Final
April 4, 2011

Review of
Leaking Underground Storage Tank Cases
Not in Cleanup Fund and Open Over 15 Years

Stanislaus County
Local Oversight Program

Prepared as in-kind task as part of Cooperative Agreement LS-96934701-1 between U.S. EPA Region 9 and the California State Water Resources Control Board
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1. T0609900052 (ARCO - T AND T)
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3. T0609900313 (MONFREDINI PROPERTY AKA GADDYS SHELL)
4. T0609900108 (L AND E AUTO SHORT PROPERTY)
5. T0609900123 (THREE STAR GAS)
Executive Summary

The Draft version of this report was submitted on November 17, 2010, with a request for a follow-up meeting and input from Stanislaus County Local Oversight Program (LOP) into the “Next Steps for Agency” column of the case cleanup status spreadsheet.

Stanislaus County LOP met with USEPA Region 9 and Sullivan International Group, Inc. via conference call on February 28, 2011 to discuss the draft report and their next steps for each case. The agency acknowledged several challenges with these cases. A few of the challenges mentioned by Stanislaus County LOP are: an uncooperative responsible party (RP); denial of closure by their associated Regional Board; and insufficient personnel resources. Stanislaus County LOP has made progress on the case that has the uncooperative RP despite the RP’s reluctance to do any work because the RP was unaware that petroleum contamination existed at the site when purchased. For another case, the agency requested the site be considered for low risk closure by the Regional Board, but was denied because of the deemed possibility that the contamination at the site may have potentially contributed to groundwater contamination at a down-gradient site, despite that there is no evidence contaminant migration exists.
### Stanislaus County LOP

**Apparent Case Status: Initial and After**

**Total Number of Cases Reviewed = 5**

**Number of Active LUST Cases on November 1, 2010 = 68 Cases**

**Draft Review Report Prepared and Sent to Agency on November 17, 2010**

**Meeting with Agency on February 28, 2011**

**Apparent Status of Cases Reviewed – Initial Review and After Meeting to Discuss Cases**

<table>
<thead>
<tr>
<th>Apparent Case Status</th>
<th>Initial Assessment Number of Cases (11-17-2010)</th>
<th>Post Meeting Assessment Number of Cases (02-28-2011)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CASE CLOSED</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Appears close to completion</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Appears near completion within 1-year</td>
<td>0</td>
<td>4</td>
</tr>
<tr>
<td>Appears to be on track</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Appears NOT to be on track</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td>Appears to be stuck</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>Unable to determine (Insufficient information in GeoTracker)</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>NOT FEDERAL UST CASE</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>OTHERS - Entered into the CUF</td>
<td>0</td>
<td>1</td>
</tr>
</tbody>
</table>

**Initial Assessment Percentage of Cases (11/17/2010)**

- Appears to be stuck: 40%
- Appears NOT to be on track: 60%

**Post Meeting Assessment Percentage of Cases (02/28/2011)**

- Appears near completion within 1-year: 80%
- Others - Entered into the CUF: 20%
### Aging Non-CUF Case Summary Review Table

