
GROUNDWATER PERFORMANCE MONITORING REPORT & INJECTION DESIGN

for

**1487 1st Avenue Redevelopment Site
New York County
New York, New York**

NYSDEC Site Number: C231152

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27 March 2024

Revised 24 April 2024

Langan Project No. 100963701

LANGAN

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1.0 BACKGROUND

Langan Engineering, Environmental, Surveying, Landscape Architecture and Geology, D.P.C. (Langan) has prepared this Groundwater Performance Monitoring Report & Injection Design for the 1487 1st Avenue Redevelopment Site, New York State Department of Environmental Conservation (NYSDEC) Brownfield Cleanup Program (BCP) Site No. C231152. The Site is an approximately 10,050-square-foot parcel identified as Block 1452, Lot 27 in the Upper East Side neighborhood of Manhattan, New York (the "Site"). A site location plan is provided as Figure 1. A Certificate of Completion for remediation through the BCP was issued on 26 December 2023 and is currently undergoing construction for redevelopment. Ongoing groundwater monitoring and remediation is being implemented under a NYSDEC-approved Site Management Plan (SMP) dated 22 December 2023.

Chlorinated volatile organic compounds (CVOCs), including the contaminants of concern (COCs) tetrachloroethene (PCE), trichloroethene (TCE), cis-1,2-dichloroethene (cis-1,2-DCE), vinyl chloride (VC), and chloroform were detected in groundwater samples collected from the eastern portion of the Site during the completion of the Remedial Investigation at concentrations exceeding the NYSDEC Ambient Water Quality Standards and Guidance Values (SGVs). The concentrations of PCE and associated breakdown compounds detected in groundwater are indicative of a release that had migrated into bedrock at the site from the former solvent tank. Analytical results from the initial and baseline sampling events are presented in Tables 1 and 2, respectively, and CVOC analytical results from these events are summarized on Figures 4A and 4B.

To address these exceedances, an emulsified zero valent iron (EZVI) injection was proposed in the NYSDEC-approved January 2023 Interim Remedial Measures Work Plan (IRMWP) to achieve reduction in groundwater concentrations of the chlorinated solvents, such that natural attenuation would be supported. The EZVI remedy objectives were to:

- Both chemically reduce, as well as anaerobically degrade the CVOCs;
- Further promote monitored natural attenuation (MNA); and,
- Mitigate potential for off-Site migration of on-Site CVOC-impacted groundwater.

The EZVI injection scope was presented in the 6 March 2023 EZVI Remedial Design prepared by Langan, the draft of which had been approved by NYSDEC via email correspondence on 27 February 2023. Completion of the EZVI injections in March and April 2023 was documented in the EZVI Remedial Injection Report dated 29 September 2023, which was included in the 18 December 2023 Final Engineering Report as Appendix E. A COC was issued for the Site on 26 December 2023.

A Bedrock Well Re-Installation and Performance Monitoring Groundwater Sampling Plan (GSP) dated 16 October 2023 proposed the re-installation of ten bedrock monitoring wells that were originally installed during the Remedial Investigation (RI) and subsequently removed as a result of foundation construction. The GSP also proposed Site-specific well construction and sampling methodology for the groundwater performance monitoring following the EZVI injection. NYSDEC approved the GSP on 18 October 2023.

Bedrock well re-installation was completed between November 2023 and February 2024 and performance monitoring groundwater samples were collected approximately 10 months following the EZVI injections in February 2024. Performance monitoring groundwater sample analytical results revealed the successful reduction in maximum concentrations of PCE and TCE by one order of magnitude in the wells that had previously contained the highest concentrations of these compounds during the initial and baseline sampling events, and the elimination of PCE and TCE concentrations above the SGVs across the rest of the treatment area. Concentrations of breakdown products including cis-1,2-DCE and VC were detected during performance monitoring, confirming the anticipated degradation of PCE and TCE. Based on the performance monitoring analytical results, a round of focused EZVI injections is proposed at three monitoring well locations to address remaining concentrations of PCE and TCE and one elevated detection of cis-1,2-DCE. Emulsified vegetable oil (EVO) only will also be injected at four monitoring well locations to promote further bioremediation of the residual degradation compound concentrations.

Bedrock well re-installation, performance monitoring groundwater sample collection and analytical results, and the design for the additional EZVI injections are discussed in detail below.

2.0 MONITORING WELL INSTALLATION

As proposed in the October 2023 GSP, rock cores for the reinstallation of ten bedrock monitoring wells were advanced at the Site between 15 and 28 November 2023. Well locations are shown on Figure 2. Re-installed wells were placed as close to the original well locations as practicable based on the design and location of deep foundation elements and interior architectural structures, and no greater than approximately 10 feet from the original installation locations.

The top of the sub-cellar slab was constructed at elevation 14.75 North American Vertical Datum 1988 (NAVD88). Rock coring and casing installation was completed by ECD NY Inc. of Astoria, New York. LMW-6R-S through LMW-10R-S were constructed by installing five-inch inner-diameter steel casing to a maximum depth of 3.75 feet below the top of the sub-cellar slab (btos) and coring to between approximately 29.75 and 35.78 feet btos. The well casing and open annulus was sealed with grout. LMW-6R-D through LMW-10R-D were constructed by installing five-inch

inner-diameter steel casing to a depth between 23 and 23.77 feet btos. The well casing and open annulus were sealed with bentonite pellets, which were allowed to expand prior to initiating coring to between 59.79 and 64.77 feet btos. All bedrock wells were constructed as 4-inch-diameter open-hole below the steel casing. Following installation, the bedrock monitoring wells were flushed until the purge water ran clear. Monitoring wells were installed with temporary stainless-steel stick-ups to contain pressurized bedrock groundwater and/or perched water within the open hole. A well cap was placed at each stickup following installation. Well construction logs are provided in Appendix A.

Pursuant to the 10 October 2023 NYSDEC email correspondence approving the October 2023 GSP, air monitoring was conducted for VOCs during rock coring for well installation. The air monitoring consisted of continuous upwind and downwind perimeter monitoring of organic vapor utilizing PIDs capable of recording data and calculating 15-minute averages. Site perimeters were also monitored for odors. CAMP exceedances of the 15-minute action levels were not observed at any time during the injection event.

Water generated during bedrock well installation and flushing was containerized in 55-gallon steel drums and staged in a designated area for future offsite disposal.

3.0 BEDROCK MONITORING WELL BOREHOLE GEOPHYSICAL ASSESSMENTS

Borehole geophysical logging was completed by Hager Richter Geoscience, Inc. of Fords, NJ (Hager-Richter) between 22 December 2023 and 8 January 2024 in all five pairs of bedrock monitoring wells to characterize the bedrock water-bearing fractures, verify the previously targeted sampling intervals, and finalize the well sampling system design (discussed below). The geophysical analysis included fluid temperature, fluid conductivity, fluid resistivity, caliper, natural gamma, single-point resistance, optical and acoustic televiewer, and heat pulse flow meter logs.

The geophysical observations were generally consistent with those reported in the RIR. Using the geophysical data, 10 of the sampling intervals identified in the October 2023 GSP were confirmed, six of the proposed sampling intervals were modified to better align with water bearing fractures either by moving them vertically up or down approximately 5 feet or horizontally shifting the interval to the other well in its pair, and the deepest sampling interval proposed to be installed at LMW-7R-D instead was installed at LMW-9R-D due to the location of the detected water-bearing fracture. The borehole geophysical logging report is provided as Appendix B.

4.0 MULTI-LEVEL MONITORING WELL SYSTEM CONSTRUCTION AND BEDROCK WELL SAMPLING METHDOLOGY

All ten bedrock monitoring wells were fitted with custom-designed Westbay System fixed multi-level monitoring equipment between 31 January and 5 February 2024. Installation was completed by a technician from Earth Data Northeast, Inc. of Exton, Pennsylvania who was trained to install Westbay Systems. Each well construction consists of a vertically separated series of hydraulically inflated packers connected with central access casing to provide engineered seals between discrete groundwater monitoring zones. Field quality control procedures for verification of the quality of the well installation included evaluating the central access casing for rising water levels as an indicator of potential leaks in the Westbay System construction, verifying operation and location of System components, and checking pressure in the measurement ports before and after packer inflation. Installation and quality review documentation provided by Earth Data Northeast, Inc. is provided in Appendix C.

Seventeen sampling zones ranging in length from five to seven feet were isolated between packers across the ten wells. Each sampling zone overlapped with a well interval or was within 5 feet of a well interval previously sampled as part of the initial September 2022 sampling event or December 2022 baseline sampling event. Based on the results of the borehole geophysical assessment 10 of the sampling intervals identified in the October 2023 GSP were installed as proposed, 6 of the proposed sampling intervals were modified to better align with water bearing fractures (either by moving them vertically up or down approximately 5 feet or horizontally shifting the interval to the other well in its pair), and the deepest sampling interval proposed to be installed at LMW-7R-D instead was installed at LMW-9R-D due to the location of the detected water-bearing fracture. A subsurface profile presenting the well construction, monitoring zones, and fracture intervals is provided as Figure 3. Deviations from the sampling intervals proposed in the October 2023 GSP are shown on Figure 3.

Langan groundwater samplers were trained in sample collection field techniques by the Earth Data Northeast, Inc. technician. Groundwater samples were collected in accordance with the NYSDEC-approved October 2023 GSP on 13 and 16 February 2024. Purging is not required with the Westbay System due to the isolated nature of each monitoring zone; however, one single volume of the respective interval was purged from each sampling interval to remove any water remaining from rock coring and/or well installation activities. Purge water was containerized in 55-gallon steel drums and staged in a designated area for future offsite disposal. Purging prior to sample collection is not anticipated to be implemented during future sampling events, as the Westbay Systems have already been installed and equilibrated. Valved ports within

each monitoring zone provided access to each sampling interval for discrete groundwater sample collection. Discrete groundwater samples were collected at each designated sampling zone in a container that was sealed before being brought to the surface.

Performance monitoring samples were collected by lowering between one and four 250 milliliter (ml) sample containers through the central access casing to the designated sampling zone. The number of sample containers lowered at one time depended on the length of the specific sampling zone. The sealed sample container(s) was then pulled to the surface and the collected sample placed in laboratory-provided bottleware. No notable field observations of impacts were identified during sample collection.

Seventeen groundwater samples were collected from the ten bedrock wells, plus quality assurance/quality control (QA/QC) samples including one duplicate sample, one field blank, and one trip blank. Samples were collected into laboratory-supplied containers and were sealed, labeled, and placed in an ice-chilled cooler (to maintain a temperature of about 4° C) for delivery to Alpha Analytical of Westborough, Massachusetts, a NYSDOH ELAP-certified laboratory. All groundwater samples were analyzed for volatile organic compounds (VOCs). Additional analytical parameters including metals (iron, calcium, manganese, and magnesium), anions (chloride, sulfate, and nitrate), total organic carbon, dissolved organic carbon, alkalinity, hardness, and microbial genes (for total bacteria and *Dehalococcoides*), were analyzed in five of the seventeen samples.

5.0 PERFORMANCE MONITORING RESULTS

Groundwater analytical results were compared to the NYSDEC SGVs and are summarized in Table 1 and on Figure 4. The laboratory data reports and data summary usability reports are provided in Appendix D and Appendix E, respectively.

Performance monitoring groundwater analytical results revealed the presence of CVOCs above the SGVs in six of the ten wells sampled, including all five shallow wells and one deep well, as summarized below.

- PCE was detected above the SGV of 5 µg/l in only one of the ten wells sampled: LMW-7R-S from 6.75 to 11.75 feet btos (el 8 to 3 NAVD88) (21 µg/l) and from 16.75 to 21.75 feet btos (el -2 to -7 NAVD88) (25 µg/l).

- TCE was detected above the SGV of 5 µg/l in only one of the ten wells sampled: LMW-7R-S from 6.75 to 11.75 feet btos (el 8 to 3 NAVD88) (21 µg/l) and from 16.75 to 21.75 feet btos (el -2 to -7 NAVD88) (25 µg/l).
- Cis-1,2-DCE was detected above the SGV of 5 µg/l in three of the five well pairs: LMW-7R-S from 6.75 to 11.75 btos (el 8 to 3 NAVD88) (500 µg/l) and from 16.75 to 21.75 feet btos (el -2 to -7 NAVD88) (560 µg/l), LMW-7R-D from 23.75 to 28.75 feet btos (el -9 to -14 NAVD88) (29 µg/l) and from 49.75 to 54.75 feet btos (el -35 to -40 NAVD88) (20 µg/l), LMW-8R-S from 6.75 to 11.75 feet btos (el 8 to 3 NAVD88) (14 µg/l), and LMW-10R-S from 24.75 to 29.75 feet btos (el -9 to -15 NAVD88) (7.5 µg/l).
- VC was detected above the SGV of 2 µg/l in four of the five well pairs: LMW-6R-S from 18.75 to 23.75 feet btos (el -4 to -9 NAVD88) (2.8 µg/l), LMW-7R-S from 6.75 to 11.75 feet btos (el 8 to 3 NAVD88) (46 µg/l) and from 16.75 to 21.75 feet btos (el -2 to -7 NAVD88) (70 µg/l), LMW-7R-D from 23.75 to 28.75 feet btos (el -9 to -14 NAVD88) (17 µg/l) and from 49.75 to 54.75 feet btos (el -35 to -40 NAVD88) (27 µg/l), LMW-8R-S from 6.75 to 11.75 feet btos (el 8 to 3 NAVD88) (4.4 µg/l), LMW-8R-D from 57.75 to 64.75 feet btos (el -43 to -50 NAVD88) (2.7 µg/l), and LMW-9R-S from 13.75 to 19.75 feet btos (el 1 to -5 NAVD88) (4.6 µg/l).
- Chloroform was detected above the SGV of 7 µg/l in only one of the ten wells sampled: LMW-10R-S from 23.75 to 29.75 feet btos (el -9 to -15 NAVD88) (13 µg/l).

Concentrations of acetone, benzene, methyl ethyl ketone, toluene, and trans-1,2-dichloroethene, were also detected above the SGVs in four of the five well pairs.

The maximum concentrations of PCE, TCE, Cis-1,2-DCE, VC, and chloroform detected during the initial September 2022 sampling event and December 2022 baseline sampling events were 900 µg/l (LMW-8R-S), 390 µg/l (LMW-8R-S), 710 µg/l (LMW-7R-S), 6.7 µg/l (LMW-8R-D), and 56 µg/l (LMW-6R-D), respectively. With the exception of chloroform, the maximum concentrations of these compounds were detected in LMW-7R-S during the performance monitoring event at concentrations of 25 µg/l (PCE), 25 µg/l (TCE), 560 µg/l (cis-1,2-DCE), and 70 µg/l (VC). The maximum detection of chloroform during the performance monitoring event was 13 µg/l detected at LMW-10R-S. Maximum concentrations of PCE and TCE decreased by an order of magnitude following the 2023 EZVI injections. As both compounds were detected in only one of the ten wells during performance monitoring, the analytical results also reveal a reduction in the horizontal and vertical extents of the detections of these compounds at concentrations exceeding the SGVs. Maximum concentrations of breakdown products including

cis-1,2-DCE and chloroform also decreased from those detected during the baseline sampling event, while the maximum concentration of vinyl chloride increased an order of magnitude. Elevated concentrations of breakdown products were expected due to the anticipated degradation of PCE and TCE.

On average, iron and total organic carbon (TOC) concentrations were similar to the baseline event. The iron concentrations ranged from 15,200 to 88,200 µg/l and TOC concentrations, where detected, ranged from 2,100 to 15,000 µg/l. It should be noted however that on an individual well basis, the iron concentrations increased at all locations except for LMW-8R-S.

Sulfate concentrations notably decreased compared to the baseline event (55,000 to 1,100,000 µg/l), with concentrations ranging from 3,500 to 150,000 µg/l. Sulfate reduction was anticipated, as the result of reducing conditions created by the EZVI injection.

Total bacteria (EBAC) concentrations increased, with concentrations ranging from 3.8×10^6 to 5.57×10^8 cell/ml. *Dehalococcoides* (DHC) concentrations increased, with concentrations ranging from 1.4 to 9.1×10^4 cell/ml.

6.0 PERFORMANCE MONITORING CONCLUSIONS/RECOMMENDATIONS

The maximum concentrations of three COCs, PCE, TCE, and cis-1,2-DCE were successfully reduced, as compared to the baseline concentrations. Concentrations of PCE, TCE, and cis-1,2-DCE remain present at concentrations above the SGVs by an order of magnitude at only three wells: LMW-7R-S, LMW-7R-D, and LMW-8R-S. Vinyl chloride exceedances of the SGVs are still present at LMW-6R-S, LMW-7R-S, LMW-7R-D, LMW-8R-S, LMW-8R-D, and LMW-9R-S; the concentration of vinyl chloride exceeds the SGV by over one order of magnitude at LMW-7R-S and LMW-7R-D. A concentration of chloroform was detected above the SGV at LMW-10R-S.

