Map
Available Upon Request

Los Angeles County Department of Agricultural Commissioner
Pico Rivera Facility
Topographic Survey

APPENDIX B

PART A PERMIT APPLICATION

ATTACHMENT A

COUNTY OF LOS ANGELES

Department of Agricultural Commissioner and Weights and Measures

3400 La Madera Avenue
El Monte, California 91732

E. Leon Spaugy
Agricultural Commissioner/
Director of Weights and Measures

William A. Edwards
Chief Deputy

April 19, 1989

Mr. Mathew Mittgaurd
Waste Compliance Branch
United States Environmental Protection Agency
Section Chief Region IX Attention: T-2-8
215 Fremont Street
San Francisco, California 94105

RE: Revision of E.P.A. Part A Application for Hazardous Waste Permit #CAD 000626077-3D

Dear Mr. Mittgaurd,

Enclosed please find our Department's revised Hazardous Waste Permit Part A, Application. I have been recently assigned the responsibility to manage our Hazardous Waste Storage Facility located in Pico Rivera, California.

In response to a recent RCRA inspection of our facility, I became aware of our need to submit a revision. Certain aspects of our facility's function has changed and we learned of various errors which occured in our original application. We hope that we have addressed completely the errors and changes which existed.

If you need to contact me in the future concerning our facility operation I can be contacted at (818) 575-5465 during regular working hours. We wish to comply with all of our permit requirements in accordance with RCRA and State regulations.

Sincerely,

John M. Brabson

John Brabson
Supervising Inspector
Pesticide & Pest Mgmt. Division

JB/MP/rlw
Attachment

cc: Donley
Edwards

-ill areas are spaced for elite type, i.e., 12 characters/inch).

FORM 1 GENERAL | EPA | U.S. ENVIRONMENTAL PROTECTION AGENCY

GENERAL INFORMATION

Consolidated Permits Program
(Read the "General Instructions" before starting.)

I. EPA I.D. NUMBER

F | CAD000626077 | 3

LABEL ITEMS

I. EPA I.D. NUMBER

FACILITY NAME

FACILITY MAILING ADDRESS

FACILITY LOCATION

PLEASE PLACE LABEL IN THIS SPACE

GENERAL INSTRUCTIONS

If a preprinted label has been provided, affix it in the designated space. Review the information carefully; if any of it is incorrect, cross through it and enter the correct data in the appropriate fill—in area below. Also, if any of the preprinted data is absent *(the area to the left of the label space lists the information that should appear)*, please provide it in the proper fill—in area(s) below. If the label is complete and correct, you need not complete Items I, III, V, and VI *(except VI-B which must be completed regardless)*. Complete all items if no label has been provided. Refer to the instructions for detailed item descriptions and for the legal authorizations under which this data is collected.

POLLUTANT CHARACTERISTICS

INSTRUCTIONS: Complete A through J to determine whether you need to submit any permit application forms to the EPA. If you answer "yes" to any questions, you must submit this form and the supplemental form listed in the parenthesis following the question. Mark "X" in the box in the third column if the supplemental form is attached. If you answer "no" to each question, you need not submit any of these forms. You may answer "no" if your activity is excluded from permit requirements; see Section C of the instructions. See also, Section D of the instructions for definitions of bold—faced terms.

SPECIFIC QUESTIONS	YES	NO	FORM ATTACHED	SPECIFIC QUESTIONS	YES	NO	FORM ATTACHED
A. Is this facility a publicly owned treatment works which results in a discharge to waters of the U.S.? (FORM 2A)		X		B. Does or will this facility *(either existing or proposed)* include a concentrated animal feeding operation or aquatic animal production facility which results in a discharge to waters of the U.S.? (FORM 2B)		X	
C. Is this a facility which currently results in discharges to waters of the U.S. other than those described in A or B above? (FORM 2C)		X		D. Is this a proposed facility *(other than those described in A or B above)* which will result in a discharge to waters of the U.S.? (FORM 2D)		X	
E. Does or will this facility treat, store, or dispose of hazardous wastes? (FORM 3)			X	F. Do you or will you inject at this facility industrial or municipal effluent below the lowermost stratum containing, within one quarter mile of the well bore, underground sources of drinking water? (FORM 4)		X	
G. Do you or will you inject at this facility any produced water or other fluids which are brought to the surface in connection with conventional oil or natural gas production, inject fluids used for enhanced recovery of oil or natural gas, or inject fluids for storage of liquid hydrocarbons? (FORM 4)		X		H. Do you or will you inject at this facility fluids for special processes such as mining of sulfur by the Frasch process, solution mining of minerals, in situ combustion of fossil fuel, or recovery of geothermal energy? (FORM 4)		X	
I. Is this facility a proposed stationary source which is one of the 28 industrial categories listed in the instructions and which will potentially emit 100 tons per year of any air pollutant regulated under the Clean Air Act and may affect or be located in an attainment area? (FORM 5)		X		J. Is this facility a proposed stationary source which is NOT one of the 28 industrial categories listed in the instructions and which will potentially emit 250 tons per year of any air pollutant regulated under the Clean Air Act and may affect or be located in an attainment area? (FORM 5)		X	

III. NAME OF FACILITY

1 SKIP LOS ANGELES COUNTY AGRICULTURAL COMMISSION

IV. FACILITY CONTACT

A. NAME & TITLE (last, first, & title)	B. PHONE (area code & no.)
2 BRABSON JOHN SUPV. AGR. INSP.	818 575 5465

V. FACILITY MAILING ADDRESS

A. STREET OR P.O. BOX

3 3400 LA MADERA AVENUE

B. CITY OR TOWN	C. STATE	D. ZIP CODE
4 EL MONTE	CA	91732

VI. FACILITY LOCATION

A. STREET, ROUTE NO. OR OTHER SPECIFIC IDENTIFIER

5 883 E. SLAUSON AVENUE

B. COUNTY NAME

LOS ANGELES

C. CITY OR TOWN	D. STATE	E. ZIP CODE	F. COUNTY CODE (if known)
6 PICO RIVERA	CA	90660	037

INUED FROM THE FRONT

SIC CODES (4-digit, in order of priority)

A. FIRST		B. SECOND	
6 4 1	(specify)	7	(specify)
C. THIRD		**D. FOURTH**	
	(specify)	7	(specify)

I. OPERATOR INFORMATION

A. NAME

L. A. CO. AGRICULTURAL COMMISSIONER

B. Is the name listed in Item VIII-A also the owner? [X] YES [ ] NO

C. STATUS OF OPERATOR (Enter the appropriate letter into the answer box; if "Other", specify.)

F = FEDERAL
S = STATE
P = PRIVATE
M = PUBLIC (other than federal or state)
O = OTHER (specify)

M (specify)

D. PHONE (area code & no.)

A 818 575 5465

E. STREET OR P.O. BOX

2400 LA MADERA AVENUE

F. CITY OR TOWN	G. STATE	H. ZIP CODE
EL MONTE	CA	91732

IX. INDIAN LAND

Is the facility located on Indian lands? [ ] YES [X] NO

EXISTING ENVIRONMENTAL PERMITS

A. NPDES (Discharges to Surface Water)	D. PSD (Air Emissions from Proposed Sources)	
N	9 P	
B. UIC (Underground Injection of Fluids)	**E. OTHER (specify)**	
U	9	(specify)
C. RCRA (Hazardous Wastes)	**E. OTHER (specify)**	
R	9	(specify)

MAP

Attach to this application a topographic map of the area extending to at least one mile beyond property bounderies. The map must show the outline of the facility, the location of each of its existing and proposed intake and discharge structures, each of its hazardous waste treatment, storage, or disposal facilities, and each well where it injects fluids underground. Include all springs, rivers and other surface water bodies in the map area. See instructions for precise requirements.

II. NATURE OF BUSINESS (provide a brief description)

ollect and store out-dated, unwanted known pesticides received/collected from homeowners, urseries, growers, governmental agencies, etc.

ollect and store rinse waters from herbicide equipment, container rinses, and rodenticide ixing utensils. This business function of our facility ceased 6 years ago. We are attempting ermanent closure on this rinse water collection tank.

III. CERTIFICATION (see instructions)

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this application and all attachments and that, based on my inquiry of those persons immediately responsible for obtaining the information contained in the application, I believe that the information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

NAME & OFFICIAL TITLE (type or print)	B. SIGNATURE	C. DATE SIGNED
. Leon Spaugy	E. Leon Spaugy PhD	4-11-89

OMMENTS FOR OFFICIAL USE ONLY

Form 3510-1 (6-80) REVERSE

[redacted]RM 3 RCRA

U.S. ENVIRONMENTAL PROTECTION AGENCY

HAZARDOUS WASTE PERMIT APPLICATION

Consolidated Permits Program

(This information is required under Section 3005 of RCRA.)

I. EPA I.D. NUMBER

S		T/A	C
F	CAD000626077	3	D

[redacted]R OFFICIAL USE ONLY

APPLICATION APPROVED	DATE RECEIVED (yr., mo., & day)	COMMENTS

[redacted] FIRST OR REVISED APPLICATION

Place an "X" in the appropriate box in A or B below *(mark one box only)* to indicate whether this is the first application you are submitting for your facility or a revised application. If this is your first application and you already know your facility's EPA I.D. Number, or if this is a revised application, enter your facility's EPA I.D. Number in Item I above.

A. FIRST APPLICATION *(place an "X" below and provide the appropriate date)*

[X] 1. EXISTING FACILITY *(See instructions for definition of "existing" facility. Complete item below.)*

YR.	MO.	DAY
76	01	02

FOR EXISTING FACILITIES, PROVIDE THE DATE (yr., mo., & day) OPERATION BEGAN OR THE DATE CONSTRUCTION COMMENCED *(use the boxes to the left)*

[ ] 2. NEW FACILITY *(Complete item below.)*

YR.	MO.	DAY

FOR NEW FACILITIES, PROVIDE THE DATE *(yr., mo., & day)* OPERATION BEGAN OR IS EXPECTED TO BEGIN

B. REVISED APPLICATION *(place an "X" below and complete Item I above)*

[X] 1. FACILITY HAS INTERIM STATUS

[X] 2. FACILITY HAS A RCRA PERMIT

III. PROCESSES – CODES AND DESIGN CAPACITIES

A. **PROCESS CODE** — Enter the code from the list of process codes below that best describes each process to be used at the facility. Ten lines are provided for entering codes. If more lines are needed, enter the code(s) in the space provided. If a process will be used that is not included in the list of codes below, then describe the process *(including its design capacity)* in the space provided on the form *(Item III-C)*.

B. **PROCESS DESIGN CAPACITY** — For each code entered in column A enter the capacity of the process.
1. AMOUNT — Enter the amount.
2. UNIT OF MEASURE — For each amount entered in column B(1), enter the code from the list of unit measure codes below that describes the unit of measure used. Only the units of measure that are listed below should be used.

PROCESS	PROCESS CODE	APPROPRIATE UNITS OF MEASURE FOR PROCESS DESIGN CAPACITY
Storage:		
CONTAINER *(barrel, drum, etc.)*	S01	GALLONS OR LITERS
TANK	S02	GALLONS OR LITERS
WASTE PILE	S03	CUBIC YARDS OR CUBIC METERS
SURFACE IMPOUNDMENT	S04	GALLONS OR LITERS
Disposal:		
INJECTION WELL	D79	GALLONS OR LITERS
LANDFILL	D80	ACRE-FEET *(the volume that would cover one acre to a depth of one foot)* OR HECTARE-METER
LAND APPLICATION	D81	ACRES OR HECTARES
OCEAN DISPOSAL	D82	GALLONS PER DAY OR LITERS PER DAY
SURFACE IMPOUNDMENT	D83	GALLONS OR LITERS
Treatment:		
TANK	T01	GALLONS PER DAY OR LITERS PER DAY
SURFACE IMPOUNDMENT	T02	GALLONS PER DAY OR LITERS PER DAY
INCINERATOR	T03	TONS PER HOUR OR METRIC TONS PER HOUR; GALLONS PER HOUR OR LITERS PER HOUR
OTHER *(Use for physical, chemical, thermal or biological treatment processes not occurring in tanks, surface impoundments or incinerators. Describe the processes in the space provided; Item III-C.)*	T04	GALLONS PER DAY OR LITERS PER DAY

UNIT OF MEASURE	UNIT OF MEASURE CODE	UNIT OF MEASURE	UNIT OF MEASURE CODE	UNIT OF MEASURE	UNIT OF MEASURE CODE
GALLONS	G	LITERS PER DAY	V	ACRE-FEET	A
LITERS	L	TONS PER HOUR	D	HECTARE-METER	F
CUBIC YARDS	Y	METRIC TONS PER HOUR	W	ACRES	B
CUBIC METERS	C	GALLONS PER HOUR	E	HECTARES	Q
GALLONS PER DAY	U	LITERS PER HOUR	H		

EXAMPLE FOR COMPLETING ITEM III *(shown in line numbers X-1 and X-2 below)*: A facility has two storage tanks, one tank can hold 200 gallons and the other can hold 400 gallons. The facility also has an incinerator that can burn up to 20 gallons per hour.

C	DUP	T/A	C
	DUP		1

LINE NUMBER	A. PROCESS CODE (from list above)	B.1. AMOUNT (specify)	B.2. UNIT OF MEASURE (enter code)	FOR OFFICIAL USE ONLY	LINE NUMBER	A. PROCESS CODE (from list above)	B.1. AMOUNT	B.2. UNIT OF MEASURE (enter code)	FOR OFFICIAL USE ONLY
X-1	S02	600	G		5				
X-2	T03	20	E		6				
1	S02	4000	G		7				
2	S01	8250	G		8				
3					9				
4					10				

[illegible]OCESSES *(continued)*

[illegible]E FOR ADDITIONAL PROCESS CODES OR FOR DESCRIBING OTHER PROCESSES *(code "T04")*. FOR EACH PROCESS ENTERED HERE [illegible]CLUDE DESIGN CAPACITY.

DESCRIPTION OF HAZARDOUS WASTES

[illegible]PA HAZARDOUS WASTE NUMBER — Enter the four-digit number from 40 CFR, Subpart D for each listed hazardous waste you will handle. If you [illegible]dle hazardous wastes which are not listed in 40 CFR, Subpart D, enter the four-digit number*(s)* from 40 CFR, Subpart C that describes the characteris- [illegible]and/or the toxic contaminants of those hazardous wastes.

[illegible]STIMATED ANNUAL QUANTITY — For each listed waste entered in column A estimate the quantity of that waste that will be handled on an annual [illegible]asis. For each characteristic or toxic contaminant entered in column A estimate the total annual quantity of all the non-listed waste*(s)* that will be handled [illegible]ch possess that characteristic or contaminant.

[illegible]IT OF MEASURE — For each quantity entered in column B enter the unit of measure code. Units of measure which must be used and the appropriate [illegible]odes are:

ENGLISH UNIT OF MEASURE	CODE	METRIC UNIT OF MEASURE	CODE
POUNDS	P	KILOGRAMS	K
TONS	T	METRIC TONS	M

[illegible]f facility records use any other unit of measure for quantity, the units of measure must be converted into one of the required units of measure taking into [illegible]count the appropriate density or specific gravity of the waste.

[illegible]OCESSES

[illegible]. PROCESS CODES:

For listed hazardous waste: For each listed hazardous waste entered in column A select the code*(s)* from the list of process codes contained in Item III to indicate how the waste will be stored, treated, and/or disposed of at the facility.

For non-listed hazardous wastes: For each characteristic or toxic contaminant entered in column A, select the code*(s)* from the list of process codes contained in Item III to indicate all the processes that will be used to store, treat, and/or dispose of all the non-listed hazardous wastes that possess that characteristic or toxic contaminant.

Note: Four spaces are provided for entering process codes. If more are needed: (1) Enter the first three as described above; (2) Enter "000" in the extreme right box of Item IV-D(1); and (3) Enter in the space provided on page 4, the line number and the additional code*(s)*.

[illegible] PROCESS DESCRIPTION: If a code is not listed for a process that will be used, describe the process in the space provided on the form.

[illegible]TE: HAZARDOUS WASTES DESCRIBED BY MORE THAN ONE EPA HAZARDOUS WASTE NUMBER — Hazardous wastes that can be described by [illegible] than one EPA Hazardous Waste Number shall be described on the form as follows:

[illegible] Select one of the EPA Hazardous Waste Numbers and enter it in column A. On the same line complete columns B,C, and D by estimating the total annual quantity of the waste and describing all the processes to be used to treat, store, and/or dispose of the waste.

[illegible]. In column A of the next line enter the other EPA Hazardous Waste Number that can be used to describe the waste. In column D(2) on that line enter "included with above" and make no other entries on that line.

[illegible]. Repeat step 2 for each other EPA Hazardous Waste Number that can be used to describe the hazardous waste.

[illegible]MPLE FOR COMPLETING ITEM IV *(shown in line numbers X-1, X-2, X-3, and X-4 below)* — A facility will treat and dispose of an estimated 900 pounds [illegible] year of chrome shavings from leather tanning and finishing operation. In addition, the facility will treat and dispose of three non-listed wastes. Two wastes [illegible]corrosive only and there will be an estimated 200 pounds per year of each waste. The other waste is corrosive and ignitable and there will be an estimated [illegible]pounds per year of that waste. Treatment will be in an incinerator and disposal will be in a landfill.

[illegible]	A. EPA HAZARD. WASTE NO *(enter code)*	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE *(enter code)*	D. PROCESSES 1. PROCESS CODES *(enter)*				D. PROCESSES 2. PROCESS DESCRIPTION *(If a code is not entered in D(1))*
[illegible]1	K 0 5 4	900	P	T 0 3	D 8 0			
[illegible]2	D 0 0 2	400	P	T 0 3	D 8 0			
[illegible]3	D 0 0 1	100	P	T 0 3	D 8 0			
[illegible]4	D 0 0 2							*included with above*

CONTINUE ON PAGE 3

[redacted]d from page 2.
: Photocopy this page before completing if you have more than 26 wastes to list.

