

# MEMO

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Date:  
August 31, 2020

Arcadis Project No.:  
30050315

Subject:  
Livonia Transmission Plant  
36200 Plymouth Road, Livonia, Wayne County, Michigan  
EGLE Site ID No. 82002970  
Offsite Interim Preemptive Mitigation Installation Monthly Update

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On behalf of Ford Motor Company (Ford), Arcadis of Michigan, LLC (Arcadis) has prepared this monthly update to the interim preemptive mitigation system installation for the Livonia Transmission Plant (LTP) site (the site) as requested by Michigan Department of Environment, Great Lakes, and Energy (EGLE) via email on May 26, 2019 and on July 26, 2019. Based on the groundwater data collected in the third quarter of 2019 from the shallow groundwater monitoring wells the 100-foot buffer line was modified. On November 13, 2019, EGLE sent Ford an email indicating that due to the 100-foot buffer line moving more to the north along Capitol, three (3) additional homes were added to the interim preemptive mitigation (IPM) program.

As a result of the concerns regarding the spread of the Coronavirus Disease (COVID-19), all VI sampling appointments and mitigation system installations were temporarily suspended from March 17<sup>th</sup> and resumed on Monday June 15, 2020. when the stay at home executive order was lifted by Governor Gretchen Whitmer. As of August 31, 2020, the following progress has been made at 33 residential properties in the Alden Village subdivision:

- 33 of 33 IPM systems are designed. 27 of 33 are installed and operating as designed. The status of the remaining 6 are described below:
  - 3 of 33 IPM systems are installed but require modification.
  - 1 of 33 IPM systems are under construction.
  - 1 of 33 IPM systems is scheduled to begin installation.
  - 1 of 33 current property owners is unwilling to allow the IPM system to be installed at their property.
- 10 of 11 sheds requiring Retro-Coat™ have had it applied to the floor. The status of the remaining shed is discussed below:

- 1 of 11 property owners with sheds have not approved Retro-Coat™ application due to the conditions of the roof on the shed, which makes entry unsafe.
- 10 of 16 detached garages requiring Retro-Coat™ have had it applied to the floor. The status of the remaining 6 are discussed below:
  - 3 detached garages will be completed during the fall 2020.
  - 3 detached garage owners have not approved Retro-Coat™ application.

Arcadis continues to work diligently to coordinate and install the interim preemptive mitigation systems. Details are provided below for all 33 locations.

#### **Interim Preemptive Mitigation System Currently Being Installed or Scheduled**

Details are provided below regarding the status of the work at the individual properties.

- **34380 Capitol Avenue** – Arcadis and their subcontractors met with the homeowner on February 25, 2020 to collect information required for the City of Livonia permits. Monthly vapor intrusion sampling was scheduled with the homeowner for March 17, 2020 and was cancelled as a result of the COVID-19 Force Majeure. On August 27, 2020, the three purifiers that had been in service since June 2020 were replaced. The homeowner has agreed to the construction of the mitigation system beginning in September. Arcadis is working on scheduling contractors and ordering materials. Monthly vapor intrusion sampling was completed on July 21, 2020. The analytical data package was provided to all interested parties consistent with the access agreement on August 27, 2020. Monthly vapor intrusion sampling was also completed on August 28, 2020. Once the analytical has been reviewed and validated, the data package will be submitted to all parties outlined in the access agreement.
- **12124 Boston Post** – The property owner declined an interim air purifier unit. Work required prior to beginning IPM construction was initiated during January and continued during February 2020 and included installation of a new exterior crawlspace access, installation of a locking door at the existing interior crawlspace access, and asbestos abatement. On May 27, 2020 Arcadis and their architects inspected the crawlspace to evaluate the safety of installing the IPM in the crawlspace. A structural repair design report was completed and provided to Arcadis on June 26, 2020. Arcadis has requested additional structural design drawings from the architect. The design drawings will be reviewed by Arcadis and discussed with the City of Livonia. The installation of the IPM system is pending concurrence from the City of Livonia on structural repairs needed to enable construction of the IPM system.

In a continued effort to resolve the rodent issue prior to the construction of the IPM, Arcadis took additional actions. On July 1, 2020 additional bait stations were deployed around the foundation of the structure. On July 10, 2020 Arcadis checked the bait stations to evaluate activity of the rodents. The homeowner reported the rodent activity was lower. On July 21, 2020, the exterminator checked on the deployed bait stations, noted there was a decrease in rodent activity based on bait levels, and deployed additional bait. On July 23, 2020 Arcadis filled in visible and suspected rodent tunnels around the foundation of the house with concrete. The bait stations were deployed until the week of August 17, 2020, at which time the exterminator removed the bait stations.

