



NYSDEC SPILL REPORT FORM



DEC REGION: 2 SPILL NUMBER: 0001454
 SPILL NAME: FORMER BP AMOCO STATION #312/JAMAICA DEC LEAD: rjfeng
 SPILL DATE: 05/04/2000 SPILL TIME: 7:30 pm
 CALL RECEIVED DATE: 05/04/2000 RECEIVED TIME: 8:02 pm

SPILL LOCATION

PLACE: FORMER BP AMOCO STATION #312/JAMAICA COUNTY: Bronx
 STREET: 1303 WEBSTER AVENUE TOWN/CITY: New York City
 COMMUNITY: BRONX
 CONTACT: EDWIN ROSADO CONTACT PHONE: (800) 666-2605

CONT. FACTOR: Tank Test Failure SPILL REPORTED BY: Tank Tester
 FACILITY TYPE: Gasoline Station or other PBS Facility WATERBODY: _____

CALLER REMARKS:
 ALVIN PETRO. CLOSED THE TANK - AND WILL MAKE REPAIRS TOMARROW

MATERIAL	CLASS	SPILLED	RECOVERED	RESOURCES AFFECTED
gasoline	Petroleum	0 G	0 G	Soil,
MTBE (methyl-tert-butyl ether)	Hazardous Material			
BTEX	Oxygenates			

POTENTIAL SPILLERS

COMPANY	ADDRESS	CONTACT
AMOCO	NY	

Tank No.	Tank Size	Material	Cause	Source	Test Method	Leak Rate	Gross Failure
SLAVE +	4,000	BTEX			14	0.00	F

DEC REMARKS:

PBS 2-602002
 3/14/03 REASSIGNED FROM ROMMEL TO VOUGHT.

12/3/03 Reassigned from Vought to Foley. Received Feasibility Pilot Testing, Analysis, and Report for Multi-Phase Extraction(Delta, 11/25/03). The pilot consisted of applying vacuum to the vadose and saturated zones and measuring extraction rates of each phase thru MW-1. Induced a vacuum of approx 149.5" H2O vacuum with associated air flow of 83SCFM and achieved an ROI of approx 62' from MW-1 over 24hrs. This was estimated to effectively remove 3.96 pore volu of soil vapor from the ROI that overlays the source zone. Approx 1194gal water and 40gal LNAPL were removed from MW-1 an avg flow rate of 0.85gpm total fluid extraction. Removed 57.5gal of LNAPL+vapors.

Groundwater upwelling was observed in MW-5(15' from MW-1), MW-8(26' from MW-1), and MW-9 (54' from MW-1). MW-4 showed consistent drawdown during the test.

Air samples were collected to quantify VOCs removed. Recovery rates for total BTEX and TPH were calculated as 2.44E-01

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lbs/hr and 3.04lbs/hr respectively.

12/22/04 MW-4 and MW-6 were abandoned as the two wells were screened in bedrock and they were not in contact with the overburden aquifer.

1/8/04 Reassigned from Vought to K Foley.

4/5/04 Last quarterly received was 3Q03 in 11/03. 0.02' LNAPL detected in MW-1. Highest total BTEX was 29858ppb(MW-8) MTBE 88.3ppb(MW-8). Contamination is downgradient, along Webster Ave. DTW 11'bgs.

5/18/04 4Q03 monitoring report received. BTEX from ND(MW-2,3,4,6) to 22543ppb(MW-8). MTBE from ND(MW-1,3,4,5) to 99ppb(MW-8).

10/27/04 Mailed stip. Due 11/19/04.

11/19/04 Received copy of Stip signed 11/19/04.

11/22/04 Stip executed by T. Kunkel. Faxed copy to A. Lapine on 11/23/04. Investigation report due 1/21/05. RAP due 3/22/05.

1/20/05 Received Site Assessment Summary Report dated 1/18/05. Sensitive receptor survey identified a playground associated with a mid-rise apartment complex approx 200' NE of the site. Depth to bedrock varies from 3-25'bgs and slopes downward to the SE. Groundwater depth ranged from 3.88-14.15'bgs, flowing generally in an easterly direction.