Form Approved OMB No. 158-S80004

[redacted]A I.D. NUMBER (enter from page 1)	T/A	C	FOR OFFICIAL USE ONLY		T/A	C	
[redacted] D 0 0 6 2 6 0 7 7		1	W	DUP		2	DUP

DESCRIPTION OF HAZARDOUS WASTES (continued)

	A. EPA HAZARD. WASTE NO (enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES 1. PROCESS CODES (enter)				2. PROCESS DESCRIPTION (if a code is not entered in D(1))
[redacted]	P 0 0 1	0	P	S 0 2				Diluted rinse water
[redacted]	P 0 0 1*	720	P	S 0 1				Unwanted pesticides from home-owners, govt. agencies, etc.
[redacted]	P 0 0 3	720	P	S 0 1				" " "
[redacted]	P 0 0 4	720	P	S 0 1				" " "
	P 0 0 8	0	P	S 0 2				Diluted rinse water
[redacted]	P 0 0 5	0	P	S 0 2				" " "
7 [redacted]	P 0 3 7	720	P	S 0 1				unwanted pesticides from home-owners, govt. agencies, etc.
[redacted]	P 0 5 1	720	P	S 0 1				" " "
[redacted]	P 0 5 6	720	P	S 0 1				" " "
0	P 0 7 0	720	P	S 0 1				" " "
[redacted]	P 0 7 1	720	P	S 0 1				" " "
[redacted]	P 0 8 9	720	P	S 0 1				" " "
[redacted]	P 1 0 8*	720	P	S 0 2				" " "
[redacted]	P 1 0 8	0	P	S 0 2				Diluted rinse water
5	P 1 2 2	0	P	S 0 1				" " "
[redacted]	P 1 2 2*	720	P	S 0 1				unwanted pesticides from home-owners, govt. agencies, etc.
7		* Diphacinone 720	P					waste rodenticides from govt. agencies
8		* Pival 720	P					" " "
9								Presently, efforts are being conducted for storage tank closure. Dioxin
0								Contaminated rinse water seepage occupies the tank. This tank has not been used
1								for the past 6 years. Please see attachment.
2								The above listed wastes are not discarded on the property. The wastes are
3								routinely delivered to a Class 1 Dump facility. Dioxin contaminated
4								materials are not presently being accepted and we are waiting for E.P.A. to
5								advise or approve incineration. All R.C.R.A. & State regulations & guidelines
)								are followed within disposal methods.

...ued from the front.

ESCRIPTION OF HAZARDOUS WASTES *(continued)*

. USE THIS SPACE TO LIST ADDITIONAL PROCESS CODES FROM ITEM D(1) ON PAGE 3.

one of the rodenticides (Pival, Warfarin, Diphacinone, Strychnine and Zinc Phosphide) are formulated at or above a 3% treated grain bait.

EPA I.D. NO. *(enter from page 1)*												T/A	C
C	A	D	0	0	6	2	6	0	7	7			6

FACILITY DRAWING

existing facilities must include in the space provided on page 5 a scale drawing of the facility *(see instructions for more detail).*

I. PHOTOGRAPHS

ll existing facilities must include photographs *(aerial or ground—level)* that clearly delineate all existing structures; existing storage, atment and disposal areas; and sites of future storage, treatment or disposal areas *(see instructions for more detail).*

I. FACILITY GEOGRAPHIC LOCATION

LATITUDE *(degrees, minutes, & seconds)*	LONGITUDE *(degrees, minutes, & seconds)*
A	N/A

III. FACILITY OWNER

☐ A. If the facility owner is also the facility operator as listed in Section VIII on Form 1, "General Information", place an "X" in the box to the left and skip to Section IX below.

B. If the facility owner is not the facility operator as listed in Section VIII on Form 1, complete the following items:

1. NAME OF FACILITY'S LEGAL OWNER	2. PHONE NO. *(area code & no.*

3. STREET OR P.O. BOX	4. CITY OR TOWN	5. ST.	6. ZIP CODE
	G		

K. OWNER CERTIFICATION

certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached locuments, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the ubmitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, cluding the possibility of fine and imprisonment.

. NAME *(print or type)*	B. SIGNATURE	C. DATE SIGNED
E. Leon Spaugy	E. Leon Spaugy PhD	4-17-89

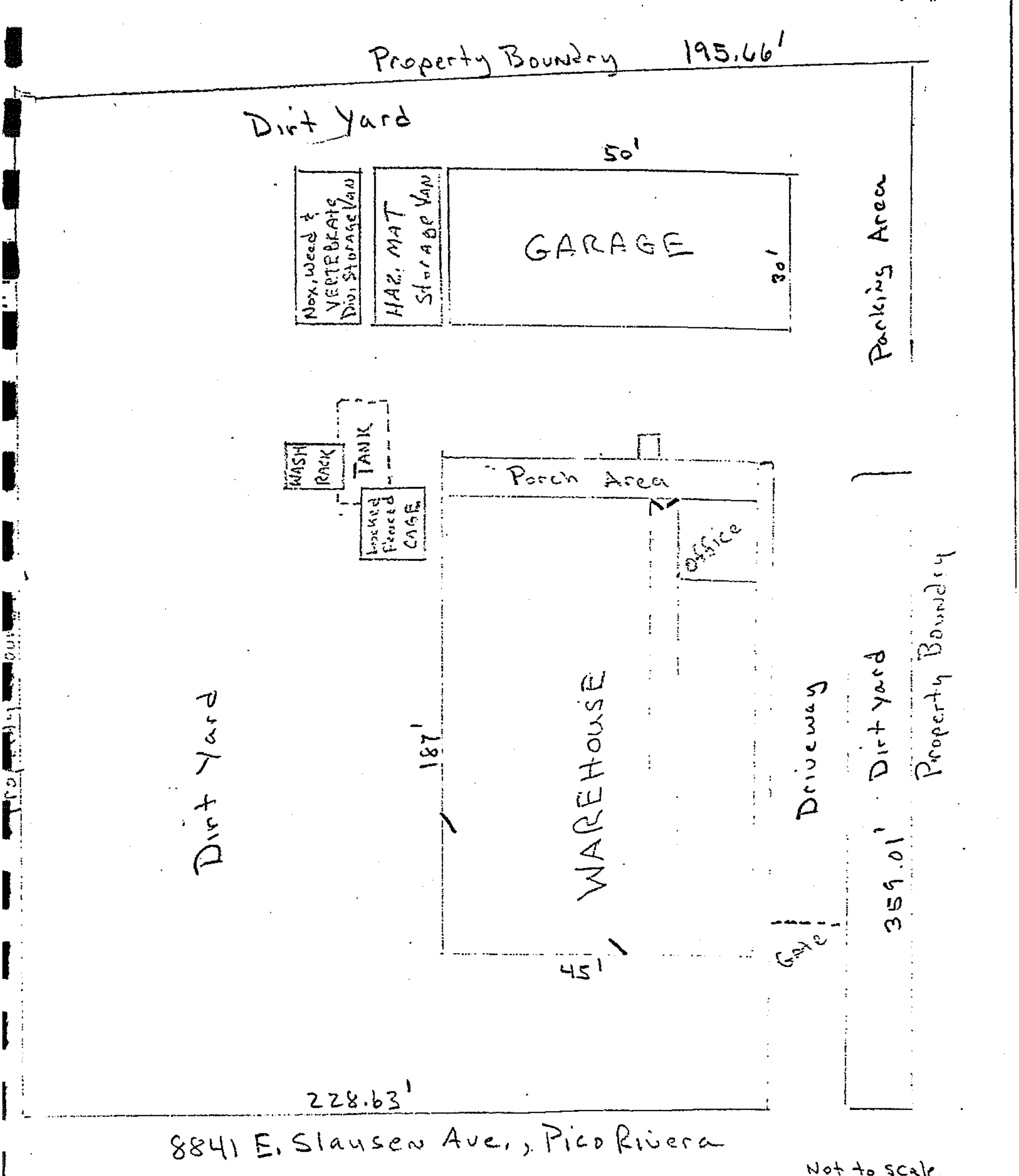
K. OPERATOR CERTIFICATION

certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached locuments, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the ubmitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, ncluding the possibility of fine and imprisonment.

. NAME *(print or type)*	B. SIGNATURE	C. DATE SIGNED

 CONTINUE ON PAG.

FACILITY DRAWING (see page 4)



Please print or type with ELITE type (12 characters per inch) in the unshaded areas only

Form Approved OMB No 2050-0034 Expires

For EPA Regional Use Only

EPA
United States Environmental Protection Agency
Washington, DC 20460

Hazardous Waste Permit Application Part A

(Read the Instructions before starting)

For State Use Only

Date Received
Month Day Year

I. ID Number(s)

A. EPA ID Number: CAD000626077

B. Secondary ID Number (if applicable):

II. Name of Facility

L.A. COUNTY AGRIC. COMMSR.

III. Facility Location (Physical address not P.O. Box or Route Number)

A. Street: 8841 E. SLAUSON AVE

Street (continued):

City or Town: PICO RIVERA — State: CA — ZIP Code: 90660-

County Code (if known): 037 — County Name: LOS ANGELES

B. Land Type (enter code): C

C. Geographic Location — LATITUDE (degrees, minutes, & seconds): — LONGITUDE (degrees, minutes, & seconds):

D. Facility Existence Date — Month: Day: Year: 1976

IV. Facility Mailing Address

Street or P.O. Box: 3400 LA MADERA AVE.

City or Town: EL MONTE — State: CA — ZIP Code: 91732-

V. Facility Contact (Person to be contacted regarding waste activities at facility)

Name (last): WIGHTMAN — (first): RICHARD

Job Title: DEPUTY AG. COMM — Phone Number (area code and number): 818-459-8892

VI. Facility Contact Address (See instructions)

A. Contact Address — Location: — Mailing: X

B. Street or P.O. Box:

City or Town: — State: — ZIP Code: -

Please print or type with ELITE type (12 characters per inch) in the unshaded areas only

Form Approved. OMB No. 2050-0034 Expires 12-31-87. GSA No. 0246-EPA-OT

EPA I.D. Number *(enter from page 1)*: C A D 0 0 0 6 2 6 0 7 7

Secondary ID Number *(enter from page 1)*:

VII. Operator Information *(see instructions)*

Name of Operator: L A C O U N T Y A G R I C . C O M M I S S I O N E R

Street or P.O. Box: 3 4 0 0 L A M A D E R A A V E .

City or Town	State	ZIP Code
E L M O N T E	C A	9 1 7 3 2 -

Phone Number *(area code and number)*	B. Operator Type	C. Change of Operator Indicator	Date Changed (Month / Day / Year)
8 1 8 - 4 5 9 - 8 8 9 2	C	Yes [ ] No [X]	

VIII. Facility Owner *(see instructions)*

A. Name of Facility's Legal Owner: L O S A N G E L E S C O U N T Y A G . C O M M S R .

Street or P.O. Box: 3 4 0 0 L A M A D E R A A V E .

City or Town	State	ZIP Code
E L M O N T E	C A	9 1 7 3 2 -

Phone Number *(area code and number)*	B. Owner Type	C. Change of Owner Indicator	Date Changed (Month / Day / Year)
8 1 8 - 4 5 9 - 8 8 9 2	C	Yes [ ] No [X]	

IX. SIC Codes *(4-digit, in order of significance)*

Primary	Secondary
(description)	*(description)*

Secondary	Secondary
(description)	*(description)*

X. Other Environmental Permits *(see instructions)*

A. Permit Type *(enter code)*	B. Permit Number	C. Description
R		(in process)

EPA I.D. Number (enter from page 1): C A D 0 0 0 6 2 6 0 7 7

Secondary ID Number (enter from page 1):

XI. Nature of Business (provide a brief description)

Collect and store pesticide waste in a 4,000 gallon underground tank. No waste has been added to the tank since 1983. We are now planning to remove this tank's contents, approximately 1,500 gallons, place in 55-gallon poly drums, and store in an above-ground area at the same location. This will provide security and visual monitoring until disposal is approved through our closure plan. Above ground storage will also prevent any soil contamination and other environmental concerns that would compound the closure process.

XII. Process - Codes and Design Capacities

A. PROCESS CODE - *Enter the code from the list of process codes below that best describes each process to be used at the facility. Twelve lines are provided for entering codes. If more lines are needed, attach a separate sheet of paper with the additional information. If a process will be used that is not included in the list of codes below, then describe the process (including its design capacity) in the space provided in Item XIII.*

B. PROCESS DESIGN CAPACITY - *For each code entered in column A, enter the capacity of the process.*

1. AMOUNT - *Enter the amount. In a case where design capacity is not applicable (such as in a closure/post-closure or enforcement action) enter the total amount of waste for that process unit.*
2. UNIT OF MEASURE - *For each amount entered in column B(1), enter the code from the list of unit measure codes below that describes the unit of measure used. Only the units of measure that are listed below should be used.*

C. PROCESS TOTAL NUMBER OF UNITS - *Enter the total number of units used with the corresponding process code.*

PROCESS CODE	PROCESS	APPROPRIATE UNITS OF MEASURE FOR PROCESS DESIGN CAPACITY
	DISPOSAL:	
D79	INJECTION WELL	GALLONS; LITERS; GALLONS PER DAY; OR LITERS PER DAY
D80	LANDFILL	ACRE-FEET OR HECTARE-METER
D81	LAND APPLICATION	ACRES OR HECTARES
D82	OCEAN DISPOSAL	GALLONS PER DAY OR LITERS PER DAY
D83	SURFACE IMPOUNDMENT	GALLONS OR LITERS
	STORAGE:	
S01	CONTAINER (barrel, drum, etc.)	GALLONS OR LITERS
S02	TANK	GALLONS OR LITERS
S03	WASTE PILE	CUBIC YARDS OR CUBIC METERS
S04	SURFACE IMPOUNDMENT	GALLONS OR LITERS
	TREATMENT:	
T01	TANK	GALLONS PER DAY OR LITERS PER DAY
T02	SURFACE IMPOUNDMENT	GALLONS PER DAY OR LITERS PER DAY
T03	INCINERATOR	SHORT TONS PER HOUR; METRIC TONS PER HOUR; GALLONS PER HOUR; LITERS PER HOUR; OR BTU'S PER HOUR
T04	OTHER TREATMENT (Use for physical, chemical, thermal or biological treatment processes not occurring in tanks, surface impoundments or incinerators. Describe the processes in the space provided in Item XIII.)	GALLONS PER DAY; LITERS PER DAY; POUNDS PER HOUR; SHORT TONS PER HOUR; KILOGRAMS PER HOUR; METRIC TONS PER DAY; METRIC TONS PER HOUR; OR SHORT TONS PER DAY

UNIT OF MEASURE	UNIT OF MEASURE CODE
GALLONS	G
GALLONS PER HOUR	E
GALLONS PER DAY	U
LITERS	L
LITERS PER HOUR	H
LITERS PER DAY	V
SHORT TONS PER HOUR	D
METRIC TONS PER HOUR	W
SHORT TONS PER DAY	N
METRIC TONS PER DAY	S
POUNDS PER HOUR	J
KILOGRAMS PER HOUR	R
CUBIC YARDS	Y
CUBIC METERS	C
ACRES	B
ACRE-FEET	A
HECTARES	Q
HECTARE-METER	F
BTU's PER HOUR	K

Please print or type with ELITE type (12 characters per inch) in the unshaded areas only

Form Approved OMB No 2050-0034 Expires 12-31-91 GSA No 0246-EPA-OT

EPA I.D. Number (enter from page 1)	Secondary ID Number (enter from page 1)
C A D 0 0 0 6 2 6 0 7 7	

XII. Process - Codes and Design Capacities (continued)

EXAMPLE FOR COMPLETING ITEM XII (shown in line numbers X-1 and X-2 below): A facility has two storage tanks, one tank can hold 200 gallons and the other can hold 400 gallons. The facility also has an incinerator that can burn up to 20 gallons per hour.

Line Number		A. PROCESS CODE (from list above)			B. PROCESS DESIGN CAPACITY 1. AMOUNT (specify)	2. UNIT OF MEASURE (enter code)	C. PROCESS TOTAL NUMBER OF UNITS			FOR OFFICIAL USE ONLY
X	1	S	0	2	600	G	0	0	2	
X	2	T	0	3	20	E	0	0	1	
	1									
	2									
	3									
	4									
	5									
	6	S	0	1	8,250	G				
	7	S	0	2	4,000	G				
	8									
	9	S	0	2	3,000 (new above-ground area)	G				
1	0									
1	1									
1	2									

NOTE: If you need to list more than 12 process codes, attach an additional sheet(s) with the information in the same format as above. Number the lines sequentially, taking into account any lines that will be used for additional treatment processes in item XIII.

XIII. Additional Treatment Processes (follow instructions from item XII)

Line Number (enter numbers in sequence with item XII)		A. PROCESS CODE			B. TREATMENT PROCESS DESIGN CAPACITY 1. AMOUNT (specify)	2. UNIT OF MEASURE (enter code)	C. PROCESS TOTAL NUMBER OF UNITS	D. DESCRIPTION OF PROCESS
		T	0	4				
		T	0	4				
		T	0	4				
		T	0	4				

Please print or type with ELITE type (12 characters per inch) in the unshaded areas only

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EPA I.D. Number (enter from page 1) | Secondary ID Number (enter from page 1)

XIV. Description of Hazardous Waste (continued)

E. USE THIS SPACE TO LIST ADDITIONAL PROCESS CODES FROM ITEM D(1) ON PAGE 6.

Line Number	Additional Process Codes (enter)

XV. Map

Attach to this application a topographic map of the area extending to at least one mile beyond property boundaries. The map must show the outline of the facility, the location of each of its existing and proposed intake and discharge structures, each of its hazardous waste treatment, storage, or disposal facilities, and each well where it injects fluids underground. Include all springs, rivers and other surface water bodies in this map area. See instructions for precise requirements.

XVI. Facility Drawing

All existing facilities must include a scale drawing of the facility (see instructions for more detail).

XVII. Photographs

All existing facilities must include photographs (aerial or ground-level) that clearly delineate all existing structures; existing storage, treatment and disposal areas; and sites of future storage, treatment or disposal areas (see instructions for more detail).