Completion of an additional focused injection is proposed to be conducted at the four specific well intervals with COC concentrations greater than one order of magnitude above the SGV (LMW-7R-S at the el 8 to 3 NAVD88 and el -2 to -7 NAVD88 intervals, LMW-7R-D at the el -9 to -14 NAVD88 interval, and LMW-8R-S at the el 8 to 3 NAVD88 interval). The additional injection reagents and dosages will be generally consistent with the first injection at these locations, while accounting for specific geochemical conditions that may exist. In addition to the injections of EZVI, the injection of additional emulsified vegetable oil (EVO) is proposed at these four intervals (prior to the EZVI injection) and also at the following well intervals where only cis-1,2-DCE and/or vinyl chloride remain above the SGVs: LMW-6R-S from 18.75 to 23.75 feet (el -4 to -9 NAVD88); LMW-8R-D from 57.75 to 64.75 (el -43 to -50 NAVD88); LMW-9R-S at 13.75 to 19.75 feet

(el 1 to -5 NAVD88); and LMW-10R-S from 23.75 to 29.75 feet (-9 to -15 NAVD88). Due to the lack of PCE and TCE above SGVs at these four intervals and the daughter product concentrations, which are all below 10 ug/l, the more aggressive approach of injecting EZVI is not necessary to address these lingering concentrations. The addition of EVO at these intervals will increase the total organic carbon content to assist in the bioremediation of these residual daughter product concentrations. The additional injection is proposed to be completed within the existing well infrastructure. The design for the proposed additional injection event is provided in Section 7.0.

7.0 ADDITIONAL REMEDIAL INJECTION

The injection solution for the additional injection event will consist of similar reagents as the previous injection event. The reagents will consist of SRS[®]-ZVI (20%, 4 micron) emulsified vegetable oil (EVO), 60% SRS[®]-SD buffered EVO, TSI[®]-FSS ferrous sulfide solution, nutrients (yeast extract and diammonium phosphate [DAP]), and bioaugmentation culture TSI-DC[®]. The reagent demands and injection volumes for the additional injection event are summarized on Table 4.

The following tasks will be completed as a part of the additional EZVI injection implementation and are described herein.

- Health and Safety Requirements
- Permit and Notifications;
- Mobilization;
- Injection Event;
- Community Air Monitoring; and
- Post-Injection Groundwater Monitoring Events.

7.1 Health and Safety Requirements

A site-specific construction health and safety plan (CHASP) was developed as Appendix A of the January 2023 IRMWP and will be enforced to protect on-Site workers during the implementation of the EZVI remedy. This CHASP includes reagent and chemical substance handling and storage guidelines, first aid and spill control measures, and exposure limits for all additives to be used in the field. Supplemental Safety Data Sheets (SDS) were provided in Appendix C of the March 2023 EZVI Remedial Design. Personal protective equipment (PPE) to be used while handling reagents will include full-face respirators, as applicable, chemical resistant coveralls and booties, nitrile gloves, steel toed shoes, and hard hat. A job safety analysis will be prepared before all field activities.

Appropriate storage, handling, and spill cleanup guidelines will be followed to minimize the potential for accidental release and exposure to injection reagents. The injection area and surroundings will be continuously monitored for surfacing and leaks during the injection process. In the event of surfacing or leak, the injections will be immediately stopped, and the leaked or surfaced materials will be removed and contained in drums. At the end of each workday, once application of injection pressure is ceased, injection area and surroundings will be monitored for an additional half hour to identify any potential surfacing or leaks. During this time the pressure at the injection points is expected to subside to ambient conditions, reducing the potential for surfacing.

All injection reagents will be stored on-Site within a secured area with secondary containment and appropriate labeling and warning signs.

7.2 Permits and Notifications

An underground control notification letter along with Inventory of Injection Wells form (USEPA form 7520-16) and a copy of the approved design for the additional remedial injection event will be submitted to the USEPA before field activities for injections are started.

A permit for access to the New York City fire hydrant has been issued by the New York City Department of Environmental Protection (NYCDEP). Hydrant water will be used to provide dilution water for injection activities.

7.3 Mobilization

Prior to starting the injection activities, Langan and its subcontractors will mobilize the necessary equipment and reagents to the Site. Mobilization will be completed over the course of one to two days. Reagents and equipment mobilized to the Site will be staged adjacent to the treatment areas as shown on Figure 5A. Equipment needed for the injection includes the following: air compressor, generator (if on-site power is not available), injection mixing totes, electric mixer, injection hoses, injection pumps, injection manifold, well head fittings, groundwater sampling/monitoring equipment, work zone and perimeter air monitoring equipment, and 55-gallon steel drums. Reagents will be delivered to the Site. The remedial reagents (SRS-ZVI®, calcium bicarbonate, yeast extract, DAP, sodium ascorbate, and bioaugmentation culture TSI-DC®) will be sourced from Terra Systems, Inc. of Claymont, Delaware. The safety data sheets (SDS) for all remedial reagents were provided in Appendix C of the March 2023 EZVI Remedial Design. All mixing and injection equipment will be staged within secondary containment in the treatment areas. Water for dilution of injection reagents will be sourced

directly from a nearby fire hydrant. An inert chemical reducing agent may be added to the injection water to assure that it is anaerobic and reducing. The proposed injection locations are existing bedrock wells located in the sub-cellar of the building currently under construction.

7.4 Injections

The injection event will include preparation for the injection of undiluted SRS-ZVI® reagent, application of injection mix (calcium carbonate, yeast extract, DAP, and reducing reagent), and injection of undiluted bioaugmentation culture TSI-DC®, at the aforementioned intervals at the existing bedrock wells, LMW-7R-S, LMW-7R-D, and LMW-8R-S.

Injection of EVO: EVO will be diluted with anaerobic water to reach the target pore volume summarized in Table 4. The injection of EVO will occur before and after the application of the bioaugmentation culture.

Application of Injection Mixture: An injection mixture of calcium carbonate, yeast extract, and DAP, will be prepared in water that has been made anaerobic (<0.5 milligrams per liter dissolved oxygen and ~-75 millivolts oxidation reduction potential), using the reducing reagent as necessary. Injection mixture will be prepared in small batches of about 100-200 gallons, and will be continuously mixed to avoid settling of solids. Remedial reagents are provided in Table 4.

Application of Bioaugmentation culture TSI-DC®: The bioaugmentation culture will be injected without dilution and in-line before the injection point, to minimize the exposure of the oxygen sensitive microbial culture to air. Volume of bioaugmentation culture to be applied at each interval is provided in Table 4.

Injection of EZVI: Following the second injection of EVO, SRS-ZVI® will be injected without dilution and directly pumped from the reagent tote into the targeted injection intervals summarized in Table 4. Finally, an additional injection of anaerobic water will be completed following the injection of SRS-ZVI®.

Injections: The EZVI injection mix will be applied within the treatment zones using the existing shallow (LMW-7R-S and LMW-8R-S) and deep (LMW-7R-D) bedrock well intervals via the Westbay System. For the four aforementioned intervals at LMW-6R-S, LMW-8R-D, LMW-9R-S, and LMW-10R-S, the procedure shall be the same with exception that EZVI will not be injected at these locations. During the March/April 2023 EZVI injections, injection attempts at LMW-7R-S were unsuccessful as evidenced by immediate daylighting of the injection media. During the monitoring well re-installation, LMW-7R-S and LMW-7R-D were evaluated to verify the presence

of groundwater-producing fractures in the four performance monitoring sampling intervals. The presence of these fractures was confirmed in both intervals within LMW-7R-S and the shallow interval in LMW-7R-D; therefore, EZVI injection will be attempted at low pressure within these three fracture zones. If injections at LMW-7R-S are unsuccessful (i.e., all reagents daylight or otherwise do not enter the formation) then EZVI may also be injected at LMW-9R-S, which had communication with LMW-7R-S during the first injection event and enabled reductions in the PCE and TCE concentrations in LMW-7R-S.

Proposed injection locations are shown on Figure 5A and injection intervals are shown in Figure 5B and provided in Table 4. Injections at each location will be performed from top to bottom, opening only one interval at a time and utilizing the mechanical pumping port at each of the injection intervals isolated by the Westbay System packers. The injection reagents will be pumped from the mixing tank or directly from the reagent tote into the well head through an injection manifold. The injection manifold will be equipped with ball valves, gate valves, and flow totalizers to regulate and monitor the injection flow. Each injection location will be fitted with a well head that will be equipped with a pressure gauge and a threaded adaptor to connect to the injection location and Camlock fittings to connect with similarly fitted hoses. One bedrock well will be injected at a time. An injection process diagram is provided as Figure 6.

All reagents will be injected at the target injection interval followed by injection of up to 50 to 100 gallons of anaerobic chase water, to rinse the injection hoses and push out reagents within the fractures away from the injection location. Changes to the injections (e.g., reagent volume, treatment intervals, extent of dilution of reagents [calcium carbonate, alkaline buffer yeast extract, and DAP], and volume of chase water) will be made based on field observations. The injection event is estimated to be completed within one to two weeks.

7.5 Community Air Monitoring Plan (CAMP)

Pursuant to the NYSDEC-approved IRMWP dated January 2023, air monitoring is required for particulates (i.e., dust) and VOCs during intrusive activities. As no soil movement will occur during remedial injections, the CAMP will not be implemented.

As noted above, the reagents included in the proposed second injection event are SRS[®]-ZVI (20%, 4 micron) EVO, 60% SRS[®]-SD buffered EVO, TSI[®]-FSS ferrous sulfide solution, nutrients (yeast extract and DAP), and bioaugmentation culture TSI-DC[®]. SDS were provided in Appendix C of the March 2023 EZVI Remedial Design. The mixing and injection of these reagents through the Westbay system infrastructure is not anticipated to result in the release of VOCs, dust, or odors.

As such, the exposure potential for downwind communities and users is low. If odors or dust are observed to be migrating beyond the work zone, the CAMP will be implemented.

7.6 Injection Monitoring

Injection monitoring will consist of batch, field, and process monitoring. The injection monitoring plan is summarized in Table 5.

Batch Monitoring: During preparation of each batch of injection solution, the mixing ratios and volumes will be recorded.

Field Monitoring: Water quality parameters (e.g., pH, temperature, ORP, dissolved oxygen, turbidity, conductivity, and total dissolved solids) and head will be measured daily at the existing bedrock wells before the injections and daily after the injections. During injections at the bedrock monitoring well intervals, water quality will be monitored at other similar bedrock well intervals. Field monitoring will be used to monitor the injections. In addition, monitoring will be performed to identify leaks and surfacing of injection fluid at the injection wells heads, and within and around the treatment zone. Any injection fluid that surfaces will be contained in 55-gallon drums and disposed of off-Site.

Process Monitoring: During EZVI injections, process parameters (injection pressure, flow rate, and volume) will be monitored. The process monitoring will be performed to assess the injection process.

Preparation of batches of injection solutions, the injection process parameters, and field monitoring will be recorded in field logs.

7.7 Post-Injection Performance Monitoring

A post-injection groundwater monitoring event will be performed three months after the completion of injections and the need for additional monitoring will be determined following review of the performance monitoring analytical results. Seventeen groundwater samples will be collected from the same seventeen monitoring intervals that were sampled during the February 2024 performance monitoring event, in addition to quality assurance/quality control samples. Samples will be collected in laboratory-supplied containers and will be sealed, labeled, and placed in an ice-chilled cooler (to maintain a temperature of about 4° C) for delivery to a NYSDOH ELAP-certified laboratory. All groundwater samples will be analyzed for volatile organic compound (VOC) analysis. Additional analytical parameters including metals (iron, calcium, manganese, and magnesium), anions (chloride, sulfate, and nitrate), total organic carbon,

dissolved organic carbon, alkalinity, hardness, and microbial genes (for total bacteria and Dehalococcoides), will be analyzed in five of the seventeen samples including three locations where a second EZVI injection is proposed (LMW-7R-S, LMW-7R-D, and LMW-8R-S) and two locations where an EVO injection is proposed (LMW-8R-D and LMW-10R-S). Water pressure measurements and groundwater quality parameters (e.g., pH, temperature, ORP, DO, turbidity, and conductivity) will be collected during each groundwater monitoring event. Purged groundwater collected during the sampling event, if any, will be contained in 55-gallon drums and properly disposed of off-Site.

8.0 REPORTING

Category B deliverables will be requested from the laboratory and a DUSR will be prepared. VOC analytical results in groundwater will be reviewed to assess reductions from the initial September 2022 and baseline December 2022 pre-remediation concentrations and the February 2024 performance monitoring concentrations, and the additional parameters will be reviewed to assess the potential for ongoing reductions resulting from the second remedial injection event. In addition to the analytical results, the performance monitoring report will include injection volumes, reagent dosage, and injection and field monitoring data.

As the additional injection event will continue to reduce the concentrations of breakdown products in groundwater, Langan anticipates that a petition for well closure of LMW-6R-S/D, LMW-8R-D, LMW-9R-S/D, and LMW-10R-S/D will be included in the next performance monitoring report following the 3-month sampling event. Analytical results for LMW-7R-S/D and LMW-8R-S will be reviewed to confirm the efficacy of the second injection event and determine if closure of these wells can also be completed at these locations.

TABLES

Table 1 Groundwater Monitoring Report and Injection Plan Passive Diffusion Bag (PDB) Groundwater Sample Analytical Results

1487 1st Avenue Redevelopment Site New York, New York NYSDEC BCP Site No.: C231152 Langan Project No.: 100963701

Table with columns for Analyte, CAS Number, NYSDEC SGVs, Location, Sample Name, Sample Date, Pump Intake Depth, and 14 monitoring wells (LMW-6R-D, LMW-6R-S, LMW-7R-D, LMW-7R-S) showing analytical results.

Table 1
Groundwater Monitoring Report and Injection Plan
Passive Diffusion Bag (PDB) Groundwater Sample Analytical Results

1487 1st Avenue Redevelopment Site
New York, New York
NYSDEC BCP Site No.: C231152
Langan Project No.: 100963701

Table with columns: Analyte, CAS Number, NYSDEC SGVs, Location, Sample Name, Sample Date, Pump Intake Depth, and 16 columns of analytical results for various monitoring points (LMW-8R-D, LMW-8R-S, LMW-9R-D).

Table 3
Groundwater Monitoring Report and Injection Plan
Performance Monitoring Groundwater Sample Analytical Results

1487 1st Avenue Redevelopment Site
New York, New York
NYSDEC BCP Site No.: C231152
Langan Project No.: 100963701

Table with columns for Analyte, CAS Number, NYSDEC SGVs, Location, Sample Name, Sample Date, Sample Depth, and 20 monitoring wells (LMW-6R-D, LMW-6R-D, LMW-6R-D, LMW-6R-S, LMW-7R-D, LMW-7R-D, LMW-7R-S, LMW-7R-S, LMW-8R-D, LMW-8R-D, LMW-8R-S, LMW-8R-S, LMW-8R-S, LMW-8R-S, LMW-9R-D, LMW-9R-S, LMW-10R-D, LMW-10R-D, LMW-10R-S). Rows include Volatile Organic Compounds (e.g., 1,1,1,2-Tetrachloroethane, Benzene, Chloroform) and Metals (e.g., Calcium, Iron, Magnesium, Manganese). Values range from <2.5 U to various numerical concentrations.

Table 4
Groundwater Monitoring Report and Injection Plan
Combined Groundwater Analytical Results

1487 1st Avenue Redevelopment Site
New York, New York
NYSDEC BCP Site No.: C231152
Langan Project No.: 100963701

