
SUMMARY OF FINDINGS:

**STUDY ON
LEAKING UNDERGROUND STORAGE TANKS
IN CALIFORNIA**

**(OPEN 15 YEARS OR MORE,
NOT IN CLEANUP FUND, AND DEEMED
“NOT READY FOR CLOSURE – FINAL”
BY LEAD AGENCY)**

Prepared by:

**Tetra Tech EMI
1999 Harrison Street, Suite 500
Oakland, CA 94612**



TABLE OF CONTENT

SUMMARY OF FINDINGS	iii
EXECUTIVE SUMMARY	vii
BACKGROUND	ix
METHODOLOGY.....	ix
1.0 NON-CLEANUP FUND OLDER CASES REVIEWED IN CALIFORNIA	1
1.1 NUMBER OF NON-CUF OLDER CASES	1
1.2 AGE OF NON-CUF OLDER CASES	2
1.3 CASE REVIEW STATUS CHANGE: INITIAL REVIEW AND AFTER DISCUSSION WITH LEAD AGENCIES.....	4
1.4 SUMMARY OF NON-CUF OLDER CASES REVIEWED IN CALIFORNIA	4
2.0 CASE DATA IN GEOTRACKER (NON-CUF OLDER CASES).....	6
2.1 CASE DATA AVAILABILITY IN GEOTRACKER.....	6
2.2 INITIAL CASE CLEANUP STATUS	8
2.3 APPARENT TYPES OF RP	10
2.4 CLAIMED VERSUS UNCLAIMED CASES	13
2.5 SUMMARY OF NON-CUF OLDER CASES DATA IN GEOTRACKER	14
3.0 APPARENT CASE ACTIVITIES IN GEOTRACKER (NON-CUF OLDER CASES).....	16
3.1 GROUNDWATER MONITORING	16
3.2 SITE INVESTIGATION	18
3.3 SITE REMEDIATION	20
3.4 REGULATORY DIRECTIVE LETTER.....	22
3.5 SUMMARY OF NON-CUF OLDER CASES APPARENT ACTIVITIES IN GEOTRACKER.....	24
4.0 APPARENT SITE CONDITIONS (NON-CUF OLDER CASES).....	25
4.1 PETROLEUM USAGE AT SITE	25
4.2 SITE REDEVELOPMENT	27
4.3 SUMMARY OF NON-CUF OLDER CASES APPARENT SITE CONDITION.....	29
5.0 CASE DISCUSSIONS WITH LEAD AGENCIES (NON-CUF OLDER CASES).....	30
5.1 DISCUSSIONS WITH LEAD AGENCIES	30
5.2 APPARENT NEED FOR INCREASED ENFORCEMENT	39
5.3 SUMMARY OF CASE DISCUSSIONS WITH LEAD AGENCIES	41
6.0 APPARENT BARRIERS TO CLEANUP (NON-CUF OLDER CASES).....	43
6.1 ENVIRONMENTAL VERSUS NON-ENVIRONMENTAL BARRIERS	43
6.2 PROCEDURAL VERSUS TECHNICAL BARRIERS	49

6.3 BARRIERS INDICATED BY THE LEAD AGENCIES50

6.4 SUMMARY OF BARRIERS TO SITE CLEANUP/CLOSURE52

7.0 NEXT STEPS COMMITTED BY LEAD AGENCY53

CONCLUSION57

SUMMARY OF FINDINGS

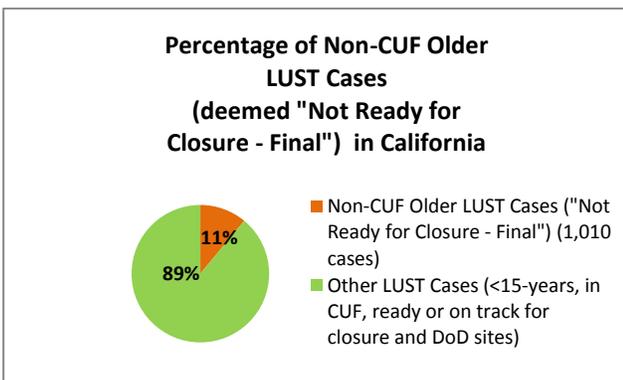
A study of all open and older (15 years or more) leaking underground storage tank cases in California that were not in the State Underground Storage Tank Cleanup Fund (USTCF).

OBJECTIVE: To better understand the barriers in conducting and completing aging leaking underground storage tank (LUST) cleanups in California that were not funded by the USTCF (non-CUF).

Most notable barriers identified by this study in completing these LUST cleanups were:

- **Lack of enforcement due to limited resources**
- **Under-utilized available USTCF funding options**
- **Inadequate management of data and case oversight (e.g., missing case information, incomplete case transfer etc.)**
- **Excessive site monitoring (sites remained in prolong assessment phase)**
- **Challenging responsible party (RP) issues (e.g., recalcitrant, missing or sites with multiple RPs)**

Between 2010 and 2011, the U.S. Environmental Protection Agency (USEPA) Region 9, as part of a cooperative agreement with the California State Water Resources Control Board (SWRCB), conducted a study on all open LUST cases in California that were: (1) not in the USTCF, (2) opened for 15 years or more, and (3) deemed by the lead agencies as *“Not Ready for Closure – Final.”* A total of 1,010 cases (11 percent of open LUST cases in California) met all these criteria and were reviewed:



In 2011, the average age of an open LUST case in California was 16 years.

In California, approximately 30 percent of all the open cases were not funded by the USTCF. Of these non-CUF cases:

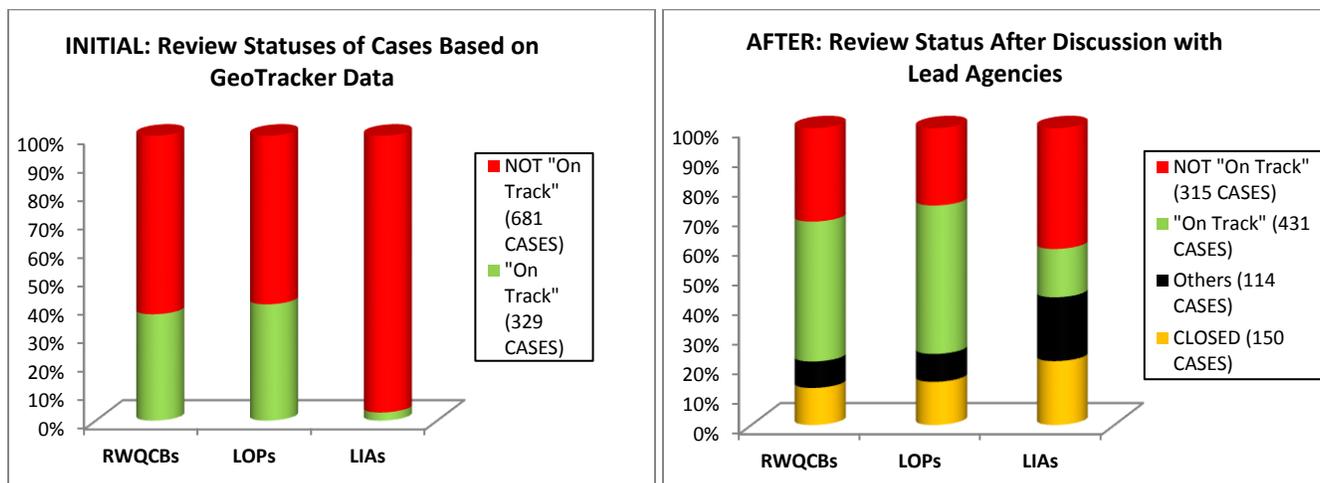
- ✓ **40 percent were opened 15 years or more,**
- ✓ **70 percent were deemed “Not Ready for Closure – Final” by the lead agencies.**

As of 2011, there were 9,158 open LUST cases in California (third largest open caseload in the nation) with 115 agencies overseeing the cleanups.

A total of 36 lead agencies were selected to participate in this study: all Regional Water Quality Control Boards (RWQCBs) and Local Oversight Programs (LOP) agencies, and three Local Implementing Agencies (LIAs). The three LIAs (City of Long Beach, and City and County of Los Angeles) were selected because they oversee a majority of the LIAs open LUST cases and are located in a special focus area of Los Angeles.

In 2011, all the RWQCB and LOP agencies in California are required by the SWRCB to input and maintain their LUST cases in the state’s database, GeoTracker; LIA agencies are excluded. However, as of January 1, 2012, the LIA agencies are also required to report in GeoTracker. Therefore, GeoTracker data were primarily used in this study.

Overall, the following charts summarized the changes in the cases reviewed and their progresses as a result of this study:

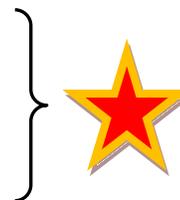


^ Others include transferred, deleted, not a Federal UST, new age (less than 15-years) and funded cases.

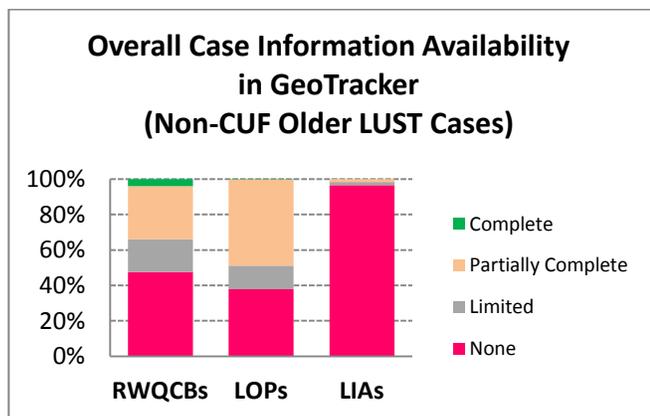
As a result of this study, approximately 15 percent of the cases reviewed (initially deemed as *“Not Ready for Closure – Final”*) successfully achieved closure, with an additional 11 percent near closure (the lead agencies had committed to completing these closures in the coming months). Initial review showed that a majority (67 percent) of the cases were *“not on track”* in their cleanup progress. **After meetings and discussions with the lead agencies, the number of cases *“not on track”* was successfully reduced by more than half.** Approximately 2 percent entered into funding programs and were back *“on track”* in cleanup.

For the remaining cases that were *“not on track”*, the lead agencies had committed to the following next steps to move these cases forward:

- ✓ ensure responsible party (RP) compliance (63 percent),
- ✓ update GeoTracker data and missing case information (17 percent),
- ✓ consider new or additional remedial investigations (13 percent),
- ✓ consider additional or alternative remediation (4 percent), and
- ✓ verify if site is actually a petroleum LUST case (3 percent).



For this study, case data and activities (groundwater monitoring, investigation and remediation reports, and regulatory directive letters issued between 2005 and 2011) in GeoTracker were evaluated. **Overall, the study showed that case data in GeoTracker appeared incomplete (see figure below).**



Overall, no GeoTracker data were available for 53 percent of the cases reviewed. Discussions with the lead agencies revealed that some cases:

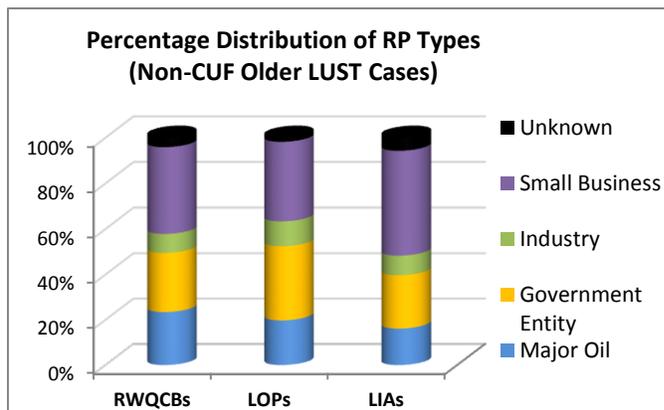
- ✓ have case information not loaded into GeoTracker,
- ✓ have missing case files or have not been worked on (therefore no data available).

Agencies indicated it was challenging and time-consuming to address older cases that lack historical case information, especially cases that were transferred from another lead agency.

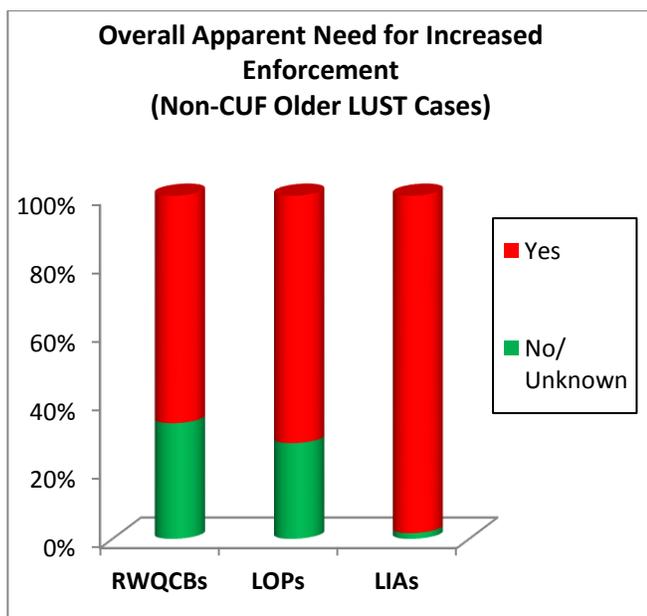
Approximately 47 percent of the cases reviewed were unclaimed by the RPs in GeoTracker; mostly belonging to small businesses (41 percent) with LIAs as the lead agency. Although initial observations from this study may appear to be limited by incomplete case information, discussions and meetings with the lead agencies provided valuable insights in achieving overall conclusions regarding the status of the cases reviewed.

Based on case activities in GeoTracker, a majority (53 percent) of the cases reviewed were listed as in “site assessment” or “interim remedial action” stages. For the non-CUF older cases reviewed, 55 percent had been opened for more than 20 years.

Overall, the predominant RPs for the cases reviewed were small businesses (29 percent) and government entities (28 percent), followed by major oil companies (21 percent). The figure on the right shows the distributions of the RP types:



For this study, current site conditions (level of petroleum usages and any site redevelopment or usage changes) were also reviewed. The study revealed there was insufficient information available to accurately determine the current site conditions at a majority of the sites reviewed. Only approximately 21 percent of the sites appeared to have on-going petroleum usages. Overall, 59 percent of the sites did not appear to be redeveloped, with 22 percent unable to determine. For the sites that have been redeveloped, a majority appeared to be in the southern California area.



Results from this study revealed that a majority of these cases (73 percent) appeared to need some form of enforcement to get them “unstuck” (stuck cases are those with little to no cleanup activities in recent years), as shown in the figure on the left.

The lead agencies expressed different experiences in conducting enforcement. A few agencies had enforcement procedures with good results, while most agencies do not. Some agencies appeared hesitant to conduct enforcement due to concerns that RPs might become less cooperative.

A majority of the agencies had no knowledge or resources in conducting enforcement, but expressed interest in any assistance available in conducting enforcement.

One agency indicated that instead of pursuing enforcement and issuing letters to recalcitrant RPs, it appeared more beneficial to arrange one-on-one meetings with the RPs to discuss site issues and responsibilities.

Overall, the study results showed that the apparent barriers in conducting non-CUF older LUST cleanups in California were mostly procedural-related barriers as follows:



- ✓ unable to implement effective enforcement,
- ✓ available state funding options (e.g., EAR, OSCA/OSCF) not fully utilized,
- ✓ limited, missing, or no GeoTracker case data,
- ✓ incomplete site assessments (mostly due to RPs who lack funding),
- ✓ challenges in identifying and finding the legitimate RPs.

Some additional lessons learned through this study and from the lead agencies included:



- ✓ **limited options available for cases with no data, RPs or funding (remain “stuck”),**
- ✓ apparent groups of recalcitrant or non-responsive RPs (city/county, government entities including schools) with multiple sites,
- ✓ funding resources under-utilized due to complexity of the processes and limitations in oversight agency staffing,
- ✓ excessive monitoring conducted by some RPs and consultants,
- ✓ confusion with transferred cases due to incomplete transfer procedure between agencies.

In addition, some lead agencies had expressed interest in any assistance in resources to:



- ✓ complete closure for near closure cases that have been abandoned by the RPs (confirmation samples or well destructions),
- ✓ establish validity of old cases by confirming historically reported elevated levels at the site,
- ✓ conduct enforcement,
- ✓ assist in obtaining and applying for funding,
- ✓ research to find missing RPs and case files.

Overall, this study demonstrated the need and benefits for the SWRCB to conduct on-going review of these non-CUF older cases in California. Since these cases appeared to be given low prioritization, it is essential to improve the case management process to prevent these cases from remaining dormant or stuck.

Based on this study, it is recommended that the SWRCB consider increased efforts in:

- (1) improving the enforcement aspects of the state LUST program,
- (2) streamlining the state’s under-utilized funds (EAR, OSCA/OSCF etc.),
- (3) addressing crucial data gaps in GeoTracker (obtain and upload essential case information).

EXECUTIVE SUMMARY

The objective of this study was to better understand the barriers in conducting and completing aging leaking underground storage tank (UST) cleanups in California that were not funded by the State Underground Storage Tank Cleanup Fund (non-CUF). Based on the results from this study, a majority of these cases appeared to be given lower priority, with the most notable barriers being: (1) lack of enforcement due to limited resources, (2) under-utilization of state funding resources available due to complexity of process, (3) inadequate management of data and case oversight, (4) excessive monitoring conducted at some sites, and (5) various challenging responsible party (RP) issues.

No third party study was ever conducted on the non-CUF cases. Between 2010 and 2011, the U.S. Environmental Protection Agency (USEPA) Region 9, as part of a cooperative agreement with the California State Water Resources Control Board (SWRCB), performed a study on all open leaking UST cases in California that were non-CUF, opened for 15 years or more, and deemed by the lead agencies as *“Not Ready for Closure – Final”* (part of SWRCB Resolution No. 2009-0042). A total of 1,010 cases (approximately 11 percent of all open leaking UST cases in California) met the selected criteria and were reviewed. Military sites were not included.

According to the SWRCB’s database, GeoTracker (<https://geotracker.waterboards.ca.gov/>), as of January 2011, there were 9,158 open leaking UST cases in California (third largest open leaking UST caseload in the nation) with approximately 115 agencies overseeing the cleanups. In 2011, the average age of an open leaking UST case in California was 16 years. **Approximately a third of these open leaking UST cases were not in any state funding program. Of all these non-funded cases, 40 percent had been opened 15 years or more, and up to 70 percent were deemed as *“Not Ready for Closure – Final”* by the lead agencies.**

For this study, a total of 36 lead agencies, all the Regional Water Quality Control Boards (RWQCBs) and Local Oversight Programs (LOPs) agencies, and three Local Implementing Agencies (LIAs), were selected and participated. The three LIAs (City of Long Beach, and City and County of Los Angeles) were selected because they oversee a majority of the LIAs open leaking UST cases and are located in the focus area of Los Angeles. In 2011, all the RWQCB and LOP agencies in California (LIA agencies are excluded), are under required by the SWRCB to input and maintain their leaking UST cases in GeoTracker. However, as of January 1, 2012, the LIA agencies are also required to report in GeoTracker. Therefore GeoTracker data were primarily used in this study. Of the 1,010 cases reviewed, 505 were RWQCBs’ (11 percent of RWQCBs total open caseload), 330 were LOPs’ (9 percent of LOPs total open caseload) and 175 were LIAs’ cases (17 percent of LIAs total open caseload).

As a result of this study, approximately 15 percent (150 cases) of the cases reviewed (initially deemed as *“Not Ready for Closure – Final”* by the lead agencies) successfully achieved closure, with an additional 11 percent (107 cases) near closure (the lead agencies had committed to completing these closures in the coming months). Based on initial review, approximately 67 percent (681 cases) of the cases reviewed appeared *“not on track”* in their cleanup progress. **However, after discussions with the lead agencies, the number of cases *“not on track”* was reduced by more than half.** For the remaining cases that were *“not on track”*, the lead agencies had committed to the following “next steps” to move the cases forward: ensure responsible party (RP) compliance (63 percent), update GeoTracker data (17 percent), consider new or additional remedial investigations (13 percent), consider additional or alternative remediation (4 percent), and verify if site is actually a leaking UST case (3 percent).

Reviews indicated that, overall, case data entered into GeoTracker appeared incomplete. There were no GeoTracker case activities for 53 percent of the cases reviewed (almost all the LIAs cases reviewed had no GeoTracker case activities). Discussions with the lead agencies revealed that these cases either: (i) have case information that were not uploaded into GeoTracker, or (ii) have no data available due to missing case files or the case have not been worked on.

Although initial observations from this study may have appeared to be limited by incomplete case information in GeoTracker, discussions and meetings with the lead agencies provided valuable insights in reaching overall viable conclusions from the study of these cases.

In this study, case data and activities (groundwater monitoring, investigation and remediation reports, and regulatory directive letters issued between 2005 and 2011) in GeoTracker were evaluated. GeoTracker data showed that RWQCBs and LOPs overall appeared to have more case cleanup activities compared with the LIAs, possibly due to RWQCBs and LOPs requirements and funding obligations with the SWRCB to maintain cases in GeoTracker. A majority of the cases reviewed were listed as in “*site assessment*” or “*interim remedial action*” stages in GeoTracker. The predominant RPs for the cases reviewed appeared to be small businesses (29 percent) and government entities (28 percent), followed by major oil companies (21 percent). Approximately 47 percent of these cases were unclaimed by the RPs in GeoTracker; mostly belonging to small businesses with LIAs as the lead oversight agency. More than half (55 percent) of the cases reviewed in this study have been opened for more than 20 years.

The current site conditions (level of petroleum usages and any site redevelopment or usage changes) for each of the cases were also evaluated using reports in GeoTracker and Google maps. However, there was insufficient information available to accurately determine the current petroleum usages and site redevelopment at a majority of the sites reviewed. Only approximately 21 percent appeared to have any petroleum usages, while 50 percent of the sites were unable to determine. Overall, 59 percent of the sites do not appear to be redeveloped, with 22 percent unable to determine. A majority of the sites that appeared redeveloped are located in the southern California area.

Based on initial case reviews, a majority of the cases (73 percent) appeared to need some form of enforcement from the lead agencies to get them “*unstuck*” (“*stuck*” cases refer to those with little to no cleanup activities in recent years). The lead agencies expressed different experiences in conducting enforcement. A few agencies had enforcement procedures with good results, while most agencies do not. Some agencies appeared hesitant to conduct enforcement due to concerns that RPs might become less cooperative. A majority of the lead agencies had no knowledge or resources in conducting enforcement, but had expressed interest in any assistance available. One agency indicated that instead of enforcement and issuing letters to recalcitrant RPs, it might be more beneficial to arrange one-on-one meetings with the RPs to discuss sites issues and responsibilities.

Overall, this study revealed that the apparent barriers to these cases were mostly procedural-related barriers: (1) unable to implement effective enforcement, (2) available state funding options not fully utilized, such as the Emergency, Abandoned and Recalcitrant (EAR) Fund and Orphan Site Cleanup Fund (OSCF), (3) incomplete site assessments (mostly due to RPs who lack funding), (4) limited, missing, or no GeoTracker case data, and (5) challenges in identifying and finding the legitimate RPs.

Other additional lessons learned through this study included: (1) limited options available for cases with no data, RPs or funding (remain “*stuck*”), (2) apparent groups of recalcitrant or non-responsive RPs (city/county, government entities including schools), (3) funding resources under-utilized due to complexity of the processes and limitations in oversight agency staffing, (4) excessive monitoring conducted by some RPs and consultants, and (5) confusion with transferred cases due to incomplete transfer procedures between agencies.

The agencies had also expressed interest in getting assistance to: (1) complete closure for near closure cases that have been abandoned by the RPs (confirmation samples or well destructions), (2) establish validity of old cases by confirming historically reported elevated levels at the site, (3) conduct enforcement, (4) assist in obtaining and applying for funding, and (5) research on missing RPs and case files.

Overall, this study demonstrated the need and benefits in conducting on-going review of the non-CUF older cases in California. Since these cases appeared to be given low prioritization, it is essential to remain focused on improving the case management process to prevent these cases from remaining dormant. **Based on this study, it is recommended that the SWRCB consider increased efforts in: (1) improving the enforcement aspects of the state leaking UST program, (2) streamlining the state's under-utilized funds (EAR, OSCA/OSCF etc.), and (3) addressing crucial data gaps in GeoTracker (obtain essential case information).**

BACKGROUND

As of January 2011, GeoTracker showed 9,158 open leaking UST cases in the State of California (third largest open leaking UST caseload in the nation). The SWRCB currently conducts a third party on-going 5-year review of all the open leaking UST cases that are in the USTCF. However, no review had been conducted on cases that were not funded by USTCF (non-CUF), which make up approximately 30 percent of California open leaking UST cases. According to GeoTracker, of these non-CUF cases, 40 percent had been opened for 15 years or more, and up to 70 percent were deemed “*Not Ready for Closure – Final*” by the lead agencies.

Therefore between 2010 and 2011, the USEPA Region 9 performed a study on all the open leaking UST cases in California that were non-CUF and had been open for more than 15 years and were deemed “*Not Ready for Closure – Final*” by the lead agencies (known as “Non-CUF Older Cases”). The study was conducted as part of a cooperative agreement between USEPA and SWRCB. The objective of the study was to better understand the barriers in conducting and completing cleanups for the non-CUF older cases in California. The results of the study are presented in this report.

METHODOLOGY

There are approximately 115 agencies in California overseeing leaking UST cleanups. These agencies are grouped into nine RWQCBs with 12 offices, 22 LOPs, and 81 LIAs. In 2011, all RWQCB and LOP agencies, (except the LIAs), are required by the SWRCB to input and maintain their leaking UST cases in the state's database, GeoTracker. However, as of January 1, 2012, the LIA agencies are also required to report in GeoTracker. Therefore GeoTracker data were primarily used in conducting this study. Military sites (Department of Defense [DoD] lead), which make up an approximate 5 percent of open leaking UST cases in California, were not included.

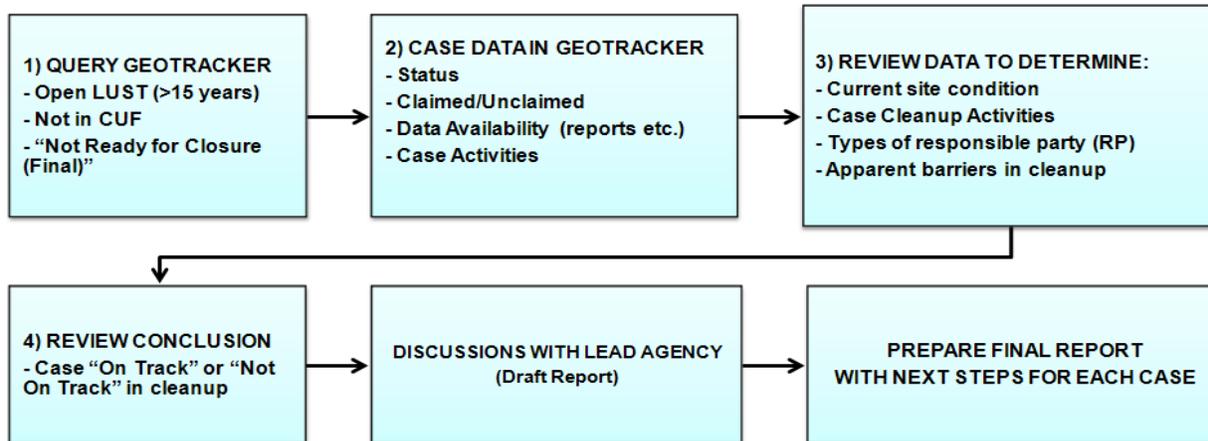
For this study, all RWQCB and LOP, and three LIA lead agencies (City of Long Beach, Los Angeles County, and Los Angeles City) were chosen to participate. The three LIAs were selected because they oversee a majority (approximately 50 percent) of the total open leaking UST cases under LIAs and are located in the focus area of Los Angeles. A total of 36 lead agencies in California participated in this study.