#### **Interim Preemptive Mitigation Systems Operating as Designed**

- **34644 Beacon** – Arcadis began construction of the IPM system on February 13, 2020, and installation was substantially completed on March 6, 2020 with all monitoring points meeting the performance metric established by EGLE of -0.02 inches of water column (iwc). During the COVID stop work the homeowner

altered the well around the additional crawl space access installed by Arcadis. The homeowner claims that the access well was not large enough for him to access. The homeowner has informed Arcadis that the crawl space access well must be finished per the alterations he initiated and will not allow any additional activities until his request is met. Arcadis has ordered and received the materials to complete the access well modification. Arcadis is working with the homeowner to schedule the access well modification requested, along with the final items from the install, the post mitigation OMM and indoor air sampling.

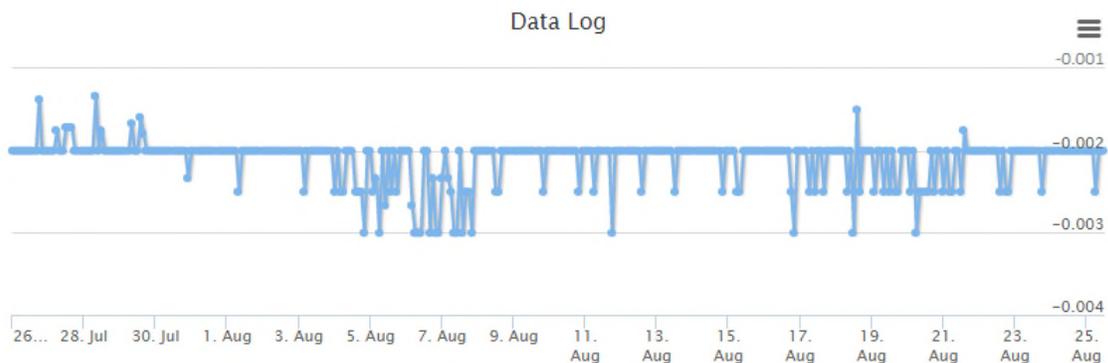
On August 12, 2020 Arcadis received a notification from the system control panel that the fan disconnect switch had been turned off. Arcadis contacted the homeowner regarding this in an attempt to determine why the fan had been turned off and to resume the operation of the fan. On August 19, 2020, the fan was turned back on and continues to operate. Arcadis had scheduled to complete the modifications to the crawlspace entrance on August 25, 2020 and complete the post mitigation OMM and indoor air sampling on August 27, 2020. After agreeing to the scheduled events, the homeowner canceled and refused to allow any work to proceed. Arcadis is continuing to work with the homeowner to gain access to complete crawlspace entrance modifications and indoor air sampling.

- **12088 Brewster** – The system is currently in routine operation and maintenance. This property has recently been sold and Arcadis has completed an access agreement with the new homeowner. On August 4, 2020 Arcadis inspected the crawlspace at this property after a rain event produced more than 1 inch of rain in a 24-hour period. Arcadis did not observe any water on the barrier. Vacuum influence measurements were collected after the rain event and exceeded the performance metric established by EGLE of -0.02 iwc.
- **12075 Brewster** – The system is currently in routine operation and maintenance. On August 4, 2020 Arcadis inspected the crawlspace at this property after a rain event produced more than 1 inch of rain in a 24-hour period. Arcadis did not observe any water on the barrier. Vacuum influence measurements were collected after the rain events and exceeded the performance metric established by EGLE of -0.02 iwc.
- **12089 Boston Post** – The system is currently in routine operation and maintenance.
- **34450 Beacon** – The system is currently in routine operation and maintenance. On August 4, 2020 Arcadis inspected the crawlspace at this property after a rain event produced more than 1 inch of rain in a 24-hour period. Arcadis did not observe any water on the barrier. Vacuum influence measurements were collected after the rain event and exceeded the performance metric established by EGLE of -0.02 iwc.
- **34401 Capitol** – The system is currently in routine operation and maintenance. On August 4, 2020 Arcadis inspected the crawlspace at this property after a rain event produced more than 1 inch of rain in a 24-hour period. Arcadis observed water on the barrier and removed five gallons, minor repairs were made to the barrier to address the water breakthrough. Arcadis collected vacuum influence readings and collected the following readings: MP-1: -0.021 iwc and MP-2: -0.018 iwc. Arcadis is scheduling a date with the homeowner to make seam repairs.
- **34380 Beacon** – The system is currently in routine operation and maintenance. The homeowner was not available during the first quarter 2020 heating season, so the final OM&M sampling event will occur in the fourth quarter during the heating season.
- **12091 Brewster** – The system is currently in routine operation and maintenance. During the OMM/sampling event on January 23, 2020, Arcadis asked the homeowner again about access to the garage for the application of Retro-Coat™. The property owner is reconsidering allowing access to the