<table>
<thead>
<tr>
<th>ESTIMATED STATUS IN THE CLEANUP</th>
<th>CHANGE IN STATUS IN THE CLEANUP</th>
<th>CASE NAME (AGENCY/STANISLAUS COUNTY LOP)</th>
<th>GLOBAL ID</th>
<th>CASE WORKER</th>
<th>PRIMARY CCR (GeoTracker)</th>
<th>APPARENT TYPE OF RP</th>
<th>RELEASE DATE</th>
<th>DISCUSSION NOTE (Program/Plan)</th>
<th>NEXT STEPS/GRACIOUS NOTES/REMARKS (02/28/2011)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appears NOT to be on track</td>
<td>Appears near completion within 1-year (GROUP - 1 AND 2) T0609900052 Nicole Damin Gasoline S - Small Private Business</td>
<td>7/10/1987</td>
<td>• In the Emergency, Abandoned, and Recalitrant (EAR) Account Program • Remediation efficiency has diminished • Still significant mass in near zone • Submitted pre-application request to the CCR for next steps for assessment and remediation • Site closure is expected within the next year • Site assessment for 6 months (GW Monitoring) • For the next 6 months after, continue monitoring and pilot study of direct injections with reducing agent similar to DRC1 • Post-injection monitoring • Request site for low-risk closure with remaining mass in place</td>
<td>Push for additional/alternate remediation (current remediation ineffective)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Appears NOT to be on track</td>
<td>Appears near completion within 1-year (GROUP - 1 AND 2) T0609900052 Nicole Damin Gasoline O - Other (Individual, Homes etc)</td>
<td>8/14/1990</td>
<td>• In the EAR • GW monitoring was shut down • Closure requested 3 times, denied by RSP due to possibility of contaminant migration contributing to a downgradient site, but this has not been proven • Intend to upload reports to GeoTracker • Will request GW and vapor sampling and risk assessment • Depending on results, will request site closure • One more round of GW sampling • Subsurface vapor sampling (not indoor air) • Tier 2 risk assessment • Depending on results, site will be considered for closure</td>
<td>Update missing GT information (data, report, unassigned caseworker etc.)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Appears NOT to be on track</td>
<td>Appears near completion within 1-year (GROUP - 1 AND 2) T0609900052 Nicole Damin Gasoline Z - Major Oil Company</td>
<td>12/11/1992</td>
<td>• Not in the EAR • RP was unaware of LUST and contamination, generally unwilling • Refused to insert ORC socks and conduct groundwater monitoring, but recently conducted a vapor survey as requested • Waiting on results of vapor survey and depending on results, will submit a closure request</td>
<td>Solicit case closure proposal/request</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Appears to be stuck</td>
<td>OTHERS - Entered into the CUF</td>
<td>3/15/1989</td>
<td>• RP deceased, 12-year estate lawsuit • Now in CUF, will not be evaluated in the final report</td>
<td>Not Applicable</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Appears to be stuck</td>
<td>Appears near completion within 1-year (GROUP - 1 AND 2) T0609900052 Nicole Damin Gasoline Z - Major Oil Company</td>
<td>6/19/1989</td>
<td>• In the EAR • Three years ago, soil vapor extraction pilot test was conducted • In general, not much GW contamination in area, urban setting with GW at 31-rgh • Will request site assessment and risk assessment • One more round of GW sampling • Subsurface vapor sampling • Tier 2 risk assessment • Depending on results, site will be considered for closure</td>
<td>Push for new/additional remedial investigation (RI)/risk assessment</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Final Review of LUST Cases, Not in Cleanup Fund and Open Over 15 Years, Stanislaus County LOP
Attachment 1:

Case Review Power Point Slides from Draft Report

The Power Point slides from the draft report have not been updated and are not intended to reflect the current status of the cases at the time the final report was produced. They are to be used solely for reference.

1. T0609900052 (ARCO - T AND T)
2. T0609900165 (FERNANDES SPEED SHOP)
3. T0609900313 (MONFREDINI PROPERTY AKA GADDYS SHELL)
4. T0609900108 (L AND E AUTO SHORT PROPERTY)
5. T0609900123 (THREE STAR GAS)
ARCO - T AND T (T0609900052)  
402 DOWNEY, MODESTO, CA 95354

**Case Age:** 23 years  
**RP Identified by Regulator:** T & T ARCO  
**Primary COC:** GASOLINE  
**Current Land Use:** Smog check station

### Possible Reasons Why This Case Is So Old
- Appears no activity for nine years from 10/1990 to 10/1999.  
- Remedial activities not effective, highly elevated concentrations still detected.

### Activities Conducted to Date Based on GeoTracker Info T0609900052

#### Assessment last 5 years
- Ongoing groundwater monitoring until 11/2009, now three wells sampled semi-annually and annually

#### Remediation last 5 years
- Vapor extraction test in 10/2005  
- SVE operated from 12/2003 to 7/2008  
- Ongoing ozone sparging, began 7/2007

#### Assessment older than 5 years
- Preliminary soil/groundwater investigation in 1/1988  
- Soil sampling after UST removal in 10/1990  
- Site assessment activities since 10/1990

#### Remediation older than 5 years
- During product line repair in 7/1987 and release discovered  
- Three USTs removed in 1990  
- Vapor extraction test and air sparge pilot test in 2001  
- SVE installed in 2003
CLOSURE REVIEW - THIS CASE IS NOT READY FOR CLOSURE AS OF 10/5/2009

IMPEDIMENTS TO CLOSURE

PLUME INSTABILITY
Significant Rebound In Concentrations After Remediation - Following the cessation of hydrogen peroxide injection the constituents of concern rebounded to pre-injection concentrations. Ozone sparging is currently being conducted at the site.