In designing this study to obtain a group of cases that would best meet the objective of this study the following criteria were chosen and used to query data from GeoTracker:

- ✓ Open leaking UST program cases
- ✓ Not in USTCF (non-CUF)
- ✓ Open for 15 years or more
- ✓ Deemed “*Not Ready for Closure – Final*” by the lead agency (part of SWRCB Resolution No. 2009-0042 and applicable only to RWQCBs and LOPs)

A total of 1,010 cases in GeoTracker (approximately 11 percent of all open leaking UST cases in California) met the selected criteria and were reviewed for this study. The case review process is summarized in the flow-chart below:

CASE REVIEW PROCESS (BASED ON DATA IN GEOTRACKER)



A report was prepared for each lead agencies and a total of 36 reports were produced, each consisting of :

- ✓ An overall summary of cases reviewed
- ✓ A table to summarize case information
- ✓ A map showing locations of cases
- ✓ PowerPoint slides for each of the cases reviewed, an example is shown below:

<p>TOSCO – 76 STATION #5096 (T0603701506) 25905 ROLLING HILLS ROAD, TORRANCE, CA 90505</p>  <p>Case Age: 24 years Primary COC: Gasoline RP Identified: Tosco/76 Products Current Land Use: Gas Station Potential Media Effect: Aquifer used for drinking water supply Well Network: 11</p> <p>CLEANUP OVERSIGHT AGENCIES LOS ANGELES RWQCB (REGION 4) LEAD - CASE # 40000001 CAGWATERWORKS (REGION 4) SUPERVISOR: NONE SPECIFIED TORRANCE, CITY OF SUPERVISOR: NONE SPECIFIED CANEWATERWORKS (REGION 1) SUPERVISOR: NONE SPECIFIED</p> <p>Possible Reasons Why This Case Is So Old</p> <ul style="list-style-type: none"> • Transferred between agencies • Multiple sources (offsite potential too) • Comingled plume • No active remediation • GW plume not fully delineated <p>NOTE: Data queried from GeoTracker and reviewed in August 2010</p>	<p>Activities Conducted to Date Based on GeoTracker (T0603701506)</p> <table border="1"> <tr> <td style="background-color: #90EE90;"> <p>Assessment last 5 years</p> <ul style="list-style-type: none"> • Ongoing: GW monitoring • 2008: Site conceptual model • 2005: Soil and water investigation </td> <td style="background-color: #F08080;"> <p>Remediation last 5 years</p> <ul style="list-style-type: none"> • None </td> </tr> <tr> <td style="background-color: #90EE90;"> <p>Assessment older than 5 years</p> <ul style="list-style-type: none"> • 1989, 1995, 2004: Site assessments • 2002-ongoing: GW monitoring </td> <td style="background-color: #FFFF00;"> <p>Remediation older than 5 years</p> <ul style="list-style-type: none"> • 2004: Remediation </td> </tr> </table>	<p>Assessment last 5 years</p> <ul style="list-style-type: none"> • Ongoing: GW monitoring • 2008: Site conceptual model • 2005: Soil and water investigation 	<p>Remediation last 5 years</p> <ul style="list-style-type: none"> • None 	<p>Assessment older than 5 years</p> <ul style="list-style-type: none"> • 1989, 1995, 2004: Site assessments • 2002-ongoing: GW monitoring 	<p>Remediation older than 5 years</p> <ul style="list-style-type: none"> • 2004: Remediation
<p>Assessment last 5 years</p> <ul style="list-style-type: none"> • Ongoing: GW monitoring • 2008: Site conceptual model • 2005: Soil and water investigation 	<p>Remediation last 5 years</p> <ul style="list-style-type: none"> • None 				
<p>Assessment older than 5 years</p> <ul style="list-style-type: none"> • 1989, 1995, 2004: Site assessments • 2002-ongoing: GW monitoring 	<p>Remediation older than 5 years</p> <ul style="list-style-type: none"> • 2004: Remediation 				
<p>IMPEDIMENTS TO CLOSURE (T0603701506) as reported by regulatory agency</p>  <p>IMPEDIMENTS TO CLOSURE</p> <ul style="list-style-type: none"> • WELL ASSESSMENT IMPEDIMENTS • Extent of Contamination Has Not Been Determined: The groundwater plume has not been delineated. • Remediation Source Point: Trace to Groundwater - Elevated groundwater concentrations • GROUNDWATER IMPACTS • Groundwater Impacted Above Other Cleanup Goal - Elevated groundwater concentrations • WELL IMPACTS • Multiple Wells Potentially Impacted - 11W1 045149120265 is 4,502 ft away from the site. <p>IDENTIFY IF ADDITIONAL WORK</p> <ul style="list-style-type: none"> Remove / Reduce Source Mass - Elevated groundwater concentrations Identify receptors likely to be impacted and their future use/purpose Identify receptors likely to be impacted and their future use/purpose Groundwater - Elevated groundwater concentrations <p>GROUNDWATER MONITORING FREQUENCY</p> <p># OF WELLS MONITORED - SEMI-ANNUALLY: 11</p>	<p>Review Conclusions T0603701506</p> <ul style="list-style-type: none"> • Review indicates: <ul style="list-style-type: none"> – At least two source areas – Potential for offsite source – Multiple phases of investigation – Chemical concentrations low, but persistent – Site is an active gas station • Discussion: <ul style="list-style-type: none"> – GWM trends – Comingled plume may need to be further evaluated – Is active remediation warranted; complete feasibility study – Status and benefits of indoor air assessment – Cleanup closure plan and timeline • Potential closure candidate in a few years 				

The data and findings from all the reports produced for this study for each lead agency, in order to better understand the barriers in conducting non-funded leaking UST cases cleanup in California, was summarized and presented in the following sections.

1.0 NON-CLEANUP FUND OLDER CASES REVIEWED IN CALIFORNIA

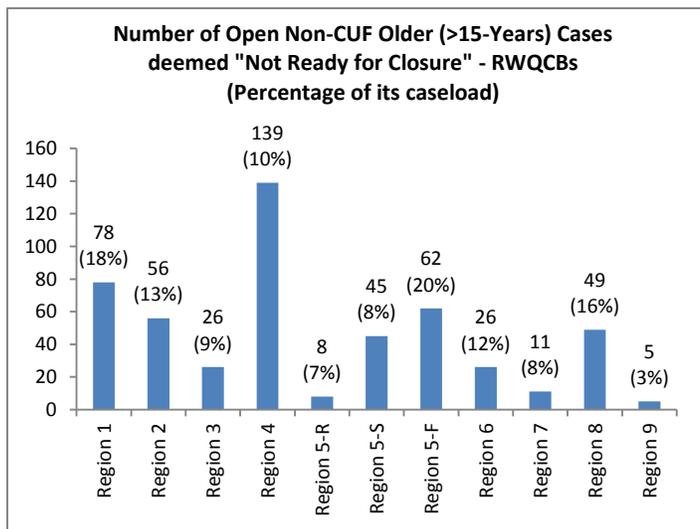
This section provides a summary of the number of sites, the ages of the non-CUF older cases reviewed, and the case review status changes for the RWQCBs, LOPs, and LIAs, based on January 2011 GeoTracker data.

1.1 NUMBER OF NON-CUF OLDER CASES

This sub-section provides a summary of the number and the distribution of non-CUF older cases reviewed under RWQCB, LOP and LIA. Of the 1,010 cases reviewed for this study: 505 were RWQCBs' (11 percent of RWQCBs total open caseload), 330 were LOPs' (9 percent of LOPs total open caseload), and 175 were LIAs' cases (17 percent LIAs total open caseload).

Regional Water Quality Control Boards (RWQCB) Lead

There are nine RWQCBs with 12 offices in California. Data for Regions 6T and 6V were rolled together under Region 6 for this study. Based on GeoTracker data, RWQCBs oversee approximately 48 percent (4,416 open cases) of all open leaking UST caseload in California. Approximately 11 percent (505 cases) of RWQCB total open caseload were non-CUF older cases. The chart below shows the distribution of these cases among the RWQCBs:



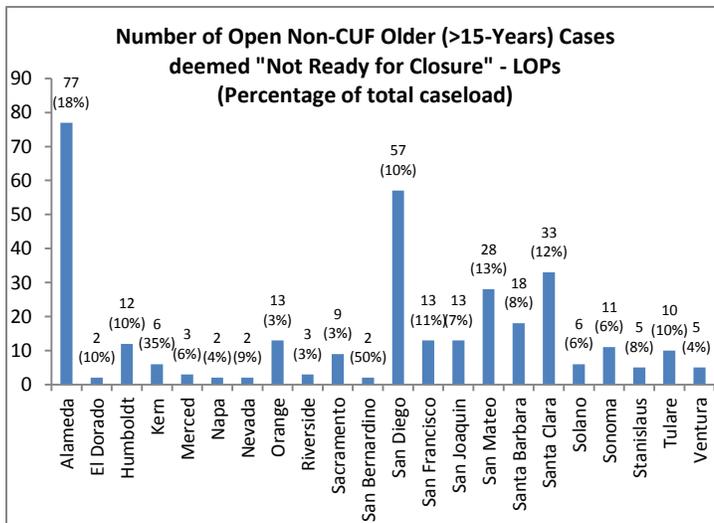
GeoTracker data showed that Los Angeles (Region 4) had the most number of non-CUF older cases (139 cases), followed by North Coast (Region 1) with 78 cases and Central Valley, Fresno (Region 5F) with 62 cases.

However, based on the percentage of non-CUF older cases over each lead agency's open caseloads, Central Valley, Fresno (Region 5F) had the highest percentage of non-CUF older cases (20 percent) in its caseload, followed by North Coast (Region 1) at 18 percent and Santa Ana (Region 8) at 16 percent of each agency's caseloads.

Upon discussions with the lead agencies, it was revealed that the high percentage for Region 5F was due to cases being transferred from Fresno County LOP around 2008 and 2009, and from Kern County LOP.

Local Oversight Programs (LOPs) Lead

There are 22 LOPs in California. Based on GeoTracker data, LOPs oversee approximately 41 percent (3,730 open cases) of all open leaking UST caseload in California. Approximately 9 percent (330 cases) of LOP total open caseload were non-CUF older cases. The chart below shows the distribution of these cases among the LOPs:

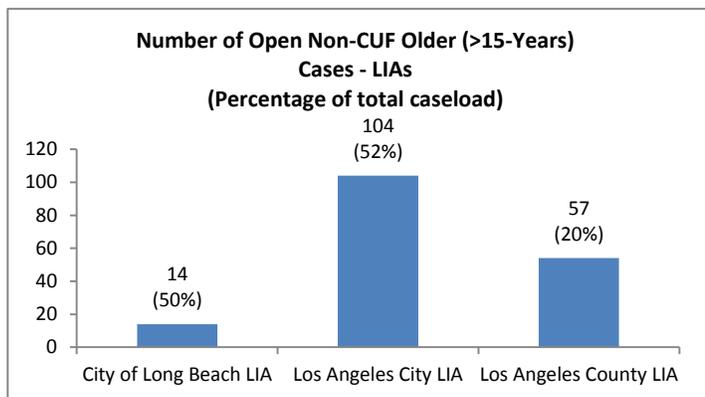


GeoTracker data showed that Alameda County had the most number of non-CUF older cases (77 cases), followed by San Diego County with 57 cases and Santa Clara County with 33 cases.

However, based on the percentage of non-CUF older cases over each lead agency's open caseloads, (focusing on agencies with more than 10 non-CUF older cases), Alameda County also had the highest percentage of non-CUF older cases (18 percent) in its caseload, followed by San Mateo County at 13 percent and Santa Clara County at 12 percent of each agency's caseloads.

Local Implementing Agencies (LIAs) Lead

There were approximately 81 LIAs in California, with three LIA agencies overseeing a majority of the open leaking UST caseloads in the I-710 corridor: (1) Los Angeles City, (2) Los Angeles County, and (3) City of Long Beach. Based on GeoTracker data, the LIAs oversee approximately 11 percent (1,012 open cases) of all open leaking UST caseload in California, with the three selected LIAs overseeing approximately 6 percent (519 open cases) of all open leaking UST caseload in California. Of these three selected LIAs total open caseloads, approximately 34 percent (175 cases) of their cases were non-CUF older cases. The chart below shows the distribution of these cases among the three selected LIAs:

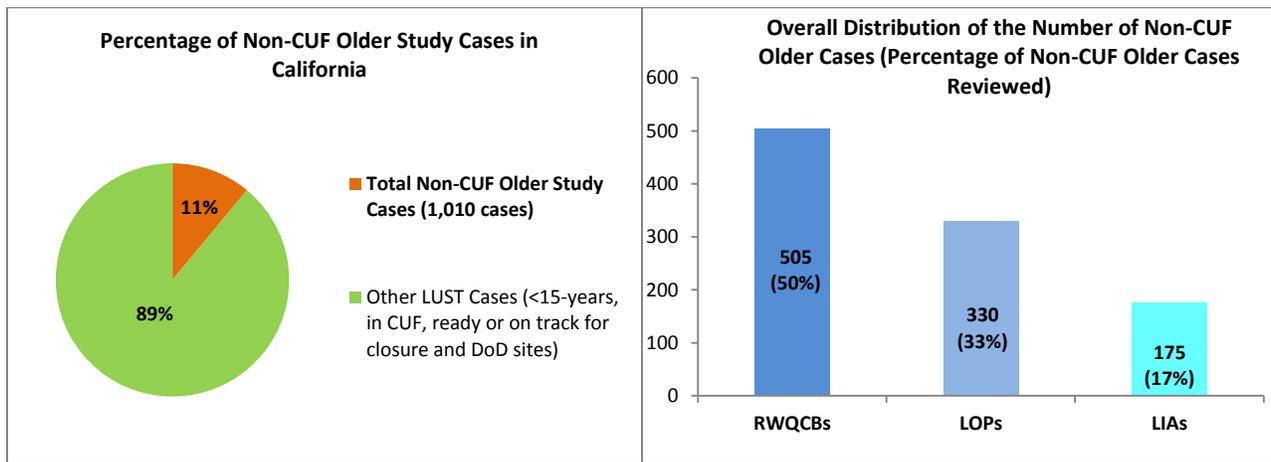


GeoTracker data showed that Los Angeles City had the most number of non-CUF older cases (104 cases), followed by Los Angeles County with 51 cases and City of Long Beach with 14 cases.

However, based on the percentage of non-CUF older cases over each lead agency's open caseloads, Los Angeles City also had the highest percentage of non-CUF older cases (52 percent) in its caseload, followed by City of Long Beach at 50 percent and Los Angeles County at 20 percent of each agency's caseloads.

Overall Number of Non-CUF Older Cases in California

In 2011, approximately 11 percent (1,010 cases) of the open leaking UST cases in California were non-CUF older cases. The overall distribution of these cases in California was as follows:



The top five lead agencies with the **largest number** of non-CUF older cases in their open leaking UST caseloads compared with the top five lead agencies with the **largest percentages** of non-CUF older cases in their open leaking UST caseloads were as follows:

Rank	Agency	Number of Cases	Percentage of Caseload
1	Region 4	139	10%
2	Los Angeles City	104	52%
3	Region 1	78	18%
4	Alameda LOP	77	17%
5	Region 5F (Fresno)	62	20%

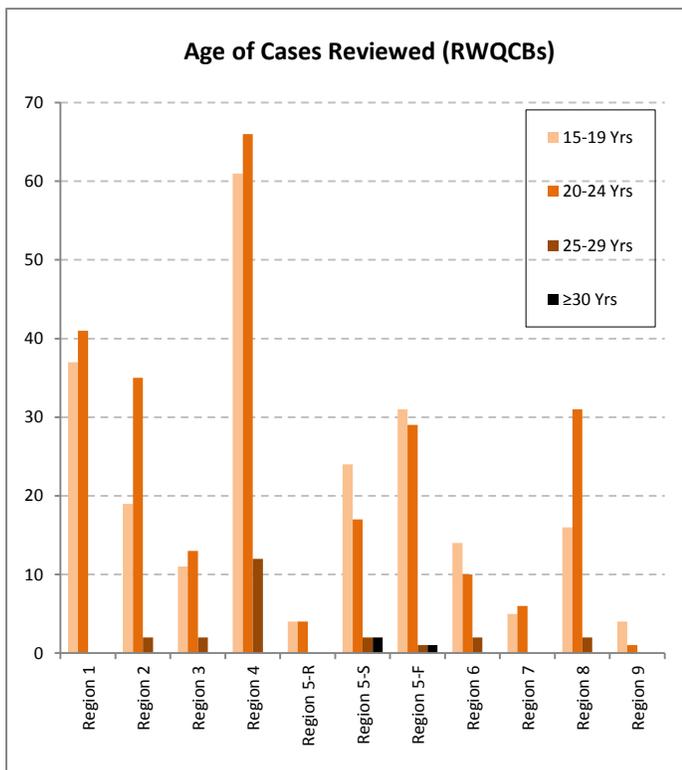
Rank	Agency (>10 cases)	Percentage of Caseload	Number of Cases
1	Los Angeles City	52%	104
2	City of Long Beach	50%	14
3	Region 5F (Fresno)	20%	62
4	Los Angeles County	19%	54
5	Region 1 and Alameda LOP	18%	78 and 77

Although Region 4 had the largest number of non-CUF older cases (139 cases), these cases only made up 10 percent of the agency’s overall total open leaking UST caseload (1,425 cases), compared with Los Angeles City, which had the second largest number of non-CUF older cases (104 cases). The Los Angeles City cases, however, made up 52 percent of the agency’s overall total open leaking UST caseload (198 cases). In general, the rankings for the number of non-CUF older cases and the percentage of non-CUF older cases over each lead agency’s open leaking UST caseloads appeared to vary significantly.

1.2 AGE OF NON-CUF OLDER CASES

This sub-section shows the age distribution of the non-CUF older cases reviewed based on 2011 data in GeoTracker. In 2011, the average age of an open leaking UST case in California is 16 years. In GeoTracker, the “1/1/1965” date is used as the default date when a date is unknown.

RWQCB Jurisdiction



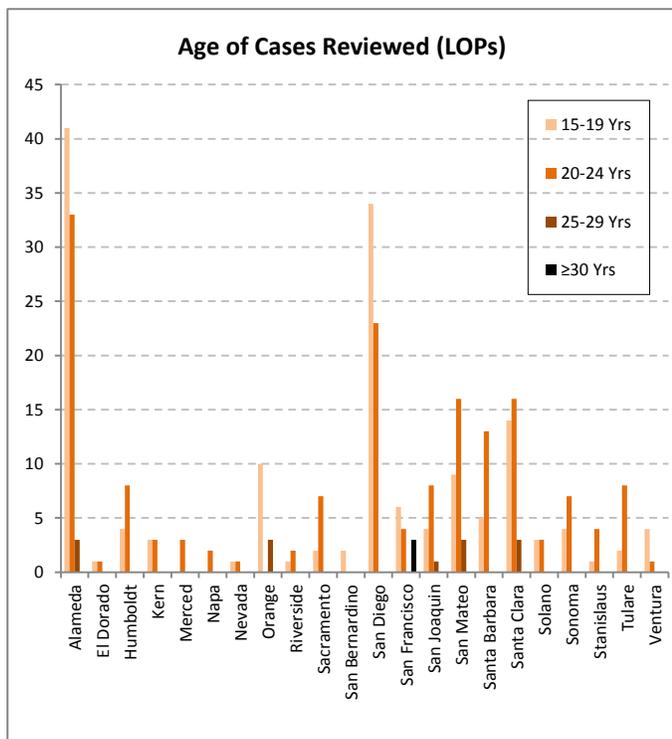
Based on GeoTracker data, Regions 5S and 5F had a total of 3 cases that were opened for 46-years (due to unknown discovery date 1/1/1965).

After discussions with the lead agencies, the ages of the two cases in Region 5S were corrected to 12 and 16 years. The release date of one case (SL372544607) under Region 5F remained unknown, but was moved into Cleanup Program.

In addition, Regions 2, 3, 4, 5S, 5F, 6 and 8, had a total of 23 cases that were opened for 25 years or more. The RPs for these cases were eight small businesses, six major oil companies, four government entities, three industries, and two unknowns.

After discussions with the lead agencies, one of these cases entered a funding program, one case remained undetermined due to a lack of information, one case was not a federal UST site, three cases were closed, five cases were “not on track”, eight cases were “on track” in cleanup, and four cases were near closure.

LOP Jurisdiction



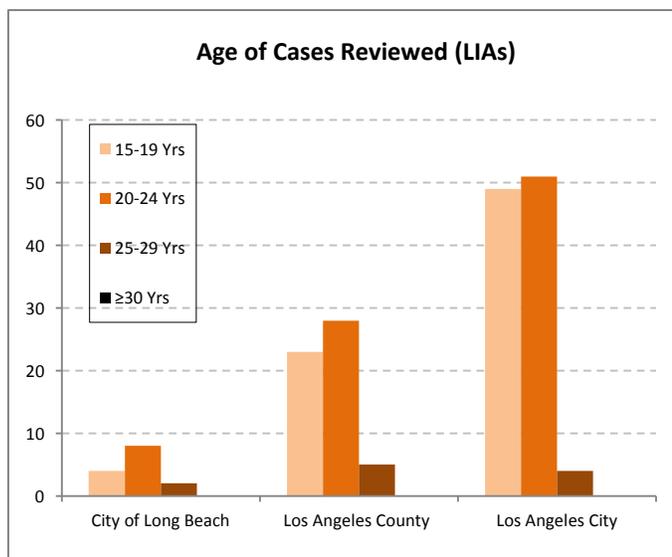
Based on GeoTracker data, San Francisco County had three cases that were opened for 46-years (unknown discovery date of 1/1/1965).

After discussion with the lead agency, two of these cases, T06037500204 and T06037500205 (PG&E Treat Street), were consolidated and the release date was corrected (new age was 25 years). The release date for another case, T0607500318 (Super-7, formerly) was also corrected (new age was 27-years).

In addition, Alameda, Orange, San Joaquin, San Mateo and Santa Clara Counties had a total of 13 cases that were opened for 25 years or more. The RPs for these cases were six major oil companies, four small businesses, two industries, and one government entity.

After discussions with the lead agencies, two cases were closed, three cases were near closure, three cases entered funding programs, and five cases were “on track” in cleanup.

LIA Jurisdiction



Based on GeoTracker data, the three selected LIAs do not appear to have any unknown discovery date of 1/1/1965 entries for the cases reviewed.

The three selected LIAs had a total of 12 cases that were opened for 25 years or more. The RPs for these cases were four small businesses, two government entities, two industries, two unknown, and two major oil companies.

After discussions with the lead agencies, one case was transferred to RWQCB, one case was determined to be not a federal case, one case was deleted, one case was “not on track”, one case was “on track” in cleanup, three cases had undetermined status, and four cases were closed.

Overall Ages of the Non-CUF Older Study Cases in GeoTracker

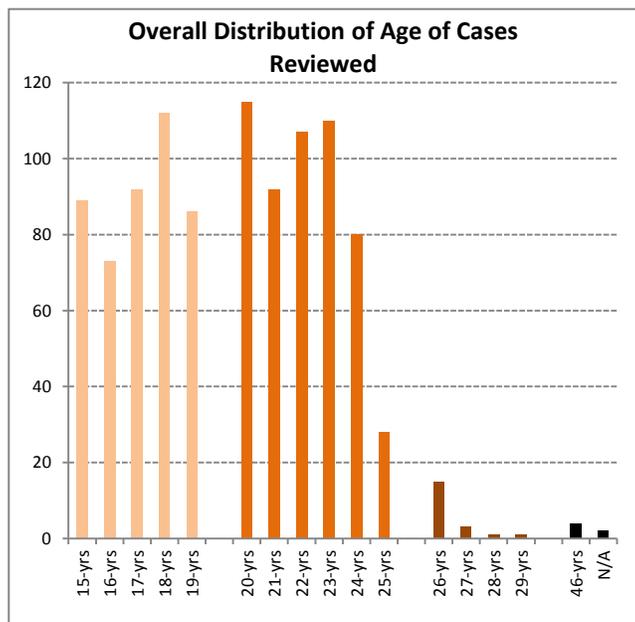
The figure below shows the overall distribution of the ages of the non-CUF older cases reviewed based on information in GeoTracker.

Percentage Distribution of Cases Based on Ages of Cases Reviewed				
AGENCIES	15-19 Yrs	20-24 Yrs	25-29 Yrs	≥30 Yrs
RWQCBs	45%	50%	5%	1%
LOPs	46%	49%	4%	1%
LIAs	43%	50%	7%	0%
TOTAL	44%	50%	5%	1%

A majority (50 percent) of the cases reviewed had been opened between 20 and 24 years, followed by between 15 and 19 years.

There were 57 cases (6 percent) that were opened for 25 years or more, including cases with unknown discovery date of 1/1/1965. The distribution of these older cases was: 29 RWQCBs lead, 16 LOPs lead and 12 LIAs lead.

It appeared that some of these older RWQCB cases were transferred from the LOPs and LIAs.



1.3 CASE REVIEW STATUS CHANGE: INITIAL REVIEW AND AFTER DISCUSSION WITH LEAD AGENCIES

This sub-section provides a summary of the non-CUF older cases initial review statuses and status changes after discussions with the lead agencies. All the cases were initially reviewed to determine if the cases appeared “on track” or “not on track.” A draft report summarizing the initial case review was prepared for each agency and was used in discussion with the lead agency. The case information and status were then updated and revised to either “on track,” “not on track,” “others,” or “closed” based on discussions with all the lead agencies and feedbacks received.

A case was classified as being “on track” if the case appeared to:

- ✓ Be near completion (within a year),
- ✓ Have effective cleanup activities and moving toward closure.

A case was classified as “not on track” if the case appeared to:

- ✓ Have limited or no cleanup activities,
- ✓ Be stuck (no activities or not proceeding toward cleanup closure),
- ✓ Have no or insufficient information in GeoTracker.

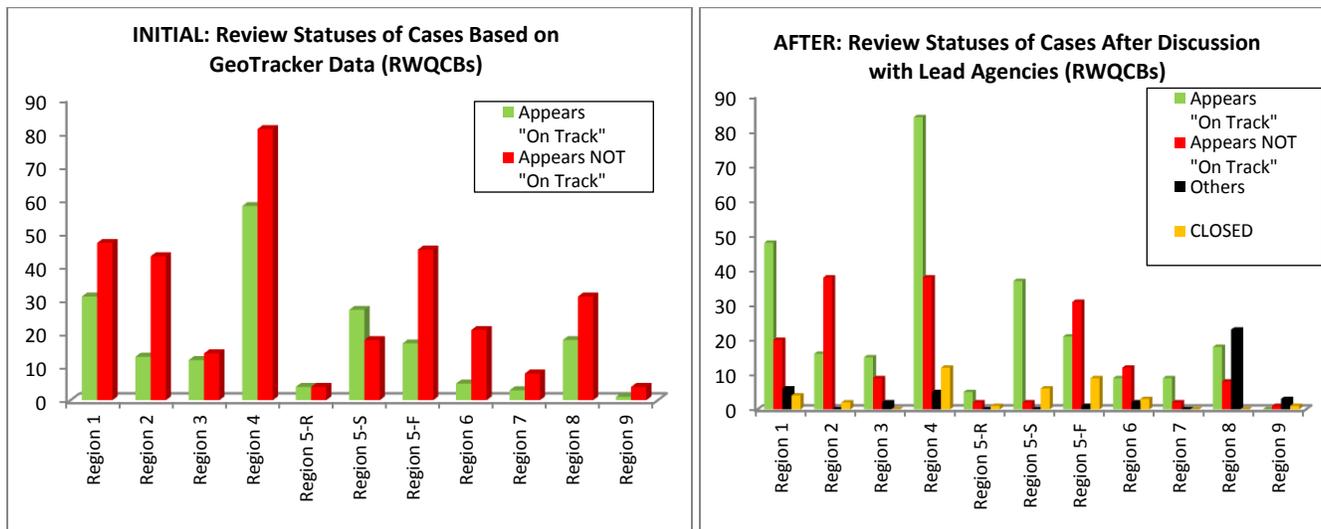
A case was classified as “others” if the case:

- ✓ Has been transferred to a new lead or other program,
- ✓ Does not meet the federal UST definitions¹,
- ✓ Is deleted in GeoTracker (determined not a case, duplicate etc.),
- ✓ Entered a funding program,
- ✓ Was assigned a new release date and the new age of case is less than 15-years.

¹ <http://www.epa.gov/OUST/overview.htm>

RWQCB Lead

The charts below show the overall number of non-CUF older cases reviewed that appeared “on track” versus “not on track” for each of the RWQCBs based on initial case review and after discussion with the lead agencies:



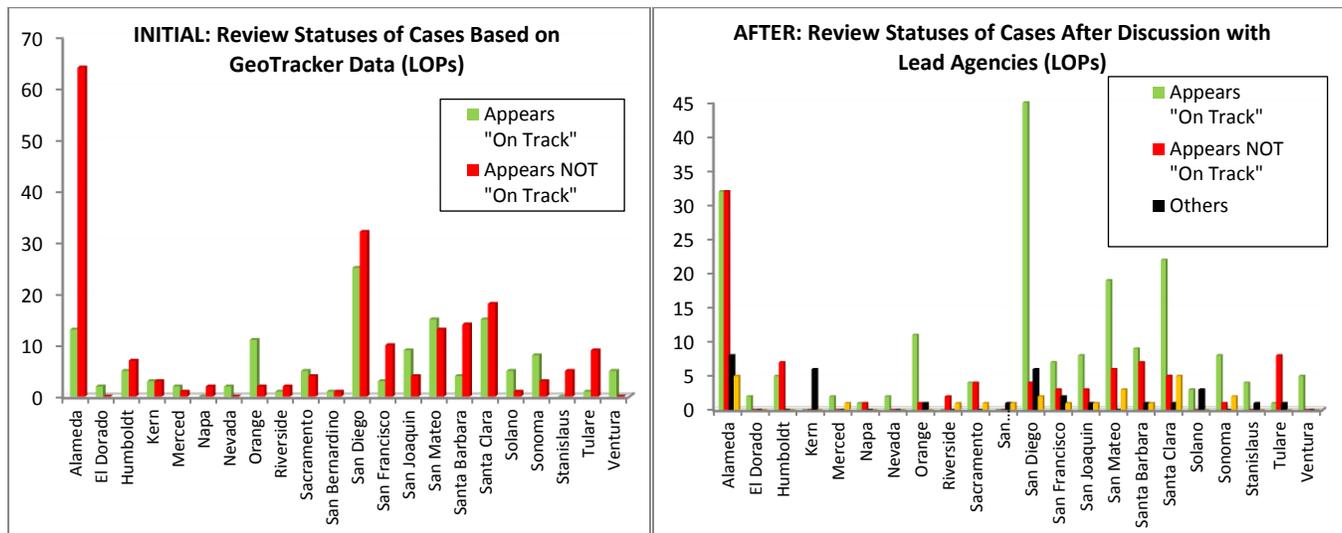
Based on initial review of case information in GeoTracker, all the RWQCBs appeared to have more non-CUF older cases that were “not on track” versus “on track”, except Central Valley, Sacramento (Region 5S). The initial ratio of number of cases “not on track” versus “on track” for each agency showed that the top three RWQCBs with the highest ratios (more cases “not on track” relative to those “on track”) were: (1) Region 6 (ratio of 4.2), (2) Region 2 (ratio of 3.3) and (3) Region 7 (ratio 2.7).

After discussion with the RWQCBs, all the agencies increased their number of cases “on track”, reduced their number of cases “not on track”, and closed some cases. The top three RWQCBs with highest ratios after discussions were: (1) Region 2 (ratio of 2.4), (2) Region 5-F (ratio of 1.5) and (3) Region 6 (ratio of 1.3).

A majority of the RWQCBs cases determined as “others” were either transferred cases or had entered funding programs, except Regions 1 and 8 cases, where a majority were determined to be “not federal UST cases.”

