



WMSC Commissioner Brief: W-0192 – Evacuation for Life Safety Reasons – Greenbelt Yard – July 11, 2022 and July 12, 2022

Prepared for Washington Metrorail Safety Commission meeting on December 13, 2022

Safety event summary:

Building B at Greenbelt Rail Yard was evacuated on July 11, 2022, and July 12, 2022, due to a gas leak in a mechanical room.

On July 11, 2022, at 1:12 p.m., an Office of Car Maintenance (CMNT) Supervisor reported the gas leak to the Maintenance Operation Center (MOC) Plant Maintenance (PLNT) desk. An MOC Controller notified the Prince George's County Fire and EMS Department (PGFD).

At approximately 1:36 p.m., two PGFD Units arrived at the rail yard. At 1:43 p.m., they reported a slight gas odor, but no gas leak readings on their gas detection devices. At 1:44 p.m., PGFD personnel turned the scene back over to WMATA after reporting that the main gas valve was bleeding off, causing vapors to enter the building from open bay doors. The first PLNT Plumbing Unit arrived and was briefed by PGFD before PGFD departed. The first Plumbing Unit did not bring a gas detection device and was not able to fully investigate the gas leak. An additional Plumbing Unit was dispatched to Building B at 4:18 p.m. and, using a gas leak detector, identified the source of the leak as the Heating and Ventilation Unit (HVV) #1, located in a mechanical room. Preventative maintenance had last been performed on HVV #1 on June 10, 2022, and no issues were reported with the unit.

When notified of the source of the gas leak the CMNT Lead Mechanic requested PGFD be dispatched again to further investigate the finding. At 5:44 p.m. all personnel were evacuated from the building.

PGFD arrived back at Building B at 5:58 p.m. and, after investigating the mechanical room using their gas detection device, deemed the building unsafe. Additional WMATA personnel were dispatched to help repair the gas leak, and at 6:00 p.m. PGFD released the scene to WMATA and departed.

PLNT personnel, including a supervisor, plumber and Heating, Ventilation and Air Conditioning (HVAC) technicians repaired the gas line valve/pipe, which was the source of the leak, and pressure tested HVV #1. The Plumber Unit reported the building safe, and employees were allowed to return to the building. No injuries or illness were reported from this event.

The second event occurred on July 12, 2022, when Building B at Greenbelt Yard had to again be evacuated due to a gas leak.

At 10:42 a.m., CMNT Supervisor reported a possible gas leak to MOC and the MOC Lead requested assistance from PGFD. The building was evacuated. Audio Recording System playback of communication between the MOC and other departments indicate there was confusion regarding who should respond to the event. It was determined that a PLNT Plumbing Unit was the appropriate group. The crew had to travel from Franconia-Springfield and had to stop to pick up a gas detection device before they responded to the event.



Two PGFD Units arrived at 10:54 a.m., detected nothing using their gas detection devices and cleared the scene at 10:58 a.m. WMATA personnel reentered the building and resumed normal operations.

At 12:25 p.m. the MOC Controller requested an update from the PLNT Plumbing Shop and was informed nothing was found by the Plumbing Unit that responded.

Probable Cause:

The probable cause of the initial event was a leak in a gas line on a Heating and Ventilation Unit located in a mechanical room. The subsequent event was caused by gas valve pressure backup released into the building's vents.

Corrective Actions:

WMATA developed a Lesson Learned document that included information about reporting providing regular updates to the MOC for responding units, their findings, and services rendered. The document also provides guidance on developing accurate summaries of services provided, guidance on end-of-day documents from responding units.

WMATA will review electronic device policy and guidance documents for communications during event response and make recommendations for improvements.

WMSA staff observations:

The first PLNT Plumbing Unit responded to the scene without the necessary gas detection device to conduct a thorough investigation during the initial event. The device could have helped identify the leak's location sooner, resulting in an earlier evacuation. The unit responding to the second event also did not have the tool with them when dispatched and had to stop to pick it up before responding, which increased response time. This demonstrates that personnel are not carrying tools required to effectively do their jobs and a lack of supervisory oversight to ensure personnel have required tools.

A final summary of the work performed by the PLNT Plumber Unit during this event was not provided when requested by WMATA's Department of Safety (SAFE) during the investigation. Response to emergencies and corrective maintenance work should be documented in accordance with WMATA policy. WMATA should ensure all documents requested by SAFE are made available for comprehensive investigation.



Washington Metropolitan Area Transit Authority
Department of Safety (SAFE)
Office of Safety Investigations (OSI)

FINAL REPORT OF INVESTIGATION A&I E22416/E22417

Date of Event:	07/11/2022 & 07/12/2022
Type of Event:	Evacuation for Life Safety Reason (Gas Leak)
Incident Time:	13:12 & 10:46 Hours
Location:	Greenbelt Yard – Bldg. B (S&I Shop)
Time and How received by SAFE:	17:52 Hours – SAFE/MAC
WMSC Notification Time:	18:25 Hours
Responding Safety Officers:	WMATA: None WMSC: None Other: None
Rail Vehicle:	N/A
Injuries:	None
Damage:	HVAC Gas Leak
Emergency Responders:	Prince George County Fire Department (PGCFD), Metro Transit Police Department (MTPD), Office of Plant Maintenance (PLNT)
SMS I/A Number	20220725#101758

Greenbelt Rail Yard – Evacuation for Life Safety Event (GAS LEAK)

July 11th & 12th, 2022

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Abbreviations and Acronyms

ARS	Audio Recording System
CAD	Computer Aided Dispatch
CAP	Corrective Action Plan
CCTV	Closed Circuit Television
CENV	Vehicle Program Services
CMNT	Office of Car Maintenance
COMR	Office of Radio Communications
HVU	Heat and Ventilation Unit
MOC	Maintenance Operation Center
MSRPH	Metrorail Safety Rules and Procedures Handbook
MTPD	Metro Transit Police Department
PGCFD	Prince George County Fire Department
PLNT	Office of Plant Maintenance
SAFE	Department of Safety
SMS	Safety Measurement System
SOP	Standard Operating Procedure
WMATA	Washington Metropolitan Area Transit Authority
WMSC	Washington Metrorail Safety Commission

Executive Summary

On Monday, July 11, 2022, at approximately 13:12 hours, an Evacuation for Life Safety Reasons (Gas Leak) event occurred at the Greenbelt Rail Yard – Building B (S&I Shop). The source of the alarm was inside the Mechanical Room on the second floor. An Office of Car Maintenance (CMNT) Supervisor notified the Maintenance Operation Control (MOC) - PLNT desk of a gas leak inside the S&I machine shop. The MOC Maintenance Controller confirmed this event with the reporting person and contacted the Fire Department to investigate.

The Audio Radio System (ARS) playback revealed that at approximately 13:12 hours, the MOC received a call reporting a gas leak at Greenbelt Rail Yard – Building B. At approximately 13:18 hours, a MOC Maintenance Controller created a work order ticket for a natural gas leak located at the Greenbelt Rail Yard and categorized this event as an emergency. At approximately 13:23 hours, a MOC Lead Controller notified the Metro Transit Police Department (MTPD) of the reported natural gas leak. At approximately 13:27 hours, the PGCFD dispatcher received a report of a natural gas leak at Greenbelt Rail Yard – Building B. PGCFD dispatched Fire Engine Units 814 and 835 to investigate. At approximately 13:36 hours, PGCFD Fire Units arrived on the scene. At approximately 13:43 hours, PGCFD Engine Unit 814 reported a slight odor of gas and no gas leak readings on both of their gas detection devices. Unit 814 further stated that the main gas valve was bleeding off and the vapors were entering the open bay doors located on the rear of Building B. At approximately 13:44 hours, PGCFD Unit 814 returned control of the incident scene to WMATA for repair and gave the all-clear. At approximately 13:48 hours, PLNT Plumbing Units arrived at Greenbelt Yard. The Plumbers assigned to Unit 28310 were debriefed by the on-scene PGCFD units and departed Greenbelt Yard at approximately 13:58 hours.

At approximately 16:18 hours, PLNT Maintenance dispatched a secondary Plumbing Unit to Greenbelt Rail Yard to follow up and investigate the reported gas leak. At approximately 16:26 hours, a PLNT Plumbing Supervisor contacted MOC to give an update on the initial responding PLNT Plumbing unit. The PLNT Plumbing Supervisor stated that the Fire Department responded but did not find evidence of a leak and released the scene. Normal operations resumed.

At approximately 17:44 hours, the secondary responding Plumbing Unit notified the MOC that they found the source of the gas leak utilizing a Gas Sniffer detection tool and located the source of the leak as Heating and Ventilation Unit #1 (HVU) which was contained in a second-floor mechanical room. The on-scene CMNT lead mechanic was notified of the discovery of the leak in the mechanical room. The CMNT Lead Mechanic requested that the fire department be dispatched again to investigate the discovery and evacuated all personnel from Building B.

At approximately 17:53 hours, PGCFD Engines 835 and 831 were dispatched to the Greenbelt Rail Yard – Building B for a report of a natural gas leak. At approximately 17:58 hours, PGCFD Fire Engine Units 835 and 831 arrived on the scene and were escorted to the second-floor mechanical room where they confirmed the location of the gas leak utilizing a gas leak detection device and deemed the building unsafe for occupancy. The Plumber Unit advised the Fire Department that the building had been evacuated, and additional personnel was dispatched to assist in the repair of the gas leak. At 18:03 hours, the PGCFD released the scene to WMATA Maintenance personnel to coordinate repair efforts.

