

**State of California  
California Environmental Protection Agency  
Department of Toxic Substances Control**

**Groundwater  
Audit Inspection Report**

**Tesoro Refinery –  
Carson, Los Angeles County, California**

EPA ID No. CAD077227049  
December 17, 2015

Department of Toxic Substances Control Groundwater Audit Inspection Report Form			
<b>Facility/project name and address:</b>	Tosero Carson Refinery, Carson, 2350 E. 223 <sup>rd</sup> Street, Carson, CA 90810		<b>Date of visit:</b> October 21, 2015
<b>GSU auditor:</b>	James Wilkinson	<b>Enforcement personnel, if present</b>	Marla Durand
<b>Units inspected:</b>		<b>Weather:</b>	Hot and sunny
<b>PCA/site code/WR#:</b>		<b>EPA ID:</b>	CAD077227049
<b>Date post closure permit expires:</b>		<b>Date of last groundwater audit/inspection:</b>	
<b>Personnel onsite</b>		<b>Title</b>	
Maria Durand		Senior Environmental Scientist, EERD, DTSC	
James Wilkinson		Engineering Geologist, Cypress GSU, DTSC	
Wendy Arano		Engineering Geologist, Cypress GSU, DTSC	
Kateri Luka		Remediation Project Manager, Tesoro	
Danial Buckley		Environmental Scientist, AECOM	
Alex de Vera		Scientist 1 Environmental, AECOM	
Ryan Teoxon		Scientist 1 Environmental, AECOM	
<b>Person who granted consent:</b>		<b>Date(s) and time(s) consent granted:</b>	
<b>Summary of activities observed:</b>			
<ul style="list-style-type: none"> <li>• 07:30 – DTSC staff met in Tesoro visitor parking lot and donned personal protective equipment (PPE). DTSC field team consisted of Jim Wilkinson, Wendy Arano, and Maria Durand. The team was met by the Tesoro representative Kateri Luka at the front gate.</li> <li>• DTSC team lead James Wilkinson formally asked permission to access the Tesoro refinery and conduct the groundwater audit.</li> <li>• Kateri Luka granted access and authorized DTSC team to take pictures within the refinery.</li> <li>• DTSC team was required to view a safety video and pass a short exam before being allowed to conduct work inside the refinery property. All DTSC team members completed the safety exam.</li> <li>• 09:00 – DTSC field team was driven to the first sampling location. Consultants for Tesoro were present at the sampling location, AMR604-D. The lead consultant was Daniel Buckley with AECOM. The field sampling team from AECOM included Alex de Vera and Ryan Teoxon. AECOM gave a tailgate meeting to discuss potential hazards and safety concerns at the refinery and as part of the groundwater monitoring. The sampling team reported that they had gauged the wells the day before and would only be sampling groundwater.</li> <li>• 09:10 – The DTSC field team was present to observe the opening of the well box at AMR604-D. The well box was secured with bolts and the concrete surrounding the well box was free of cracks or other distress that could compromise the well box.</li> <li>• The well identification (ID) was clearly visible. The well cap was secured to the casing by a lock and did not appear to need replacement. The well-lid gasket was in good condition and offered adequate seal to prevent water and debris from entering the well box. The well cap offered appropriate resistance to “tugging” and appeared to offer appropriate protection from water entering the well casing. There was no debris or water noted in the well box and the survey mark was clearly visible on the top of the well casing.</li> <li>• 09:15 - Plastic sheeting was placed around the well box with sufficient coverage to prevent spillage</li> </ul>			

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of waste water from contacting the dirt material underneath. Samplers cut a whole around the well lid for access to the well.