LOP Lead

The charts below show the number of non-CUF older cases reviewed that appeared “on track” versus “not on track” for each of the LOPs based on initial case review and after discussion with the lead agencies:



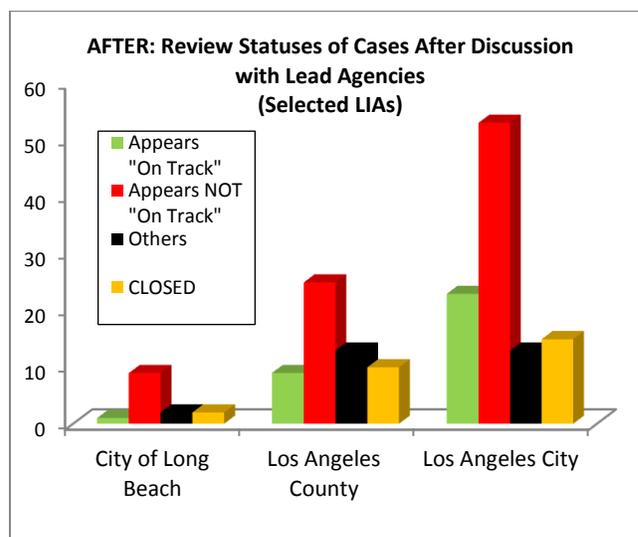
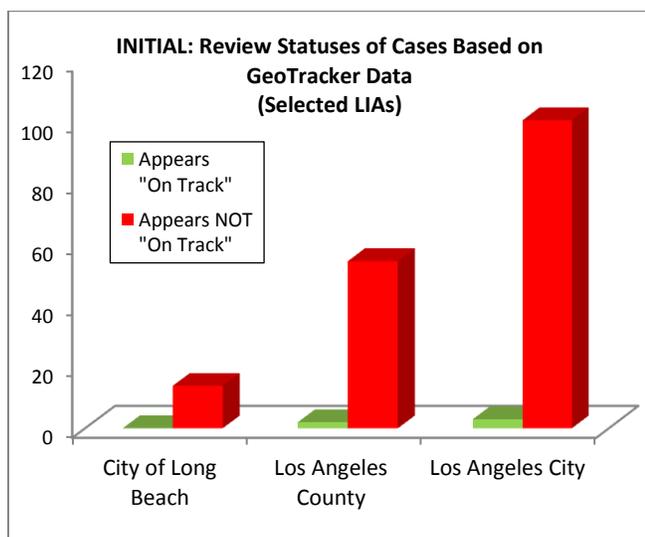
Based on initial review of case information in GeoTracker, almost half of all LOPs appeared to have more non-CUF older cases “not on track” versus “on track.” The initial ratio of number of cases “not on track” versus “on track” for each agency (focusing on agencies with more than 10 non-CUF older cases) showed that the top three LOPs with the highest ratios (more cases “not on track” relative to those “on track”) were: (1) Alameda County (ratio of 4.9), (2) Santa Barbara County (ratio of 3.5), and (3) San Francisco County (ratio of 3.3).

After discussion with the LOPs, all the agencies increased their number of cases “on track”, reduced their number of cases “not on track”, and closed some cases. The top three LOPs with highest ratios after discussions were: (1) Humboldt County (ratio of 1.4), (2) Alameda County (ratio of 1.0) and (3) Santa Barbara County (ratio of 0.8).

A majority of the LOPs cases determined as “others” were cases that had entered funding programs.

LIA Lead

The charts below show the number of non-CUF older cases reviewed that appeared “on track” versus “not on track” for each of the 3 selected LIAs based on initial case review and after discussion with the lead agencies:



Based on initial review of case information in GeoTracker, almost all three selected LIA cases reviewed appeared “not on track.” **A majority of the LIA cases reviewed had limited or no case information available in GeoTracker.** The initial ratio of number of cases “not on track” versus “on track” for each agency shown in order from highest to lowest ratios were: (1) City of Long Beach (all cases “not on track”), (2) Los Angeles City (ratio of 34) and (3) Los Angeles County (ratio of 28).

After discussion with the three selected LIAs, all the agencies increased their number of cases “on track”, reduced their number of cases “not on track”, and closed some cases. The ratio of number of cases “not on track” versus “on track” for each agency after discussion with the lead agencies and shown in the order from highest to lowest ratios were: (1) City of Long Beach (ratio of 9), (2) Los Angeles County (ratio of 3) and (3) Los Angeles City (ratio of 2).

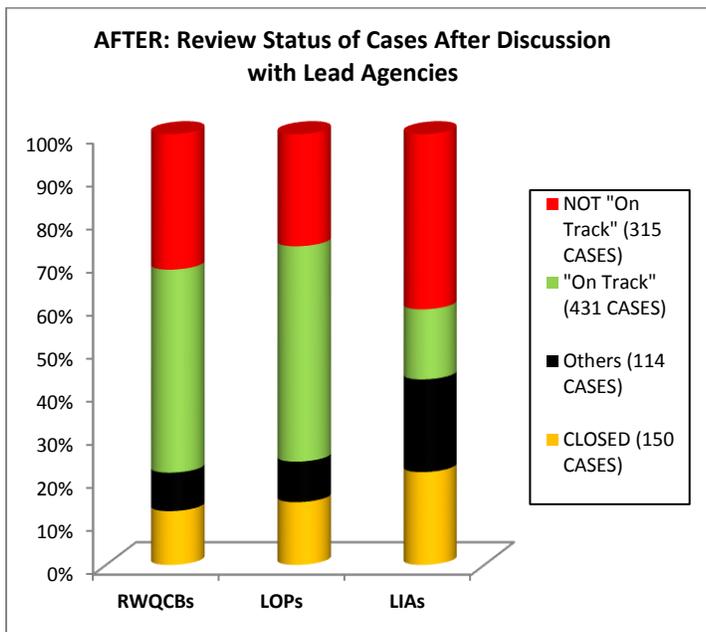
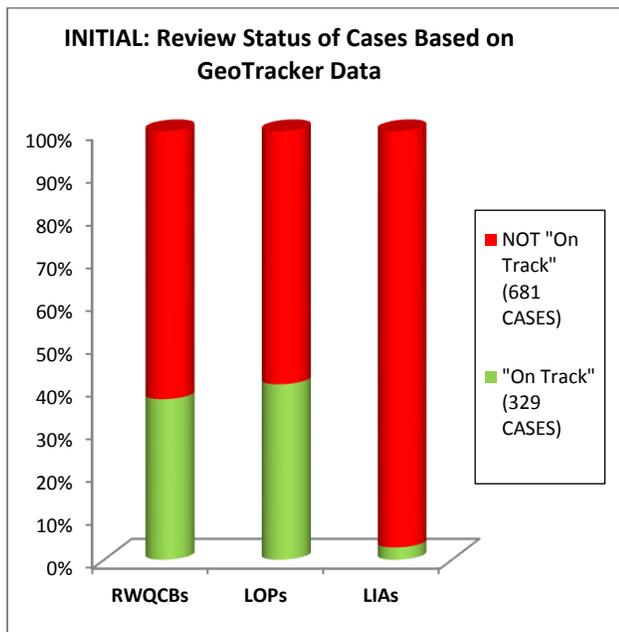
The number of the LIA cases determined as “others” was almost evenly distributed as either deleted in GeoTracker, transferred to another lead agency, not a federal UST case, or entered a funding program.

Overall Non-CUF Older Case Review Status Change (Initial Review and After Discussions with Lead Agencies)

Overall, the initial review and after discussion with the lead agencies case status changes were as follows:

AGENCIES	INITIAL CASE REVIEW		AFTER DISCUSSION WITH AGENCIES			
	“Not On Track”	“On Track”	“Not On Track”	“On Track”	“Others”	CLOSED
RWQCBs	316	189	159	238	43	65
LOPs	195	135	86	165	31	48
LIAs	170	5	70	28	40	37
TOTAL	681	329	315	431	114	150

The following charts show the overall changes in the number of non-CUF older cases reviewed that appeared “on track” versus “not on track” based on initial case review and after discussion with the lead agencies:



Through this study, progress was made on these non-CUF older cases: the total number of cases “on track” increased from 329 to 431 cases, while the number of cases “not on track” reduced from 681 to 315 cases, with 148 cases closed and 133 cases either determined not to be a federal UST case or transferred or deleted or entered a funding program.

1.4 SUMMARY OF NON-CUF OLDER CASES REVIEWED IN CALIFORNIA

In 2011, approximately a third of the open leaking UST cases in California were not in any state funding program. Up to 70 percent of these non-funded cases were deemed “Not Ready for Closure – Final” by the lead agencies. A total of 1,010 cases were open for 15 years or more, not in state cleanup fund, and were deemed “Not Ready for Closure – Final” by the leading agency.

This study showed that approximately half of the non-CUF older cases had been opened between 20 to 24 years, with 6 percent of the cases opened for more than 25 years (including cases with unknown discovery date of 1/1/1965). A majority of the cases that were opened for more than 25 years had either a major oil company or a small business as its RP. Discussions with the lead agencies revealed that some of these older cases under RWQCB were transferred to the agencies from the LOP or LIA agencies.

This study also showed that based on the initial case review, a majority of the lead agencies had more cases “not on track” versus “on track”, with LIAs having almost all their cases “not on track.” After discussion with each lead agency, progress was made on all the cases, with the number of cases “on track” increased by a third, while the number of cases “not on track” reduced by half from 681 to 315 cases, and approximately 150 cases (15 percent of all cases reviewed) were closed. Data corrections were also made in GeoTracker – duplicate or not a case was deleted; incorrect or missing case information was updated; non-leaking UST cases were identified and to be reassigned to other appropriate programs; and cases were transferred to the correct lead agencies.

A table showing the overall changes in case review statuses for each of the lead agency is as follows:

Summary of Findings: Open, Non-Cleanup Fund, Older Leaking UST Cases in California

LEAD AGENCY	Total Non-CUF Older Cases	INITIAL CASE REVIEW STATUS	
		"On Track"	"Not On Track"
Region 1	78	31	47
Region 2	56	13	43
Region 3	26	12	14
Region 4	139	58	81
Region 5-R	8	4	4
Region 5-S	45	27	18
Region 5-F	62	17	45
Region 6	26	5	21
Region 7	11	3	8
Region 8	49	18	31
Region 9	5	1	4
Total (RWQCBs)	505	189	316
Alameda	77	13	64
El Dorado	2	2	0
Humboldt	12	5	7
Kern	6	3	3
Merced	3	2	1
Napa	2	0	2
Nevada	2	2	0
Orange	13	11	2
Riverside	3	1	2
Sacramento	9	5	4
San Bernardino	2	1	1
San Diego	57	25	32
San Francisco	13	3	10
San Joaquin	13	9	4
San Mateo	28	15	13
Santa Barbara	18	4	14
Santa Clara	33	15	18
Solano	6	5	1
Sonoma	11	8	3
Stanislaus	5	0	5
Tulare	10	1	9
Ventura	5	5	0
Total (LOPs)	330	135	195
City of Long Beach	14	0	14
Los Angeles County	57	2	55
Los Angeles City	104	3	101
Total (LIAs)	175	5	170
Overall Total	1,010	329	681

AFTER DISCUSSIONS WITH LEAD AGENCIES: CASE REVIEW STATUS							
"On Track"	"Not On Track"	CLOSED	OTHERS				
			Entered Fund Program	Deleted (Duplicate/Not a Case)	Transferred	Other Program	Not Federal UST Case
37	19	14	1	1	0	1	5
16	37	3	0	0	0	0	0
13	9	1	3	0	0	0	0
80	38	17	0	0	4	0	0
4	2	2	0	0	0	0	0
30	2	12	1	0	0	0	0
21	31	10	0	0	0	0	0
9	12	3	1	1	0	0	0
8	2	1	0	0	0	0	0
18	8	0	0	0	3	0	20
0	1	2	1	0	0	1	0
236	161	65	7	2	7	2	25
32	32	5	5	0	0	3	0
2	0	0	0	0	0	0	0
4	7	1	0	0	0	0	0
0	0	0	0	0	6	0	0
1	0	2	0	0	0	0	0
1	1	0	0	0	0	0	0
1	0	1	0	0	0	0	0
11	1	0	1	0	0	0	0
0	2	1	0	0	0	0	0
3	4	1	1	0	0	0	0
0	0	1	0	0	1	0	0
37	5	13	2	0	0	0	0
7	3	1	0	0	0	0	2
6	3	2	1	0	0	1	0
13	6	9	0	0	0	0	0
9	7	1	0	1	0	0	0
21	4	7	0	1	0	0	0
3	0	0	3	0	0	0	0
8	1	2	0	0	0	0	0
3	0	0	2	0	0	0	0
1	8	0	1	0	0	0	0
4	0	1	0	0	0	0	0
167	84	48	16	2	7	4	2
1	9	2	0	0	2	0	0
9	24	11	0	4	8	0	1
18	37	24	1	20	4	0	0
28	70	37	1	24	14	0	1
431	315	150	24	28	28	6	28

2.0 CASE DATA IN GEOTRACKER (NON-CUF OLDER CASES)

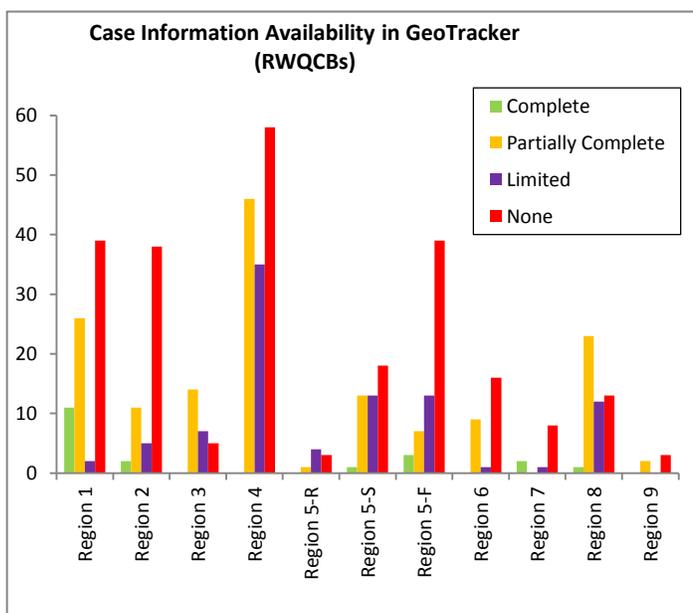
This section provides a summary of the non-CUF older cases GeoTracker data availability. In this study to better understand the barriers in conducting leaking UST cleanups in California, case information in GeoTracker such as case data uploaded, cleanup status (stage), apparent RP types and case claim status were analyzed. In 2011, all RWQCBs and LOPs agencies (LIAs excluded) are required by the SWRCB to create and maintain their leaking UST cases in GeoTracker, which includes uploading and inputting case data, reports and information (at the least, any case information available after 2005). As of January 1, 2012, all LIA agencies are also required to report in GeoTracker.

2.1 CASE DATA AVAILABILITY IN GEOTRACKER

This sub-section shows the apparent completeness of the non-CUF older cases data and information in GeoTracker. Since the lead agencies (RWQCBs and LOPs) were required by the SWRCB to input case reports after 2005, this study mainly focused on apparent case data availability after 2005. In this study, the case data and information completeness in GeoTracker was divided into:

- (1) *Complete* - case has regulatory letters, soil or groundwater monitoring reports, tank removal and boring logs
- (2) *Partially complete* – case has some case information or only groundwater monitoring reports
- (3) *Limited* – case has limited letters or reports
- (4) *None* – case has no report or correspondence (letter)

RWQCB Jurisdiction



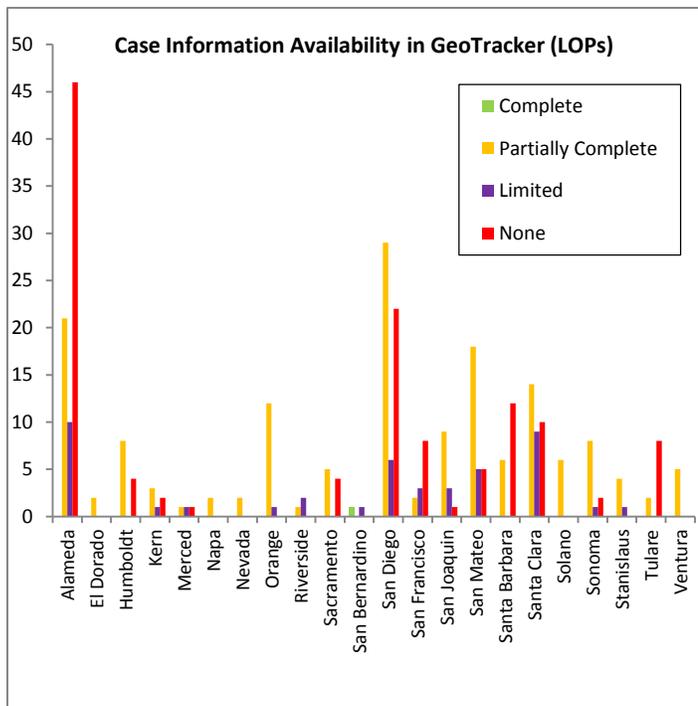
Based on information in GeoTracker, the chart on the left shows the case information availability and completeness for the RWQCBs cases reviewed.

Agency	Complete	Partially Complete	Limited	None
RWQCBs	4%	30%	18%	48%

In general, the agency with the highest percentage of its cases in each category was as follows:

- ✓ Region 7 with 18 percent *complete*
- ✓ Region 3 with 54 percent *partially complete*
- ✓ Region 5-S with 29 percent *limited*
- ✓ **Region 2 with 68 percent *none* (no data in GeoTracker)**

LOP Jurisdiction



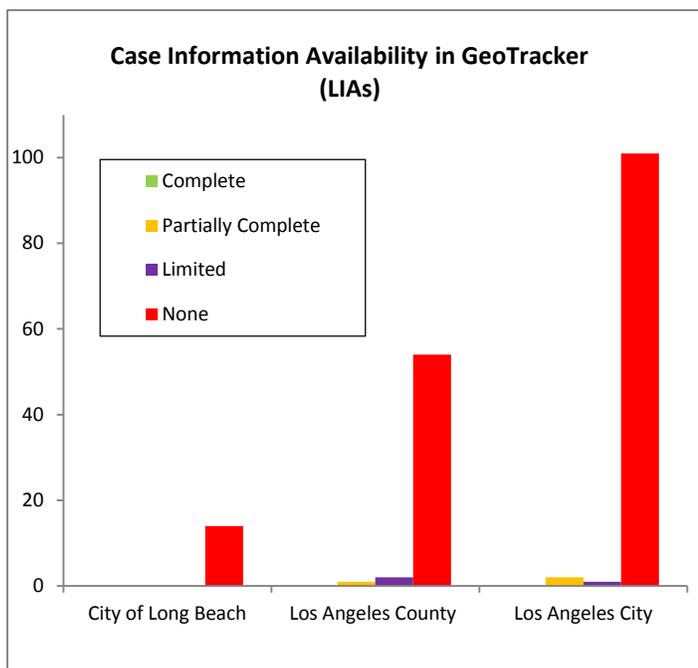
Based on information in GeoTracker, the chart on the left shows the case information availability/completeness for the LOP cases reviewed.

Agency	Complete	Partially Complete	Limited	None
LOPs	0%	48%	13%	38%

In general, the agency with the highest percentage of its cases in each category was as follows (focusing on agencies with more than 10 cases reviewed):

- ✓ No agency with *complete*
- ✓ Orange County with 92 percent *partially complete*
- ✓ Santa Clara County with 27 percent *limited*
- ✓ **Alameda County with 68 percent *none* (no data in GeoTracker)**

LIA Jurisdiction



Based on information in GeoTracker, the chart on the left shows the case information availability and completeness for the LIA cases reviewed.

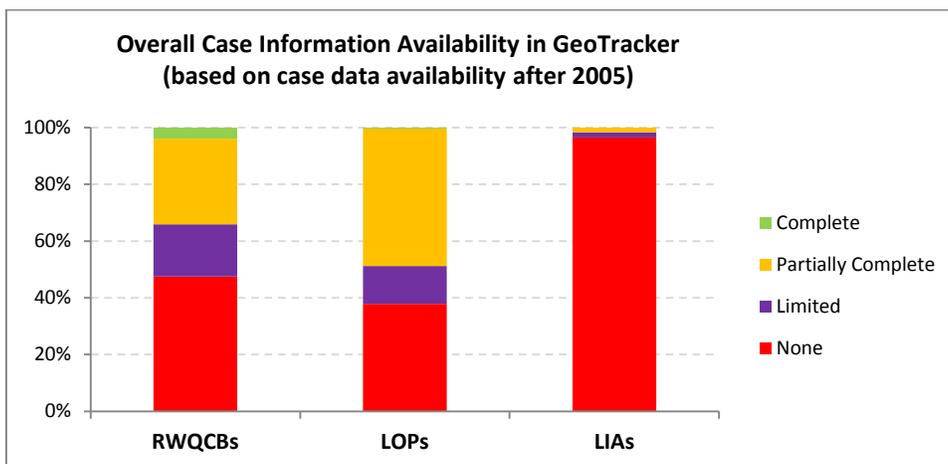
Agency	Complete	Partially Complete	Limited	None
LIAs	0%	2%	2%	97%

In general, the agency with the highest percentage of its cases in each category was as follows:

- ✓ No agency with *complete*
- ✓ Los Angeles County and City each with 2 percent *partially complete*
- ✓ Los Angeles County with 4 percent *limited*
- ✓ **Almost all the LIAs cases with *none* (no data in GeoTracker)**

Overall Data Availability in GeoTracker

Overall, in 2011, the percentages of non-CUF older cases data and information availability in GeoTracker (based on case data availability after 2005) were as follows:



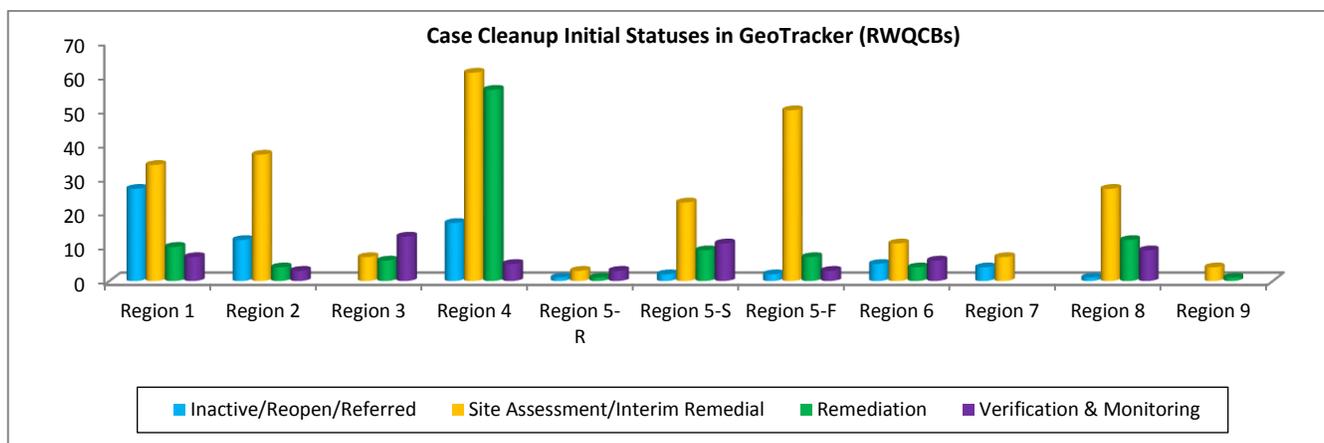
The percentages of overall completeness of non-CUF older cases data/information in GeoTracker were approximately 2 percent *complete*, 31 percent *partially complete*, 14 percent *limited*, and 53 percent *none* (no data in GeoTracker). **More than half of the cases reviewed apparently did not have any case reports, data, or letters in GeoTracker.** A majority of these cases were under LIAs, which are not required or funded to upload and maintain leaking UST case information in GeoTracker.

2.2 INITIAL CASE CLEANUP STATUS

This sub-section provides a summary of the distribution of the case cleanup statuses (stages) in GeoTracker for all the non-CUF older cases reviewed. There were five main cleanup stages listed in GeoTracker: (1) *inactive*; (2) *site assessment and/or interim remedial action*; (3) *remediation*; (4) *verification & monitoring*; and (5) *reopened/referred*. The cases in *inactive* and *reopened/referred* were counted together in the figures below.

RWQCB Lead

The following chart shows the non-CUF older case cleanup stages in GeoTracker for the RWQCB cases reviewed:

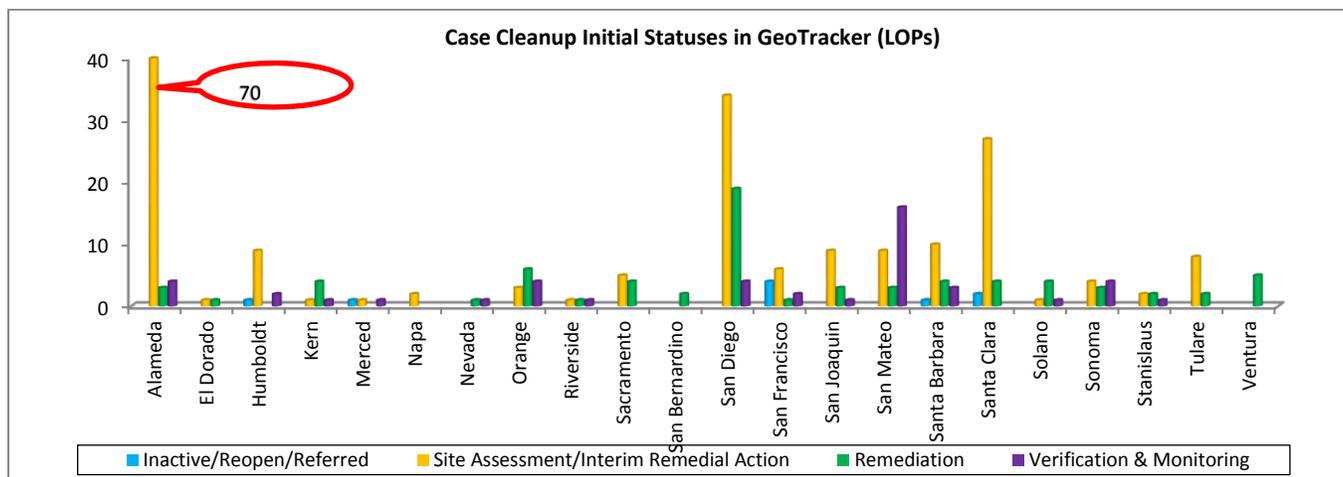


It appeared that a **majority of the RWQCBs cases reviewed were in the *site assessment or interim remedial action* stage**, followed by *remediation, verification and monitoring*, and *inactive/reopen/referred* stages. All RWQCBs had the majority of their cases in *site assessment/interim remedial*, except Region 3, which had a majority of its cases in *verification monitoring*. In general, the agency with the largest percentage of its cases reviewed in each cleanup stage listed in GeoTracker was as follows:

- ✓ ***Inactive/reopened/referred* – Region 1 (35 percent)**
- ✓ *Site assessment/interim remedial* – Region 5F (81 percent)
- ✓ *Remediation* – Region 4 (40 percent)
- ✓ *Verification & monitoring* – Region 5R (38 percent)

LOP Lead

The following chart shows the non-CUF older case cleanup stages in GeoTracker for the LOPs cases reviewed:

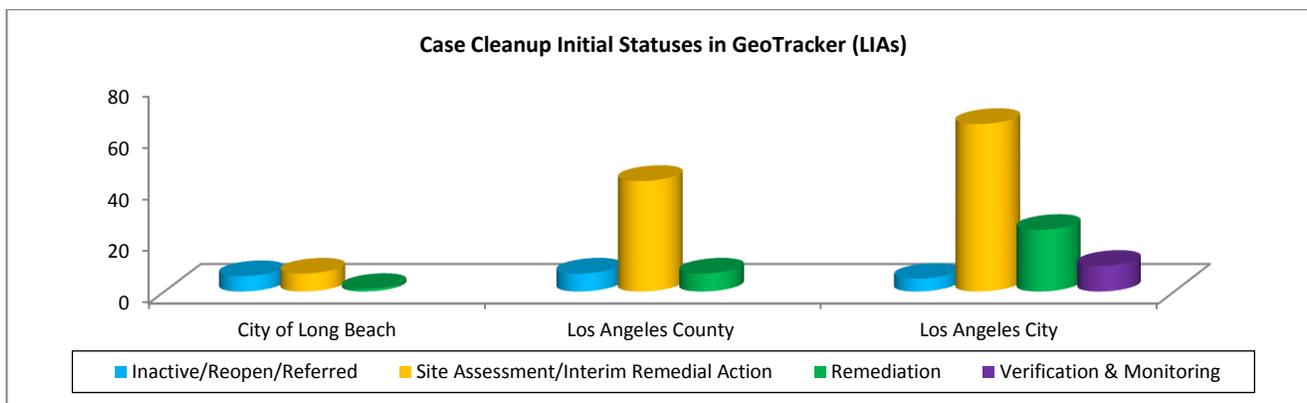


It appeared that a **majority of the LOP cases reviewed were in the *site assessment or interim remedial action* stage**, followed by *remediation, verification and monitoring*, and *inactive/reopen/referred* stages. In general, the agency with the largest percentage of its cases reviewed in each cleanup stage listed in GeoTracker was as follows:

- ✓ ***Inactive/reopened/referred* – San Francisco County (31 percent)**
- ✓ *Site assessment/interim remedial* – Alameda County (91 percent)
- ✓ *Remediation* – Orange County (40 percent)
- ✓ *Verification & monitoring* – Sacramento County (57 percent)

LIA Lead

The following chart shows the non-CUF older case cleanup stages in GeoTracker for the three selected LIA cases reviewed:

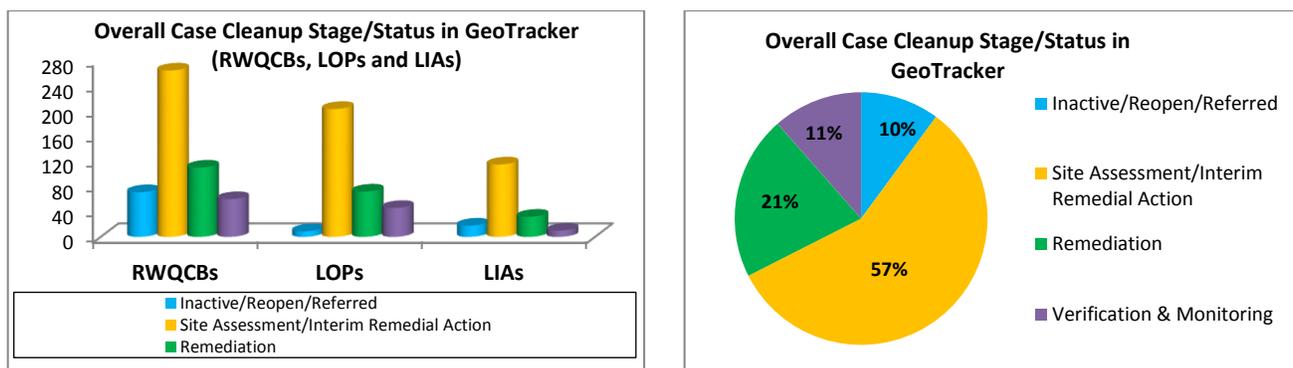


It appeared that a **majority of the three selected LIA's cases reviewed were in the *site assessment or interim remedial action* stage**, followed by *remediation, inactive/reopen/referred* and *verification and monitoring* stages. Los Angeles City appears to have high number of cases in the *site assessment/interim remedial action* and in *remediation* stages, and the only LIA agency with cases in *verification and monitoring*. In general, the agency with the largest percentage of its cases reviewed in each cleanup status listed in GeoTracker was as follows:

- ✓ **Inactive/reopened/referred – City of Long Beach (43 percent)**
- ✓ **Site assessment/interim remedial – Los Angeles County (75 percent)**
- ✓ **Remediation – Los Angeles City (23 percent)**
- ✓ **Verification & monitoring – Los Angeles City (10 percent)**

Overall Summary of Case Cleanup Initial Status in GeoTracker of Non-CUF Older Cases Reviewed

The graphs below show the overall distribution of the cleanup stages in GeoTracker for the non-CUF older cases reviewed in GeoTracker:



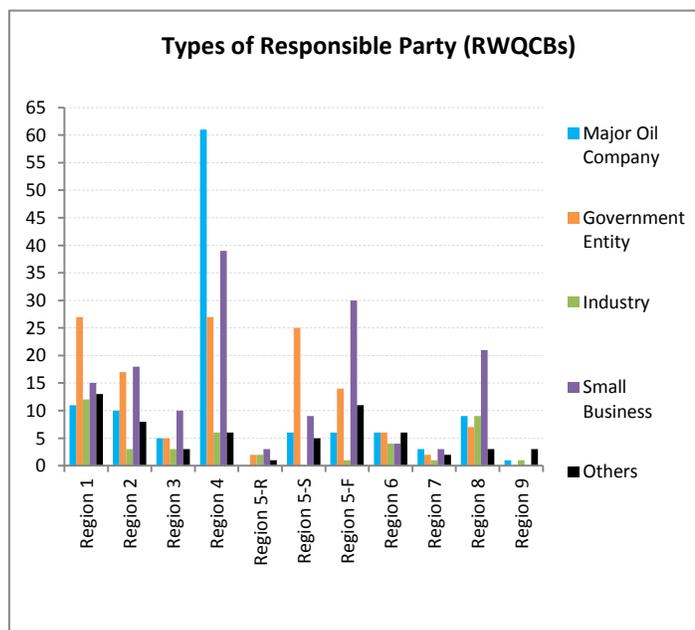
Overall, it appeared that a majority (57 percent) of the cases reviewed for all three agency groups (RWQCBs, LOPs, and LIAs) were in the *site assessment and/or interim remedial action* stage, followed by *remediation* (21 percent), *verification and monitoring* (11 percent) and *inactive/reopen/referred* (10 percent) stages. **RWQCBs appeared to have a high number of cases in *inactive/reopened/referred* cleanup stages.**

2.3 APPARENT TYPES OF RP

This sub-section provides a summary of the apparent type of RP (leaking UST owners and/or operators) listed in GeoTracker for the non-CUF older cases reviewed. For this study, the RPs were grouped into one of the following main categories:

- ✓ Major oil company
- ✓ Government entity (including school and hospital)
- ✓ Industry
- ✓ Small business (including private gas station)
- ✓ Others (including Unknown with no RP listed in GeoTracker)

RWQCB Jurisdiction

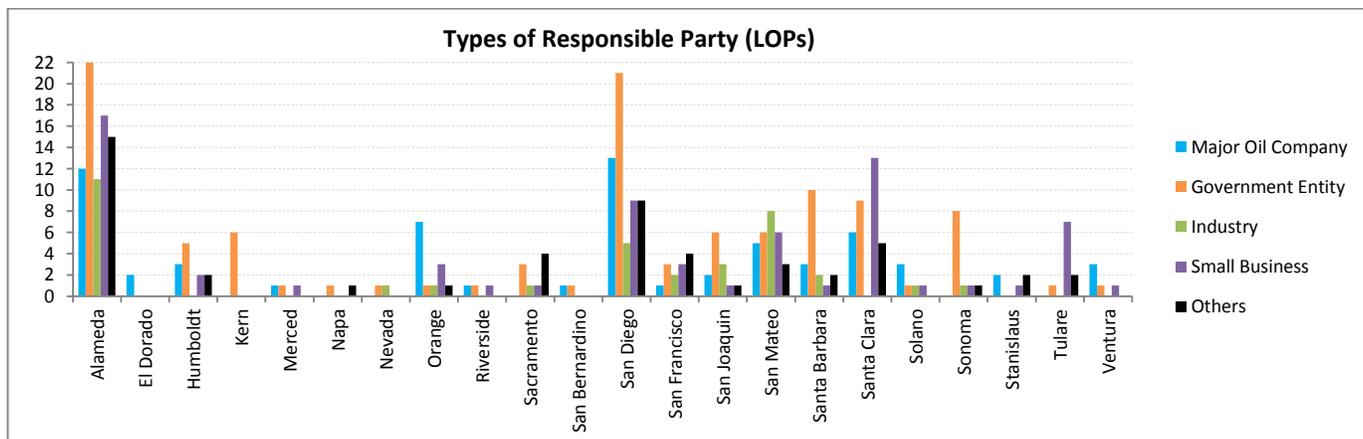


Based on the primary responsible party listed in GeoTracker, the chart on the left shows the RP type distribution for RWQCBs cases reviewed. **The main type of RP for RWQCBs cases was small businesses (30 percent)**, followed by *government entities* (26 percent), and *major oil companies* (23 percent).

In general, the agency that appeared to have the largest percentage of its cases reviewed for each RP type listed in GeoTracker was:

- ✓ Major oil company – Region 4 (44 percent)
- ✓ Government entity – Region 5S (56 percent)
- ✓ Industry – Region 8 (18 percent)
- ✓ Small business – Region 5F (48 percent)
- ✓ Other/unknown – Region 6 (23 percent)

LOP Jurisdiction

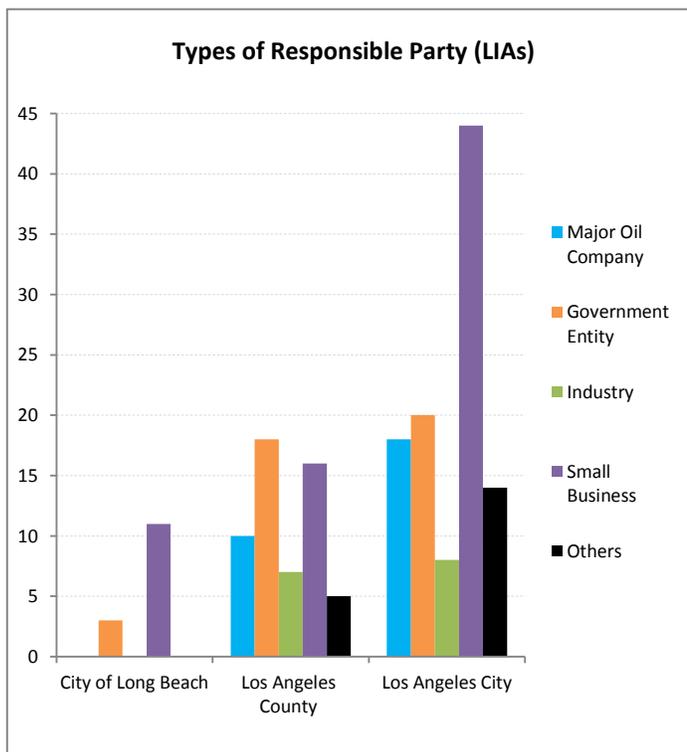


Based on the primary responsible party listed in GeoTracker, the chart above shows the RP type distribution for LOP cases. **The main type of RP for LOPs cases appeared to be government entities (33 percent)**, followed by *small businesses* (21 percent) and *major oil companies* (20 percent).

In general, the agency that appeared to have the largest percentage of its cases reviewed for each RP type listed in GeoTracker (focusing on agencies with more than 10 cases reviewed) was:

- ✓ Major oil company – Orange County (54 percent)
- ✓ Government entity – Sonoma County (73 percent)
- ✓ Industry – San Mateo County (29 percent)
- ✓ Small business – Santa Clara County (39 percent)
- ✓ **Other/unknown – San Francisco County (31 percent)**

LIA Jurisdiction

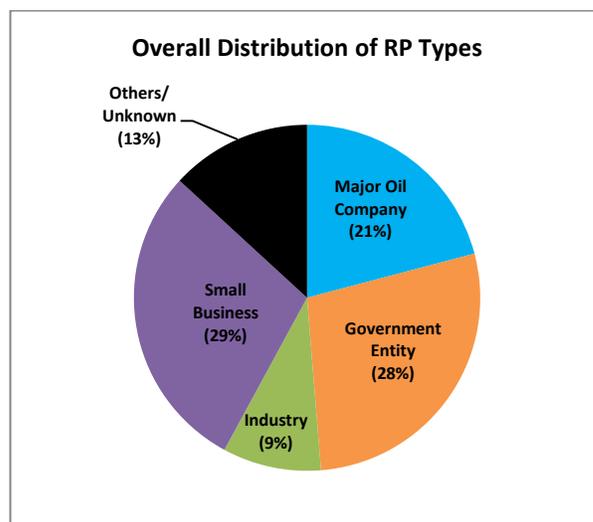
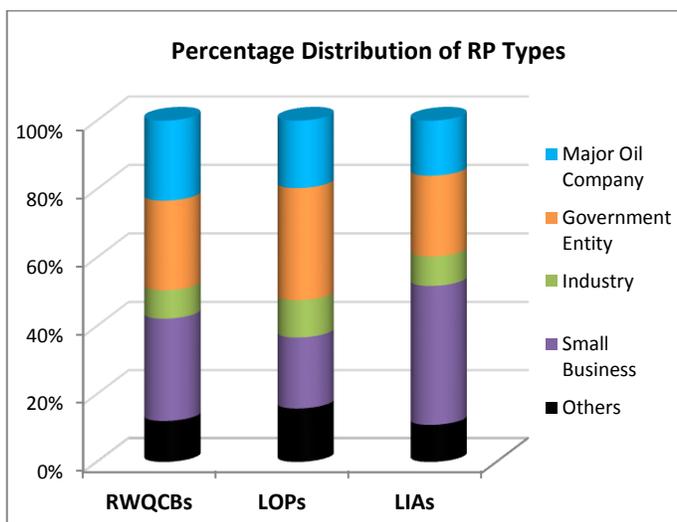


Based on the primary responsible party listed in GeoTracker, the chart on the left shows the distribution for the three selected LIA cases. **The main RP type for the LIAs cases appeared to be small businesses (41 percent)**, followed by *government entities* (23 percent), and *major oil companies* (16 percent).

In general, the agency that appeared to have the largest percentage of cases reviewed for each RP type was:

- ✓ Major oil company – Los Angeles County and City (18 percent county and 17 percent city)
- ✓ Government entity and industry – Los Angeles County (32 percent government entities and 12 percent industries).
- ✓ Small business – City of Long Beach (79 percent)
- ✓ **Other/unknown – Los Angeles City (13 percent)**

Overall Apparent Types of RP



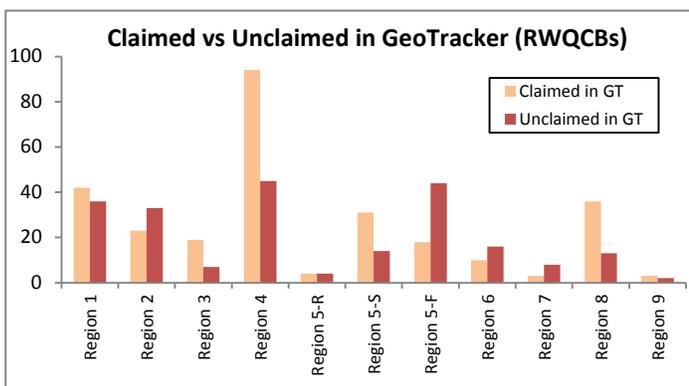
Overall, the distribution of the primary RPs listed in GeoTracker for the non-CUF older cases reviewed is as follows:

- (1) *Small business* (29 percent)
- (2) *Government entity* (28 percent)
- (3) *Major oil company* (21 percent)
- (4) *Industry* (9 percent)
- (5) ***Others/Unknown* (13 percent)**

2.4 CLAIMED VERSUS UNCLAIMED CASES

This sub-section provides a summary of the status of the *claimed* or *unclaimed* by the RPs in GeoTracker of the non-CUF older cases reviewed. Before an RP (or authorized RP agent, contractor, or laboratory) can upload data to a site or case in GeoTracker, the RP must first “*claim*” the site and become associated with the site in GeoTracker. All RWQCBs are required by and LOPs are under contract with SWRCB to ensure that all leaking UST cases in GeoTracker are *claimed* by their RPs.

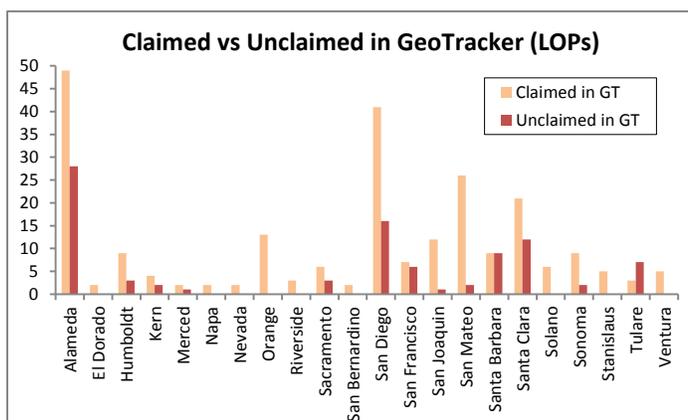
RWQCB Jurisdiction



Based on GeoTracker, the chart on the left shows the distribution of *claimed* (56 percent) versus *unclaimed* (44 percent) RWQCB cases reviewed. In general:

- ✓ Regions 3 and 8 had the highest percentage of *claimed* cases at 73 percent each.
- ✓ **Regions 7 had the highest percentages of *unclaimed* cases at 73 percent, closely followed by Region 5-F at 71 percent.**

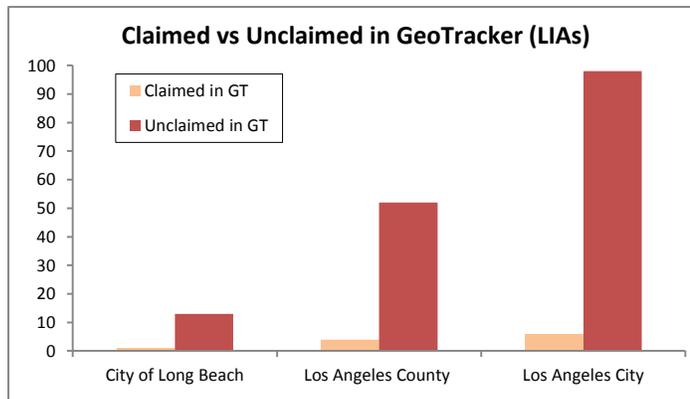
LOP Jurisdiction



Based on GeoTracker, the chart on the left shows the distribution of *claimed* (72 percent) versus *unclaimed* (28 percent) LOPs cases reviewed. In general (focusing on agencies with more than 10 cases reviewed):

- ✓ Orange County had 100 percent (13 cases) of its cases *claimed*.
- ✓ **Santa Barbara County had 50 percent of its cases *unclaimed*.**

LIA Jurisdiction

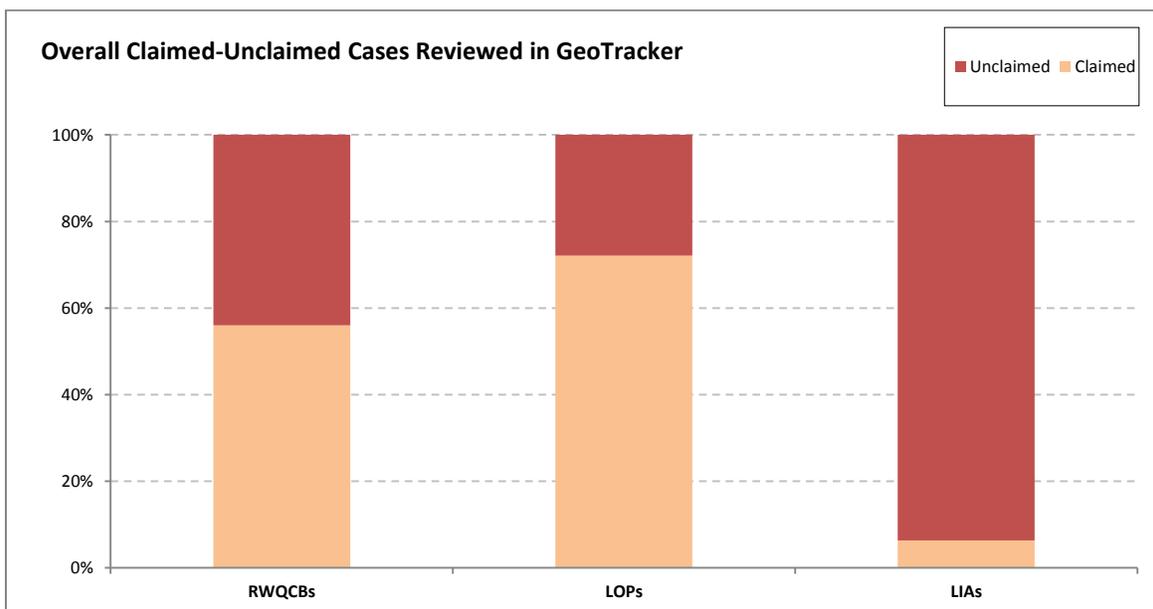


Based on information in GeoTracker, the chart on the left shows the distribution of *claimed* versus *unclaimed* LIAs cases reviewed. In general:

✓ **A majority (93 percent) of the cases were *unclaimed* in GeoTracker.**

Overall Claimed versus Unclaimed Cases in GeoTracker for the Non-CUF Older Cases Reviewed

Overall, the percentages of *claimed* versus *unclaimed* cases in GeoTracker for the non-CUF older cases were as follows:



The percentages of cases were at 53 percent *claimed* and 47 percent *unclaimed*. RWQCBs overall had 56 percent *claimed* versus 44 percent *unclaimed* cases. LOPs overall had higher percentage of *claimed* cases at 72 percent versus *unclaimed* cases at 28 percent. The three selected LIAs overall had a majority of their cases *unclaimed* in GeoTracker at 93 percent, possible due to the fact that LIAs are not required by the SWRCB to use GeoTracker and the RPs are unaware of the need to *claim* their cases in GeoTracker. However, as of January 1, 2012, the LIAs are also required to report in GeoTracker.

2.5 SUMMARY OF NON-CUF OLDER CASES DATA IN GEOTRACKER

To get a general overview of the non-CUF older cases data availability in GeoTracker, this study looked at the case data and reports, case cleanup status (stage), apparent responsible party type and the *claimed* versus *unclaimed* statuses of these cases in GeoTracker. Overall, this study and review of the 1,010 non-CUF older cases showed that based on 2011 data in GeoTracker:

Data Availability – apparently more than half (53 percent) of the cases reviewed did not have any data, information, or letter in GeoTracker. A majority of these cases belonged to the LIAs, which were not required by the SWRCB to input and maintain their leaking UST case information in GeoTracker. There were only approximately 2 percent of the cases reviewed with *complete* (case has regulatory letters, soil or groundwater monitoring reports, tank removal and boring logs) case information in GeoTracker, while the remaining 45 percent had either partially complete or limited case information in GeoTracker. **However, as of January 1, 2012, the LIAs are required to report in GeoTracker.**

Cleanup Status/Stage – apparently more than half (57 percent) of the cases reviewed were in *site assessment/interim remedial action*, and an approximate 10 percent were *inactive/reopen/referred*. The remaining 33 percent of the cases were either in *remediation* or *verification and monitoring*.

Responsible Party – three apparent main primary RP types for these cases were *small businesses* (29 percent), *government entities* (28 percent), and *major oil companies* (21 percent). The remaining 22 percent of the cases were *industry* or *other/unknown*.

Claimed versus Unclaimed – apparently more than half (53 percent) of the cases were *claimed* in GeoTracker, with 56 percent of RWQCBs *claimed*, 72 percent of LOPs *claimed*, and 7 percent of LIAs *claimed*. The *unclaimed* cases appeared to be mostly *small business* RP (41 percent), followed by *government entities* (22 percent). *Major oil companies* (one of the main RP types) only had approximately 8 percent of their cases *unclaimed*.

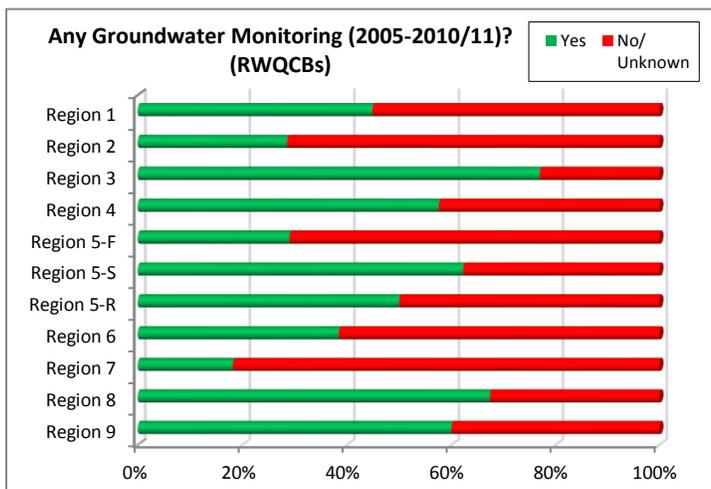
Therefore, this study showed that overall there appeared to be incomplete case data in GeoTracker for a majority of the non-CUF older cases reviewed, and most of these cases remained in *site assessment/interim remedial action* status. The RPs for these cases were mainly *small businesses*, *government entities* and *major oil companies*. Almost half of these cases remained *unclaimed* by their RPs in GeoTracker, and appeared to belong mostly to *small businesses* and oversee by the LIAs.

3.0 APPARENT CASE ACTIVITIES IN GEOTRACKER (NON-CUF OLDER CASES)

This section provides a summary of non-CUF older cases site activities (groundwater monitoring, investigation, remediation and regulatory directive letters issued) in GeoTracker from 2005 to 2011. In this study to determine barriers that might be preventing these cases from getting through the cleanup process in a timely manner, the general level of case site activities was assessed. All RWQCBs are required by and LOPs are currently under contract with the SWRCB to input leaking UST case data information (at a minimum all case information after 2005) into GeoTracker.

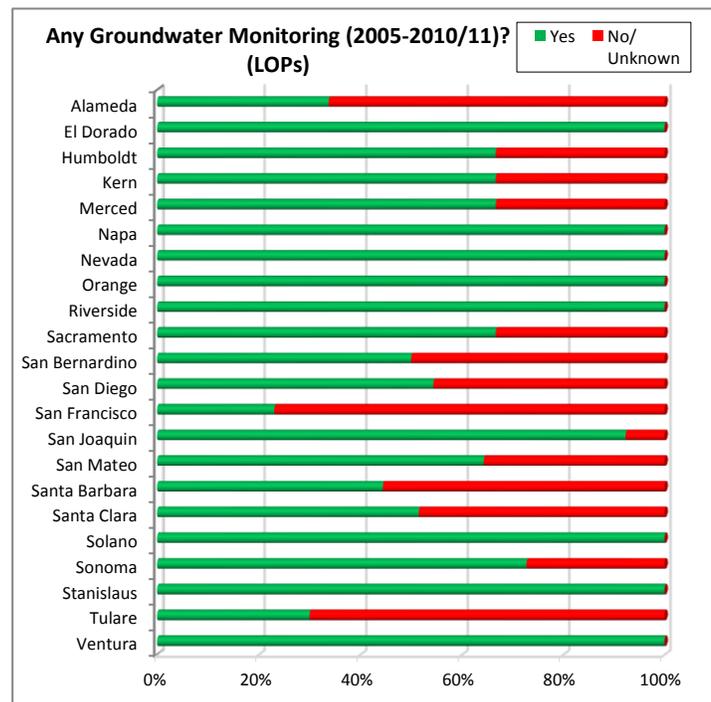
3.1 GROUNDWATER MONITORING

This sub-section shows the apparent groundwater monitoring activities in GeoTracker between 2005 and 2011 of the non-CUF older cases reviewed:



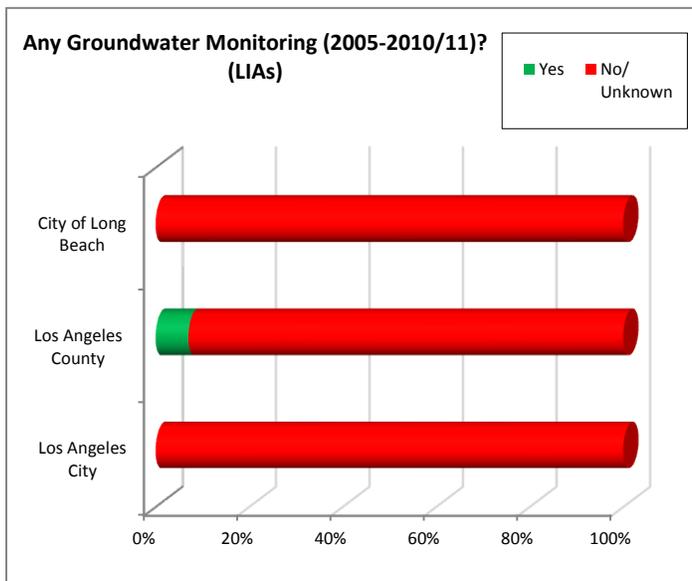
The figure on the left shows the groundwater monitoring activities at RWQCB sites. All RWQCBs appeared to have some sites with groundwater monitoring activities. Based on data in GeoTracker, it appeared that:

- ✓ Region 3 had the highest percentage (77 percent) of its sites with groundwater monitoring.
- ✓ Region 7 had the lowest percentage (18 percent) of its sites with groundwater monitoring.
- ✓ Overall, 49 percent of RWQCBs cases reviewed had groundwater monitoring.



The figure on the left shows the groundwater monitoring activities at LOPs sites. All LOPs appeared to have some sites with groundwater monitoring activities. Based on data in GeoTracker (focusing on agencies with more than 10 cases reviewed), it appeared that:

- ✓ Orange County had all its reviewed sites with groundwater monitoring.
- ✓ San Francisco County had the lowest percentage (23 percent) of its sites with groundwater monitoring.
- ✓ Overall, 56 percent of LOPs cases reviewed had groundwater monitoring.



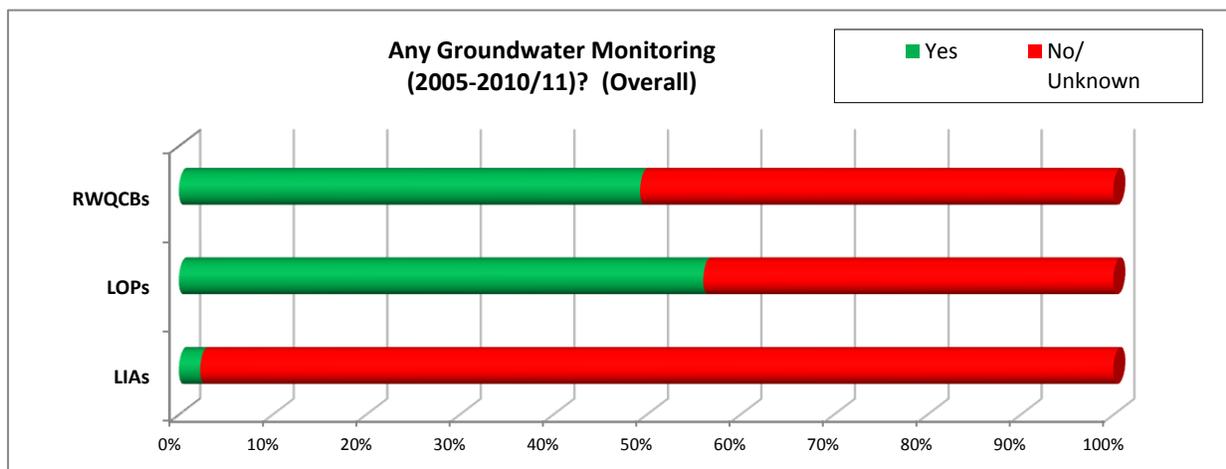
The figure on the left shows the groundwater monitoring activities at the three selected LIAs sites. Based on data in GeoTracker, it appeared that:

- ✓ Overall, only Los Angeles County had some sites (7 percent) with groundwater monitoring.
- ✓ None of City of Long Beach and Los Angeles City cases reviewed had groundwater monitoring.
- ✓ LIAs usually oversee soil only cases and refer sites with groundwater contamination issues to RWQCBs or LOPs.

NOTE: LIAs mostly oversee soil-only cases and refers sites with groundwater issue to RWQCBs or LOPs.