Proposed
Re-Injection Interval

Analyte	CAS Number	NYSDEC SGVs	Location	Proposed Re-Injection Interval											
				LMW-6R-S	LMW-6R-S	LMW-6R-S	LMW-6R-S	LMW-6R-D	LMW-6R-D	LMW-6R-D	LMW-6R-D	LMW-6R-D	LMW-6R-D	LMW-6R-D	
			Sample Name	LMW-6R-S_21.5	LMW-6R-S_20.5	LMW-6R-S_31	LMW-6R-S_18.75	LMW-6R-D_46	LMW-6R-D_47.75	LMW-6R-D_32.75	LMW-6R-D_42.75	LMW-6R-D_70	LMW-6R-D_75	LMW-6R-D_54.75	
			Sample Date	09/29/2022	12/28/2022	09/29/2022	02/14/2024	09/29/2022	12/28/2022	02/13/2024	02/13/2024	09/29/2022	09/29/2022	02/13/2024	
			Sample Event	Pre-Injections	Pre-Injections	Pre-Injections	Post-Injections	Pre-Injections	Pre-Injections	Post-Injections	Post-Injections	Pre-Injections	Pre-Injections	Post-Injections	
			Sample Depth	21.5	20.5	31	18.75-23.75	46	47.75	32.75-37.75	42.75-47.75	70	75	52.75-59.75	
			Sample El.	9.77 - 7.77	10.77 - 5.77	0.27 - -1.73	-4 - -9	-14.43 - -16.43	-16.18 - -21.18	-18 - -23	-28 - -33	-38.43 - -40.43	-43.43 - -45.43	-38 - -45	
			Unit	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	
Volatile Organic Compounds															
1,1,1,2-Tetrachloroethane	630-20-6	5	ua/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
1,1,1-Trichloroethane	71-55-6	5	ua/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
1,1,2,2-Tetrachloroethane	79-34-5	5	ua/l	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	0.21 J
1,1,2-Trichloroethane	79-00-5	1	ua/l	<1.5 U	<1.5 U	<1.5 U	<1.5 U	<1.5 U	<1.5 U	<1.5 U	<1.5 U	<1.5 U	<1.5 U	<1.5 U	<1.5 U
1,1-Dichloroethane	75-34-3	5	ua/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
1,1-Dichloroethene	75-35-4	5	ua/l	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
1,1-Dichloropropene	563-58-6	5	ua/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
1,2,3-Trichlorobenzene	87-61-6	5	ua/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
1,2,3-Trichloropropane	96-18-4	0.04	ua/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
1,2,4,5-Tetramethylbenzene	95-93-2	5	ua/l	<2 U	<2 U	<2 U	<2 U	<2 U	<2 U	0.55 J	<2 U	<2 U	<2 U	<2 U	<2 U
1,2,4-Trichlorobenzene	120-82-1	5	ua/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
1,2,4-Trimethylbenzene	95-63-6	5	ua/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	1 J	0.95 J	<2.5 U	<2.5 U	0.74 J
1,2-Dibromo-3-Chloropropane	96-12-8	0.04	ua/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
1,2-Dibromoethane (Ethylene Dibromide)	106-93-4	0.0006	ua/l	<2 U	<2 U	<2 U	<2 U	<2 U	<2 U	<2 U	<2 U	<2 U	<2 U	<2 U	<2 U
1,2-Dichlorobenzene	95-50-1	3	ua/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
1,2-Dichloroethane	107-06-2	0.6	ua/l	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
1,2-Dichloropropane	78-87-5	1	ua/l	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
1,3,5-Trimethylbenzene (Mesitylene)	108-67-8	5	ua/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
1,3-Dichlorobenzene	541-73-1	3	ua/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
1,3-Dichloropropane	142-28-9	5	ua/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
1,4-Dichlorobenzene	106-46-7	3	ua/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
1,4-Diethyl Benzene	105-05-5	NS	ua/l	<2 U	<2 U	<2 U	<2 U	<2 U	<2 U	0.79 J	<2 U	<2 U	<2 U	<2 U	<2 U
1,4-Dioxane (P-Dioxane)	123-91-1	NS	ua/l	<250 U	<250 U	<250 U	<250 U	<250 U	<250 U	<250 U	<250 U	<250 U	<250 U	<250 U	<250 U
2,2-Dichloropropane	594-20-7	5	ua/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
2-Chlorotoluene	95-49-8	5	ua/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
2-Hexanone (MBK)	591-78-6	50	ua/l	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	1.2 J	<5 U	<5 U	<5 U	<5 U	<5 U
4-Chlorotoluene	106-43-4	5	ua/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
4-Ethyltoluene	622-96-8	NS	ua/l	<2 U	<2 U	<2 U	<2 U	<2 U	<2 U	<2 U	<2 U	<2 U	<2 U	<2 U	<2 U
Acetone	67-64-1	50	ua/l	8.8	10 J	6.7	22	19	4.4 J	59	51	17	33	44	44
Acrylonitrile	107-13-1	5	ua/l	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U
Benzene	71-43-2	1	ua/l	0.16 J	0.72	<0.5 U	0.23 J	<0.5 U	<0.5 U	0.17 J	0.16 J	<0.5 U	<0.5 U	<0.5 U	<0.5 U
Bromobenzene	108-86-1	5	ua/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
Bromochloromethane	74-97-5	5	ua/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
Bromodichloromethane	75-27-4	50	ua/l	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
Bromoform	75-25-2	50	ua/l	<2 U	<2 U	<2 U	<2 U	<2 U	<2 U	<2 U	<2 U	<2 U	<2 U	<2 U	<2 U
Bromomethane	74-83-9	5	ua/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
Carbon Disulfide	75-15-0	60	ua/l	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	1 J	<5 U	<5 U	<5 U	<5 U
Carbon Tetrachloride	56-23-5	5	ua/l	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
Chlorobenzene	108-90-7	5	ua/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
Chloroethane	75-00-3	5	ua/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
Chloroform	67-66-3	7	ua/l	24	1.4 J	25	25	55	7.4	2.5 U	2.5 U	56	55	2.5 U	2.5 U
Chloromethane	74-87-3	5	ua/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
Cis-1,2-Dichloroethene	156-59-2	5	ua/l	17	29	16	3.3	4.3	3.1	1.2 J	1.2 J	4	3.8	0.8 J	0.8 J
Cis-1,3-Dichloropropene	10061-01-5	0.4	ua/l	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
Cymene	99-87-6	5	ua/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
Dibromochloromethane	124-48-1	50	ua/l	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
Dibromomethane	74-95-3	5	ua/l	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U
Dichlorodifluoromethane	75-71-8	5	ua/l	<5 U	<5 U	1 J	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U
Diethyl Ether (Ethyl Ether)	60-29-7	NS	ua/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
Ethylbenzene	100-41-4	5	ua/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
Hexachlorobutadiene	87-68-3	0.5	ua/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
Isopropylbenzene (Cumene)	98-82-8	5	ua/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
M,P-Xylene	179601-23-1	5	ua/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
Methyl Ethyl Ketone (2-Butanone)	78-93-3	50	ua/l	<5 U	<5 U	<5 U	4.8 J	2.7 J	<5 U	57	53	<5 U	<5 U	<5 U	55
Methyl Isobutyl Ketone (4-Methyl-2-Pentanone)	108-10-1	NS	ua/l	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U
Methylene Chloride	75-09-2	5	ua/l	2.6	<2.5 U	2.9	<2.5 U	3.9	1.6 J	<2.5 U	<2.5 U	4	3.6	0.81 J	0.81 J
Naphthalene	91-20-3	10	ua/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
n-Butylbenzene	104-51-8	5	ua/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
n-Propylbenzene	103-65-1	5	ua/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.							

Table 4
Groundwater Monitoring Report and Injection Plan
Combined Groundwater Analytical Results

1487 1st Avenue Redevelopment Site
New York, New York
NYSDEC BCP Site No.: C231152
Langen Project No.: 100983701

Proposed Re-Injection Interval

Proposed Re-Injection Interval

Proposed Re-Injection Interval

Table with columns: Analyte, CAS Number, NYSDEC SGVs, Location, and multiple columns for monitoring wells (LMW-7R-S, LMW-7R-D) across different dates and depths. Rows include Volatile Organic Compounds, Metals, and General Chemistry - Total.

Table 4 Groundwater Monitoring Report and Injection Plan Combined Groundwater Analytical Results

1487 1st Avenue Redevelopment Site New York, New York NYSDEC BCP Site No.: C231152 Langan Project No.: 100963701

Table with columns for Analyte, CAS Number, NYSDEC SGVs, Location, Sample Name, Sample Date, Sample Event, Sample Depth, Sample El., and 20 columns for Proposed Re-Injection Interval (LMW-8R-S, LMW-8R-D, etc.). Rows include Volatile Organic Compounds, Metals, and General Chemistry - Total.

Table 4
Groundwater Monitoring Report and Injection Plan
Combined Groundwater Analytical Results

1487 1st Avenue Redevelopment Site
New York, New York
NYSDEC BCP Site No.: C231152
Langan Project No.: 100963701

Proposed
Re-Injection Interval

Analyte	CAS Number	NYSDEC SGVs	Location	LMW-9R-S	LMW-9R-S	LMW-9R-S	LMW-9R-D	LMW-9R-D	LMW-9R-D	LMW-9R-D	LMW-9R-D	LMW-9R-D	
				Sample Name	LMW-9R-S_22	LMW-9R-S_30.5	LMW-9R-S_13.75	LMW-9R-D_43.5	LMW-9R-D_46.5	LMW-9R-D_60.5	LMW-9R-D_63.5	LMW-9R-D_76	LMW-9R-D_58.25
				Sample Date	09/29/2022	09/29/2022	02/13/2024	09/29/2022	09/29/2022	09/29/2022	09/29/2022	09/29/2022	02/14/2024
				Sample Event	Pre-Injections	Pre-Injections	Post-Injections	Pre-Injections	Pre-Injections	Pre-Injections	Pre-Injections	Pre-Injections	Post-Injections
				Sample Depth	22	30.5	13.75-19.75	43.5	46.5	60.5	63.5	76	55.25-63.25
Sample El.	11.34 - 9.34	2.84 - 0.84	1 - 5	-10.16 - -12.16	-13.16 - -15.16	-26.6 - -28.6	-29.6 - -31.6	-42.1 - -44.1	-40.5 - -48.5				
Unit	Result	Result	Result	Result	Result	Result	Result	Result	Result				
Volatile Organic Compounds													
1,1,1,2-Tetrachloroethane	630-20-6	5	ua/l	<5 U	<6.2 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	
1,1,1-Trichloroethane	71-55-6	5	ua/l	<5 U	<6.2 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	
1,1,2,2-Tetrachloroethane	79-34-5	5	ua/l	<1 U	<1.2 U	0.18 J	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	
1,1,2-Trichloroethane	79-00-5	1	ua/l	<3 U	<3.8 U	<1.5 U	<1.5 U	<1.5 U	<1.5 U	<1.5 U	<1.5 U	<1.5 U	
1,1-Dichloroethane	75-34-3	5	ua/l	<5 U	<6.2 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	
1,1-Dichloroethene	75-35-4	5	ua/l	<1 U	<1.2 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	
1,1-Dichloropropene	563-58-6	5	ua/l	<5 U	<6.2 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	
1,2,3-Trichlorobenzene	87-61-6	5	ua/l	<5 U	<6.2 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	
1,2,3-Trichloropropane	96-18-4	0.04	ua/l	<5 U	<6.2 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	
1,2,4,5-Tetramethylbenzene	95-93-2	5	ua/l	<4 U	<5 U	<2 U	<2 U	<2 U	<2 U	<2 U	<2 U	<2 U	
1,2,4-Trichlorobenzene	120-82-1	5	ua/l	<5 U	<6.2 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	
1,2,4-Trimethylbenzene	95-63-6	5	ua/l	<5 U	<6.2 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	
1,2-Dibromo-3-Chloropropane	96-12-8	0.04	ua/l	<5 U	<6.2 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	
1,2-Dibromoethane (Ethylene Dibromide)	106-93-4	0.0006	ua/l	<4 U	<5 U	<2 U	<2 U	<2 U	<2 U	<2 U	<2 U	<2 U	
1,2-Dichlorobenzene	95-50-1	3	ua/l	<5 U	<6.2 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	
1,2-Dichloroethane	107-06-2	0.6	ua/l	<1 U	<1.2 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	
1,2-Dichloropropane	78-87-5	1	ua/l	<2 U	<2.5 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	
1,3,5-Trimethylbenzene (Mesitylene)	108-67-8	5	ua/l	<5 U	<6.2 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	
1,3-Dichlorobenzene	541-73-1	3	ua/l	<5 U	<6.2 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	
1,3-Dichloropropane	142-28-9	5	ua/l	<5 U	<6.2 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	
1,4-Dichlorobenzene	106-46-7	3	ua/l	<5 U	<6.2 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	
1,4-Diethyl Benzene	105-05-5	NS	ua/l	<4 U	<5 U	<2 U	<2 U	<2 U	<2 U	<2 U	<2 U	<2 U	
1,4-Dioxane (P-Dioxane)	123-91-1	NS	ua/l	<500 UJ	<620 UJ	<250 U	<250 U	<250 U	<250 UJ	<250 UJ	<250 U	<250 U	
2,2-Dichloropropane	594-20-7	5	ua/l	<5 U	<6.2 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	
2-Chlorotoluene	95-49-8	5	ua/l	<5 U	<6.2 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	
2-Hexanone (MBK)	591-78-6	50	ua/l	<10 U	<12 U	1.2 J	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	
4-Chlorotoluene	106-43-4	5	ua/l	<5 U	<6.2 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	
4-Ethyltoluene	622-96-8	NS	ua/l	<4 U	<5 U	<2 U	<2 U	<2 U	<2 U	<2 U	<2 U	<2 U	
Acetone	67-64-1	50	ua/l	16	26	100	8.4	6.8	20	6.2	13	9.7	
Acrylonitrile	107-13-1	5	ua/l	<10 U	<12 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	
Benzene	71-43-2	1	ua/l	8.5	7.4	1.3	0.6	0.56	0.65	1.6	0.19 J	5.7	
Bromobenzene	108-86-1	5	ua/l	<5 U	<6.2 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	
Bromochloromethane	74-97-5	5	ua/l	<5 U	<6.2 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	
Bromodichloromethane	75-27-4	50	ua/l	<1 U	<1.2 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	
Bromoform	75-25-2	50	ua/l	<4 U	<5 U	<2 U	<2 U	<2 U	<2 U	<2 U	<2 U	<2 U	
Bromomethane	74-83-9	5	ua/l	<5 U	<6.2 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	
Carbon Disulfide	75-15-0	60	ua/l	<10 U	<12 U	<5 U	<5 U	<5 U	<5 U	1 J	<5 U	<5 U	
Carbon Tetrachloride	56-23-5	5	ua/l	<1 U	<1.2 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	
Chlorobenzene	108-90-7	5	ua/l	<5 U	<6.2 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	
Chloroethane	75-00-3	5	ua/l	<5 U	<6.2 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	
Chloroform	67-66-3	7	ua/l	7.9	7.5	<2.5 U	1.2 J	1.2 J	<2.5 U	3.8	34	<2.5 U	
Chloromethane	74-87-3	5	ua/l	<5 U	<6.2 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	
Cis-1,2-Dichloroethene	156-59-2	5	ua/l	28	28	<2.5 U	9.6	8.8	9.6	11	2.3 J	9.6	
Cis-1,3-Dichloropropene	10061-01-5	0.4	ua/l	<1 U	<1.2 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	
Cymene	99-87-6	5	ua/l	<5 U	<6.2 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	
Dibromochloromethane	124-48-1	50	ua/l	<1 U	<1.2 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	
Dibromomethane	74-95-3	5	ua/l	<10 U	<12 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	
Dichlorodifluoromethane	75-71-8	5	ua/l	<10 U	<12 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	
Diethyl Ether (Ethyl Ether)	60-29-7	NS	ua/l	<5 U	<6.2 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	
Ethylbenzene	100-41-4	5	ua/l	<5 U	<6.2 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	
Hexachlorobutadiene	87-68-3	0.5	ua/l	<5 U	<6.2 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	
Isopropylbenzene (Cumene)	98-82-8	5	ua/l	<5 U	<6.2 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	
M,P-Xylene	179601-23-1	5	ua/l	<5 U	<6.2 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	
Methyl Ethyl Ketone (2-Butanone)	78-93-3	50	ua/l	<10 UJ	<12 UJ	82	2 J	<5 U	1.9 J	<5 UJ	<5 U	16	
Methyl Isobutyl Ketone (4-Methyl-2-Pentanone)	108-10-1	NS	ua/l	<10 U	<12 U	4.3 J	<5 U	<5 U	<5 U	<5 U	<5 UJ	<5 UJ	
Methylene Chloride	75-09-2	5	ua/l	<5 U	<6.2 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	8	<2.5 U	<2.5 U	
Naphthalene	91-20-3	10	ua/l	<5 U	<6.2 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	
n-Butylbenzene	104-51-8	5	ua/l	<5 U	<6.2 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	
n-Propylbenzene	103-65-1	5	ua/l	<5 U	<6.2 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	
o-Xylene (1,2-Dimethylbenzene)	95-47-6	5	ua/l	<5 U	<6.2 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	
Sec-Butylbenzene	135-98-8	5	ua/l	<5 U	<6.2 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	
Styrene	100-42-5	5	ua/l	<5 U	<6.2 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	
T-Butylbenzene	98-06-6	5	ua/l	<5 U	<6.2 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	
Tert-Butyl Methyl Ether	1634-04-4	10	ua/l	<5 U	<6.2 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	0.75 J	
Tetrachloroethene (PCE)	127-18-4	5	ua/l	190	250	0.2 J	2.7	2.5	2.4	2.1	0.34 J	<0.5 U	
Toluene	108-88-3	5	ua/l	<5 U	<6.2 U	85	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	
Total 1,2-Dichloroethene (Cis and Trans)	540-59-0	NS	ua/l	28	28	<2.5 U	9.6	8.8	9.6	11	2.3 J	<2.5 U	
Total Xylenes	1330-20-7	5	ua/l	<5 U	<6.2 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	
Total 1,3-Dichloropropene (Cis And Trans)	542-75-6	0.4	ua/l	<1 U	<1.2 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	
Trans-1,2-Dichloroethene	156-60-5	5	ua/l	<5 U	<6.2 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	
Trans-1,3-Dichloropropene	10061-02-6	0.4	ua/l	<1 U	<1.2 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	
Trans-1,4-Dichloro-2-Butene	110-57-6	5	ua/l	<5 U	<6.2 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	
Trichloroethene (TCE)	79-01-6	5	ua/l	56	58	<0.5 U	0.75	0.68	0.65	0.65	<0.5 U	<0.5 U	
Trichlorofluoromethane	75-69-4	5	ua/l	<5 U	<6.2 U	<2.5 U	<2.5 U	<2.5 U	<				

Table 4
Groundwater Monitoring Report and Injection Plan
Combined Groundwater Analytical Results

1487 1st Avenue Redevelopment Site
New York, New York
NYSDEC BCP Site No.: C231152
Langan Project No.: 100963701