XVIII. Certification(s)

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to be the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Owner Signature: William A. Edwards | Date Signed: 7/24/91

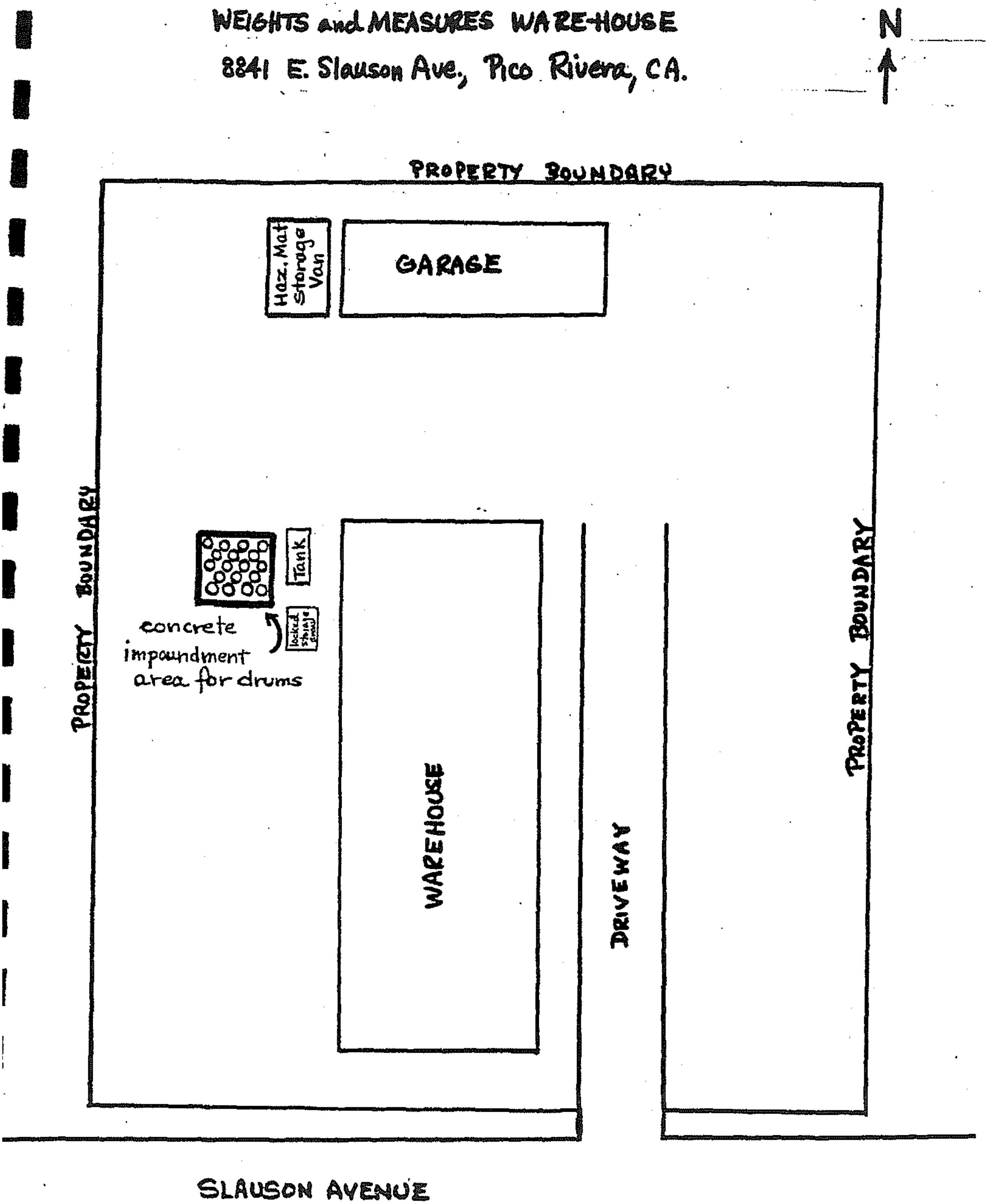
Name and Official Title (type or print): William A. Edwards, Chief Deputy

Operator Signature: Richard C. Wightman | Date Signed: 7/24/91

Name and Official Title (type or print): Richard C. Wightman, Deputy Agricultural Commissioner

XIX. Comments

LOS ANGELES COUNTY AGRICULTURAL COMMISSIONER/
WEIGHTS and MEASURES WARE-HOUSE
8841 E. Slauson Ave., Pico Rivera, CA.



APPENDIX C

DESIGN PLAN FOR 4,000-GALLON UST

MAP

Available Upon Request

APPENDIX D

POST-CLOSURE CONTINGENCY PLAN

POST-CLOSURE CONTINGENCY PLAN
LOS ANGELES COUNTY DEPARTMENT OF AGRICULTURAL COMMISSIONER
PICO RIVERA FACILITY, 8841 EAST SLAUSON AVENUE
PICO RIVERA, CALIFORNIA

INTRODUCTION

Since the permitted RCRA unit that includes the former 4,000 gallon underground storage tank (UST) did not have secondary containment, California Code of Regulations (CCR) Section 66264.197 (c) requires that the closure plan include contingent plans for post-closure care should it not be possible or practicable to remove or decontaminate all contaminated soil relating to the tank system. If contaminated soil is not removed or decontaminated, the site owner/operator will perform post-closure care in accordance with the closure and post-closure care requirements that apply to landfills in CCR Section 66264.310.

FINAL CLOSURE

At final closure, if it is not be possible or practicable to remove or decontaminate all contaminated soil relating to the tank system, the owner/operator will assure that the UST cover will be designed and constructed in accordance with CCR Section 66264.228 (e) through (r) unless it is demonstrated that some of these provisions are not necessary to protect public health, water quality, or other environmental quality. The owner/operator of the site located at 8841 East Slauson Avenue, Pico Rivera, intends to demonstrate that downward migration of contaminants will not occur over the regulatory timeframe as specified in CCR Section 66264.228 (e) (5).

POST-CLOSURE CARE

After final closure, the owner/operator will assure that the cover integrity and effectiveness is maintained, a groundwater monitoring system is maintained and monitored if one is required, and run-on and run-off is prevented from eroding or damaging the cover. In addition, the owner/operator will comply with the any other applicable requirements contained in CCR Sections 66264.117 through 66264.120.

APPENDIX E

BACKGROUND METALS CONCENTRATION

APPENDIX E

BACKGROUND SOIL SAMPLING

A total of 24 background soil samples were collected from the six borings in the northwestern portion of the site during July 2004. Detectable concentrations of arsenic, barium, cadmium, chromium, cobalt, copper, lead, nickel, vanadium, and zinc were noted in some of the samples. The data is summarized in Table 4.9 of the Closure Plan, including calculated mean, standard deviation, and upper confidence limit (UCL).

For most of the metal species there was no obvious depth stratification of metals concentrations. For some metals, notably lead and zinc, concentrations tended to be higher in the 1- and 2.5-foot depth samples collected in some of the locations. This may be due to atmospheric fallout of metals historically associated with automotive emissions.

Dixon's test was employed to screen for outliers. Based on this test two outliers were identified: (1) sample BH19-1 for arsenic, and (2) sample BH-17-2.5 for lead. The metals concentration values for these samples were not used to determine background.

UCLs were calculated for each metal species that had detectable concentrations. The entire data set was used to determine these UCLs, with the exception of the two outlier values, as discussed above. Prior to developing UCLs basic statistics (mean, standard deviation, etc.) were calculated and concentration frequency plots were examined to help determine what type of distribution was represented by the sets of data for each metal species. The ProUCL software package (U.S.EPA, 2004) was used to help determine the appropriate UCL given each frequency distribution and was also employed to perform the UCL calculations (attached). The one-sided UCLs (mean plus confidence interval) determined to be most appropriate for each metal species are listed at the bottom of Table 4.9. These values will be used as one of the inputs in the revised health risk assessment for the site when it is completed in the near future.

General Statistics

Data File	C:\ProUCL\Data\LACDAC As Background Sets.xls	Variable:	As-2004 less 1 outlier
Raw Statistics		Normal Distribution Test	
Number of Valid Samples	23	Shapiro-Wilk Test Statisitic	0.762004
Number of Unique Samples	21	Shapiro-Wilk 5% Critical Value	0.914
Minimum	2.65	Data not normal at 5% significance level	
Maximum	11.5		
Mean	4.729565	95% UCL (Assuming Normal Distribution)	
Median	3.75	Student's-t UCL	5.557764
Standard Deviation	2.313086		
Variance	5.350368	Gamma Distribution Test	
Coefficient of Variation	0.48907	A-D Test Statistic	1.265619
Skewness	1.865478	A-D 5% Critical Value	0.746052
		K-S Test Statistic	0.199572
Gamma Statistics		K-S 5% Critical Value	0.181978
k hat	5.962637	Data do not follow gamma distribution	
k star (bias corrected)	5.213887	at 5% significance level	
Theta hat	0.7932		
Theta star	0.907109	95% UCLs (Assuming Gamma Distribution)	
nu hat	274.2813	Approximate Gamma UCL	5.533893
nu star	239.8388	Adjusted Gamma UCL	5.597596
Approx.Chi Square Value (.05)	204.9792		
Adjusted Level of Significance	0.0389	Lognormal Distribution Test	
Adjusted Chi Square Value	202.6465	Shapiro-Wilk Test Statisitic	0.887011
		Shapiro-Wilk 5% Critical Value	0.914
Log-transformed Statistics		Data not lognormal at 5% significance level	
Minimum of log data	0.97456		
Maximum of log data	2.442347	95% UCLs (Assuming Lognormal Distribution)	
Mean of log data	1.46764	95% H-UCL	5.516184
Standard Deviation of log data	0.398181	95% Chebyshev (MVUE) UCL	6.416765
Variance of log data	0.158548	97.5% Chebyshev (MVUE) UCL	7.168402
		99% Chebyshev (MVUE) UCL	8.644849
		95% Non-parametric UCLs	
		CLT UCL	5.522898
		Adj-CLT UCL (Adjusted for skewness)	5.723361
		Mod-t UCL (Adjusted for skewness)	5.589032
		Jackknife UCL	5.557764
		Standard Bootstrap UCL	5.511885
		Bootstrap-t UCL	6.022717
RECOMMENDATION		Hall's Bootstrap UCL	6.145689
Data are Non-parametric (0.05)		Percentile Bootstrap UCL	5.597826
		BCA Bootstrap UCL	5.399565
Use Student's-t UCL		95% Chebyshev (Mean, Sd) UCL	6.831914
or Modified-t UCL		97.5% Chebyshev (Mean, Sd) UCL	7.741602
		99% Chebyshev (Mean, Sd) UCL	9.528507

General Statistics

Data File	C:\ProUCL\Data\LACDAC Background Metals.xls	Variable:	Ba

Raw Statistics		Normal Distribution Test	
Number of Valid Samples	24	Shapiro-Wilk Test Statisitic	0.900136
Number of Unique Samples	24	Shapiro-Wilk 5% Critical Value	0.916
Minimum	21.1	Data not normal at 5% significance level	
Maximum	87.8		
Mean	47.075	95% UCL (Assuming Normal Distribution)	
Median	38.75	Student's-t UCL	54.07465
Standard Deviation	20.008		
Variance	400.3202	Gamma Distribution Test	
Coefficient of Variation	0.425024	A-D Test Statistic	0.754867
Skewness	0.561082	A-D 5% Critical Value	0.74582
		K-S Test Statistic	0.167595
Gamma Statistics		K-S 5% Critical Value	0.178203
k hat	5.951417	Data follow approximate gamma distibution	
k star (bias corrected)	5.235267	at 5% significance level	
Theta hat	7.909882		
Theta star	8.9919	95% UCLs (Assuming Gamma Distribution)	
nu hat	285.668	Approximate Gamma UCL	54.87288
nu star	251.2928	Adjusted Gamma UCL	55.47054
Approx.Chi Square Value (.05)	215.5821		
Adjusted Level of Significance	0.0392	Lognormal Distribution Test	
Adjusted Chi Square Value	213.2593	Shapiro-Wilk Test Statisitic	0.937851
		Shapiro-Wilk 5% Critical Value	0.916
Log-transformed Statistics		Data are lognormal at 5% significance level	
Minimum of log data	3.049273		
Maximum of log data	4.475062	95% UCLs (Assuming Lognormal Distribution)	
Mean of log data	3.765382	95% H-UCL	56.00461
Standard Deviation of log data	0.425599	95% Chebyshev (MVUE) UCL	65.44003
Variance of log data	0.181134	97.5% Chebyshev (MVUE) UCL	73.38385
		99% Chebyshev (MVUE) UCL	88.98793
		95% Non-parametric UCLs	
		CLT UCL	53.79277
		Adj-CLT UCL (Adjusted for skewness)	54.29258
		Mod-t UCL (Adjusted for skewness)	54.15261
		Jackknife UCL	54.07465
		Standard Bootstrap UCL	53.7356
		Bootstrap-t UCL	54.67509
RECOMMENDATION		Hall's Bootstrap UCL	53.89877
Assuming gamma distribution (0.05)		Percentile Bootstrap UCL	53.775
		BCA Bootstrap UCL	56.82917
Use Approximate Gamma UCL		95% Chebyshev (Mean, Sd) UCL	64.87725
		97.5% Chebyshev (Mean, Sd) UCL	72.5803
		99% Chebyshev (Mean, Sd) UCL	87.71145

General Statistics

Data File	C:\ProUCL\Data\LACDAC Background Metals.xls	Variable:	Cd
Raw Statistics		Normal Distribution Test	
Number of Valid Samples	24	Shapiro-Wilk Test Statisitic	0.502799
Number of Unique Samples	6	Shapiro-Wilk 5% Critical Value	0.916
Minimum	0.05	Data not normal at 5% significance level	
Maximum	0.47		
Mean	0.096833	95% UCL (Assuming Normal Distribution)	
Median	0.05	Student's-t UCL	0.135376
Standard Deviation	0.110173		
Variance	0.012138	Gamma Distribution Test	
Coefficient of Variation	1.137758	A-D Test Statistic	5.686746
Skewness	2.515782	A-D 5% Critical Value	0.759508
		K-S Test Statistic	0.480921
Gamma Statistics		K-S 5% Critical Value	0.180873
k hat	1.656779	Data do not follow gamma distribution	
k star (bias corrected)	1.477459	at 5% significance level	
Theta hat	0.058447		
Theta star	0.06554	95% UCLs (Assuming Gamma Distribution)	
nu hat	79.52539	Approximate Gamma UCL	0.130739
nu star	70.91805	Adjusted Gamma UCL	0.13357
Approx.Chi Square Value (.05)	52.52626		
Adjusted Level of Significance	0.0392	Lognormal Distribution Test	
Adjusted Chi Square Value	51.41302	Shapiro-Wilk Test Statisitic	0.533909
		Shapiro-Wilk 5% Critical Value	0.916
Log-transformed Statistics		Data not lognormal at 5% significance level	
Minimum of log data	-2.99573		
Maximum of log data	-0.75502	95% UCLs (Assuming Lognormal Distribution)	
Mean of log data	-2.66595	95% H-UCL	0.121719
Standard Deviation of log data	0.699245	95% Chebyshev (MVUE) UCL	0.146303
Variance of log data	0.488943	97.5% Chebyshev (MVUE) UCL	0.17166
		99% Chebyshev (MVUE) UCL	0.221469
		95% Non-parametric UCLs	
		CLT UCL	0.133824
		Adj-CLT UCL (Adjusted for skewness)	0.146164
		Mod-t UCL (Adjusted for skewness)	0.137301
		Jackknife UCL	0.135376
		Standard Bootstrap UCL	0.132567
		Bootstrap-t UCL	0.17207
RECOMMENDATION		Hall's Bootstrap UCL	0.145581
Data are Non-parametric (0.05)		Percentile Bootstrap UCL	0.136
		BCA Bootstrap UCL	0.160167
Use 95% Chebyshev (Mean, Sd) UCL		95% Chebyshev (Mean, Sd) UCL	0.19486
		97.5% Chebyshev (Mean, Sd) UCL	0.237277
		99% Chebyshev (Mean, Sd) UCL	0.320595

Child Residential Receptor (Hazard Index)

The total HI for the Child Residential Receptor is **0.4** (Table 8).

Adult and Child Residential Receptor (Cancer Risk)

The total cancer risk for the adult and child Residential Receptor is $\mathbf{1.57 \times 10^{-5}}$ (Table 9).

the adult worker and 95 percent among fetus of adult workers. The blood lead level of concern is 10 μg/dl.

The Leadspread modeling for the residential receptors indicate that, based on a lead EPC of 76.2 mg/kg in soil, blood lead levels are below the level of concern. The ALM modeling for the construction worker, also based on a lead EPC of 76.2 mg/kg in soil, blood levels are below the level of concern. Therefore, health risks due to lead are not of concern at the site and are not considered significant.

The Leadspread and ALM modeling results are presented in Appendix G.

5.4 Cancer Risks

Cancer risks are calculated by multiplying the total CDI for all exposure pathways for each route of exposure by the route-specific Cancer Slope Factor (CSF) as follows:

$$Cancer\ Risk = CSF \times CDI$$

CSFs used to calculate cancer risks were obtained preferentially from State of California sources. If a CSF for a particular chemical was not available from a State of California source, then it was obtained from the following sources, in order of preference:

- The USEPA Integrated Risk Information System (IRIS) (accessed via the USEPA website)
- USEPA Region IX Preliminary Remediation Goal document (USEPA, 2004)
- The USEPA Health Effects Assessment Summary Tables (HEAST) (USEPA, 1997)

Toxicity factors used in the HRA are presented in Tables 3 and 4

5.5 Final Health Risk Estimates

Non-carcinogenic health risk (hazard index) and cancer risk values for each receptor population are provided below and in Tables 5 through 10

Construction Worker (Hazard Index and Cancer Risk)

The total HI for the Construction Worker is **0.1** (Table 5). The total cancer risk for the Construction Worker is $\mathbf{1.52 \times 10^{-6}}$ (Table 6).

Adult Residential Receptor (Hazard Index)

The total HI for the Adult Residential Receptor is **0.1** (Table 7).

- The USEPA Health Effects Assessment Summary Tables (HEAST) (USEPA, 1997)

5.2 Cumulative Non-Cancer Risks

It is possible for the total HQ (for all pathways) for each contaminant to be less than 1, but still present a potential for adverse non-cancer effects. This can happen from the cumulative effects of contaminants that have a similar toxic mechanism and/or target organ. Although each contaminant exposure level may be acceptable when considered separately, the total cumulative effect of similarly acting toxicants can create a potential for an adverse effect. To ensure that the cumulative non-cancer risk from multiple similarly acting contaminants is adequately considered, the total HQs across all contaminants are summed to obtain a Hazard Index (HI) as follows:

$$HI = HQ_1 + HQ_2 + HQ_3 \ldots + HQ_n$$

This is a conservative first step in the analysis of cumulative effect potential because it disregards the specific mechanism of toxicity or target organ. In other words, it assumes that all contaminants act by a similar mechanism of action or have a similar toxic effect when in fact they may not. If the resulting cumulative HI using this conservative approach is greater than 1, a more refined analysis can be conducted. In the refined analysis, referred to by USEPA as a "segregation of hazard indices" (USEPA, 1989), the COPCs are divided into subgroups based on similarity of effect. A cumulative HI is then calculated for each subgroup. If an HI of greater than 1 is still obtained for one of the subgroups, then the subgroup may be further classified based on mechanism of toxicity, and the subgroup HI values recalculated. HI values for each receptor population are shown in Tables 5, 7, and 9 for the construction worker, adult resident, and child resident, respectively.