Overall Groundwater Monitoring Activities

The figure below shows the **overall groundwater monitoring activities** in GeoTracker between 2005 and 2011 for the non-CUF older cases reviewed:

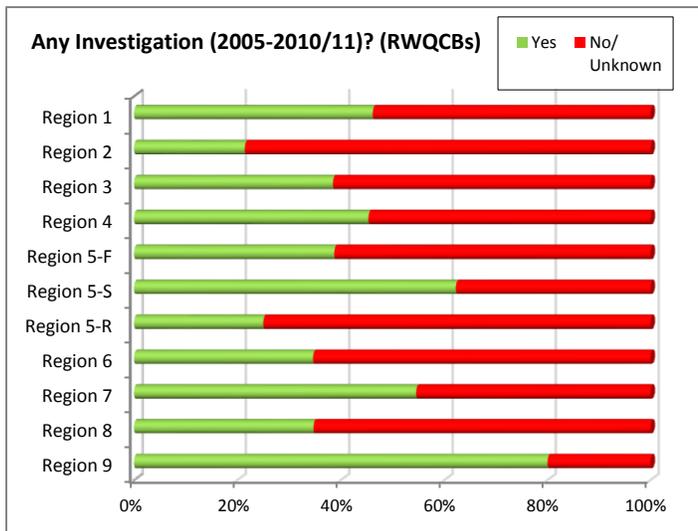


Overall, data in GeoTracker appeared to show that:

- ✓ RWQCBs had 49 percent and LOPs had 56 percent of their sites with groundwater monitoring.
- ✓ LIAs had 2 percent of its sites with groundwater monitoring (LIAs mostly oversee soil-only cases).
- ✓ Overall, 43 percent of all the cases reviewed had some groundwater monitoring activities documented in GeoTracker.

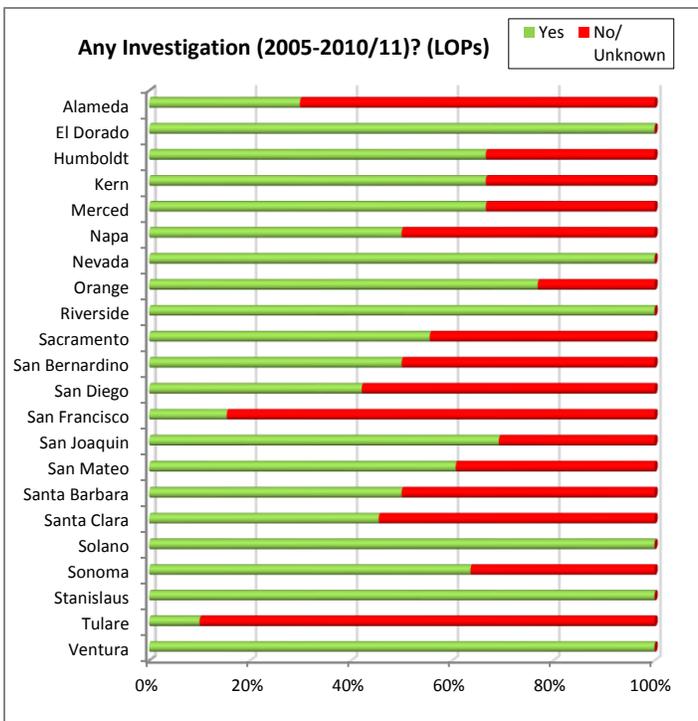
3.2 SITE INVESTIGATION

This sub-section shows the apparent site investigation activities in GeoTracker between 2005 and 2011 of the non-CUF older cases reviewed:



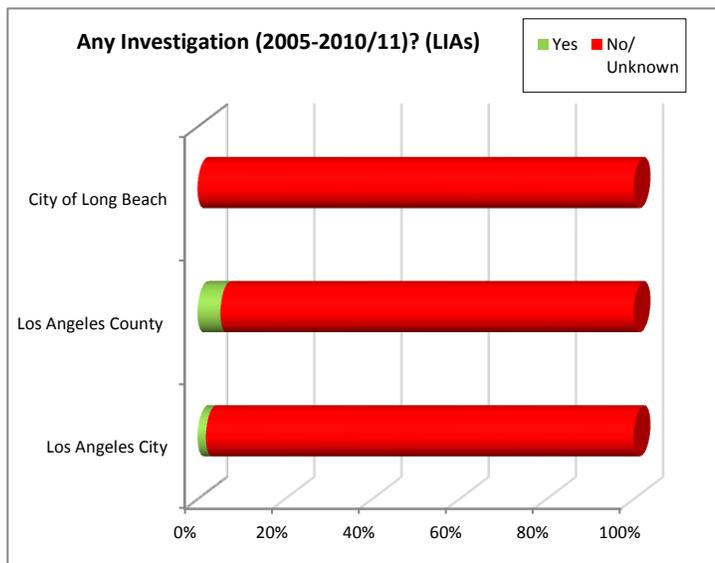
The figure on the left shows the investigation activities at RWQCBs sites. All RWQCBs appeared to have some sites with investigation activities. Based on data in GeoTracker, it appeared that:

- ✓ Region 5S had the highest percentage (62 percent) of its sites with investigation activities.
- ✓ Region 2 had the lowest percentage (21 percent) of its sites with investigation activities.
- ✓ Overall, 42 percent of RWQCBs cases reviewed had some site investigation activities.



The figure on the left shows the groundwater monitoring activities at LOPs sites. All LOPs appeared to have some sites with investigation activities. Based on data in GeoTracker (focusing on agencies with more than 10 cases reviewed), it appeared that:

- ✓ Orange County had the highest percentage (77 percent) of its sites with investigation activities.
- ✓ San Francisco County had the lowest percentage (15 percent) of its sites with investigation activities.
- ✓ Overall, 49 percent of LOPs cases reviewed had some site investigation activities.

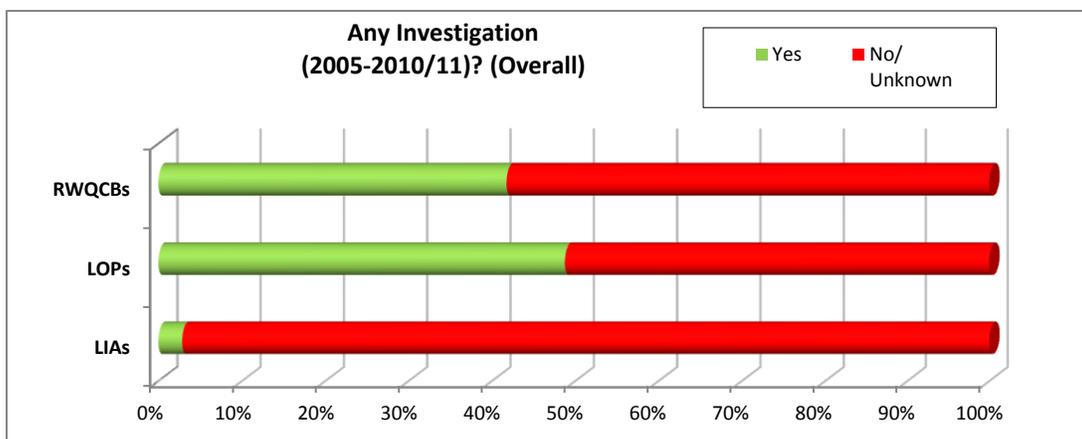


The figure on the left shows the groundwater monitoring activities at the three selected LIAs sites. Based on data in GeoTracker, it appeared that:

- ✓ LIAs sites appeared to have limited site investigation activities.
- ✓ Los Angeles County had the highest percentage (5 percent) of its sites with investigation activities.
- ✓ City of Long Beach had no sites with any investigation activities.
- ✓ Overall, 3 percent of LIAs cases reviewed had some investigation activities.

Overall Site Investigation Activities

The figure below shows the **overall site investigation activities** in GeoTracker between 2005 and 2011 for the non-CUF older cases reviewed:

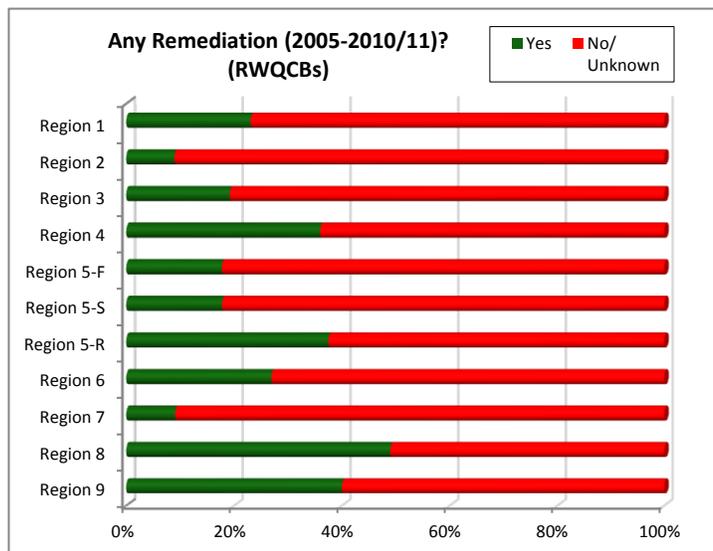


Overall, data in GeoTracker appeared to show that:

- ✓ RWQCBs and LOPs had 42 percent and 49 percent respectively of their sites with investigation activities.
- ✓ LIAs had 3 percent of its sites with investigation activities.
- ✓ Overall, 37 percent of all the cases reviewed had some investigation activities documented in GeoTracker.

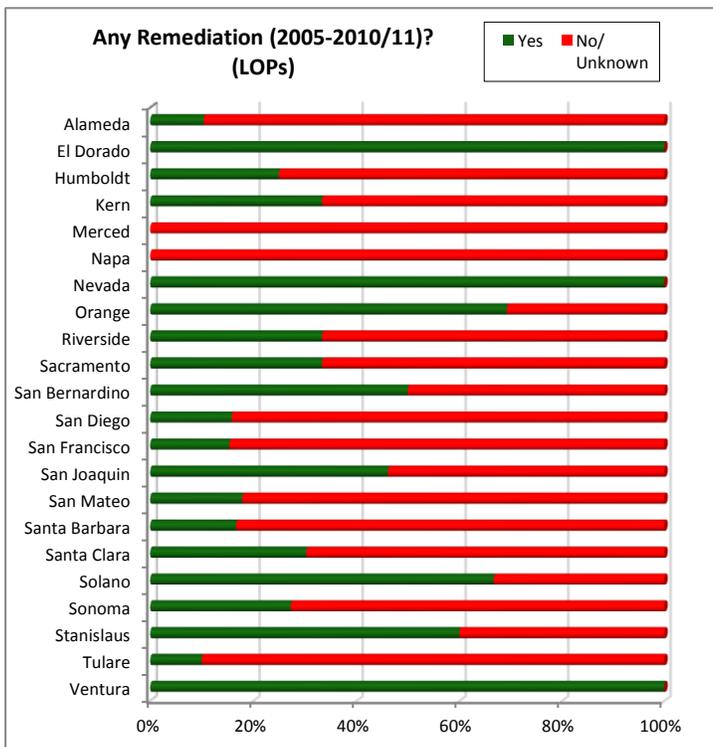
3.3 SITE REMEDIATION

This sub-section shows the apparent remediation activities in GeoTracker between 2005 and 2011 of the non-CUF older cases reviewed:



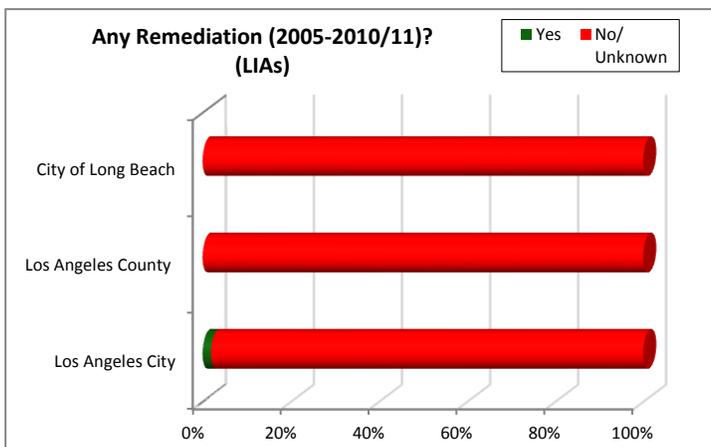
The figure on the left shows the remediation activities at RWQCBs sites. All RWQCBs appeared to have some sites with remediation activities. Based on data in GeoTracker, it appeared that:

- ✓ Region 8 had the highest percentage (49 percent) of its sites with remediation activities.
- ✓ Regions 2 and 7 had the lowest percentage (9 percent each) of their sites with remediation activities.
- ✓ Overall, 27 percent of RWQCB cases reviewed had some site remediation activities.



The figure on the left shows the remediation activities at LOPs sites. All LOPs, except Merced and Napa Counties, appeared to have some remediation activities. Based on data in GeoTracker (focusing on agencies with more than 10 cases reviewed), it appeared that:

- ✓ Orange County had the highest percentage (69 percent) of its sites with remediation activities.
- ✓ Alameda County had the lowest percentage (10 percent) of its sites with remediation activities.
- ✓ Overall, 25 percent of LOPs cases reviewed had some remediation activities.

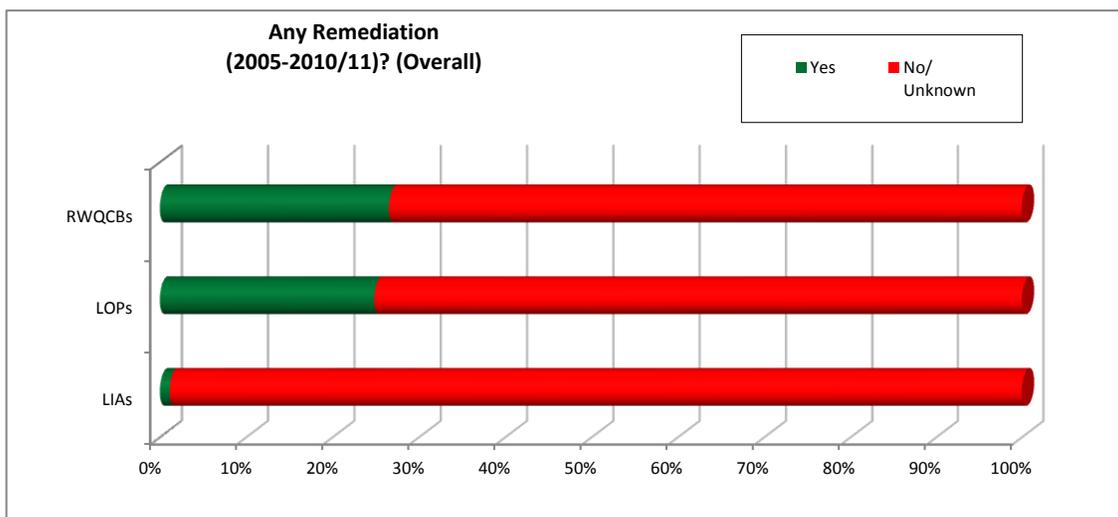


The figure on the left shows the remediation activities at the three selected LIAs sites. Based on data in GeoTracker, it appeared that:

- ✓ Only Los Angeles City sites reviewed had some remediation activities (2 percent).
- ✓ None of City of Long Beach and Los Angeles County cases reviewed had any remediation activities.
- ✓ Overall, 1 percent of LIAs cases reviewed had some remediation activities.

Overall Site Remediation Activities

The figure below shows non-CUF older cases **overall site remediation activities** in GeoTracker between 2005 and 2011:

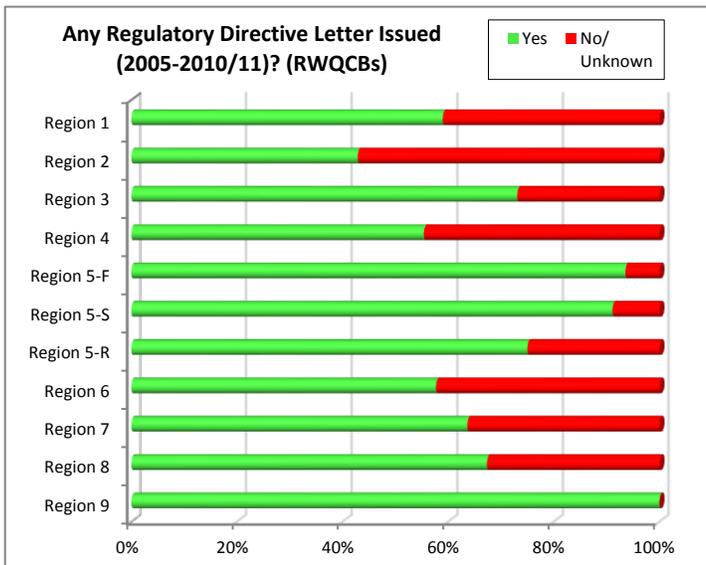


Data in GeoTracker appeared to show that:

- ✓ RWQCBs had 27 percent and LOPs had 25 percent of their sites with remediation activities.
- ✓ LIAs had 2 percent of its sites with remediation activities (all under Los Angeles City lead).
- ✓ Overall, 22 percent of all the cases reviewed had some remediation activities documented in GeoTracker.

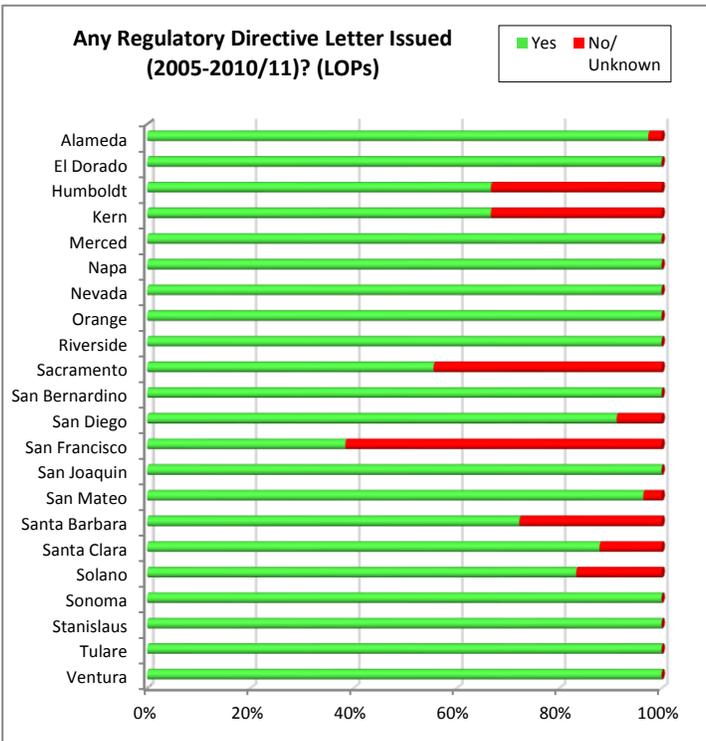
3.4 REGULATORY DIRECTIVE LETTER

This sub-section shows the apparent regulatory directive letter activities in GeoTracker between 2005 and 2011 of the non-CUF older cases reviewed:



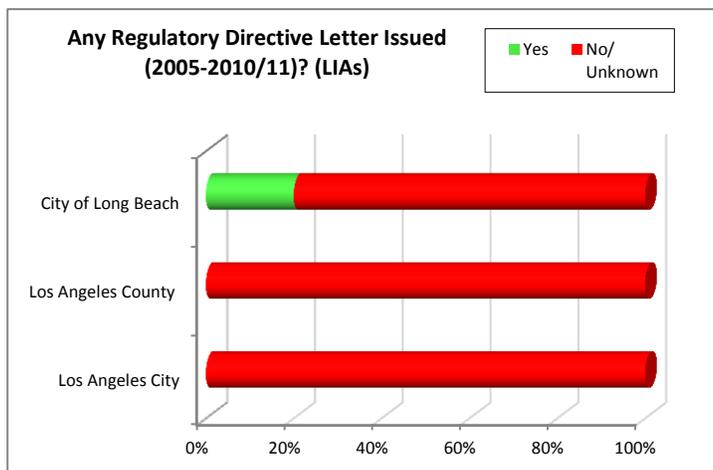
The figure on the left shows the regulatory directive letter activities at RWQCBs sites. All RWQCBs sites appeared to have some regulatory directive letters issued. Based on data in GeoTracker, it appeared that:

- ✓ Region 6 had the highest percentage (96 percent) of sites with regulatory directive letter.
- ✓ Region 8 had the lowest percentage (51 percent) of sites with regulatory directive letter.
- ✓ Overall, 66 percent of RWQCBs cases reviewed had some regulatory directive letters issued by the lead agencies.



The figure on the left shows the regulatory directive letter activities at LOPs sites. All LOPs appeared to have some regulatory directive letters issued. Based on data in GeoTracker (focusing on agencies with more than 10 cases reviewed), it appeared that:

- ✓ Santa Barbara and San Joaquin Counties had regulatory directive letters issued to all their sites.
- ✓ Orange County had the lowest percentage (38 percent) of its sites with regulatory directive letters issued.
- ✓ Overall, 2 percent of LOPs cases reviewed had regulatory directive letters issued by the lead agencies.

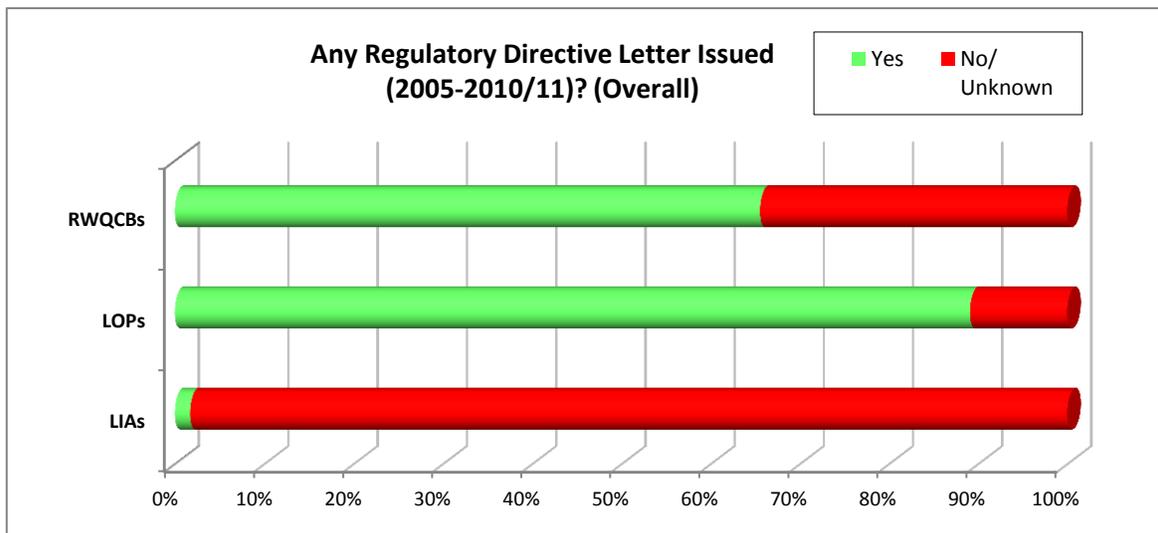


The figure on the left shows the groundwater monitoring activities at the three selected LIA sites. Based on data in GeoTracker, it appeared that:

- ✓ Only City of Long Beach had some regulatory directive letters issued (21 percent).
- ✓ Overall, 2 percent of LIAs cases reviewed had some regulatory directive letters issued by the lead agency.

Overall Regulatory Directive Letter Activities

The figure below shows non-CUF older cases overall regulatory directive letters issued activities in GeoTracker between 2005 and 2011:



Data in GeoTracker appeared to show that:

- ✓ RWQCBs had 66 percent and LOPs had 89 percent of their sites with regulatory directive letters issued by the lead agencies.
- ✓ LIAs had 2 percent of its sites with regulatory directive letters issued by the lead agency (all under City of Long Beach lead).
- ✓ Overall, 62 percent of all the cases reviewed had some regulatory directive letters issued by the lead agencies documented in GeoTracker.

3.5 SUMMARY OF NON-CUF OLDER CASES APPARENT ACTIVITIES IN GEOTRACKER

To get a general overview of the non-CUF older cases site activities, this study looked at the site activities (groundwater monitoring, investigation, remediation, and regulatory directive letters) in GeoTracker between 2005 and 2011. **In 2011, unlike RWQCBs and LOPs, the LIAs are not required by contract to use GeoTracker.** However, as of January 1, 2012, all LIAs are required to input and maintain their data in GeoTracker. Overall, this study and review of the 1,010 non-CUF older cases showed that based on 2011 data in GeoTracker:

Groundwater Monitoring – approximately half of RWQCBs and LOPs cases reviewed had groundwater monitoring and site investigations documented. LIAs, which mainly oversee soil only cases, had 2 percent of its cases with groundwater monitoring activities documented. Overall, fewer than half of all the cases (43 percent) reviewed had some groundwater monitoring activities documented in GeoTracker.

Site Investigation – approximately half of RWQCBs and LOPs cases reviewed had site investigation activities documented. LIAs had 3 percent of cases reviewed with site investigation activities documented. Overall, fewer than half of all the cases (37 percent) reviewed had some site investigation activities documented in GeoTracker.

Site Remediation – approximately a quarter of RWQCBs and LOPs cases had site remediation activities documented. For the three selected LIAs, only Los Angeles City appeared to have some site remediation activities (2 percent) in GeoTracker. Overall, less than a quarter (22 percent) of all the cases reviewed had some remediation activities documented in GeoTracker.

Regulatory Directive Letters – both RWQCBs and LOPs had issued regulatory directive letters to most of their cases reviewed (66 percent RWQCB and 89 percent LOP). For the three selected LIAs, only the City of Long Beach appeared to have some regulatory directive letters (2 percent) in GeoTracker. Overall, more than half (62 percent) of all the cases reviewed had some regulatory directive letters documented in GeoTracker.

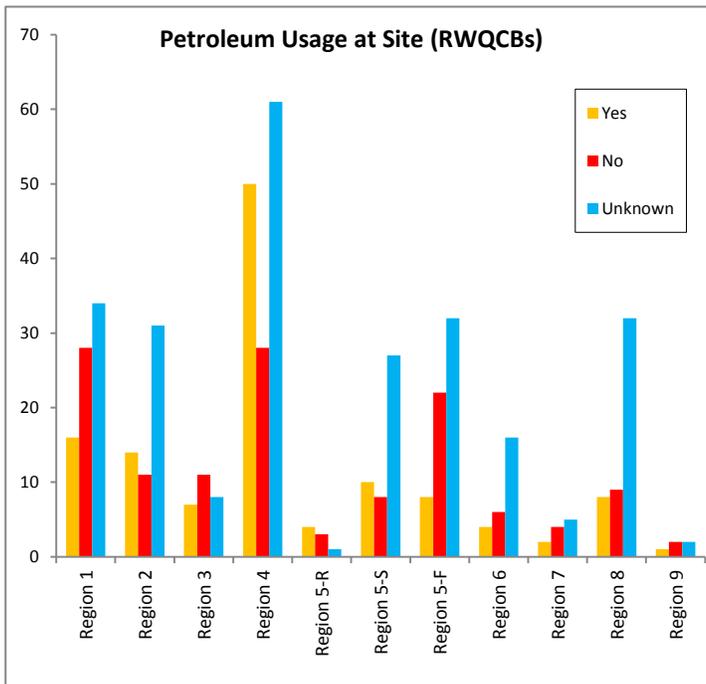
4.0 APPARENT SITE CONDITIONS (NON-CUF OLDER CASES)

This section provides a summary of the non-CUF older cases apparent site conditions based on case reports and data available in GeoTracker, and Google map street view. As part of understanding the potential barriers in preventing the non-CUF older cases from getting through the cleanup process, the latest site conditions, such as the petroleum usage at site and site redevelopment (if any) that might impacted the cleanup progress were reviewed.

4.1 PETROLEUM USAGE AT SITE

This sub-section shows the apparent petroleum usage at the non-CUF older cases sites to determine if the cases reviewed had any active use of petroleum at their sites.

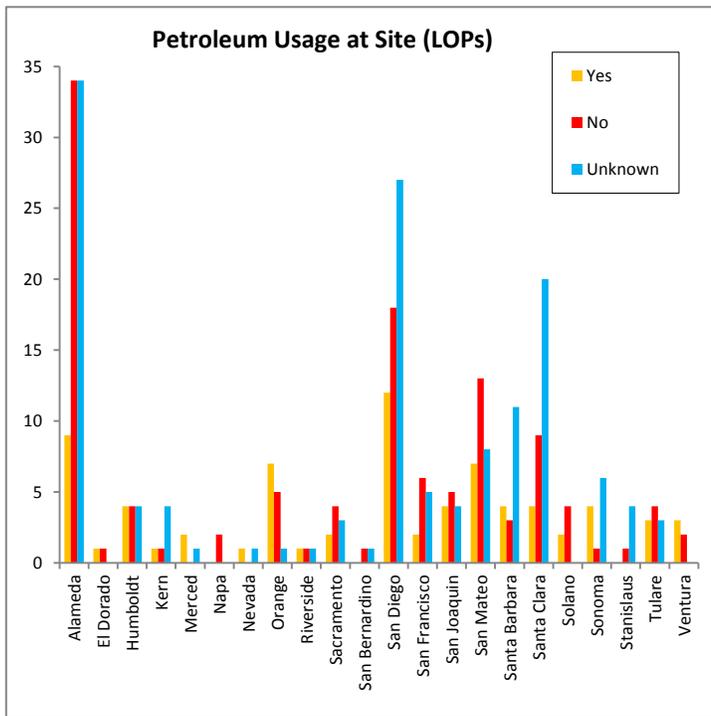
RWQCB Jurisdiction



The chart on the left shows the petroleum usage at site for the RWQCBs cases reviewed. In general, it appeared that:

- ✓ Region 4 had most of its sites (approximately 36 percent) with petroleum usage.
- ✓ Regions 3 (42 percent) and 9 (40 percent) had most of their sites **without** any petroleum usage.
- ✓ Regions 5-S (60 percent), 6 (62 percent) and 8 (65 percent) had most of their sites undetermined due to lack of sufficient site information.
- ✓ The overall percentages of RWQCBs sites with (25 percent) and without (26 percent) petroleum usages were approximately the same and less than those undetermined (49 percent).

