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10 Attorneys for Petitioner  
11 LEEK FAMILY TRUST



12 **BEFORE THE STATE OF CALIFORNIA**

13 **STATE WATER RESOURCES CONTROL BOARD**

14 In re: ) NO. \_\_\_\_\_  
15 )  
16 )  
17 ) PETITION FOR REVIEW OF FAILURE  
18 ) TO ACT BY LOS ANGELES REGIONAL  
19 ) WATER QUALITY CONTROL BOARD  
20 )  
21 ) REQUEST TO HOLD IN ABEYANCE  
22 )  
23 )  
24 )

25 Petitioner, the Leek Family Trust, Ed Pennington, trustee ("Leek"), submits the following  
26 petition for review of the inaction by the Los Angeles Regional Water Quality Control Board  
27 ("Regional Board") on Leek's request that the Regional Board take enforcement action to require  
28 additional identified responsible parties to undertake investigation activities in connection with  
soil, soil vapor, and groundwater impacts from release of chlorinated solvents in the vicinity of  
property owned by Leek in South Gate.

Leek requests the State Board to hold this petition in abeyance pending further contacts  
with Regional Board staff regarding these issues. Leek will amend this petition and submit more  
detailed points and authorities, as well as additional evidence as may be provided to the Regional  
Board, in the event that this petition is activated.

1           **I. INTRODUCTION**

2           Pursuant to section 13320 of the California Water Code and sections 2050 et seq. of Title  
3 23 of the California Code of Regulations, Petitioner Leek hereby petitions the State Water  
4 Resources Control Board (“State Board”) to review the failure of the Regional Board to act on  
5 Leek’s request, set forth in the letter and report attached hereto as Exhibit A, that the Regional  
6 Board issue appropriate orders directing those responsible for impacts and threatened impacts to  
7 soil, soil vapor, and groundwater in the area surrounding the intersection of Otis Street and  
8 Liberty Boulevard in the City of South Gate (the “Otis-Liberty area”) to undertake necessary  
9 investigative and response actions. The Regional Board has directed, and continues to direct,  
10 Leek to investigate and respond to these offsite releases in connection with Leek’s investigation  
11 of actual or threatened releases connected with operations at property owned by Leek in the Otis-  
12 Liberty area.

13           By this petition, Leek requests that the State Board direct the Regional Board to require  
14 other parties responsible for actual and threatened soil, soil vapor, and groundwater impacts in the  
15 Otis-Liberty area, and to relieve Leek from further responsibility for those releases caused by  
16 others in the area.

17  
18           **II. NAME AND ADDRESS OF PETITIONER**

19           Petitioner, the Leek Family Trust, Ed Pennington, trustee, may be contacted through its  
20 attorneys:

21           David R. Isola  
22           Stephen B. Ardis  
23           Isola Law Group, LLP  
24           405 West Pine Street  
25           Lodi, California 95240  
26           Telephone (209) 367-7055

27           **III. SPECIFIC ACTION (FAILURE TO ACT) BY THE REGIONAL BOARD**

28           By this petition Leek seeks review of the Regional Board’s failure to respond to or in any  
manner act upon the requests set forth in the letter and report attached hereto as Exhibit A, in

1 which Leek presented data that has been gathered in its ongoing investigation that establishes the  
2 existence of several source areas attributable to releases occurring at facilities other than those  
3 connected with Petitioner's property. By this letter, Leek requested that the Regional Board direct  
4 those parties responsible for these additional source areas and releases to undertake necessary  
5 investigative and response actions, and that the Regional Board relieve Leek from further  
6 responsibility to respond to these releases by others. As set forth in the letter and report, the owner  
7 of the property on which these source areas are located is South Gate Industrial Center, which is a  
8 California general partnership.

9  
10 **IV. DATE OF THE REGIONAL BOARD'S FAILURE TO ACT**

11  
12 Leek sent this letter and report to the Regional Board on August 1, 2013. The Regional  
13 Board did not respond. As of sixty days thereafter, or September 30, 2013, pursuant to Water  
14 Code §13320(a) the Regional Board may be deemed to have failed to act on Leek's request.

15  
16 **V. SUMMARY OF REASONS WHY THE FAILURE TO ACT WAS I**  
17 **IMPROPER**

18 The Regional Board has failed to direct all identified responsible parties to undertake  
19 response to impacts from releases in the Otis-Liberty area, as is required pursuant to State Water  
20 Resources Control Board Resolution No. 92-49.

21 The Regional Board has failed to consider pertinent material information developed in the  
22 course of Leek's investigation that identifies releases and threatened releases by others of  
23 contaminants to groundwater in the Otis-Liberty area.

24 The Regional Board has made its determination not to pursue available remedies against  
25 those responsible for those releases and threatened releases without affording Leek the  
26 opportunity for a full hearing of evidence pertinent to the request.

1           **VI.    MANNER IN WHICH PETITIONER IS AGGRIEVED**

2           Leek is aggrieved by the Regional Board's failure to act because Leek has been held  
3 solely responsible for investigation and response to groundwater and soil vapor impacts from  
4 multiple sources, including impacts that are attributable to sources unrelated to Leek and Leek's  
5 property. Leek has been forced to incur significant response costs to investigate actual and  
6 threatened soil, soil vapor, and groundwater impacts that have been caused by others and for  
7 which it bears no legal responsibility.

8  
9           **VII.   SPECIFIC ACTION REQUESTED BY PETITIONER**

10          Leek respectfully requests that the State Board (1) determine that the Regional Board's  
11 failure to act to require investigation of impacts attributable to identified offsite sources by the  
12 parties responsible for those sources, and the Regional Board's concurrent requirement that Leek  
13 continue to bear the sole burden of responding to those impacts, is inappropriate and improper,  
14 and (2) issue, or direct the Regional Board to issue, appropriate directives to South Gate Industrial  
15 Center and other responsible parties to undertake response to the impacts attributable to the offsite  
16 sources identified in Exhibit A.

17  
18          **VIII.   POINTS AND AUTHORITIES**

19          Petitioner Leek is the owner of an industrial property located at 8400-8414 Otis Street, at  
20 the southeast corner of the intersection of Otis Street and Liberty Boulevard in the city of South  
21 Gate. As directed by the Regional Board, Leek has since 1986 conducted a number of  
22 investigations of soil, soil vapor, and groundwater impacts from chlorinated solvents at and  
23 around the Leek property. The Regional Board has indicated that it attributes those impacts to  
24 historical releases from industrial facilities that previously operated at the Leek property, and that  
25 it considers Leek responsible for those impacts as the owner of the former facilities.

26          In the course of these investigations, Leek has analyzed samples taken from various  
27 locations outside the Leek property, in the Otis-Liberty area, including samples from adjacent  
28 parcels owned by South Gate Industrial Center. As indicated in the letter and report attached

1 hereto as Exhibit A, analysis of those samples indicates the existence of at least two separate  
2 source areas on those adjacent parcels, indicating the probable location of historical releases of  
3 chlorinated solvents that have contributed to the soil, soil vapor, and groundwater impacts in the  
4 Otis-Liberty area.

5 On August 1, 2013, Leek submitted the letter and report in Exhibit A to the Regional  
6 Board to request that the Regional Board direct South Gate Industrial Center as the owner of these  
7 parcels to investigate impacts from chlorinated solvents emanating from source areas located  
8 there. In view of the existence of multiple releases, source areas, and responsible parties in the  
9 area, Leek submits that it is no longer equitable that it bear sole responsibility to investigate and  
10 respond to environmental conditions that are now known to be attributable to causes beyond  
11 historical activities on the Leek property.