At approximately 19:05 hours, members of the PLNT Maintenance Unit repaired and pressure tested the source of the leak. It was determined that the source of the leak was a 3/8" gas line valve/pipe, which was disassembled and repaired. At approximately 19:10 hours, the Plumbing Unit reported to MOC that the building was safe for occupancy. Personnel were notified and the all-clear was given for employees to return to normal operations.

The probable cause of the Evacuation for Life Safety Reasons (Gas Leak) event was a mechanical failure, that resulted in a leak from a 3/8" tube attached to the gas valve located on the external portion of the HVU.

On Tuesday, July 12, 2022, at approximately 10:42 hours, an Evacuation for Life Safety Reasons (Gas Leak) event was initiated at the Greenbelt Rail Yard – Building B (S&I Shop). An Office of Rail Car Maintenance (CMNT) Supervisor notified the Maintenance Operation Control (MOC) - PLNT of a gas leak inside the S&I shop machine shop.

The ARS playback revealed at approximately 10:42 hours, MOC received a call reporting a gas leak at Greenbelt Rail Yard – Building B. At approximately 10:47 hours, a MOC Lead Controller notified the PGCFD dispatcher of a reported event of a natural gas leak at the Greenbelt Rail Yard – Building B. At approximately 10:50 hours, the PGCFD dispatcher dispatched PGCFD Fire Engine Units 831, 835, and 866 to investigate. At approximately 10:54 hours, PGCFD Fire Units arrived on the scene. At approximately 10:56 hours, PLNT plumbing units were assigned to respond to Greenbelt Rail Yard. At approximately 10:58 hours, PGCFD Engine Unit 831 reported that there were no gas leak detection alerts from their gas detection device. At approximately 11:00 hours, PGCFD Unit 831 relinquish incident scene control to WMATA and gave the all-clear. At approximately 11:05 hours, all WMATA personnel resumed normal operational functions. The mechanical room was inspected again, and the repair performed the previous day was found to be in good repair, with no evidence of a gas leak. The probable cause of the evacuation was a manual alarm activation that was initiated due a reported odor of natural gas. No evidence was discovered to substantiate the report.

Incident Site

Greenbelt Yard S&I Shop – Building B, Mechanical Room (Second Floor)

Field Sketch/Schematics



Purpose and Scope

The purpose of this incident investigation and candid self-evaluation is to collect and analyze available data of the incident to determine the probable cause(s) of the incident, identify contributing factors, and make recommendations to prevent a recurrence.

Investigation Process and Methods

Upon receiving notification of the Evacuation for Life Reasons (Gas Leak) on July 11 & 12, 2022, SAFE dispatched a cross-functional team to assess the scene and conduct the investigation. SAFE team members worked with relevant WMATA subject matter experts to review the incident's facts and data.

Investigation Methods

The investigative methodologies included the following:

- Physical Site Assessment – During the assessment, it could not be determined which Furnace/HVAC system was repaired. A visual inspection of all the units housed in the Mechanical Room was conducted and resulted in no visual issues present nor any gas smell.
- Informal Interviews – Collected through conversations with individuals during the investigation to provide background and supporting information.
 - CMNT Supervisor
 - Fire Equipment/Plumber Technician
 - Plumber Units (2)
 - CMNT Mechanic
- Documentation Review – A collection of relevant work history information and process documentation contained in Metro systems of record. These records include:
 - Maximo Data

- Metrorail Safety Rules and Procedures Handbook (MSRPH)
- National Oceanic and Atmospheric Administration (NOAA)
- Rail Operations Control Center (ROCC) Incident Report
- Maintenance Operations Center (MOC) Incident Report
- System Data Recording Review – A collection of information contained in Metro Data Recording Systems. This data includes:
 - Audio Recording System (ARS) playback

Investigation (July 11 Evacuations)

On Monday, July 11, 2022, at approximately 13:12 hours, an Evacuation for Life Safety Reasons (Gas Leak) event occurred at the Greenbelt Rail Yard – Building B (S&I Shop) inside the Mechanical Room on the second floor. A CMNT Supervisor notified the MOC – PLNT Desk of a gas leak inside the S&I shop machine shop. The MOC Maintenance Controller confirmed this event with the reporting person and contacted the Fire Department’s response to investigate.

The ARS playback revealed that at approximately 13:12 hours, the MOC received a call reporting a gas leak at Greenbelt Rail Yard – Building B. At approximately 13:18 hours, an MOC Maintenance Controller created a work order ticket for a natural gas leak located at the Greenbelt Rail Yard and categorized this event as an emergency. At approximately 13:23 hours, an MOC Lead Controller notified MTPD of a reported natural gas leak at the Greenbelt Rail Yard – Building B. At approximately 13:27 hours, the PGCFD dispatcher received a report of a natural gas leak at Greenbelt Rail Yard – Building B. PGCFD dispatched PGCFD Fire Engine Units 814 and 835 to investigate. At approximately 13:36 hours, PGCFD Fire Units were on the scene at the Greenbelt Rail Yard – Building B. At approximately 13:43 hours, PGCFD Engine Unit 814 reported a slight odor of gas and no gas leak readings on both of their gas detection devices. Unit 814 further stated that the main gas valve was bleeding off and the vapors were entering the open bay doors located on the rear of Building B. At approximately 13:44 hours, PGCFD Unit 814 turned over control of the incident scene to WMATA Maintenance for repair and gave the all-clear. At approximately 13:48 hours, PLNT Plumbing Units arrived in vehicle 28310 at Greenbelt Yard. The PLNT Plumbers assigned to Unit 28310 were debriefed by the on-scene PGCFD units that the gas leak was unsubstantiated and departed the Greenbelt Yard at approximately 13:58 hours. The first responding PLNT Plumbers were dispatched from a work site and did not have gas detection equipment with them. The gas detection equipment must be checked out and is not issued or carried as part of routine equipment.

At approximately 16:18 hours, PLNT dispatched a secondary Plumbing Unit to Greenbelt Rail Yard to investigate the reported gas leak. At approximately 16:26 hours, a PLNT Plumbing Supervisor contacted MOC to give an update on the initial responding PLNT Plumbing unit. The PLNT Plumbing supervisor stated that the Fire Department responded and did not evidence of a leak and released the scene. Normal operations resumed.

At approximately 17:44 hours, the secondary responding Plumber Unit notified the MOC that they found the source of the gas leak utilizing a Gas Sniffer detection tool and identified the source of the leak as HVU #1, which was contained in the second-floor mechanical room. The on-scene CMNT Lead Mechanic was notified of the discovery of the leak in the mechanical room. The CMNT Lead Mechanic requested that the fire department be dispatched again to investigate this discovery and evacuated personnel from Building B.



Figure 1 - Gas Detection device (Gas Sniffer)

At approximately 17:53 hours, PGCFD Engines 835 and 831 were dispatched to the Greenbelt Rail Yard – Building B for a report of a natural gas leak. At approximately 17:58 PGCFD Fire Engine Units 835 and 831 arrived on the scene and were escorted to the second-floor mechanical room where they confirmed the location of the gas leak utilizing a gas leak detection device and deemed the building unsafe for occupancy. The Plumber Unit advised that the building was evacuated, and additional personnel were dispatched to assist in the repair of the gas leak. At 18:03 hours, the PGCFD released the scene to WMATA Maintenance personnel to coordinate repair efforts.

At approximately 18:26 and 18:37 hours, additional PLNT Plumbing units were dispatched to assist in the repair of the discovered gas leak at Greenbelt Yard.

At approximately 19:05 hours, members of the PLNT Maintenance Unit repaired and pressure tested the source of the leak. It was determined that the source of the leak was a 3/8" gas line valve/pipe, which was disassembled and repaired. At approximately 19:10 hours, the Plumber Unit reported to MOC that the building was safe for occupancy. CMNT supervision was notified and the all-clear sign was given for employees to return to normal operations.

The probable cause of the Evacuation for Life Safety Reasons (Gas Leak) event was a mechanical failure, that resulted in a leak from a 3/8" tube attached to the gas valve located on the external portion of the HVU.

Preventative maintenance was performed on the units housed in this mechanical room twice on an annual basis. Preventative maintenance on HVU#1 was conducted on March 31, 2022, and June 10, 2022.



Figure 2 - Gas leak located on HVU#1 using bubble test method.