3/22/05 Received Remedial Action Plan (and 11/25/03 pilot test results) for implementation of multi-phase extraction. Based 4154ft³ of soil volume remaining in the sidewalk with approx 149gal of LNAPL and a max observed soil conc of 17372ppb tot VOCs, the estimated mass of petroleum hydrocarbons was 911lbs of total VOCs (7.64lbs in soil, 8.87lbs in GW, and 894lbs c LNAPL.) Estimated contaminant mass will be removed in 149hrs of operation. MPE events will be conducted on a monthly frequency in order to allow for recovery of the impacted mass in the treatment zone and to maximize effectiveness. Air sampl will be collected for TO-3 analysis.

MW-1 and EW-1 will be used as extraction wells. (ROI was 62' from MW-1.)

4/20/05 Issued letter approving RAP. To be implemented within 45days, by 6/5/05.

4/27/05 Portfolio meeting- Isolated area of impact near tank mat and downgradient. Bedrock 5-15'bgs, sloping SE. Utilities o Webster. Performing mobile events with MPE.

5/17/05

1Q04- 0.02'(MW-1), 0.07'(MW-8). BTEX from ND(MW-3,4,5,6,10,11,12) to 28620ppb(MW-8). MTBE from ND(MW-1,3,4,6,10,11,12) to 143ppb(MW-8).

2Q04- 0.01'(MW-1) and 0.02'(MW-8). BTEX ranged from ND(MW-3,4,5,6,10,11) to 17560ppb(MW-9). MTBE from ND(MW-3,4,6,10,11,12) to 7320ppb(MW-9).

3Q04- No LNAPL present. BTEX ranged from ND(MW-3,4,10,11,12) to 22338ppb(MW-9). MTBE from ND(MW-3,4,10,11,12) to 2930ppb(MW-9).

4Q04- 0.02'(MW-8). BTEX ranged from ND(MW-3,4,5,6,10,11) to 15220ppb(MW-9). MTBE from ND(MW-3,4,6,10,11,12) to 589ppb(MW-9).

8/1/05 1Q05- DTW 4.7-13.8'bgs. No LNAPL present. BTEX from ND(MW-2,3,10,11,12) to 13430ppb(MW-9). MTBE from ND(MW-3,5,10,11,12) to 560ppb(MW-9).



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2Q05- DTW 5.4-14' bgs. 0.03' LNAPL in MW-8, 0.02' in EW-1. BTEX from ND(MW-1,3,5,7,10,11,12) to 13106ppb(MW-9). MTBE from ND(MW-1,3,5,7,10,11,12) to 63ppb(MW-9).

11/1/05 3Q05 - DTW 5.31-14.03' bgs. 0.29' LNAPL in MW-8, 0.02' in EW-1. BTEX from ND(MW-3,10,11,12) to 7726ppb(MW-9). MTBE from ND(MW-3,10,11,12) to 1250ppb(MW-9).

3/8/06 Received May 2005 O&M report. Mobile MPE events were initialized in May 2005. As of 5/10/05, 1.44lbs BTEX, no MTBE and 23lbs TPH were extracted in soil vapor. 5395 gallons of GW have been removed and treated.

3/16/06 Met with BP and Delta. 65hrs of mobile MPE operation thus far(8-11hr events). RAP originally called for 150hrs of operation. Product being drawn into MW-8. Will try recovering from MW-8. EWs are 4" wells with 2" stingers. EW-1 is 15' from MW-8.

4/27/06 4Q05 - DTW 5.29-14.25' bgs. 0.55' LNAPL in MW-8. BTEX from ND(MW-3,5,10,11,12) to 25806ppb(MW-8). MTBE from ND(MW-3,10,11,12) to 1640ppb(MW-9).

5/1/06 Oct 2005 MPE remedial event report. Total of 6857gal of groundwater were removed from the subsurface and treated mobile MPE trailer on 10/26/05. Since initiated in 5/05, it has removed and treated 28452 gallons of groundwater. 7.88lbs BTX, 0lbs MTBE and 167.85lbs of TPH of extracted soil vapor have been removed and treated after 45.5hrs of operation.