detached garage to have Retro-Coat™ applied later in the fall of 2020. Arcadis spoke with the homeowner to schedule the application of Retro Coat in his garage and the homeowner indicated they are working with their brother to remove the car that their brother is storing in his garage which may not occur until the fall of 2020. Arcadis will continue to work with the homeowner to arrange access for the retro coat application in 2020. The garage is not inhabited or occupied at this time and is primarily used to store a motorcycle and vehicle. In addition, three rounds of vapor intrusion sampling have been completed to date, and there have been no exceedances of the seven constituents of concern (COCs) for indoor air or sub-slab soil gas in the garage or home.

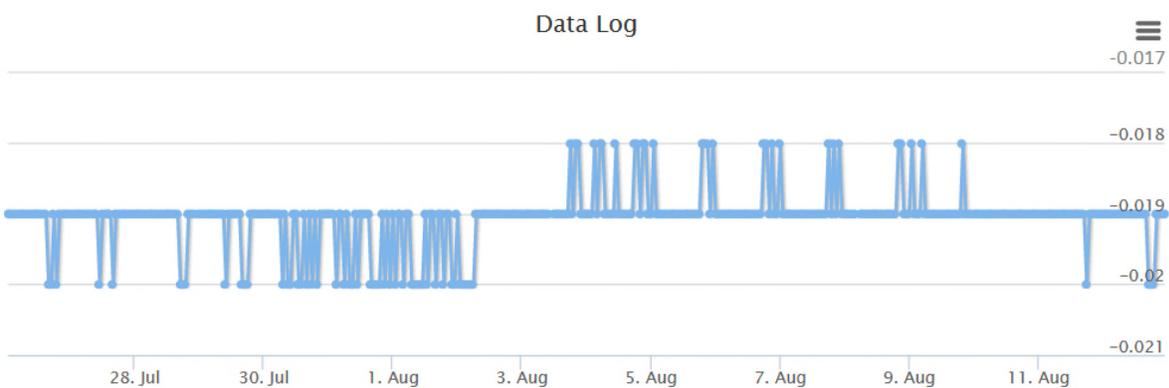
- **34424 Beacon** – The system is currently in routine operation and maintenance.
- **34920 Beacon** – The system is currently in routine operation and maintenance.
- **34950 Beacon** – The system is currently in routine operation and maintenance.
- **12017 Brewster** – The system is currently in routine operation and maintenance.
- **34600 Beacon** – The system is currently in routine operation and maintenance.
- **12131 Boston Post** – The system is currently in routine operation and maintenance. On February 10, 2020, the homeowner reported the presence of moisture on the geotextile that was installed between the barrier covering the Cupolex® and the plywood flooring that was installed in the basement portion of the home as part of the mitigation system. Arcadis provided the homeowner with a dehumidifier on February 20, 2020. Arcadis removed a portion of the plywood flooring and geotextile where moisture was present on February 27, 2020. On July 23, 2020, Arcadis and the concrete construction contractor visited the property to review the scope of work with the homeowner. Alternative flooring to replace the geotextile and plywood was discussed with the homeowner which would involve pouring a concrete floor on top of the Cupolex®. The installation of the concrete floor is being planned for September pending contractor availability.

An update of the data logged by the vacuum transmitter connected to MP-4 is presented below demonstrating that vacuum is continuously being maintained and that the system continues to operate effectively.