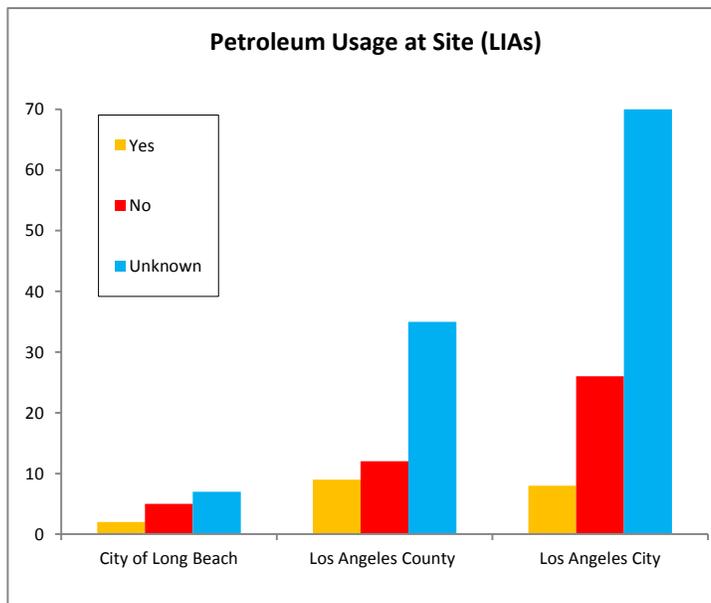
LOP Jurisdiction



The chart on the left shows the petroleum usage at site for the LOP cases reviewed. In general, it appeared that (focusing on agencies with more than 10 cases reviewed):

- ✓ Sonoma County had most of its sites (36 percent) with petroleum usage.
- ✓ San Francisco (46 percent), San Mateo (46 percent) and Alameda Counties (44 percent) had most of their sites **without** any petroleum usage.
- ✓ Santa Barbara and Santa Clara Counties (61 percent each) had most of their sites undetermined due to lack of sufficient site information.
- ✓ The overall percentages of LOPs sites that appeared to be with (22 percent) and without (36 percent) petroleum usages were less than those undetermined (42 percent).

LIA Jurisdiction

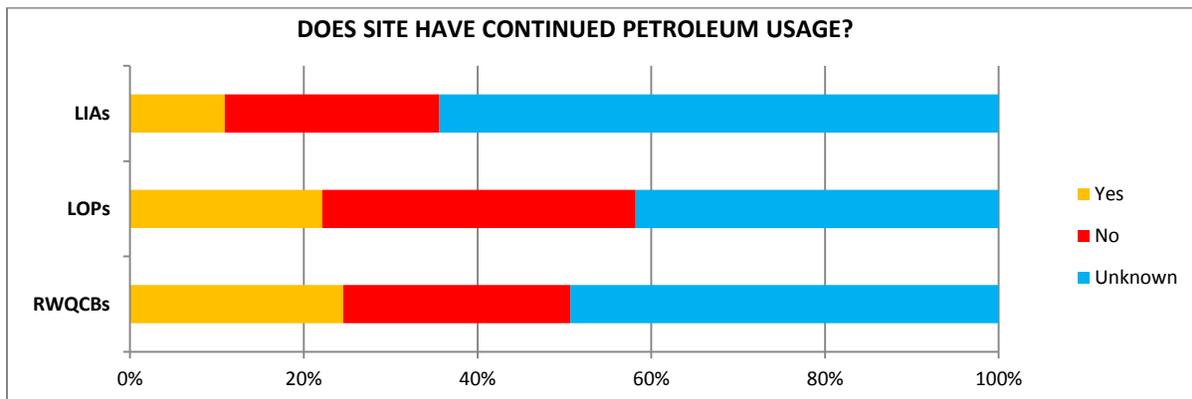


The chart on the left shows the petroleum usage at site for the three selected LIA cases. In general:

- ✓ Los Angeles County had most of its sites (16 percent) with petroleum usage.
- ✓ City of Long Beach had most of its sites (36 percent) **without** any petroleum usage.
- ✓ Los Angeles City had most of its sites (67 percent) undetermined due to lack of sufficient site information.
- ✓ The overall percentages of LIAs sites that appeared to be with (11 percent) and without (25 percent) petroleum usages were less than those undetermined (67 percent).

Overall Petroleum Usage at Site

Overall, the percentages of apparent petroleum usage at site for the non-CUF older cases reviewed are as follows:

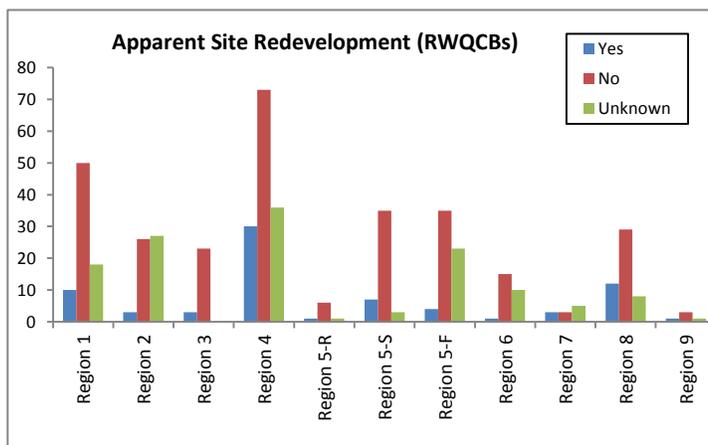


Half of the non-CUF older cases reviewed (50 percent) appeared to have insufficient information available to determine if the site currently had any petroleum usage. The remaining half appeared to have approximately 21 percent with and 29 percent without any petroleum usage. **Overall, there appeared to be insufficient information available to determine the current petroleum usage at the sites reviewed.**

4.2 SITE REDEVELOPMENT

This sub-section shows the apparent site redevelopment conditions at the non-CUF older cases sites to determine if the sites reviewed usages had changed.

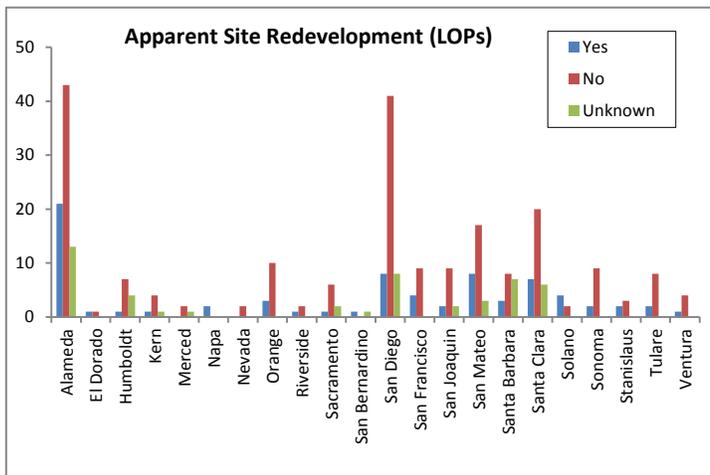
RWQCB Jurisdiction



The chart on the left shows the apparent site redevelopment changes for RWQCB cases reviewed. In general, it appeared that:

- ✓ Regions 4 (22 percent), 7 (27 percent), and 8 (24 percent) had the highest percentages of their sites redeveloped.
- ✓ The majority of the RWQCBs cases reviewed had no redevelopment at sites (59 percent), while some site redevelopment status remained undetermined/unknown (26 percent).

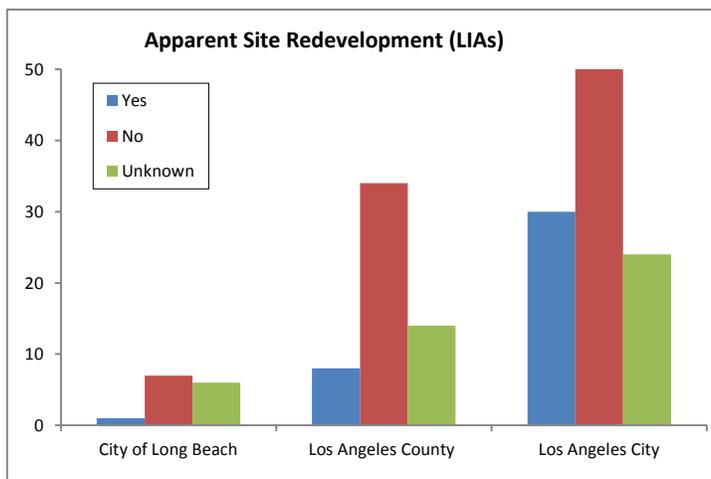
LOP Jurisdiction



The chart on the left shows the apparent site redevelopment changes for LOP cases reviewed. In general (focusing on agencies with more than 10 cases reviewed), it appeared that:

- ✓ San Francisco (31 percent) and San Mateo Counties (29 percent) had the highest percentages of their sites redeveloped.
- ✓ The majority of the LOPs cases reviewed had no redevelopment at sites (63 percent), while some site redevelopment status remained undetermined/unknown (15 percent).

LIAs Jurisdiction

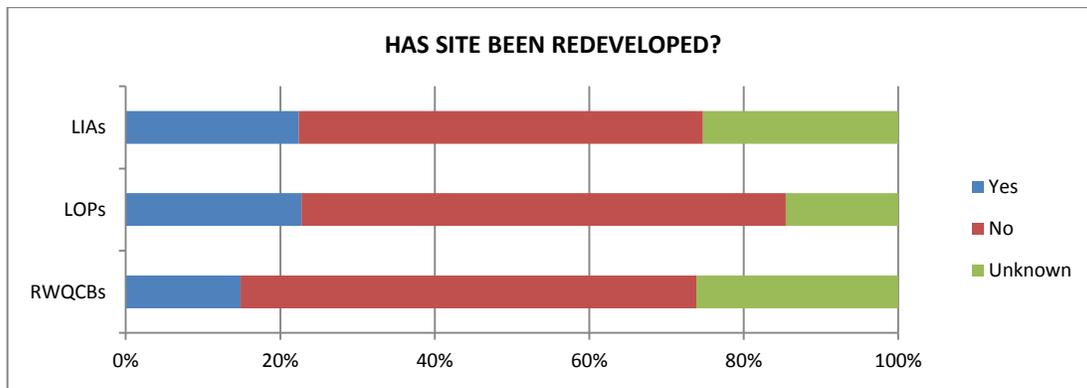


The chart on the left shows the apparent site redevelopment changes for the 3 selected LIAs' cases. In general, it appeared that:

- ✓ Los Angeles City had the highest percentages of its sites redeveloped (29 percent).
- ✓ The majority of the LIAs cases reviewed had no redevelopment at sites (48 percent), while some site redevelopment status remained undetermined/unknown (23 percent).

Overall Site Redevelopment

Overall, the percentages of site redevelopment distribution of the cases reviewed were as follows:



A majority of the cases reviewed (59 percent) appeared to have sites that have not been redeveloped. The percentage of cases with sites redeveloped was 19 percent, while percentage with undetermined/unknown site redevelopment status due to lack of information was 22 percent.

4.3 SUMMARY OF NON-CUF OLDER CASES APPARENT SITE CONDITION

The non-CUF older cases study looked at the case site current conditions, namely the current level of petroleum usages at sites and any occurrence of site redevelopment (site usage changes) to analyze if these conditions had any impact in getting these cases through the cleanup process. It appeared that insufficient information was available for most of the cases reviewed to identify the current petroleum usages at a majority of the sites reviewed. The site information available showed that of all the cases reviewed; only approximately 21 percent appeared to have any petroleum usage and 29 percent appeared to have none, while 50 percent appeared undetermined. In addition, it appeared that more than half of these sites (59 percent) had not been redeveloped with only 19 percent have been redeveloped and 22 percent remained undetermined. A majority of the redeveloped sites appeared to be in the southern California area.

5.0 CASE DISCUSSIONS WITH LEAD AGENCIES (NON-CUF OLDER CASES)

This section summarized the case review discussions conducted with each lead agency and the apparent need for enforcement for the cases reviewed. A total of 36 lead agencies in California were selected and participated in this study and a draft report of the initial case reviewed, which was prepared for each lead agency, was used in the discussions with the lead agencies.

5.1 DISCUSSIONS WITH LEAD AGENCIES

This sub-section provides summary of findings for the non-CUF older cases reviewed based on discussions with each lead agency. In 2011, USEPA and its contractors visited and met with most of the lead agencies, and had conference calls with some of the lead agencies that had fewer case numbers, to discuss the non-CUF older cases reviewed with the objective to better understand the challenges in working on these non-funded leaking UST cases.

RWQCB Jurisdiction

North Coast (Region 1)

Total number of cases reviewed was 78 non-CUF older cases of the 438 total open leaking UST cases. Some key discussions with the lead agency were as follows:

- ✓ Challenges mentioned were uncooperative RPs such as CalTrans and U.S. Forest Service (USFS), and insufficient agency resources to conduct follow-up with RPs or conduct research on RPs' financials.
- ✓ Agency had three cases using Emergency, Abandoned, and Recalcitrant (EAR) funding account and had nominated a handful more for the upcoming EAR account funding.
- ✓ In an attempt to expedite cleanup of some cases, the agency had established its own "Drilling Program" in which North Coast RWQCB staff collects samples from sites that have been identified as needing additional sampling or confirmation sampling (currently has five sites in the program).
- ✓ Agency requested USEPA to convince the SWRCB that excavation should be the default to remediation technique (where appropriate) to cleanup contamination. The agency believes that it is one of the most successful ways to clean up contamination and it does not prolong the cleanup process.
- ✓ The use of mass spectrometry and chromatograms while reviewing cases in which diesel range organics were a concern. The caseworkers indicated that these cases needed to be evaluated more carefully to ensure that there really is diesel present at the site by checking the chromatograms for distinct peaks.

San Francisco Bay (Region 2)

Total number of cases reviewed was 56 non-CUF older cases of the 468 total open leaking UST cases. Some key discussions with the lead agency were as follows:

- ✓ Agency indicated that enforcement can be a drain on resources with very little in return for the efforts. The agency obtains more environmental benefit by concentrating on cases that can move forward without enforcement (which is the overwhelming majority of cases) than concentrating efforts enforcing against the few who do not comply – unless those cases are causing an immediate impact to human health and the environment.
- ✓ Cases remained unable to determine because there was no report/document in GeoTracker might belong to other agencies, or need to follow up with RPs to obtain case information.

- ✓ Agency does not expect its closure rate to remain as high as it had been for the last 3 years, where the agency had focused on the “low-hanging fruit” cases (near closure and easy cases). Since the “low-hanging fruit” cases had been closed, the agency currently expects to close around 30 to 35 cases (the agency’s closure rate prior to the 3-year push). With that closure projection, the agency is looking at about 7 years to end its program.
- ✓ Agency took over the City of San Leandro’s leaking UST Program at the beginning of FY 2011 and 2012, which increased its caseload by 20 cases, and might increase its caseload further as other local programs wind down their leaking UST programs.

Central Coast (Region 3)

The total number of cases reviewed was 26 non-CUF older cases of the 305 total open leaking UST cases. Some key discussions with the lead agency were as follows:

- ✓ Primary barriers were responsible party funding issues.
- ✓ Agency commented on the benefits of finding ways to obtain funding to close cases that were near closure and only needed a few more samples collected and/or well destruction. Examples of three cases that could benefit from this program were: (1) Metz Road Airport T0605315407, (2) Dick Tamagni T0605300362 and (3) Lopez Auto Repair T0605300015.
- ✓ Some cases were considered for closure but the agency was unable to do so because the Santa Cruz County Environmental Health Department (SCCEHD) had separate requests and requirements for the soils portion of the cases that kept the cases opened.

Los Angeles (Region 4)

The total number of cases reviewed was 143 non-CUF older cases of the 1,460 total open leaking UST cases. Some key discussions with the lead agency were as follows:

- ✓ Cases were mainly stuck as a result of responsible party issues such as: (1) unable to find or identify the RP, (2) RP has funding challenges, and (3) unresponsive RP.
- ✓ Agency often received transferred cases from other agencies that were sometimes older, and either with limited case files/information or sometimes without any.
- ✓ Agency prioritized its cases, and sites in low priority (Priority D) will not be reviewed as often and therefore move slowly.
- ✓ Five cases were identified as potentially not federal UST cases (Spills, Leaks, Investigations, and Cleanups Program [SLIC] cases).
- ✓ Some sites were part of a larger investigation (such as the Charnock Site), which has stricter closure requirements.

Central Valley - Redding (Region 5R)

Total number of cases reviewed was eight non-CUF older cases of the 118 total open leaking UST cases. Some key discussions with the lead agency were as follows:

- ✓ Agency focused on cases with responsive RPs to keep the case flow going forward.
- ✓ Does not normally become involved in enforcement and was interested in possible additional resources for enforcement.
- ✓ Agency had a total of three caseworkers who were dividing their time between Underground Storage Tank (UST), Leaking UST, and Landfill programs. The agency hired a new caseworker to begin on November 2011.

Central Valley - Sacramento (Region 5S)

Total number of cases reviewed was 45 non-CUF older cases of the 554 total open leaking UST cases. Some key discussions with the lead agency were as follows:

- ✓ Agency took over some old cases and was not the original lead agency when the tanks were removed (cases were transferred from other lead agencies).
- ✓ Issued order to recalcitrant RPs to get the RPs to respond.
- ✓ Cases were prioritized based on: (1) environmental impact, (2) political situation, and (3) age of case (older cases).
- ✓ Hired students to assist in maintaining GeoTracker database.
- ✓ Has laboratory funding available to collect samples, if necessary.

Central Valley - Fresno (Region 5F)

Total number of cases reviewed was 62 non-CUF older cases of the 299 total open leaking UST cases. Some key discussions with the lead agency were as follows:

- ✓ Agency will implement enforcement (issue order) to recalcitrant RPs to get RPs to respond.
- ✓ Agency has laboratory funding to analyze samples and it helped in moving cases forward.
- ✓ Received cases transferred from Fresno County LOP around 2008 and 2009 and the hardcopy case files are not completely entered into GeoTracker. In addition, the region also received approximately 25 cases transferred from the Kern County LOP.
- ✓ Referred to tax information to identify and find property owner/RP.
- ✓ Indicated the benefits of the caseworkers meeting the RPs in person (versus only issuing letters) to discuss site issues and responsibilities.

Lahontan (Region 6)

Total number of cases reviewed was 26 non-CUF older cases of the 221 total open leaking UST cases. Some key discussions with the lead agency were as follows:

- ✓ Two primary barriers in moving these cases forward were (1) recalcitrant RP, and (2) RP funding challenges. For example, in one case, the RP walked away from the site because a lien was placed on it.
- ✓ One case was incorrectly created in GeoTracker (duplicate) and removed.
- ✓ One case received funding assistance (EAR).

Colorado Basin (Region 7)

Total number of cases reviewed was 11 non-CUF older cases of the 148 total open leaking UST cases. Some key discussions with the lead agency were as follows:

- ✓ A few of the challenges mentioned include comingled plumes, uncooperative RPs, and RPs who lack financing to complete site assessment and remediation.
- ✓ Agency is considering enforcement on a recalcitrant RP who claims financial hardship in conducting assessment and remediation. However, the agency is concerned that enforcement will cause the RP to become less cooperative.

- ✓ In an attempt to expedite some cleanups, the agency has been partnering with local municipalities that have been applying to the EAR account and acting as the RP on cases where the actual RP cannot be located or has failed to pay taxes resulting in the county seizing the property.
- ✓ Three cases entered in the EAR funding account.
- ✓ Environmental liens were discussed as a possible alternative, but the Water Board staffs feel that liens would be counterproductive and result in the RP becoming even less responsive to its directives.

Santa Ana (Region 8)

Total number of cases reviewed was 49 non-CUF older cases of the 796 total open leaking UST cases. Some key discussions with the lead agency were as follows:

- ✓ Challenges included identifying RPs, sites with multiple RPs, recalcitrant and changing RPs, on-going litigation, major releases or persistent contamination (free product), rebound in contamination concentration, large complex site with multiple releases (such as airports), massive plume and off-site migration (part of a bigger cleanup effort), funding, and transferred from another lead agency with no or limited historical information and files.
- ✓ Approximately 41 percent (20 cases) of the cases reviewed do not appear to meet the definition of a federal UST case (mostly solvent cases). The agency indicated that these cases would not have been addressed if they were not listed under Leaking UST. In addition, some of these cases began as Leaking UST cases, but subsequently had new releases from non-petroleum related source.
- ✓ Cases transferred to Department of Toxic Substances Control (DTSC) as the lead agency will remain open in GeoTracker since there is no status in GeoTracker to reflect “transferred and closed.” RWQCB does not have the ability to remove these cases in GeoTracker.

San Diego (Region 9)

Total number of cases reviewed was 26 non-CUF older cases of the 305 total open leaking UST cases. Some key discussions with the lead agency were as follows:

- ✓ Two cases were in CUF but not reflected in GeoTracker.
- ✓ One case was a Cleanup Program case and was corrected to reflect its status.

LOP Jurisdiction

Alameda County

Total number of cases reviewed was 77 non-CUF older cases of the 448 total open leaking UST cases. Some key discussions with the lead agency were as follows:

- ✓ Agency indicated that some barriers to case closure were (1) recalcitrant RPs, (2) RP lack of funding, (3) demand of caseworkers’ time for other tasks, including responding to SWRCB’s requests, (4) lack of historical case files, and (5) case complexity.
- ✓ CalTrans sites were not dealt with in a timely manner by the RP and the agency would like to see if SWRCB can assist with CalTrans sites on a more global basis.
- ✓ Managed to move five of the cases reviewed into fund programs.

El Dorado County

Total number of cases reviewed was two non-CUF older cases of the 25 total open leaking UST cases. Some key discussions with the lead agency were as follows:

- ✓ Agency agreed with the assessment of its two cases and concurred both cases were on track.

Humboldt County

Total number of cases reviewed was 12 non-CUF older cases of the 121 total open leaking UST cases. Some key discussions with the lead agency were as follows:

- ✓ Agency indicated that primary barriers were (1) recalcitrant RPs, (2) lack of RP funding, (3) lack of necessary historical data and files, and (4) lack of enforcement tools.

Kern County

Total number of cases reviewed was six non-CUF older cases of the 46 total open leaking UST cases. Some key discussions with the lead agency were as follows:

- ✓ All cases had been or were in the process of being transferred to the RWQCB (Region 5-F). Kern LOP program had been dissolved.

Merced County

Total number of cases reviewed was three non-CUF older cases of the 63 total open leaking UST cases. Some key discussions with the lead agency were as follows:

- ✓ Two of the cases were closed, and one entered a funding program (EAR).

Napa County

Total number of cases reviewed was two non-CUF older cases of the 47 total open leaking UST cases. Some key discussions with the lead agency were as follows:

- ✓ Agency indicated that RP was not motivated to conduct the necessary work in a reasonable timeframe.

Nevada County

Total number of cases reviewed was two non-CUF older cCases of the 22 total open leaking UST cases. Some key discussions with the lead agency were as follows:

- ✓ Winter weather interfered with the remediation system and additional remediation will be required.

Orange County

Total number of cases reviewed was 13 non-CUF older cases of the 415 total open leaking UST cases. Some key discussions with the lead agency were as follows:

- ✓ Agency indicated the primary challenges were (1) presence of free product, (2) risk of vapor intrusion at several sites, (3) off-site fuel oxygenate plume, (4) nearby municipal production wells, and (5) delayed Regional Board closure approval.
- ✓ Agency also discussed a site with a recalcitrant RP who continued to perform annual groundwater monitoring but claimed not to have the financial resources to proceed with remediation; the **agency hesitates to conduct enforcement because it may cause the RP to become less cooperative.**

Riverside County

Total number of cases reviewed was three non-CUF older cases of the 108 total open leaking UST cases. Some key discussions with the lead agency were as follows:

- ✓ Cases were stagnant because RPs and their consultants were not responsive.

Sacramento County

Total number of cases reviewed was nine non-CUF older cases of the 309 total open leaking UST cases. Some key discussions with the lead agency were as follows:

- ✓ Agency indicated the primary barriers were (1) recalcitrant RPs and (2) lack of RP funding because of economic hardships.
- ✓ Two of the cases (T0606700087 and T0606700205) reviewed had been identified by the agency as potential candidates for the EAR account.

San Bernardino County

Total number of cases reviewed was 2 non-CUF older cases of the 33 total open leaking UST cases. Some key discussions with the lead agency were as follows:

- ✓ Agency ceased to be an LOP effective July 1, 2011, and the remaining open cases transferred to the RWQCB.

San Diego County

Total number of cases reviewed was 54 non-CUF older cases of the 596 total open leaking UST cases in 2010. Some key discussions with the lead agency were as follows:

- ✓ Agency indicated challenges included (1) uncooperative or non-existent RPs, (2) funding issues to cleanup sites, and (3) insufficient personnel resources.
- ✓ An USEPA Region 9 action item was to find out additional information regarding a school sub-account to provide to San Diego County LOP to see if a few of its sites could qualify and also potentially help fill out paperwork for some cases that could be entered into the fund.

San Francisco County

Total number of cases reviewed was 13 non-CUF older cases of the 113 total open leaking UST cases. Some key discussions with the lead agency were as follows:

- ✓ Agency indicated that its cases were stuck because of (1) an unresponsive RP (CalTrans), (2) uncooperative RP (private developer), and (3) funding issues.
- ✓ Two cases were not federal UST tank (home heating oil).
- ✓ Two cases are being addressed as one case.
- ✓ Agency committed to data correction and to upload case information into GeoTracker.
- ✓ Some cases were re-opened for new releases and therefore the ages of cases were less than 15 years.

San Joaquin County

Total number of cases reviewed was 13 non-CUF older cases of the 190 total open leaking UST cases. Some key discussions with the lead agency were as follows:

- ✓ Agency discussed how some RPs were encountering budget cuts and therefore a lack of overall funding, which makes cleanup progress for county and city sites slower.
- ✓ Other barriers mentioned were recalcitrant and unresponsive RPs and sometimes difficulty in getting RP to complete the last few tasks to close a site.
- ✓ Agency acknowledged that uploading documentation to GeoTracker remained a challenge for some RPs and their consultants.
- ✓ USEPA recommended the agency request RWQCB provide interim assistance with the county and city sites.

San Mateo County

Total number of cases reviewed was 28 non-CUF older cases of the 234 total open leaking UST cases. Some key discussions with the lead agency were as follows:

- ✓ Agency indicated the challenges included uncooperative RPs such as CalTrans.
- ✓ Insufficient personnel resources so the agency must prioritize cases and cannot spend enough time on some cases.

Santa Barbara County

Total number of cases reviewed was 18 non-CUF older cases of the 214 total open leaking UST cases. Some key discussions with the lead agency were as follows:

- ✓ Agency's primary barriers were (1) recalcitrant RPs, (2) disputing potential RPs, and (3) complexity of cases.
- ✓ Two of the sites with unresponsive RPs were CalTrans sites.
- ✓ Agency will discuss with RWQCB to provide interim assistance with complex sites.
- ✓ Agency needs SWRCB assistance (Hamid Foolad) to delete duplicate cases in GeoTracker.

Santa Clara County

Total number of cases reviewed was 33 non-CUF older cases of the 312 total open leaking UST cases. Some key discussions with the lead agency were as follows:

- ✓ Agency's primary challenges were (1) missing or disorganized case files, (2) major release or persistent contamination (free product), (3) multiple RPs or changing RPs or contact person (program managers for oil companies), and (4) site access issues.
- ✓ RP issues involve recalcitrant, unable to identify, funding, and difficulty in implementing enforcement if needed.
- ✓ One case was divided into six different sites to better manage the site, and one age of case was corrected to reflect the new release.
- ✓ Agency effectively used USEPA Non-CUF Older Case Report reviews to encourage some of the RPs to cooperate and move cases forward.

Solano County

Total number of cases reviewed was seven non-CUF older cases of the 97 total open leaking UST cases. Some key discussions with the lead agency were as follows:

- ✓ Agency indicated challenges in some vapor intrusion sites and in identifying the correct RPs.
- ✓ Three of the seven cases reviewed are in CUF but not reflected in GeoTracker. Caseworker indicated that they are unable to add the CUF information in GeoTracker, as only SWRCB CUF staff has the permission and ability to do so.
- ✓ For one site, a major oil company had stepped forward and taken responsibility to move the case forward.
- ✓ One additional case was discussed. The case most likely needed only one more round of sampling to qualify for low-risk closure, but the RP is a state agency (Department of General Services) that lacked adequate funding for site assessment and had not moved the case forward.

Sonoma County

Total number of cases reviewed was 11 non-CUF older cases of the 184 total open leaking UST cases. Some key discussions with the lead agency were as follows:

- ✓ The largest challenge identified by the agency was the lack of adequate funding to address the LEAKING UST sites.
- ✓ Other challenges mentioned included increased levels of hexavalent chromium (caused by ozone injections at one site), dispute between potential RPs, and continued need for site investigations and post-remedial monitoring.
- ✓ Also noted was an unresponsive RP; the agency considered enforcement.

Stanislaus County

Total number of cases reviewed was five non-CUF older cases of the 68 total open leaking UST cases. Some key discussions with the lead agency were as follows:

- ✓ Agency's primary challenges were (1) uncooperative RPs, (2) denial of closure by the associated RWQCB, and (3) insufficient personnel resources.
- ✓ In one case, the agency requested closure three times from the Regional Board but was denied because of the possibility that the contamination at the site could be contributing to contamination at a downgradient site, despite the lack of evidence that contaminant migration exists.
- ✓ One RP was unaware that petroleum contamination existed at the site when it was purchased.

Tulare County

Total number of cases reviewed was 10 non-CUF older cases of the 108 total open leaking UST cases. Some key discussions with the lead agency were as follows:

- ✓ Agency's primary challenge was recalcitrant RPs; the agency worked with two of the RPs to move them into the UST CUF.
- ✓ Considered using enforcement (referring cases to the District Attorney's office) as the last resort.
- ✓ One CalTrans site was stuck since 2004 as a result of budget constraints. However, CalTrans had indicated that it might implement the work plan soon.

- ✓ Additional challenge is a change of ownership for subject sites. This change complicates compliance and enforcement efforts as most, if not all, of the new owners have not operated the USTs at their sites.
- ✓ Establishing responsibility was further complicated in cases where the USTs were removed before the new owner obtained the property or the business that operated the tanks is defunct.

Ventura County

Total number of cases reviewed was five non-CUF older cases of the 126 total open leaking UST cases. Some key discussions with the lead agency were as follows:

- ✓ Agency concurred with the review of its cases that were all on track.

LIA Jurisdiction

City of Long Beach

Total number of cases reviewed was 14 non-CUF older cases of the 32 total open leaking UST cases. Some key discussions with the lead agency were as follows:

- ✓ Agency's cases were stuck mainly as a result of responsible party issues such as (1) unable to find or identify the RP, (2) RP has funding challenges, (3) recalcitrant RPs (two RPs were sued by the agency), and (4) unresponsive RP.
- ✓ One case had no case information or file available.
- ✓ Two cases were transferred to Los Angeles -RWQCB.
- ✓ One case entered the fund program (Brownfields Assessment Program).