6/8/2006 - Feng - project reassigned to RJFeng. (RJF)

8/3/2006 - Feng - 1Q2006, 6/5/2006, by Delta. This is a former gasoline station. As of sampling on 1/27/2006, groundwater flows to east at depth of 8.49' to 13.91' bg. 12 monitoring wells and 1 extraction well. W-1, 99.7 ppb BTEX, less than 1 ppb MTBE. W-2, BTEX ND, 1.7 ppb MTBE. W-3, BTEX ND, 7.3 ppb MTBE. W-5, BTEX ND, less than 1 ppb MTBE, W-7, 351 ppb BTEX, less than 1 ppb MTBE. W-8, 3,262 ppb BTEX (279 ppb B, 32.5 ppb T, 1,740 ppb E, 1,210 ppb X), 66.2 ppb MTBE. W-9, 15,655 ppb BTEX (921 ppb B, 534 ppb T, 2,600 ppb E, 11,600 ppb X), 80 ppb MTBE. W-10, 11, 12, BTEX ND, less than 1 ppb MTBE. EW-1, 0.02 feet LNAPL. MPE events has been conducting monthly at site. (RJF)

2/6/2007 - Feng - 2Q2006, 12/12/2006, by Delta. Groundwater sampled 4/17/2006. 11 monitoring wells. DTW 5.82' to 14.29' bg. Flows east. LNAPL in MW-8 (0.05') and EW-1 (0.04'). MW-1, 17,195 ppb BTEX, less than 25 ppb MTBE. MW-2, MW-3, MW-5, MW-10, MW-11, and MW-12 are low in BTEX and MTBE. MW-7, 269 ppb BTEX, less than 1 ppb MTBE. MW-8, 11,331 ppb BTEX, less than 10 ppb MTBE. MW-9, 14,380 ppb BTEX, 300 ppb MTBE. MW-12, 472 ppb BTEX, 9.6 ppb MTBE. (RJF)

2/6/2007 - Feng - MPE Remedial Event Report, 6/2006, 12/18/2006, by Delta. MPE event conducted on 6/8/2006, 8 hours, 5,112 gallons of groundwater removed. As of 6/8/2006, 19.54 lbs of BTEX, 436.62 lbs of TPH of extracted vapor, total of 73,700 lbs of soil vapor removed since 5/2005. (RJF)

2/6/2007 - Feng - MPE Remedial Event Report, 8/2006, 12/18/2006, by Delta. MPE event conducted on 8/17/2006, 6 hours, 2,421 gallons of groundwater removed. As of 8/17/2006, 20 lbs of BTEX, 453.25 lbs of TPH of extracted vapor, total of 76,120 lbs of soil vapor removed since 5/2005. (RJF)

4/19/2007 - Feng - Portfolio meeting with BP and Delta. MPE events have no recovery. Surfactant injection and water recovery in the same wells at the sidewalk of Webster Ave where the contamination contained at. RAP for surfactant injection will be submitted.

5/29/2007 - Feng - 3Q2006, 3/7/2007, by Delta. Groundwater sampled 7/19/2006. 10/11 monitoring wells. MW-1 was flooded and therefore not sampled. DTW 5.81' to 14.05' bg. Flows east. LNAPL in EW-1 (0.02'). MW-2, 8.7 ppb BTEX, 2.8 ppb MTBE. MW-3, BTEX ND, less than 1 ppb MTBE. MW-5, BTEX ND, less than 1 ppb MTBE. MW-7, 2,141 ppb BTEX, 41.1 ppb MTBE. MW-8, 5,385 ppb BTEX, 34.1 ppb MTBE. MW-9, 9,810 ppb BTEX, 347 ppb MTBE. MW-10, BTEX ND, less than 1 ppb MTBE. MW-11, BTEX ND, less than 1 ppb MTBE. MW-12, BTEX ND, 0.74 ppb MTBE. EW-1, 13,008 ppb BTEX, 10 ppb MTBE.