UNACCEPTABLE RISK
Unacceptable Risks to Human Health from Vapor Intrusion - A soil vapor study has not been conducted at this site.

BENEFITS OF ADDITIONAL WORK
Restore Beneficial Uses - Continue remediation at the site to reduce the concentrations of TPHg, benzene, and MTBE in groundwater.
Protect Human Health - Conduct a soil vapor survey to ensure that there is no risk for indoor air intrusion.

SENSITIVE RECEPTORS LIKELY TO BE IMPACTED AND TIME FRAME FOR IMPACT

<table>
<thead>
<tr>
<th>SENSITIVE RECEPTOR</th>
<th>TIME FRAME FOR IMPACT</th>
<th>COMMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Groundwater</td>
<td>Already Impacted</td>
<td>TPHg, Benzene, and MTBE</td>
</tr>
<tr>
<td>Indoor Air (Residential or Commercial)</td>
<td>Undetermined</td>
<td>An evaluation for the possibility of indoor air intrusion has not been conducted at this time.</td>
</tr>
</tbody>
</table>

Review Conclusions T0609900052

• Correspondence from agency dated 6/2009 indicated that it did not appear that the ozone injections were effective and scheduled a meeting to discuss the remedial system on 8/2009. The agency then scheduled a mandatory office hearing on 10/06/2010; results of the meeting are unknown.

• Closure review indicates vapor intrusion assessment has not been conducted.

• Last sampling event reported 11/2009, elevated levels of contaminants still detected. Following the cessation of hydrogen peroxide injections, the constituents of concern rebounded to pre-injection concentrations.

• **Discussion:** Next step – how to move this case toward closure? Establish timeline and enforce deadlines? Case appears to not be on track.
FERNANDES SPEED SHOP (T0609900165)
214 CENTER, TURLOCK, CA 95380

Case Age: 20 years
RP Identified by Regulator: INDIVIDUALS
Primary COC: GASOLINE
Current Land Use: Commercial/Industrial

Possible Reasons Why This Case Is So Old
• Case recommended for closure by the LOP in 4/2006, then the agency requested a soil vapor survey, which was conducted in 2009.

Activities Conducted to Date Based on GeoTracker Info T0609900165

Assessment last 5 years
• Ongoing groundwater sampling
• MW installed in 2005
• Vapor survey in 10/2009

Remediation last 5 years

Assessment older than 5 years
• Soil and ground water sampled in 6/1997
• Two soil borings advanced in 6/1997
• MWs installed in 1/1998

Remediation older than 5 years
• USTs removed and soil over-excavated in 8/1990

NOTE: Data queried from GeoTracker and reviewed in November 2010
CLOSURE REVIEW - THIS CASE IS NOT READY FOR CLOSURE AS OF 10/6/2009

IMPEDIMENTS TO CLOSURE
UNACCEPTABLE RISK
Unacceptable Risks to Human Health from Vapor Intrusion - The vapor intrusion pathway near the highest offsite groundwater concentration was not evaluated.

PROCEDURAL IMPEDIMENTS
Regional Water Board Objects to Closure - Groundwater was not sampled for methanol. Vapor intrusion pathway near the highest offsite groundwater concentration was not evaluated. Constituents of concern in groundwater from FW-5 exceed WQO's.

BENEFITS OF ADDITIONAL WORK
Protect Human Health - In order to satisfy the requests of the RWQCB, the Department is conducting an additional soil vapor survey and resampling all wells at the site.

SENSITIVE RECEPTORS LIKELY TO BE IMPACTED AND TIME FRAME FOR IMPACT

<table>
<thead>
<tr>
<th>SENSITIVE RECEPTOR</th>
<th>TIME FRAME FOR IMPACT</th>
<th>COMMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Groundwater</td>
<td>Already Impacted</td>
<td>Groundwater at the site has historically been impacted by TPHg, TPHd, and benzene.</td>
</tr>
<tr>
<td>Indoor Air (Residential or Commercial)</td>
<td>Undetermined</td>
<td>The vapor intrusion pathway near the highest offsite groundwater concentration was not evaluated.</td>
</tr>
</tbody>
</table>

Review Conclusions T0609900165

• Closure review indicated that the vapor intrusion pathway near the highest offsite groundwater concentration was not evaluated. Also, in addition to gasoline UST, there was a UST used for methanol and groundwater was not sampled for this contaminant.