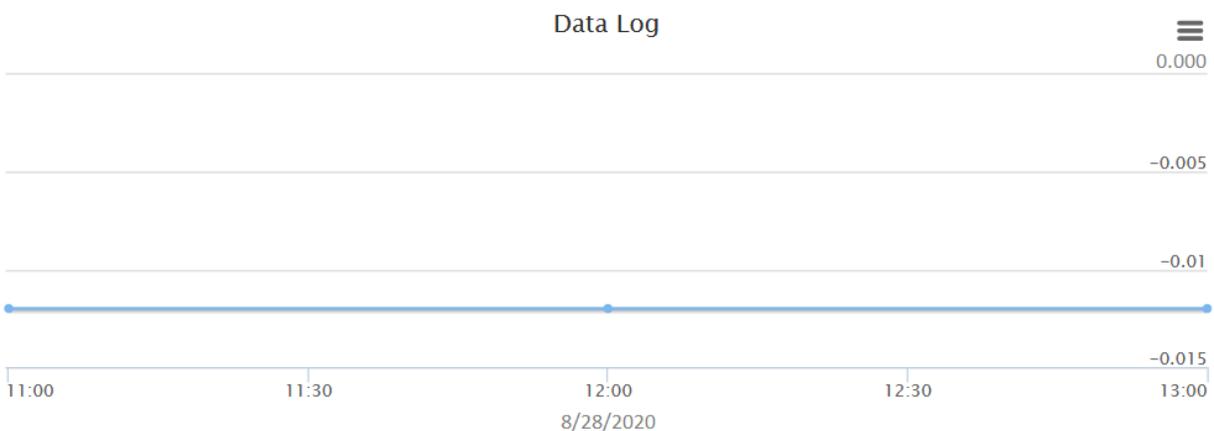


- **12101 Brewster** – The system is currently in routine operation and maintenance.
- **12067 Boston Post** – The system is currently in routine operation and maintenance. On August 4, 2020 Arcadis inspected the crawlspace at this property after a rain event produced more than 1 inch of rain in a 24-hour period. Arcadis observed water on the barrier and removed 16 gallons. Vacuum influence measurements were collected after the rain event and exceeded the performance metric established by EGLE of -0.02 iwc.

On August 13, 2020 Arcadis received a notification that the mitigation system was offline. Arcadis contacted the homeowner on August 14, 2020 in an attempt to troubleshoot the status of the system and determine if there was a power issue. The system was unable to be turned on at this time. On August 17, 2020 Arcadis was on site to troubleshoot the lack of power to the mitigation fan. Arcadis was unable to restore power to the mitigation system. Arcadis offered an interim air purifier unit to the homeowner, however it was declined. The homeowners were unavailable during the week of August 17, 2020 for electrical repairs to be made. On August 28, 2020, the electrician troubleshooted the electric circuit breaker panel powering the mitigation system. Repairs were made to the circuit breaker and power returned to the mitigation fan. The mitigation system has returned to normal operation. Arcadis collected vacuum influence readings and metrics are being achieved. The data log shown below displays data up until the power to the system was lost showing vacuum was being maintained and system was operating effectively.

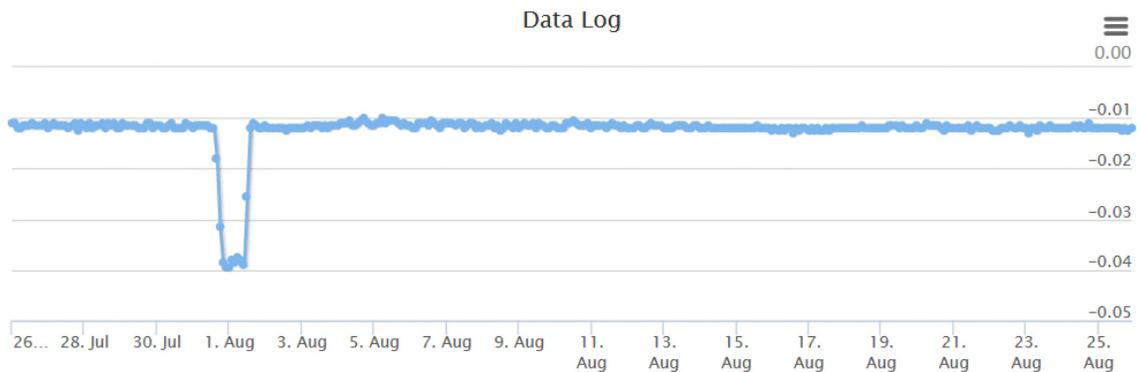


The data log shown below displays data following the completion of electrical repairs and the return to normal operation.