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ppb MTBE. (RJF)

6/18/2007 - Feng - 4Q2006, 4/25/2007. Groundwater sampled 10/10/2006. 9/11 monitoring wells were sampled. DTW 5.77' to 14.07' bg. Flows east. LNAPL in EW-1 (0.06'). MW-1, no access. MW-2, obstruction in well. MW-3, MW-5, ND. MW-7, 717 ppb BTEX, 36 ppb MTBE. MW-8, 2,314 ppb BTEX, 11.7 ppb MTBE. MW-9, 5,404 ppb BTEX, 424 ppb MTBE. MW-10, MW-11 and MW-12, ND. EW-1, 15,398 ppb BTEX, 7 ppb MTBE. (RJF)

11/30/2007 - Feng - 1Q2007, 8/27/2007. Groundwater sampled 1/9/2007. 10/11 monitoring wells were sampled. DTW 4.81' to 13.82' bg. Flows to east. No LNAPL. BTEX range ND to 14,078 ppb (EW-1). MTBE range ND to 128 ppb (EW-1). (RJF)

12/17/2007 - Feng - 2Q2007, 9/26/2007. Active service station. The monitoring well network was gauged and sampled on 4/19/2007. 10/11 monitoring wells were gauged. DTW 4.57' to 13.22' bg. Flows to east. No LNAPL. 9 monitoring wells were sampled. BTEX range ND to 10,494 ppb (MW-9). MTBE range ND to 11.9 ppb (EW-1). (RJF)

1/8/2008 - Feng - 3Q2007, 11/9/2007. Active Service Station. The monitoring well network was gauged and sampled on 7/16/2007. 11 monitoring wells were gauged. DTW 5.86' to 14.31' bg. Flows to east. No LNAPL. 10 wells were sampled. BTEX range ND to 7,021 ppb (MW-9). MTBE range ND to 21.1 ppb (MW-9). (RJF)

3/20/2008 - Feng - eDoc Quarterly Monitoring Report 4Q2007. (RJF)

6/27/2008 - 4Q2007, 2/27/2008. Active service station. The monitoring well network was gauged and sampled 10/1/2007. 10/11 monitoring wells were gauged and sampled. DTW 6.64' to 14.03' bg. Flows to east. No LNAPL. BTEX range ND to 7,117 ppb (MW-9). MTBE range ND to 15.6 ppb (MW-9). (RJF)

10/29/2008 - 1Q2008, 2Q2008, 7/17/2008, by Delta. Active service station. The monitoring well network was gauged and sampled 1/24/2008 and 4/4/2008.

1Q2008, 4 wells were gauged. 7 wells were not gauged. MW-1 and EW were frozen over. MW-2, Mw-3, MW-7, MW-8 and MW-9 had no access. No LNAPL. DTW 11.65' to 13.91' bg. Flows to east. 4 wells were sampled. BTEX ND. MTBE ND.

2Q2008, 10 wells were gauged. MW-1 was not gauged due to no access. No LNAPL. DTW 5.41' to 13.75' bg. Flows to east. 10 wells were sampled. BTEX range ND to 13,300 ug/L (EW-1). MTBE range ND. (RJF)

10/27/2008 - 3Q2008, 10/13/2008. Active Amoco service station. The monitoring wells network was gauged and sampled 7/31/2008. 10 monitoring wells were gauged. No LNAPL. DTW 4.63' to 13.53' bg. Flows to east. 10 wells were sampled. MW-1 was not sampled due to obstructed by puddle. Max benzene 280 ug/L (EW-1). Max BTEX 11,350 ug/L (MW-9). Max MTBE 6.3 ug/L (EW-1). (RJF)

3/3/2009 - 4Q2008, 1/5/2009, by EnviroTrac. Active Amoco service station. The monitoring well network was gauged and sampled 10/1/2008. 10 monitoring wells were gauged. No LNAPL. DTW 4.04' to 13.70' bg. Flows east. 10 wells were sampled. Max benzene 270 ug/L (EW-1). Max BTEX 7,387 ug/L (MW-9). Max MTBE 7.6 ug/L (MW-9). (RJF)