12 As of this date, the Regional Board has not responded to the letter and report, and has not  
13 directed South Gate Industrial Center, or anyone associated with the apparent releases on the  
14 South Gate Industrial Center properties to undertake investigation and response to impacts from  
15 those releases; it is apparent that the Regional Board intends that Leek will continue to bear sole  
16 responsibility for responding to these releases despite evidence establishing that they were caused  
17 by others.

18 By ignoring and failing to take any action in response to Leek's request, the Regional  
19 Board has disregarded its responsibilities under State Water Resources Control Board Resolution  
20 No. 92-49 to:

- 21 • Follow appropriate procedures "in making decisions as to when a person may be required  
22 to undertake an investigation to determine if an unauthorized hazardous substance  
23 discharge has occurred"[Res. 92-49, recitals (5)(a)];
- 24 • Use "any relevant evidence, whether direct or circumstantial" to make those decisions,  
25 including "site characteristics and location in relation to other potential sources of a  
26 discharge" [Res. 92-49(I)(A)(2)];
- 27 • "Make a reasonable effort to identify the dischargers associated with the discharge" [Res.  
28 92-49(I)(B)]; and

- 1       • “Where necessary to protect water quality, name other persons as dischargers, to the  
2       extent permitted by law” [Res. 92-49(II)(A)(4)].

3           23 CCR § 2207 requires the Regional Board, in making decisions as to when a person  
4       may be required to undertake an investigation related to a discharge or threat of a discharge, to  
5       “use any relevant evidence to identify dischargers; make reasonable efforts to identify dischargers  
6       [and] require identified dischargers to investigate.” § 2207(I). It further requires the Regional  
7       Board, when overseeing investigations to determine the nature and horizontal and vertical extent  
8       of a discharge, to “name other dischargers as permitted by law.” § 2207 (II).

9           Based on the data, circumstances and analysis discussed in Exhibit A, there is ample  
10       grounds for the Regional Board to act, pursuant to Water Code §13267, to direct South Gate  
11       Industrial Center and others associated with the source areas on its properties, identified in  
12       Exhibit A, to investigate and develop an appropriate response to impacts from releases at those  
13       source areas.

14           Leek will submit a more detailed supplemental brief of points and authorities in the event  
15       that abeyance of this petition ends and it is activated.

16  
17           **IX. SERVICE ON INTERESTED PARTIES**

18           Contemporaneously with submission of this petition to the State Board, Leek has notified  
19       South Gate Industrial Center, the property owner identified and referred to in Exhibit A, by  
20       sending copies of this petition to:

21           South Gate Industrial Center  
22           c/o Heger Realty  
23           Attn: Thomas Holland  
24           5701 South Eastern Avenue  
25           Suite 100  
26           Commerce, California 90040

27       with a copy to its counsel,  
28           Alfred M. Clark, III  
            Locke Lord LLP  
            300 South Grand Avenue  
            26<sup>th</sup> Floor  
            Los Angeles, California 90071

1 and a copy to the Regional Board at:  
2

3 Samuel Unger  
4 Executive Officer  
5 California Regional Water Quality Control Board  
6 Los Angeles Region  
7 320 West Fourth Street  
8 Suite 200  
9 Los Angeles, California 90013

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X. STATEMENT OF REASONS WHY CERTAIN ISSUES WERE NOT  
RAISED BEFORE THE REGIONAL BOARD

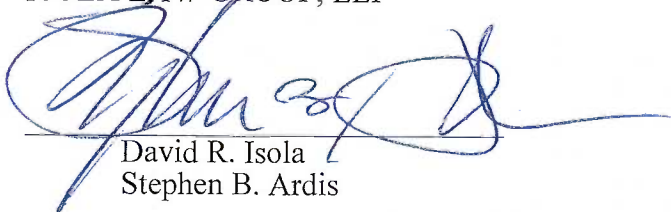
Leek had expected (and still hopes) that its letter and report would likely prompt further discussions with Regional Board staff regarding the technical data presented in the report and an appropriate definition of the scope of responsibility for investigation among the respective responsible parties. Because the Regional Board did not respond, Leek is of course uncertain as to the basis for the Regional Board's failure to respond, and as to the nature of any objections or contrary analysis that Regional Board staff may have with regard to the matters presented in Leek's letter and report. For these reasons, Leek respectfully reserves its rights to present such other and further evidence and analysis as may be appropriate to address the basis of the Regional Board's presumed but as-yet unarticulated questions or objections as to the analysis Leek presented in Exhibit A.

Respectfully Submitted,

Dated: October 29, 2013

ISOLA LAW GROUP, LLP

By:

  
David R. Isola  
Stephen B. Ardis

Attorneys for Petitioner  
LEEK FAMILY TRUST

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EXHIBIT "A"



# ISOLA

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LAW GROUP, LLP

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August 1, 2013

Ms. Thizar Tintut-Williams  
Dr. Angelica Castenada  
LOS ANGELES REGIONAL  
WATER QUALITY CONTROL BOARD  
320 West Fourth Street, Suite 200  
Los Angeles, California 90013

Re: Former Chem-Nickel Company  
8400-8414 Otis Street, South Gate  
SCP No. 0315  
Site ID No. 1848300

Dear Ms. Tintut-Williams and Dr. Castenada:

As you know, our firm represents the Leek Family Trust ("Leek"), owners of the above referenced "Site." Genesis Engineering and Redevelopment (GE&R), on behalf of Leek, has recently submitted its "Phase III Site Characterization Work Plan – Shallow Soil and Soil Vapor," intended to fulfill the Board's requirement that Leek assess the extent to which impacts from chlorinated volatile organic compounds (VOC) in soil gas in the vicinity of the Site may present a threat of vapor intrusion to indoor air in nearby buildings as well as to develop a Pilot Study for mitigation of shallow soils on and in the vicinity of the Site. We have received your conditional approval of that workplan, and GE&R and we are presently reviewing those conditions.

However, we write to you to express Leek's concerns that although VOC impacts in the site vicinity have been attributed thus far only to historical operations at the Site, the characterization work completed to date strongly indicates that these impacts have been caused by multiple releases, not just from the Site, but from offsite as well.

Enclosed is a technical memorandum prepared by Dr. Stephen J. Van der Hoven, GE&R's project manager for the site investigation. The memorandum summarizes the data collected to date, which points to four separate source areas, with distinct "signatures." Two of the source areas are located to the northeast and southeast of the Site on adjacent parcels owned by South Gate Industrial Center. As noted in the memorandum, one of those apparent offsite source areas is located to the south of the Site immediately adjacent to the three commercial buildings in which Board staff has required investigation to assess vapor intrusion risk.

Ms. Thizar Tintut-Williams  
Dr. Angelica Castenada  
LOS ANGELES REGIONAL  
WATER QUALITY CONTROL BOARD  
August 1, 2013  
Page 2 of 2

Leek shares the Board's concern that every effort is made to promptly assess the potential for health risks associated with VOC impacts to groundwater, soil and soil vapor in the area of the Site, and to undertake all necessary measures to properly mitigate those risks. It is, however, becoming clear that these impacts, and the associated potential risks, involve more than just releases from Site operations, and have been caused by other releases from activities outside the Site, unrelated to Leek's ownership of the Site. The Phase III site characterization work, and particularly that portion relating to potential building vapor intrusion risk, will require substantial expense and may raise significant potential liabilities, as to which Leek should not bear more than its fair share of responsibility.