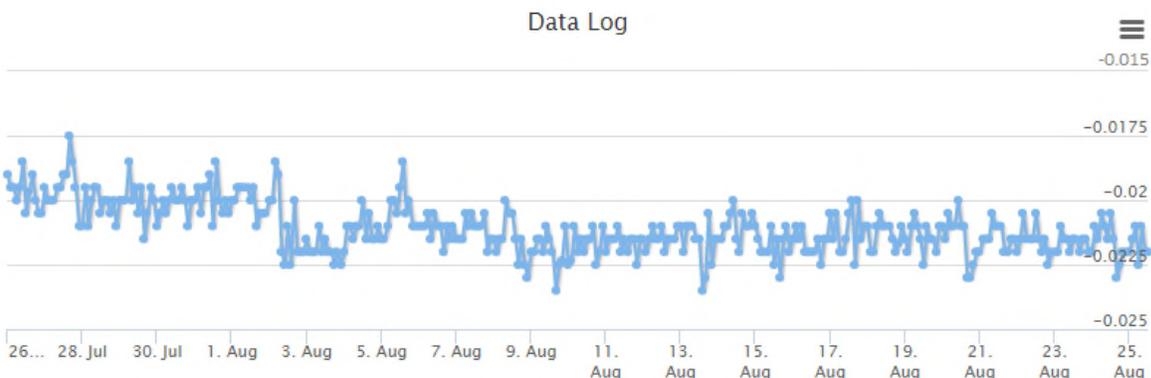


- **34550 Beacon** – The system is currently in routine operation and maintenance.
- **34940 Beacon** – The system is currently in routine operation and maintenance.
- **12141 Boston Post** – The system is currently in routine operation and maintenance. On August 26, 2020, Arcadis installed a monitoring point (SSMP-2) in the slab on grade living space. Following the installation, Arcadis collected vacuum influence readings and adjusted the mitigation system to optimize performance. Arcadis collected the following readings. MP-1: -0.015 iwc., MP-2: -0.023 iwc., MP-3: -0.011 iwc., MP-4: -0.005 iwc., SSMP-1: -0.008 iwc., and SSMP-2: -0.023 iwc.

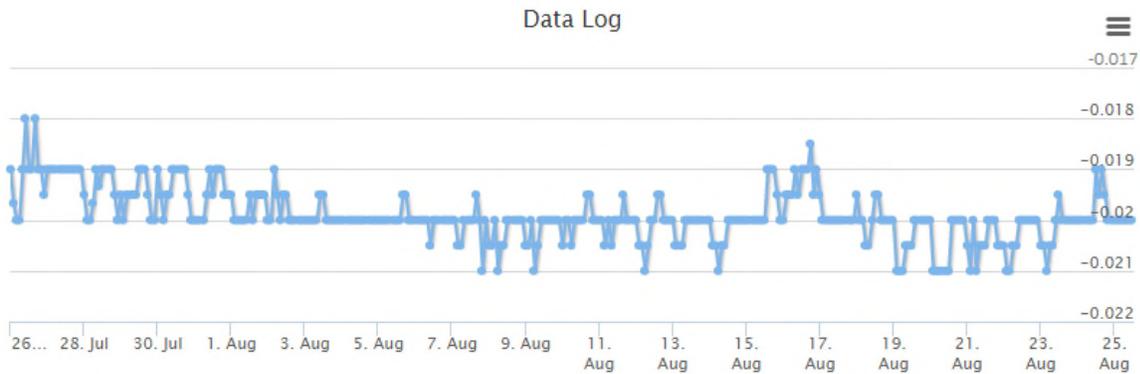
An update of the data logged by the vacuum transmitter connected to MP-4 is presented below demonstrating that vacuum is continuously being maintained and that the system continues to operate effectively.



- 12066 Boston Post** – The system is currently in routine operation and maintenance. On August 4, 2020 Arcadis inspected the crawlspace at this property after a rain event produced more than 1 inch of rain in a 24-hour period. Arcadis observed water on the barrier and removed four gallons. Vacuum influence measurements were collected after the rain event and exceeded the performance metric established by EGLE of -0.02 iwc.
- 12036 Brewster** – The system is currently in routine operation and maintenance. An update of the data logged by the vacuum transmitter connected to SSMP-2 is presented below demonstrating that vacuum is being maintained and that the system continues to operate effectively.

