65.8 MMbtu/hr are associated with the inlet air chillers; 6.1 MMbtu/hr are associated with the auxiliary loads, and 11.0 MMbtu/hr are associated with the gas compressor loads.

143. Identify the heat loads that would be handled by the cooling tower system (e.g., inlet air chiller, lube oil cooling, gas compressor cooling, etc.) and whether there would be any likelihood of the cooling tower system operating during cold-weather conditions to handle these loads.

Response: Please see response to data request 142.

144. For staff to conduct an analysis on the potential plume using the Combustion Stack Visibility Program (CSVP), please provide cooling tower operating data to fill the following table. For example, a range of ambient temperatures could be used as was in Appendix 8.1 for the turbines. The cooling tower operating conditions identified by the applicant will be used to analyze potential plume formation based on the hourly ambient conditions observed in San Jose. Therefore additional ambient conditions, if provided by the applicant, will be used to more accurately represent the cooling tower exhaust conditions.

Parameter	Cooling Tower Exhausts
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Number of Emission Points	2 cells		
Stack Height	14.4 meters (each cell)		
Stack Diameter	9.8 meters (each cell)		
Ambient Temperature	@29°F	@59°F	@95°F
Exhaust Temperature	°F	°F	°F
Exhaust mass flow rate	lb/hr	lb/hr	lb/hr
Molecular Weight (estd)	28.8 g/g-mol		
Moisture Content (% by wt)	% by wt	% by wt	% by wt

Response: Table VR-144 presents the requested data.

Table VR-144 Cooling Tower Exhaust Data

Parameter	Cooling Tower Exhausts		
Number of Emission Points	2 cells		
Stack Height	14.4 meters (each cell)		
Stack Diameter	9.8 meters (each cell)		
Ambient Temperature	@30°F	@60°F	@93°F
Exhaust Temperature	NA °F	66.5 °F	82.5 °F
Exhaust mass flow rate	NA lb/hr	NA lb/hr	NA lb/hr
Molecular Weight (estd)	28.8 g/g-mol		
Moisture Content (% by wt)	NA % by wt	1.4% by wt (dry air)	2.3 % by wt (dry air)

BACKGROUND

There is at least one other source of visible water vapor plumes located within the viewshed of the LECEF Project. This facility, Calpine's Agnews Cogeneration Plant, is located about one mile southeast of the LECEF site. Staff requires information about this facility and whether other sources of visible plumes are located within the viewshed.

DATA REQUEST

145. Please provide the normal heat rejection rate for the Agnews cooling tower annually and during the winter.

Response: This information will be provided in November.

146. Please identify the location on Figure 8.11-1 (revised for Data Adequacy) of the Agnews facility and any other sources of visible water vapor plumes within the 3-mile radius viewshed established for the LECEF. Please also describe the characteristics (e.g., size and opacity) of any visible plumes within the project viewshed.

Response: This information will be provided in November.

BACKGROUND

LECEF will operate four natural gas-fired combustion with selective catalytic reduction (SCR), a fire pump, and an emergency generator that will discharge exhaust gases into the

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atmosphere. Emissions include sulfur dioxides, nitrogen dioxides (NO_x), and particulate matter with an aerodynamic diameter or 10 microns or less (PM₁₀). Of particular concern are impacts of NO_x emissions on surrounding serpentine soils and their associated endemic species. Nutrient-poor serpentine soils support an array of plant species specifically adapted to the edaphic conditions. Nitrogen is the primary limiting nutrient for plant growth on these soils, and the lack of adequate growth conditions has prevented the invasion of non-native grass species. Nitrogen deposition, primarily from industrial and vehicle emissions, artificially fertilize the soils, creating better conditions for the non-native species to persist and ultimately out-compete the native species. Some of the serpentine endemic plant species are federally-listed, and some, act as host plants to sensitive wildlife. Thus, potential nitrogen deposition impacts to serpentine communities is a concern of both the U.S. Fish and Wildlife Service and CEC.