3/20/2009 - Reviewed the Investigation Work Plan, dated 2/27/2008, by Delta. Delta proposes one well to be installed at the pedestrian sidewalk. RI report within 90 days of the approval. Email to Chris Meyer for the possibility to move the new a little bit into the sidewalk and closer to the site. (RJF)

4/7/2009 - Approved IWP and require initial round groundwater sampling of the new well shall also be analyzed for SVOCs because of the historical presence of fuel oil tank. letter to BP and Delta. More delineation may be needed upon reviewing the results of the new well. RIR due within 90 days, 6/7/2009. (RJF)

5/13/2010 - 4Q2009, 1/29/2010, by EnviroTrac. Active BP service Station (not BP owned). The monitoring well network was gauged and sampled for geochemical parameters on 9/29 through 10/2/2009. A report summarizing geochemical data will be submitted under separate cover. 11 wells were gauged. NO LNAPL. DTW 5.84-14.29' bg. Flows to east. 11 wells were



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sampled. Max benzene 160 ug/L (EW-1). Max BTEX 10,195 ug/L (MW-9). Max MTBE 3.8 ug/L (MW-8).

1Q2010, 4/1/2010

0, by EnviroTrac. Monitoring well network was gauged and sampled on 1/5/2010. 11 wells were gauged. No LNAPL. DTW 5.27-13.87' bg. Flows to east. 11 wells were sampled. Max benzene 230 ug/L (EW-1). Max BTEX 14,293 ug/L (MW-9). Max MTBE 7.4 ug/L (EW-1).

7/26/2010 - 2Q2010, 7/21/2010, by ACADIS. Monthly gauged on 4/1/2010, 5/4/2010 and 6/4/2010. DTW 4.54' (MW-19) to 13.50' (MW-12). NO LNAPL. Flows to northeast at a hydraulic gradient of approximately 0.13 feet per foot. Sampled on 4/1/2010. Max BTEX 9,090 ug/L (MW-9). Max MTBE 3.2J ug/L (MW-9).

10/29/10: This spill case transferred from R. Feng to J. Kolleeny. - JK

11/18/10: Reviewed Results of 3rd Quarter 2010 GW Monitoring by ARCADIS, dated 10/5/10 (in eDocs). Rpt presents results 3rd qtr 2010 well gauging and July 2010 GW sampling. No LNAPL was detected in any wells. Only wells with significant dissolved contam were MW-9 with 6,880 ug/L total BTEX (down from 9,090 ug/L in April 2010), and EW-1 with 5,470 ug/L tBTEX (up from 3,620 ug/L in April 2010); well MW-8 had 536 ug/L (J) tBTEX, down from 2,570 ug/L in April 2010. Contam do not appear to be migrating off-site. Rpt states that quarterly GW monitoring will continue with next sampling scheduled for Oct 2010. - J. Kolleeny

4/11/2011 - Spill transferred back to JFeng.

6/19/2012 - meet with ARCADIS. 3 rounds of injection have been done and currently monitoring. 3 wells were treated with sulfate solution in 3/2012. The result is encouraging. 75% reduction in MW-8, 66% reduction in MW-9, 23% reduction in EW-1. Benzene is not responding as good as TEX. Sulfate does not show a huge increase in the monitoring wells which is an indicator of not a dilution. The next round of sampling is in July 2012. Will look at the July 2012 data to talk about the next step, MNA or keep monitoring the downward trend.

7/27/2012 - 1Q2012, 4/9/2012, by ARCADIS. LNAPL in IW-2 (0.03') in January, 0.03' in February. DTW 5.57 (MW-3) to 13.7 (MW-7). Vacuum Truck Extraction (VTE) event to remove residual product at IW-2 prior to the March 2012 sulfate injection event. Sulfate injection performance monitoring in January and February 2012. Third sulfate injection event 3/2012. MW-8, BTEX, MTBE ND. EW-1, 1,800 BTEX, MTBE ND. MW-9, 3,700J BTEX, MTBE ND. The next sampling will be in 4/2012. Injection performance monitoring will continue on a six week schedule. The next post injection monitoring event will be on 4/30/2012.