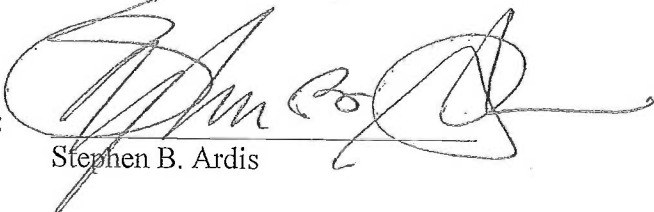
Under these circumstances, Leek believes that it is appropriate for the Board to direct that the owners of those parcels on which the two offsite source areas are located undertake further characterization activities relating to those impacts, including among other things assessment of the vapor intrusion risk posed by these offsite source areas. We are informed that these properties are owned by South Gate Industrial Center, and managed by Heger Industrial. GE&R and our firm have had contact with the representatives of South Gate Industrial Center and its counsel in connection with access issues to conduct sampling on these parcels, and we can provide contacts information at your request.

I ask that you review and consider the data and analysis discussed in the enclosed memorandum, and that you take the appropriate steps pursuant to Water Code §13267 to direct SGIC to conduct further investigation of impacts from these source areas. In view of the proximity of one of those source areas to the two buildings to the south of the Leek Site, this should include directions to participate in the planned Phase III work to assess potential offsite vapor intrusion risks. Naturally, if we can provide any additional information or assist in this endeavor, please do not hesitate to contact me.

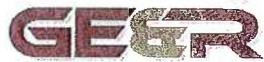
Very Truly Yours,

ISOLA LAW GROUP, LLP

By:

  
Stephen B. Ardis

SBA/me



**GENESIS ENGINEERING & REDEVELOPMENT**

**Technical Memorandum**

**To:** Jeff Hawkins and Steve Ardis (Isola Law)  
**From:** Steve Van der Hoven  
**Date:** July 31, 2013  
**Subject:** Analysis of Source Areas

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**Introduction**

An analysis of existing soil vapor and groundwater data was used to identify source areas of chlorinated volatile organic compounds ("VOC") at and in the vicinity of the former Chem-Nickel Company, Inc. operation located at 8400 through 8414 Otis Street ("Site") (Figures 1 and 2). A comprehensive soil vapor survey of the upper 15 feet was conducted on-Site and up to a distance of approximately 200 feet off-Site in all directions. The soil vapor data are presented in the December 3, 2012 *Off-Site Soil Vapor Investigation Report* prepared by Genesis Engineering & Redevelopment, Inc. ("GE&R"). Groundwater data from the shallow water bearing unit come from monitoring wells that have been installed on and in the vicinity of the Site as well as reconnaissance groundwater samples.

**Summary of Findings**

A brief summary of the findings with respect to source areas is provided below. A detailed discussion of the soil and groundwater data and interpretations of these data are presented in the following sections.

*Soil Vapor Data*

The soil vapor data indicate that there are likely to be four separate source areas on and in the vicinity of the Site. The on-Site sources areas are:

1. The southeastern portion of the Site where chlorinated VOC concentrations are highest, tetrachloroethene ("PCE") is the dominant chlorinated VOC, and 1,1,1-trichloroethane ("1,1,1-TCA") is also present (Area A on Figures 3 through 7); and
2. The western side of the Site where an area of dominantly trichloroethene ("TCE") and no 1,1,1-TCA is present (Area B on Figures 3 through 7).

The off-Site sources areas are:



1. The parking lot to the northeast of the Site where chlorinated VOC concentrations increase, TCE is dominant, and no 1,1,1-TCA is present (Area C on Figures 3 through 7); and
2. The alley to the southeast of the Site where chlorinated VOC concentrations increase, TCE is dominant, and no 1,1,1-TCA is present (Area D on Figures 3 through 7).

### Groundwater Data

The Chem-Nickel Company used 1,1,1-TCA during the last 10 years of operation on the Site, and 1,4-dioxane was commonly used as a stabilizer for 1,1,1-TCA. 1,4-dioxane has been detected in soil vapor and shallow groundwater on Site. Based on information currently available, 1,4-dioxane does not appear to be associated with any of the other source areas identified by the soil vapor data. Therefore, 1,4-dioxane may serve as a tracer for impacts to groundwater that occurred from on-Site releases.

With respect to shallow groundwater, 1,4-dioxane has only been detected in on-Site wells and one downgradient well. However, chlorinated VOC have been detected in other off-Site shallow monitoring wells. Therefore, other source areas (those identified by soil gas data or as yet unidentified) may have contributed chlorinated VOC to the shallow groundwater.

### **History of Chem-Nickel Solvent Use**

The history of solvent use at the Site comes mainly from the deposition of Gary Emerson, an employee of Chem-Nickel since the late 1950s, and owner of the business from 1990 to 1992 when operations ceased. Chem-Nickel used TCE as a degreaser from when G. Emerson was first hired in the late 1950s up to the period between 1968 and 1972. PCE was then used in degreasing operations until 1982 when the degreasing agent was switched to 1,1,1-TCA.

Degreasing operations were performed outside, adjacent to the northeast corner of the building on at the 8414 Otis Street address (the Chem-Nickel plating facility) from at least the late 1950s until 1991. For the last year of operations, degreasing was performed inside in the northeastern corner of the Shop Area. Degreasing operations in both locations consisted of a hot, vapor degreasing tank and a cold degreasing tank. The degreasing tanks were not connected to the waste water collection system that discharged to the sanitary sewer.

### **Source Areas – Soil Vapor Data**

This section provides a summary of the data and the rationale for identifying the four source areas based on an analysis of soil vapor data collected to date. The identification of source areas is based primarily on concentration contours of:

1. PCE at 5.5 feet below the ground surface (“bgs”) (Figure 3),

2. TCE at 5.5 feet bgs (Figure 4),
3. PCE at 15 feet bgs (Figure 5), and
4. TCE at 15 bgs (Figure 6).

In addition, the molar ratios of chlorinated VOC in individual samples and the presence/absence of 1,1,1-TCA (Figure 7) were also used to identify source areas. A total of four source areas were identified from the soil vapor data, and each area is discussed in the following sections.

#### Area A

All four PCE/TCE soil vapor concentration contour maps (Figures 3 through 6) show that the highest concentrations of chlorinated VOC are found in the northeast corner of the Chem-Nickel plating facility at the 8414 Otis Street address. In general, VOC concentrations decrease away from this area, forming a “bulls-eye” pattern centered on the northeast corner of the 8414 Otis Street address. A bulls-eye pattern is generally indicative of a source area.

Samples from *Area A* also have distinct PCE/TCE molar ratios (Figure 7). On Figure 7, molar ratios from the 15 foot deep interval were chosen for display because of the high density of data and concentrations are least likely to be affected by differential loss to the atmosphere (the shallower samples) or from a fluctuating groundwater table (the deeper samples). On a molar basis, PCE makes up greater than 80% of the chlorinated VOC in samples from *Area A*.

*Area A* is also distinct as it is the only area where 1,1,1-TCA is detected in soil vapor (Figure 7).

#### Area B

To the west of *Area A*, concentrations of chlorinated VOC initially decrease, and then increase again along the western edge of the Site and beneath the vacant lot on the 8408 Otis Street address (Figures 3 through 6). Although not all of the contour maps show a bulls-eye pattern in *Area B*, the increase in chlorinated VOC concentrations indicate a source area.