• Vapor survey conducted in 10/2009 detected no contaminants above commercial CHHSLs. Appears there is not a vapor issue.

• Discussion: Next step – how to move this case toward closure? Establish timeline and enforce deadlines? Has methanol been evaluated? Update conceptual site model, sensitive receptor survey, and reconsider for closure? Case appears to not be on track at present.
Case Age: 18 years
RP Identified by Regulator: GADDYS SHELL
Primary COC: BENZENE, GASOLINE, OTHER SOLVENT OR NON-PETROLEUM HYDROCARBON, TOLUENE, XYLENE
Current Land Use: Commercial

Possible Reasons Why This Case Is So Old
• Soil investigation in 1992, prior to redevelopment, petroleum hydrocarbon contamination discovered up to 2,900 mg/kg TPhg.
• In 1997, agency issued directive letter for further investigation of the contaminant plume at the site that was subsequently placed on hold.

Activities Conducted to Date Based on GeoTracker Info T0609900313

Assessment last 5 years
• Additional soil/groundwater investigation in 2006
• Ongoing groundwater sampling, gap from 12/2007 to 9/2009

Assessment older than 5 years
• Soil investigation in 11/1992
• Soil/groundwater investigation in 2003
• MWs installed in 2004

Remediation last 5 years
• Corrective Action Plan dated 1/2006, ORC socks were installed

Remediation older than 5 years
• None
CLOSURE REVIEW - THIS CASE IS NOT READY FOR CLOSURE AS OF 10/12/2009

IMPEDIMENTS TO CLOSURE

GROUNDWATER IMPACTS
Groundwater Impacted Above Background - The most recent groundwater monitoring and sampling event conducted on October 30, 2007 reported TPHg and benzene at maximum groundwater concentrations of 23,000 ug/L and 13 ug/L, respectively

UNACCEPTABLE RISK
Unacceptable Risks to Human Health from Vapor Intrusion - A soil vapor survey has not been conducted at this site.

BENEFITS OF ADDITIONAL WORK
Restore Beneficial Uses - Installation of the ORC Advanced socks to remediate groundwater at the site. Protect Human Health - In order to evaluate the risk to human health from indoor vapor intrusion, a soil vapor survey shall be conducted.

SENSITIVE RECEPTORS LIKELY TO BE IMPACTED AND TIME FRAME FOR IMPACT

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<th>TIME FRAME FOR IMPACT</th>
<th>COMMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Groundwater</td>
<td>Already Impacted</td>
<td>TPHg and BTEX constituents</td>
</tr>
<tr>
<td>Indoor Air (Residential or Commercial)</td>
<td>Undetermined</td>
<td>No soil vapor survey.</td>
</tr>
</tbody>
</table>

Review Conclusions T0609900313

• Site history does not mention USTs.

• Appears no activities between initial investigation in 1992 to 2003. Appears only one directive letter from agency in 1997 and the case was subsequently put on hold.

• No groundwater sampling from 2007 to 2009. Last event in 12/2009 showed up to 19,000 ppb TPHg in groundwater and other contaminants elevated.

• Agency directed reinstallation of ORC socks in three wells to enhance bioremediation in 12/2009 correspondence. Three wells now on annual sampling schedule. Appears concentrations decreased over time, but may need more consistent data to establish overall trend.

• Discussion: Next step – how to move this case toward closure? Establish timeline and enforce deadlines? Update sensitive receptor survey and conceptual site model? Has source of contamination been removed? Site appears to not be on track at present.
Possible Reasons Why This Case Is So Old
• Case recommended for closure by the LOP in 4/2006 and rescinded by the Regional Board in 6/2006 due to inadequate assessment and VI concerns.
• No activities after initial sampling in 1989 until 2003.

Activities Conducted to Date Based on GeoTracker Info
T0609900108

Assessment last 5 years
• Sensitive receptor survey 3/2002

Assessment older than 5 years
• Soil sampling after excavation and borings drilled in 1989
• Grab groundwater sample collected 8/2003

Remediation last 5 years
• None

Remediation older than 5 years
• Four tanks removed and surrounding soil excavated in 1989
IMPEDEMENTS TO CLOSURE

SITE ASSESSMENT INCOMPLETE

Incomplete Conceptual Site Model (CSM) - Site assessment has not been initiated at this site.

UNACCEPTABLE RISK

Unacceptable Risks to Human Health from Vapor Intrusion - A soil vapor survey has not been conducted at this site.