DATA REQUESTS

147. Please provide a worst-case* analysis of the natural gas-fired combustion turbines separate from the emissions of the emergency generator and fire pump using the Industrial Source Complex Short Term Version 3 (ISCST3) model. The analysis should specify the amount of nitrogen deposition in the units kg/ha/year and the amount of deposition expected at nearby serpentine soils (Coyote Ridge, Communications Hill, and Tulare Hill) from just the natural gas-fired combustion turbines. Identify if the serpentine habitat is critical habitat for bay checkerspot butterfly (Federal Register, April 30, 2001). Provide an isopleth graphic over a USGS 7.5 minute quadrangle maps (or equally detailed map) of the direct deposition values (not weighted average).

Response: Table VR-147 summarizes a “worst case” analysis for nitrogen. This deposition analysis only includes the natural-fired gas turbines. The emergency equipment was not included as they will operate for less than 200 hours per year and then, only for testing purposes. The emissions associated with this testing operation will be approximately 0.6 tons per year of NO_x. No ammonia will be emitted from the emergency equipment.

The USFWS did not use the language “Coyote Ridge” in designating critical habitat, but the area as Coyote Ridge in the Metcalf BO is generally consistent with what USFWS called “Kirby” in the April 30, 2001 Federal Register. Each of the three named areas (Kirby, Communications Hill and Tulare Hill) were listed as critical habitat.

An isopleth graphic is included, but could not be readily overlaid on a USGS without obscuring details of either the isopleth or the quadrangle.

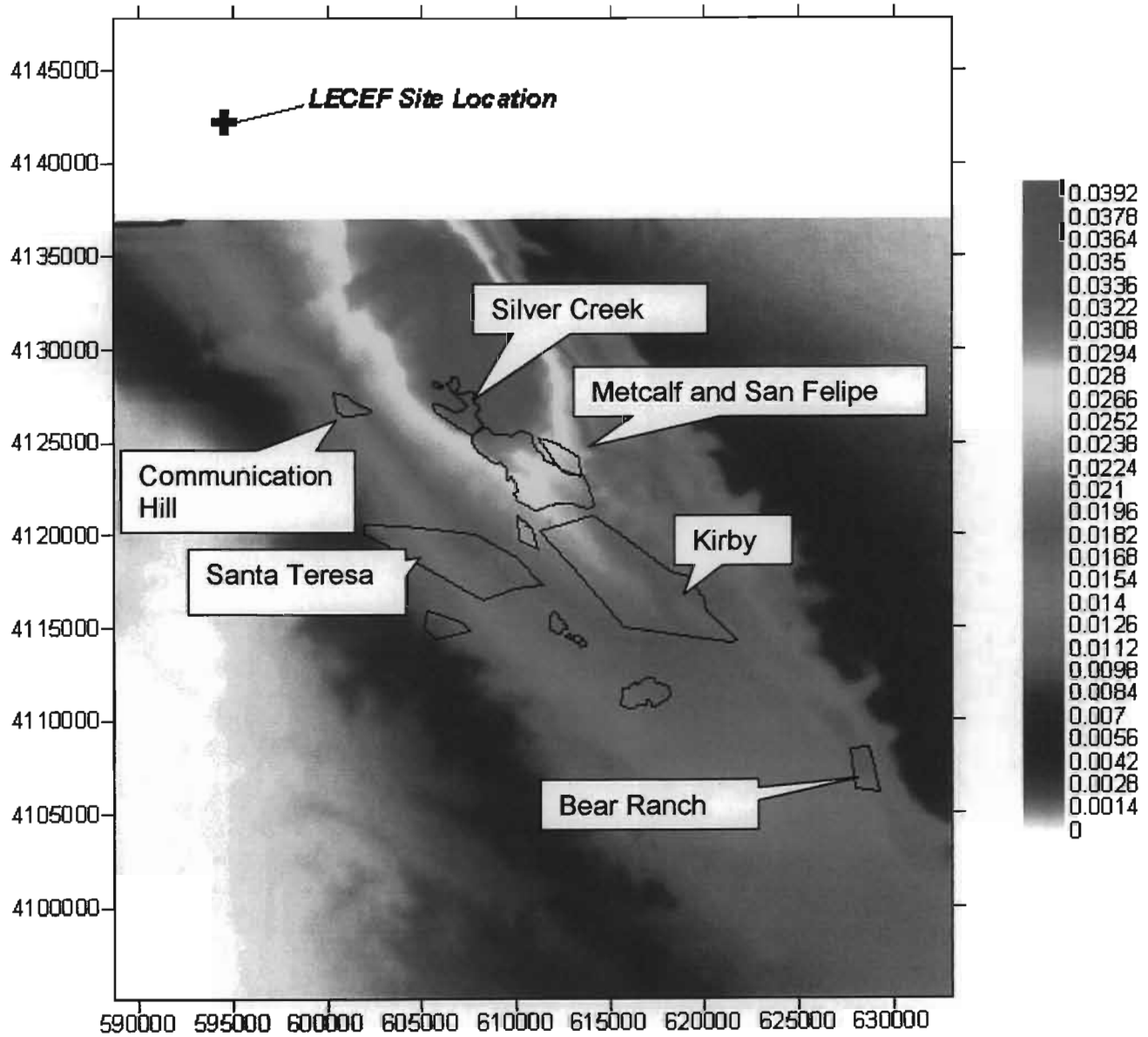
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Table VR-147 Summary of Nitrogen Deposition Impacts