In addition to increasing concentrations of both PCE and TCE, a plot of the molar ratios indicates that PCE makes up less than 40% of the chlorinated VOC in *Area B* (Figure 7). No 1,1,1-TCA was detected in soil vapor samples from *Area B*.

Taken as a whole, *Area B* appears distinct from *Area A* since there is a concentration low between the two areas, the two areas have opposite PCE/TCE molar ratios, and 1,1,1-TCA is not found in *Area B*.



### Area C

The PCE and TCE concentration contour figures show a bulls-eye pattern to the northeast of the Site centered on soil vapor location SV-28 located on South Gate Industrial Center property (Figures 3 through 6). Moving from *Area A* to the northeast towards *Area C*, concentrations of chlorinated VOC initially decrease and then increase again in the vicinity of SV-28, suggesting another source area in the vicinity of this soil vapor boring. Furthermore, this increase in chlorinated VOC concentrations is almost all a result of increased concentrations of TCE. This is also reflected in the PCE/TCE molar ratio where PCE makes up less than 20% of the chlorinated VOC (Figure 7). No 1,1,1-TCA was detected in soil vapor samples from *Area C*.

Taken as a whole, *Area C* appears distinct from *Area A* by (i) a concentration low between the two areas, (ii) the two areas have opposite PCE/TCE molar ratios, and (iii) 1,1,1-TCA is not found in *Area C*.

### Area D

The TCE concentration contour figure at a depth of 5.5 feet bgs show a bulls-eye pattern in the alley to the southeast of the Site centered on soil vapor locations SV-18 and SV-32 located on South Gate Industrial Center property (Figure 4). The other three contour maps (Figures 3, 5, and 6) do not show a bulls-eye pattern in this area. However, each of these contour maps shows that around *Area A* there is an elongation of closed contours to the southeast towards *Area D*. While only TCE at 5 feet bgs shows a distinct concentration low between *Areas A* and *D*, the elongation of contours on the other maps suggests impacts from the two source areas may overlap.

While there may be overlap between source *Areas A* and *D*, their PCE/TCE molar ratios are different. In *Area A*, PCE makes up greater than 60% of the chlorinated VOC, whereas in *Area D* PCE makes up less than 30% of the chlorinated VOC. The difference in molar ratio is almost entirely a result of TCE concentrations that are up to an order of magnitude higher in *Area D* than in *Area C*, whereas PCE concentrations are roughly the same or slightly lower in *Area D*. No 1,1,1-TCA was detected in soil vapor samples from *Area D*.

Taken as a whole, *Area D* appears distinct from *Area A* by a TCE concentration low between the two areas at a depth of 5 feet bgs, the two areas have opposite PCE/TCE molar ratios, and 1,1,1-TCA is not found in *Area D*.

### **Source Areas – Shallow Groundwater Data**

Chlorinated VOC have also impacted the shallow water bearing unit in the vicinity of the Site. Analysis of the groundwater data included evaluation of marker compounds and spatial



patterns of detection. The shallow groundwater data were also evaluated with respect to the previously discussed soil vapor data.

#### 1,4-Dioxane Data

Chem-Nickel used 1,1,1-TCA in degreasing operations. The soil vapor data discussed in the previous section indicate that 1,1,1-TCA is associated with the source on the northeast corner of the 8414 Otis Street address. The compound 1,4-dioxane was commonly used as a stabilizer for 1,1,1-TCA. Both 1,1,1-TCA and 1,4-dioxane have been detected in soil vapor beneath the Site, but not in off-site soil vapor samples. There are no data that indicate that 1,1,1-TCA and 1,4-dioxane are associated with any of the other off-Site source areas identified in the unsaturated zone.

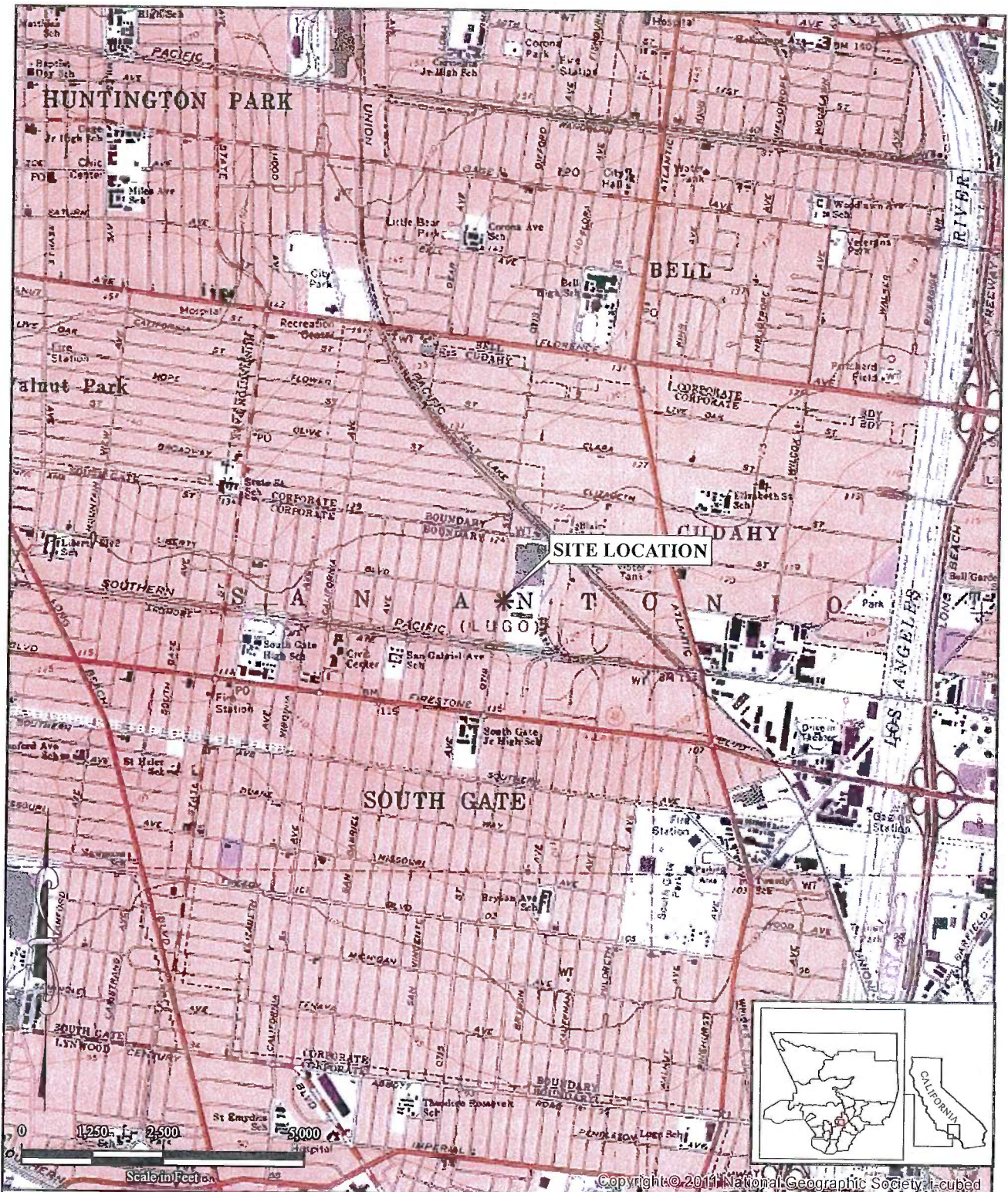
Shallow groundwater is encountered at a depth of approximately 50 feet bgs. 1,1,1-TCA has not been detected in wells screened in the shallow groundwater unit in the vicinity of the Site. However, 1,4-dioxane is detected in shallow monitoring wells on-Site (VW99-1, VW99-2, VW99-3, VW99-4, and SMW00-2), an on-Site reconnaissance groundwater sample (CB-1), and in one downgradient monitoring well (MW-6). 1,4-dioxane has not been detected upgradient of the Site (MW-2 and CB-4), or downgradient/crossgradient of the Site (MW-4, MW-5, and CB-5). The 1,4-dioxane concentrations during the December 2012 quarterly sampling event and the confirmation boring reconnaissance groundwater samples from February, 2013 are shown on Figure 8.