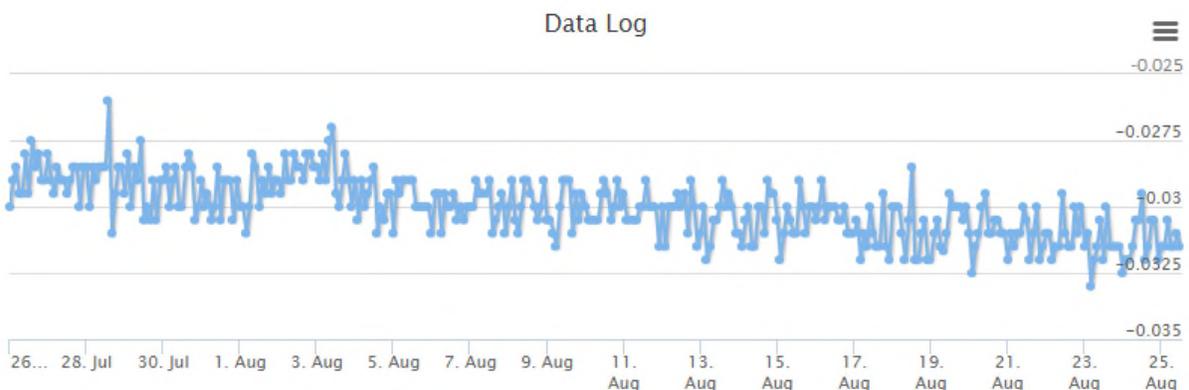


- 34990 Beacon** – The system is currently in routine operation and maintenance. The final routine OM&M sampling event scheduled for March 30, 2020 was delayed as a result of the stay at home order. The sampling event will be completed during the fourth quarter of 2020 so that it can be completed during the heating season. An update of the data logged by the vacuum transmitter connected to MP-7 is presented below demonstrating that vacuum is continuously being maintained and that the system continues to operate effectively.

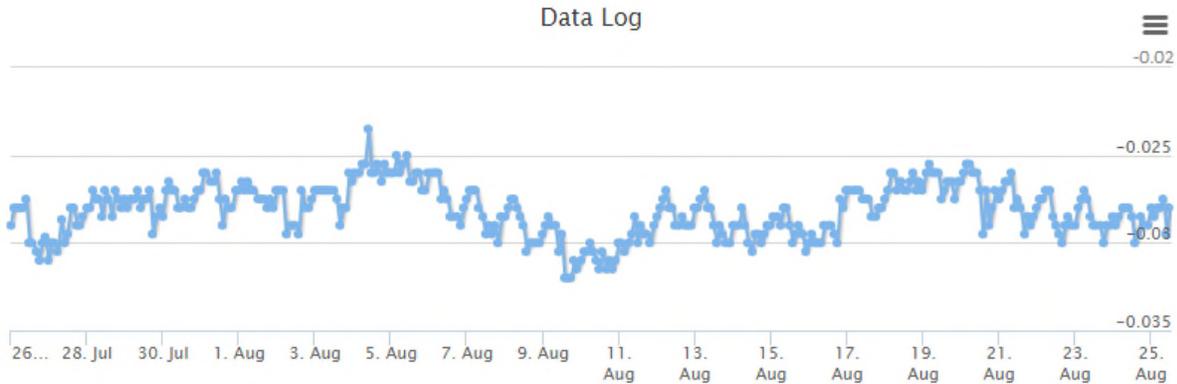


The property owner has denied the application of Retro-Coat™ in the detached garage since the floor has an existing epoxy coating and imbedded tubing for radiant heat. Arcadis provided an alternate mitigation system design for the garage to the homeowner for approval on March 19, 2020. In addition, there have been four rounds of indoor air sampling that has been conducted in the garage, and to date there has been no detections or exceedances of the seven constituents of concern. Arcadis is evaluating options in conjunction with the homeowner for garage mitigation.

- 34591 Beacon** – The system is currently in routine operation and maintenance. An update of the data logged by the vacuum transmitter connected to SSMP-1 is presented below demonstrating that vacuum is continuously being maintained and that the system continues to operate effectively. On August 4, 2020 Arcadis inspected the crawlspace at this property after a rain event produced more than 1 inch of rain in a 24-hour period. Arcadis observed water on the barrier and removed 32 gallons. Vacuum influence measurements were collected after the rain event and exceeded the performance metric established by EGLE of -0.02 iwc.