Analyte	CAS Number	NYSDEC SGVs	Location	Proposed Re-Injection Interval												
				LMW-10R-S	LMW-10R-S	LMW-10R-S	LMW-10R-S	LMW-10R-S	LMW-10R-S	LMW-10R-D	LMW-10R-D	LMW-10R-D	LMW-10R-D	LMW-10R-D		
				Sample Name	LMW-10R-S_18.25	LMW-10R-S_21.5	LMW-10R-S_26.5	LMW-10R-S_28.5	LMW-10R-S_34	LMW-10R-S_36	LMW-10R-D_40.5	LMW-10R-S_24.75	LMW-10R-D_49	LMW-10R-D_30.75	LMW-10R-D_40.75	LMW-10R-D_63
				Sample Date	12/23/2022	09/29/2022	09/29/2022	09/29/2022	09/29/2022	09/29/2022	12/23/2022	02/13/2024	09/29/2022	02/13/2024	02/13/2024	09/29/2022
				Sample Depth	18.25	21.5	26.5	28.5	34	36	40.5	23.75-29.75	49	26.75-35.75	40.75-45.75	63
Sample El.	12.67 - 7.67	9.42 - 7.42	4.42 - 2.42	2.42 - 0.42	-3.08 - -5.08	-5.08 - -7.08	-11.93 - -16.93	-9 - -15	-20.43 - -22.43	-12 - -21	-26 - -31	-34.43 - -36.43				
Unit	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result				
Volatile Organic Compounds																
1,1,1,2-Tetrachloroethane	630-20-6	5	ua/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U			
1,1,1-Trichloroethane	71-55-6	5	ua/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U			
1,1,2,2-Tetrachloroethane	79-34-5	5	ua/l	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U			
1,1,2-Trichloroethane	79-00-5	1	ua/l	<1.5 U	<1.5 U	<1.5 U	<1.5 U	<1.5 U	<1.5 U	<1.5 U	<1.5 U	<1.5 U	<1.5 U			
1,1-Dichloroethane	75-34-3	5	ua/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U			
1,1-Dichloroethene	75-35-4	5	ua/l	0.23 J	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U			
1,1-Dichloropropene	563-58-6	5	ua/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U			
1,2,3-Trichlorobenzene	87-61-6	5	ua/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U			
1,2,3-Trichloropropane	96-18-4	0.04	ua/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U			
1,2,4,5-Tetramethylbenzene	95-93-2	5	ua/l	<2 U	<2 U	<2 U	<2 U	<2 U	<2 U	<2 U	<2 U	<2 U	<2 U			
1,2,4-Trichlorobenzene	120-82-1	5	ua/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U			
1,2,4-Trimethylbenzene	95-63-6	5	ua/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U			
1,2-Dibromo-3-Chloropropane	96-12-8	0.04	ua/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U			
1,2-Dibromoethane (Ethylene Dibromide)	106-93-4	0.0006	ua/l	<2 U	<2 U	<2 U	<2 U	<2 U	<2 U	<2 U	<2 U	<2 U	<2 U			
1,2-Dichlorobenzene	95-50-1	3	ua/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U			
1,2-Dichloroethane	107-06-2	0.6	ua/l	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U			
1,2-Dichloropropane	78-87-5	1	ua/l	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U			
1,3,5-Trimethylbenzene (Mesitylene)	108-67-8	5	ua/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U			
1,3-Dichlorobenzene	541-73-1	3	ua/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U			
1,3-Dichloropropane	142-28-9	5	ua/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U			
1,4-Dichlorobenzene	106-46-7	3	ua/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U			
1,4-Diethyl Benzene	105-05-5	NS	ua/l	<2 U	<2 U	<2 U	<2 U	<2 U	<2 U	<2 U	<2 U	<2 U	<2 U			
1,4-Dioxane (P-Dioxane)	123-91-1	NS	ua/l	<250 U	<250 U	<250 U	<250 U	<250 U	<250 U	<250 U	<250 U	<250 U	<250 U			
2,2-Dichloropropane	594-20-7	5	ua/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U			
2-Chlorotoluene	95-49-8	5	ua/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U			
2-Hexanone (MBK)	591-78-6	50	ua/l	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U			
4-Chlorotoluene	106-43-4	5	ua/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U			
4-Ethyltoluene	622-96-8	NS	ua/l	<2 U	<2 U	<2 U	<2 U	<2 U	<2 U	<2 U	<2 U	<2 U	<2 U			
Acetone	67-64-1	50	ua/l	2.1 J	91	84	88	100	160	2.3 J	30	100	4.3 J	5.1	91	
Acrylonitrile	107-13-1	5	ua/l	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	
Benzene	71-43-2	1	ua/l	0.25 J	0.26 J	0.25 J	0.24 J	0.25 J	0.25 J	0.2 J	<0.5 U	<0.5 U	0.76	0.66	<0.5 U	
Bromobenzene	108-86-1	5	ua/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	
Bromochloromethane	74-97-5	5	ua/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	
Bromodichloromethane	75-27-4	50	ua/l	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	0.81	0.44 J	0.42 J	<0.5 U	
Bromoform	75-25-2	50	ua/l	<2 U	<2 U	<2 U	<2 U	<2 U	<2 U	<2 U	<2 U	<2 U	<2 U	<2 U	<2 U	
Bromomethane	74-83-9	5	ua/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	
Carbon Disulfide	75-15-0	60	ua/l	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	
Carbon Tetrachloride	56-23-5	5	ua/l	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	
Chlorobenzene	108-90-7	5	ua/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	
Chloroethane	75-00-3	5	ua/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	
Chloroform	67-66-3	7	ua/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	2.6	13	52	7	6.4	47	
Chloromethane	74-87-3	5	ua/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	
Cis-1,2-Dichloroethane	156-59-2	5	ua/l	140	100	110	90	91	92	18	7.5	5	5	5	4.3	
Cis-1,3-Dichloropropene	10061-01-5	0.4	ua/l	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	
Cymene	99-87-6	5	ua/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	
Dibromochloromethane	124-48-1	50	ua/l	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	
Dibromomethane	74-95-3	5	ua/l	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	
Dichlorodifluoromethane	75-71-8	5	ua/l	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	
Diethyl Ether (Ethyl Ether)	60-29-7	NS	ua/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	
Ethylbenzene	100-41-4	5	ua/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	
Hexachlorobutadiene	87-68-3	0.5	ua/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	
Isopropylbenzene (Cumene)	98-82-8	5	ua/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	
M,P-Xylene	179601-23-1	5	ua/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	0.84 J	<2.5 U	<2.5 U	<2.5 U	<2.5 U	
Methyl Ethyl Ketone (2-Butanone)	78-93-3	50	ua/l	<5 U	21	17 J	21	24	35	17 J	5.6	23 J	5	5	21	
Methyl Isobutyl Ketone (4-Methyl-2-Pentanone)	108-10-1	NS	ua/l	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	
Methylene Chloride	75-09-2	5	ua/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	0.82 J	3	3	3	2.5	
Naphthalene	91-20-3	10	ua/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	
n-Butylbenzene	104-51-8	5	ua/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	
n-Propylbenzene	103-65-1	5	ua/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	
o-Xylene (1,2-Dimethylbenzene)	95-47-6	5	ua/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	
Sec-Butylbenzene	135-98-8	5	ua/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	
Styrene	100-42-5	5	ua/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	
T-Butylbenzene	98-06-6	5	ua/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	
Tert-Butyl Methyl Ether	1634-04-4	10	ua/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	
Tetrachloroethene (PCE)	127-18-4	5	ua/l	26	2.7	2.6	2	2	2.1	2.1	0.41 J	0.78	<0.5 U	<0.5 U	0.74	
Toluene	108-88-3	5	ua/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	8	<2.5 U	<2.5 U	<2.5 U	<2.5 U	
Total 1,2-Dichloroethene (Cis and Trans)	540-59-0	NS	ua/l	140	100	110	90	91	92	18	7.5	5	5	5	4.3	
Total Xylenes	1330-20-7	5	ua/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	0.84 J	<2.5 U	<2.5 U	<2.5 U	<2.5 U	
Total 1,3-Dichloropropene (Cis And Trans)	542-75-6	0.4	ua/l	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	
Trans-1,2-Dichloroethene	156-60-5	5	ua/l	<2.5 U	<2.											

Table 4
Groundwater Monitoring Report and Injection Plan
Combined Groundwater Analytical Results

1487 1st Avenue Redevelopment Site
New York, New York
NYSDEC BCP Site No.: C231152
Langan Project No.: 100963701

Notes:

CAS - Chemical Abstract Service

NS - No standard

ug/l - microgram per liter

NA - Not analyzed

RL - Reporting limit

<RL - Not detected

The following groundwater samples and groundwater monitoring wells are not shown on Table 4 due to excavation for the basement construction: LMW-8R-S_14.5, LMW-8R-S_15, LMW-9R-S_15, LMW-10R-S_13, LMW-11R-S, LMW-11R-D, LMW-12R-S, LMW-12R-D, LMW-13R-S, and LMW-13R-D and overburden wells LMW-6, LMW-7, LMW-8, LMW-9, and LMW-10.

Groundwater sample analytical results are compared to the New York State Department of Environmental Conservation (NYSDEC) Title 6 Codes, Rules, and Regulations (NYCRR) Part 703.5 and the NYSDEC Technical and Operation Guidance Series (TOGS) 1.1.1 Ambient Water Quality Standards and Guidance Values for Class GA Water and published addenda (herein collectively referenced as "NYSDEC SGVs").

Qualifiers:

J - The analyte was positively identified and the associated numerical value is the approximate concentration of the analyte in the sample.

UJ - The analyte was not detected at a level greater than or equal to the RL; however, the reported RL is approximate and may be inaccurate or imprecise.

U - The analyte was analyzed for, but was not detected at a level greater than or equal to the level of the RL or the sample concentration for results impacted by blank contamination.

Exceedance Summary:

10 - Result exceeds NYSDEC SGVs

**Table 5
Groundwater Monitoring Report and Injection Plan
Bedrock Reagent Demand Summary**

**1487 1st Avenue Redevelopment Site
New York City, New York
Langan Project No. 100963701**

Bedrock Injection Wells		SRS-Z and SRS-EVO Injections				SRS-EVO Injections				Total
		LMW-7R-S	LMW-7R-D	LMW-8R-S	LMW-6R-S	LMW-9R-S	LMW-10R-S	LMW-8R-D		
Treatment Interval	feet btoc	6.75-11.75	16.75-21.75	23.75-28.75	6.75-11.75	18.75-23.75	13.75- 19.75	23.75 - 29.75	57.75 - 64.75	-
Treatment Zone Thickness	feet	5	5	5	5	5	6	6	7	-
Injection ROI	feet	15	15	15	15	15	15	15	15	-
Fracture Porosity	fraction	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	-
Treatment Pore Volume Under the Injection ROI	gallons	2,119	2,119	2,119	2,127	2,661	3,188	3,194	3,240	-
Pore Volume Targeted for Injections	%	15%	15%	15%	15%	15%	15%	15%	15%	-
Injection Solution Volume	gallons	318	318	318	319	399	478	479	486	-
Pore Volume Targeted for Injections	%	10%	10%	10%	10%	10%	10%	10%	10%	-
Injection Solution Volume	gallons	212	212	212	213	266	319	319	324	-
Reagent Demand										
ZVI Target Levels in Pore Volume	g/L	3.0	3.0	3.0	2.0	-	-	-	-	-
ZVI Demand	pounds	53	53	53	35	-	-	-	-	194
ZVI in EVO+ZVI Emulsion (SRS [®] -Z)	%	20%	20%	20%	20%	-	-	-	-	-
EVO in EVO+ZVI Emulsion (SRS [®] -Z)	%	80%	80%	80%	80%	-	-	-	-	-
EVO Demand	pounds	211	211	211	141	-	-	-	-	-
EVO Loading in Pore Volume	g/L	12	12	12	8	-	-	-	-	-
SRS [®] -Z Demand	gallons	27	27	27	18	-	-	-	-	100
	pounds	264	264	264	177	-	-	-	-	-
SRS [®] -EVO Demand	gallons	16	16	16	11	27	49	8	19	164
	pounds	132	132	132	88	221	398	66	157	-
TSI-Ferrous Sulfide Activator Dosage	g/L	0.3	0.3	0.3	0.2	-	-	-	-	-
TSI-Ferrous Sulfide Activator Demand in Pore Volume	pounds	5.3	5.3	5.3	3.5	-	-	-	-	-
	gallons	0.5	0.5	0.5	0.4	-	-	-	-	2.0
TSI-DC [®] Target Levels	cells/Liter	2.E+07	2.E+07	2.E+07	2.E+07	2.E+07	2.E+07	2.E+07	2.E+07	-
TSI-DC [®] Demand	liters	2.2	2.2	2.2	2.2	1.8	2.2	2.2	2.2	17.0
DAP Target Levels in Pore Volume	mg/L	250	250	250	250	250	250	250	250	-
DAP Total Demand	pounds	7	7	7	7	6	7	7	7	-
DAP supplied by EVO	pounds	0.2	0.2	0.2	0.1	0.1	0.2	0.0	0.1	-
Additional DAP Demand	pounds	6.4	6.4	6.4	6.5	5.4	6.4	6.6	6.7	51
Yeast Extract Target Levels in Pore Volume	mg/L	250	250	250	250	250	250	250	250	-
Yeast Extract Total Demand	pounds	7	7	7	7	6	7	7	7	-
Yeast Extract Supplied by EVO	pounds	1	1	1	1	1	1	0.2	0.5	-
Additional Yeast Extract Demand	pounds	6	6	6	6	5	5	6	6	46
Calcium Carbonate Target Levels in Pore Volume	g/L	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	-
Calcium Carbonate Demand	pounds	93	93	93	93	77	93	93	94	728
Target level of Sodium Ascorbate in Injection Mix	lb/1000 gallons	8	8	8	8	8	8	8	8	-
Sodium Ascorbate Demand	pounds	4	4	4	4	3	4	4	4	30

Notes:

btoc - below top of the casing
DAP - diammonium phosphate
EVO - emulsified vegetable oil
g/L - grams per liter
mg/L - milligrams per liter
lb/1000 gallon - pounds per 1000 gallons
ROI - radius of influence
ZVI - Zero valent iron (4 micron)
TOC - total organic carbon
NA - data is not available
Hydraulic gradient is an average of low and high gradient computed from September 14, 2022 groundwater monitoring data.
Hydraulic conductivity in a well is an average of hydraulic conductivity calculated for different packer intervals in the well. For wells where packer tests were not performed, data from adjacent wells is used.
A fracture porosity of 0.1 was used for injection calculations.
Based on field observations up to 15% of pore volume will be injected.
ZVI target levels in pore volume range from 0.5 to 3.5 g/L depending upon the concentration of chlorinated volatile organic compounds (CVOCs) in the well and the levels of total organic carbon that are reached in the pore volume using a EVO and ZVI emulsion.
EVO demand is calculated based on percentage of ZVI and EVO in the SRS[®]-Z emulsion and was adjusted to reach at least approximately 500 mg/L TOC levels in the design volume.
EVO demand meets or is in excess of EVO demand estimated using Environmental Security Technology Certification Program (ESTCP) substrate requirements for hydrogen demand calculation sheet.
SRS[®]-ZVI is a proprietary product, combined emulsified vegetable oil substrate and zero valent, formulated by Terra Systems, Inc. (Claymont, DE).
The density of SRS[®]-Z with 20% ZVI is 9.7 pounds/gallon and with 10% ZVI is 8.81 pounds/gallon.
SRS[®]-EVO is a proprietary emulsified vegetable oil substrate, formulated by Terra Systems, Inc. (Claymont, DE).
TSI-Ferrous Sulfide Activator (mix of ferrous sulfide and sodium sulfide solution) distributed by Terra Systems, Inc. will be added to the SRS[®]-Z to form the sulfidated ZVI.
The density of ferrous sulfide solution is 1.15 to 1.22 grams per milliliter or an average of 9.88 pounds per gallon.
TSI-DC[®] Bioaugmentation Culture[®] - *Dehalococcoides* containing microbial consortium for anaerobic bioremediation is cultured by Terra Systems, Inc. (Claymont, DE).
Approximately 0.3% yeast extract and 0.05% diammonium phosphate (DAP) are included in commercial SRS[®]-ZVI formulation. Additional dosage of yeast extract and diammonium phosphate will be added to facilitate microbial growth.

Table 6
Groundwater Monitoring Report and Injection Plan
Injection Monitoring

1487 1st Avenue Redevelopment Site
New York City, New York
Langan Project No. 100963701

Location	Matrix	Parameters	Frequency	Monitoring Instruments/Method
Monitoring Locations ^a	Groundwater ^b	Groundwater pressure	Before injection event begins and 2 to 3 times daily during injections	Transducer
		Field parameters	Before injection event begins and 2 to 3 times daily during injection	Horiba U-52 or YSI meter
	Well Field	Surfacing/Leaks	Before injection event begins and every 30 - 60 mins	Visual Inspection
Injection System including Skid, Distribution Manifold and Injection Well Heads ^c	Injection Mix	Flow-rate, volume injected and injection pressure	Every 30 - 60 mins	Pressure gauges, and totalizers
Anaerobic Water Tank	Water	Dissolved oxygen and pH	2 to 3 times daily during injection	Horiba U-52 or YSI meter

Notes:

Field parameters - dissolved oxygen, oxidation-reduction potential, conductivity, pH, temperature, turbidity, total dissolved solids and salinity

^a - Wells for injection monitoring will include all wells identified for injections in Table 3.

^b - In well water quality measurements will be performed.

FIGURES



NOTES:
 1. TOPOGRAPHIC BASEMAP IS PROVIDED THROUGH LANGAN'S ESRI ARCGIS SOFTWARE LICENSING AND ARCGIS ONLINE © 2011 NATIONAL GEOGRAPHIC SOCIETY, I-CUBED.
 2. TAX PARCEL DATA PROVIDED BY THE NEW YORK CITY DEPARTMENT OF CITY PLANNING, MAPPLUTO 23V2.