Based on the analysis of 1,4-dioxane data, releases of chlorinated compounds from an on-Site source area appear to have impacted shallow groundwater beneath the Site and downgradient of the Site in the vicinity of MW-6. Since no other off-Site wells have detectable 1,4-dioxane, other source areas may have contributed to groundwater impacts from chlorinated VOC in the vicinity of Monitoring Wells MW-4 and MW-5.

**GEER**

**FIGURES**





**SITE LOCATION MAP**

Other Sources of Volatile Organic Compounds  
 Former Chem-Nickel Company, Inc.  
 8414 Otis Street, South Gate, California

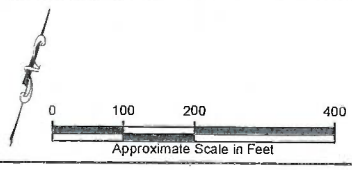


**GENESIS ENGINEERING & REDEVELOPMENT**

351 Ruess Road · Ripon, CA 95366  
 Tel: 209.599.2004 · Fax: 209.433.3990  
 www.gercorp.com

Designed:	KB	Project Number:	124-D-3	Figure
Drawn:	DH	File:	124AC4_1	1
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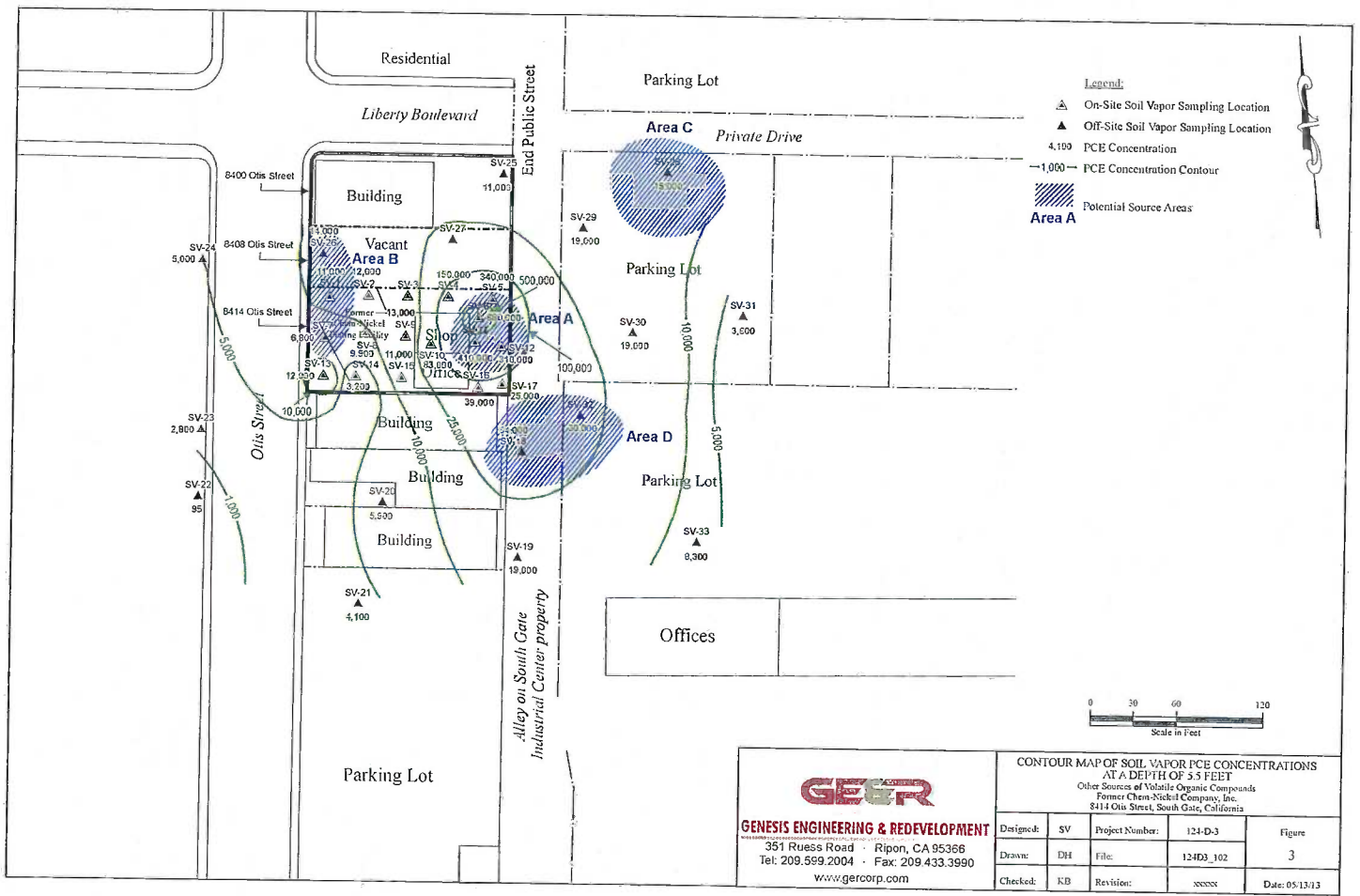




**GENESIS ENGINEERING & REDEVELOPMENT**  
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**SITE VICINITY MAP**  
 Other Sources of Volatile Organic Compounds  
 Former Chem-Nickel Company, Inc.  
 8414 Ois Street, South Gate, California


Designed:	KD	Project Number:	124-D-3	Figure
Drawn:	DH	File:	124AC4_2	2
Checked:	KD	Revision:	SSXX	Date: 03/01/13



**Legend:**

- ▲ On-Site Soil Vapor Sampling Location
- ▲ Off-Site Soil Vapor Sampling Location
- 4,100 PCE Concentration
- 1,000- PCE Concentration Contour
- Area A Potential Source Areas