Site Name	Site Area (acres)	Maximum Deposition (kg/ha yr)	Percent of Background Deposition	Total N (kg/yr)	Total N (kg/ha/yr)
Communication Hill	442	0.0185	0.0022	3.31	0.0075
Kirby	6912	0.0250	0.0030	69.93	0.0101
Tulare Hill	876	0.0240	0.0029	8.51	0.0097
Average	8230	0.0225	0.0027	81.75	0.0099

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LECEF Nitrogen Deposition Isopleths
(kg/ha-yr)



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148. Please provide a worst-case analysis* of the emergency generator and fire pump emissions separate from the emissions of the natural gas-fired combustion turbines. The analysis should specify the amount of nitrogen deposition in the units kg/ha/year and the amount of deposition expected at nearby serpentine soils (Coyote Ridge, Communications Hill, and Tulare Hill) from just the emergency generator and fire pump. Identify if the serpentine habitat is critical habitat for bay checkerspot butterfly (Federal Register, April 30, 2001). Provide an isopleth graphic over a USGS 7.5 minute quadrangle maps (or equally detailed map) of the direct deposition values (not weighted average).

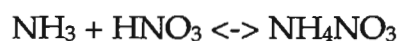
Response: As stated above, the emergency equipment was not included as they will operate for less than 200 hours per year and then, only for testing purposes. The emissions associated with this testing operation(s) will be approximately 0.6 tons per year of NO_x. No ammonia will be emitted from the emergency equipment.

149. Please provide a worst-case* analysis of the nitrogen deposition from the ammonia slip out of the exhaust stacks of the combustion turbines. The analysis should specify the amount of nitrogen deposition in the units kg/ha/year and the amount of deposition expected at nearby serpentine soils (Coyote Ridge, Communications Hill, and Tulare Hill). Identify if the serpentine habitat is critical habitat for bay checkerspot butterfly (Federal Register, April 30, 2001). Provide an isopleth graphic over a USGS 7.5 minute quadrangle maps (or equally detailed map) of the direct deposition values (not weighted average).

Response: In the calculation of total nitrogen deposition from both NO_x and NH₃, it was assumed that both pollutants were converted in stack into depositional nitrogen. Ammonia, after in stack conversion into nitrogen, accounted for approximately 80 percent of the nitrogen mass. Thus, ammonia (NH₃) accounts for approximately 80 percent of the total modeled deposition.

150. Provide a discussion of what types of nitrogen are generated as a result of the project, and what these nitrogen products change into when they mix with the atmosphere, and how much time it takes for these chemical reactions to occur. If certain conditions need to exist for these reactions to occur (e.g., temperature and availability of ozone), then please describe them in layman terms. If possible, use these results to explain the maximum and average distance from the power plant facility that the nitrogen changes into NO₂ and HNO₃. Give a complete citation for all references used in this analysis.

Response: The ammonium nitrate aerosol is formed by the reaction between the gaseous reactants ammonia and nitric acid.



Ammonia is formed by both biologic sources (ranches) and manmade sources.