- Well AMR604-D listed as a "clean" well (no LNAPL). Measuring groundwater elevation by measuring against survey mark on top of casing.
- All calibration liquids are current according to manufacture specifications.
- After removing well cap, allowed well pressure to equilibrate before taking sample. Measure breathing space with Multi Ray gas meter. No concentrations noted above the action level.
- Well AMR604-D has a dedicated bladder-pump. Groundwater being purged at less than one gallon per minute (gal/min) at a rate of approximately 200 milliliters per minute (mL/min).
- 10:05 – groundwater parameters have stabilized and well are ready for sampling. Field parameters are compliant with SAP guidelines.
- Groundwater being sampled for volatile organic compounds (VOCs) by 8260, total petroleum hydrocarbons (TPH) modified. No Appendix 9 sampling required for this sampling event.
- Samples are transferred to appropriate sample bottles in a method that is approved in the SAP and meets DTSC guidelines for groundwater sampling. All samples are placed in zip-lock plastic bags and put in an iced cooler.
- 10:40 – After sampling was complete, all equipment was decontaminated with the SAP approved detergent (Liquinox) and rinsed in tap water (secondary) and deionized water (tertiary).
- No deviations from the approved SAP were observed.
- Packing up to move to the next sampling location.
- 11:00 – Setting up at groundwater monitoring well location AMR613-D.
- The DTSC field team was present to observe the opening of the well box at AMR613-D. The well box was secured with bolts and the concrete surrounding the well box was free of cracks or other distress that could compromise the well box.
- The well identification (ID) was clearly visible. The well cap was secured to the casing by a lock and did not appear to need replacement. The well-lid gasket was in good condition and offered adequate seal to prevent water and debris from entering the well box. The well cap offered appropriate resistance to "tugging" and appeared to offer appropriate protection from water entering the well casing. There was no debris or water noted in the well box and the survey mark was clearly visible on the top of the well casing.
- 11:05 – While the sampling team was setting up to prepare to purge the well, the DTSC team, with the Tesoro Refinery representative and the AECOM consultant, conducted a well-head inspection at groundwater monitoring well AMR602D.
- Well AMR602D was not a monitoring well DTSC was scheduled to observe sampling of; however, the sampling team requested to inspect the well to ensure it was in good condition and compliant with the requirements specified in the SAP.
- The well box at well AMR602D was secured with bolts and the concrete surrounding the well box was free of cracks or other distress that could compromise the well box.
- The well identification (ID) was clearly visible. The well cap was secured to the casing by a lock and did not appear to need replacement.
- The well-lid gasket was in good condition and offered adequate seal to prevent water and debris from entering the well box. The well cap offered appropriate resistance to "tugging" and appeared to offer appropriate protection from water entering the well casing. There was no debris or water noted in the well box and the survey mark was clearly visible on the top of the well casing. No deviations from the approved SAP were observed.
- 11:10 – Because well AMR613D was still being purged, DTSC team, with the Tesoro Refinery representative and the AECOM consultant, conducted a well-head inspection at groundwater monitoring well AMR601D.
- Well AMR601D was not a monitoring well DTSC was scheduled to observe sampling of; however, the sampling team requested to inspect the well to ensure it was in good condition and compliant with the requirements specified in the SAP.

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- The well box at well AMR601D was secured with bolts and the concrete surrounding the well box was free of cracks or other distress that could compromise the well box.
- The well identification (ID) was clearly visible. The well cap was secured to the casing by a lock and did not appear to need replacement. The well-lid gasket was in good condition and offered adequate seal to prevent water and debris from entering the well box. The well cap offered appropriate resistance to "tugging" and appeared to offer appropriate protection from water entering the well casing. There was no debris or water noted in the well box and the survey mark was clearly visible on the top of the well casing. No deviations from the approved SAP were observed.
- 11:30 – DTSC team returned to groundwater monitoring well location AMR613D. Purge water appeared clear with minimal fines in groundwater. ORP was the only parameter not stabilizing.
- 11:50 – Still purging groundwater.
- 12:02 – All parameters had stabilized. Started sampling AMR613D. Purge volume less than 1 gal/min. Purge rate approximately 200 mL/min.
- All sampling conformed to the approved SAP.
- Equipment was cleaned according to the approved SAP.
- 12:30 – The sampling team and DTSC field team break for lunch
- 13:50 – DTSC team returned to the Tesoro Refinery.
- 14:10 – Met Tesoro representative at main visitor's gate. Formally requested access to the refinery again. Permission was granted by Kateri Luka.
- 14:25 – DTSC team at groundwater monitoring well AMR611D for well-head inspection.
- The well box at well AMR611D was secured with bolts and the concrete surrounding the well box was free of cracks or other distress that could compromise the well box.
- The well identification (ID) was clearly visible. The well cap was secured to the casing by a lock and did not appear to need replacement. The well-lid gasket was in good condition and offered adequate seal to prevent water and debris from entering the well box. The well cap offered appropriate resistance to "tugging" and appeared to offer appropriate protection from water entering the well casing. There was no debris or water noted in the well box and the survey mark was clearly visible on the top of the well casing. No deviations from the approved SAP were observed.
- 14:30 – DTSC team at groundwater monitoring well AMR605D. Well purging was ongoing when arrived. Purge rate approximately 180 mL/min.
- 14:50 Still purging AMR605D. DTSC team will conducting well-head inspection at AMR612D.
- The well box at well AMR611D was secured with bolts and the concrete surrounding the well box was free of cracks or other distress that could compromise the well box.
- The well identification (ID) was clearly visible. The well cap was secured to the casing by a lock and did not appear to need replacement. The well-lid gasket was in good condition and offered adequate seal to prevent water and debris from entering the well box. The well cap offered appropriate resistance to "tugging" and appeared to offer appropriate protection from water entering the well casing. There was no debris or water noted in the well box and the survey mark was clearly visible on the top of the well casing. No deviations from the approved SAP were observed.
- 14:55 – Conduct groundwater monitoring well-head inspection at AMR606D.
- Well AMR606D is set inside a stand pipe set in concrete approximately three feet above the concrete pad. Stand pipe locked and secured. Well cap not locked but meets requirements of approved SAP. Well cap is on tight and would prevent water or debris from entering well casing. Survey notch clearly visible on well casing. No deviations from the approved SAP were observed.
- 15:05 – Conduct groundwater monitoring well-head inspection at AMR607D.
- Well AMR607D is set inside a stand pipe set in concrete approximately three feet above the concrete pad. Stand pipe locked and secured. Well cap not locked but meets requirements of approved SAP. Well cap is on tight and would prevent water or debris from entering well casing. Survey notch clearly visible on well casing. No deviations from the approved SAP were observed.
- 15:30 – Conduct groundwater monitoring well-head inspection at AMR608D.
- Well AMR608D is set inside a stand pipe set in concrete approximately three feet above the