5.3 Lead Risks

Health risks associated with lead exposure are not evaluated using the RfD approach described above. Instead, lead health risks are evaluated based on the expected blood lead concentration that will result from exposure. The DTSC and USEPA have developed special models to predict blood lead concentrations and assess health risks associated with blood lead. The DTSC's model is called "Leadspread". Health risks to the adult and child residential receptors due to lead exposure were assessed using the latest version of this model (Leadspread 7). Consistent with DTSC risk guidance, the 99th percentile blood lead concentration was considered to be the cut-off for acceptable risks. That is, acceptable lead levels in soil for any given exposure scenario are defined as those which produce a blood lead no greater than 10 μg/deciliter (dl) in 99 percent of the exposed population (adult and child). The blood lead level of concern is 10 μg/dl for a child and 4.7 μg/dl for adults in a residential setting. The soil lead levels of concern are 150 mg/kg for residential settings and 3,500 mg/kg for commercial settings.

The USEPA's Adult Lead Methodology (ALM) model was used to assess health risks to the adult construction worker due to lead exposure. The ALM also includes assessment of lead exposure to a pregnant worker, as the fetus is the most sensitive receptor. The ALM is currently recommended by USEPA and DTSC for addressing commercial scenario adult lead exposures. As in the Leadspread model, in the ALM model, acceptable lead levels in soil for any given exposure scenario are defined as those which produce a blood lead no greater than 10 μg/deciliter (dl) in the geometric mean for

5.0 RISK CHARACTERIZATION

The health risks of a chemical are quantified in terms of non-cancer risks, and carcinogenic risks if the chemical is considered a carcinogen. Non-cancer health risks refer to all other adverse health effects besides cancer. Carcinogenic chemicals may present non-cancer health risks in addition to cancer risks; therefore the potential for both types of effects must be evaluated for carcinogens.

5.1 Non-Cancer Risks

The risk of non-cancer health effects is evaluated by comparing the CDI for each exposure route (oral, dermal, inhalation) to the corresponding USEPA Reference Dose (RfD). The RfD is defined by USEPA as "an estimate of a daily exposure to the human population (including sensitive subgroups) that is likely to be without an appreciable risk of deleterious effects during a lifetime" (USEPA, 1989). The risk of non-cancer health effects is expressed quantitatively as the ratio of the CDI to the RfD. This ratio is termed the Hazard Quotient (HQ). For example, in the case of an oral or ingestion exposure (such as soil ingestion):

$$HQ = \frac{CDI_{oral}}{RfD_{oral}}$$

An HQ value greater than 1 indicates that the chemical exposure for that route of exposure exceeds the level considered safe for long-term exposure by USEPA.

In most cases, exposure from additional routes of exposure must be considered (dermal and inhalation), and the above equation is modified as follows:

$$HQ = \frac{CDI_{oral}}{RfD_{oral}} + \frac{CDI_{inh}}{RfD_{inh}} + \frac{CDI_{dermal}}{RfD_{dermal}}$$

A HQ value greater than 1 indicates that the daily intake of chemical via all routes of exposure exceeds USEPA safe levels for long-term exposure as defined by the RfD. Since USEPA has not developed RfDs for the dermal exposure route, the oral route RFD is used to evaluate exposure via the dermal pathways.

RfDs used to calculate non-cancer risks were obtained from the USEPA Integrated Risk Information System (IRIS) via the USEPA website. However, when an inhalation Chronic Reference Exposure Level (REL) (the California equivalent of an inhalation RfD) was available, the REL was used in lieu of the USEPA inhalation RfD. This usually requires a unit conversion from $\mu g/m^3$ for the inhalation REL to mg/kg/day for an inhalation RfD. If an RfD was not available from IRIS, it was obtained from the following sources, in order of preference:

- OEHHA Chronic Reference Exposure Levels (OEHHA, 2005)
- USEPA Region IX Preliminary Remediation Goal Document (USEPA, 2004)

$$CDI = \frac{CS / VF \times InhR \times EF \times ED}{BW \times AT}$$

Where:

CDI	=	Chronic Daily Intake (mg/kg/day)
CS	=	Chemical concentration in soil (mg/kg)
VF	=	Volatilization factor (m^3/kg)
InhR	=	Inhalation rate (m^3/day)
EF	=	Exposure frequency (days/year)
ED	=	Exposure duration (years)
BW	=	Body weight (kg)
AT	=	Averaging time (days)

4.5.5 Inhalation of Indoor Air (Vapor Intrusion Pathway)

When buildings are constructed over soil containing volatile chemicals, there is some risk of vapor intrusion into the overlying structure. Vapors may enter the building through cracks in the foundation slab. When this occurs, individuals within the building may breathe the vapors. The DTSC version of the Johnson and Ettinger vapor intrusion model (Soil Screening Model modified April 18, 2003 [J&E Model]) was used to estimate risks due to air contaminants within the proposed facility. These results are included in the risk characterization section (Section 5) of this report. The J&E Model was used in accordance with DTSC guidance for vapor intrusion (DTSC, 2004). Non-default parameters used in the J&E Model are summarized in Appendix F.

The DTSC J&E model does not allow for estimation of the actual CDI for this pathway, instead model output is provided in terms of the predicted indoor air concentration and risk estimates (cancer risk for carcinogens or the hazard index for non-carcinogens). In addition, for child receptors, the J&E Model does not provide risk estimates for children. Therefore, for children, the indoor air concentration predicted by the J&E Model was used to calculate a CDI.

The CDI associated with inhalation of indoor air for the child receptor using the indoor air concentration predicted by the J&E Model was calculated as follows:

$$CDI = \frac{CA \times InhR \times EF \times ED \times CF}{BW \times AT}$$

Where:

CDI	=	Chronic Daily Intake (mg/kg/day)
CA	=	Chemical concentration in indoor air as predicted by J&E Model (μg/m^3)
InhR	=	Inhalation rate (m^3/day)
EF	=	Exposure frequency (days/year)
ED	=	Exposure duration (years)
CF	=	Conversion Factor (1E-03 mg/μg)
BW	=	Body weight for child (kg)
AT	=	Averaging time (days)

CF_s	=	Conversion factor for soil (1E-06 kg/mg)
SA_s	=	Skin surface available for contact with soil for adult or child (cm^2)
AF	=	Soil-to-Skin adherence factor (mg/cm^2/event)
ABS	=	Fraction of chemical dermally absorbed (unitless)
EF	=	Exposure frequency (days/year)
ED	=	Exposure duration for adult or child (years)
BW	=	Body weight for adult or child (kg)
AT	=	Averaging time (days)

The skin surface, SA_S, refers to the expected amount of an individual's skin surface available for contact with soil. The soil-to-skin adherence factor, AF, is the amount of soil adhering to the skin surface after a soil contact event. The fraction of chemical dermally absorbed, ABS, is the fraction of chemical adhering to the skin that is expected to be absorbed across the skin into the body. Chemical-specific ABS values were obtained from DTSC (1994).

4.5.3 Inhalation of Particulate-Phase Chemicals in Outdoor Air

Individuals may be exposed to contaminants in soil via the inhalation of re-suspended soil particulates. Consistent with USEPA guidance (USEPA, 2004), this pathway was evaluated only for non-volatile compounds. The CDI associated with this pathway was calculated as follows:

$$CDI = \frac{CS / PEF \times InhR \times EF \times ED}{BW \times AT}$$

Where:

CDI	=	Chronic Daily Intake (mg/kg/day)
CS	=	Chemical concentration in soil (mg/kg)
PEF	=	Particulate emission factor (m^3/kg)
InhR	=	Inhalation rate (m^3/day)
EF	=	Exposure frequency (days/year)
ED	=	Exposure duration (years)
BW	=	Body weight (kg)
AT	=	Averaging time (days)

The particulate emission factor, PEF, is a conversion factor used to convert a soil contaminant concentration to an airborne particulate contaminant concentration (USEPA, 2004).

4.5.4 Inhalation of Vapor-Phase Chemicals in Outdoor Air

Inhalation exposure to vapor-phase chemicals in outdoor air was evaluated for volatile chemicals using the volatilization factor approach described in USEPA (2004) and shown below. Volatile chemicals are defined as those chemicals having a Henry's Law constant greater than 1.0E-05 atmospheres-cubic meter per mole (atm-m^3/mol) and a molecular weight less than 200 grams/mol (g/mol) (USEPA, 2004). The CDI associated with this pathway was calculated as follows:

long period of time. CDIs for each exposure pathway were calculated using the equations and assumptions shown in detail below. The equations below indicate the general form of the CDI calculation for each pathway. Exposure parameter values differ depending on whether the COPC is a carcinogen or non-carcinogen, and on whether the receptor is an adult or a child. A complete list of the specific exposure parameters used in the following calculations is shown in Table 2.

4.5.1 Soil Ingestion

Contaminants in soil may be inadvertently ingested through hand-to-mouth contact. The CDI for his pathway was calculated as follows:

$$CDI = \frac{CS \times CF_s \times IR \times EF \times ED}{BW \times AT}$$

Where:

CDI	=	Chronic Daily Intake (mg/kg/day)
CS	=	Chemical concentration in soil (mg/kg)
CF_s	=	Conversion factor for soil (1E-06 kg/mg)
IR	=	Soil ingestion rate for adult or child (mg/day)
EF	=	Exposure frequency (days/year)
ED	=	Exposure duration for adult or child (years)
BW	=	Body weight for adult or child (kg)
AT	=	Averaging time (days)

CS is the soil EPC calculated as described above. The soil ingestion rate, IR, is the average amount of soil assumed to be incidentally or inadvertently ingested by an individual (adult or child) on an average day. The exposure frequency, EF, corresponds to the number of days per year an individual would be expected to ingest soil. The exposure duration, ED, is the total number of years an individual would be expected to visit the site. The body weight, BW is the average body weight for an adult or 6-year old child. The averaging time, AT, is the total number of days over which the exposure is averaged in the life of the individual. For carcinogens, this value is always 70 years or 25,550 days. However, for non-carcinogens, the value for AT depends on the respective receptor population (Table 2).

4.5.2 Dermal Contact with Soil

Dermal absorption of chemicals in soil may occur when soil particles make contact with, and adhere to the skin during outdoor activities. The CDI for the dermal absorption pathway was calculated as follows:

$$CDI = \frac{CS \times CF_s \times SA_s \times AF \times ABS \times EF \times ED}{BW \times AT}$$

Where:

CDI	=	Chronic Daily Intake (mg/kg/day)
CS	=	Chemical concentration in soil (mg/kg)

dermal contact. In addition, individuals may inhale contaminants suspended in air by wind erosion or volatilized from surface soils. Finally, there is also a potential for residents to inhale chemicals which may volatilize and enter homes from underlying soils. This latter exposure pathway is typically referred to as the vapor intrusion pathway and was evaluated based on VOCs in bulk soil data. The groundwater pathway was not deemed complete because groundwater monitoring efforts have determined that chemicals of potential concern were not detected in groundwater samples. Therefore, groundwater was not considered to be a potential exposure medium.

Based on the above rationales, the following receptor populations and exposure pathways were evaluated in the HRA:

Construction Worker

- Soil ingestion
- Dermal contact with soil
- Inhalation of particulate-phase contaminants in outdoor air
- Inhalation of vapor-phase contaminants in outdoor air

Adult and Child Resident

- Soil ingestion
- Dermal contact with soil
- Inhalation of particulate-phase contaminants in outdoor air
- Inhalation of indoor air (vapor intrusion pathway)

Exposure assumptions consistent with a reasonable maximum exposure scenario (RME) were used in the HRA. The RME is considered an upper bound estimate of the chemical exposure that may occur to an individual, thus the use of RME assumptions is expected to conservatively estimate health risks for the general population (USEPA, 1989).

4.4 Conceptual Site Model

The combination of exposure pathways and population receptors described above are graphically summarized in the conceptual site model (CSM) shown in Figure 6.

4.5 Calculation of Chronic Daily Intakes

Quantitative estimates of chemical exposure are referred to as the Chronic Daily Intake (CDI). The CDI can be considered to represent an upper-bound exposure level (maximum or 95 percent UCLM) of chemical expected to be taken into the body from a particular exposure pathway each day over a if the COPCs UCL value from the Project Site was greater than the corresponding background value. Background soil samples were collected in July 2004 for this purpose from an on-site area near the northern property boundary that was not historically used for operations (SCS, 2005). If chemicals are not screened out at this step, they were further evaluated and screened out by comparing the sample median concentration to the background mean concentration using the Mann-Whitney (Wilcoxon) W Test. For a given inorganic compound, if there is a statistically significant difference between the medians at a 95% confidence level, the inorganic was considered a COPC and evaluated in the HRA. These steps are consistent with DTSC guidance *"Selecting Inorganic Constituents as Chemicals of Potential Concern at Risk Assessments at Hazardous Waste Sites and Permitted Facilities"* (DTSC, 1997). The following inorganic chemicals were eliminated from further evaluation from the HRA: arsenic, copper, mercury, and zinc. The following inorganic chemicals were included in the HRA: cadmium and lead. Appendix E contains information and methods used to determine inorganic COPCs.

Concern regarding arsenic in soil in the former cesspool area was expressed by staff of the DTSC (letter dated November 2, 2005) and the elimination of arsenic as a COPC (letter dated October 5, 2005). During soil removal activities, soil and other materials with obviously elevated concentrations of arsenic were removed to a depth of 15 feet bgs in the area of the former cesspool. Vertical and lateral confirmation samples were collected in the cesspool area. The only confirmation samples with arsenic concentrations above site background were collected at depths of 15 feet bgs or depper.

DTSC also expressed concern regarding the relatively high detection limit for arsenic. This is likely attributed to differences in laboratory analytical methodologies over a period of time. While the elevated detection limit may have resulted in an artificially high number of non-detections, detected levels of arsenic are within the background range for the site.

A listing of soil COPCs is presented in Table 1.

4.3 Description of Exposure Scenarios, Receptor Populations, and Exposure Pathways

In order to estimate human exposure to contaminants, assumptions must be made regarding what populations will be exposed (receptor populations) and the mechanisms by which they will be exposed (exposure pathways). These assumptions are collectively referred to as an "exposure scenario". The exposure scenario assumptions used in the HRA depend on the current or future land use of the project site. For example, if a site is currently occupied by residential housing, then exposure assumptions consistent with a residential receptor population would be used to assess risk. Other land uses might include shopping or offices, which is referred to as a "commercial/industrial" land use, or in the case of parks, recreational land use. When evaluating risks for residential or recreational uses, it is standard practice to include evaluation of both adult and child receptors.

Because the Project Site could potentially be redeveloped into a residential housing development, adult and child residential receptors were evaluated. In addition, construction workers may be exposed to chemicals during housing or infrastructure development. All of these individuals may come into contact with contaminants in surface soils through inadvertent ingestion of soils or direct

It is important to note, for data sets with greater than 50% non-detections, the maximum detected concentration value was used as the EPC.

EPCs were calculated for all chemicals showing at least one unqualified detection (chemicals with at least one detection that is not qualified by standard laboratory QA/QC qualification codes such as "J" [estimated value], or "R" [unusable]).

Calculation of soil EPCs requires specifying the depth interval from which soil concentrations will be drawn to calculate the EPCs. For the Project Site, two receptor populations are relevant: residents (adults and children) and construction workers. For both of these receptors populations, use of a soil depth interval of 0 to 10 feet below ground surface (bgs) is consistent with DTSC risk guidance (Reynolds, et. al, 1990). Soil data collected from this depth interval were therefore used to calculate the EPCs.

4.2 Identification of Chemicals of Potential Concern

Chemicals of Potential Concern, or COPCs are the subset of chemicals at a site that may potentially present a health risk. Frequently, many chemicals are detected at a site, however, the levels of some of these, particularly naturally occurring inorganic chemicals such as iron, may be comparable to, or below natural background concentrations. Such chemicals are not of health concern, and may be excluded from further evaluation.

Separate approaches were used to identify organic and inorganic COPCs in site soil. These approaches are described below.

Organics

For an organic chemical in soil or soil vapor to be considered a possible COPC there had to be at least one unqualified detection, otherwise the chemical was screened out. If there was at least one unqualified detection, the candidate chemical was next evaluated as a possible blank contaminant. If the chemical was detected in blanks, then the chemical was not considered a possible COPC unless the sample concentration was at least 10 times greater than the blank concentration.

For polychlorinated dibenzo-p-dioxins and polychlorinated dibenzofurans, a 2,3,7,8-tetrachlorodibenzo-p-dioxin (TCDD) toxicity equivalent (TEQ) in soil concentration was calculated using all 17 congeners in each sample. This is consistent with CalEPA OEHHA guidance (OEHHA, 2003).

Inorganics

As in the case for organics, there had to be at least one unqualified detection for an inorganic to be considered a possible COPC. It should be noted that only a subset of the CAM 17 metals was analyzed for based on site history. There was no reason to expect other CAM 17 metals to be present on the site based on past site uses. In the next screening step, the site ProUCL recommended UCL was compared to the corresponding value for background. Inorganic chemicals were included

4.0 EXPOSURE ASSESSMENT

The most important component of a HRA is estimating the amount of a chemical an individual may come into contact with. This quantitative evaluation of chemical exposure involves the following steps:

- Estimating the representative chemical concentrations or "exposure point concentrations" (EPCs) in the environment (e.g., soil, water, air) to which individuals are assumed to be exposed.
- Identifying chemicals of potential concern (COPC) (i.e., chemicals that are most likely to present a potential health risk).
- Determining which individuals (receptor populations) may contact chemicals in the environment and in what manner they will be exposed (exposure pathways).
- The methods used to conduct each of these steps in the HRA are described below.

4.1 Calculation of Exposure Point Concentrations (EPCs)

EPCs are the representative concentrations of chemicals in soil, water, or air that are used to calculate human health risks. An EPC is defined as "the arithmetic average of the concentration that is contacted over the exposure period" (USEPA, 1989). To ensure that the estimate of the arithmetic average is conservative and will not be underestimated, it is recommended that a statistically-based 95% upper confidence limit (UCL) on the mean concentration be used as an estimate for the EPC (USEPA, 1989; DTSC, 1992). By definition, there is a 95% probability that the true mean is equal or less than the 95% UCL.