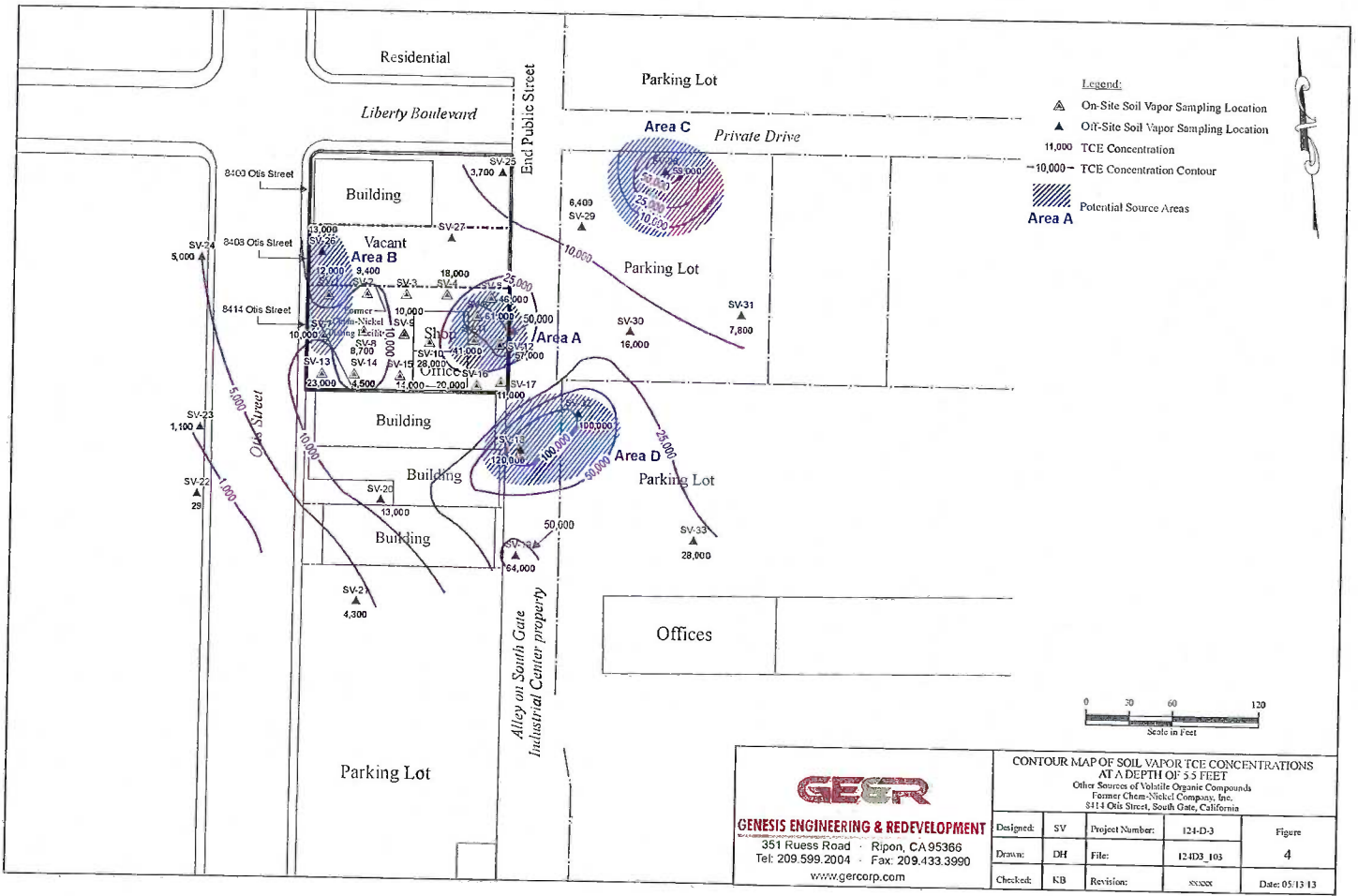


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**CONTOUR MAP OF SOIL VAPOR PCE CONCENTRATIONS  
 AT A DEPTH OF 3.5 FEET**

Other Sources of Volatile Organic Compounds  
 Former Chem-Natchik Company, Inc.  
 8414 Otis Street, South Gate, California

Designed:	SV	Project Number:	124-D-3	Figure	
Drawn:	DH	File:	124D3_102	3	
Checked:	KB	Revision:	xxxxxx	Date:	05-13-13



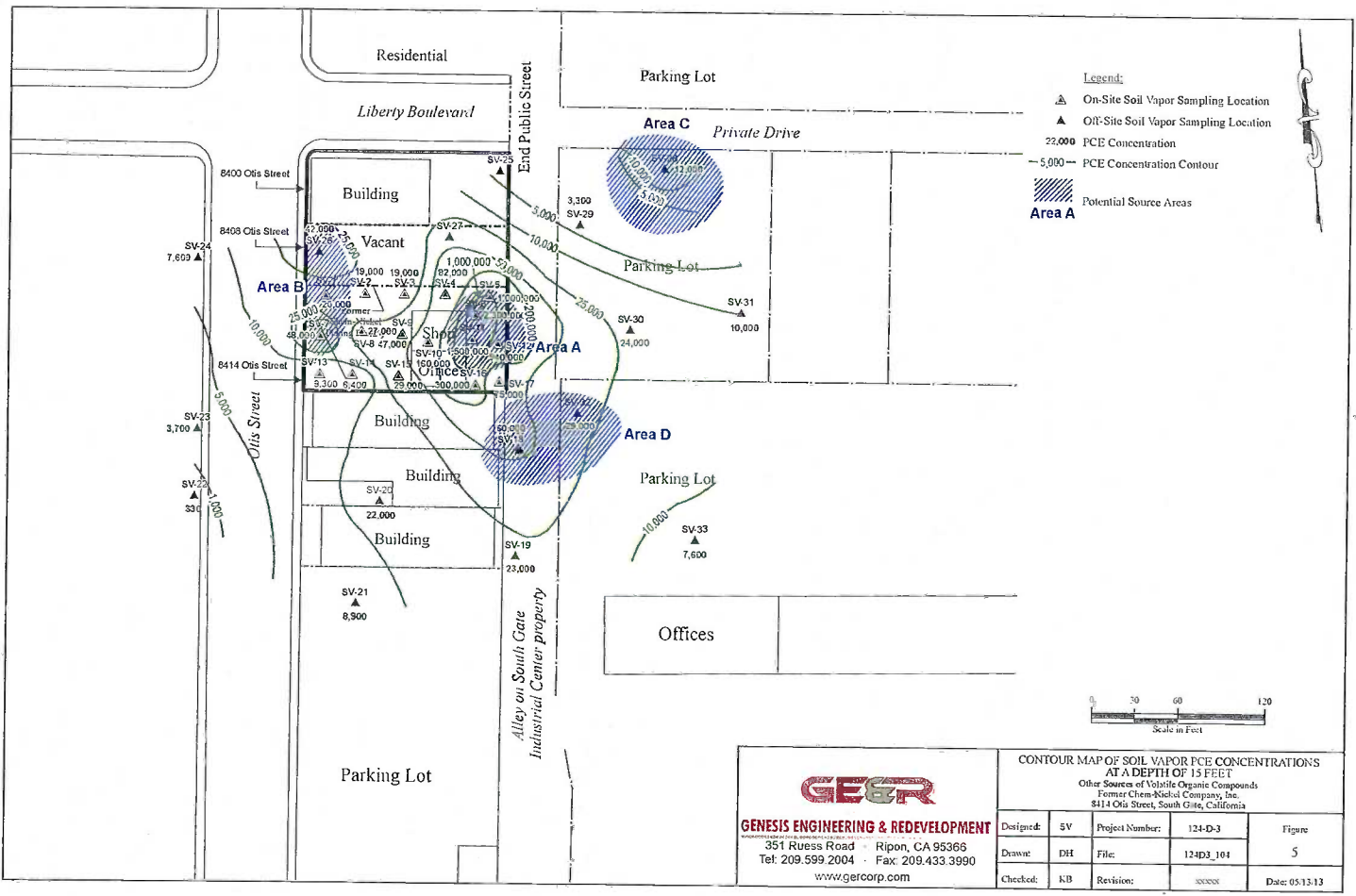
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**CONTOUR MAP OF SOIL VAPOR TCE CONCENTRATIONS AT A DEPTH OF 5.5 FEET**  
 Other Sources of Volatile Organic Compounds  
 Former Chem-Nickel Company, Inc.  
 8414 Otis Street, South Gate, California