Chronological ARS Timeline

A review of ARS playback, i.e., phone and radio communications, revealed the following timeline:

Time	Description
13:12:59 Hours	<p><u>CMNT Mechanic</u>: E99 - Greenbelt Yard, Building B.</p> <p><u>MOC Controller #1</u>: What is the issue?</p> <p><u>CMNT Mechanic</u>: Reporting a natural gas leak in the maintenance shop.</p> <p><u>MOC Controller #1</u>: You said natural gas smell?</p> <p><u>CMNT Mechanic</u>: No. Gas leaking, you can smell it.</p> <p><u>MOC Controller #1</u>: Acknowledged. What is your employee number and phone number?</p> <p><u>CMNT Mechanic</u>: Responded with employee id and phone number.</p> <p><u>MOC Controller #1</u>: Where is the gas leaking from?</p> <p><u>CMNT Mechanic</u>: I have no idea. We think it is not any of our forklifts. One PLNT maintenance personnel mentioned it could be one of the compressors or heaters upstairs.</p> <p><u>MOC Controller #1</u>: Is PLNT aware of this?</p> <p><u>CMNT Mechanic</u>: I contacted PLNT and advised them of the situation and that I smelled gas.</p> <p><u>MOC Controller #1</u>: Is it leaking from a line? We have to dispatch somebody and treat this as an emergency [Phone]</p>
13:18:36 Hours	<p><u>MOC Controller #1</u>: We must treat this like an emergency because of the smell of natural gas. I will transfer to my manager.</p> <p><u>CMNT Mechanic</u>: Acknowledged. [Phone]</p>

Time	Description
13:19:16 Hours	<p><u>CMNT Mechanic</u>: I am calling in a ticket.</p> <p><u>MOC LEAD Controller</u>: What is the issue?</p> <p><u>CMNT Mechanic</u>: the smell of a natural leak possibly.</p> <p><u>MOC LEAD Controller</u>: reporting a possible smell of natural gas.</p> <p><u>CMNT Mechanic</u>: In the machine shop.</p> <p><u>MOC LEAD Controller</u>: In the machine shop where?</p> <p><u>CMNT Mechanic</u>: Greenbelt Rail Yard Building B in the machine shop where they do the grinding.</p> <p><u>MOC LEAD Controller</u>: Acknowledged. I am about to call the fire department. [Phone]</p>
13:23:25 Hours	<p><u>MOC LEAD Controller</u>: We had one of our employees call that in the Greenbelt Yard location, Building B, in the machine shop they have a report of a natural gas smell inside. [Address information given to dispatch]</p> <p><u>METRO DISPATCHER</u>: Acknowledged. We will send someone out to the location. [Phone]</p>
13:27:38 Hours	<p><u>MOC Controller #1</u>: Did you send the Fire Department out there?</p> <p><u>MOC LEAD Controller</u>: Acknowledged. [Phone]</p>
13:27:43 Hours	<u>PGCFD Dispatch</u> : Dispatch Engine 814 & 835 for a report of a gas leak at Greenbelt Rail Yard. [Open Mhz]
13:32:09 Hours	<u>PGCFD Engine 835</u> on scene @ 5801 Sunnyside Ave. [Open Mhz]
13:36:26 Hours	<u>PGCFD ENGINE 814</u> on scene @ 5801 Sunnyside Ave. [Open Mhz]
13:36:58 Hours	<p><u>MOC Controller #1</u>: I did an incident and work order; the plumbers will be there in forty-five minutes.</p> <p><u>MOC LEAD Controller</u>: Acknowledged. [Phone]</p>
13:43:56 Hours	<u>PGCFD ENGINE 814</u> : Slight odor of gas, no readings on either of the meters. It's going to be the main valve bleeding off. [Open Mhz]
13:44:20 Hours	<u>PGCFD ENGINE 835</u> : Washington Gas is not needed; Metro Maintenance will handle it. Resume, all clear. [Open Mhz]
13:48:00 Hours	<u>PLNT UNIT 28310</u> on scene. (CCTV)
13:58:00 Hours	<u>PLNT UNIT 28310</u> off the scene. (CCTV)
13:50 – 15:29:59 Hours	No pertinent phone related to the July 11, 2022; Evacuation incident were documented.
14:13:00 Hours	<u>PLNT UNIT#28336</u> on scene at (Greenbelt Yard E90)
15:25:59 Hours	<p><u>MOC Controller #2</u>: When you were looking at your Maximo, it's saying E90, Building B, natural gas line leaking, excuse me I am looking at the incident. I am missing something here.</p> <p><u>MOC ADMIN#1</u>: It has to be connected to a work order.</p> <p><u>MOC Controller #2</u>: Work order 17182051.</p> <p><u>MOC ADMIN#1</u>: This ticket is open; they didn't put anything in it, so we don't know what we are looking at.</p> <p><u>MOC Controller #2</u>: I want to say they called here and then we sent the fire department. Let me call E90 and do some digging.</p> <p><u>MOC ADMIN#1</u>: Acknowledged.</p>
15:59:29 Hours	<p><u>MOC Controller #2</u>: What is the Plumber Unit phone number? What is the status of E99?</p> <p><u>PLNT Supervisor</u>: Provided Plumber Unit phone number. [Phone]</p>

Time	Description
16:01:44 Hours	<u>MOC Controller #2</u> : I need an update on the response to E99. <u>PLNT Plumbing Unit</u> : Let me call and check into it. <u>MOC Controller #2</u> : Acknowledged. [Phone]
16:14:00 Hours	PLNT UNIT #28336 on premises [Vehicle GPS]
16:14:33 Hours	<u>PLNT Supervisor</u> : Calling to give an update on E99. Is there an HVAC supervisor that you can call? This is an HVAC issue. <u>MOC Controller #2</u> : Acknowledged. [Phone]
16:16:08 Hours	<u>MOC Controller #2</u> : We got a ticket this morning for natural gas out at the E90 building. We had the Mechanic go out there, and they said you guys deal with natural gas leaks. <u>HVAC #1</u> : That is a plumbing issue. We service the equipment. Anything with gas lines is plumbing. <u>MOC Controller #2</u> : Acknowledged. [Phone]
16:18:05 Hours	<u>MOC Controller #2</u> : I went around in circles now I am back to you. I am still talking about the E90 building B, the natural gas line that they said was leaking. So, I thought that it goes to the GEMS, but they told me it was HVAC and HVAC just told me that it's plumbing. <u>Plumber Unit</u> : What time did that call come in? Natural Gas leaks are reported to the plumbing shop. <u>MOC Controller #2</u> : Earlier on the day shift. [Phone]
16:26:06 Hours	<u>Plumber Supervisor</u> : Giving you an update from E99 on the reported gas leak. The Fire Department came out and did not find the source of the leak and released the scene. Normal operations have resumed. <u>MOC PLNT#2</u> : Acknowledged. [Phone]
17:02:00 Hours	<u>PLNT UNIT#28346</u> : On scene at Greenbelt Yard E90 [Vehicle GPS]
17:44:09 Hours	<u>Plumber Unit</u> : I am located at the Greenbelt S&I shop. I have found a gas leak in the upper-level Mechanical room. I have notified the supervisor, and the building is being evacuated. Can you call the fire department and have them come back out? <u>MOC Controller #2</u> : A Plumber supervisor just called and said all clear, resume normal operations. <u>Plumber Unit</u> : They may not have checked the upstairs area, and gas could have gotten in the vents if they were leaking. <u>MOC Controller #2</u> : I will have the fire department dispatched to your location. [Phone]
17:51:37 Hours	Prince George County Fire Department dispatcher receives a call for a gas leak at 5801 Sunnyside Drive. [Open Mhz]
17:53:17 Hours	Prince George County Fire Department dispatched for natural gas leak Engine 835 and 831 responding. Possibly related to the last call from earlier. [Open Mhz]
17:55:07 Hours	Engine 835 on the scene [Open Mhz]
17:58:09 Hours	Engine 831 on the scene [Open Mhz]
17:58:36 Hours	Engine 831-Going up to the second floor with Metro personnel. They said they found a gas leak.

Time	Description
18:01:53 Hours	Prince George County Fire Department released the scene at Greenbelt Rail Yard. Engine 831&835 will stand by for a few. Washington Gas is not needed, Metro maintenance will handle it. [Open Mhz]
18:04:24 Hours	<u>Plumber Unit</u> : I am located at the Greenbelt S&I shop; we have found the leak and are repairing it. Can you have everyone from HVAC come down to assist? <u>MOC Controller #3</u> : Acknowledged and repeated. [Phone]
18:05:56 Hours	<u>MOC Controller #3</u> : I just got a call from the Plumber Unit at Greenbelt. <u>HVAC #1</u> : I am sending someone out. Is that building B? <u>MOC Controller #3</u> : Confirmed. [Phone]
18:26:00 Hours	<u>PLNT UNIT#28336</u> : On scene at Greenbelt Yard [Vehicle GPS]
18:37:00 Hours	<u>PLNT UNIT#21317</u> : On scene at the Greenbelt Yard [Vehicle GPS]
19:10:42 Hours	<u>Plumber Unit</u> : Giving an update on E90, the PLNT supervisor and HVAC came out and found the leak using a gas leak detection solution, repaired the leak, and verified that there were no additional leaks in that area. The CMNT supervisor has been notified, and it is clear to return everyone to work. <u>MOC Controller #3</u> : Was the fire department still on the scene? <u>Plumber Unit</u> : The fire department came to the scene and had already left. <u>MOC Controller #3</u> : Was it a gas leak that has been repaired or shut off? <u>Plumber Unit</u> : It was a gas leak in a joint that has been repaired. <u>MOC Controller #3</u> : Acknowledge and repeat. [Phone]
19:18:00 Hours	<u>PLNT UNIT#28346</u> : Off scene. [Vehicle GPS]
19:56:00 Hours	<u>PLNT UNIT#21317</u> : Off scene. [Vehicle GPS]

****Note:** Times above may vary from other systems' timelines based on clock settings and reporting source.

Investigation (July 12 Evacuation)

On Tuesday, July 12, 2022, at approximately 10:42 hours, an Evacuation for Life Safety Reasons (Gas Leak) event occurred at the Greenbelt Rail Yard – Building B (S&I Shop). An Office of Rail Car Maintenance (CMNT) Supervisor notified the Maintenance Operation Control (MOC) - PLNT of a gas leak inside the S&I shop machine shop.