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<p>concrete pad. Stand pipe locked and secured. Well cap not locked but meets requirements of approved SAP. Well cap is on tight and would prevent water or debris from entering well casing. Survey notch clearly visible on well casing. No deviations from the approved SAP were observed.</p> <ul style="list-style-type: none"> <li>• DTSC team completed the field inspection and left the area with escorts. Tesoro representative provided the DTSC team with a meeting room to discuss observations and findings.</li> <li>• 16:30 – DTSC team met with the Kateri Lucka and Danial Buckley to discuss findings. The DTSC team informed them that they did not find any violations or deviations.</li> <li>• At approximately 17:00, DTSC team departed Tesoro Refinery.</li> </ul>			
<p><b>Describe any wells that need reconditioning or repairs:</b></p> <ul style="list-style-type: none"> <li>• No wells observe during the audit required any reconditioning or repairs.</li> </ul>			
<p><b>Deviations from Sampling and Analysis Plan: (include date of the SAP used in the audit)</b></p> <ul style="list-style-type: none"> <li>• The Groundwater Audit Inspection event was conducted by following the 2015 Sampling and Analysis Plan (SAP), approved under the 2015 Permit revision. The 2015 SAP was approved for implementation under the Revised Permit, dated October 2015. The 2015 SAP had been reviewed and approved by DTSC and was scheduled to become affective November 16, 2015. On the date of the groundwater sampling event, the 2003 SAP was technically still in effect; however, a thorough review the 2015 SAP did not contradict or in any way compromise groundwater sampling. The 2015 SAP provided over all improvement in sampling procedures and was recommended for the October 21, 2015 sampling event.</li> </ul>			
<p><b>Describe violations: (transfer this info to the SOV form, hand to facility representative, and obtain their signature, if possible.) If no violations, provide facility with a Summary of Observations.</b></p> <ul style="list-style-type: none"> <li>• No groundwater related violations were observed during this audit.</li> </ul>			

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Comments:			
<ul style="list-style-type: none"><li>• A copy of the calibration log was requested and received on October 26, 2105.</li><li>• A copy of the chain of custody log was requested October 26, 2105.</li><li>• A copy of the groundwater parameter satablization logs was requested October 26, 2105.</li></ul>			
Attachment(s):			
Attachment A: Photo log of select photographs Attachment B: Summary of Observations Attachment C: All audit photos on CD			

Report Prepared By:

Original Signed

 James Wilkinson, PG  
Engineering Geologist

12-17-15  
Date

Report Reviewed By:

Original Signed

 Fred Zanoria, CEG, CHg  
GSU Cypress Supervisor

12/17/15  
Date

Original Signed

 Maria G. Durand  
EERD, Senior Environmental Scientist

12-17-15  
Date