2Q2012, 7/19/2012, by ARCADIS. NO LNAPL this quarter. DTW 9.17 (MW-2) to 13.68 (MW-7). The IWs were not sampled. Injection performance monitoring was conducted over this period, mid June 2012. MW-8, 250 BTEX. EW-1, 250 BTEX. MW-9, 3,500 BTEX. The next sampling is in July 2012. Following review of the July 2012 groundwater monitoring analytical results, path forward regarding additional injection will be evaluated.

email ARCADIS "Reviewed the 1Q2012 and 2Q2012. Even though no LNAPL in this quarter, but LNAPL has been consistently showing up in IW-2 since the injections started in August 2012. I think you need to evaluate this prior to any additional injections. I think you need to know whether the injected solution is washing the soil and might be migrating offsite. And let me know how you did the recovery and how much LNAPL you have been recovered. "

10/25/2012 - email from Jessica Kruczek

"As the 3rd quarter report submitted on the 18th for 0312 showed, we've seen a nice reduction in site COCs at the monitoring points. However, the last round of sampling conducted in September showed that the Injection Wells still have elevated concentrations of site COCs, likely a result of localized desorption. In addition, you have expressed concern that additional injection may contribute to migration of residual or "nuisance" NAPL near IW-2. In order to address both of these issues, we are prepared to conduct a vacuum extraction event at the most impacted injection wells IW-1, IW-2 and IW-4.



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Although product has not been observed since the last extraction event at IW-2, we will be prepared for that possibility. A workplan for internal site personnel use is attached for your reference.

This is just an interim measure we would like to try before assessing what, if any, further injection may be required. We will monitor for rebound conditions in early December and assess the continued path forward at that time."

12/13/2012 - 3Q2012, 10/18/2012, by Antea Group. The groundwater was gauged on July 2, 2012. DTW 5.91 (MW-3) and 13.74 (MW-7). Another gauge and the quarter sampling in September 4, 2012. DTW 6.4 (MW-3) and 14.53 (IW-4). The next sampling will be in December 2012. IW-2, 1,200 BTEX. IW-3, 35 BTEX. IW-1, 7,200 BTEX. IW-4, 2,600 BTEX. MW-9, 2,200 BTEX, 3 MTBE. EW-1, 170 BTEX. MW-8, 79 BTEX.

7/31/2013 - 4Q2012, 3/25/2013, by ARCADIS. The monitoring was done on 12/31/2012. DTW 5.38 (MW-3) to 13.59 (MW-1). Flows to east. ARCADIS request to remove monitoring wells from the monitoring program. These wells are MW-1, MW-2, MW-3, MW-5, MW-11 and MW-12. And also no monthly gauging. IW-2, 330 BTEX. IW-3, 69 BTEX. IW-1, 3,200 BTEX. IW-4, 5,700 BTEX. MW-9, 3,100J BTEX. EW-1, 2,600 BTEX. MW-8, 630 BTEX.

1Q2013, 7/3/2013, by ARCADIS. DTW 4.93 (MW-3) to 13.63 (MW-12). LNAPL in IW-2 (0.04'). IW-3, 254J BTEX. IW-1, 10,300 BTEX, 23 MTBE. IW-4, 9,610 BTEX. MW-9, 4,010 BTEX. EW-1, 1,460 BTEX. MW-8, 1,420 BTEX. Pilot test report for sulfate injection will be submitted.

8/21/2013 - met with ARCADIS. the Epson salt MgSO4 injection is done. reduction in BTEX has been observed. Recommends to inject gypsum which is a longer lasting Epson salt. Baseline sampling to be on 8/29/2013 and the injection to be on 9/9/2013.