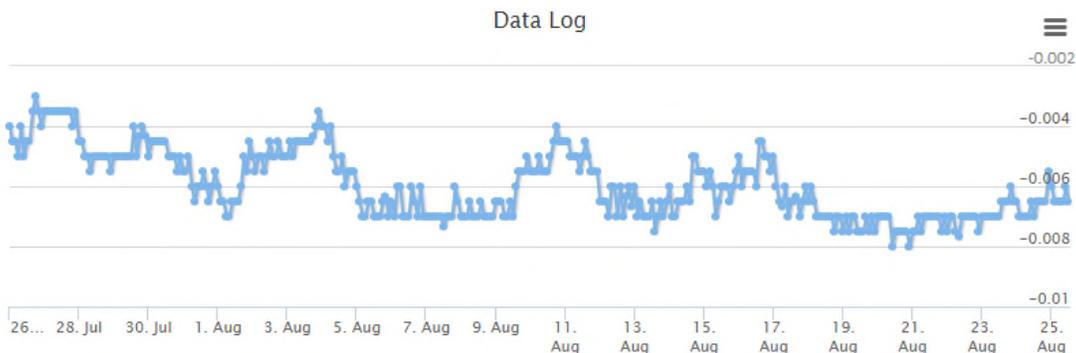


- 34367 Capitol** – The system is currently in routine operation and maintenance.
- 34480 Capitol** – The system is currently in routine operation and maintenance. An update of the data logged by the vacuum transmitter connected to SSMP-2 is presented below demonstrating that vacuum is continuously being maintained and that the system continues to operate effectively.



- **12070 Boston Post** – The system is currently in routine operation and maintenance.
- **34682 Beacon** – The system is currently in routine operation and maintenance. On June 29, 2020 Arcadis completed an OM&M inspection. Arcadis attempted to collect vacuum readings at all SSMPs and MPs, however two SSMPs were obstructed by household objects covering the homeowner would not grant Arcadis access to SSMP-1 or SSMP-4. Four rounds of indoor air (IA) and sub-slab (SS) data have been completed. The initial sampling event included an indoor air sample from the crawl space. No detections of vinyl chloride were reported in any of the samples during pre and post mitigation sampling events.

An update of the data logged by the vacuum transmitter connected to sub-membrane monitoring point MP-5 is presented below indicating that vacuum is being continuously maintained.



### **Interim Preemptive Mitigation System is Installed but Requires Modification**

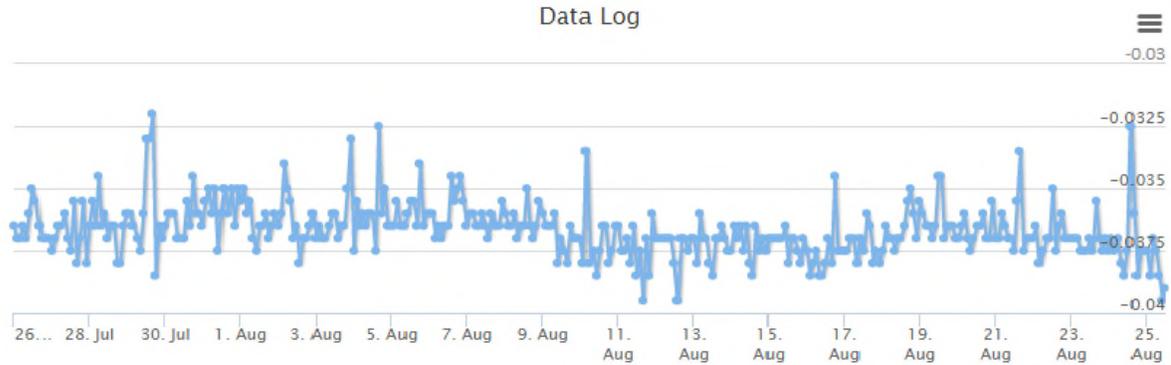
Mitigation systems at 3 of the 33 properties require additional mitigation activities. Details are provided below regarding the status of the work at this property.

- **34450 Capitol Avenue** – An interim air purifier unit was deployed on November 20, 2019. On February 20, 2020, May 20, 2020, and August 19, 2020 Arcadis changed out the air purifier in the home. Installation of the mitigation system began on March 3, 2020. The installation of the sub-membrane depressurization (SMD) system in the crawlspace resumed on June 15, 2020 following the lifting of the executive order. The installation of the SMD system in the crawlspace was completed on July 23, 2020 and is currently operational. Vacuum influence readings were collected at all SMD monitoring points and readings at all monitoring points exceed the performance metric established by EGLE of -0.02; MP-1: -0.162 iwc, MP-2: -0.205 iwc, MP-3 -0.211 iwc, MP-4: -0.122 iwc, MP-5: -0.454 iwc. Arcadis is preparing to conduct sub-slab depressurization pilot testing for the concrete slab mitigation system. Arcadis is scheduling with a moving contractor to empty the garage in preparation for the pilot testing. Three

rounds of IA and SS data have been completed. The initial sampling event included an indoor air sample from the crawl space. No detections of vinyl chloride were reported in any of the samples during pre-mitigation sampling events.