The USEPA's statistical software package *ProUCL* (USEPA, 2003) was used to determine the statistical distribution of each contaminant. Non-detect values were assigned a value of one-half the sample quantitation limit (SQL), or the practical quantitation limit (PQL) if the SQL was equal to the PQL. This is consistent with the DTSC guidance document, *Use of Soil Concentration Data in Exposure Assessments* (DTSC, 1996). In cases where the distribution (i.e., normal; lognormal) could not be determined, the data test was deemed to be non-parametric.

While it is recommended that a 95% UCL be used as an estimate for the EPC, based on correspondence regarding the use of ProUCL, (via email, ProUCL Communication, dated June 23, 2004 [USEPA, 2004], often an UCL (e.g., 95%) does not provide the specified (95%) coverage for the population mean. This is especially true when the data sets are moderately to highly skewed. The use of the 95% UCL will result in an underestimate of the EPC term. In most cases where the data set's distribution has been determined to be non-parametric, ProUCL recommends the use of a 97.5% or 99% UCL. Depending upon the data set, a 97% or 99% UCL may provide a better coverage (coverage closer to 99%) estimate for the EPC (USEPA, 2004). A summary of the data statistics for soil is provided in Appendix C. Statistical output from ProUCL is provided in Appendix D.

3.0 DATA COLLECTION AND EVALUATION

Data used in this HRA were obtained primarily from the following reports: *RFI Report* dated July 2001, *RFI, Additional Soil Sampling for Cesspool and Background Areas*, dated September 2004, and *RFI Supplemental Soil Sampling*, dated February 2005.

3.1 Data Evaluation

Data were evaluated to ensure that it was suitable for quantitative risk assessment. Specifically, the following data quality assurance/quality control (QA/QC) issues were examined:

- Were detection limit requirements met?
- Were any sample holding time exceeded?
- Were surrogate recovered within the quality control recovery limits specified for the analytical method?
- Were any chemicals detected in blanks (including method blanks, equipment rinsate blanks and trip blanks)?
- Were recoveries of matrix spikes within control limits?

Only data qualified as "R" or rejected were automatically rejected from the HRA. There were no data qualified as "R" in the data used in the HRA.

Analytical results from chemical analyses of soil samples collected from 0 to 10 feet bgs and used in the HRA are presented in Appendix A. Analytical results from chemicals analyses of soil samples collected from below 10 feet bgs are presented in Appendix B.

Groundwater samples have been collected quarterly since the initial monitoring round with the exception of times when the water level was too low to allow purging and sampling. In addition to the initial groundwater sampling event, sampling episodes took place on the following dates:

- May 14, 1997
- October 29, 1997
- January 1, 1998
- April 29, 1999
- March 24, 2000
- May 26, 2000
- August 16, 2000
- May 21, 2001
- April 28, 2003
- March 25, 2004
- May 4, 2004

The most recent sampling effort took place in January 2005. Pesticides and herbicides were not detected in groundwater samples from any of the well samples and no other constituents of concern were detected at elevated concentrations. None of the target metals were measured at concentrations above detection limits in any of the samples. Analytical results of groundwater samples taken previously, including data from previous sampling events are summarized in Appendix A. Based on the lack of detections of pesticides and herbicides since 1997, it has been recommended that groundwater monitoring at the site be discontinued (SCS, 2005a). DTSC agreed with this recommendation in their letter of March, 24, 2005.

Figure 4 shows on-site soil borings in the vicinity of the former wash rack and Figure 5 shows on-site soil sampling and groundwater sampling locations.

Pesticides, herbicides, volatile organics, and strychnine were not detected in soil samples collected from the additional soil borings. Elevated concentrations of metals were not detected.

Additional Soil Borings in UST Area

Additional soil samples were collected from two borings to a depth of approximately 48 feet and in two borings to 5 feet on May 20, 1999. Organochlorine pesticides and herbicides were detected in only one of the soil samples analyzed (BH9-6-15).

Trace metals were detected in some samples. Concentrations of the various metals are within the ranges previously detected at the site and within ranges, which have been detected in un-impacted, natural soils.

Three additional soil borings (BH-12, BH-13, BH-14) were drilled to a depth of 25 feet bgs on February 13, 2001. Samples were analyzed for organochlorine pesticides. Results indicate detectable concentrations of chlordane, dieldrin, DDT and its breakdown product DDE, heptachlor and heptachlor epoxide, endrin, and beta, delta, and gamma isomers of hexachlorocyclohexane (also known as BHC; gamma-BHC is marketed under the trade name Lindane).

Supplemental Soil Sampling – Background Area

Supplemental soil sampling was conducted in July 2004 to address detections of arsenic in soil samples collected in one on-site background sample locations (SCS, September 2004). Concentrations of arsenic were detected above the normal range of concentrations expected in natural soils in the Los Angeles area in two samples from this location. Sampling was also conducted in order to develop a more robust background metals data set, soil sampling and analysis was conducted in an on-site area near the northern property boundary that was not historically used for operations. Analytical data indicated that soil containing arsenic concentrations above typical background concentrations do not appear to extend any significant distance laterally. Details are provided in the report titled *RFI Supplemental Soil Sampling, Background Area* (SCS, 2005a). This report was subsequently approved by the DTSC in March 2005.

Soil samples were collected from monitoring wells MW-1 and MW-2 at approximately five foot intervals to the total depth of each boring on January 28 and 29, 1997. Due to access limitations, soil samples were collected from monitoring well MW-3 at depths of 15 and 20 feet bgs only. Pesticides, herbicides, and strychnine were not detected in these soil samples. Elevated concentrations of metals were not detected in these soil samples.

2.2.5 Groundwater Monitoring Events

Groundwater samples were collected initially on February 14, 1997 and analyzed for pesticides and herbicides, strychnine, VOCs, selected metals, and general water quality parameters (general minerals).

at location SV-5 (15-foot depth), with a detection limit of 1.0 μg/L. When two (2) duplicate samples were collected and analyzed at SV-5, all VOCs were non detect. Soil vapor survey sampling locations are shown on Figure 3.

While PCE was detected during a soil vapor survey conducted on April 6, 1995, analytical results indicated no detectable VOCs with the exception of 1.8 μg/L (micrograms per liter) of PCE detected at sample location SV-5 (15-foot depth), with a detection limit of 1.0 μg/L. Two duplicate samples were subsequently collected and analyzed at SV-5. Duplicate samples indicated no detectable VOCs. Based on the confirmatory results, soil vapor data were not evaluated in the HRA. This has been agreed upon by the DTSC in a telephone conversation on June 14, 2005 (DTSC, 2005).

2.2.2 Trenches, Septic Tank, and Cesspool Sampling

Soil samples were collected from five (5) exploratory trenches (T1 through T5) in the southern portion of the site on May 4 and December 19, 1995.

Near-Surface Soil Sampling

Soil samples were collected at 25 locations at depths between the surface and 3 feet bgs on June 15 and December 19, 1995.

During the initial phases of the RCRA Facility Investigation (RFI), approximately 10 percent of samples were analyzed in duplicate (co-located for soil samples).

2.2.3 Soil Borings

Initial Phases of RFI

Soil samples were collected from borings on June 13 and December 19, 1995. Samples were collected to a depth of 21 feet bgs in borings BH-1, BH-2, and BH-3, and to a depth of 41 feet in borings BH-4, BH-5, and BH-6. Locations of soil borings are shown on Figure 4.

Pesticides and herbicides detected in soil borings include relatively low concentrations (ppb range) of 4,4-DDT and dalapon. Diethylphthalate (DEP) and benzo(a)pyrene (BAP) were detected in two borings at concentrations of up to 4.2 and 0.05 mg/kg, respectively. Other SVOCs, TRPH, VOCs, and strychnine were not detected in samples from soil borings. Elevated concentrations of metals were not detected in these soil borings. Dioxins and furans were not detected in samples from soil borings.

2.2.4 Additional Soil Borings at Locations Previously Sampled

Six shallow soil borings were drilled at the site on January 30, 1997 to obtain additional subsurface soil samples for laboratory analysis to assess elevated concentrations of various constituents detected during the initial site investigation. These additional soil borings were sampled at depths of 3 and 5 feet bgs.

2.0 SITE BACKGROUND

2.1 Site Description and History

The Project Site is an approximately 1.9 acre relatively flat parcel located on the north side of East Slauson Avenue approximately 500 feet west of Rosemead Boulevard in Pico Rivera, California. The site is located in the Downey Plain area of the Los Angeles basin. Site elevation is approximately 152 feet above mean sea level (MSL).

The site is located in a mixed residential, commercial/industrial area. The site is bounded on the north, west and east by residential properties. Industrial facilities are located to the south, immediately across East Slauson Avenue. Except for an approximately 50 by 200 foot grassy area at its southern end, the entire site is surrounded by an 8-foot high block wall or chain-link fence with a locked gate. A site location map is provided as Figure 1. Locations of current and former facilities at the site are shown on Figure 2.

The site was used by LACDAC from the 1930's to the early 1990's for the following purposes: offices, raising of beneficial insects, mixing of rodent and bird baits for pest control, disposal of pesticides acquired from a pesticide collection program, and incineration of plants held under quarantine for pests or disease.

2.2 Summary of Site Investigations to Date

Soil and groundwater at the Project Site have been extensively investigated by the County of Los Angeles since closure of the facility in 1990. Site facilities, including a 4,000-gallon underground storage tank (UST) and associated wash rack/concrete pad, cesspool and associated sludge and soils, incinerator, aboveground weed oil tanks, irrigation well, garage, storage bins, and building materials have been removed. Soils and other media have been investigated. Three clusters of two groundwater monitoring wells are located at the Project Site. Results of site investigations and removal actions, to date, are described in the Resource Conservation and Recovery Act (RCRA) Facility Investigation (RFI) Report (SCS, July 2001). Information on RCRA unit closure and potential corrective measures are included in the Closure Plan (SCS, November 2003). Additional soil sampling and analysis took place for arsenic in the vicinity of the former cesspool. Details are available in the RFI Additional Soil Sampling, Cesspool and Background Areas Report (SCS, 2004). Supplemental background soil sampling is summarized in the RFI Supplemental Soil Sampling Background Area Report (SCS, 2005a)

The following narrative summarizes investigations conducted since 1995 under the Resource Conservation and Recovery Act (RCRA) facility investigation program (SCS 2001).

2.2.1 Soil Vapor Survey

Results of a soil vapor survey conducted on March 21 and April 6, 1995, indicated no detectable VOCs with the exception of 1.8 μg/L (micrograms per liter) of tetrachloroethene (PCE) detected

BASELINE HUMAN HEALTH RISK ASSESSMENT
FORMER LOS ANGELES COUNTY
DEPARTMENT OF THE AGRICULTURAL COMMISSIONER
8841 EAST SLAUSON AVENUE
PICO RIVERA, CALIFORNIA

1.0 INTRODUCTION

This Human Health Risk Assessment (HRA) Report has been prepared by SCS Engineers (SCS) on behalf of the Los Angeles County Department of Agricultural Commissioner / Weights and Measures (LACDAC) for evaluation of the potential human health risks attributable to potential contaminants present in soil beneath the Pico Rivera Facility Site located at 8841 East Slauson Avenue, Pico Rivera, California (Project Site).

The risk assessment methods described in this report were selected first to be consistent with recommendations of the California regulatory agencies primarily responsible for reviewing site risk assessments in California. These agencies include the California Department of Toxic Substances Control (DTSC) and the California Office of Environmental Health Hazard Assessment (OEHHA). If risk assessment guidance was not available from these California agencies for some aspect of the risk assessment, risk guidance of the United States Environmental Protection Agency (USEPA) was used.

This HRA report consists of five parts:

- Site Background
- Data Evaluation
- Exposure Assessment
- Risk Characterization
- Uncertainty Analysis

Using the California Department of Toxic Substances Control Leadspread model to evaluate lead risks for on-site resident lead exposure; lead risks are considered insignificant. The USEPA Adult Lead Methodology (ALM) model was used to assess risk from on-site exposure to lead for the construction worker. Lead risks are also considered insignificant for the construction worker.

BASELINE HUMAN HEALTH RISK ASSESSMENT
LOS ANGELES COUNTY
DEPARTMENT OF AGRICULTURAL COMMISSIONER /
WEIGHTS AND MEASURES
8841 EAST SLAUSON AVENUE
PICO RIVERA, CALIFORNIA

EXECUTIVE SUMMARY

A health risk assessment (HRA) was prepared on behalf of the Los Angeles County Department of Agricultural Commissioner / Weights and Measures (LACDAC) for the evaluation of the potential human health risks attributable to contaminants present in soil beneath the former Pico Rivera Facility site located at 8841 East Slauson Avenue. The site was used by LACDAC from the 1930's to the early 1990's for the following purposes: offices, raising of beneficial insects, mixing of rodent and bird baits for pest control, disposal of pesticides acquired from a pesticide collection program, and incineration of plants held under quarantine for pests or disease. Soil and groundwater at the site have been extensively investigated by the County since closure of the facility in 1990. Site facilities, including a 4,000-gallon underground storage tank (UST) and associated wash rack/concrete pad, cesspool, incinerator, above ground weed oil tanks, irrigation well, garage, storage bins, and building materials have been removed. Soils and other media have been investigated.

The HRA evaluated exposures occurring to construction workers and potential adult and child residents. The following exposure pathways were evaluated depending on the receptor population: soil ingestion, dermal contact with soil, inhalation of soil particulates and volatiles released from soil. In addition, the vapor intrusion exposure pathway was evaluated for the adult and child residents. This pathway is not a concern for construction workers since this is an indoor pathway and construction workers are assumed to be working outdoors. Both cancer and non-cancer health risks were evaluated.

The risk assessment methods used in this HRA were selected first to be consistent with recommendations of the California regulatory agencies primarily responsible for reviewing site risk assessments in California. These agencies include the California Department of Toxic Substances Control (DTSC) and the California Office of Environmental Health Hazard Assessment (OEHHA). If risk guidance was not available from the California agencies for some aspect of the risk assessment, recommendations of the United States Environmental Protection Agency (USEPA) were selected.

The results of the HRA show that cumulative cancer risks for the construction worker and adult and child residents are above the DTSC and OEHHA negligible cancer risk threshold of 1×10^{-6}, but within the USEPA target risk range of 1×10^{-6} to 1×10^{-4} which is considered to be safe and protective of human health. The increased potential for cumulative cancer risks to the construction worker and residents is due to potential soil ingestion and dermal contact with dieldrin in soil. Cumulative non-cancer risks for the construction worker, adult and child residents are all below the Hazard Index threshold of 1, indicating that potential exposures are not expected to result in adverse health effects.

ACRONYMS AND ABBREVIATIONS (continued)

PEF	Particulate Emission Factor
ppb	Parts per billion
ppm	Parts per million
PQL	Practical Quantitation Limit
QA	Quality Assurance
QC	Quality Control
RCRA	Resource Conservation and Recovery Act
RfD	Reference Dose
REL	Reference Exposure Limit
RFI	RCRA Facility Investigation
RME	Reasonable Maximum Exposure
SCS	SCS Engineers
SQL	Sample Quantification Limit
SVOC	Semi Volatile Organic Compound
UCL	Upper Confidence Limit
USEPA	U. S. Environmental Protection Agency
UST	Underground Storage Tank
VOC	Volatile Organic Compound

ACRONYMS AND ABBREVIATIONS

bgs	Below Ground Surface
BAP	Benzo(a)pyrene
CalEPA	California Environmental Protection Agency
CDI	Chronic Daily Intake
COPC	Chemicals of Potential Concern
CSF	Cancer Slope Factor
DEP	Diethylphthalate
DL	Detection Limit
dL	Deciliter
DTSC	California Environmental Protection Agency Department of Toxic Substances Control
EPC	Exposure Point Concentration
g	Gram
HEAST	Health Effects Assessment Summary Tables
HI	Hazard Index
HQ	Hazard Quotient
HRA	Health Risk Assessment
IRIS	Integrated Risk Information System
JE	Johnson-Ettinger
LACDAC	Los Angeles County Department of Agricultural Commissioner/Weights and Measures
MDL	Method Detection Limit
mol	Moles
ND	Not Detected
OEHHA	Office of Environmental Health Hazard Assessment
PCE	Tetrachloroethylene or Perchloroethylene

Appendix

A Raw Analytical Data Summary Tables (Collected from 0 to 10 feet below ground surface)

B Raw Analytical Data Summary Tables (Collected from below10 feet below ground surface)

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This Baseline Human Health Risk Assessment report for the former Los Angeles County Agricultural Commissioner Facility located at 8841 East Slauson Avenue, Pico Rivera, California dated January 2006, was prepared and reviewed by the following:

Allyson B. Teramoto
Staff Scientist

Paul Damian, PhD, MPH, DABT
Risk Assessment Practice Leader
Board Certified Toxicologist

Kenneth H. Lister, PhD, CEG
Project Manager
Certified Engineering Geologist
No. 1581

BASELINE HUMAN HEALTH RISK ASSESSMENT
FORMER LOS ANGELES COUNTY
AGRICULTURAL COMMISSIONER FACILITY
8841 EAST SLAUSON AVENUE
PICO RIVERA, CALIFORNIA

Prepared for:

Los Angeles County
Department of Agricultural Commissioner / Weights and Measures
12300 Lower Azusa Road
Arcadia, California 91006

Prepared by:

SCS Engineers
3900 Kilroy Airport Way, Suite 100
Long Beach, California 90806
(562) 426-9544