6/6/14-Vought-DEC Feng out of office on extended vacation. Vought received call from and spoke to Rob Panasci, Esq 9Ph:518-438-9907x251 email:rpanasci@youngsommer.com) who was attorney for proper owner and was requesting the opportunity to review the closure report and provide comments to DEC prior to Department's issuance of closure letter. Email noted that "Jeff, Thank you for taking the time to discuss this matter with me. Our firm represents the current owner of the property (Pandolfi Family Trust). As we discussed, we would like the opportunity to review the closure report (if and when it is submitted by Arcadis) and provide comments to the Department prior to the Department's issuance of the closure letter. Thanks again and we'll be in touch in the near future. My contact information is listed below. Rob." Attached to email was Arcadis Fourth Quarter 2013 Groundwater monitoring report that showed up to .02' LNAPL. Vought called Arcadis Kruczek(Ph:860-503-1518) for status of spill.

6/26/14-Vought-Received email from Panasci that "Hi Jeff, We spoke early in the month regarding this site. Has Arcadis submitted a closure report to the Department? Thanks. Rob" Vought sent reply that "Rob,

To the best of my knowledge and according to my emails, we have not received a Closure Report for this site but I have copied Jessica as well as BP above so that they may provide and an update and also be informed of your request. I also copied our Office of General Counsel (John Urda, Esq.) as we have been instructed to do so when we correspond with outside counsel. I also to confirm that: 1)We can provide the property owner with the closure report from their former tenant (BP) without a FOIL Request. 2)We can provide the owner an opportunity to review the report and provide comment before the DEC considers closure. Please note as well that I will be on vacation from 7/2-7/15 as well, Thanks".

Urda then sent email to all including Panasci that "Rob, For future reference, the Department does require a FOIL request when producing documents at the request of a third party. Also, although third parties may comment on closure reports, Department staff is under no obligation to consider third party comments in making a determination. Feel free to contact me if you have any questions"

11/18/2014 - 1Q2014, 6/2/2014. Groundwater sampled 1/8/2014. MW-7, 178J BTEX. MW-8, 132 BTEX. EW-1, 2,380 BTEX



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MW-9, 5,340 BTEX. IW-2, sock in well in poor condition, replaced.

1/11/16-Vought-Recieved email from Arcadis (Buchanan) on 1/5/16 that noted "Jeff, I hope you had a restful and safe holiday am following up on our conversation from last month when we agreed to present this site to the state technical board. What are the next steps?"

Vought started to prepare brief site summary for discussion of possible closure of this site with DEC Central Office BTS. Vought noted that site summary that Acardis (Sahithi) sent to Feng via email on 12/14/15 showed that there was no product IW-2 in January and April 2014 gauging events, however 10/13 event showed .02' product. Vought discussed site with DEC Feng who noted that the January and April 2014 events as per here submittals noted that "sock in well in poor condition, replaced". Vought called and spoke to Arcadis (Buchanan) and he noted that he would look into whether sock was installed when last product measurement was made. Vought noted that the stable product level was crucial in the presentation of the data to Central Office for consideration of possible closure. Vought then received an email from Buchanan that noted "Jeff, Thank you for the call this morning. I confirmed with Sahithi this morning that the sock was still present in the well IW-2 during our last gauging event. I have asked Sahithi to coordinate removal of the sock, wait for two weeks, then gauge the well for measurable NAPL." Vought sent reply to Buchanan with cc to DEC Feng and Sahithi that "Ira, Thanks for the update and we look forward to the stable product thickness (if any) so that we may discuss it with Central Office Bureau of Technical Services (BTS). As always I will remain optimistic in hopes that it has attenuated to a non-existent condition after the sock is removed. I would also recommend that the well be cleaned, possibly developed as well, after removal of the sock to ensure that we are not measuring residual product from the well casing in two weeks, and that we are truly characterizing the equilibrium groundwater condition. Note that the development of the well, if the source is residual product from the screen or well pack, would give us a no product measurement so that we may close the case without the need for discussion with Central Office BTS. Thanks again and please keep us posted so that we can move ahead and hopefully toward closure."