Legend
 [Blue Box] Site Boundary

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 Langan International LLC
 Collectively known as Langan

Project
**1487 1ST AVENUE
 REDEVELOPMENT SITE**
 BLOCK No. 1452, LOT No.27
 MANHATTAN
 NEW YORK NEW YORK

Drawing Title
**SITE
 LOCATION MAP**

Project No.
 100963701
 Date
 9/28/2023
 Scale
 1"=2,000'
 Drawn By
 JF
 Submission Date

Figure
1

EAST 78TH STREET



- LEGEND**
- SITE BOUNDARY
 - TAX LOT BOUNDARY
 - AOC-2: FORMER SOLVENT TANK
 - CROSS SECTION
 - DEEP BEDROCK WELL RE-INSTALLATION LOCATION
 - SHALLOW BEDROCK WELL RE-INSTALLATION LOCATION
 - SHALLOW AND DEEP BEDROCK MONITORING WELLS INSTALLED DURING THE 2022 RI

NOTES:
 1. TAX PARCEL DATA PROVIDED BY THE NEW YORK CITY DEPARTMENT OF CITY PLANNING, MAPPLUTO 23V2.
 2. 2022 RI MONITORING WELL LOCATIONS ARE BASED ON THE WELL AS-BUILT SURVEY PREPARED BY TRUE NORTH SURVEYORS, INC. DATED 21 OCTOBER 2022.
 3. RE-INSTALLED MONITORING WELL LOCATIONS WERE SURVEYED IN THE FIELD BEFORE ROCK CORING BEGAN.

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 Langan Engineering, Environmental, Surveying,
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 Langan International LLC
 Collectively known as Langan

NJ CERTIFICATE OF AUTHORIZATION No. 24GA27996400

Project

1487 FIRST AVENUE REDEVELOPMENT SITE

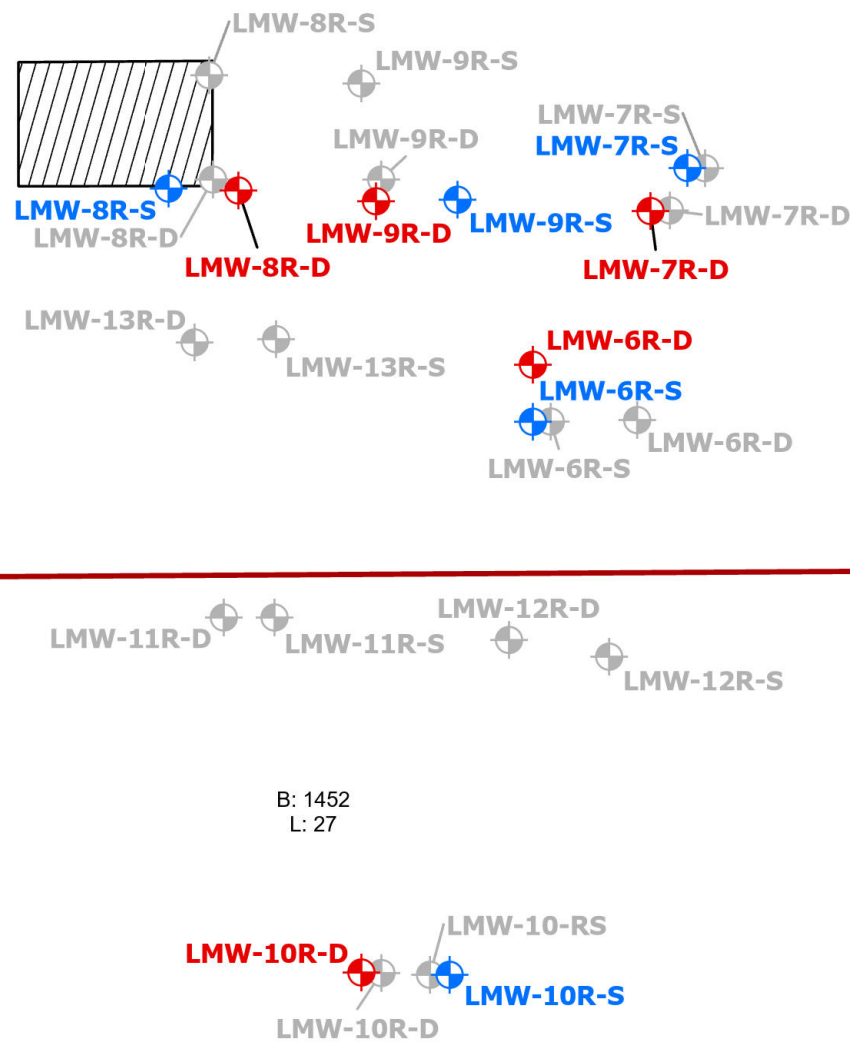
BLOCK No. 1452, LOT No. 27
 MANHATTAN

NEW YORK NEW YORK

Drawing Title

BEDROCK WELL LOCATION PLAN

Project No. 100963701	2
Date 3/25/2024	
Scale 1"=15'	
Drawn By ATR	



B: 1452
L: 32

B: 1452
L: 31

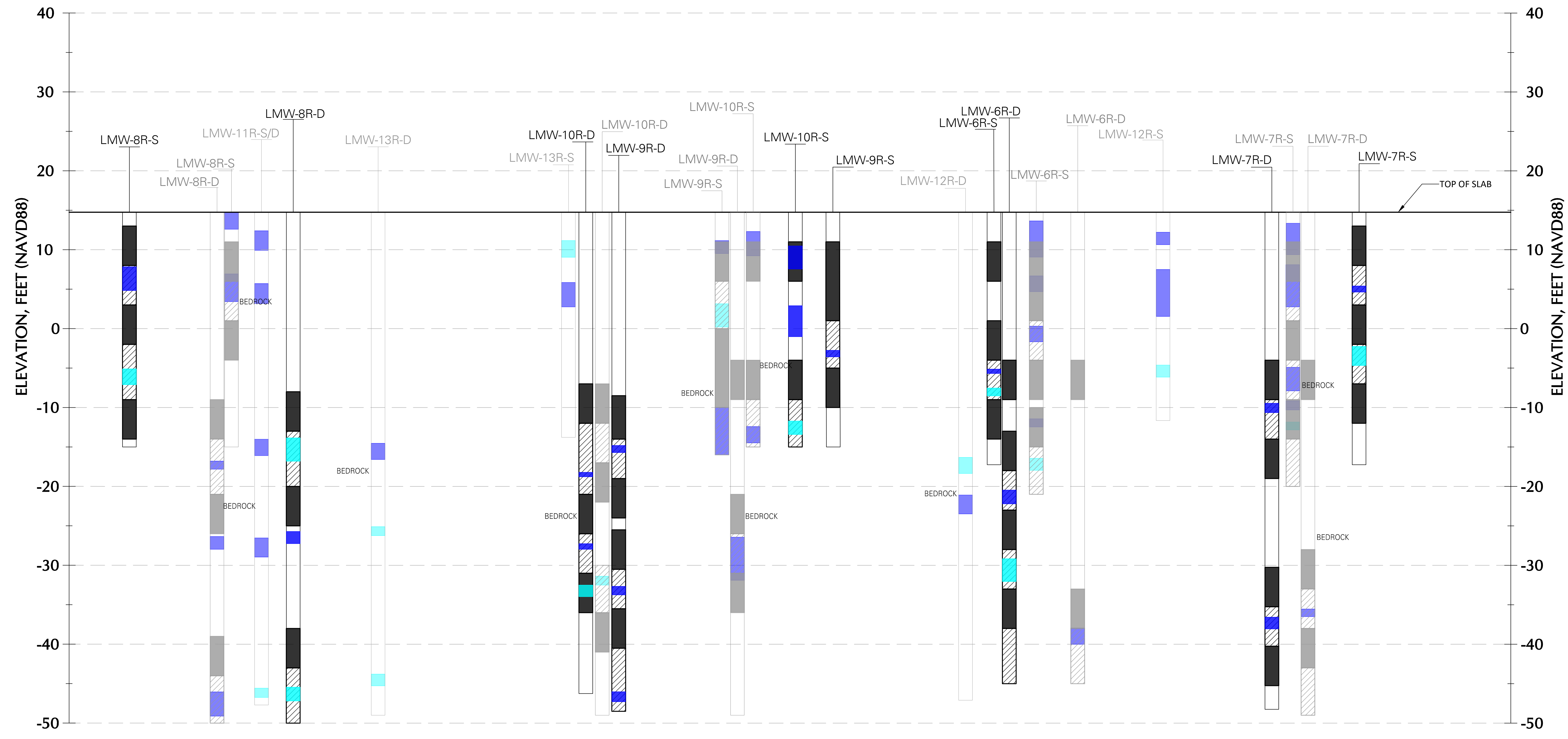
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L: 27

B: 1452
L: 19

B: 1452
L: 26

FIRST AVENUE

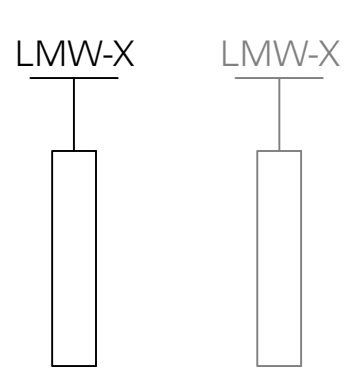




SECTION B-B'
 VERTICAL SCALE: 1" = 6'
 HORIZONTAL SCALE: N.T.S.

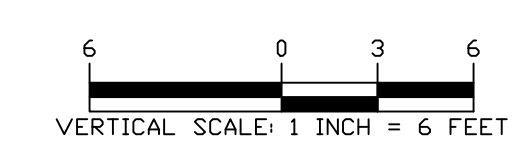
- PROPOSED WELL CONSTRUCTION**
- GROUNDWATER PRODUCING INTERVAL
 - MINOR GROUNDWATER PRODUCING INTERVAL
 - PACKER INTERVAL
 - MONITORING ZONE
- FINAL WELL CONSTRUCTION**
- GROUNDWATER PRODUCING INTERVAL
 - MINOR GROUNDWATER PRODUCING INTERVAL
 - PACKER INTERVAL
 - MONITORING ZONE

WELL KEY:



NOTES:

1. ALL ELEVATIONS ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988, NAVD88, WHICH IS 1.1 FEET ABOVE THE NATIONAL GEODETIC VERTICAL DATUM OF 1929, NAVD29, PER THE UNITED STATES GEOLOGIC SURVEY, USGS.
2. BOREHOLE WATER PRODUCING LOGGING INTERVALS DERIVED FROM THE BOREHOLE GEOPHYSICAL LOGGING DATA REPORTS PREPARED BY HAGER-RIGHTER GEOSCIENCE, INC. DATED NOVEMBER 2022 AND JANUARY 2024.
3. ALL CURRENT AND HISTORICAL DATA ARE PRESENTED AT THE CURRENT WELL REINSTALLATION LOCATION.
4. PROPOSED WELL CONSTRUCTION IS SHOWN AS PRESENTED IN THE 16 OCTOBER 2023 PERFORMANCE MONITORING GROUNDWATER SAMPLING PLAN.
5. BASED ON THE RESULTS OF THE JANUARY 2024 BOREHOLE GEOPHYSICAL ASSESSMENT 10 OF THE SAMPLING INTERVALS IDENTIFIED IN THE OCTOBER 2023 ISRP WERE CONFIRMED, SIX OF THE PROPOSED SAMPLING INTERVALS WERE MODIFIED TO BETTER ALIGN WITH WATER BEARING FRACTURES EITHER BY MOVING THEM VERTICALLY UP OR DOWN APPROXIMATELY 5 FEET OR HORIZONTALLY SHIFTING THE INTERVAL TO THE OTHER WELL IN ITS PAIR, AND THE DEEPEST SAMPLING INTERVAL PROPOSED TO BE INSTALLED AT LMW-7R-D INSTEAD WAS INSTALLED AT LMW-9R-D DUE TO THE LOCATION OF THE DETECTED WATER-BEARING FRACTURE.



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 NJ CERTIFICATE OF AUTHORIZATION No. 24GA27996400

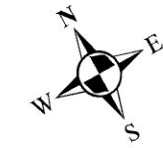
Project
**1487 1ST AVENUE
 REDEVELOPMENT SITE**
 MANHATTAN NEW YORK

Drawing Title
**PROPOSED AND
 COMPLETED WELL
 CONSTRUCTION**

Project No. 100963701	Drawing No. 3
Date 3/22/2024	
Drawn By AR	
Checked By CR	

WARNING: IT IS A VIOLATION OF THE NYS EDUCATION LAW ARTICLE 146 FOR ANY PERSON, UNLESS HE IS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, LAND SURVEYOR OR GEOLOGIST, TO ALTER THIS ITEM IN ANY WAY.

EAST 78TH STREET



LEGEND

- SITE BOUNDARY
- TAX LOT BOUNDARY
- AOC-2: FORMER SOLVENT TANK
- CROSS SECTION
- DEEP BEDROCK WELL RE-INSTALLATION LOCATION
- SHALLOW BEDROCK WELL RE-INSTALLATION LOCATION
- SHALLOW AND DEEP BEDROCK MONITORING WELLS INSTALLED DURING THE 2022 RI

Location	LMW-8R-D	LMW-8R-D
Sample Name	LMW-8R-D_27.75	LMW-8R-D_59.75
Sample Date	02/14/2024	02/14/2024
Sample Depth	27.75-34.75	57.75-64.75
VOCs		
Chloroform	<2.5 U	<2.5 U
Cis-1,2-Dichloroethene	1.3 J	2.3 J
Tetrachloroethene (PCE)	<0.5 U	<0.5 U
Trans-1,2-Dichloroethene	<2.5 U	<2.5 U
Trichloroethene (TCE)	<0.5 U	<0.5 U
Vinyl Chloride	0.94 J	2.7

Location	LMW-9R-D
Sample Name	LMW-9R-D_58.25
Sample Date	02/14/2024
Sample Depth	55.25-63.25
VOCs	
Chloroform	<2.5 U
Cis-1,2-Dichloroethene	<2.5 U
Tetrachloroethene (PCE)	<0.5 U
Trans-1,2-Dichloroethene	<2.5 U
Trichloroethene (TCE)	<0.5 U
Vinyl Chloride	0.24 J

Location	LMW-9R-S
Sample Name	LMW-9R-S_13.75
Sample Date	02/13/2024
Sample Depth	13.75-19.75
VOCs	
Chloroform	<2.5 U
Cis-1,2-Dichloroethene	<2.5 U
Tetrachloroethene (PCE)	0.2 J
Trans-1,2-Dichloroethene	<2.5 U
Trichloroethene (TCE)	<0.5 U
Vinyl Chloride	4.6

Location	LMW-8R-S	LMW-8R-S	LMW-8R-S
Sample Name	LMW-8R-S_6.75	DUP01_021424	LMW-8R-S_18.75
Sample Date	02/14/2024	02/14/2024	02/14/2024
Sample Depth	6.75-11.75	6.75-11.75	16.75-23.75
VOCs			
Chloroform	<2.5 U	<2.5 U	<2.5 U
Cis-1,2-Dichloroethene	14	17	2.9
Tetrachloroethene (PCE)	0.54	0.64	<0.5 U
Trans-1,2-Dichloroethene	<2.5 U	<2.5 U	<2.5 U
Trichloroethene (TCE)	0.56	0.7	<0.5 U
Vinyl Chloride	4.4	5.2	1.6

Location	LMW-7R-S	LMW-7R-S
Sample Name	LMW-7R-S_6.75	LMW-7R-S_16.75
Sample Date	02/13/2024	02/13/2024
Sample Depth	6.75-11.75	16.75-21.75
VOCs		
Chloroform	<12 U	<12 U
Cis-1,2-Dichloroethene	500	560
Tetrachloroethene (PCE)	21	25
Trans-1,2-Dichloroethene	4 J	5.1 J
Trichloroethene (TCE)	21	25
Vinyl Chloride	46	70

Location	LMW-6R-D	LMW-6R-D	LMW-6R-D
Sample Name	LMW-6R-D_32.75	LMW-6R-D_42.75	LMW-6R-D_54.75
Sample Date	02/13/2024	02/13/2024	02/13/2024
Sample Depth	32.75-37.75	42.75-47.75	52.75-59.75
VOCs			
Chloroform	<2.5 U	<2.5 U	<2.5 U
Cis-1,2-Dichloroethene	1.2 J	1.2 J	0.8 J
Tetrachloroethene (PCE)	<0.5 U	<0.5 U	<0.5 U
Trans-1,2-Dichloroethene	<2.5 U	<2.5 U	<2.5 U
Trichloroethene (TCE)	<0.5 U	<0.5 U	<0.5 U
Vinyl Chloride	1.2	1.1	0.61 J

Location	LMW-7R-D	LMW-7R-D
Sample Name	LMW-7R-D_23.75	LMW-7R-D_49.75
Sample Date	02/13/2024	02/13/2024
Sample Depth	23.75-28.75	49.75-54.75
VOCs		
Chloroform	<10 U	<2.5 U
Cis-1,2-Dichloroethene	29	20
Tetrachloroethene (PCE)	1.2 J	0.28 J
Trans-1,2-Dichloroethene	<10 U	<2.5 U
Trichloroethene (TCE)	1 J	0.21 J
Vinyl Chloride	17	27