The Audio Radio System (ARS) playback revealed at approximately 10:42 hours, MOC received a call reporting a gas leak at Greenbelt Rail Yard – Building B. At approximately 10:47 hours, an MOC Lead Controller notified the PGCFD dispatcher of a reported event of a natural gas leak at the Greenbelt Rail Yard – Building B. At approximately 10:50 hours, the PGCFD dispatcher dispatched PGCFD Fire Engine Units 831, 835, and 866 to investigate. At approximately 10:54 hours, PGCFD Fire Units were on the scene. At approximately 10:56 hours, PLNT plumbing units were assigned to respond to Greenbelt Rail Yard. At approximately 10:58 hours, PGCFD Engine Unit 831 reported that there were no gas leak detection alerts from their gas detection device. At approximately 11:00 hours, PGCFD Unit 831 relinquished the incident scene control to WMATA and gave the all-clear. At approximately 11:05 hours, all WMATA personnel resumed normal

operational functions. At approximately 12:51 hours, the MOC controller contacted the PLNT Plumbing Shop to ascertain and update and was advised the problem was found.

A final summary of work performed relating to the Evacuation for Life Safety Event was not provided by the PLNT Plumber Unit upon request.

A probable cause of this event was attributed to a residual odor of natural gas from the gas pressure valve blow off, which may have released natural gas into the air ducts from on July 11, 2022. During informal interviews with the PLNT plumbers, it was noted that there are numerous high-pressure parts cleaners and forklifts that use propane gas throughout the building which causes gas fumes to emanate into the building upon startup. The evacuation on July 12, 2022, was initiated manually, likely out of an abundance of caution.

Chronological ARS Timeline July 12, 2022

A review of ARS playback, i.e., phone and radio communications, revealed the following timeline:

Time	Description
10:42:40 Hours	<u>CMNT Supervisor</u> : We have another gas smell or possible gas leak at E90. <u>MOC Controller#1</u> : What Location? <u>CMNT Supervisor</u> : E90 the S&I shop building, in the machine shop. <u>MOC Controller#1</u> : Acknowledged. I have to transfer you to my supervisor to report this. [Phone]
10:44:57 Hours	<u>CMNT Supervisor</u> : We got another gas leak at E90, we just evacuated the building, but we didn't call the fire department. <u>MOC LEAD</u> : You got another gas leak, there was some confusion about yesterday, some people said we didn't call the fire department, but I am the one that called them to dispatch. Let me call them again to come back out. Is it the same area? <u>CMNT Supervisor</u> : Affirmed the location [Phone]
10:45:33 Hours	<u>MOC Controller#1</u> : What department went out for that gas leak at Greenbelt S&I shop, they said they have another gas odor in the machine shop. Was that the HVAC department? <u>PLNT Supervisor</u> : When it's a gas leak, it's plumbing. What happened yesterday is when it came out, they called HVAC, then they called the GEMS and they called us, and we went out at repaired them on the second floor. <u>MOC Controller#1</u> : Can I conference you in with Greenbelt? <u>PLNT Supervisor</u> : Acknowledged. [Phone/call dropped]
10:47:18 Hours	<u>MOC LEAD</u> : We have a report of another gas leak at a railyard in Greenbelt. [Address is given]; they are getting people out of the building now. <u>PGCFD Dispatch</u> : Acknowledged and we will get someone out there. [Phone]
10:49:47 Hours	<u>MOC Controller#1</u> : Over at E90-Greenbelt, they say they have another gas issue in the machine shop. I was told to call by the PLNT Manager. Do you know who is going to respond? <u>Plumber#1</u> : I am going to call my guys and see who is closest. <u>MOC Controller#1</u> : Acknowledged [Phone]
10:50:15 Hours	<u>PGCFD Dispatch</u> : 831,835 and 866 were dispatched to Greenbelt Rail Yard for a reported gas leak inside the location. [Open Mhz]
10:54:14 Hours	<u>PGCFD</u> : On scene. [Open Mhz]

Time	Description
10:56:22 Hours	<u>MOC Controller#1</u> : We have [Unit ID] from the plumbing shop on the way. They're coming from Franconia and they have to stop to pick up the gas detection device. <u>MOC LEAD</u> : Acknowledged. [Phone]
10:58:53 Hours	<u>PGCFD Fire Engine Unit 831</u> : No odor nothing reading on both meters. All clear. The scene returned to Metro. [Open Mhz]
11:05:00 Hours	<u>PGCFD off-premises</u> . [Open Mhz]
11:05-12:51 Hours	No pertinent phone calls related to this event were registered.
12:51:19 Hours	<u>MOC Controller#1</u> : Any update for E99? <u>PLNT Plumbing Shop</u> : No problem found. My Superintendent went out there because it was the second time. <u>MOC Controller#1</u> : Acknowledged. [Phone]

****Note:** Times above may vary from other system's timelines based on clock settings and reporting source.

Interview Findings

As part of the investigation launched into the Evacuation for Life Safety Reasons (Gas Leak) event, SAFE conducted informal interviews with the following key findings associated with this event. The detailed findings include reported information from interviews and written statements that may conflict with other data sources in this report.

Plumber Unit – AA#1 (First Responding Crew)

- Plumber AA#1 stated that upon their arrival the PGCFD were still present on the scene (Greenbelt Rail Yard) and were told by the PGCFD unit that a Gas Sniffer device was used to detect the presence of a gas leak throughout the S&I building and returned negative results. The Firemen also related the fumes from the outdoor meter could have drafted inside the building causing the odor of gas to emanate through the open Bay Doors.
- Plumber AA#1 stated that after they received the all-clear from the PGCFD, they entered the S&I building and conducted a brief visual inspection (No Gas Sniffer Device), and spoke to a few employees who stated that they could not smell any gas and resumed their workday.
- Plumber AA#1 stated that they did not observe any other member of PLNT while they were present, nor did they continue researching the building for any possible gas leaks after the PGCFD left the location.
- Plumber AA#1 stated that the related gas fumes could be from the blowoff valve fumes from the outdoor meter that could have drafted inside the building causing the odor of gas to emanate through the open Bay Doors.

Plumber Unit – AA#2 (Secondary Response Crew)

- Plumber stated that they were dispatched to Greenbelt Yard for a reported gas leak in the S&I shop from a work order ticket from earlier in the day.
- Plumber stated that upon arrival to E90-99, they contacted the CMNT supervisor and employees in the machine shop to ascertain where the leak originated. The supervisor

and shop employees informed the plumber that they could not determine where the smell/leak originated.

- Plumber stated that they began a systematic probe utilizing a gas leak detector.
- Plumber stated that they began their probe on the outer perimeter of Building- B by the gas line meters and continued throughout the building until detection of gas was located on the second floor within the Mechanical room.
- Plumber stated that they entered the second-floor mechanical room and immediately detected a gas alert from the Heating and Ventilation Unit (HVU#1).
- Plumber stated that immediately after identifying the leak, they shut off the gas valve leading into HVU#1, checked the remaining HVU units in the Mechanical room, and could not find any further leaks.
- Plumber stated that after they discovered a leak, they notified the CMNT supervisor to evacuate the building of employees. The plumber further noted that they called their supervisor to confirm the leak and continued their notifications to include the MOC, which they requested that a service call be placed for the Prince George's County Fire Department.
- Plumber stated that they pinpointed the leak in HVU#1 to be located inside the unit, which concerned them, and requested the HVAC crew to come out and assist in the repair through their supervisor.
- Plumber stated that members of the HVAC Crew arrived and assisted with the repair of HVU#1.
- Plumber stated that after confirming that the repair was completed and successful, they gave the all-clear.
- Plumber stated that the event on July 12th could be attributed to a gas release valve pressure backup that was released into the vents. The plumber further noted that numerous high-pressure parts cleaners use propane gas throughout the building. Gas fumes could have been released into the building from the vents upon startup.
- Plumber stated that regular maintenance is conducted on the HVU units every year by the HVAC Department.

CMNT Mechanic (Witness to First Evacuation on July 11)

- CMNT Mechanic stated that employees entered their office and stated that they smelled a natural gas smell odor in the machine shop.
- CMNT Mechanic stated they walked to the machine shop area where they could smell the odor of natural gas in the air that was stronger than the fumes from the parts washers and forklifts used in the shop.
- CMNT Mechanic stated that they walked back into their office and contacted MOC and reported the gas leak.
- CMNT Mechanic stated they and other supervisors evacuated the building prior to the arrival of the Fire Department for employee safety.
- CMNT Mechanic stated that the fire department arrived and cleared the building and allow normal operations to continue.

CMNT Supervisor (Witness to Second Evacuation on July 11)

- CMNT Supervisor stated that they did not smell any gas inside the building.
- CMNT Supervisor stated that a person from PLNT maintenance came into the office with a gas detection device and advised that they were dispatched to locate a possible gas leak.

- CMNT Supervisor stated that the PLNT maintenance technician returned a short time later and informed them that a gas leak was located, and the building needed to be evacuated.
- CMNT Supervisor stated that they assisted in evacuating the building of all employees with the Maintenance technician.

PLNT Plumbing Supervisor

- PLNT Plumbing Supervisor stated that they received a call about a gas leak at the Greenbelt Yard.
- PLNT Plumbing Supervisor stated that they went to the break room to retrieve the assigned Plumbers and they went out to the yard to investigate.
- PLNT Plumber Supervisor stated that they walked around the building with the employee that reported the gas smell/leak and did not find any gas leak in that specific area where it was first reported.
- PLNT Plumber Supervisor stated that they received a call back from them and then called the MOC to provide an update and stated that the Fire Department cleared the building prior to the PLNT Plumbers arriving.
- PLNT Plumber Supervisor further stated that they informed the MOC that the Fire Department cleared the gas leak and the plumbers looked around and could not find anything.
- PLNT Plumber Supervisor stated that the plumbers returned to CTF and signed out and went home.
- PLNT Supervisor could not recall if they used their WMATA supplied cellphone or personal cellphone when corresponding with the MOC and his direct reports.