1/29/2016 - As per J. Vought on 1/26/2016, Spill is closed based on:

- 1) Source removal has been done. On 8/24/1998, (1) 550-gallon waste oil UST was removed and 14 tons of soil was excavated.
- 2) Another source removal has been done. In 8/2015, (6) pump islands, electric wiring and piping were removed. (4) 4,000-gallon gasoline USTs and (1) 4,000-gallon diesel fuel UST were removed. The USTs were encased in concrete and no signs of fuel leakage. The concrete encasement slab was removed and 28 endpoint samples were collected. Endpoint samples show only minor exceedances. Total of 57.77 tons of petroleum contaminated soil was removed.
- 3) Delineation of soil contamination has been completed. Soil borings and monitoring wells installation suggested soil contamination is contained to the southeastern portion of the site where former USTs located. And the soil was removed down to bedrock or to the extent of feasible during USTs removal in 2015.
- 4) Bedrock seismic investigation was done and indicated that bedrock exists at depth range from 3-25 feet with the shallowest in the northwestern corner and the deepest in the southeastern corner (likely was blasted to facilitate the installation of the USTs). Overburden groundwater likely pooled within the blasted out tank mat area.
- 5) Delineation of groundwater contamination has been completed. Groundwater flows toward east and downgradient delineation has been done by MW-10, MW-11 and MW-12. Monitoring data for these downgradient wells since 2004 shown that groundwater contamination has migrated across Webster Ave and suggested the groundwater contamination plume has contained to the sidewalk area. The maximum BTEX concentration in groundwater was 4,620 ug/L in MW-9 as of 4/10/2014.
- 6) MPE pilot on MW-1 has removed 1,194 gallons of water and 40 gallons of LNAPL in 10/2003.
- 7) Remediation, i.e. Epsom salt solution (magnesium sulfate) injections were performed. For initial tracer test, 3,200 gallons of water and 1,400 lbs of Epsom salt was injected into IW-1 via gravity. Between 11/29 to 12/2/2011, 9,300 gallons of water and 1,860 lbs of Epsom salt was injected into IW-1 (2,350 gallons), IW-3 (3,350 gallons) and IW-4 (3,600 gallons). Between 3/26 to 3/29/2012, 12,400 gallons of water mixed with 2,480 lbs of Epsom salt and injected into IW-1 (2,000 gallons), IW-2 (3,500 gallons), IW-3 (3,400 gallons) and IW-4 (3,500 gallons). In 9/2013, 9,600 gallons of water mixed with 10,000 lbs of Epsom salt and injected into IW-1 (2,100 gallons), IW-3 (3,900 gallons), and IW-4 (3,600 gallons) and 100 lbs of calcium sulfate was injected into these wells to provide a long term sulfate source.
- 8) As for the LNAPL in IW-2, confirmed with bailers that no detectable product in the well. The residual product was remain



NYSDEC SPILL REPORT FORM



DEC REGION: 2 **SPILL NUMBER:** 0001454
SPILL NAME: FORMER BP AMOCO STATION #312/JAMAICA **DEC LEAD:** rjfeng

in the well casing. On 1/12/2016, the absorbent sock was removed and the well was developed. On 1/26/2016, no LNAPL was detected. No dissolved sampling in this well is needed because groundwater sampling at this well has been previously. And absence of the LNAPL, the dissolved phase is likely to be lower than the previous results.

9) There is no sensitive receptors as the groundwater contamination plume is contained beneath the sidewalk and never made it across the street.

10) No future site use change at this time. The site might be in the sale process and development later on, but no schedule has been confirmed.

11) Inclusion of remaining contamination language in the spill closure letter in case site is redeveloped.

Spill is closed. Spill closure letter to BP/ARCADIS.

3/2/2016 - Received Monitoring Well Decommissioning Report, dated 2/29/2016. Between 2/22 and 2/25/2016, a total of 8 monitoring wells (MW-1m, MW-5, MW-7 to MW-12), EW-1 and IW-1 to IW-4 were decommissioned in accordance with NYSDEC CP-43.

<u>PIN</u>	<u>T & A</u>	<u>COST CENTER</u>
CLASS: B3	CLOSE DATE: 01/29/2016	MEETS STANDARDS: False