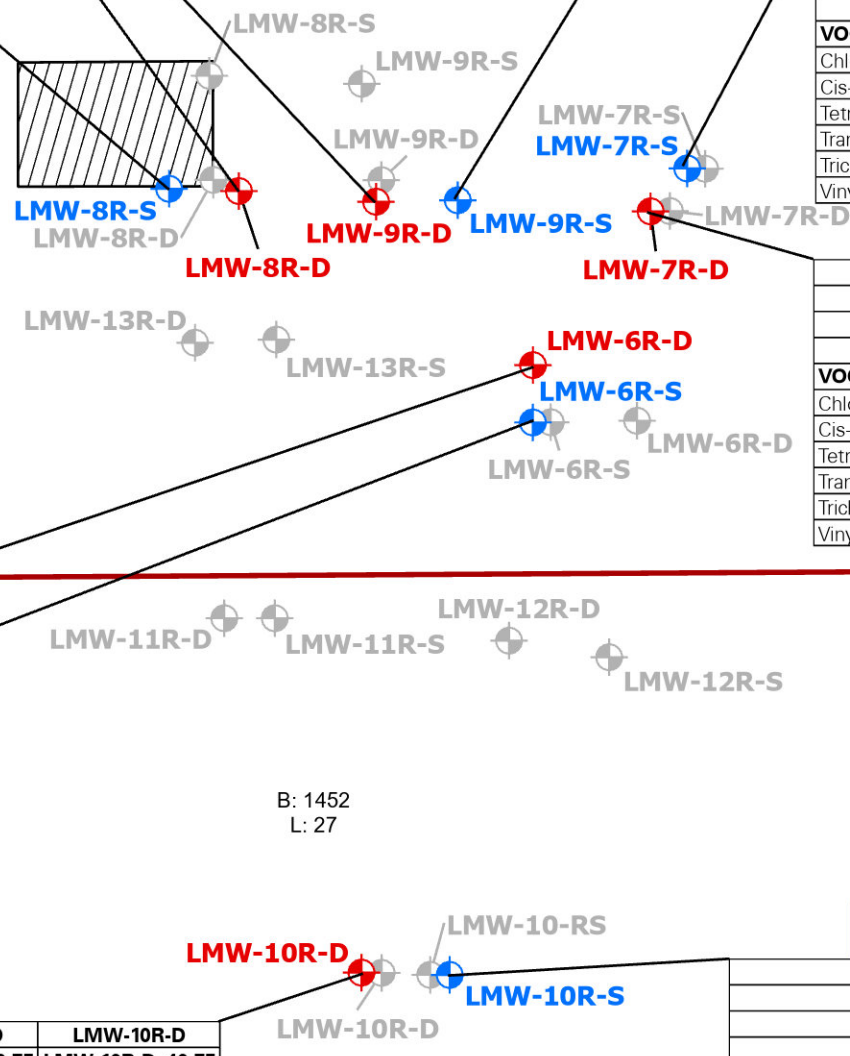
Location	LMW-6R-S
Sample Name	LMW-6R-S_18.75
Sample Date	02/14/2024
Sample Depth	18.75-23.75
VOCs	
Chloroform	<2.5 U
Cis-1,2-Dichloroethene	3.3
Tetrachloroethene (PCE)	0.28 J
Trans-1,2-Dichloroethene	<2.5 U
Trichloroethene (TCE)	0.31 J
Vinyl Chloride	2.8

Location	LMW-10R-D	LMW-10R-D
Sample Name	LMW-10R-D_30.75	LMW-10R-D_40.75
Sample Date	02/13/2024	02/13/2024
Sample Depth	26.75-35.75	40.75-45.75
VOCs		
Chloroform	7	6.4
Cis-1,2-Dichloroethene	<2.5 U	<2.5 U
Tetrachloroethene (PCE)	<0.5 U	<0.5 U
Trans-1,2-Dichloroethene	<2.5 U	<2.5 U
Trichloroethene (TCE)	<0.5 U	<0.5 U
Vinyl Chloride	0.63 J	0.75 J

Location	LMW-10R-S
Sample Name	LMW-10R-S_24.75
Sample Date	02/13/2024
Sample Depth	23.75-29.75
VOCs	
Chloroform	13
Cis-1,2-Dichloroethene	7.5
Tetrachloroethene (PCE)	0.41 J
Trans-1,2-Dichloroethene	<2.5 U
Trichloroethene (TCE)	0.33 J
Vinyl Chloride	1.8

Analyte	NYSDEC SGVs
VOCs	
Chloroform	7
Cis-1,2-Dichloroethene	5
Tetrachloroethene (PCE)	5
Trans-1,2-Dichloroethene	5
Trichloroethene (TCE)	5
Vinyl Chloride	2

Exceedance Summary:
10 - Result exceeds NYSDEC SGVs



NOTES:
 1. TAX PARCEL DATA PROVIDED BY THE NEW YORK CITY DEPARTMENT OF CITY PLANNING, MAPPLUTO 23V2.
 2. 2022 RI MONITORING WELL LOCATIONS ARE BASED ON THE WELL AS-BUILT SURVEY PREPARED BY TRUE NORTH SURVEYORS, INC. DATED 21 OCTOBER 2022.
 3. RE-INSTALLED MONITORING WELL LOCATIONS WERE SURVEYED IN THE FIELD BEFORE ROCK CORING BEGAN.

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 Langan International LLC
 Collectively known as Langan

NJ CERTIFICATE OF AUTHORIZATION No. 24GA27996400

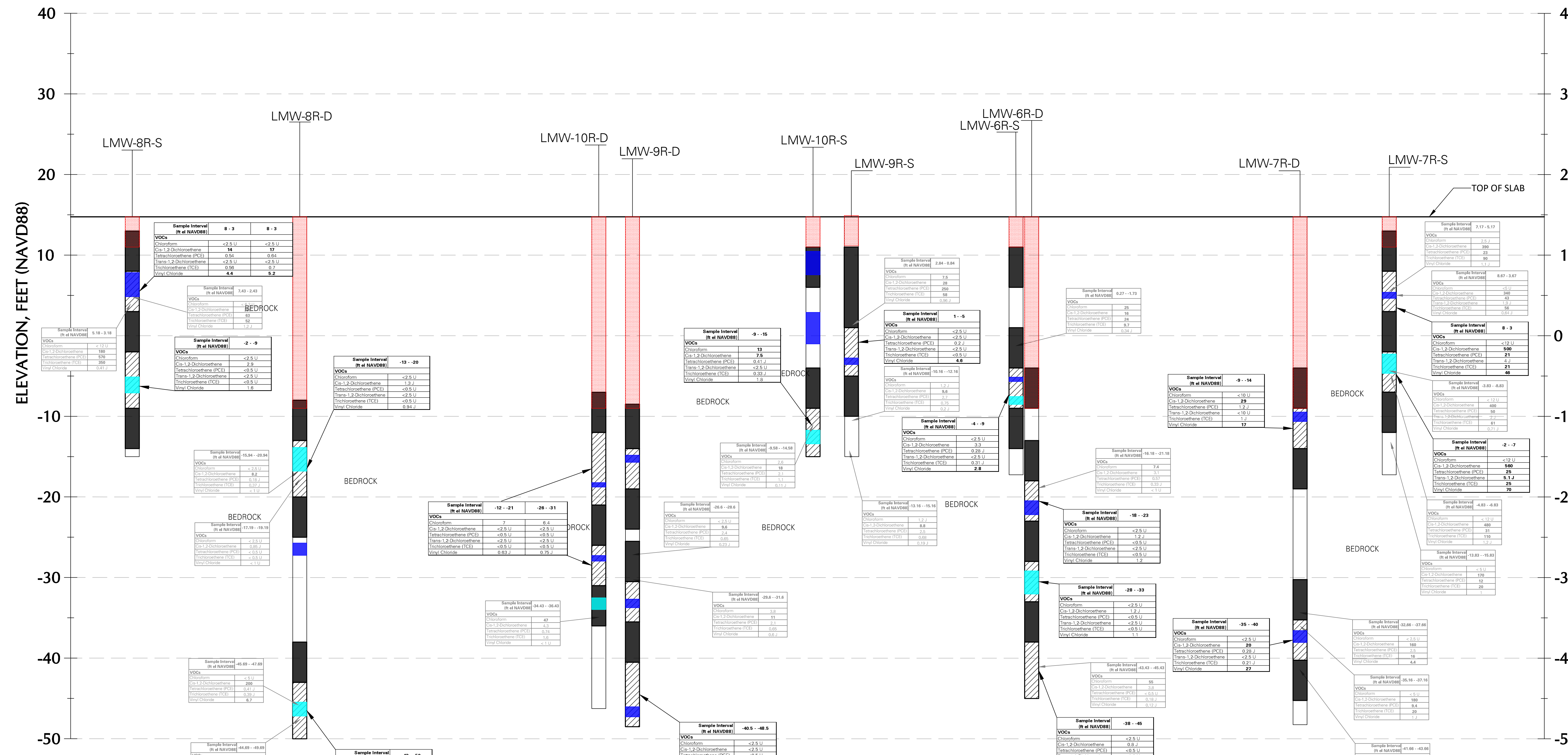
Project
1487 FIRST AVENUE REDEVELOPMENT SITE
 BLOCK No. 1452, LOT No. 27
 MANHATTAN

NEW YORK NEW YORK
 Drawing Title

CHLORINATED VOC ANALYTICAL RESULTS

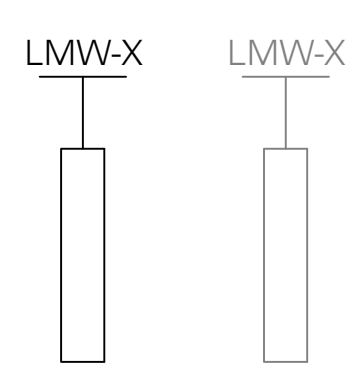
Project No.	100963701	Figure	4A
Date	4/22/2024		
Scale	1"=15'		
Drawn By	ATR		





SECTION B-B'
 VERTICAL SCALE: 1" = 6'
 HORIZONTAL SCALE: N.T.S.

WELL KEY:



NOTES:

- THE ELEVATIONS FOR THE TOP OF SLAB IS TAKEN FROM FO-100.0 FOUNDATION PLAN BY MCNAMARA SALVIA, DATED 7 SEPTEMBER 2022.
- ALL ELEVATIONS ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988: NAVD88, WHICH IS 1.1 FEET ABOVE THE NATIONAL GEODETIC VERTICAL DATUM OF 1929: NGVD29. PER THE UNITED STATES GEOLOGIC SURVEY, USGS.
- BOREHOLE WATER PRODUCING LOGGING INTERVALS DERIVED FROM THE BOREHOLE GEOPHYSICAL LOGGING DATA REPORT PREPARED BY HAGER-RIGHTER GEOSCIENCE, INC. DATED JANUARY 2024.
- ALL CURRENT AND HISTORICAL DATA ARE PRESENTED AT THE CURRENT WELL REINSTALLATION LOCATION.
- ANALYTICAL RESULTS IN GRAY ARE FROM THE 2022 RI AND WERE PRESENTED IN THE MARCH 2023 EMULSIFIED ZERO-VALENT IRON REMEDIAL DESIGN. ANALYTICAL RESULTS IN BLACK ARE FROM THE 2024 PERFORMANCE GROUNDWATER MONITORING EVENT.

- GROUNDWATER PRODUCING INTERVAL
- MINOR GROUNDWATER PRODUCING INTERVAL
- PACKER INTERVAL
- MONITORING ZONE
- CASING LENGTH

Analyte	NYSDEC SGVs
VOCs	
Chloroform	7
Cis-1,2-Dichloroethene	5
Tetrachloroethene (PCE)	10
Trans-1,2-Dichloroethene	5
Trichloroethene (TCE)	5
Vinyl Chloride	2

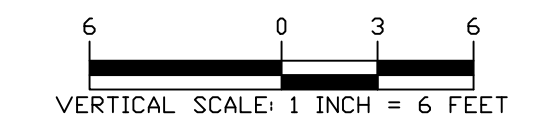
Exceedance Summary:
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Project
**1487 1ST AVENUE
 REDEVELOPMENT SITE**
 MANHATTAN NEW YORK

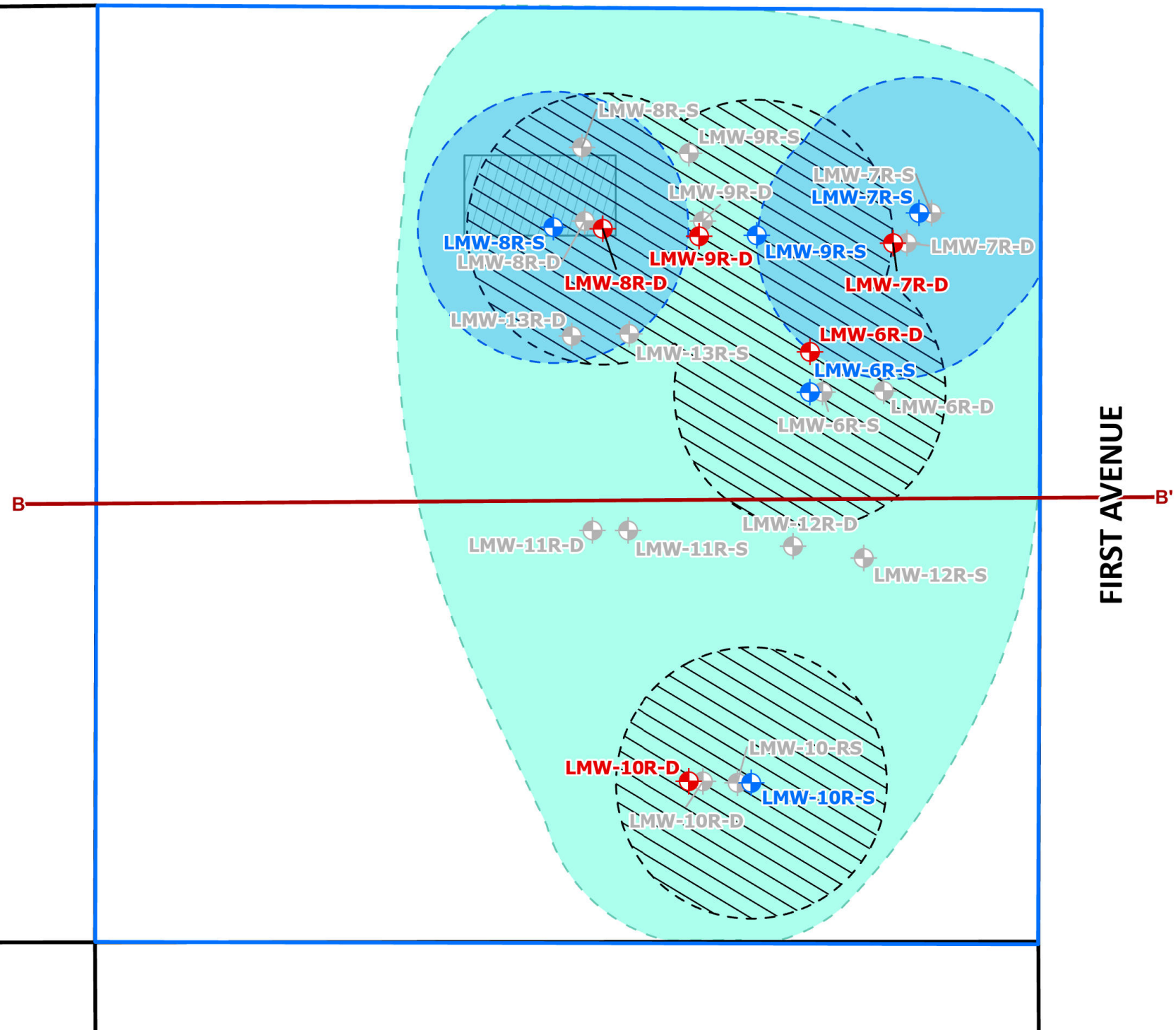
Drawing Title
**CHLORINATED VOC
 ANALYTICAL RESULTS**

Project No.
100963701
 Date
4/24/2024
 Drawn By
AR
 Checked By
CR
 Drawing No.
4B





EAST 78TH STREET



LEGEND

- SITE BOUNDARY
- AOC-2: FORMER SOLVENT TANK
- TAX LOT BOUNDARY
- CROSS SECTION
- 2023 TREATMENT ZONE
- PROPOSED EZVI TREATMENT ZONE
- PROPOSED EVO INJECTION ZONE
- DEEP BEDROCK WELL RE-INSTALLATION LOCATION
- SHALLOW BEDROCK WELL RE-INSTALLATION LOCATION
- SHALLOW AND DEEP BEDROCK MONITORING WELLS INSTALLED DURING THE 2022 RI

NOTES:
 1. TAX PARCEL DATA PROVIDED BY THE NEW YORK CITY DEPARTMENT OF CITY PLANNING, MAPPLUTO 23V2.
 2. 2022 RI MONITORING WELL LOCATIONS ARE BASED ON THE WELL AS-BUILT SURVEY PREPARED BY TRUE NORTH SURVEYORS, INC. DATED 21 OCTOBER 2022.
 4. RE-INSTALLED MONITORING WELL LOCATIONS WERE SURVEYED IN THE FIELD BEFORE ROCK CORING BEGAN.
 3. 2023 TREATMENT ZONE IS SHOWN AS PRESENTED IN THE MARCH 2023 EMULSIFIED ZERO-VALENT IRON REMEDIAL DESIGN.