Weather

On July 11, 2022, at the time of the incident, NOAA recorded the temperature as 90° F and Clear Skies. Weather was not a contributing factor in this incident (Weather source: NOAA – Location: Greenbelt, MD)

Human Factors

Fatigue

The biomathematical fatigue modeling application (SAFTE-FAST Web SFC) was not applied for this event.

Post-Incident Toxicology Testing

Findings:

- The initial report of a gas leak was determined to be unfounded by the Fire Department.
- The Fire Department used gas detection equipment prior to departing the area with negative results.
- The Fire Department issued the All Clear prior to the arrival of PLNT and advised the responding PLNT personnel of the All Clear prior to their departure.
- The first responding PLNT crew (Plumber) performed a limited inspection prior to clearing the area and did not have gas detection equipment.

- The dispatched Plumbers did not respond to the location with appropriate equipment (Sniffer Tool) to fully investigate the report and relied on the Fire Department's report of findings.
- The second responding PLNT crew (Plumber) located a gas leak inside the second floor mechanical room. The HVU #1 gas line valve was defective.
- At approximately 17:44 hours, the Plumber, with the assistance of CMNT Supervisor, evacuated the Greenbelt Yard building E90-99 of all personnel.
- PGCFD was again dispatched to the scene to assist in the evacuation efforts and to determine the source of a gas line leak and, from their findings, concurred with the Plumbers' conclusions.
- The affected HVU unit was repaired by the PLNT Plumbers and HVAC technicians. They disassembled the damaged gas valve/pipe and conducted a secondary Gas Detection test to confirm that the leak was contained and repaired without further issue.
- The evacuation event on July 12th was manually initiated due to a report of a gas odor. No gas was detected from the Fire Department or PLNT responders.
- PLNT did not notify the MOC of the dispatching Plumbers at the time of reporting to identify the source of the leak.
- Work Orders and end-of-day report forms for the event contained incomplete information describing the actions taken.
- The last preventive maintenance on the involved equipment was performed on June 8, 2022. No defects were noted on the work order.

Immediate Mitigation to Prevent Recurrence

- PGCFD was dispatched and identified the gas leak source.
- Greenbelt Rail Yard Building B (E90-99) was evacuated of all personnel.
- PLNT Plumber was dispatched to identify the propane gas leak using a gas leak detector.
- The source of the gas leak was located and identified as a 3/8" gas line, which was disassembled and repaired.
- PLNT Division dispatched multiple units to assist in the repair of the source of the leak.

Probable Cause Statement

The probable cause of the Evacuation for the Fire Life Safety Reasons (Gas Leak) event was determined to be a gas leak on a 3/8" tube for the gas valve located on the external portion of the furnace. SAFE is further investigating additional factors such as preventative maintenance frequency and maintenance procedures.

SAFE Recommendations/Corrective Actions

The following are the recommendations and corrective actions identified as a result of the incident response. These recommendations and corrective actions are tracked using WMATA's Safety Measurement System Incidents/Accidents (SMS I/A) Module and are verified by SAFE upon completion. The responsible department is identified in the corrective action code, and the respective departmental Safety Risk Coordinator (SRC) will manage the mitigation. Refer to the SMS I/A module for additional information

Corrective Action Code	Description	Responsible Party	Estimated Completion Date
101758_SAFECAPS_PLNT_001	Develop a Lesson Learned document to include providing regular updates to the MOC for responding units, their findings, and services rendered. Within this document, provide guidance on developing accurate summaries of services provided, and guidance on end-of-day documents from responding units. Remind responding units to ensure appropriate equipment is taken to complete the service.	PLNT	Completed
101758_SAFECAPS_SAFE_001	Review electronic device policy and guidance documents for communications during event response and make recommendations for improvements.	SAFE/OOP	12/31/2022

Appendices

Appendix A – Interview Summary

CMNT Mechanic

The narrative below summarizes the interview with SAFE and represents the statements made by the involved individual. As such, times and details may present a conflict with the data contained in systems of record.

During the informal interview, the CMNT Mechanic stated that employees entered their office and stated that they could smell a natural gas smell odor in the machine shop. The CMNT Mechanic stated they walked to the machine shop area where they could smell the odor of natural gas circulating throughout the machine shop. The CMNT Mechanic stated that they walked back into the office and contacted MOC to report the gas leak. The CMNT Mechanic stated that they evacuated the building prior to the arrival of the Fire Department for employee safety. The CMNT Mechanic stated that the fire department arrived and cleared the building and allow normal operations to resume.

CMNT Supervisor

The narrative below summarizes the interview with SAFE and represents the statements made by the involved individual. As such, times and details may present a conflict with the data contained in systems of record.

During the informal interview, the CMNT Supervisor stated that they did not smell any gas inside the building. The CMNT Supervisor said that a technician from PLNT maintenance came into the office with a gas detection device and advised that they were dispatched to locate a possible gas leak. The CMNT Supervisor stated that the PLNT maintenance technician returned a short time later and announced that a gas leak was located, and the building needed to be evacuated. The CMNT Supervisor stated that they assisted in evacuating the building of all employees with the Maintenance technician. The CMNT Supervisor noted that the PLNT technician returned and gave the all-clear, and all employees returned to their normal functions.

Plumber AA#1

The narrative below summarizes the interview with SAFE and represents the statements made by the involved individual. As such, times and details may present a conflict with the data contained in systems of record.

During the informal interview, Plumber AA#1 stated that upon their arrival the PGCFD were still present on the scene (Greenbelt Rail Yard) and were told by the PGCFD unit that a Gas Sniffer device was used to detect the presence of a gas leak throughout the S&I building and returned negative results.

Plumber AA#1 stated that after they received the all-clear from the PGCFD, they entered the S&I building and conducted a brief visual inspection (No Gas Sniffer Device), and spoke to a few employees who stated that they could not smell any gas and resumed their workday.

Plumber AA#1 stated that they did not observe any other member of PLNT while they were present, nor did they continue researching the building for any possible gas leaks after the PGCFD left the location.

Plumber AA#1 stated that the related gas fumes could be from the blowoff valve fumes from the outdoor meter that could have drafted inside the building causing the odor of gas to emanate through the open Bay Doors.

Plumber Unit AA#2

The narrative below summarizes the interview with SAFE and represents the statements made by the involved individual. As such, times and details may present a conflict with the data contained in systems of record.

During the informal interview, the Plumber Unit stated that they were dispatched to Greenbelt Yard for a reported gas leak in the S&I shop from a work order ticket from earlier in the day. The Plumber Unit stated that upon arrival at E90-99, they contacted the CMNT supervisor and employees in the machine shop to ascertain where the leak originated. The Plumber Unit noted that the supervisor and employees informed the plumber that they could not determine where the smell/leak originated.

The Plumber Unit stated that they began a systematic probe utilizing a gas leak detector. They began their probe on the outer perimeter of Building- B by the gas line meters. They continued throughout the building until the detection of gas was located on the second floor within the Mechanical room. The Plumber Unit said they entered the second-floor mechanical room and immediately detected a gas alert from the Heating and Ventilation Unit (HVVU#1). The Plumber Unit stated that upon discovering the gas leak, they shut off the gas valve leading into HVVU#1, checked the remaining HVVU units in the Mechanical room, and could not find any further leaks. The Plumber Unit stated that after they discovered a leak, they notified the CMNT supervisor to evacuate the building of employees.

The Plumber Unit further noted that they called their supervisor to confirm the discovery of a gas leak and continued their notifications to include the MOC. They requested a service call for the PGFD. The Plumber Unit stated that they pinpointed the leak in HVVU#1 to be located inside the unit, which concerned them, and requested the HVAC crew to come out and assist in the repair through their supervisor. The Plumber Unit stated that members of the HVAC Crew arrived and assisted with the repair of HVVU#1.

The Plumber Unit stated that they gave the all-clear after confirming that the repair was completed and successful. The Plumber Unit noted that the event on July 12th could be attributed to a gas valve pressure backup that was released into the vents. The plumber further noted that numerous high-pressure parts cleaners use propane gas throughout the building, and gas fumes could have been released into the building from the vents upon startup. The Plumber Unit stated that regular maintenance is conducted on the HVVU units every year by the HVAC Department.

PLNT Plumber Supervisor

The narrative below summarizes the interview with SAFE and represents the statements made by the involved individual. As such, times and details may present a conflict with the data contained in systems of record.

During the informal interview, PLNT Plumber Supervisor stated that they received a call about a gas leak at the Greenbelt Yard. The PLNT Plumber Supervisor stated that they went to the break room to retrieve the assigned Plumbers and responded out to the Greenbelt Yard to investigate. The PLNT Plumber Supervisor stated that they walked around the building with the employee that reported the gas smell/leak and did not find any gas leak in that specific area where it was first reported. The PLNT Plumber Supervisor stated that they received a call back from them and then called the MOC to provide an update to the MOC and stated that the Fire Department cleared the building prior to the PLNT Plumbers arrival. The PLNT Plumber Supervisor further stated that they informed the MOC that the Fire Department cleared the gas leak and the plumbers looked around and could not find anything. The PLNT Plumber Supervisor stated that the plumbers returned to CTF and signed out and went home. The PLNT Plumber Supervisor stated that they cannot recall if they used their WMATA-supplied cellphone or personal cellphone when corresponding with the MOC and their direct reports.