BENEFITS OF ADDITIONAL WORK

Complete CSM and Our Understanding of Hydrogeologic Regime and Fate and Transport of Contaminants - In order to define the lateral and vertical extent of soil and groundwater at this site, additional site assessment is required. Protect Human Health - In order to evaluate the risk to human health from indoor vapor intrusion a soil vapor survey shall be conducted.

SENSITIVE RECEPTORS LIKELY TO BE IMPACTED AND TIMEFRAME FOR IMPACT

<table>
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<tr>
<th>SENSITIVE RECEPTOR</th>
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</tr>
<tr>
<td>Indoor Air (Residential or Commercial)</td>
<td>Undetermined</td>
<td>No soil vapor survey</td>
</tr>
</tbody>
</table>

Review Conclusions

- Closure review indicates no assessment has been conducted. There has been limited assessment, soil and grab groundwater sampling.

- Correspondence from agency in 5/2008 indicated the application to the cleanup fund was denied because the eligibility rights were not assigned to the estate. Per a court order, the original properties were divided between Short Family Investment Company (SFIC) and the Estate of Robert R. Jorgensen, deceased. The USTCF indicated the rights need to be transferred in order to qualify for a claim.

- Discussion: Next step – how to move this case toward closure? Establish timeline and enforce deadlines? Update sensitive receptor survey? Appears once eligibility rights are transferred, claim application can be resubmitted. Case appears to be stuck at present.
THREE STAR GAS (T0609900123)
1131 YOSEMITE, MODESTO, CA 95354

Case Age: 21 years
RP Identified by Regulator: THREE STAR GAS
Primary COC: GASOLINE
Current Land Use: Commercial, appears vacant

Possible Reasons Why This Case Is So Old
• Vapor extraction wells installed in 2008, but remediation has not begun. No other remedial activities.

NOTE: Data queried from GeoTracker and reviewed in November 2010

Activities Conducted to Date Based on GeoTracker Info T0609900123

Assessment last 5 years
• Ongoing groundwater sampling and data in GeoTracker since 2001

Remediation last 5 years
• SVE proposed
• Vapor extraction wells installed 7/2008

Assessment older than 5 years
• Soil and ground water sampled in 6/1997
• MWs installed 12/1997 and 3/2000
• Soil boring advanced 2/2002

Remediation older than 5 years
• USTs removed in 11/1996
CLOSURE REVIEW - THIS CASE IS NOT READY FOR CLOSURE AS OF 10/7/2009

IMPEDEMENTS TO CLOSURE

INADEQUATE SOURCE CONTROL

Remaining Source Poses Threat to Groundwater - SVE is proposed for remediation. At this time, remedial action has not begun.

GROUNDWATER IMPACTS

Groundwater Impacted Above Background - During the 1Q09 sampling event, maximum concentrations of TPHg, benzene, and MTBE were reported in the groundwater sample collected from IP-2 at 36,000 ug/L, 4,500 ug/L, and 290 ug/L, respectively.

UNACCEPTABLE RISK

Unacceptable Risks to Human Health from Vapor Intrusion - A soil vapor survey has not been conducted at this site.

BENEFITS OF ADDITIONAL WORK

Remove / Reduce Source Mass - In order to remediate the soil and groundwater at the site a soil vapor extraction system is proposed. Protect Human Health - In order to evaluate the risk to human health from indoor vapor intrusion, a soil vapor survey shall be conducted.

SENSITIVE RECEPTORS LIKELY TO BE IMPACTED AND TIME FRAME FOR IMPACT

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</thead>
<tbody>
<tr>
<td>Groundwater</td>
<td>Already Impacted</td>
<td>TPHg, benzene, and MTBE</td>
</tr>
<tr>
<td>Indoor Air (Residential or Commercial)</td>
<td>Undetermined</td>
<td>A soil vapor survey has not been conducted at this site.</td>
</tr>
</tbody>
</table>

Review Conclusions T0609900123

- Elevated contaminant levels detected.
- Vapor extraction wells installed in 2008 and remediation has not begun.
- Regulator requested a scope of work and cost estimate for the SVE system and was due 4/2009. It does not appear this was completed (not in GeoTracker).
- Discussion: Next step – how to move this case toward closure? Establish timeline and enforce deadlines? Update sensitive receptor survey? Has remediation scope of work and cost estimate been submitted? Case appears to be stuck at present, based on data in GeoTracker.