- **34424 Capitol Avenue** – An interim air purifier unit was on November 21, 2019 and a replacement unit was deployed on February 2, 2020, May 20, 2020, and August 28, 2020. Arcadis began construction of the IPM system on January 7, 2020, and installation was substantially complete on February 13, 2020. However, work continued at the property through February 19, 2020 to complete the installation of the new crawlspace access door. Three rounds of pre mitigation IA and SS data have been completed. The initial sampling event included an indoor air sample from the crawl space. No detections of vinyl chloride were reported in any of the samples during pre-mitigation sampling events. The final routine OM&M sampling event was completed on June 29, 2020 along with the first routine semi-annual OM&M monitoring event. All SMD monitoring points met the performance metric established by EGLE of -0.02 in wc. The sub-slab monitoring point located in the slab on grade concrete slab has not achieved the performance metric. The SSMP has a reading of 0.000 iwc. Modifications are being evaluated to improve system performance in the slab on grade portion of the home. The analytical data package was provided to all interested parties consistent with the access agreement on August 28, 2020
- **12100 Boston Post** – The property owner declined an interim air purifier unit. An interim preemptive mitigation system was installed as designed and has been in operation since March 25, 2019. The routine OM&M sampling event for the first quarter of 2020 was completed on February 10, 2020 along with the routine semi-annual OM&M monitoring event. The vacuum transmitter installed at sub-slab monitoring point SSMP-4 continues to confirm vacuum influence, and the other two sub-membrane monitoring points and two sub-slab monitoring points installed at this property were all measured at stronger vacuum influence. However sub-slab monitoring point SSMP-2 was measured at -0.001 in wc. Four rounds of IA and SS data have been completed. The initial sampling event included an indoor air sample from the crawl space. No detections of vinyl chloride were reported in any of the samples during pre and post mitigation sampling events. Arcadis has contacted the property owner to propose additional system modifications and will work with the homeowner to schedule the completion of this task. Additionally, during the OM&M visit, the homeowner again denied access to the shed, indicating that the roof is falling in. The homeowner stated that the shed may be accessible later this year if the roof is repaired by the homeowner. Arcadis will again request access to the shed during each routine semi-annual OM&M event until access has been granted.

An update of the data logged by the vacuum transmitter connected to sub-slab monitoring point SSMP-4 is presented below demonstrating that vacuum is continuously being maintained at SSMP-4.



### **Interim Preemptive Mitigation Systems Declined – Extension Requested**

- 12121 Boston Post** –The property owner was presented with an air purifier on March 21, 2019 as part of the initial preemptive mitigation approach. The air purifier remained on the front porch until March 24, 2019, when an Arcadis employee retrieved the unit. The air purifier was retrieved from the location, so damage did not occur to the unit from being outside and exposed to the weather. The draft design for the preemptive mitigation system was provided on March 29, 2019. On April 16, 2019, the property owners sent an email indicating that Ford nor Arcadis had access to the property any longer. A complaint was filed on July 10, 2019 in the Michigan state court to gain access to this home to complete the installation of the interim preemptive mitigation system.

The suit seeking access to the property at 12121 Boston Post was removed by those property owners to federal court. Ford moved to remand that lawsuit to state court and it was remanded on January 7, 2020. Ford will continue to pursue access through that proceeding in state court. The property owners at 12121 Boston Post are the only remaining property owners currently refusing to allow the mitigation systems to be installed at their properties.

In the July 26, 2019 letter EGLE requested an update for the property located at 12034 Brewster. On April 19, 2019, Arcadis provided EGLE documentation based on groundwater data that had been collected from a newly installed shallow monitoring well MW-192S. Monitoring well MW-192S analytical results showed no presence of vinyl chloride or any other constituent of concern. Based upon that data the 100-foot buffer was moved to the north. Subsequently, 12034 Brewster no longer resided in the 100-foot buffer; therefore, the installation of the interim preemptive mitigation system was put on hold. Although the interim preemptive mitigation system installation was put on hold vapor intrusion sampling continues.

Arcadis continues to work diligently to schedule the additional work at 12100 Boston Post and 34424 Capitol to complete the installation of the interim preemptive mitigation systems as well as to coordinate mitigation activities at the three remaining properties (34380 Capitol, 34450 Capitol, and 12124 Boston Post). Arcadis will continue to coordinate and complete OM&M activities as necessary to evaluate the performance of the operating preemptive mitigation systems.