Designed:	SV	Project Number:	124-D-3	Figure
Drawing:	DH	File:	124D3_103	4
Checked:	KB	Revision:	SSUSX	Date: 05/13/13





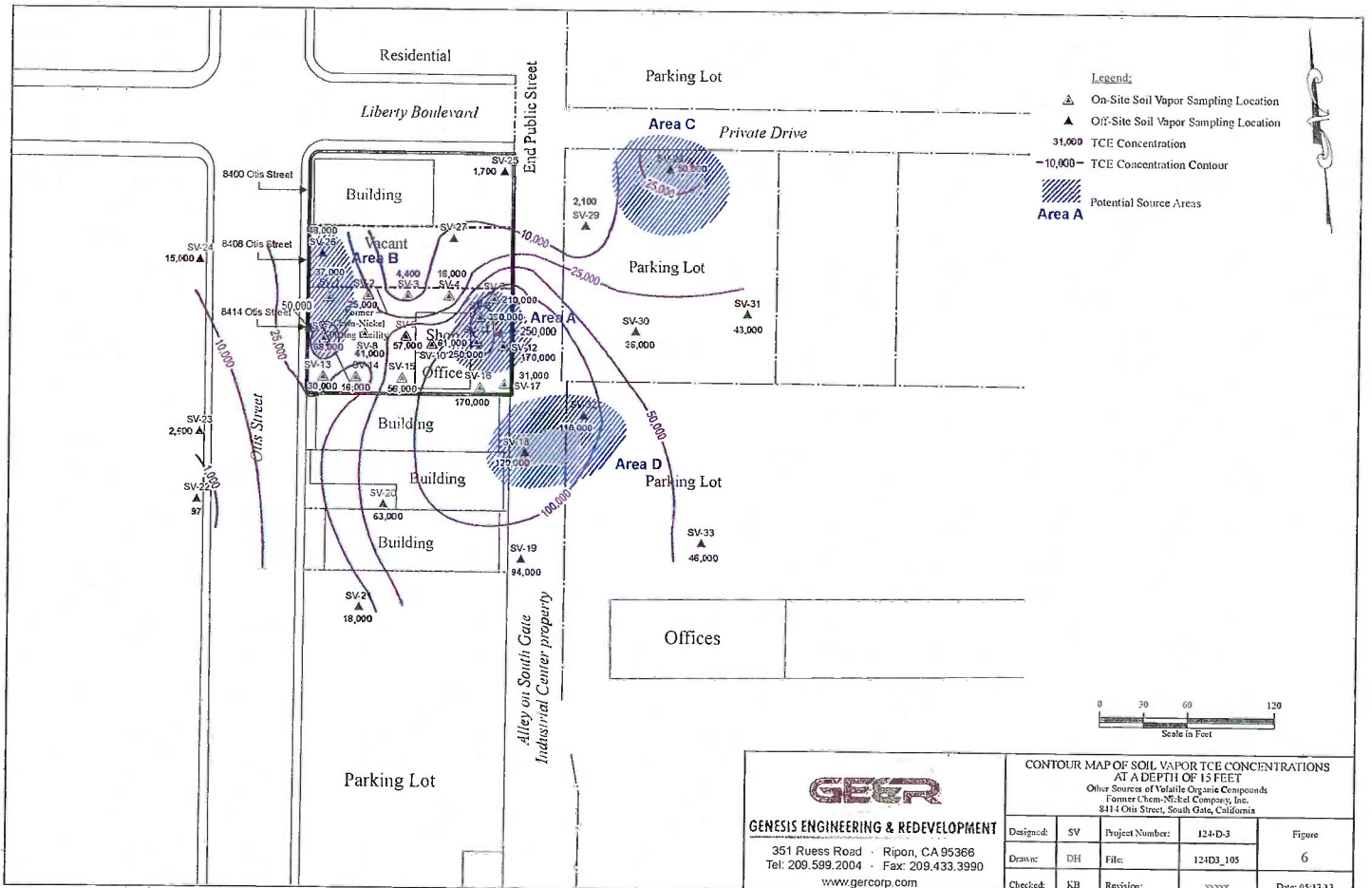
- Legend:**
- ▲ On-Site Soil Vapor Sampling Location
  - ▲ Off-Site Soil Vapor Sampling Location
  - 22,000 PCE Concentration
  - 5,000 PCE Concentration Contour
  - Area A Potential Source Areas



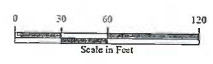
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CONTOUR MAP OF SOIL VAPOR PCE CONCENTRATIONS  
 AT A DEPTH OF 15 FEET  
 Other Sources of Volatile Organic Compounds  
 Former Green-Nobel Company, Inc.  
 8414 Otis Street, South Gate, California

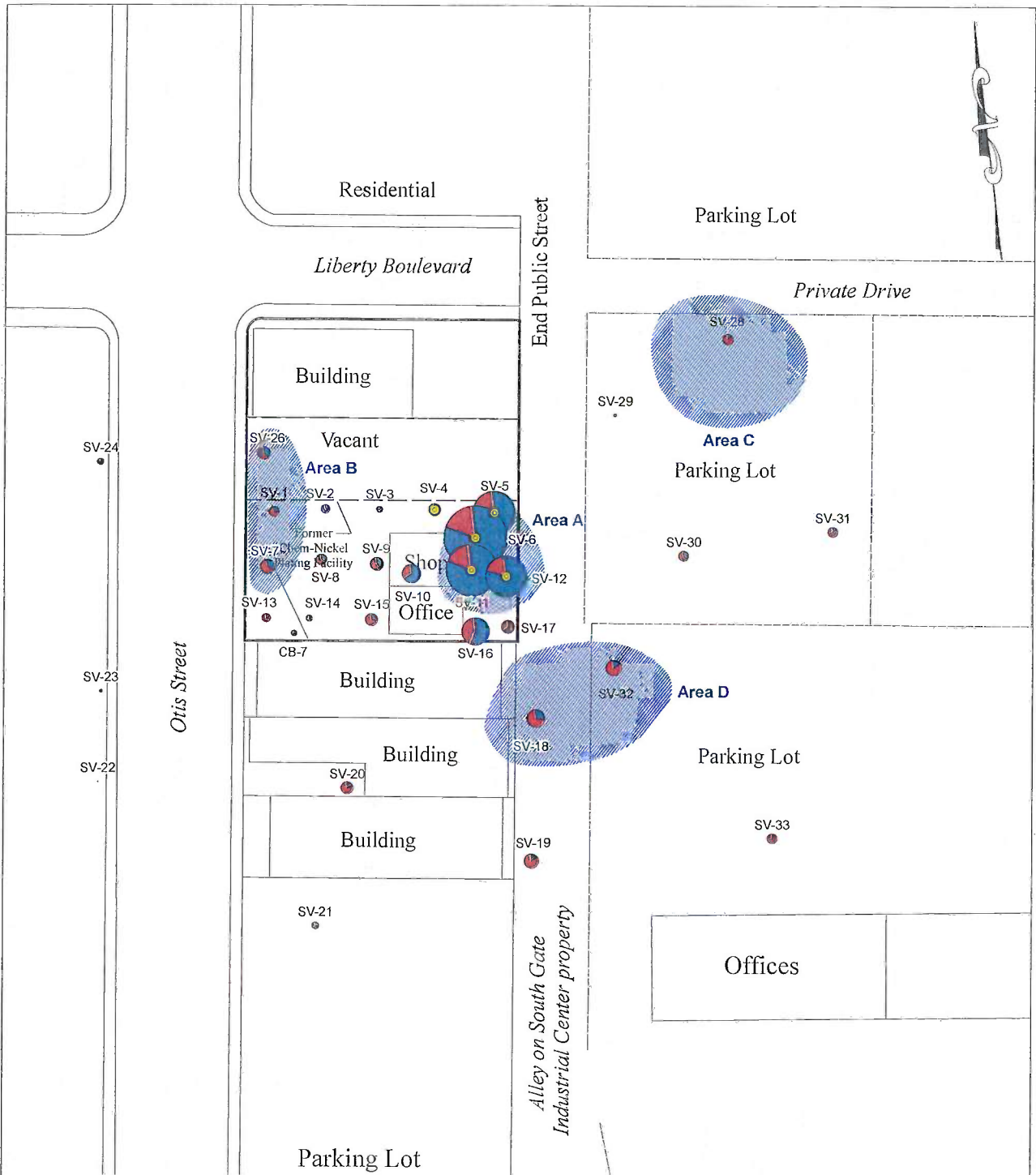
Designed:	SV	Project Number:	124-D-3	Figure
Drawn:	DH	File:	124D3_104	5
Checked:	KB	Revision:	xxxxxx	Date: 05-13-13



