

Shell Service Station #138520
 3006 Route 37
 Toms River, New Jersey
 PI#: 005244; Case Number: 89-06-20-1049

<i>Case Inventory Document</i>						
<i>I. Area(s) of Concern, Receptor, Emergency Response, and Institutional Control Tracking</i>	<i>Impacted Media</i>	<i>Contaminants of Concern (COCs)</i>	<i>Exposure Route</i>	<i>Receptors</i>		<i>Current Status/Outcome</i>
				<i>Existing</i>	<i>Potential</i>	
AOC-1 - Former gasoline tank field, two 8,000-gallon gasoline USTs, one 6,000-gallon gasoline UST	Soil	None	Direct Contact Ingestion	None	None	<ul style="list-style-type: none"> • January 1989 – A soil and groundwater investigation was conducted prior to the removal and replacement of the underground storage tank (UST) system. Based on the presence of petroleum hydrocarbons identified in soil and groundwater samples during the investigation, the New Jersey Department of Environmental Protection (NJDEP) was notified and case number (89-06-20-1049) was assigned. • January 23, 1989 – A total of seven soil borings (SB-1 through SB-7) were advanced. Soil borings SB-2 through SB-7 were analyzed for total petroleum hydrocarbons (TPH) and lead. Soil borings SB-1 was finished as monitoring well MW-1A. No impact was identified. This AOC has been fully investigated.
AOC-2 Current gasoline tank system – two 12,000-gallon gasoline USTs, one 12,000-gallon diesel UST	Soil	Benzene, Toluene, Ethylbenzene, Xylenes	Direct Contact Ingestion	None	None	<ul style="list-style-type: none"> • October 1990 – Three steel gasoline USTs were removed. The former USTs were replaced with two 12,000-gallon double walled fiberglass gasoline USTs and one double walled fiberglass diesel UST. One 550-gallon waste oil UST was also removed. • August 19, 1994 – Fifteen soil borings (SB-1 through SB-15) were advanced for further site characterization. Samples were analyzed for benzene, toluene, ethylbenzene, xylenes (BTEX) and lead. Two samples reported above the <i>Impact to Groundwater Soil Remediation Standards</i> (IGWSRS) for xylenes. • August 22, 1995 – Two additional soil borings (SB-16 and SB-17) were advanced in the vicinity of the former pump islands. These samples were analyzed for BTEX. Analytical results indicated all parameters were below the IGWSRS. • September 1997 - Pressure testing of the UST system was conducted. All of the USTs passed pressure testing, however, the regular and plus grade dispenser lines failed pressure testing, which was due to a visible leak in the flex connectors located in the submersible pit. The lines were immediately repaired and retested. Results of retesting indicated that the USTs and dispenser lines passed pressure testing. The NJDEP was notified of line testing results and case number 97-09-16-1109-40 was assigned. • November 21, 1997 – Seven soil borings (SB-1 through SB-7) were advanced to further assess soil quality in the vicinity of the tank field. All samples were collected from below the water table (5 feet below grade [fbg]). The samples were analyzed for BTEX, methyl <i>tert</i>-butyl ether (MTBE), <i>tert</i>-butyl alcohol (TBA) and tentatively identified compounds (TICs). Analytical results reported below the IGWSRS.

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AOC-2 Current gasoline tank system – two 12,000-gallon gasoline USTs, one 12,000-gallon diesel UST (continued)	Soil	Benzene, Toluene, Ethylbenzene, Xylenes	Direct Contact Ingestion	None	None	<ul style="list-style-type: none"> • July 21 to 23, 2010 – Nine additional soil samples were collected (P-1 through P-5 and PE-1 through PE-4) when remnant product piping was discovered during dispenser upgrade activities. Samples P-1 through P-5 were analyzed for BTEX, MTBE, TBA, TICs and lead. Samples PE-1 through PE-4 were analyzed for BTEX, MTBE, TBA and TICs. Five samples exceeded the IGWSRS for benzene. Two samples exceeded the IGWSRS for toluene. Three samples exceeded the IGWSRS for ethylbenzene. Five samples exceeded the IGWSRS for xylenes. • November 11, 2011 – Four soil borings (SB-18 through SB-21) were advanced to horizontally delineate the exceedances found in SB-11, SB-12, P-2, P-3 and PE-1 through PE-4. Two samples were collected from each boring at different intervals; one from 2.5-3.0 fbg and one from 5.0-5.5 fbg. Benzene was above the <i>Non-Residential Direct Contact Soil Remediation Standard</i> (NRDCSRS) in the sample collected from 2.5-3.0 fbg. The IGWSRS in the sample collected from 5.0-5.5 fbg. Toluene, ethylbenzene and xylenes all exceeded the IGWSRS in soil boring SB-18 at both depths. Analytical results collected from soil borings SB-19 through SB-21 reported all parameters below IGWSRS. • May 7, 2012 – Three additional soil borings (SB-22 through SB-24) were advanced in order to horizontally delineate benzene above the NRDCSRS in the soil sample collected from 2.5-3.0 fbg in soil boring SB-18. Samples were analyzed for BTEX. Analytical results reported all parameters as non-detect (ND). This AOC has been fully delineated.
AOC-3 Former 550-gallon Waste Oil Tank	Soil	Benzo(a)anthracene, Benzo(a)pyrene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Bis (2-ethylhexyl) phalate, Chrysene	Direct Contact Ingestion	None	None	<ul style="list-style-type: none"> • October 1990 – During gasoline UST removal activities, one 550-gallon waste oil UST was also removed. However, following site redevelopment the location of the former waste oil UST is now below the current station building. • August 18, 1994 – Soil sample SB-1 was collected from drill cuttings during the installation of monitoring well MW-9, which was installed nearby the station building to evaluate the former area for waste oil constituents. • September 23, 1994 – Following installation of monitoring well MW-9, the well was sampled and analyzed for applicable compounds.