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Nitric acid is formed during the day by the hydroxyl radical attack of nitrogen dioxide:



There are other routes of radical attack on NO_2 , but the OH route is the most dominant in the day time. Photolytic loss of HNO_3 is ignored since it is so small. For moderately polluted atmospheres, OH concentrations range between $1\text{--}10 \times 10^6$ molecules/ cm^3 . The lifetime of NO_2 in the atmosphere due to its reaction with the OH radical is 2.7 to 27 hours.

The rate of the reaction appears to be controlled by the concentration of the OH radical and competing reactions of other gases than by the nitrogen dioxide concentration. Hydroxyl radical concentrations are related to photochemistry. The transformation of nitrogen dioxide to nitric acid is likely to be highest during the daytime and decrease significantly at night.

Nitrogen dioxide is emitted directly into the atmosphere or may be formed from the conversion of nitric oxide (NO) in the presence of O_3 , NO_3 , RO_2 , or HO_2 . The lifetime of NO from these processes varies between 4 seconds (NO_3) to 60 seconds (HO_2) assuming peak concentrations of these oxidants.

The formation of the ammonium nitrate particle is rapid. The emphasis is not so much on the rate of formation, because it is an equilibrium reaction, but more of reformation of its reactants: HN_3 and HNO_3 .

The dissociation constant is a function of temperature and relative humidity. As temperature increases, so does the dissociation of the ammonium nitrate particulate. As the relative humidity decrease (as is the case with increasing temperature), the greater the dissociation of the ammonium nitrate particulate, as long as the relative humidity is below that of deliquescence (i.e., the particle remains solid).

Measurements of the diurnal trends of $\text{NH}_3\text{--HNO}_3$ product have demonstrated that peak concentrations occur at the same time when maximum temperatures and minimum relative humidity occur.

151. Please describe when the Emission Reduction Credits for NO_x will be purchased, what is their most likely location in relation to the power plant (e.g., direction and number of miles), and at what ratio they will be purchased. Describe if these credits are already part of an existing bank, or if a new source is being proposed. Differentiate the number credits being bought for the emergency generator and fire pump, and the natural-gas fired combustion turbines.

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Response: This information will be provided in November.

152. Please model the reduction of nitrogen deposition on serpentine soils, using the ISCST3 model, from the retrofitting of the existing Calpine Gilroy Cogen with SCR (see Data Adequacy Responses to Section 2.1 [01-AFC-12], dated September 14, 2001). Provide an isopleth graphic over a USGS 7.5 minute quadrangle maps (or equally detailed map) of the direct deposition values (not weighted average).

Response: This aspect of the project will not be pursued by LECEF.

153. Provide the complete calculation (e.g., the amounts used) for the statement "... the power plant results in only a 0.1% increase over ambient conditions." Provide what the ambient/background levels are in the project area and the source for this information (e.g., a complete copy of the paper or report cited).

Response: These calculations were based on average ammonia conversion and deposition estimates. As can be seen in the table above, using "worst case" assumptions, there is a 0.2 to 0.3% increase over ambient conditions.

154. Update the Cumulative Impact Analysis output (Table 8.1-29) to show the amount of nitrogen deposition in the values tons per year and kg/ha/yr. Provide an isopleth graphic over a USGS 7.5 minute quadrangle maps (or equally detailed map) of the direct deposition values (not weighted average).

Response: This information will be submitted in November.

*Analysis should assume same parameters as those done for Metcalf Energy Project Nitrogen Impact Analyses (available by request): 100% conversion of ammonia and oxides of nitrogen into depositional nitrogen, 80% dry deposition, and operation at highest number of hours; or, explain what factors were considered to create the worst-case scenario

BACKGROUND

The Air Resources Division of the National Park Service and the Air Quality Branch of the U.S. Fish and Wildlife Service have developed a Depositional Analysis Threshold (DAT) for nitrogen deposition within Class I air quality areas (e.g., wilderness areas, including those in refuges; see <http://www2.nature.nps.gov/ard/flagfree/>). Staff's analysis of potential impacts to these areas depends on having a modeled amount of nitrogen deposition for the nearest Class I areas. Although your AFC stated it would cover Class I area air emission impacts (page 8.1-28), such data was not found by staff. In addition, staff does not have any information on the potential nitrogen deposition values at Don Edwards San Francisco NWR (a Class II area), and their relationship to the Class II threshold established by NAASQ or the EPA under PSD (see <http://policy.fws.gov/563fw2.html>).