County of Los Angeles

Total number of cases reviewed was 57 non-CUF older cases of the 361 total open leaking UST cases. Some key discussions with the lead agency were as follows:

- ✓ Agency mainly uses its local database, Hazardous Management System (HMS), to manage its cases. The database has comprehensive case information but it cannot be uploaded into GeoTracker. Therefore, it appears in GeoTracker that County of Los Angeles sites do not have any case information.
- ✓ Most of the cases are stuck due to (1) recalcitrant or unresponsive RPs, or (2) the agency has not reviewed the case files and will do so to determine the next steps.
- ✓ There were four re-opened cases that changed the ages of the cases, ranging from 9 to 13 years.
- ✓ Seven cases were transferred to Los Angeles RWQCB.
- ✓ Four cases were deleted because they were duplicate entries or were not LEAKING UST sites.
- ✓ Ten cases remained unable to determine based on (1) missing case files or reports, (2) inconsistent case information between HMS and GeoTracker, and (3) unclear site location (either collocated with other sites or possible duplicate entries).

City of Los Angeles

Total number of cases reviewed was 104 non-CUF older cases of the 214 total open leaking UST cases. Some key discussions with the lead agency were as follows:

- ✓ Some cases (eight) should not have been created in GeoTracker and were removed.

Overall Summary of Discussions with Lead Agencies

Some key points mentioned in the discussions with the 36 lead agencies in California:

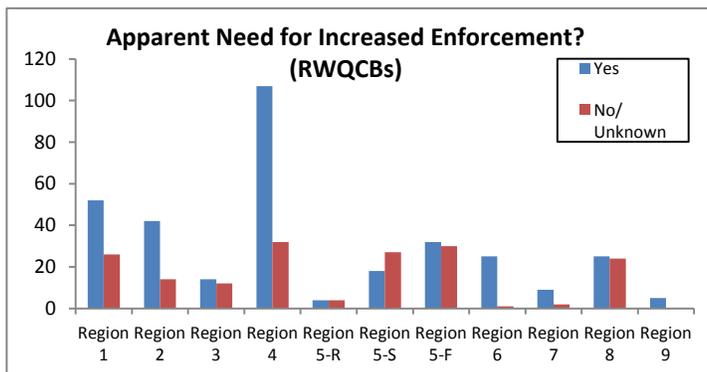
- ✓ CalTrans was mentioned by a few agencies as an uncooperative RP. Other groups of RPs mentioned which appeared challenging was government related such as the City/County, US Forest Services etc., some due to budget cuts.
- ✓ Agencies indicated that most of the time, there were limited options available in moving a case forward if the RP had funding issues and was unable to obtain any funding assistance. Some RPs were cooperative throughout the cleanup processes until near the end (closure) when their funding runs out.
- ✓ Some agencies have insufficient resources to conduct RP search and/or follow-ups in establishing RP since it is a time consuming procedure.
- ✓ Some complexities mentioned were cases involving multiple RPs/agencies/releases, on-going litigation, large quantity of releases and persistent contamination, co-mingled plumes, off-site and access issues.
- ✓ Challenges with older cases that have none or limited histories and disorganized case files, especially if a case was transferred from another lead agency and had been opened for a few years.
- ✓ Some sites initially had UST releases but continued to be worked on under leaking UST program after the cleanup had been completed due to other non-UST related releases which should have been transferred to other programs.
- ✓ GeoTracker database is a challenge to use for some RPs and their consultants. Some agencies have also indicated the limitation of the GeoTracker in accurately representing a case, for example the latest status of a transferred case. Some agencies have their own local databases which better meet the need of the agencies and have more comprehensive case information compared to those available for a case in GeoTracker.
- ✓ Some agencies have their own laboratory funding to analyze samples in order to move some cases forward in cleanup. A few of the agencies expressed a need for and benefits of establishing a funding program to (1) specifically close cases that are near closure and only needed a few confirmation samplings or to complete well destructions, and (2) establish validity of a case by confirming any exceedences (elevated results) at a site, and (3) assist to conduct RP searches.

5.2 APPARENT NEED FOR INCREASED ENFORCEMENT

This sub-section provides charts showing the apparent need for increased enforcement for the non-CUF older cases reviewed based on GeoTracker data.

RWQCB Jurisdiction

The figure below show the apparent need for increased enforcement for the RWQCBs cases reviewed:

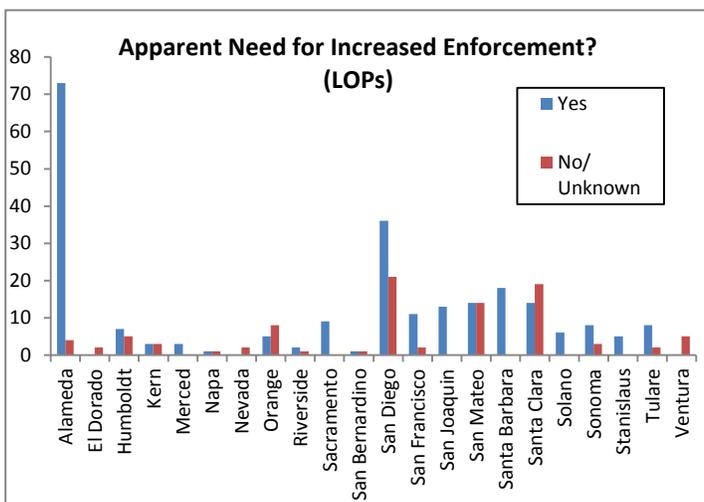


GeoTracker showed that RWQCBs had issued regulatory letters to RPs on a majority of the cases (66 percent of the cases reviewed) in the past 5 years.

However, overall review indicated that a majority of the cases (66 percent of the cases reviewed) apparently require increased enforcement.

LOP Jurisdiction

The figure below show the apparent need for increased enforcement for the LOPs cases reviewed:

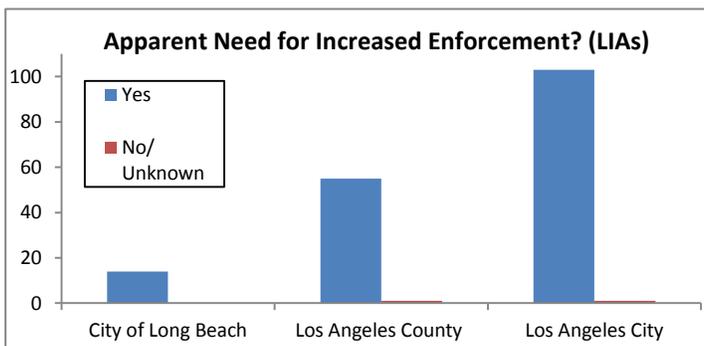


GeoTracker showed that LOPs had issued regulatory letters to RPs on the majority of the cases (89 percent of the cases reviewed) in the past 5 years.

However, overall review indicated that a majority of the cases (72 percent of the cases reviewed) apparently require increased enforcement.

LIA Jurisdiction

The figure below show the apparent need for increased enforcement for the 3 selected LIAs cases reviewed:

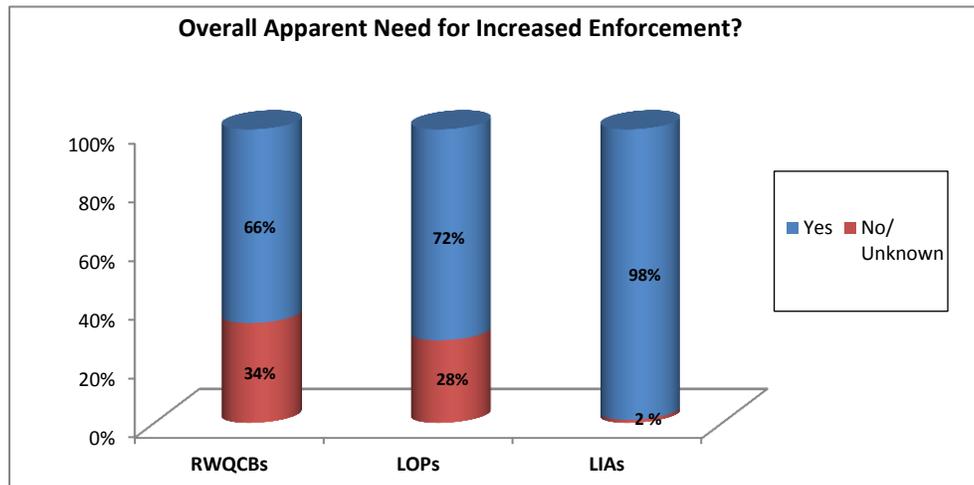


GeoTracker shows that LIAs has issued limited regulatory letters to RPs (2 percent of the cases reviewed) in the past 5 years.

A majority of the LIA cases (98 percent of the cases reviewed) apparently require increased enforcement.

Overall Apparent Need for Increased Enforcement

The figure below shows the overall apparent need for increased enforcement for the non-CUF older cases reviewed based on case information available in GeoTracker and discussions with the lead agencies.



Overall case review revealed that a majority of the cases (73 percent of the cases) apparently required increased enforcement, mostly because of unresponsive RPs (for example, they ignored regulatory letters issued) or no recent cleanup activities were conducted. For the LIA cases, the apparent need for increased enforcement is mostly caused by the lack of regulatory letters issued to the RPs in the past 5 years, and therefore no apparent site cleanup activities conducted.

5.3 SUMMARY OF CASE DISCUSSIONS WITH LEAD AGENCIES

Based on discussions with the 36 lead agencies, some additional lessons learned through this study included:

- ✓ limited options available for cases with no data, RPs or funding (remain “stuck”),
- ✓ apparent groups of recalcitrant or non-responsive RPs (city/county, government entities including schools) with multiple sites,
- ✓ funding resources under-utilized due to complexity of the processes and limitations in oversight agency staffing,
- ✓ excessive monitoring conducted by some RPs and consultants,
- ✓ confusion with transferred cases due incomplete transfer procedure between agencies.

In addition, some lead agencies had expressed interest in any assistance in resources to:

- ✓ complete closure for near closure cases that have been abandoned by the RPs (confirmation samples or well destructions),
- ✓ establish validity of old cases by confirming historically reported elevated levels at the site,
- ✓ conduct enforcement,
- ✓ assist in obtaining and applying for funding,
- ✓ research on missing RPs and case files.

Based on initial case review, a majority of the cases (73 percent) appeared to need some or increased enforcement from the lead agencies. The topic of enforcement was therefore discussed with the lead agencies, and it appeared that the agencies had different approaches and opinions on conducting enforcement, as follows:

- ✓ Some agencies were hesitant to conduct enforcement due to the concern that it might make the RP less cooperative.
- ✓ A few agencies lack enforcement tools and had expressed interest in any assistance available.
- ✓ Some agencies had implemented enforcement (issuing orders to recalcitrant RPs) and were successful in getting the RPs to respond and cooperate.
- ✓ A couple of agencies had expressed that enforcement is time consuming and a drain on resources with little benefit in return, compared to concentrating on moving forward the cases that do not require enforcement.
- ✓ One agency indicated that instead of enforcement and issuing letters, arranging for one-on-one meeting with the RP to discuss sites issues and responsibilities might be more beneficial.

6.0 APPARENT BARRIERS TO CLEANUP (NON-CUF OLDER CASES)

This section provides charts and data showing the apparent barriers (environmental versus non-environmental and procedural versus technical) in conducting site cleanup for the non-CUF older cases reviewed in this study. These barriers were based on case information in GeoTracker, as well as discussions with the lead agencies.

6.1 ENVIRONMENTAL VERSUS NON-ENVIRONMENTAL BARRIERS

This sub-section provides a summary of the apparent environmental and non-environmental barriers to cleanup and closure for the non-CUF older cases in California. For this study, commonly observed barriers to case cleanup were divided into environmental related and non-environmental related to determine if one type of barrier is more apparent compared to the other. For each case, one environmental and one non-environmental barrier were selected based on initial case review and data available. The following were the choices created as selections for observed apparent barriers.

The common environmental barriers were:

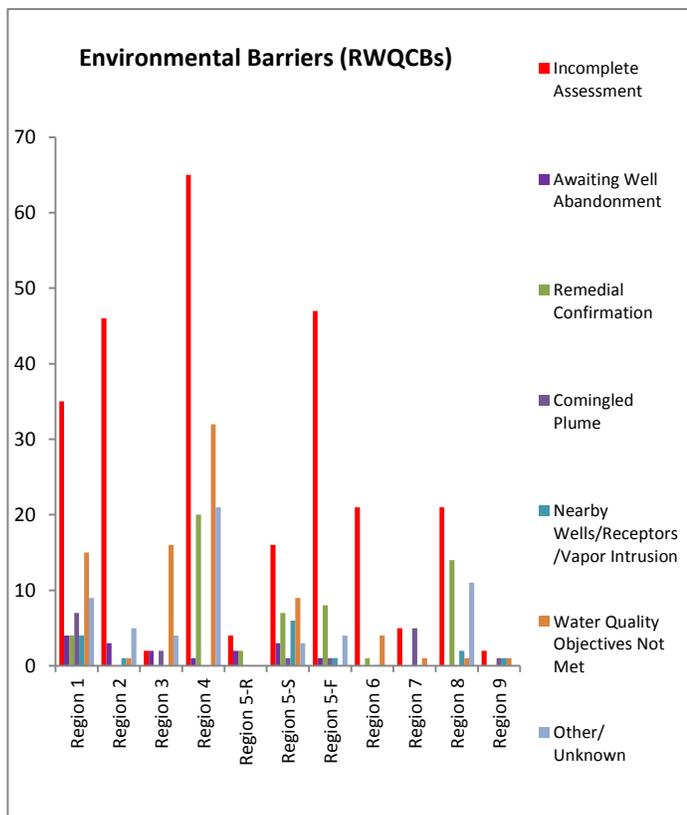
- ✓ *Incomplete assessment*
- ✓ *Awaiting well abandonment*
- ✓ *Remedial confirmation*
- ✓ *Comingled plume*
- ✓ *Nearby wells/other receptor, or vapor intrusion issue*
- ✓ *Water quality objectives not met*
- ✓ *Other/unknown*

The common non-environmental barriers were:

- ✓ *Non-responsive RP*
- ✓ *Financial hardship*
- ✓ *None*
- ✓ *Other/Unknown/No Data in GeoTracker*

RWQCB Jurisdiction

The charts below provide a summary of the apparent environmental and non-environmental barriers observed within the RWQCB jurisdiction.



Based on GeoTracker information, the apparent environmental barriers toward closure are shown in the chart on the left. **In general, the main environmental barrier for RWQCBs cases appears to be *incomplete assessment*.**

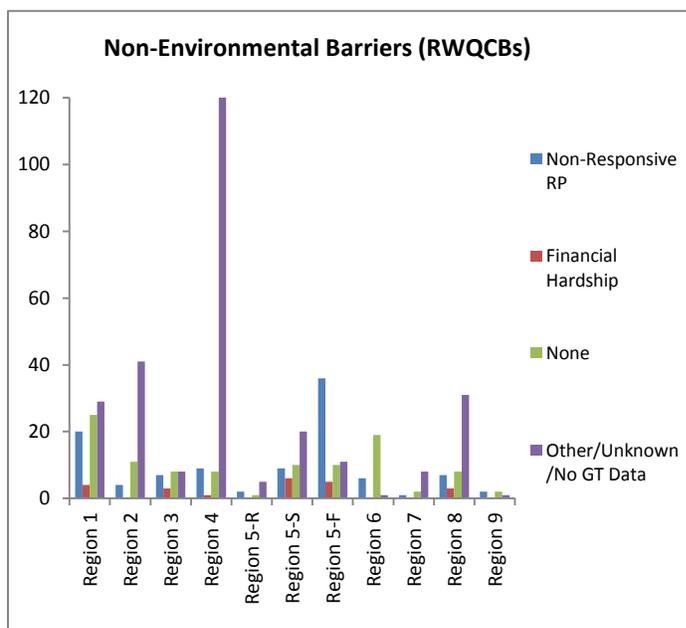
The agency with the largest percentage of its cases in each environmental barrier is as follows:

- ✓ *Incomplete assessment* - Regions 2 (82 percent) and 6 (81 percent).
- ✓ *Awaiting well abandonment* - Region 3 (8 percent).
- ✓ *In remedial confirmation* - Region 8 (29 percent).
- ✓ *Comingled plume* - Region 7 (45 percent).
- ✓ *Nearby wells/receptors/vapor intrusion* - Region 5-S (13 percent).
- ✓ *Unmet water quality objectives* - Region 3 (62 percent).
- ✓ *Undetermined (insufficient information)* - Region 8 (22 percent).

Based on GeoTracker information, the apparent non-environmental barriers toward closure are shown in the chart on the right. **In general, the main non-environmental barrier for RWQCBs cases appears to be *undetermined based on no or lack of data in GeoTracker*.**

The agency with the largest percentage of its cases in each non-environmental barrier is as follows:

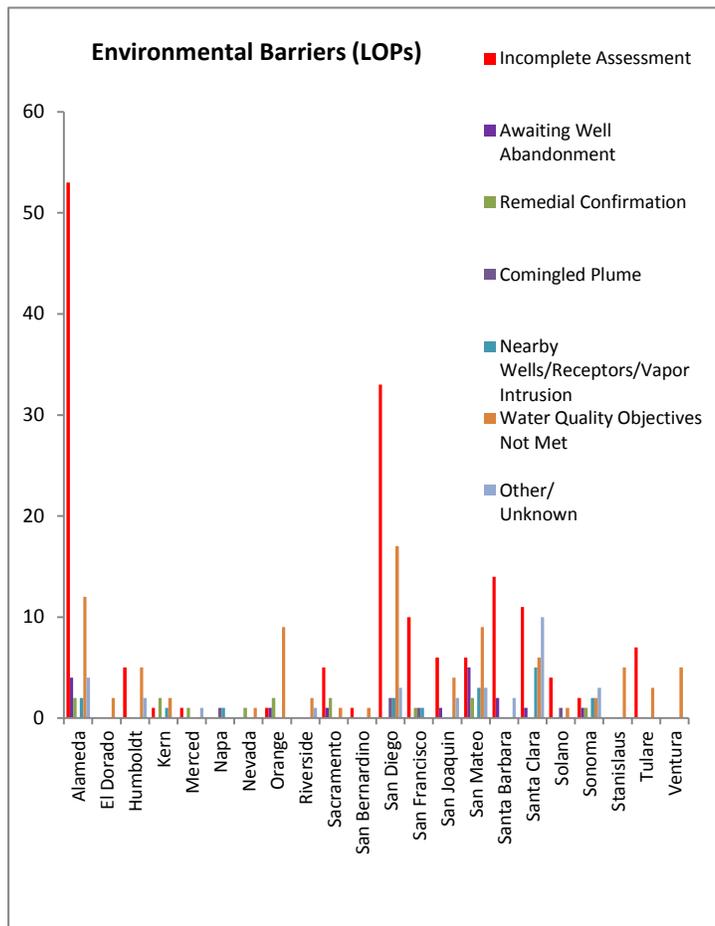
- ✓ *Non-responsive RP* - Region 5-F (58 percent).
- ✓ *RP in financial hardship* - Regions 5-S (13 percent) and 3 (12 percent).
- ✓ *No apparent non-environmental barrier* - Region 6 (73 percent).
- ✓ *Undetermined based on no or lack of data in GeoTracker* - Region 4 (87 percent).



Overall, for the RWQCB non-CUF older cases, the main environmental barrier appears to be *incomplete assessment*, while the main non-environmental barrier appears to be *insufficient case information (unknown/no data in GeoTracker)*.

LOP Jurisdiction

The charts below provide a summary of the environmental and non-environmental barriers observed within the LOP jurisdiction.



Based on GeoTracker information, the apparent environmental barriers toward closure are shown in the chart on the left. **In general, the main environmental barrier for LOPs cases appears to be incomplete assessment.**

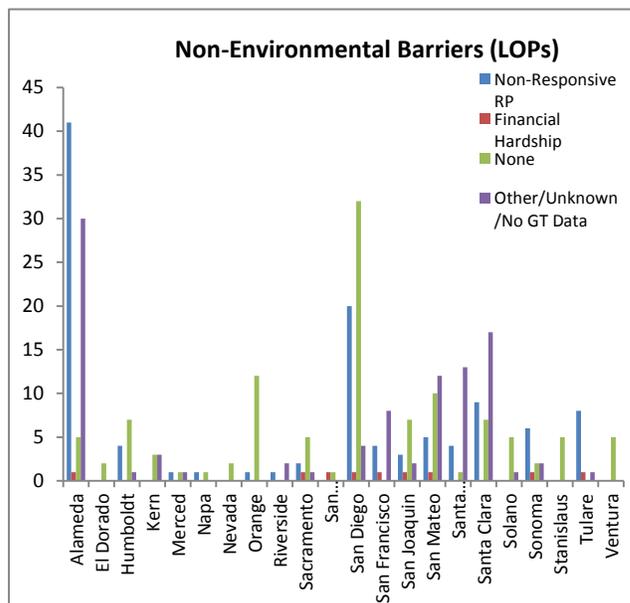
The agency with the largest percentage of its cases in each environmental barrier is as follows (focusing on agencies with more than 10 cases reviewed):

- ✓ *Incomplete assessment* - Santa Barbara County (78 percent).
- ✓ *Awaiting well abandonment* - San Mateo County (18 percent).
- ✓ *In remedial confirmation* - Sonoma County (9 percent).
- ✓ *Comingled plume* - San Francisco County (8 percent).
- ✓ *Near wells/receptors/vapor intrusion* - Sonoma (18 percent) and Santa Clara Counties (15 percent).
- ✓ *Unmet water quality objectives* - Orange County (69 percent).
- ✓ *Undetermined (insufficient information)* - Santa Clara County (30 percent).

Based on GeoTracker information, the apparent non-environmental barriers toward closure are shown in the chart on the right. **In general, the main non-environmental barrier for LOP cases were almost evenly distributed among none (34 percent), non-responsive RP (33 percent) and unknown (based on insufficient GeoTracker data) (30 percent).**

The agency with the largest percentage of its cases in each environmental barrier is as follows (focusing on agencies with more than 10 cases reviewed):

- ✓ *Non-responsive RP* – Sonoma County (55 percent) and Alameda County (53 percent).
- ✓ *RP in financial hardship* – Sonoma County (9 percent) and San Francisco County and San Joaquin County (8 percent each).

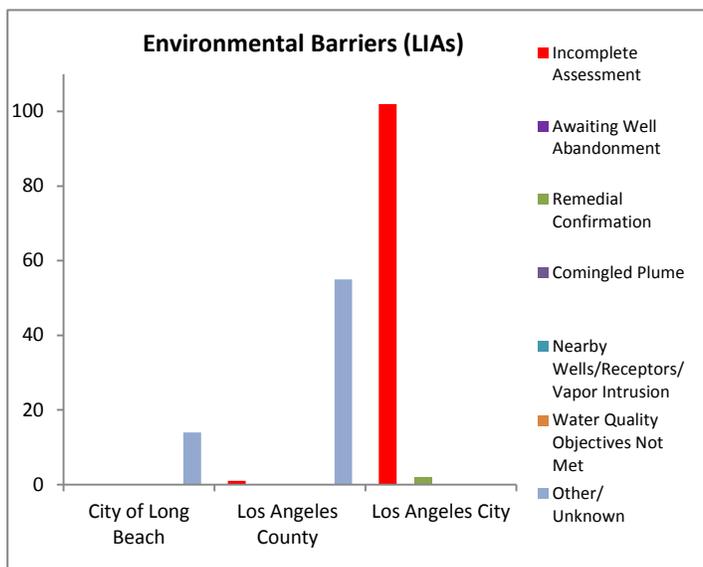


- ✓ No apparent non-environmental barrier – Humboldt County (58 percent).
- ✓ Undetermined based on no or lack of data in GeoTracker – San Francisco County (62 percent).

Overall, for the LOPs Non-CUF Older Cases, the main environmental barrier appears to be *incomplete assessment*, while the main non-environmental barrier appears to be related to *responsible party (non-responsive RP and financial hardship), as well as unknown based on insufficient GeoTracker data*.

LIA Jurisdiction

The charts below provide a summary of the apparent environmental and non-environmental barriers observed within the three selected LIA jurisdictions.



Based on GeoTracker information, the apparent environmental barriers toward closure are shown in the chart on the left. **In general, the main environmental barrier for LIAs cases appears to be *incomplete assessment*.**

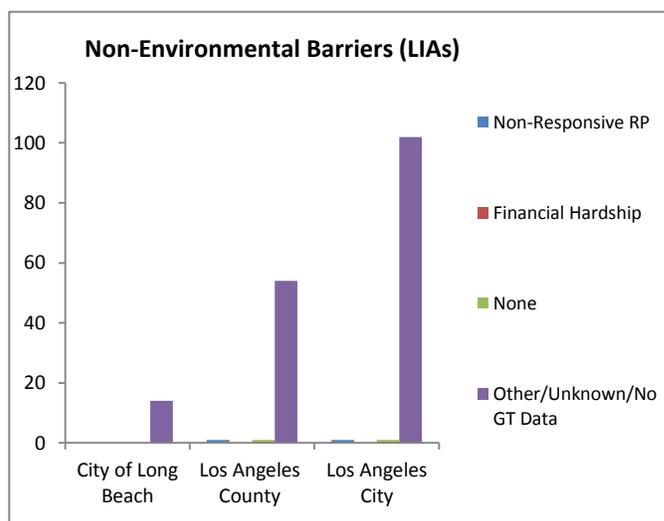
The agency with the largest percentage of its cases in each environmental barrier is as follows:

- ✓ *Incomplete assessment* - Los Angeles City (98 percent).
- ✓ *Undetermined (insufficient information)* - City of Long Beach (100 percent) and Los Angeles County (96 percent).

Based on GeoTracker information, the apparent non-environmental barriers toward closure are shown in the chart on the right. **In general, the main non-environmental barrier for LIAs cases appears to be *undetermined based on no or lack of data in GeoTracker*.**

The agency with the largest percentage of its cases in each environmental barrier is as follows:

- ✓ *No apparent non-environmental barrier* - Los Angeles City (98 percent).
- ✓ *Undetermined (insufficient information)* - City of Long Beach (100 percent) and Los Angeles County (95 percent).

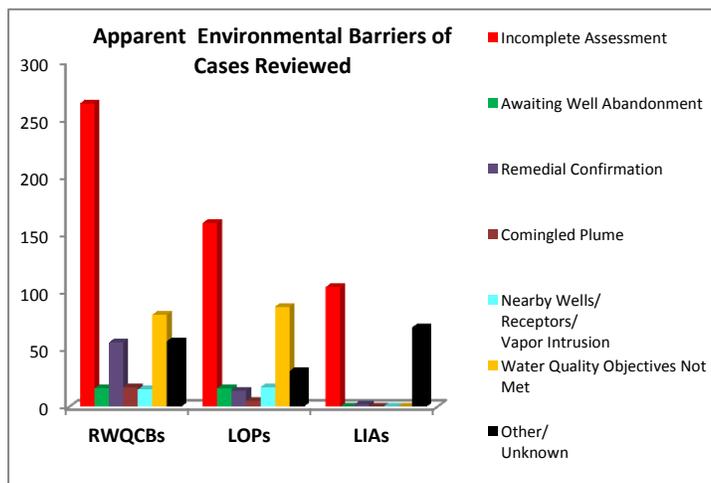


Overall, for the LIAs non-CUF older cases, the main environmental barrier appears to be *incomplete assessment*, while the main non-environmental barrier appears to be *insufficient case information (unknown/no data in GeoTracker)*.

Overall Apparent Environmental and Non-Environmental Barriers in Non-CUF Older Cases Reviewed

Overall, the percentage distribution of cases in each barrier types is as shown below:

AGENCY	Environmental Barrier to Closure							Non-Environmental Barrier to Closure			
	Incomplete Assessment	Awaiting Well Abandonment	Remedial Confirmation	Comingled Plume	Nearby Wells/ Receptors/ Vapor Intrusion	Water Quality Objectives Not Met	Other/ Unknown	Non-Responsive RP	Financial Hardship	None	Other/ Unknown/ No GT Data
RWQCBs	52%	3%	11%	3%	3%	16%	11%	20%	4%	21%	55%
LOPs	48%	5%	4%	2%	5%	26%	9%	33%	3%	34%	30%
LIAs	59%	0%	1%	0%	0%	0%	39%	1%	0%	1%	98%
Overall	52%	3%	7%	2%	3%	17%	16%	21%	3%	22%	54%

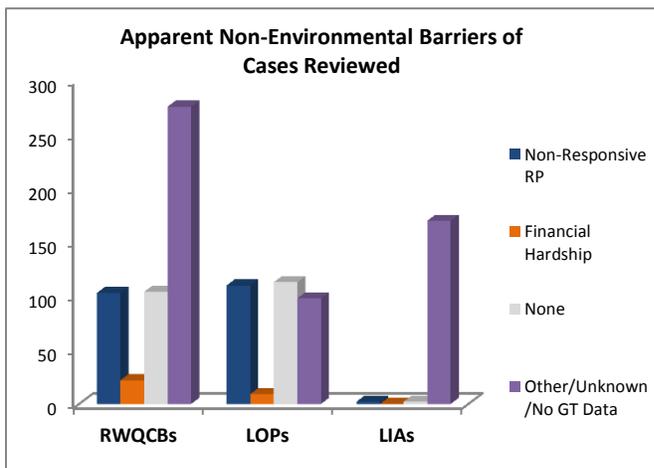


The overall distribution of the main apparent environmental barriers is shown in the figure to the left and listed from most to least, as follows:

- (1) *Incomplete assessments* (52 percent),
- (2) *Water Quality Objectives Not Met* (17 percent),
- (3) *Other/Unknown* (16 percent),
- (4) *Remedial Confirmation* (7 percent),
- (5) *Awaiting Well Abandonment* (3 percent) and *Nearby Wells/Receptors/Vapor Intrusion* (3 percent),
- (6) *Comingled Plume* (2 percent).

The overall distribution of the main apparent non-environmental barriers is shown on the figure to the right and listed from most to least, as follows:

- (1) *Unknown/No GeoTracker Data* (54 percent),
- (2) *Non-environmental barrier identified* (22 percent),
- (3) *Non-responsive RP* (21 percent),
- (4) *RP financial hardship* (3 percent).