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APPENDIX F

BASELINE HEALTH RISK ASSESSMENT

Data File	C:\ProUCL\Data\LACDAC Background Metals.xls	Variable:	Zn
Raw Statistics		Normal Distribution Test	
Number of Valid Samples	24	Shapiro-Wilk Test Statisitic	0.728684
Number of Unique Samples	23	Shapiro-Wilk 5% Critical Value	0.916
Minimum	13.7	Data not normal at 5% significance level	
Maximum	139		
Mean	41.98333	95% UCL (Assuming Normal Distribution)	
Median	23.4	Student's-t UCL	54.56351
Standard Deviation	35.95954		
Variance	1293.088	Gamma Distribution Test	
Coefficient of Variation	0.856519	A-D Test Statistic	1.87495
Skewness	1.656934	A-D 5% Critical Value	0.754923
		K-S Test Statistic	0.269519
Gamma Statistics		K-S 5% Critical Value	0.180165
k hat	2.034745	Data do not follow gamma distribution	
k star (bias corrected)	1.808179	at 5% significance level	
Theta hat	20.63322		
Theta star	23.21857	95% UCLs (Assuming Gamma Distribution)	
nu hat	97.66774	Approximate Gamma UCL	54.94954
nu star	86.79261	Adjusted Gamma UCL	56.0128
Approx.Chi Square Value (.05)	66.31253		
Adjusted Level of Significance	0.0392	Lognormal Distribution Test	
Adjusted Chi Square Value	65.05375	Shapiro-Wilk Test Statisitic	0.861159
		Shapiro-Wilk 5% Critical Value	0.916
Log-transformed Statistics		Data not lognormal at 5% significance level	
Minimum of log data	2.617396		
Maximum of log data	4.934474	95% UCLs (Assuming Lognormal Distribution)	
Mean of log data	3.471854	95% H-UCL	56.00059
Standard Deviation of log data	0.694324	95% Chebyshev (MVUE) UCL	67.31244
Variance of log data	0.482086	97.5% Chebyshev (MVUE) UCL	78.92358
		99% Chebyshev (MVUE) UCL	101.7314
		95% Non-parametric UCLs	
		CLT UCL	54.0569
		Adj-CLT UCL (Adjusted for skewness)	56.70961
		Mod-t UCL (Adjusted for skewness)	54.97728
		Jackknife UCL	54.56351
		Standard Bootstrap UCL	53.69684
		Bootstrap-t UCL	59.80432
RECOMMENDATION		Hall's Bootstrap UCL	56.5046
Data are Non-parametric (0.05)		Percentile Bootstrap UCL	53.8625
		BCA Bootstrap UCL	60.85
Use 95% Chebyshev (Mean, Sd) UCL		95% Chebyshev (Mean, Sd) UCL	73.97857
		97.5% Chebyshev (Mean, Sd) UCL	87.82293
		99% Chebyshev (Mean, Sd) UCL	115.0175

General Statistics

Data File	C:\ProUCL\Data\LACDAC Background Metals.xls		Variable:	V	
Raw Statistics		Normal Distribution Test			
Number of Valid Samples	24	Shapiro-Wilk Test Statisitic			0.912448
Number of Unique Samples	22	Shapiro-Wilk 5% Critical Value			0.916
Minimum	6.2	Data not normal at 5% significance level			
Maximum	27.2				
Mean	14.72083	95% UCL (Assuming Normal Distribution)			
Median	12.35	Student's-t UCL			16.82007
Standard Deviation	6.000506				
Variance	36.00607	Gamma Distribution Test			
Coefficient of Variation	0.40762	A-D Test Statistic			0.670645
Skewness	0.621819	A-D 5% Critical Value			0.745623
		K-S Test Statistic			0.175929
Gamma Statistics		K-S 5% Critical Value			0.178143
k hat	6.487768	Data follow gamma distribution			
k star (bias corrected)	5.704574	at 5% significance level			
Theta hat	2.269014				
Theta star	2.580531	95% UCLs (Assuming Gamma Distribution)			
nu hat	311.4128	Approximate Gamma UCL			17.04451
nu star	273.8196	Adjusted Gamma UCL			17.22191
Approx.Chi Square Value (.05)	236.4897				
Adjusted Level of Significance	0.0392	Lognormal Distribution Test			
Adjusted Chi Square Value	234.0537	Shapiro-Wilk Test Statisitic			0.948758
		Shapiro-Wilk 5% Critical Value			0.916
Log-transformed Statistics		Data are lognormal at 5% significance level			
Minimum of log data	1.824549				
Maximum of log data	3.303217	95% UCLs (Assuming Lognormal Distribution)			
Mean of log data	2.61022	95% H-UCL			17.36881
Standard Deviation of log data	0.40788	95% Chebyshev (MVUE) UCL			20.21819
Variance of log data	0.166366	97.5% Chebyshev (MVUE) UCL			22.59422
		99% Chebyshev (MVUE) UCL			27.26146
		95% Non-parametric UCLs			
		CLT UCL			16.73553
		Adj-CLT UCL (Adjusted for skewness)			16.90165
		Mod-t UCL (Adjusted for skewness)			16.84598
		Jackknife UCL			16.82007
		Standard Bootstrap UCL			16.69953
		Bootstrap-t UCL			17.02322
RECOMMENDATION		Hall's Bootstrap UCL			16.86371
Data follow gamma distribution (0.05)		Percentile Bootstrap UCL			16.69583
		BCA Bootstrap UCL			17.60833
Use Approximate Gamma UCL		95% Chebyshev (Mean, Sd) UCL			20.05982
		97.5% Chebyshev (Mean, Sd) UCL			22.37001
		99% Chebyshev (Mean, Sd) UCL			26.90792

General Statistics

Data File	C:\ProUCL\Data\LACDAC Metals Outliers Removed.xls	Variable:	Pb

Raw Statistics		Normal Distribution Test	
Number of Valid Samples	23	Shapiro-Wilk Test Statisitic	0.499828
Number of Unique Samples	17	Shapiro-Wilk 5% Critical Value	0.914
Minimum	0.9	Data not normal at 5% significance level	
Maximum	68.5		
Mean	9.054348	95% UCL (Assuming Normal Distribution)	
Median	1.6	Student's-t UCL	15.49261
Standard Deviation	17.98149		
Variance	323.3338	Gamma Distribution Test	
Coefficient of Variation	1.98595	A-D Test Statistic	3.880067
Skewness	2.533562	A-D 5% Critical Value	0.799759
		K-S Test Statistic	0.33343
Gamma Statistics		K-S 5% Critical Value	0.191126
k hat	0.557994	Data do not follow gamma distribution	
k star (bias corrected)	0.514198	at 5% significance level	
Theta hat	16.2266		
Theta star	17.60869	95% UCLs (Assuming Gamma Distribution)	
nu hat	25.66773	Approximate Gamma UCL	15.76649
nu star	23.6531	Adjusted Gamma UCL	16.43521
Approx.Chi Square Value (.05)	13.58345		
Adjusted Level of Significance	0.0389	Lognormal Distribution Test	
Adjusted Chi Square Value	13.03076	Shapiro-Wilk Test Statisitic	0.730138
		Shapiro-Wilk 5% Critical Value	0.914
Log-transformed Statistics		Data not lognormal at 5% significance level	
Minimum of log data	-0.10536		
Maximum of log data	4.226834	95% UCLs (Assuming Lognormal Distribution)	
Mean of log data	1.083872	95% H-UCL	14.76207
Standard Deviation of log data	1.27543	95% Chebyshev (MVUE) UCL	14.9056
Variance of log data	1.626722	97.5% Chebyshev (MVUE) UCL	18.63491
		99% Chebyshev (MVUE) UCL	25.96042
		95% Non-parametric UCLs	
		CLT UCL	15.22156
		Adj-CLT UCL (Adjusted for skewness)	17.33802
		Mod-t UCL (Adjusted for skewness)	15.82273
		Jackknife UCL	15.49261
		Standard Bootstrap UCL	15.07851
		Bootstrap-t UCL	33.84782
RECOMMENDATION		Hall's Bootstrap UCL	14.48767
Data are Non-parametric (0.05)		Percentile Bootstrap UCL	15.60435
		BCA Bootstrap UCL	18.49348
Use 99% Chebyshev (Mean, Sd) UCL		95% Chebyshev (Mean, Sd) UCL	25.3976
		97.5% Chebyshev (Mean, Sd) UCL	32.46934
		99% Chebyshev (Mean, Sd) UCL	46.3604

General Statistics

Data File	C:\ProUCL\Data\LACDAC Background Metals.xls	Variable:	Ni
Raw Statistics		Normal Distribution Test	
Number of Valid Samples	24	Shapiro-Wilk Test Statisitic	0.887849
Number of Unique Samples	19	Shapiro-Wilk 5% Critical Value	0.916
Minimum	2.7	Data not normal at 5% significance level	
Maximum	13.3		
Mean	6.6125	95% UCL (Assuming Normal Distribution)	
Median	5.05	Student's-t UCL	7.631639
Standard Deviation	2.913136		
Variance	8.486359	Gamma Distribution Test	
Coefficient of Variation	0.44055	A-D Test Statistic	1.009581
Skewness	0.738995	A-D 5% Critical Value	0.745913
		K-S Test Statistic	0.257418
Gamma Statistics		K-S 5% Critical Value	0.178232
k hat	5.697303	Data do not follow gamma distribution	
k star (bias corrected)	5.012918	at 5% significance level	
Theta hat	1.160637		
Theta star	1.319092	95% UCLs (Assuming Gamma Distribution)	
nu hat	273.4706	Approximate Gamma UCL	7.734984
nu star	240.6201	Adjusted Gamma UCL	7.821193
Approx.Chi Square Value (.05)	205.7018		
Adjusted Level of Significance	0.0392	Lognormal Distribution Test	
Adjusted Chi Square Value	203.4345	Shapiro-Wilk Test Statisitic	0.928427
		Shapiro-Wilk 5% Critical Value	0.916
Log-transformed Statistics		Data are lognormal at 5% significance level	
Minimum of log data	0.993252		
Maximum of log data	2.587764	95% UCLs (Assuming Lognormal Distribution)	
Mean of log data	1.798641	95% H-UCL	7.892691
Standard Deviation of log data	0.433661	95% Chebyshev (MVUE) UCL	9.237652
Variance of log data	0.188062	97.5% Chebyshev (MVUE) UCL	10.37507
		99% Chebyshev (MVUE) UCL	12.60931
		95% Non-parametric UCLs	
		CLT UCL	7.590598
		Adj-CLT UCL (Adjusted for skewness)	7.686443
		Mod-t UCL (Adjusted for skewness)	7.646589
		Jackknife UCL	7.631639
		Standard Bootstrap UCL	7.576
		Bootstrap-t UCL	7.744206
RECOMMENDATION		Hall's Bootstrap UCL	7.606517
Data are lognormal (0.05)		Percentile Bootstrap UCL	7.620833
		BCA Bootstrap UCL	8.129167
Use Student's-t UCL		95% Chebyshev (Mean, Sd) UCL	9.204481
Use Modified-t UCL		97.5% Chebyshev (Mean, Sd) UCL	10.32603
Use H-UCL		99% Chebyshev (Mean, Sd) UCL	12.52911

General Statistics

Data File	C:\ProUCL\Data\LACDAC Background Metals.xls	Variable:	Cu
Raw Statistics		Normal Distribution Test	
Number of Valid Samples	24	Shapiro-Wilk Test Statisitic	0.851694
Number of Unique Samples	21	Shapiro-Wilk 5% Critical Value	0.916
Minimum	3.6	Data not normal at 5% significance level	
Maximum	21.9		
Mean	9.729167	95% UCL (Assuming Normal Distribution)	
Median	6.8	Student's-t UCL	11.64198
Standard Deviation	5.46765		
Variance	29.8952	Gamma Distribution Test	
Coefficient of Variation	0.561985	A-D Test Statistic	1.182908
Skewness	0.864933	A-D 5% Critical Value	0.749507
		K-S Test Statistic	0.254422
Gamma Statistics		K-S 5% Critical Value	0.178873
k hat	3.667832	Data do not follow gamma distribution	
k star (bias corrected)	3.23713	at 5% significance level	
Theta hat	2.652566		
Theta star	3.005491	95% UCLs (Assuming Gamma Distribution)	
nu hat	176.0559	Approximate Gamma UCL	11.8511
nu star	155.3823	Adjusted Gamma UCL	12.01798
Approx.Chi Square Value (.05)	127.5611		
Adjusted Level of Significance	0.0392	Lognormal Distribution Test	
Adjusted Chi Square Value	125.7899	Shapiro-Wilk Test Statisitic	0.912857
		Shapiro-Wilk 5% Critical Value	0.916
Log-transformed Statistics		Data not lognormal at 5% significance level	
Minimum of log data	1.280934		
Maximum of log data	3.086487	95% UCLs (Assuming Lognormal Distribution)	
Mean of log data	2.132658	95% H-UCL	12.21329
Standard Deviation of log data	0.53829	95% Chebyshev (MVUE) UCL	14.54017
Variance of log data	0.289757	97.5% Chebyshev (MVUE) UCL	16.64033
		99% Chebyshev (MVUE) UCL	20.7657
		95% Non-parametric UCLs	
		CLT UCL	11.56495
		Adj-CLT UCL (Adjusted for skewness)	11.7755
		Mod-t UCL (Adjusted for skewness)	11.67482
		Jackknife UCL	11.64198
		Standard Bootstrap UCL	11.5101
		Bootstrap-t UCL	11.90146
RECOMMENDATION		Hall's Bootstrap UCL	11.67789
Data are Non-parametric (0.05)		Percentile Bootstrap UCL	11.52083
		BCA Bootstrap UCL	12.24167
Use 95% Chebyshev (Mean, Sd) UCL		95% Chebyshev (Mean, Sd) UCL	14.59404
		97.5% Chebyshev (Mean, Sd) UCL	16.69908
		99% Chebyshev (Mean, Sd) UCL	20.83402

General Statistics

Data File	C:\ProUCL\Data\LACDAC Background Metals.xls				Variable:	Co		
Raw Statistics				Normal Distribution Test				
Number of Valid Samples			24	Shapiro-Wilk Test Statisitic				0.930271
Number of Unique Samples			18	Shapiro-Wilk 5% Critical Value				0.916
Minimum			1.25	Data are normal at 5% significance level				
Maximum			8.8					
Mean			4.641667	95% UCL (Assuming Normal Distribution)				
Median			3.9	Student's-t UCL				5.35957
Standard Deviation			2.052076					
Variance			4.211014	Gamma Distribution Test				
Coefficient of Variation			0.442099	A-D Test Statistic				0.627723
Skewness			0.459086	A-D 5% Critical Value				0.746607
				K-S Test Statistic				0.147304
Gamma Statistics				K-S 5% Critical Value				0.178379
k hat			4.827882	Data follow gamma distribution				
k star (bias corrected)			4.252174	at 5% significance level				
Theta hat			0.961429					
Theta star			1.091598	95% UCLs (Assuming Gamma Distribution)				
nu hat			231.7383	Approximate Gamma UCL				5.50676
nu star			204.1044	Adjusted Gamma UCL				5.573752
Approx.Chi Square Value (.05)			172.0403					
Adjusted Level of Significance			0.0392	Lognormal Distribution Test				
Adjusted Chi Square Value			169.9725	Shapiro-Wilk Test Statisitic				0.900848
				Shapiro-Wilk 5% Critical Value				0.916
Log-transformed Statistics				Data not lognormal at 5% significance level				
Minimum of log data			0.223144					
Maximum of log data			2.174752	95% UCLs (Assuming Lognormal Distribution)				
Mean of log data			1.427948	95% H-UCL				5.814555
Standard Deviation of log data			0.501952	95% Chebyshev (MVUE) UCL				6.88795
Variance of log data			0.251956	97.5% Chebyshev (MVUE) UCL				7.833582
				99% Chebyshev (MVUE) UCL				9.691093
				95% Non-parametric UCLs				
				CLT UCL				5.33066
				Adj-CLT UCL (Adjusted for skewness)				5.372603
				Mod-t UCL (Adjusted for skewness)				5.366112
				Jackknife UCL				5.35957
				Standard Bootstrap UCL				5.33126
				Bootstrap-t UCL				5.432084
RECOMMENDATION				Hall's Bootstrap UCL				5.365902
Data are normal (0.05)				Percentile Bootstrap UCL				5.270833
				BCA Bootstrap UCL				5.610417
Use Student's-t UCL				95% Chebyshev (Mean, Sd) UCL				6.467514
				97.5% Chebyshev (Mean, Sd) UCL				7.25756
				99% Chebyshev (Mean, Sd) UCL				8.809452

General Statistics

Data File	C:\ProUCL\Data\LACDAC Background Metals.xls	Variable:	Cr		
Raw Statistics		Normal Distribution Test			
Number of Valid Samples	24	Shapiro-Wilk Test Statisitic			0.865009
Number of Unique Samples	18	Shapiro-Wilk 5% Critical Value			0.916
Minimum	2.8	Data not normal at 5% significance level			
Maximum	14				
Mean	7.6375	95% UCL (Assuming Normal Distribution)			
Median	5.7	Student's-t UCL			8.879353
Standard Deviation	3.549747				
Variance	12.60071	Gamma Distribution Test			
Coefficient of Variation	0.464779	A-D Test Statistic			1.177941
Skewness	0.57824	A-D 5% Critical Value			0.746198
		K-S Test Statistic			0.264143
Gamma Statistics		K-S 5% Critical Value			0.178314
k hat	4.989077	Data do not follow gamma distribution			
k star (bias corrected)	4.39322	at 5% significance level			
Theta hat	1.530844				
Theta star	1.738474	95% UCLs (Assuming Gamma Distribution)			
nu hat	239.4757	Approximate Gamma UCL			9.034707
nu star	210.8746	Adjusted Gamma UCL			9.142722
Approx.Chi Square Value (.05)	178.263				
Adjusted Level of Significance	0.0392	Lognormal Distribution Test			
Adjusted Chi Square Value	176.157	Shapiro-Wilk Test Statisitic			0.909729
		Shapiro-Wilk 5% Critical Value			0.916
Log-transformed Statistics		Data not lognormal at 5% significance level			
Minimum of log data	1.029619				
Maximum of log data	2.639057	95% UCLs (Assuming Lognormal Distribution)			
Mean of log data	1.929517	95% H-UCL			9.275656
Standard Deviation of log data	0.466618	95% Chebyshev (MVUE) UCL			10.92436
Variance of log data	0.217732	97.5% Chebyshev (MVUE) UCL			12.34544
		99% Chebyshev (MVUE) UCL			15.13689
		95% Non-parametric UCLs			
		CLT UCL			8.829343
		Adj-CLT UCL (Adjusted for skewness)			8.920728
		Mod-t UCL (Adjusted for skewness)			8.893607
		Jackknife UCL			8.879353
		Standard Bootstrap UCL			8.763631
		Bootstrap-t UCL			8.940815
RECOMMENDATION		Hall's Bootstrap UCL			8.788273
Data are Non-parametric (0.05)		Percentile Bootstrap UCL			8.833333
		BCA Bootstrap UCL			9.3
Use Student's-t UCL		95% Chebyshev (Mean, Sd) UCL			10.79591
or Modified-t UCL		97.5% Chebyshev (Mean, Sd) UCL			12.16256
		99% Chebyshev (Mean, Sd) UCL			14.84707

6.0 UNCERTAINTIES

Due to limitation of available scientific data and in the amount and type of site investigation data collected, every risk assessment will have uncertainties associated with it. The primary sources of uncertainty for the present risk assessment include:

- Uncertainties in exposure parameter assumptions
- Uncertainties in toxicity criteria
- Uncertainties in the characterization and evaluation of the vapor intrusion pathway

Uncertainties in exposure parameter assumptions are related to the general lack of quantitative studies describing important aspects of human behavior such as incidental soil ingestion rates (particularly adults), length of time spent at one residence, time spent outdoors, etc. In general, this uncertainty has been dealt with by erring on the conservative side and using upper-bound exposure assumptions that will tend to overestimate the exposure occurring to most individuals. This approach to exposure parameter uncertainty is the basis for the RME exposure scenario concept and will tend to result in an overestimation of health risks. In addition, chemicals for which there were more than 50% non-detects, the maximum detected concentration was used as the EPC. This will also tend to result in an overestimation of health risks.