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Langan Engineering, Environmental, Surveying,
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Langan International LLC
Collectively known as Langan

NJ CERTIFICATE OF AUTHORIZATION No. 24GA27996400

Project

1487 FIRST AVENUE REDEVELOPMENT SITE

BLOCK No. 1452, LOT No. 27
MANHATTAN

NEW YORK

Drawing Title

PROPOSED BEDROCK TREATMENT AREA AND INJECTION LOCATIONS

NEW YORK

Project No.

100963701

Date

3/26/2024

Scale

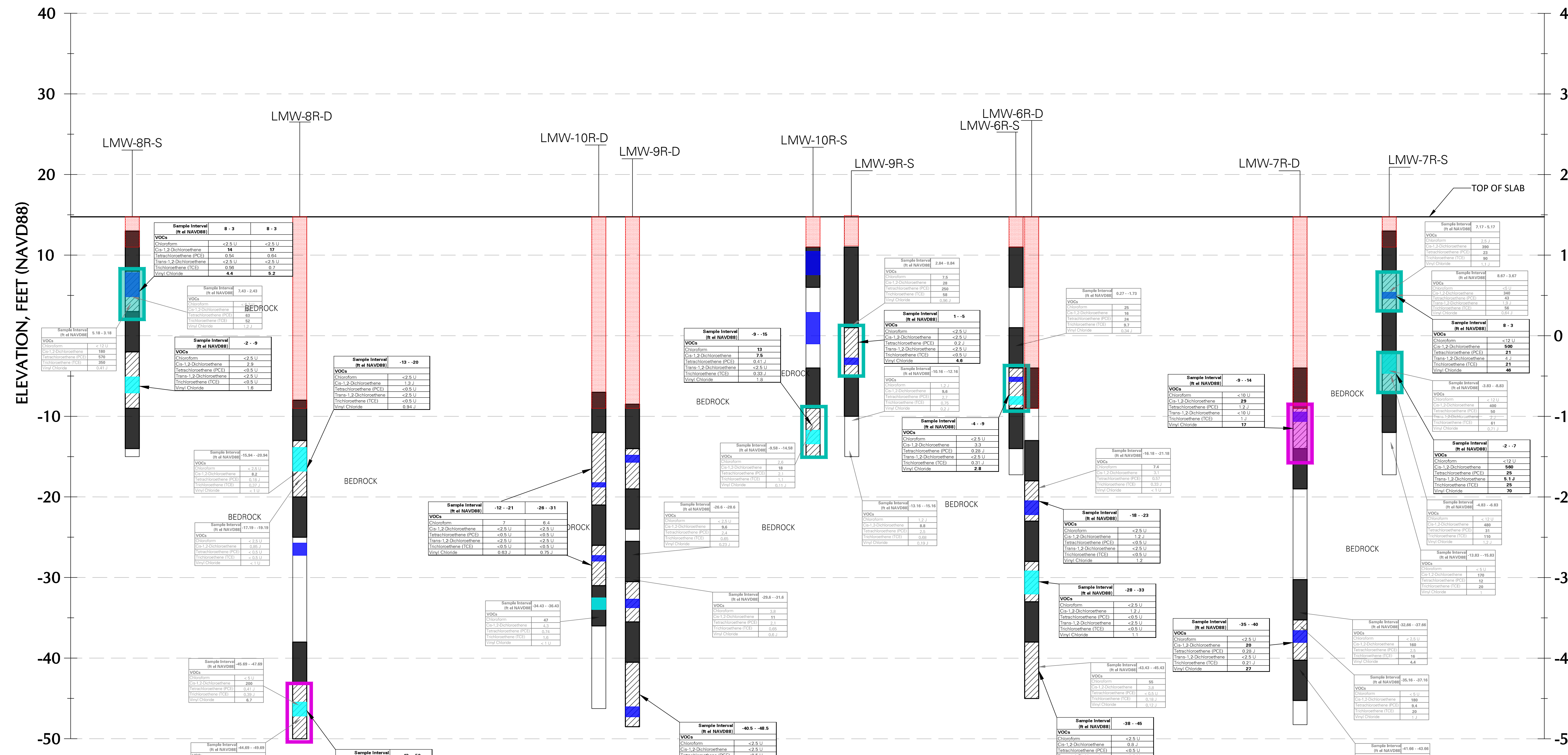
1"=15'

Drawn By

PDT

Figure

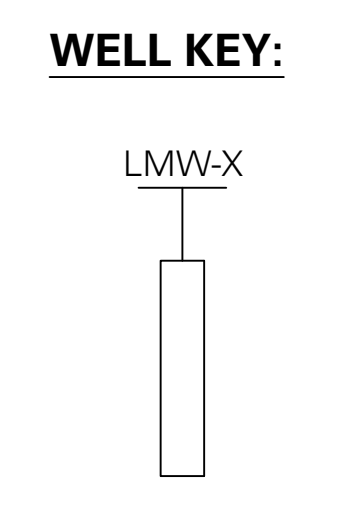
5A



ELEVATION, FEET (NAVD88)

ELEVATION, FEET (NAVD88)

SECTION B-B'
 VERTICAL SCALE: 1" = 6'
 HORIZONTAL SCALE: N.T.S.



- NOTES:**
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- GROUNDWATER PRODUCING INTERVAL
 - MINOR GROUNDWATER PRODUCING INTERVAL
 - PACKER INTERVAL
 - MONITORING ZONE
 - CASING LENGTH
- EZVI**
- SHALLOW BEDROCK INJECTION INTERVAL
 - DEEP BEDROCK INJECTION INTERVAL
- EVO ONLY**
- SHALLOW BEDROCK INJECTION INTERVAL
 - DEEP BEDROCK INJECTION INTERVAL

Analyte	NYSDEC SGVs
VOCs	
Chloroform	7
Cis-1,2-Dichloroethane	5
Tetrachloroethene (PCE)	5
Trans-1,2-Dichloroethane	5
Trichloroethene (TCE)	5
Vinyl Chloride	2

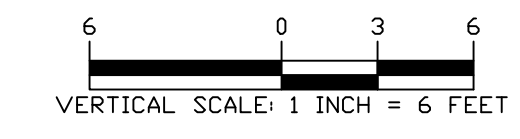
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Project
**1487 1ST AVENUE
 REDEVELOPMENT SITE**
 MANHATTAN NEW YORK

Drawing Title
**PROPOSED BEDROCK
 TREATMENT
 INJECTION INTERVALS**

Project No.
100963701
 Date
4/24/2024
 Drawn By
AR
 Checked By
CR
 Drawing No.
5B



APPENDIX A

Well Construction Logs

WELL CONSTRUCTION SUMMARY

Well No. LMW-6R-S

PROJECT 1487 1st Avenue			PROJECT NO. 100963701																				
LOCATION New York, NY			ELEVATION AND DATUM 14.75 NAVD 88 (Subcellar slab surface)																				
DRILLING AGENCY ECD NY			DATE STARTED 11/18/2023		DATE FINISHED 02/02/2024																		
DRILLING EQUIPMENT Comacchio MC 8D			DRILLER Willmer																				
SIZE AND TYPE OF BIT 4-inch Air Hammer			INSPECTOR Leo Thottumari																				
METHOD OF INSTALLATION <p>Drilling and Casing Installation: A Comacchio MC 8D track mounted air-rotary drill rig with a 5.75-inch air hammer bit was used to advance LMW-6R-S to a depth of 3.75-feet below top of slab (btos). 5-inch ID steel casing was grouted in place from 0-feet to 3.75-feet btos. Following casing installation, the borehole for LMW-6R-S was advanced with a 4-inch air hammer bit to a depth of 35.78-feet btos on 22 November 2023. Following drilling, the borehole was flushed and capped until the Westbay System installation. All flushed water was containerized in a 55-gallon drum.</p> <p>Westbay Installation: The Westbay System was installed with packers from 3.75-feet to 8.75-feet btos, 13.75-feet to 18.75-feet btos, and 23.75-feet to 28.75-feet btos, sampling ports at 8.75-feet, 18.75-feet, and 28.75-feet btos, and a pumping port at 23.75-feet btos on 2 February 2024.</p>																							
SAMPLING INTERVAL PURGING Each sampling interval was purged by opening the associated pumping port and removing one interval-volume with a D-25 foot valve connected to 0.5-inch-tubing. All water purged was containerized in a 55-gallon drum.																							
TYPE OF WELL CASING Steel		DIAMETER 5-inch	TYPE OF BACKFILL MATERIAL Grout																				
BOTTOM OF CASING		ELEVATION 11.00	DEPTH (ft) 3.75	TYPE OF SEAL MATERIAL Grout																			
BOREHOLE DIAMETER 4-inch		TOP OF SEAL		ELEVATION 14.75	DEPTH (ft) 0.00																		
BOTTOM OF WELL		ELEVATION -21.03	DEPTH (ft) 35.78	<div style="display: flex; align-items: center;"> <div style="flex: 1;"> <p style="text-align: center;">WELL DETAILS</p> </div> <div style="flex: 1; text-align: center;"> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>SUMMARY SOIL CLASSIFICATION</th> <th>DEPTH (FT) bgs</th> </tr> </thead> <tbody> <tr> <td>Bedrock</td> <td>3.75</td> </tr> <tr> <td></td> <td>8.75</td> </tr> <tr> <td></td> <td>13.75</td> </tr> <tr> <td></td> <td>18.75</td> </tr> <tr> <td></td> <td>23.75</td> </tr> <tr> <td></td> <td>28.75</td> </tr> <tr> <td></td> <td>31.75</td> </tr> <tr> <td></td> <td>35.78</td> </tr> </tbody> </table> </div> </div>		SUMMARY SOIL CLASSIFICATION	DEPTH (FT) bgs	Bedrock	3.75		8.75		13.75		18.75		23.75		28.75		31.75		35.78
SUMMARY SOIL CLASSIFICATION	DEPTH (FT) bgs																						
Bedrock	3.75																						
	8.75																						
	13.75																						
	18.75																						
	23.75																						
	28.75																						
	31.75																						
	35.78																						
WESTBAY SYSTEM																							
TOP OF SAMPLE INTERVAL	ELEVATION	DEPTH (ft)																					
	-4	18.75																					
BOTTOM OF SAMPLE INTERVAL	ELEVATION	DEPTH (ft)																					
	-9	23.75																					
TOP OF SAMPLE INTERVAL	ELEVATION	DEPTH (ft)																					
	--	--																					
BOTTOM OF SAMPLE INTERVAL	ELEVATION	DEPTH (ft)																					
	--	--																					
TOP OF SAMPLE INTERVAL	ELEVATION	DEPTH (ft)																					
	--	--																					
BOTTOM OF SAMPLE INTERVAL	ELEVATION	DEPTH (ft)																					
	--	--																					
WESTBAY PIEZOMETRIC LEVELS																							
SAMPLING PORT DEPTH	DATE	PIEZOMETRIC LEVEL																					
18.75	2/2/2024	-8.11																					
SAMPLING PORT DEPTH	DATE	PIEZOMETRIC LEVEL																					
--	--	--																					
SAMPLING PORT DEPTH	DATE	PIEZOMETRIC LEVEL																					
--	--	--																					

Langan Engineering, Environmental, Surveying, Landscape Architecture and Geology, D.P.C.
300 Kimball Drive, Parsippany, New Jersey 07054

WELL CONSTRUCTION SUMMARY

Well No. LMW-6R-D

PROJECT 1487 1st Avenue		PROJECT NO. 100963701																																	
LOCATION New York, NY		ELEVATION AND DATUM 14.75 NAVD 88 (Subcellar slab surface)																																	
DRILLING AGENCY ECD NY		DATE STARTED 11/20/23	DATE FINISHED 02/02/2024																																
DRILLING EQUIPMENT Comacchio MC 8D		DRILLER Willmer																																	
SIZE AND TYPE OF BIT 4-inch Air Hammer		INSPECTOR Leo Thottumari																																	
METHOD OF INSTALLATION																																			
<p>Drilling and Casing Installation: A Comacchio MC 8D track mounted air-rotary drill rig with a 5.75-inch air hammer bit was used to advance LMW-6R-D to a depth of 23.75-feet below top of slab (btos). 5-inch ID steel casing was installed to 23.75-feet btos, bentonite was placed from 3 to 23.75-feet btos followed by grout between 0-feet and 3-feet btos. Following casing installation, the borehole for LMW-6R-D was advanced with a 4-inch air hammer bit to a depth of 59.79-feet btos on 28 November 2023. Following drilling the borehole was flushed and capped until the Westbay System installation. All flushed water was containerized in a 55-gallon drum.</p> <p>Westbay Installation: The Westbay System was installed with packers from 18.75-feet to 23.75-feet btos, 27.75-feet to 32.75-feet btos, 37.75-feet to 42.75-feet btos, and 47.75-feet to 52.75-feet btos, sampling ports at 23.75-feet, 32.75-feet, 42.75-feet, and 54.75-feet btos, and pumping ports at 37.75-feet, 47.75-feet, and 52.75-feet btos on 2 February 2024.</p>																																			
SAMPLING INTERVAL PURGING																																			
Each sampling interval was purged by opening the associated pumping port and removing one interval-volume with a D-25 foot valve connected to 0.5-inch-tubing. All water purged was containerized in a 55-gallon drum.																																			
TYPE OF WELL CASING Steel		DIAMETER 5-inch	TYPE OF BACKFILL MATERIAL Grout and Bentonite																																
BOTTOM OF CASING	ELEVATION -9.00	DEPTH (ft) 23.75	TYPE OF SEAL MATERIAL Bentonite																																
BOREHOLE DIAMETER 4-inch		TOP OF SEAL	ELEVATION 11.75 DEPTH (ft) 3.00																																
BOTTOM OF WELL		ELEVATION -45.04	DEPTH (ft) 59.79																																
WESTBAY SYSTEM																																			
TOP OF SAMPLE INTERVAL	ELEVATION -18	DEPTH (ft) 32.75	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td colspan="2" style="text-align: center;">WELL DETAILS</td> <td rowspan="10" style="text-align: center;">SUMMARY SOIL CLASSIFICATION Bedrock</td> <td rowspan="10" style="text-align: center;">DEPTH (FT) bgs</td> </tr> <tr> <td colspan="2" rowspan="10" style="text-align: center;"> </td> <td></td> <td></td> </tr> <tr> <td></td> <td>3.00</td> </tr> <tr> <td></td> <td>18.75</td> </tr> <tr> <td></td> <td>23.75</td> </tr> <tr> <td></td> <td>27.75</td> </tr> <tr> <td></td> <td>32.75</td> </tr> <tr> <td></td> <td>37.75</td> </tr> <tr> <td></td> <td>42.75</td> </tr> <tr> <td></td> <td>47.75</td> </tr> <tr> <td></td> <td>52.75</td> </tr> <tr> <td></td> <td>54.75</td> </tr> <tr> <td></td> <td>59.75</td> </tr> <tr> <td></td> <td>59.79</td> </tr> </table>	WELL DETAILS		SUMMARY SOIL CLASSIFICATION Bedrock	DEPTH (FT) bgs						3.00		18.75		23.75		27.75		32.75		37.75		42.75		47.75		52.75		54.75		59.75		59.79
WELL DETAILS		SUMMARY SOIL CLASSIFICATION Bedrock		DEPTH (FT) bgs																															
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	59.75																																		
	59.79																																		
BOTTOM OF SAMPLE INTERVAL	ELEVATION -23	DEPTH (ft) 37.75																																	
TOP OF SAMPLE INTERVAL	ELEVATION -28	DEPTH (ft) 42.75																																	
BOTTOM OF SAMPLE INTERVAL	ELEVATION -33	DEPTH (ft) 47.75																																	
TOP OF SAMPLE INTERVAL	ELEVATION -38	DEPTH (ft) 52.75																																	
BOTTOM OF SAMPLE INTERVAL	ELEVATION -45.04	DEPTH (ft) 59.79																																	
WESTBAY PIEZOMETRIC LEVELS																																			
SAMPLING PORT DEPTH	DATE	PIEZOMETRIC LEVEL																																	
32.75	2/2/2024	-8.38																																	
SAMPLING PORT DEPTH	DATE	PIEZOMETRIC LEVEL																																	
42.75	2/2/2024	-9.78																																	
SAMPLING PORT DEPTH	DATE	PIEZOMETRIC LEVEL																																	
54.75	2/2/2024	-11.48																																	
Langan Engineering, Environmental, Surveying, Landscape Architecture and Geology, D.P.C. 300 Kimball Drive, Parsippany, New Jersey 07054																																			