- Legend:**
- ▲ On-Site Soil Vapor Sampling Location
  - ▲ Off-Site Soil Vapor Sampling Location
  - 31,000 TCE Concentration
  - 10,000- TCE Concentration Contour
  - ▨ Potential Source Areas
  - Area A**



 <b>GENESIS ENGINEERING &amp; REDEVELOPMENT</b> 351 Ruess Road · Ripon, CA 95366 Tel: 209.599.2004 · Fax: 209.433.3990 www.gercorp.com				<b>CONTOUR MAP OF SOIL VAPOR TCE CONCENTRATIONS          AT A DEPTH OF 15 FEET</b> <small>Other Sources of Volatile Organic Compounds          Former Chem-Nobel Company, Inc.          8414 Otis Street, South Gate, California</small>	
				Designed: SV	Project Number: 124-D-3
Drawn: DH	File: 124D3_105	6			
Checked: KB	Revision: SXXXX	Date: 05/13/13			



**Legend:**



Molar Ratios of Chlorinated Ethenes



Trichloroethane Detected



Potential Source Areas

**Area A**

Relative Size of Molar Ratio Diagrams:



100  $\mu\text{mole}/\text{m}^3$



1,000  $\mu\text{mole}/\text{m}^3$




5,000  $\mu\text{mole}/\text{m}^3$

Note: SV-25 & SV-27 samples not used due to a high 1,1-DFA concentration indicating a significant leak.

CB-7 sampled at a depth of 11 feet.

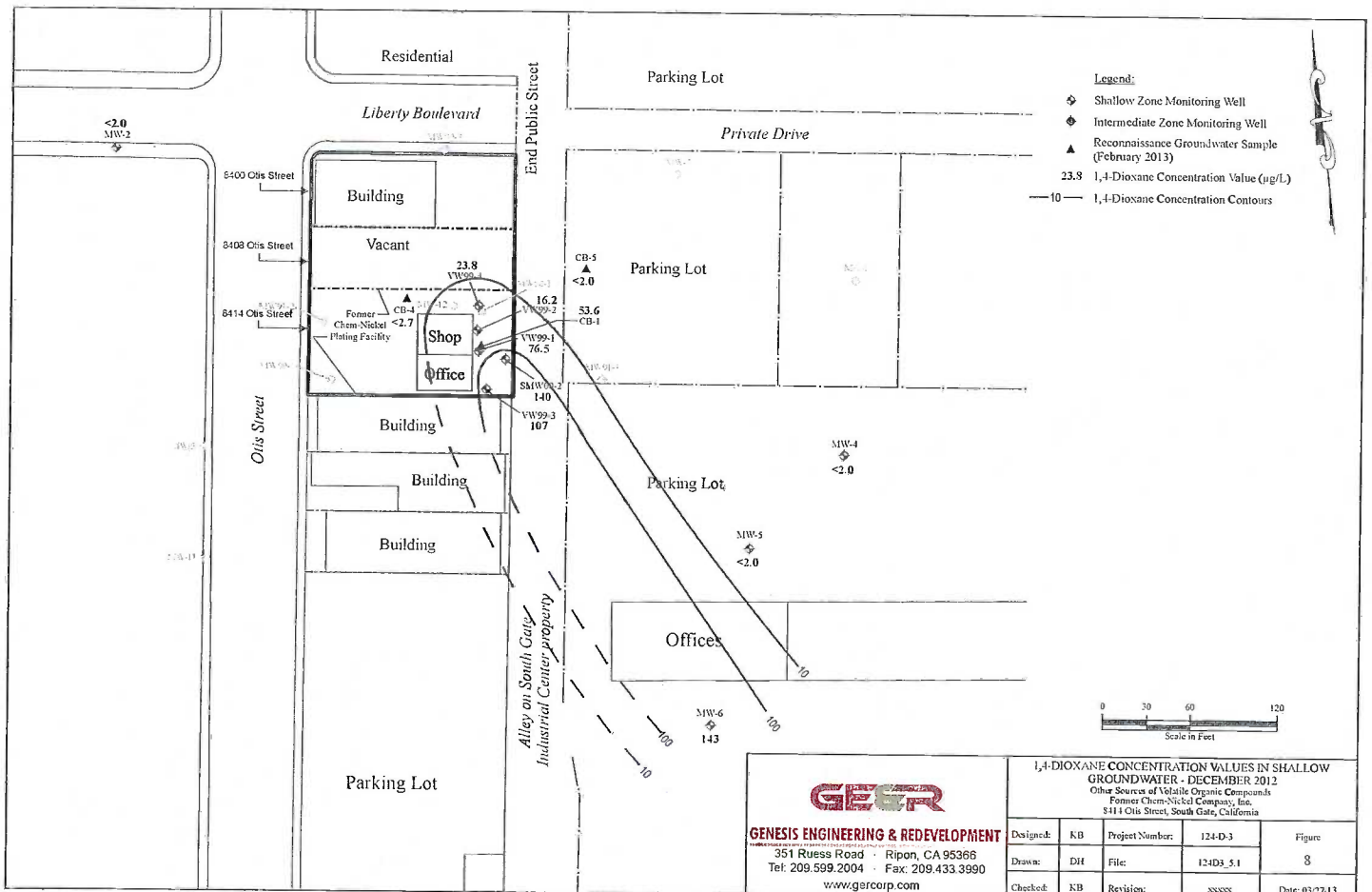




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MOLAR RATIOS OF CHLORINATED ETHENES AND  
 DETECTIONS OF CHLORINATED ETHANES IN SOIL VAPOR  
 AT A DEPTH OF 15 FEET - DECEMBER 2012  
 Other Sources of Volatile Organic Compounds  
 Former Chem-Nickel Company, Inc.  
 8414 Otis Street, South Gate, California

Designed:	KB	Project Number:	124-D-3	Figure
Drawn:	DH	File:	124D3_93	7
Checked:	KB	Revision:	xxxxx	Date: 04/11/13



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