Important uncertainties in toxicity criteria include: 1) the complete absence of RfDs or CSFs for some chemicals (for example, silvex, in the present report), 2) the lack of an adequate toxicological basis for some toxicity criteria, 3) the uncertainty associated with applying oral route toxicity criteria to the inhalation route or dermal route, and 4) the complete lack of toxicity criteria for the dermal route. The general lack of toxicity criteria based on a solid database of underlying toxicological data results in a reduced ability to accurately quantify both non-cancer and cancer risks. This may result in both under- and over-estimation of health risks.

TABLE 2.
EXPOSURE PARAMETERS
LOS ANGELES COUNTY DEPARTMENT OF AGRICULTURAL COMMISSIONER / WEIGHTS AND MEASURES
8841 EAST SLAUSON AVENUE
PICO RIVERA, CALIFORNIA

Exposure Parameter[1]	Acronym	Receptors			Units	Reference
		Construction Worker	Resident			
			Adult	Child		
General Parameters						
Body Weight	BW	70	70	15	kg	DTSC (1992, 1994, 1996)
Averaging Time (carcinogens)	AT_c	25,550	25,550	25,550	days	DTSC (1992, 1994, 1996)
Averaging Time (noncarcinogens)	AT_n	365	8,760	2,190	days	DTSC (1992, 1994, 1996)
Conversion Factor	CF_s	1.00E-06	1.00E-06	1.00E-06	kg/mg	
Exposure Frequency	EF	250	350	350	days/year	DTSC (1992, 1994, 1996)
Exposure Duration	ED	1	24	6	years	DTSC (1992, 1994, 1996)
Soil Ingestion Pathway						
Soil Ingestion Rate	IR	330	100	200	mg/day	DTSC (1994), USEPA (2001)
Dermal Contact With Soil						
Skin Surface Area	SA_s	5,700	5,700	2,900	cm^2/event	DTSC (2000)
Soil-to-Skin Adherence Factor	AF	0.8	0.07	0.2	mg/cm^2	DTSC (2000)
Fraction of Chemical Dermally Absorbed[1]	ABS	Chemical-Specific	Chemical-Specific	Chemical-Specific	unitless	DTSC (1994)
Soil Contact Exposure Frequency	EF	250	350	350	events/year	DTSC (2000)
Inhalation of Soil Particulates and Volatiles						
Particulate Emission Factor	PEF	1.32E+09	1.32E+09	1.32E+09	m^3/kg	USEPA (2004)
Inhalation Rate	InhR	20	20	10	m^3/day	DTSC (1992, 1994, 1996)
Volatilization Factor	VF	Chemical-specific	Chemical-Specific	Chemical-Specific	m^3/kg	USEPA (2004)

Notes:

[1]Dermal absorption values, ingeneral: 1% for organics, 10% for organics, unless otherwise specified by DTSC (1994).

TABLE 1.
LIST OF CHEMICALS OF POTENTIAL CONCERN
AND EXPOSURE POINT CONCENTRATIONS (EPCs) - SOILS
LOS ANGELES COUNTY DEPARTMENT OF AGRICULTURAL COMMISSIONER / WEIGHTS AND MEASURES
8841 EAST SLAUSON AVENUE
PICO RIVERA, CALIFORNIA

Inorganics		Organics	
COPC[1]	EPC[2] (mg/kg)	COPC	EPC (mg/kg)
Metals		**VOCs**	
Cadmium	1.60E+00	Toluene	1.50E-02
Lead	7.62E+01	**SVOCs**	
		Benzo(a)pyrene	5.00E-02
		Diethylphthalate	4.20E+00
		Pesticides/Herbcides	
		beta-BHC	6.40E-03
		delta-BHC	5.50E-03
		alpha-chlordane	2.34E-01
		gamma-chlordane	2.63E-01
		2,4-Dichlorophenoxy Acetate Acid	5.50E-01
		Total DDT	1.11E+00
		Dalapon	3.33E+00
		Dieldrin	1.00E+00
		Endrin (Total)	3.40E-03
		Heptachlor	1.90E-01
		Heptachlor Epoxide	3.90E-03
		Silvex	2.10E-01
		Dioxins/Furans	
		Total Equivalent 2,3,7,8-Tetrachlorodibenzo-p-dioxin	5.60E-06

Notes:
[1] COPC = Chemical of potential concern
[2] EPC = Exposure Point Concentration

TABLES

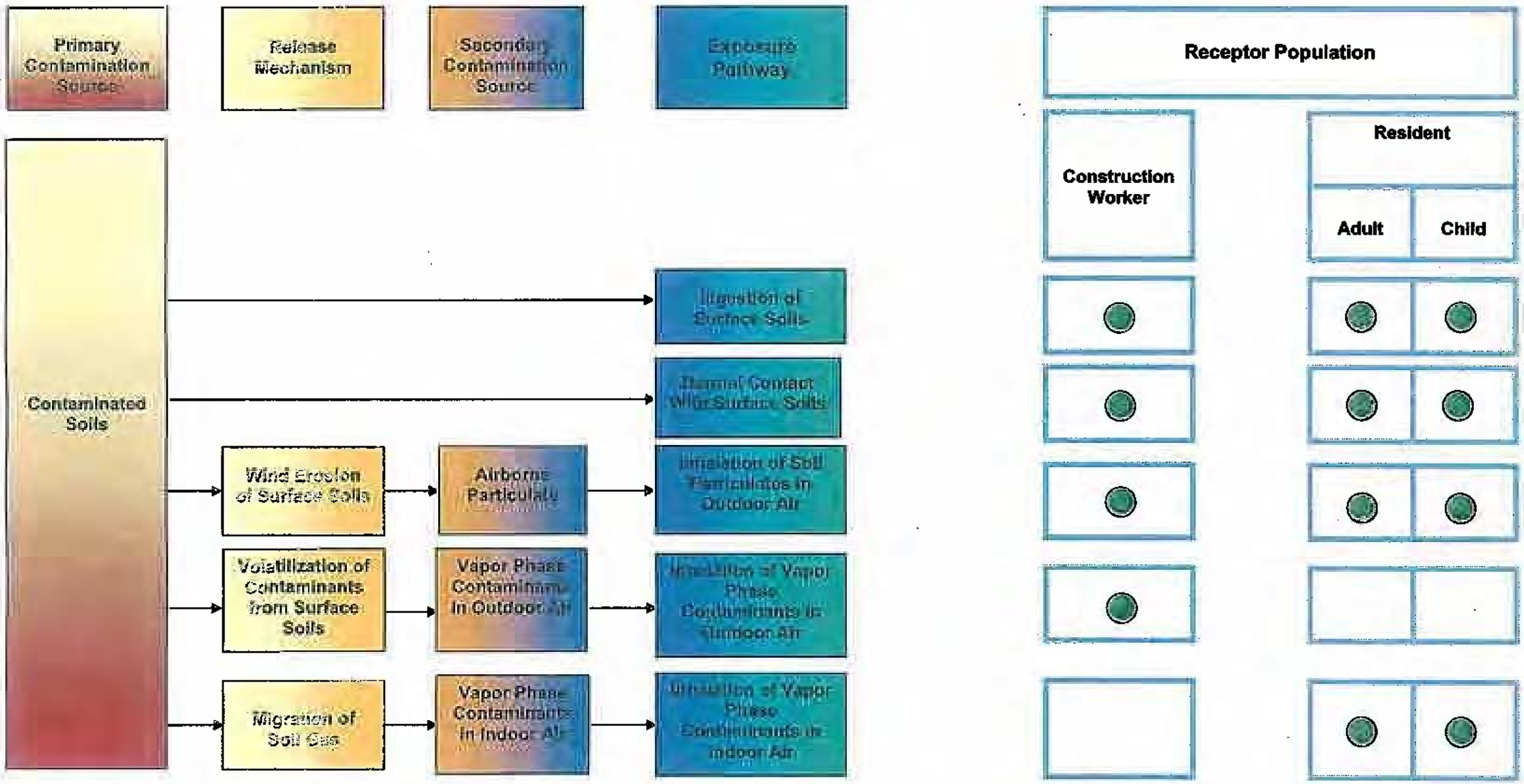
FIGURE 6

HEALTH RISK ASSESSMENT CONCEPTUAL SITE MODEL

LOS ANGELES COUNTY DEPARTMENT OF THE AGRICULTURAL COMMISSIONER FACILITY

8841 EAST SLAUSON AVENUE

PICO RIVERA, CALIFORNIA



Notes:

● **Exposure pathway complete and risks quantified.**

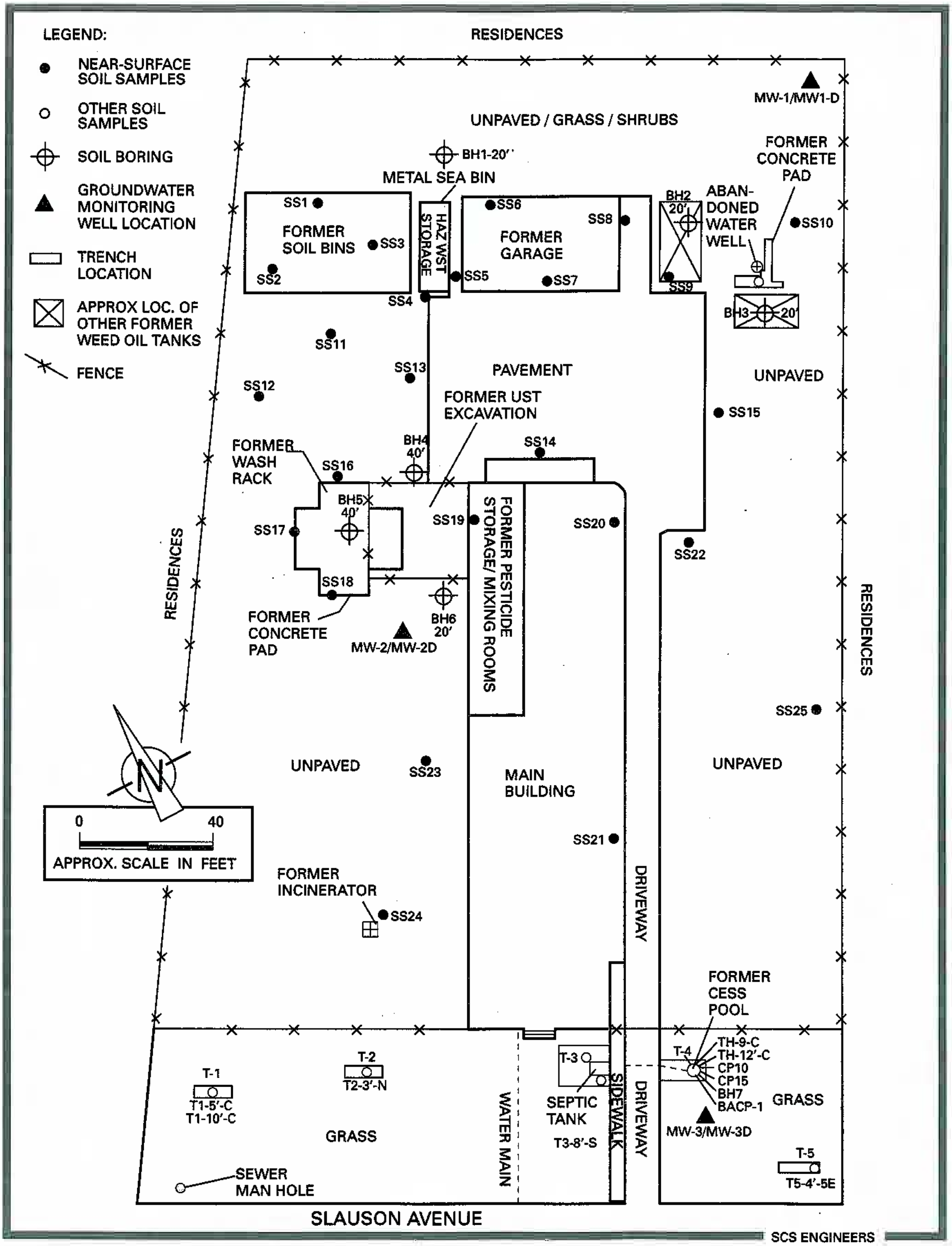


Figure 5. Map Showing Soil Sampling Locations and Groundwater Monitoring Well Locations, Los Angeles County Department of Agricultural Commissioner, Pico Rivera Facility, 8841 E. Slauson Ave., Pico Rivera, CA.

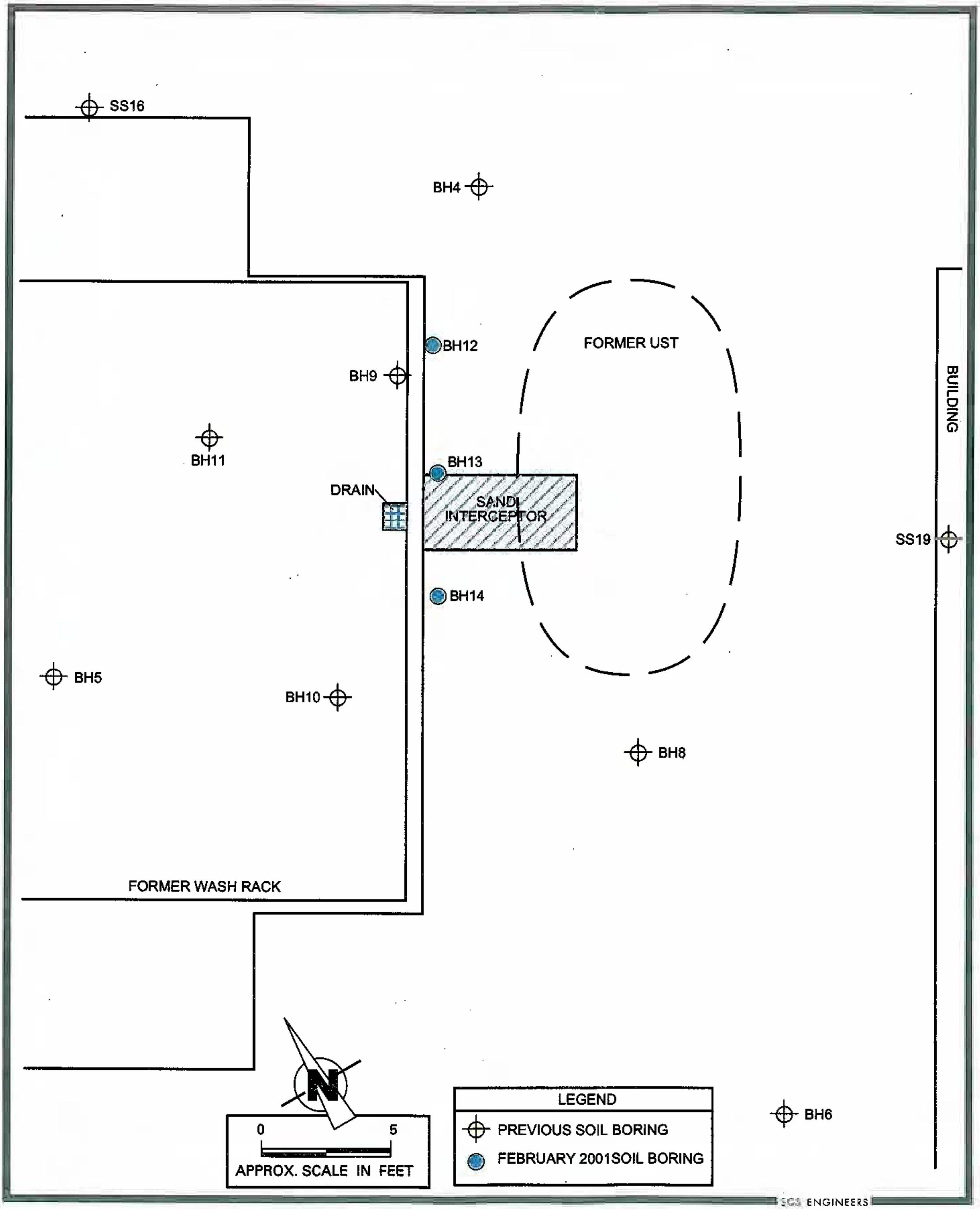


Figure 4. Map of Soil Borings in Vicinity of Former Wash Rack and Underground Storage Tank (UST), Los Angeles County Department of Agricultural Commissioner, Pico Rivera, CA.