Appendix B – Photographs of HVAC/Furnace

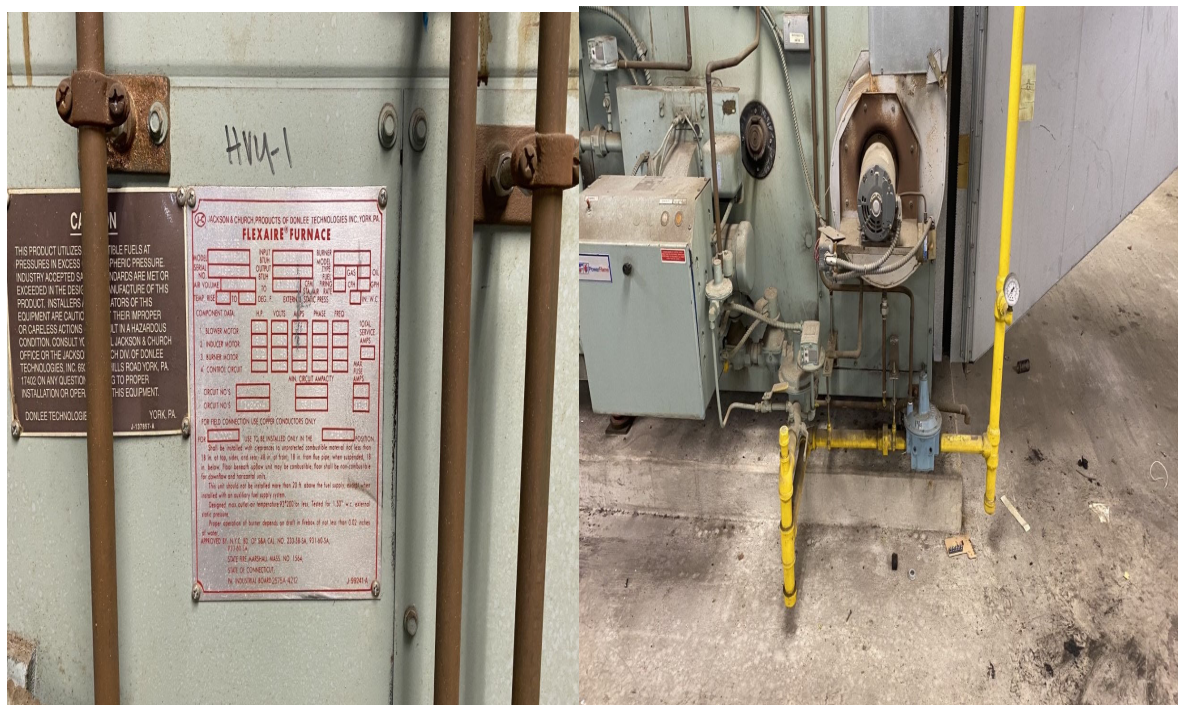



Figure 3 – HVU#1 Model Identification Tag



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Work Order #: 16833321 Status: CLOSE		03/31/2022 10:53 Type: PM							
Work Description: 16833321: E90, PLNT, AHU, S & I SHOP, PM Job Plan Description: PLNT, AHU, ANNUAL, PM									
Work Information									
68028 Asset Tag: E900000.AH01 Facility Loc: E90 Location: 1438 Failure Class: PLNT0272 Problem Code: Requested By:	AHU, GREENBELT S & I SHOP, E90 Alias: AHU, CMNT GREENBELT YARD BLDG B S&I E90, GREENBELT YARD, BUILDING (B) S&I PLNT, AIR HANDLING UNITS (AHU, VU)	Shop Code: PLEQ-GEM7 Maint. Office: PLNT-EQMT-GEM7 Labor Group: Crew: EQMTG701 GL Account: WMATA-02-31550-50499160-042-*****-OPR** Supervisor: Request Phone:							
		Parent: Create Date: 1/21/2022 19:56 Act Start: 2/23/2022 17:57 Act Comp: 2/24/2022 07:50 Target Start: 2/20/2022 00:00 Target Comp: 2/20/2022 00:00 Sched Start:							
Task IDs									
Task ID									
10 COMPLETE CHECKLIST, AHU, ANNUAL, PM									
Componer	Work Accompl:	Reason:							
		Status: CLOSE Position: Warranty: N							
Actual Labor									
Task ID	Labor	Start Date	End Date	Start Time	End Time	Approved?	Regular Hours	Premium Hours	Line Cost
		2/23/22	2/23/22	14:30	17:00	Y	00:00	02:30	\$164.45
Total Actual Labor:									\$164.45
Failure Reporting									
Cause	Description	Remedy	Description	Supervisor	Remark Date				
Remarks:									

09/6/2022 19:56


Incident Date: 7/11/2022 Time: 13:12 hours
Final Report – Evacuation for Safety Reasons
E22417

Drafted By: SAFE 706 – 09/06/2022
Reviewed By: SAFE 71 – 09/12/2022
Approved By: SAFE 71 – 09/12/2022



Washington Metropolitan Area Transit Authority
Maintenance and Material Management System
PLNT Work Order Details Report

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Work Order #: 17006594 Status: CLOSE				06/10/2022 08:17 Type: PM					
Work Description: 17006594: PLNT, AIR HANDLER UNIT (AHU), PM Job Plan Description: PLNT, AHU, MONTHLY, PM									
Work Information									
68028 AHU, GREENBELT S & I SHOP, E90 Asset Tag: E900000.AH01 Alias: AHU, CMNT Facility Loc: E90 GREENBELT YARD BLDG B S&I Location: 1438 E90, GREENBELT YARD, BUILDING (B) S&I Failure Class: PLNT0272 PLNT, AIR HANDLING UNITS (AHU, VU)		Shop Code: PLEQ-GEM7 Maint. Office: PLNT-EQMT-GEM7 Labor Group: Crew: EQMTG701 GL Account: WMATA-02-31550-50499160-042-*****-OPR**		Parent: Create Date: 4/20/2022 19:53 Act Start: 6/07/2022 13:38 Act Comp: 6/08/2022 13:45 Target Start: 5/20/2022 00:00 Target Comp: 5/20/2022 00:00 Sched Start:					
Problem Code: Requested By:		Supervisor: Request Phone:							
Task IDs									
Task ID									
10 COMPLETE CHECKLIST, AHU, MONTHLY, PM									
Componen	Work Accompl	Reason:	Status:	CLOSE	Position: Warranty N				
Actual Labor									
Task ID	Labor	Start Date	End Date	Start Time	End Time	Approved?	Regular Hours	Premium Hours	Line Cost
		6/7/22	6/7/22	08:30	10:00	Y	01:30	00:00	\$62.95
		6/7/22	6/7/22	08:30	10:00	Y	01:30	00:00	\$49.20
							Total Actual Labor:		\$112.15
Log									
Date	Class	Created By	Subject	Description	Long Description				
6/7/22	WORKORDER			PM according to checklist					

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09/6/2022 19:56

Figure 5 - Monthly PM June 2022 Page 1 of 2

Incident Date: 7/11/2022 Time: 13:12 hours
Final Report – Evacuation for Safety Reasons
E22417


Drafted By: SAFE 706 – 09/06/2022
Reviewed By: SAFE 71 – 09/12/2022
Approved By: SAFE 71 – 09/12/2022

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PLNT Work Order Details Report

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Work Order #: 17006594 Status: CLOSE		06/10/2022 08:17 Type: PM
Work Description: 17006594: PLNT, AIR HANDLER UNIT (AHU), PM Job Plan Description: PLNT, AHU, MONTHLY, PM		
Failure Reporting		
Cause	Description	Remedy
Supervisor		
Remark Date		
Remarks:		

WT_plust_woprntP.rptdesign

09/6/2022 19:56

Figure 6 - Monthly PM June 2022 Page 2 of 2

Incident Date: 7/11/2022 Time: 13:12 hours
Final Report – Evacuation for Safety Reasons
E22417


Drafted By: SAFE 706 – 09/06/2022
Reviewed By: SAFE 71 – 09/12/2022
Approved By: SAFE 71 – 09/12/2022

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Washington Metropolitan Area Transit Authority
Maintenance and Material Management System
PLNT Work Order Details Report

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Work Order #: 17182248 Status: CLOSE				07/18/2022 08:59 Type: CM					
Work Description: 17182248: E90 - BLDG B - NATURAL GAS LINE IS LEAKING: HAS A SMELL Job Plan Description:									
Work Information									
68028 AHU, GREENBELT S & I SHOP, E90 Asset Tag: E900000.AH01 Facility Loc: E90 Location: 1438 Failure Class: PLNT0272 Problem Code: Requested By: [REDACTED]		Alias: AHU, CMNT GREENBELT YARD BLDG B S&I E90, GREENBELT YARD, BUILDING (B) S&I PLNT, AIR HANDLING UNITS (AHU, VU) Supervisor: Request Phone:		Shop Code: PLBM-VAC7 Maint. Office: PLNT-EQMT-GEM7 Labor Group: PLNT-BMSS-VAC7 Crew: GL Account: WMATA-02-31550-50499160-042-*****-OPR** Parent: Create Date: 7/11/2022 19:41 Act Start: 7/11/2022 22:32 Act Comp: 7/11/2022 22:32 Target Start: Target Comp: Sched Start:					
Actual Labor									
Task ID	Labor	Start Date	End Date	Start Time	End Time	Approved?	Regular Hours	Premium Hours	Line Cost
	[REDACTED]	7/11/22	7/11/22	17:30	20:30	Y	03:00	00:00	\$130.30
	[REDACTED]	7/11/22	7/11/22	18:30	19:30	Y	01:00	00:00	\$45.17
								Total Actual Labor:	\$175.47
Related Records									
WO	Description			Class	Status	Relationship			
17182051	E90 - BLDG B - NATURAL GAS LINE IS LEAKING: HAS A SMELL			WORKORDER	CLOSE	RELATED			
Log									
Date	Class	Created By	Subject	Description	Long Description				
7/11/22	WORKORDER	[REDACTED]			ASSIST PLUMBER WITH LOCATING AND REPAIRING GAS LEAK AT UNIT SECOND FLOOR MECHANICAL RM				