The table shows the environmental and non-environmental barriers of the cases reviewed for the lead agency:

Summary of Findings: Open, Non-Cleanup Fund, Older Leaking UST Cases in California

AGENCIES	Environmental Barrier to Closure							Non-Environmental Barrier to Closure			
	Incomplete Assessment	Awaiting Well Abandonment	Remedial Confirmation	Comingled Plume	Nearby Wells/ Receptors/ Vapor Intrusion	Water Quality Objective Not Met	Other/ Unknown	Non-Responsive RP	Financial Hardship	None	Other/ Unknown/ No GT Data
Region 1	35	4	4	7	4	15	9	20	4	25	29
Region 2	46	3	0	0	1	1	5	4	0	11	41
Region 3	2	2	0	2	0	16	4	7	3	8	8
Region 4	65	1	20	0	0	32	21	9	1	8	121
Region 5-R	4	2	2	0	0	0	0	2	0	1	5
Region 5-S	16	3	7	1	6	9	3	9	6	10	20
Region 5-F	47	1	8	1	1	0	4	36	5	10	11
Region 6	21	0	1	0	0	4	0	6	0	19	1
Region 7	5	0	0	5	0	1	0	1	0	2	8
Region 8	21	0	14	0	2	1	11	7	3	8	31
Region 9	2	0	0	1	1	1	0	2	0	2	1
Total RWQCBS	264	16	56	17	15	80	57	103	22	104	276
Alameda	53	4	2	0	2	12	4	41	1	5	30
El Dorado	0	0	0	0	0	2	0	0	0	2	0
Humboldt	5	0	0	0	0	5	2	4	0	7	1
Kern	1	0	2	0	1	2	0	0	0	3	3
Merced	1	0	1	0	0	0	1	1	0	1	1
Napa	0	0	0	1	1	0	0	1	0	1	0
Nevada	0	0	1	0	0	1	0	0	0	2	0
Orange	1	1	2	0	0	9	0	1	0	12	0
Riverside	0	0	0	0	0	2	1	1	0	0	2
Sacramento	5	1	2	0	0	1	0	2	1	5	1
San Bernardino	1	0	0	0	0	1	0	0	1	1	0
San Diego	33	0	0	2	2	17	3	20	1	32	4
San Francisco	10	0	1	1	1	0	0	4	1	0	8
San Joaquin	6	1	0	0	0	4	2	3	1	7	2
San Mateo	6	5	2	0	3	9	3	5	1	10	12
Santa Barbara	14	2	0	0	0	0	2	4	0	1	13
Santa Clara	11	1	0	0	5	6	10	9	0	7	17
Solano	4	0	0	1	0	1	0	0	0	5	1
Sonoma	2	1	1	0	2	2	3	6	1	2	2
Stanislaus	0	0	0	0	0	5	0	0	0	5	0
Tulare	7	0	0	0	0	3	0	8	1	0	1
Ventura	0	0	0	0	0	5	0	0	0	5	0
Total LOPS	160	16	14	5	17	87	31	110	9	113	98
City of Long Beach	0	0	0	0	0	0	14	0	0	0	14
Los Angeles County	1	0	0	0	0	0	55	1	0	1	54
Los Angeles City	104	0	2	0	0	0	0	1	0	1	102
Total LIAS	104	0	2	0	0	0	69	2	0	2	171
Overall Total	528	32	72	22	32	167	157	215	31	219	545

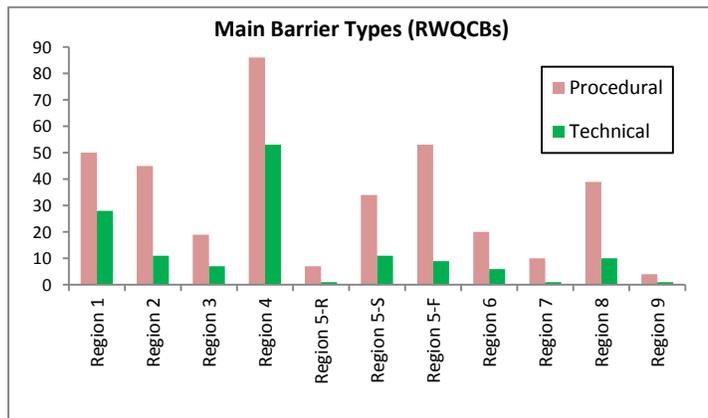
6.2 PROCEDURAL VERSUS TECHNICAL BARRIERS

This sub-section provides a summary of the apparent procedural and technical barriers to cleanup/closure for the non-CUF older cases observed during case review. To better understand the potential barrier types identified in conducting leaking UST cleanups in California, the barriers were further sub-divided into apparent (1) procedural and (2) technical barriers.

Based on initial case review, the common barriers encountered in working on leaking UST cleanup cases can be grouped into either procedural or technical types. The barriers indicated by the lead agencies can be grouped as follows:

PROCEDURAL BARRIERS	TECHNICAL BARRIERS
Agency need to review case file	Free product
Disagreement among stakeholders	Persistent contamination
Site access issue	Vapor intrusion
Adjacent/off-site issues	Incomplete assessment
Need to complete case closure (well destruction etc.)	Incomplete plume delineation
Monitoring (quarterly/semi-annually)	Water Quality Objective not met
No/limited case information and history	Corrective Action Plan
RP issues (identification, unresponsive, changes, multiple parties)	

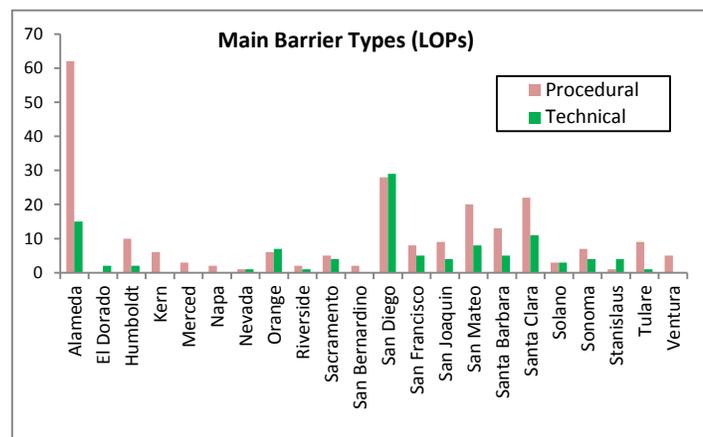
RWQCB Jurisdiction



Based on discussion with RWQCB and case information gathered, the distribution of the main barrier types for non-CUF older cases is shown on figure on the left. In general:

- ✓ All agencies' main barrier type is predominantly procedural.

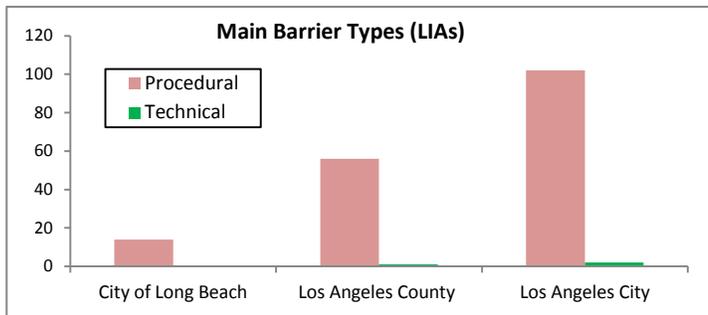
LOP Jurisdiction



Based on discussion with LOPs and case information gathered, the distribution of the main barrier types for non-CUF older cases is shown on figure on the left. In general:

- ✓ All agencies' main barrier type is predominantly procedural, except for San Diego, Orange and Stanislaus Counties where technical barriers are more than procedural barriers.

LIA Jurisdiction

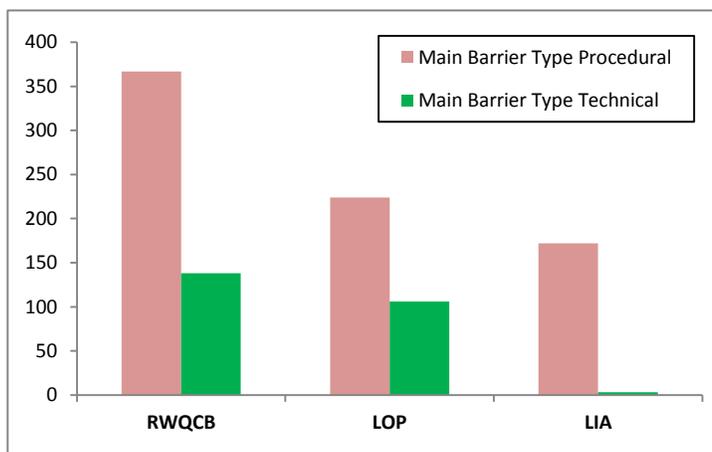


Based on discussion with the three selected LIAs and case information gathered, the distribution of the main barrier types for non-CUF older cases is shown on figure on the left. In general:

- ✓ The main barrier for almost all the cases was procedural.

Overall Apparent Procedural versus Technical Barriers in Non-CUF Older Cases Reviewed

Overall, the barrier types (procedural versus technical) distribution is as follows:



The overall main barrier type is predominantly procedural (76 percent of the cases reviewed), especially for the LIA' cases. The common procedural barriers encountered are listed below from most to least:

- (1) Identify, determine, and find the correct RP
- (2) No/insufficient case information
- (3) Case not reviewed by the agency
- (4) Need funding assistance
- (5) Need enforcement
- (6) Site conditions

6.3 BARRIERS INDICATED BY THE LEAD AGENCIES

Overall, through this study, some key feedbacks were received from the lead agencies. The main challenges and barriers noted by the lead agencies, as well as some approaches taken by the local agencies to overcome the barriers and/or improve the program were as follow:

RP-related

- ✓ Uncooperative and/or unresponsive/recalcitrant RPs (such as CalTrans, U.S. Forest Service, private developers etc.) and/or RP consultants
- ✓ Identifying and find RPs
- ✓ RP funding issues (economic hardship etc.)
- ✓ Site with multiple RPs or disputing RPs
- ✓ Site ownership changes (such as new owners might not have operated the USTs etc.)
- ✓ Changing contact persons (such as program managers for oil companies)
- ✓ Litigation
- ✓ Agency focused on cases with responsive RPs to keep case flow going forward
- ✓ Getting RP to complete the last few tasks to close site

- ✓ Upload documentation into GeoTracker
- ✓ Unclear of the funding programs available
- ✓ Conducting excessive annual groundwater monitoring (sometimes to avoid remediation)

Site-related

- ✓ Presence of free products
- ✓ Risk of vapor intrusion
- ✓ Off-site plume/migration
- ✓ Comingled plume
- ✓ Complex site (such as major/multiple releases, persistent contamination etc.)
- ✓ Access issues

Agencies-related

- ✓ Delayed closure approval or closure denial by RWQCB or other agency that is involved
- ✓ Need to prioritize cases due to insufficient resources (time-consuming tasks such as RP and case file search, verify RP's financial etc.)
- ✓ Received transferred cases from other lead agency which are older and/or without historical case information
- ✓ Unknown or undetermined lead agency
- ✓ Lack of or difficulty in conducting enforcement
- ✓ Coordination with multiple agencies for other site issues
- ✓ Disagreement in RP's cleanup approach
- ✓ Database maintenance (such as use of local database that has complete case information compared to GeoTracker)
- ✓ Focused on higher priority cases; Non-CUF Older cases are mostly low priority
- ✓ Case workers who divide their time working on programs other than UST
- ✓ Agency worked on non-Federal UST site under leaking UST program because otherwise it would not have been worked on

Case-related

- ✓ No or lack of historical case files
- ✓ Disorganized case files
- ✓ Part of other cleanup programs (SLIC etc.)
- ✓ Duplicate or incorrect entries
- ✓ Not an UST site or meet the Federal UST definition
- ✓ GeoTracker database limitation, such as unable to delete duplicate cases, or accurately reflects transfer case status etc.

6.4 SUMMARY OF BARRIERS TO SITE CLEANUP/CLOSURE

The main objective of this non-CUF older cases review study was to better understand the barriers in conducting leaking UST site cleanup and closure in California. Based on case review of GeoTracker data and discussions with the lead agencies, it appeared that the overall main environmental barrier was *incomplete assessments* (52 percent of all cases reviewed) and the main non-environmental barriers was *unknown due to no or incomplete GeoTracker data* (54 percent of all cases reviewed).

Through discussions with the lead agencies, it appeared that a majority of the type of barriers appeared to be procedural-related (76 percent of the cases reviewed), as follows: (1) unable to implement effective enforcement, (2) available State funding options not fully utilized, (3) incomplete site assessments (mostly due to RPs who lack funding), (4) limited, missing, or no GeoTracker case data, and (5) challenges in identifying and finding the legitimate RPs.

Overall, the most notable barriers identified by this study in completing the aging non-CUF leaking UST cleanups in California were:

- ✓ lack of enforcement due to limited resources
- ✓ under-utilized State funding options that are available
- ✓ challenging RP issues, such as recalcitrant, missing or sites with multiple RPs
- ✓ inadequate management of data and case oversight (e.g., missing case information)
- ✓ incomplete case transfer process between lead agencies
- ✓ excessive site monitoring – sites remained in prolong assessment phase

7.0 NEXT STEPS COMMITTED BY LEAD AGENCY

This section provides a summary of next steps committed by the lead agencies on the cases reviewed. To ensure that these cases made progress and move forward toward cleanup closure, the agencies were requested to commit to one or more of the following options as next steps for each of the cases:

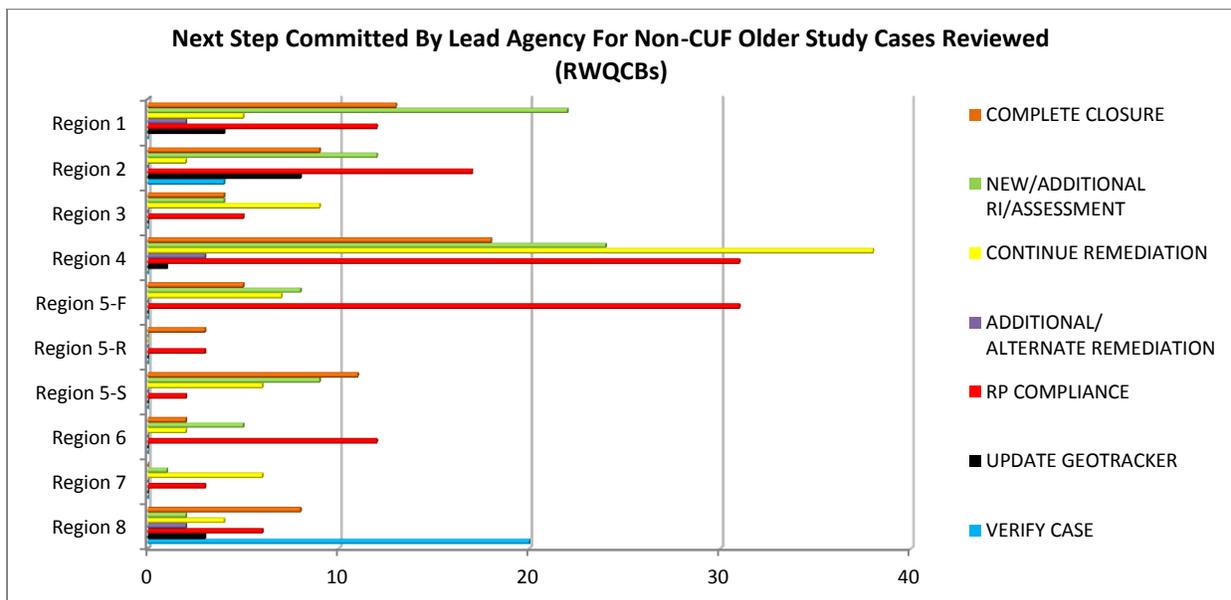
- ✓ Complete closures (solicit case closure proposal or request, or well decommission.)
- ✓ Push for new or additional remedial investigation (RI)/risk assessment
- ✓ Continue current remediation
- ✓ Push for additional/alternative remediation (current remediation ineffective)
- ✓ Ensure RP compliance (include identify RP, enforcement)
- ✓ Update missing GeoTracker information (data, report, unassigned caseworker)
- ✓ Verify if the case is warranted (federal LUST case)

After discussions with the lead agencies, approximately 74 percent (746 cases) of the cases reviewed has next steps committed to, while the remaining 26 percent (264 cases) will not require any next step as a result of the following:

- ✓ Case closed
- ✓ Determined not a LUFT case
- ✓ Entered a funding program
- ✓ Corrected age of case (less than 15 years)
- ✓ Transferred to another lead agency
- ✓ Case deleted in GeoTracker (duplicate or not a case)

RWQCB Jurisdiction

The figure below shows the distributions of the next steps committed by each RWQCB for the non-CUF older cases reviewed:



Approximately 81 percent (409 cases) of the 505 RWQCB cases reviewed required follow-ups. The next steps committed by the RWQCBs (from most to least percentages) were as follows:

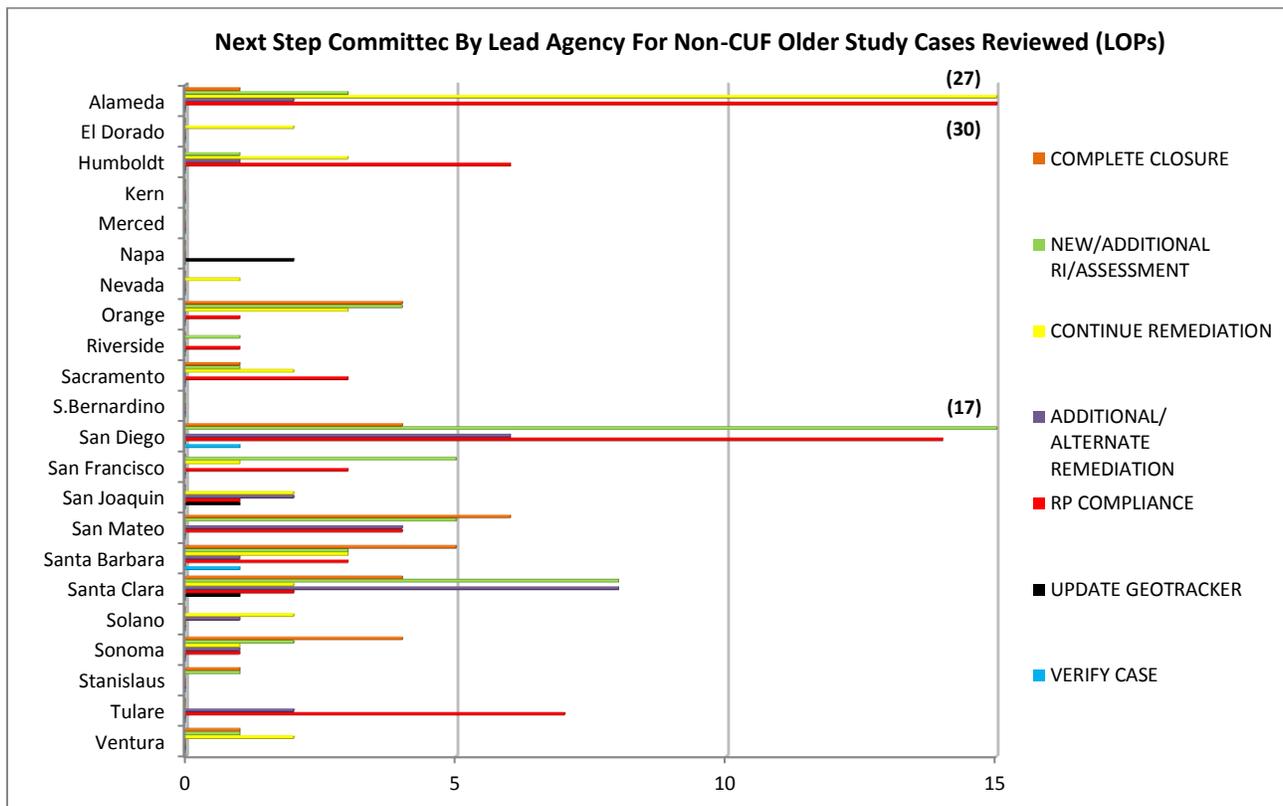
- (1) RP compliance (24 percent),
- (2) Consider new or additional remediation investigation or assessment (17 percent),
- (3) Continue remediation (16 percent),
- (4) Complete case closure (14 percent),
- (5) Verify if a Federal LUFT case (5 percent),
- (6) Update GeoTracker data/information (3 percent),
- (7) Consider additional/alternative remediation (2 percent).

The remaining 19 percent (96 cases) of the RWQCBs cases reviewed that do not require any follow-ups were as follows:

- (1) Case closed (13 percent),
- (2) Entered funding programs (3 percent) and Others (3 percent),
- (3) Transferred to new lead agency (1 percent).

LOP Jurisdiction

The figure below shows the distributions of the next steps committed by each LOP for the non-CUF older cases reviewed:



Approximately 74 percent (244 cases) of the 330 LOP cases reviewed required follow-ups. The next steps committed by the LOPs (from most to least percentages) were as follows:

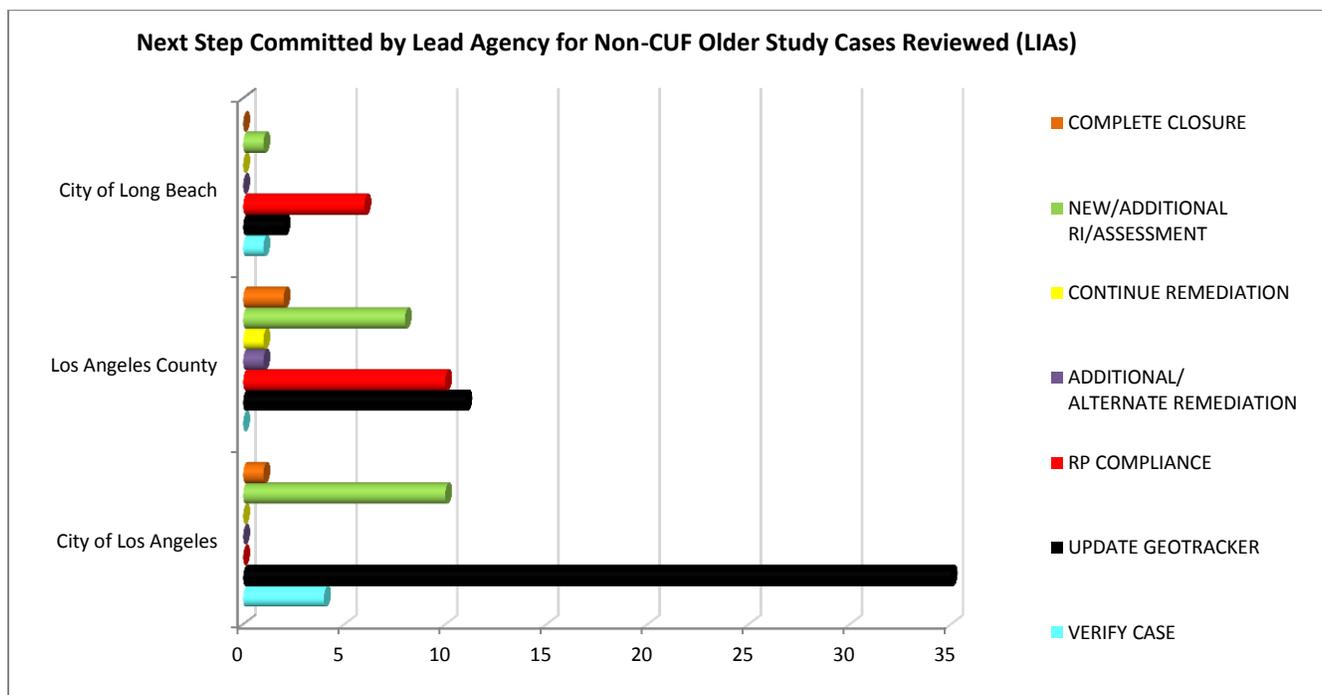
- (1) RP compliance (23 percent),
- (2) Consider new or additional remediation investigation or assessment (16 percent),
- (3) Continue remediation (15 percent),
- (4) Complete case closure (9 percent),
- (5) Consider additional or alternative remediation (8 percent),
- (6) Update GeoTracker data/information (1 percent),
- (7) Verify if a (LUFT) case (1 percent).

The remaining 26 percent (86 cases) of the LOPs cases reviewed that do not require any follow-ups were as follows:

- (1) Case closed (16 percent),
- (2) Entered fund programs (5 percent),
- (3) Others (3 percent),
- (4) Transferred to new lead agency (2 percent),
- (5) Deleted in GeoTracker (1 percent).

LIAs Jurisdiction

The figure below shows the distributions of the next steps committed by each of the three selected LIAs for the non-CUF older cases reviewed:



Approximately 53 percent (93 cases) of the 175 selected LIA cases reviewed required follow-ups. The next steps committed by the LIAs (from most to least percentages) were as follows:

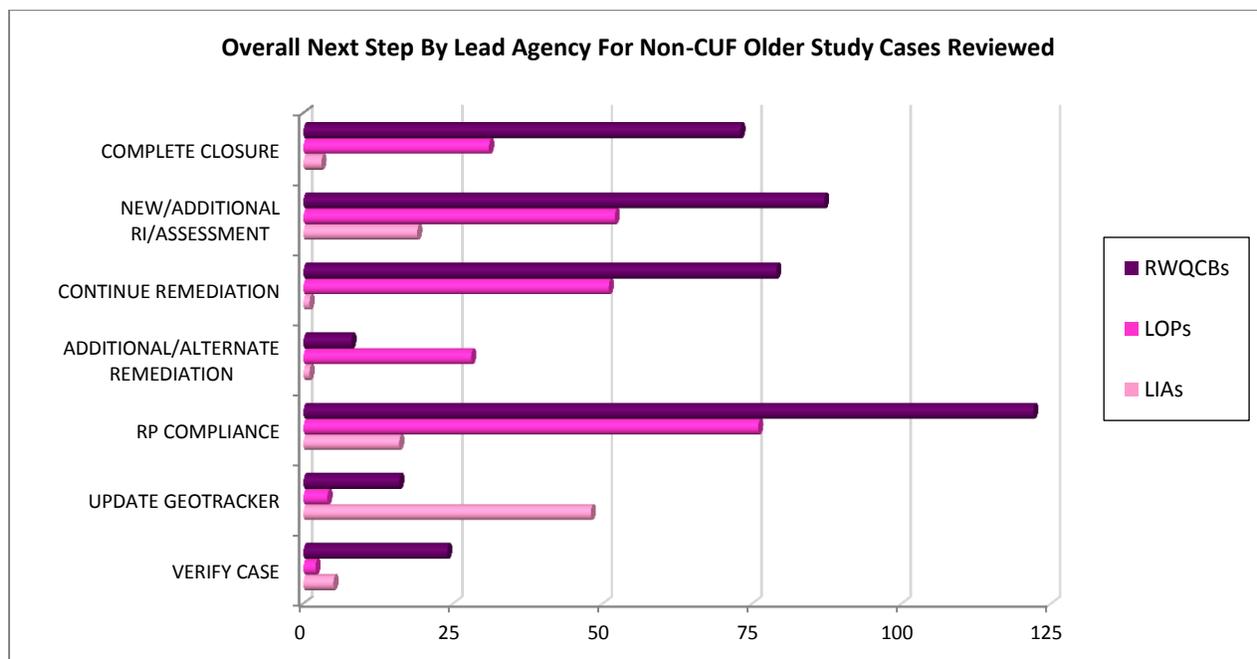
- (1) Update GeoTracker data/information (27 percent),
- (2) Consider new/additional remediation investigation/assessment (11 percent),
- (3) RP compliance (9 percent),
- (4) Verify if a (LUFT) case (3 percent),
- (5) Complete case closure (2 percent),
- (6) Continue remediation (1 percent),
- (7) Consider additional or alternative remediation (1 percent).

The remaining 47 percent (82 cases) of the 3 selected LIAs cases reviewed that do not require any follow-ups were as follows:

- (1) Case closed (22 percent),
- (2) Deleted in GeoTracker (15 percent),
- (3) Transferred to new lead agency (9 percent),
- (4) Entered funding programs (1 percent),
- (5) Others (1 percent).

Overall Next Step Determined by Lead Agency

The figure below show the overall next steps committed by the lead agencies on the non-CUF older cases reviewed based on case information available in GeoTracker.



Overall, approximately 74 percent (746 cases) of the total number of non-CUF older cases (1,010 cases) reviewed require some follow-ups and the next steps committed by the lead agencies (from most to least percentages) were as follows:

- (1) RP compliance (20 percent),
- (2) Consider new/additional remediation investigation/assessment (15 percent),
- (3) Complete case closure (13 percent),
- (4) Continue remediation (12 percent),
- (5) Update GeoTracker data/information (7 percent),
- (6) Consider additional/alternate remediation (4 percent),
- (7) Verify if a (LUFT) case (3 percent).

The remaining 26 percent (264 cases) of the total number of non-CUF older cases (1,010 cases) reviewed that do not require any follow-ups were as follows:

- (1) Case closed (15 percent),
- (2) Determined not a LUFT case (3 percent),
- (3) Entered a funding program (2 percent),
- (4) Transferred to another lead agency (3 percent),
- (5) Case deleted in GeoTracker (duplicate or not a case) (3 percent),
- (6) Corrected age of case (less than 15 years) (1 percent).

A majority of the lead agencies had committed to following up with the RPs to ensure compliances in moving the cases forward. However, for the three selected LIAs, the major commitment is to update GeoTracker data/information. **As of January 1, 2012, all the LIA agencies are required to report in GeoTracker.**

CONCLUSION

Overall, this study demonstrated the need and benefits for the SWRCB to conduct on-going review of these non-CUF older cases in California. Since these cases appeared to be given low prioritization, it is essential to improve the case management process to prevent these cases from remaining dormant or stuck.

Based on this study, it is recommended that the SWRCB consider increased efforts in:

- (4) improving the enforcement aspects of the state LUST program,**
- (5) streamlining the state's under-utilized funds (EAR, OSCA/OSCF etc.),**
- (6) addressing crucial data gaps in GeoTracker (obtain and upload essential case information).**