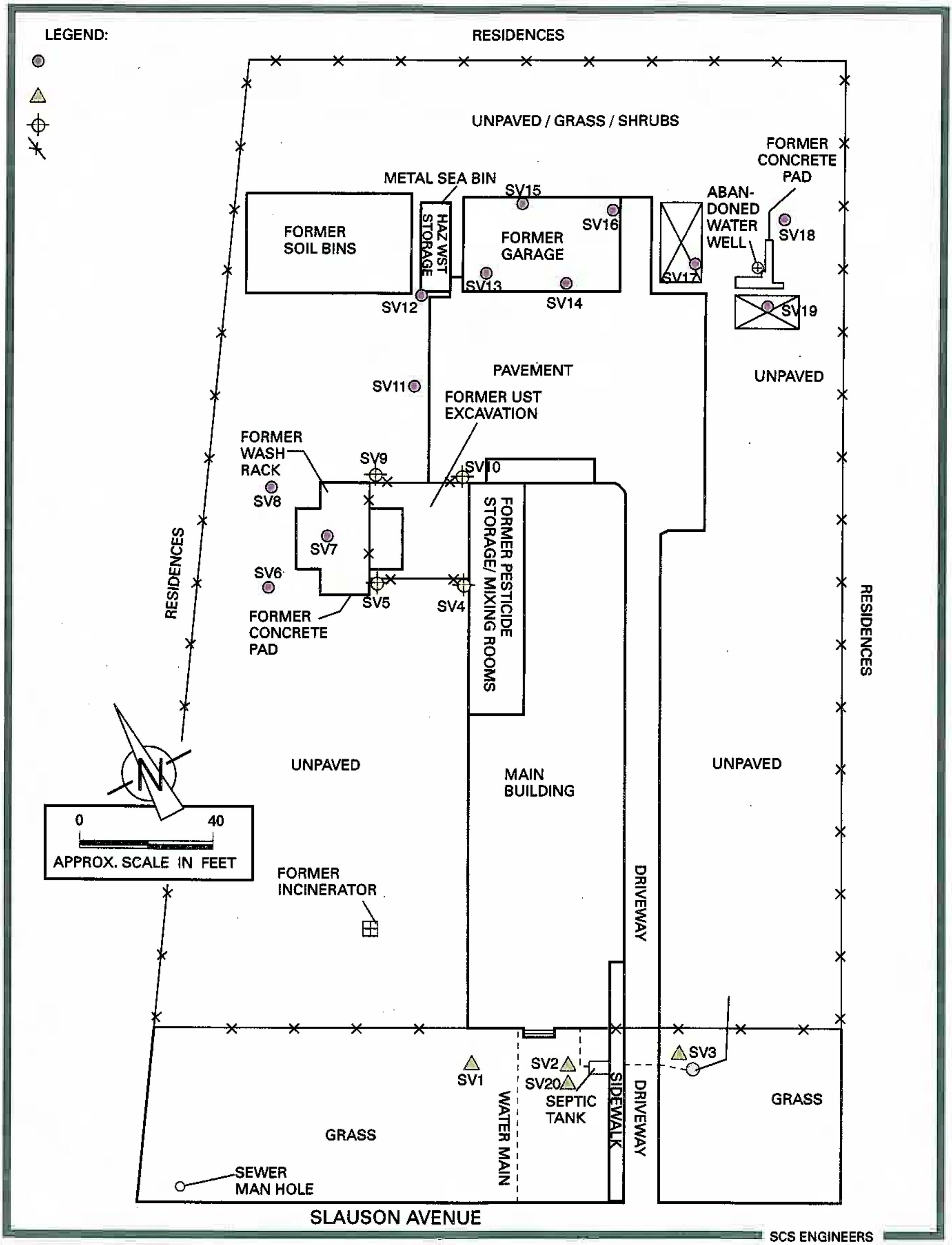


Figure 3. Map Showing Soil Vapor Survey Points, Los Angeles County Department of Agricultural Commissioner, Pico Rivera Facility, 8841 E. Slauson Ave., Pico Rivera, CA.

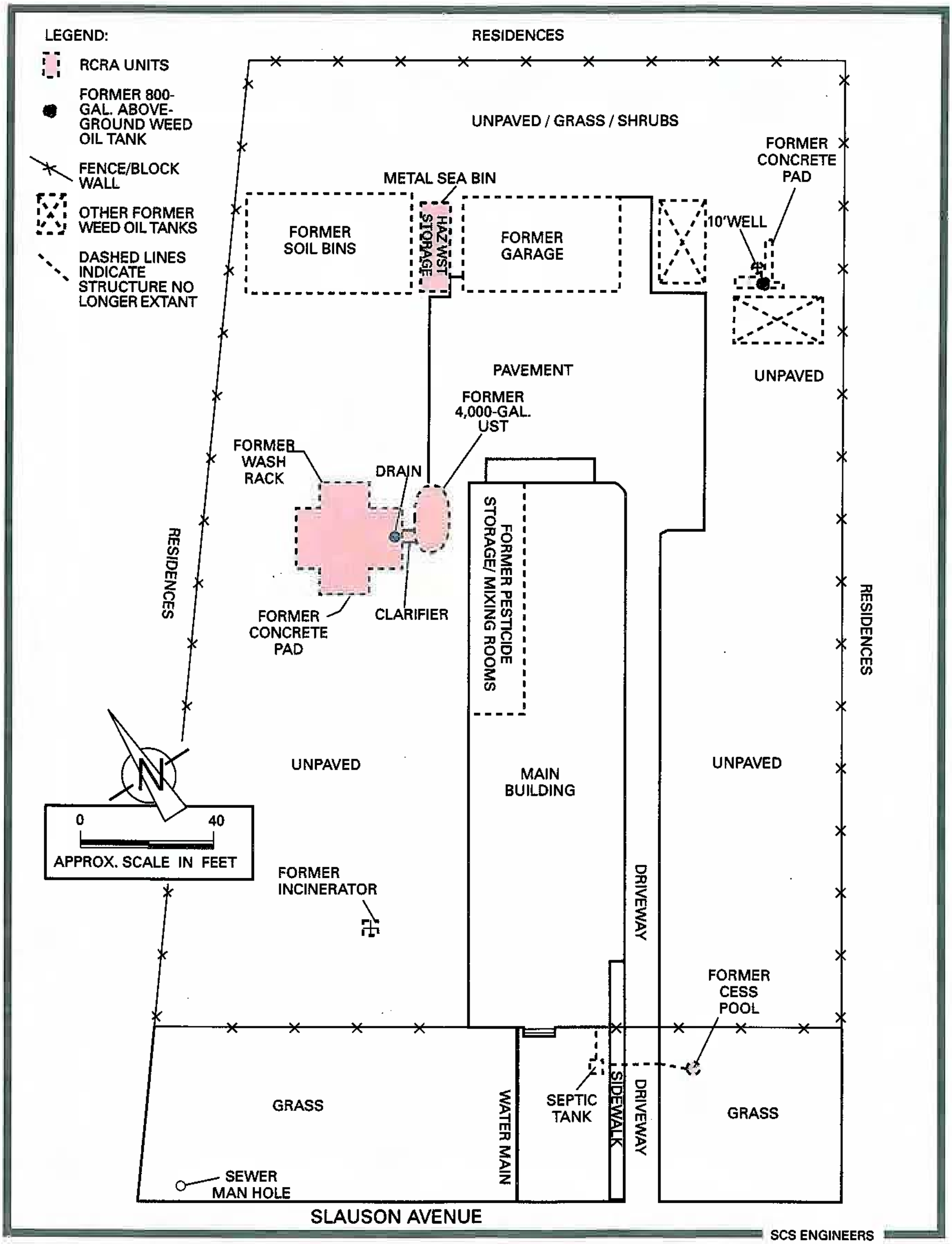
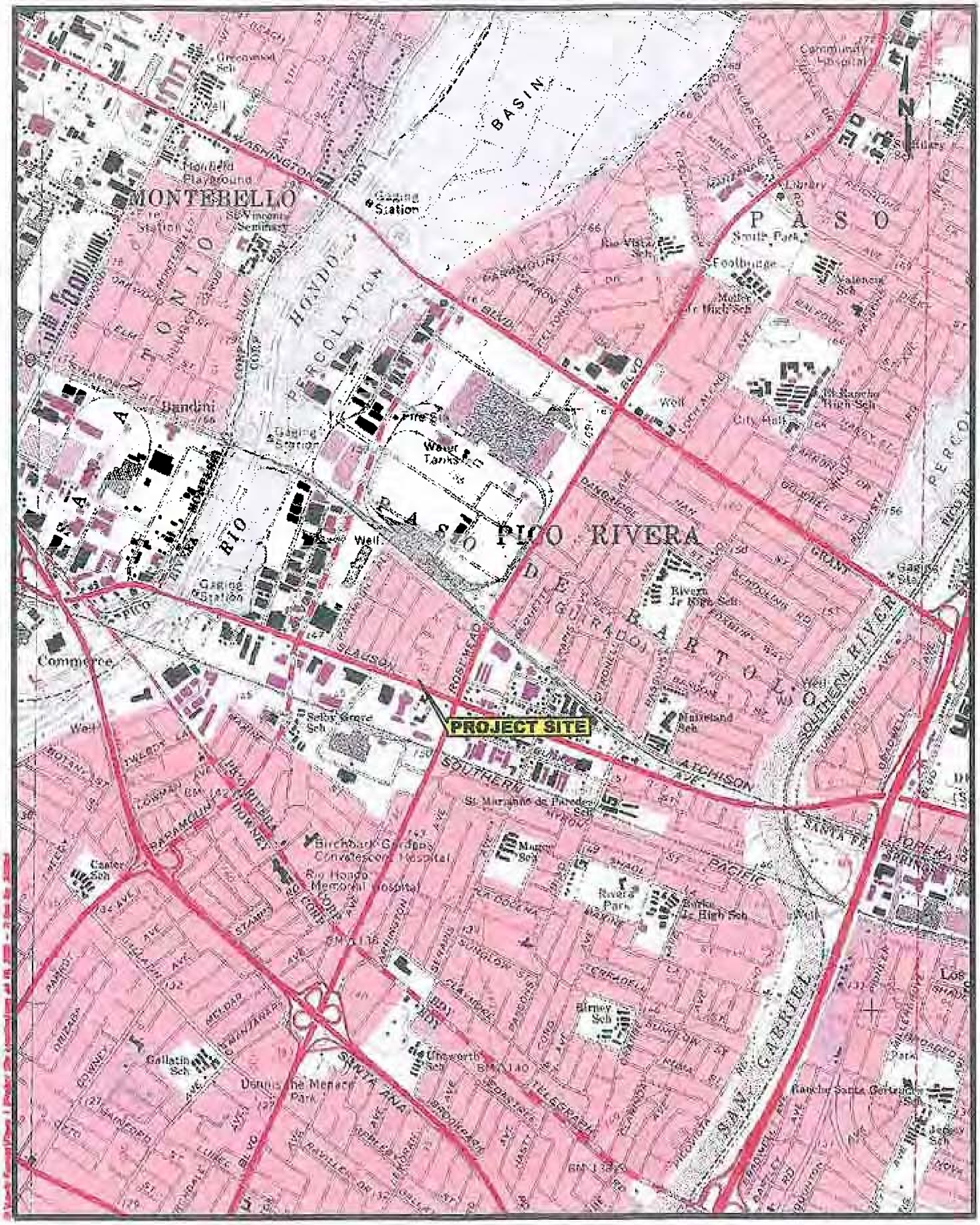


Figure 2. Map Showing Location of Facilities, Los Angeles County Department of Agricultural Commissioner/Weights and Measures, 8841 E. Slauson Ave., Pico Rivera, CA.



FEET
1000 0 1000 2000

SOURCE: USGS WHITTIER, CALIFORNIA QUADRANGLE 1965, PHOTOREVISED 1981

FIGURE 1. LOCATION MAP OF FORMER LOS ANGELES COUNTY AGRICULTURAL FACILITY, 8841 EAST SLAUSON AVE., PICO RIVERA, CALIFORNIA

FIGURES

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8.0 LIMITATIONS AND CERTIFICATIONS

This HRA was prepared in accordance with risk assessment methodologies recommended at the present time by regulatory agencies having jurisdiction in the State of California. It should be recognized that an assessment of the human health risk associated with exposures to chemicals in the environment is a difficult and inexact science. Professional judgments leading to conclusions and recommendations are generally made with a margin of error inherent to the risk assessment process.

Analytical data used in the HRA were developed by others. It is sometimes difficult to verify the adequacy or accuracy of the site investigations through which these data were developed. For this reason, we attempted to use health-conservative assumptions wherever data or information was limited or uncertain. Also, the final recommendations presented in this document are meant to reduce the uncertainties associated with past site investigative work and minimize any potential health risks.

7.0 SUMMARY AND CONCLUSIONS

A health risk assessment (HRA) was prepared on behalf of the Los Angeles County Department of the Agricultural Commissioner (LACDAC) for the evaluation of the potential human health risks attributable to contaminants present in soil beneath the former Pico Rivera Facility site located at 8841 East Slauson Avenue. The site was used by LACDAC from the 1930's to the early 1990's for the following purposes: offices, raising of beneficial insects, mixing of rodent and bird baits for pest control, disposal of pesticides acquired from a pesticide collection program, and incineration of plants held under quarantine for pests or disease. Soil and groundwater at the site have been extensively investigated by the County since closure of the facility in 1990. Site facilities, including a 4,000-gallon underground storage tank (UST) and associated wash rack/concrete pad, cesspool and associated sludge and soil, incinerator, above ground weed oil tanks, irrigation well, garage, storage bins, and building materials have been removed. Soils and other media have been investigated.

The HRA evaluated exposures occurring to construction workers and potential adult and child residents. The following exposure pathways were evaluated depending on the receptor population: soil ingestion, dermal contact with soil, inhalation of soil particulates and volatiles released from soil. In addition, the vapor intrusion exposure pathway was evaluated for the adult and child residents. This pathway is not a concern for construction workers since this is an indoor pathway and construction workers are assumed to be working outdoors. Both cancer and non-cancer health risks were evaluated.

The risk assessment methods used in this HRA were selected first to be consistent with recommendations of the California regulatory agencies primarily responsible for reviewing site risk assessments in California. These agencies include the California Department of Toxic Substances Control (DTSC) and the California Office of Environmental Health Hazard Assessment (OEHHA). If risk guidance was not available from the California agencies for some aspect of the risk assessment, recommendations of the United States Environmental Protection Agency (USEPA) were selected.

The results of the HRA show that cumulative cancer risks for the construction worker and adult and child residents are above the DTSC and OEHHA negligible cancer risk threshold of 1×10^{-6}, but within the USEPA target risk range of 1×10^{-6} to 1×10^{-4} which is considered to be safe and protective of human health. The increased potential for cumulative cancer risks to the construction worker and residents is due to potential soil ingestion and dermal contact with dieldrin in soil. Cumulative non-cancer risks for the construction worker, adult, and child residents are all below the Hazard Index threshold of 1, indicating that potential exposures are not expected to result in adverse health effects.

Using the California Department of Toxic Substances Control Leadspread model to evaluate lead risks for on-site resident lead exposure; lead risks are considered insignificant. The USEPA Adult Lead Methodology (ALM) model was used to assess risk from on-site exposure to lead for the construction worker. Lead risks are also considered insignificant for the construction worker.

TABLE 3.
TOXICITY CRITERIA FOR CHEMICALS OF POTENTIAL CONCERN - ORGANICS
LOS ANGELES COUNTY DEPARTMENT OF AGRICULTURAL COMMISSIONER / WEIGHTS AND MEASURES
8841 EAST SLAUSON AVENUE
PICO RIVERA, CALIFORNIA

COPC	REFERENCE DOSES				CANCER SLOPE FACTORS			
	Oral Reference Dose (RfD_o)[a] (mg/kg-day)		Inhalation Reference Dose (RfD_i) (mg/kg-day)		Oral Slope Factor (CSF_o)[b] $(mg/kg\text{-}day)^{-1}$		Inhalation Slope Factor (CSF_i) $(mg/kg\text{-}day)^{-1}$	
VOCs								
Toluene	2.00E-01	IRIS, 2005	8.57E-02	OEHHA, 2005	NC	--	NC	--
SVOCs								
Benzo(a)pyrene	No Data	--	No Data	--	1.20E+01	OEHHA, 2005	3.90E+00	OEHHA, 2005
Diethylphthalate	8.00E-01	IRIS, 2005	8.00E-01	R	NC	--	NC	--
Pesticides/Herbicides								
beta-BHC[1]	3.00E-04	IRIS, 2005	3.00E-04	R	1.50E+00	OEHHA, 2005	1.50E+00	OEHHA, 2005
delta-BHC[1]	3.00E-04	IRIS, 2005	3.00E-04	R	No Data	--	No Data	--
alpha-chlordane[2]	5.00E-04	IRIS, 2005	5.00E-04	R	1.30E+00	OEHHA, 2005	1.20E+00	OEHHA, 2005
gamma-chlordane[2]	5.00E-04	IRIS, 2005	5.00E-04	R	1.30E+00	OEHHA, 2005	1.20E+00	OEHHA, 2005
2-4-Dichlorophenoxy Acetate Acid	No Data	--	No Data	--	No Data	--	No Data	--
Total DDT[3]	5.00E-04	IRIS, 2005	5.00E-04	R	3.40E-01	OEHHA, 2005	3.40E-01	OEHHA, 2005
Dalapon	3.00E-02	IRIS, 2005	3.00E-02	R	NC	--	NC	--
Dieldrin	5.00E-05	IRIS, 2005	5.00E-05	R	1.60E+01	OEHHA, 2005	1.60E+01	OEHHA, 2005
Endrin (Total)	3.00E-04	IRIS, 2005	3.00E-04	R	NC	--	NC	--
Heptachlor	5.00E-04	IRIS, 2005	5.00E-04	R	4.10E+00	OEHHA, 2005	4.10E+00	OEHHA, 2005
Heptachlor Epoxide	1.30E-05	IRIS, 2005	1.30E-05	R	5.50E+00	OEHHA, 2005	5.50E+00	OEHHA, 2005
Silvex	No Data	--	No Data	--	No Data	--	No Data	--
Dioxins/Furans								
Total Equivalent 2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)	1.00E-08	OEHHA, 2005	1.10E-08	OEHHA, 2005	1.30E+05	OEHHA, 2005	1.30E+05	OEHHA, 2005

Abbreviations:

COPC = chemical of potential concern
CSF_o = oral cancer slope factor
CSF_i = inhalation cancer slope factor
COPC = chemical of potential concern
EPC = exposure point concentration
mg/kg-day = milligrams per kilogram body weight per day
NC = Not a suspected carcinogen
R = Route-to-route extrapolation
RfD_o = oral reference dose
RfD_i = inhalation reference dose
"--" = not available or applicable

Notes:

[a] In the absence of dermal toxicity values, oral reference doses and/or cancer slope factors were used to evaluate exposure dermal exposure.
[1]Reference doses not available for beta-BHC, delta-BHC; reference doses for the surrogate compound gamma-BHC used.
[2]Reference doses and cancer slope factors not available for alpha-chlordane, gamma-chlordane; references doses, cancer slope factors for surrogate compound chlordane used.
[3]Reference dose and cancer slope factor for 4,4-DDT used.

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