WT_plust_woprntP.rptdesign

09/6/2022 19:56

Figure 7 - Corrective Maintenance Work Order for July 11 gas leak Page 1 of 2

Incident Date: 7/11/2022 Time: 13:12 hours
Final Report – Evacuation for Safety Reasons
E22417


Drafted By: SAFE 706 – 09/06/2022
Reviewed By: SAFE 71 – 09/12/2022
Approved By: SAFE 71 – 09/12/2022

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Washington Metropolitan Area Transit Authority
Maintenance and Material Management System
PLNT Work Order Details Report

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Work Order #: 17182248 Status: CLOSE		07/18/2022 08:59 Type: CM
Work Description: 17182248: E90 - BLDG B - NATURAL GAS LINE IS LEAKING: HAS A SMELL Job Plan Description:		
Failure Reporting		
Cause	Description	Remedy
Supervisor		
Remark Date		
Remarks:		

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09/6/2022 19:56

Figure 8 - Corrective Maintenance Work Order for July 11 gas leak Page 2 of 2

Incident Date: 7/11/2022 Time: 13:12 hours
Final Report – Evacuation for Safety Reasons
E22417

Drafted By: SAFE 706 – 09/06/2022
Reviewed By: SAFE 71 – 09/12/2022
Approved By: SAFE 71 – 09/12/2022

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Maintenance and Material Management System

PLNT Work Order Details Report

Work Order #: 17205407 Status: COMP		09/01/2022 06:17 Type: PM
Work Description: 17205407: AHU, GREENBELT S & I SHOP, E90		
Job Plan Description: PLNT, AHU, MONTHLY, PM		
<u>Work Information</u>		
Asset Tag: E900000.AH01	AHU, GREENBELT S & I SHOP, E90 Alias: AHU, CMNT	Shop Code: PLEQ-GEM7 Maint. Office: PLNT-EQMT-GEM7
Facility Loc: E90	GREENBELT YARD BLDG B S&I	Labor Group:
Location: 1438	E90, GREENBELT YARD, BUILDING (B) S&I	Crew: EQMTG701
Failure Class: PLNT0272	PLNT, AIR HANDLING UNITS (AHU, VU)	GL Account: WMATA-02-31550-50499160-042-*****OPR**
Problem Code:	Supervisor:	Parent:
Requested By:	Request Phone:	Create Date: 7/21/2022 19:50 Act Start: 8/31/2022 13:59 Act Comp: 9/01/2022 06:17 Target Start: 8/20/2022 00:00 Target Comp: 8/20/2022 00:00 Sched Start:
Name: _____ Employee#: _____ Start Time: _____ Finish Time: _____		
Task IDs		
Task ID		
10 COMPLETE CHECKLIST, AHU, MONTHLY, PM		
Compone	Work Accomplish	Status: COMP Position: _____ Warranty _____
Actual Labor		
Task ID	Labor	Start Date End Date Start Time End Time Approved? Regular Hours Premium Hours Line Cost
	[REDACTED]	8/31/22 8/31/22 11:30 14:00 Y 02.30 00:00 \$115.92
		Total Actual Labor: \$115.92
Log		
Date	Class	Created By Subject Description Long Description
8/31/22	WORKORDER	[REDACTED] PM according to checklist Troubleshooting

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Figure 9 - Monthly PM Work Order for August 2022 Page 1 of 2



Washington Metropolitan Area Transit Authority
Maintenance and Material Management System
PLNT Work Order Details Report

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MX76PROD

Work Order #: 17205407 Status: COMP		09/01/2022 06:17 Type: PM
Work Description: 17205407: AHU, GREENBELT S & I SHOP, E90 Job Plan Description: PLNT, AHU, MONTHLY, PM		
Failure Reporting		
Cause	Description	Remedy
Supervisor		
Remark Date		
Remarks:		

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Figure 10 - Monthly PM Work Order for August 2022 Page 2 of 2

Incident Date: 7/11/2022 Time: 13:12 hours
Final Report – Evacuation for Safety Reasons
E22417

Drafted By: SAFE 706 – 09/06/2022
Reviewed By: SAFE 71 – 09/12/2022
Approved By: SAFE 71 – 09/12/2022

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Appendix D GPS SAMSARA REPORT (Work Vehicle Tracking)

(Samsara) Detailed Vehicle Activity Report | 28310 F-350 PLNT - WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY | Jul 11 2022 - Jul 11 2022

Report Table Name	Vehicle	Time	Status	Speed (mph)	Speed Limit (mph)	Latitude	Longitude	Odometer (mi)	Location
Detailed Vehicle Activity Report	28310 F-350 PLNT	Jul 11 12:59PM EDT	Movement Ended	0.0	-	38.95180265	-76.88575814	82522	Woodlawn, MD, 20784
Detailed Vehicle Activity Report	28310 F-350 PLNT	Jul 11 1:00PM EDT	Vehicle stopped	0.0	-	0.00000000	0.00000000	82522	-
Detailed Vehicle Activity Report	28310 F-350 PLNT	Jul 11 1:00PM EDT	Movement Started	0.0	45	38.95179604	-76.88575935	82522	Woodlawn, MD, 20784
Detailed Vehicle Activity Report	28310 F-350 PLNT	Jul 11 1:00PM EDT	Vehicle stopped	0.0	45	38.95179604	-76.88575935	82522	Woodlawn, MD, 20784
Detailed Vehicle Activity Report	28310 F-350 PLNT	Jul 11 1:01PM EDT		26.7	45	38.95179679	-76.88574527	82522	Woodlawn, MD, 20784
Detailed Vehicle Activity Report	28310 F-350 PLNT	Jul 11 1:02PM EDT		43.2	45	38.94700294	-76.88185312	82522	Veterans Parkway, Landover, MD, 20784
Detailed Vehicle Activity Report	28310 F-350 PLNT	Jul 11 1:03PM EDT		8.7	35	38.93870815	-76.87563412	82523	Carmen Turner Facility
Detailed Vehicle Activity Report	28310 F-350 PLNT	Jul 11 1:04PM EDT		4.6	35	38.93736401	-76.87658657	82523	Carmen Turner Facility
Detailed Vehicle Activity Report	28310 F-350 PLNT	Jul 11 1:05PM EDT		5.0	35	38.93674590	-76.87753546	82523	Carmen Turner Facility
Detailed Vehicle Activity Report	28310 F-350 PLNT	Jul 11 1:06PM EDT		4.1	-	38.93701630	-76.87757831	82523	Carmen Turner Facility
Detailed Vehicle Activity Report	28310 F-350 PLNT	Jul 11 1:07PM EDT		14.7	35	38.93674116	-76.87865942	82523	CTF
Detailed Vehicle Activity Report	28310 F-350 PLNT	Jul 11 1:08PM EDT		9.9	35	38.93932625	-76.87951959	82524	CTF
Detailed Vehicle Activity Report	28310 F-350 PLNT	Jul 11 1:09PM EDT		11.7	35	38.93891710	-76.87870160	82524	CTF
Detailed Vehicle Activity Report	28310 F-350 PLNT	Jul 11 1:10PM EDT	Movement Ended	0.0	35	38.93663989	-76.87844402	82524	CTF
Detailed Vehicle Activity Report	28310 F-350 PLNT	Jul 11 1:11PM EDT	Vehicle stopped	0.0	35	38.93647843	-76.87809432	82524	CTF
Detailed Vehicle Activity Report	28310 F-350 PLNT	Jul 11 1:13PM EDT	Movement Started	3.1	35	38.93647843	-76.87809432	82524	CTF
Detailed Vehicle Activity Report	28310 F-350 PLNT	Jul 11 1:14PM EDT		4.6	35	38.93712032	-76.87750831	82524	Carmen Turner Facility
Detailed Vehicle Activity Report	28310 F-350 PLNT	Jul 11 1:15PM EDT	Movement Ended	0.0	35	38.93668484	-76.87760444	82524	Carmen Turner Facility
Detailed Vehicle Activity Report	28310 F-350 PLNT	Jul 11 1:16PM EDT	Vehicle stopped	0.0	-	38.93695234	-76.87734395	82524	Carmen Turner Facility
Detailed Vehicle Activity Report	28310 F-350 PLNT	Jul 11 1:17PM EDT	Movement Started	0.5	-	38.93695234	-76.87734395	82524	Carmen Turner Facility
Detailed Vehicle Activity Report	28310 F-350 PLNT	Jul 11 1:18PM EDT		3.6	-	38.93698479	-76.87734807	82524	Carmen Turner Facility
Detailed Vehicle Activity Report	28310 F-350 PLNT	Jul 11 1:19PM EDT	Movement Ended	0.0	-	38.93754180	-76.87758036	82524	Carmen Turner Facility
Detailed Vehicle Activity Report	28310 F-350 PLNT	Jul 11 1:20PM EDT	Vehicle stopped	0.0	-	38.93768921	-76.87789922	82524	Carmen Turner Facility
Detailed Vehicle Activity Report	28310 F-350 PLNT	Jul 11 1:22PM EDT	Movement Started	1.4	-	38.93768921	-76.87789922	82524	Carmen Turner Facility
Detailed Vehicle Activity Report	28310 F-350 PLNT	Jul 11 1:34PM EDT		3.6	-	38.93749452	-76.87775999	82524	Carmen Turner Facility
Detailed Vehicle Activity Report	28310 F-350 PLNT	Jul 11 1:35PM EDT		13.9	-	38.93710965	-76.87697922	82524	Carmen Turner Facility