**Los Esteros Critical Energy Facility
Data Request Response Set 1
(01-AFC-12)**

DATA REQUEST

155. Provide a table of potential nitrogen deposition on the nearest Class I and Class II area(s) (e.g., within 20 miles) in the units kg/ha-yr. Also include in the table the SO₂ and PM₁₀ deposition levels and the Class I and II thresholds from NAASQ and PSD.

Response: This information will be submitted in November.

BACKGROUND

LECEF will operate four natural gas-fired combustion with selective catalytic reduction (SCR), a fire pump, and an emergency generator that will discharge exhaust gases into the atmosphere. Emissions include sulfur dioxides, nitrogen dioxides (NO_x), and particulate matter with an aerodynamic diameter of 10 microns or less (PM₁₀). Of particular concern are impacts of NO_x emissions on surrounding serpentine soils and their associated endemic species. Nutrient-poor serpentine soils support an array of plant species specifically adapted to the edaphic conditions. Nitrogen is the primary limiting nutrient for plant growth on these soils, and the lack of adequate growth conditions has prevented the invasion of non-native grass species. Nitrogen deposition, primarily from industrial and vehicle emissions, artificially fertilize the soils, creating better conditions for the non-native species to persist and ultimately out-compete the native species. Some of the serpentine endemic plant species are federally-listed, and some, act as host plants to sensitive wildlife. Thus, potential nitrogen deposition impacts to serpentine communities is a concern of both the U.S. Fish and Wildlife Service and CEC.

DATA REQUESTS

156. Please provide a worst-case* analysis of the natural gas-fired combustion turbines separate from the emissions of the emergency generator and fire pump using the Industrial Source Complex Short Term Version 3 (ISCST3) model. The analysis should specify the amount of nitrogen deposition in the units kg/ha/year and the amount of deposition expected at nearby serpentine soils (Coyote Ridge, Communications Hill, and Tulare Hill) from just the natural gas-fired combustion turbines. Identify if the serpentine habitat is critical habitat for bay checkerspot butterfly (Federal Register, April 30, 2001). Provide an isopleth graphic over a USGS 7.5 minute quadrangle maps (or equally detailed map) of the direct deposition values (not weighted average).

Response: This information will be submitted in November.

157. Please provide a worst-case analysis* of the emergency generator and fire pump emissions separate from the emissions of the natural gas-fired combustion turbines. The analysis should specify the amount of nitrogen deposition in the units kg/ha/year and the amount of deposition expected at nearby serpentine soils (Coyote Ridge, Communications Hill, and Tulare Hill) from just the emergency generator and fire pump. Identify if the serpentine habitat is critical habitat for bay checkerspot butterfly (Federal

**Los Esteros Critical Energy Facility
Data Request Response Set 1
(01-AFC-12)**

Register, April 30, 2001). Provide an isopleth graphic over a USGS 7.5 minute quadrangle maps (or equally detailed map) of the direct deposition values (not weighted average).

Response: This information will be submitted in November.

158. Please provide a worst-case* analysis of the nitrogen deposition from the ammonia slip out of the exhaust stacks of the combustion turbines. The analysis should specify the amount of nitrogen deposition in the units kg/ha/year and the amount of deposition expected at nearby serpentine soils (Coyote Ridge, Communications Hill, and Tulare Hill). Identify if the serpentine habitat is critical habitat for bay checkerspot butterfly (Federal Register, April 30, 2001). Provide an isopleth graphic over a USGS 7.5 minute quadrangle maps (or equally detailed map) of the direct deposition values (not weighted average).

Response: This information will be submitted in November.

159. Provide a discussion of what types of nitrogen are generated as a result of the project, and what these nitrogen products change into when they mix with the atmosphere, and how much time it takes for these chemical reactions to occur. If certain conditions need to exist for these reactions to occur (e.g., temperature and availability of ozone), then please describe them in layman terms. If possible, use these results to explain the maximum and average distance from the power plant facility that the nitrogen changes into NO₂ and HNO₃. Give a complete citation for all references used in this analysis.

Response: This information will be submitted in November.