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AOC-3 Former 550-gallon Waste Oil Tank (continued)	Soil	Benzo(a)anthracene, Benzo(a)pyrene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Bis (2-ethylhexyl) phalate, Chrysene	Direct Contact Ingestion	None	None	<ul style="list-style-type: none"> • June 23, 1995 – In a NJDEP response to the <i>Remedial Action Workplan</i> (RAW) dated May 1995, a deficiency was found in the analytical results of soil boring SB-1 where benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, chrysene exceeded the <i>Residential Direct Contact Soil Cleanup Criteria</i> (RDCSCC). The NJDEP requested that monitoring well MW-9 be analyzed for Priority Pollutant plus 40 (PP+40) in order to properly assess the area for waste oil constituents. • September 21, 1995 – Monitoring well MW-9 was sampled analyzed for volatile organic compounds, base neutral compounds and PP+40. Laboratory analytical results were included in the January 1996 RAW. All constituents were below the <i>Groundwater Quality Standards</i> (GWQS). • June 30, 1997 – Correspondence from the NJDEP was received requesting groundwater be collected from monitoring well MW-9 and analyzed for base neutral compounds in order to assess current soil quality. Laboratory analytical results were included in the January 1998 <i>Remedial Investigation Report</i> (RIR). All constituents were below the GWQS. • January 14, 2004 – NJDEP correspondence was received from the NJDEP stating that no additional requirements regarding site soils were necessary. This AOC is fully delineated.
AOC-1 Former gasoline tank system	Groundwater	Volatile Organic Compounds	Groundwater inhalation	None	Potable well located at 3117 Route 37	<ul style="list-style-type: none"> • November 27, 1989 – Five monitoring wells (MW-1 through MW-5) were installed on-site to a total depth of 15.0 fbg. All wells were screened approximately at 2.0-15.-fbg. Investigation of the AOC was performed concurrent with the investigation detailed below.
AOC-2 Current gasoline tank system – two 12,000-gallon gasoline USTs, one 12,000-gallon diesel UST	Groundwater	Volatile Organic Compounds	Groundwater inhalation	None	Potable well located at 3117 Route 37	<ul style="list-style-type: none"> • July 3, 1990 – Monitoring well MW-6 was installed on-site. • July 17, 1990 – Monitoring wells MW-7 and MW-8 were installed off-site to horizontally delineate the impacted groundwater. • October 1990 – Monitoring well MW-3 was destroyed during UST removal activities. • August 18, 1994 – Monitoring well MW-9 was installed on-site to horizontally delineate groundwater to the north. Monitoring well MW-9 was installed to a depth of 15.0 fbg and was screened from 1.0 to 15.0 fbg.

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AOC-2 Current gasoline tank system – two 12,000-gallon gasoline USTs, one 12,000-gallon diesel UST (continued)	Groundwater	Benzene, Toluene, Ethylbenzene, Xylenes	Direct Contact Ingestion	None	Potable well located at 3117 Route 37	<ul style="list-style-type: none"> • July 24, 1996 – Monitoring well MW-10 was installed off-site to investigate the potential impact of a nearby potable domestic well. Monitoring well MW-10 was installed to a depth of 17.0 fbg and screened from 2.0-17.0 fbg. • April 21, 2004 – Monitoring well MW-11D was installed on-site to vertically delineate the area around monitoring well MW-1. The well was installed to a depth of 35.0 fbg. The well was screened from 30.0 to 35.0 fbg. • November 11, 2011 – Monitoring wells MW-12 and MW-13 were installed on-site. Monitoring well MW-12 was installed in the vicinity of former soil boring location SB-18. Monitoring well MW-13 was installed to horizontally delineate the groundwater to the north between the dispenser islands and monitoring well MW-9. Laboratory analytical data indicates that groundwater is fully delineated.
Institutional Control Classification Exception Area #1155526	Groundwater	Benzene, Toluene, Ethylbenzene, Xylenes	Groundwater	None	Potable well located at 3117 Route 37	<ul style="list-style-type: none"> • June 30, 1997 – A Classification Exception Area (CEA 1155526) was established on June 30, 1997. The CEA extended off-site and covered an area of 91,512 square feet. The horizontal extent of the CEA extended to 50 fbg. The duration of the CEA was calculated to be 4 years. • September 2013 – The CEA was recalculated. The recalculated CEA duration was determined to be approximately 10.4 years and cover an area of 1,882.9196 square feet. When groundwater concentrations are appropriate Motiva will submit a remedial action permit (RAP) application along with a revised CEA. Upon approval of the RAP an LSRP will issue a response action outcome (RAO). The current CEA will be maintained but biennial certification will not be submitted until the RAP is approved.