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Figure 11 Samsara GPS Report Page-1

(Samsara) Detailed Vehicle Activity Report | 28310 F-350 PLNT - WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY | Jul 11 2022 - Jul 11 2022

Report Table Name	Vehicle	Time	Status	Speed (mph)	Speed Limit (mph)	Latitude	Longitude	Odometer (mi)	Location
Detailed Vehicle Activity Report	28310 F-350 PLNT	Jul 11 1:36PM EDT		36.8	55	38.93897838	-76.87558551	82524	Veterans Parkway, Landover, MD, 20784
Detailed Vehicle Activity Report	28310 F-350 PLNT	Jul 11 1:37PM EDT		59.7	55	38.94397803	-76.87585900	82525	John Hanson Highway, Landover, MD, 20784
Detailed Vehicle Activity Report	28310 F-350 PLNT	Jul 11 1:38PM EDT		53.0	55	38.94437294	-76.85824288	82526	Capital Beltway, Lanham, MD, 20706-2905
Detailed Vehicle Activity Report	28310 F-350 PLNT	Jul 11 1:39PM EDT		58.2	55	38.95504910	-76.86336486	82527	Capital Beltway, Lanham, MD, 20706-2905
Detailed Vehicle Activity Report	28310 F-350 PLNT	Jul 11 1:40PM EDT		64.7	55	38.96811364	-76.86824523	82528	Capital Beltway, New Carrollton, MD, 20706-2905
Detailed Vehicle Activity Report	28310 F-350 PLNT	Jul 11 1:41PM EDT		52.7	55	38.98249538	-76.87718167	82529	Capital Beltway, Greenbelt, MD, 20770
Detailed Vehicle Activity Report	28310 F-350 PLNT	Jul 11 1:42PM EDT		54.1	55	38.99222457	-76.88629483	82530	Capital Beltway, Greenbelt, MD, 20052
Detailed Vehicle Activity Report	28310 F-350 PLNT	Jul 11 1:43PM EDT		10.5	40	39.00445075	-76.89356619	82531	Kenilworth Avenue, Greenbelt, MD, 20052
Detailed Vehicle Activity Report	28310 F-350 PLNT	Jul 11 1:44PM EDT		41.9	40	39.00685469	-76.89224616	82531	Kenilworth Avenue, Greenbelt, MD, 20052
Detailed Vehicle Activity Report	28310 F-350 PLNT	Jul 11 1:45PM EDT		33.7	40	39.01547538	-76.89686396	82532	9587 Edmonston Road, Prince George's County, MD, 20705
Detailed Vehicle Activity Report	28310 F-350 PLNT	Jul 11 1:46PM EDT		0.4	40	39.02232969	-76.90132694	82532	9690 Edmonston Road, Sunnyside, MD, 20705
Detailed Vehicle Activity Report	28310 F-350 PLNT	Jul 11 1:47PM EDT		29.0	40	39.02243782	-76.90132110	82532	Edmonston Road, Sunnyside, MD, 20705
Detailed Vehicle Activity Report	28310 F-350 PLNT	Jul 11 1:48PM EDT		13.1	30	39.02303218	-76.90568033	82532	5801 Sunnyside Avenue, Beltsville, MD, 20705
Detailed Vehicle Activity Report	28310 F-350 PLNT	Jul 11 1:49PM EDT	Movement Ended	0.0	-	39.02075273	-76.90636017	82533	GREENBELT YARD
Detailed Vehicle Activity Report	28310 F-350 PLNT	Jul 11 1:50PM EDT	Vehicle stopped	0.0	-	39.01975783	-76.90537162	82533	GREENBELT YARD
Detailed Vehicle Activity Report	28310 F-350 PLNT	Jul 11 1:50PM EDT	Movement Started	8.4	-	39.01975783	-76.90537162	82533	GREENBELT YARD
Detailed Vehicle Activity Report	28310 F-350 PLNT	Jul 11 1:51PM EDT		2.8	-	39.01870061	-76.90550771	82533	GREENBELT YARD
Detailed Vehicle Activity Report	28310 F-350 PLNT	Jul 11 1:52PM EDT	Movement Ended	0.0	-	39.01812840	-76.90575215	82533	GREENBELT YARD
Detailed Vehicle Activity Report	28310 F-350 PLNT	Jul 11 1:53PM EDT	Vehicle stopped	0.0	-	39.01812184	-76.90585966	82533	GREENBELT YARD
Detailed Vehicle Activity Report	28310 F-350 PLNT	Jul 11 1:57PM EDT	Movement Started	4.0	-	39.01812184	-76.90585966	82533	GREENBELT YARD
Detailed Vehicle Activity Report	28310 F-350 PLNT	Jul 11 1:58PM EDT		11.9	-	39.01970836	-76.90553517	82533	GREENBELT YARD
Detailed Vehicle Activity Report	28310 F-350 PLNT	Jul 11 1:59PM EDT	Movement Ended	0.0	-	39.02214463	-76.90662291	82534	5745 Sunnyside Avenue, Beltsville, MD, 20705
Detailed Vehicle Activity Report	28310 F-350 PLNT	Jul 11 2:00PM EDT	Movement Started	18.5	30	39.02295943	-76.90174308	82534	6175 Sunnyside Avenue, Beltsville, MD, 20705
Detailed Vehicle Activity Report	28310 F-350 PLNT	Jul 11 2:00PM EDT	Vehicle stopped	0.0	30	39.02295943	-76.90174308	82534	6175 Sunnyside Avenue, Beltsville, MD, 20705
Detailed Vehicle Activity Report	28310 F-350 PLNT	Jul 11 2:01PM EDT		42.7	40	39.02298091	-76.90173123	82534	6175 Sunnyside Avenue, Beltsville, MD, 20705
Detailed Vehicle Activity Report	28310 F-350 PLNT	Jul 11 2:02PM EDT		26.2	40	39.01577745	-76.89727188	82534	9594 Edmonston Road, Prince George's County, MD, 20705
Detailed Vehicle Activity Report	28310 F-350 PLNT	Jul 11 2:03PM EDT		39.5	40	39.01057713	-76.89171591	82535	Kenilworth Avenue, Greenbelt, MD, 20705

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Figure 12 Samsara GPS Report Page-2

(Samsara) Detailed Vehicle Activity Report | 28310 F-350 PLNT - WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY | Jul 11 2022 - Jul 11 2022

Report Table Name	Vehicle	Time	Status	Speed (mph)	Speed Limit (mph)	Latitude	Longitude	Odometer (mi)	Location
Report	PLNT								
Detailed Vehicle Activity Report	28310 F-350 PLNT	Jul 11 2:04PM EDT		29.5	-	39.00231031	-76.89655578	82535	Kenilworth Avenue, Greenbelt, MD, 20052
Detailed Vehicle Activity Report	28310 F-350 PLNT	Jul 11 2:05PM EDT		40.1	55	38.99974393	-76.89278162	82536	7833 Capital Beltway, Greenbelt, MD, 20052
Detailed Vehicle Activity Report	28310 F-350 PLNT	Jul 11 2:06PM EDT		47.5	55	38.99144097	-76.88608271	82537	Baltimore-Washington Parkway, Greenbelt, MD, 20052
Detailed Vehicle Activity Report	28310 F-350 PLNT	Jul 11 2:07PM EDT		49.0	55	38.98157928	-76.87689896	82537	Capital Beltway, New Carrollton, MD, 20770
Detailed Vehicle Activity Report	28310 F-350 PLNT	Jul 11 2:08PM EDT		38.5	55	38.97167282	-76.86951640	82538	Capital Beltway, New Carrollton, MD, 20706-2905
Detailed Vehicle Activity Report	28310 F-350 PLNT	Jul 11 2:09PM EDT		35.9	55	38.96243554	-76.86720547	82539	Capital Beltway, New Carrollton, MD, 20706-2905
Detailed Vehicle Activity Report	28310 F-350 PLNT	Jul 11 2:10PM EDT		47.4	55	38.95379890	-76.86311163	82539	Capital Beltway, Lanham, MD, 20706-2905
Detailed Vehicle Activity Report	28310 F-350 PLNT	Jul 11 2:11PM EDT		52.1	55	38.94506378	-76.86484136	82540	John Hanson Highway, Lanham, MD, 20706-2905
Detailed Vehicle Activity Report	28310 F-350 PLNT	Jul 11 2:12PM EDT		5.8	45	38.94425330	-76.88051762	82541	Veterans Parkway, Landover, MD, 20784
Detailed Vehicle Activity Report	28310 F-350 PLNT	Jul 11 2:13PM EDT		31.1	45	38.94285741	-76.88073148	82541	Veterans Parkway, Landover, MD, 20784
Detailed Vehicle Activity Report	28310 F-350 PLNT	Jul 11 2:14PM EDT		4.2	35	38.93718615	-76.87679852	82542	Carmen Turner Facility
Detailed Vehicle Activity Report	28310 F-350 PLNT	Jul 11 2:15PM EDT	Movement Ended	0.0	-	38.93766762	-76.87733415	82542	Carmen Turner Facility
Detailed Vehicle Activity Report	28310 F-350 PLNT	Jul 11 2:16PM EDT	Vehicle stopped	0.0	-	38.93766484	-76.87732950	82542	Carmen Turner Facility

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Figure 13 Samsara GPS Report Page-3