160. Please describe when the Emission Reduction Credits for NO_x will be purchased, what is their most likely location in relation to the power plant (e.g., direction and number of miles), and at what ratio they will be purchased. Describe if these credits are already part of an existing bank, or if a new source is being proposed. Differentiate the number credits being bought for the emergency generator and fire pump, and the natural-gas fired combustion turbines.

Response: This information will be submitted in November.

161. Please model the reduction of nitrogen deposition on serpentine soils, using the ISCST3 model, from the retrofitting of the existing Calpine Gilroy Cogen with SCR (see Data Adequacy Responses to Section 2.1 [01-AFC-12], dated September 14, 2001). Provide an isopleth graphic over a USGS 7.5 minute quadrangle maps (or equally detailed map) of the direct deposition values (not weighted average).

Response: This information will be submitted in November.

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162. Provide the complete calculation (e.g., the amounts used) for the statement "... the power plant results in only a 0.1% increase over ambient conditions." Provide what the ambient/background levels are in the project area and the source for this information (e.g., a complete copy of the paper or report cited).

Response: This information will be submitted in November.

163. Update the Cumulative Impact Analysis output (Table 8.1-29) to show the amount of nitrogen deposition in the values tons per year and kg/ha/yr. Provide an isopleth graphic over a USGS 7.5 minute quadrangle maps (or equally detailed map) of the direct deposition values (not weighted average).

Response: This information will be submitted in November.

*Analysis should assume same parameters as those done for Metcalf Energy Project Nitrogen Impact Analyses (available by request): 100% conversion of ammonia and oxides of nitrogen into depositional nitrogen, 80% dry deposition, and operation at highest number of hours; or, explain what factors were considered to create the worst-case scenario

BACKGROUND

The Air Resources Division of the National Park Service and the Air Quality Branch of the U.S. Fish and Wildlife Service have developed a Depositional Analysis Threshold (DAT) for nitrogen deposition within Class I air quality areas (e.g., wilderness areas, including those in refuges; see <http://www2.nature.nps.gov/ard/flagfree/>). Staff's analysis of potential impacts to these areas depends on having a modeled amount of nitrogen deposition for the nearest Class I areas. Although your AFC stated it would cover Class I area air emission impacts (page 8.1-28), such data was not found by staff. In addition, staff does not have any information on the potential nitrogen deposition values at Don Edwards San Francisco NWR (a Class II area), and their relationship to the Class II threshold established by NAASQ or the EPA under PSD (see <http://policy.fws.gov/563fw2.html>).

DATA REQUEST

164. Provide a table of potential nitrogen deposition on the nearest Class I and Class II area(s) (e.g., within 20 miles) in the units kg/ha-yr. Also include in the table the SO₂ and PM₁₀ deposition levels and the Class I and II thresholds from NAASQ and PSD.

Response: This information will be submitted in November.

**BEFORE THE ENERGY RESOURCES CONSERVATION AND DEVELOPMENT COMMISSION
OF THE STATE OF CALIFORNIA**

**Application for Certification for the
Los Esteros Critical Energy Facility
(Los Esteros)**

**DOCKET No. 01-AFC-12
(AFC ACCEPTED 09/24/01)
(REVISED 10/19/01)**

I, Anar Bhimani declare that on November 2, 2001 I deposited copies of the attached Los Esteros Critical Energy Center Data Request Response Set 1 in the United States mail at Sacramento, CA with first class postage thereon fully prepaid and addressed to the following:

DOCKET UNIT

Send the original signed document plus the required 12 copies to the address below:

CALIFORNIA ENERGY COMMISSION
DOCKET UNIT, MS-4
*Attn: Docket No. 01-AFC-12
1516 Ninth Street
Sacramento, CA 95814-5512
E-mail: docket@energy.state.ca.us
* * * *

In addition to the documents sent to the Commission Docket Unit, also send individual copies of any documents to:

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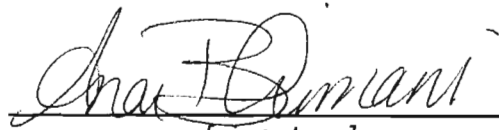
Matthew Freedman

The Utility Reform Network

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San Francisco, CA 94102

I declare under penalty of perjury that the foregoing is true and correct.


[signature]