WELL CONSTRUCTION SUMMARY

Well No. LMW-7R-S

PROJECT 1487 1st Avenue		PROJECT NO. 100963701																																									
LOCATION New York, NY		ELEVATION AND DATUM 14.75 NAVD 88 (Subcellar slab surface)																																									
DRILLING AGENCY ECD NY		DATE STARTED 11/16/2023	DATE FINISHED 02/05/2024																																								
DRILLING EQUIPMENT Comacchio MC 8D		DRILLER Willmer																																									
SIZE AND TYPE OF BIT 4-inch Air Hammer		INSPECTOR Leo Thottumari																																									
METHOD OF INSTALLATION																																											
<p>Drilling and Casing Installation: A Comacchio MC 8D track mounted air-rotary drill rig with a 5.75-inch air hammer bit was used to advance LMW-7R-S to a depth of 3.75-feet below top of slab (btos). 5-inch ID steel casing was grouted in place from 0-feet to 3.75-feet btos. Following casing installation, the borehole for LMW-7R-S was advanced with a 4-inch air hammer bit to a depth of 34.78-feet btos on 24 November 2023. Following drilling the borehole was flushed and capped until the Westbay System installation. All flushed water was containerized in a 55-gallon drum.</p> <p>Westbay Installation: The Westbay System was installed with packers from 1.75-feet to 6.75-feet btos, 11.75-feet to 16.75-feet btos, and 21.75-feet to 26.75-feet btos, sampling ports at 6.75-feet, 11.75-feet, and 26.75-feet btos, and pumping ports at 11.75-feet and 21.75-feet btos on 5 February 2024.</p>																																											
SAMPLING INTERVAL PURGING																																											
Each sampling interval was purged by opening the associated pumping port and removing one interval-volume with a D-25 foot valve connected to 0.5-inch-tubing. All water purged was containerized in a 55-gallon drum.																																											
TYPE OF WELL CASING Steel	DIAMETER 5-inch	TYPE OF BACKFILL MATERIAL Grout																																									
BOTTOM OF CASING	ELEVATION 11.00	DEPTH (ft) 3.75	TYPE OF SEAL MATERIAL Grout																																								
BOREHOLE DIAMETER 4-inch	TOP OF SEAL		ELEVATION 14.75																																								
BOTTOM OF WELL	ELEVATION -20.03	DEPTH (ft) 34.78	DEPTH (ft) 0.00																																								
WESTBAY SYSTEM																																											
TOP OF SAMPLE INTERVAL	ELEVATION 8	DEPTH (ft) 6.75	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="2" style="text-align: center;">WELL DETAILS</th> <th style="text-align: center;">SUMMARY SOIL CLASSIFICATION</th> <th style="text-align: center;">DEPTH (FT) bgs</th> </tr> </thead> <tbody> <tr> <td colspan="2" style="text-align: center;">Westbay System Steel Casing</td> <td style="text-align: center;">Bedrock</td> <td style="text-align: center;">1.75</td> </tr> <tr> <td colspan="2" style="text-align: center;">Packer</td> <td></td> <td style="text-align: center;">3.75</td> </tr> <tr> <td colspan="2" style="text-align: center;">Sampling Port</td> <td></td> <td style="text-align: center;">6.75</td> </tr> <tr> <td colspan="2" style="text-align: center;">Pumping Port</td> <td></td> <td style="text-align: center;">11.75</td> </tr> <tr> <td colspan="2" style="text-align: center;">Sampling Port</td> <td></td> <td style="text-align: center;">16.75</td> </tr> <tr> <td colspan="2" style="text-align: center;">Pumping Port</td> <td></td> <td style="text-align: center;">21.75</td> </tr> <tr> <td colspan="2" style="text-align: center;">Sampling Port</td> <td></td> <td style="text-align: center;">26.75</td> </tr> <tr> <td colspan="2" style="text-align: center;">Sampling Port</td> <td></td> <td style="text-align: center;">31.75</td> </tr> <tr> <td colspan="2" style="text-align: center;">Sampling Port</td> <td></td> <td style="text-align: center;">34.78</td> </tr> </tbody> </table>	WELL DETAILS		SUMMARY SOIL CLASSIFICATION	DEPTH (FT) bgs	Westbay System Steel Casing		Bedrock	1.75	Packer			3.75	Sampling Port			6.75	Pumping Port			11.75	Sampling Port			16.75	Pumping Port			21.75	Sampling Port			26.75	Sampling Port			31.75	Sampling Port			34.78
WELL DETAILS		SUMMARY SOIL CLASSIFICATION		DEPTH (FT) bgs																																							
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Sampling Port				31.75																																							
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BOTTOM OF SAMPLE INTERVAL	ELEVATION 3	DEPTH (ft) 11.75																																									
TOP OF SAMPLE INTERVAL	ELEVATION -2	DEPTH (ft) 16.75																																									
BOTTOM OF SAMPLE INTERVAL	ELEVATION -7	DEPTH (ft) 21.75																																									
TOP OF SAMPLE INTERVAL	ELEVATION --	DEPTH (ft) --																																									
BOTTOM OF SAMPLE INTERVAL	ELEVATION --	DEPTH (ft) --																																									
WESTBAY PIEZOMETRIC LEVELS																																											
SAMPLING PORT DEPTH	DATE	PIEZOMETRIC LEVEL																																									
6.75	02/05/2024	-9.50																																									
SAMPLING PORT DEPTH	DATE	PIEZOMETRIC LEVEL																																									
16.75	02/05/2024	-9.49																																									
SAMPLING PORT DEPTH	DATE	PIEZOMETRIC LEVEL																																									
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Langan Engineering, Environmental, Surveying, Landscape Architecture and Geology, D.P.C.

300 Kimball Drive, Parsippany, New Jersey 07054

WELL CONSTRUCTION SUMMARY

Well No. LMW-7R-D

PROJECT 1487 1st Avenue		PROJECT NO. 100963701	
LOCATION New York, NY		ELEVATION AND DATUM 14.75 NAVD 88 (Subcellar slab surface)	
DRILLING AGENCY ECD NY		DATE STARTED 11/16/2023	DATE FINISHED 02/01/2024
DRILLING EQUIPMENT Comacchio MC 8D		DRILLER Willmer	
SIZE AND TYPE OF BIT 4-inch Air Hammer		INSPECTOR Leo Thottumari	
METHOD OF INSTALLATION <p>Drilling and Casing Installation: A Comacchio MC 8D track mounted air-rotary drill rig with a 5.75-inch air hammer bit was used to advance LMW-7R-D to a depth of 23.75-feet below top of slab (btos). 5-inch ID steel casing was installed to 23.75-feet btos, bentonite was placed from 3 to 23.75-feet btos followed by grout between 0-feet and 3-feet btos. Following casing installation, the borehole for LMW-7R-D was advanced with a 4-inch air hammer bit to a depth of 63.81-feet btos on 27 November 2023. Following drilling the borehole was flushed and capped until the Westbay System installation. All flushed water was containerized in a 55-gallon drum.</p> <p>Westbay Installation: The Westbay System was installed with packers from 18.75-feet to 23.75-feet btos, 28.75-feet to 33.75-feet btos, 44.75-feet to 49.75-feet btos, and 54.75-feet to 59.75-feet btos, sampling ports at 23.75-feet, 33.75-feet, 49.75-feet, and 59.75-feet btos, and pumping ports at 28.75-feet and 54.75-feet btos on 1 February 2024.</p>			
SAMPLING INTERVAL PURGING Each sampling interval was purged by opening the associated pumping port and removing one interval-volume with a D-25 foot valve connected to 0.5-inch-tubing. All water purged was containerized in a 55-gallon drum.			
TYPE OF WELL CASING Steel		DIAMETER 5-inch	TYPE OF BACKFILL MATERIAL Grout and Bentonite
BOTTOM OF CASING	ELEVATION -9.00	DEPTH (ft) 23.75	TYPE OF SEAL MATERIAL Bentonite
BOREHOLE DIAMETER 4-inch	TOP OF SEAL		ELEVATION 11.75
BOTTOM OF WELL	ELEVATION -49.06	DEPTH (ft) 63.81	DEPTH (ft) 3.00
WESTBAY SYSTEM			
TOP OF SAMPLE INTERVAL	ELEVATION -9	DEPTH (ft) 23.75	
BOTTOM OF SAMPLE INTERVAL	ELEVATION -14	DEPTH (ft) 28.75	
TOP OF SAMPLE INTERVAL	ELEVATION -35	DEPTH (ft) 49.75	
BOTTOM OF SAMPLE INTERVAL	ELEVATION -40	DEPTH (ft) 54.75	
TOP OF SAMPLE INTERVAL	ELEVATION --	DEPTH (ft) --	
BOTTOM OF SAMPLE INTERVAL	ELEVATION --	DEPTH (ft) --	
WESTBAY PIEZOMETRIC LEVELS			
SAMPLING PORT DEPTH	DATE	PIEZOMETRIC LEVEL	
23.75	2/1/2024	-6.98	
49.75	2/1/2024	-4.11	
SAMPLING PORT DEPTH	DATE	PIEZOMETRIC LEVEL	
--	--	--	
Summary Soil Classification			
			CLASSIFICATION Bedrock
			DEPTH (FT) bgs 3.00
WESTBAY SYSTEM			
TOP OF SAMPLE INTERVAL	ELEVATION -9	DEPTH (ft) 23.75	18.75
BOTTOM OF SAMPLE INTERVAL	ELEVATION -14	DEPTH (ft) 28.75	23.75
TOP OF SAMPLE INTERVAL	ELEVATION -35	DEPTH (ft) 49.75	28.75
BOTTOM OF SAMPLE INTERVAL	ELEVATION -40	DEPTH (ft) 54.75	33.75
TOP OF SAMPLE INTERVAL	ELEVATION --	DEPTH (ft) --	44.75
BOTTOM OF SAMPLE INTERVAL	ELEVATION --	DEPTH (ft) --	49.75
TOP OF SAMPLE INTERVAL	ELEVATION --	DEPTH (ft) --	54.75
BOTTOM OF SAMPLE INTERVAL	ELEVATION --	DEPTH (ft) --	59.75
SAMPLING PORT DEPTH	DATE	PIEZOMETRIC LEVEL	63.75
23.75	2/1/2024	-6.98	63.81
49.75	2/1/2024	-4.11	
SAMPLING PORT DEPTH	DATE	PIEZOMETRIC LEVEL	
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Langan Engineering, Environmental, Surveying, Landscape Architecture and Geology, D.P.C.			
300 Kimball Drive, Parsippany, New Jersey 07054			

WELL CONSTRUCTION SUMMARY

Well No. LMW-8R-S

PROJECT 1487 1st Avenue			PROJECT NO. 100963701				
LOCATION New York, NY			ELEVATION AND DATUM 14.75 NAVD 88 (Subcellar slab surface)				
DRILLING AGENCY ECD NY			DATE STARTED 11/18/2023		DATE FINISHED 02/01/2024		
DRILLING EQUIPMENT Comacchio MC 8D			DRILLER Willmer				
SIZE AND TYPE OF BIT 4-inch Air Hammer			INSPECTOR Leo Thottumari				
METHOD OF INSTALLATION <p>Drilling and Casing Installation: A Comacchio MC 8D track mounted air-rotary drill rig with a 5.75-inch air hammer bit was used to advance LMW-8R-S to a depth of 3.75-feet below top of slab (btos). 5-inch ID steel casing was grouted in place from 0-feet to 3.75-feet btos. Following casing installation, the borehole for LMW-7R-S was advanced with a 4-inch air hammer bit to a depth of 30.10-feet btos on 25 November 2023. Following drilling the borehole was flushed and capped until the Westbay System installation. All flushed water was containerized in a 55-gallon drum.</p> <p>Westbay Installation: The Westbay System was installed with packers from 1.75-feet to 6.75-feet btos, 11.75-feet to 16.75-feet btos, and 23.75-feet to 28.75-feet btos, sampling ports at 6.75-feet, 18.75-feet, and 28.75-feet btos, and pumping ports at 11.75-feet and 23.75-feet btos on 1 February 2024.</p>							
SAMPLING INTERVAL PURGING Each sampling interval was purged by opening the associated pumping port and removing one interval-volume with a D-25 foot valve connected to 0.5-inch-tubing. All water purged was containerized in a 55-gallon drum.							
TYPE OF WELL CASING Steel		DIAMETER 5-inch		TYPE OF BACKFILL MATERIAL Grout			
BOTTOM OF CASING		ELEVATION 11.00		DEPTH (ft) 3.75			
BOREHOLE DIAMETER 4-inch		TOP OF SEAL		ELEVATION 14.75			
BOTTOM OF WELL		ELEVATION -15.35		DEPTH (ft) 30.10			
WESTBAY SYSTEM					SUMMARY SOIL CLASSIFICATION Bedrock		
TOP OF SAMPLE INTERVAL		ELEVATION 8			DEPTH (ft) 6.75		
BOTTOM OF SAMPLE INTERVAL		ELEVATION 3			DEPTH (ft) 11.75		
TOP OF SAMPLE INTERVAL		ELEVATION -2			DEPTH (ft) 16.75		
BOTTOM OF SAMPLE INTERVAL		ELEVATION -9			DEPTH (ft) 23.75		
TOP OF SAMPLE INTERVAL		ELEVATION --			DEPTH (ft) --		
BOTTOM OF SAMPLE INTERVAL		ELEVATION --			DEPTH (ft) --		
WESTBAY PIEZOMETRIC LEVELS							DEPTH (FT) bgs
SAMPLING PORT DEPTH	DATE	PIEZOMETRIC LEVEL					
6.75	02/01/2024	-7.27			1.75		
18.75	02/01/2024	-7.33		16.75			
28.75				28.75			
				29.75			
				34.78			
Langan Engineering, Environmental, Surveying, Landscape Architecture and Geology, D.P.C. 300 Kimball Drive, Parsippany, New Jersey 07054							

WELL CONSTRUCTION SUMMARY

Well No. LMW-8R-D

PROJECT 1487 1st Avenue		PROJECT NO. 100963701		
LOCATION New York, NY		ELEVATION AND DATUM 14.75 NAVD 88 (Subcellar slab surface)		
DRILLING AGENCY ECD NY		DATE STARTED 11/20/23	DATE FINISHED 02/05/2024	
DRILLING EQUIPMENT Comacchio MC 8D		DRILLER Willmer		
SIZE AND TYPE OF BIT 4-inch Air Hammer		INSPECTOR Leo Thottumari		
METHOD OF INSTALLATION <p>Drilling and Casing Installation: A Comacchio MC 8D track mounted air-rotary drill rig with a 5.75-inch air hammer bit was used to advance LMW-8R-D to a depth of 23.75-feet below top of slab (btos). The outer 7-inch steel casing was installed to a depth of 7-feet btos. The inner 5-inch ID steel casing was installed from 0-feet to 23.75-feet btos, bentonite was placed from 3 to 23.75-feet btos followed by grout between 0-feet and 3-feet btos. Following casing installation, the borehole for LMW-8R-D was advanced with a 4-inch air hammer bit to a depth of 64.77-feet btos on 25 November 2023. Following drilling the borehole was flushed and capped until the Westbay System installation. All flushed water was containerized in a 55-gallon drum.</p> <p>Westbay Installation: The Westbay System was installed with packers from 22.75-feet to 27.75-feet btos, 34.75-feet to 39.75-feet btos, and 52.75-feet to 57.75-feet btos, sampling ports at 27.75-feet, 39.75-feet, and 59.75-feet btos, and pumping ports at 32.75-feet and 57.75-feet btos on 5 February 2024.</p>				
SAMPLING INTERVAL PURGING Each sampling interval was purged by opening the associated pumping port and removing one interval-volume with a D-25 foot valve connected to 0.5-inch-tubing. All water purged was containerized in a 55-gallon drum.				
TYPE OF WELL CASING Steel		DIAMETER 5-inch		
TYPE OF BACKFILL MATERIAL Grout and Bentonite				
BOTTOM OF CASING		ELEVATION -9.00	DEPTH (ft) 23.75	
TYPE OF SEAL MATERIAL Bentonite				
BOREHOLE DIAMETER 4-inch		TOP OF SEAL		
		ELEVATION 11.75	DEPTH (ft) 3.00	
BOTTOM OF WELL		ELEVATION -50.02	DEPTH (ft) 64.77	
WESTBAY SYSTEM			SUMMARY SOIL CLASSIFICATION	DEPTH (FT) bgs
TOP OF SAMPLE INTERVAL			Bedrock	3.00
ELEVATION -13				7.00
DEPTH (ft) 27.75				
BOTTOM OF SAMPLE INTERVAL				22.75
ELEVATION -20				23.75
DEPTH (ft) 34.75				27.75
TOP OF SAMPLE INTERVAL				32.75
ELEVATION -43				34.75
DEPTH (ft) 57.75				39.75
BOTTOM OF SAMPLE INTERVAL			52.75	
ELEVATION -50.02			57.75	
DEPTH (ft) 64.77			59.75	
TOP OF SAMPLE INTERVAL			64.75	
ELEVATION -			64.77	
DEPTH (ft) -				
WESTBAY PIEZOMETRIC LEVELS				
SAMPLING PORT DEPTH	DATE	PIEZOMETRIC LEVEL		
27.75	2/5/2024	-3.57		
SAMPLING PORT DEPTH	DATE	PIEZOMETRIC LEVEL		
59.75	2/5/2024	-9.18		
SAMPLING PORT DEPTH	DATE	PIEZOMETRIC LEVEL		
-	-	-		
Langan Engineering, Environmental, Surveying, Landscape Architecture and Geology, D.P.C. 300 Kimball Drive, Parsippany, New Jersey 07054				

WELL CONSTRUCTION SUMMARY

Well No. LMW-9R-S

PROJECT 1487 1st Avenue		PROJECT NO. 100963701		
LOCATION New York, NY		ELEVATION AND DATUM 14.75 NAVD 88 (Subcellar slab surface)		
DRILLING AGENCY ECD NY		DATE STARTED 11/18/2023	DATE FINISHED 02/06/2024	
DRILLING EQUIPMENT Comacchio MC 8D		DRILLER Willmer		
SIZE AND TYPE OF BIT 4-inch Air Hammer		INSPECTOR Leo Thottumari		
METHOD OF INSTALLATION <p>Drilling and Casing Installation: A Comacchio MC 8D track mounted air-rotary drill rig with a 5.75-inch air hammer bit was used to advance LMW-9R-S to a depth of 3.75-feet below top of slab (btos). 5-inch ID steel casing was grouted in place from 0-feet to 3.75-feet btos. Following casing installation, the borehole for LMW-9R-S was advanced with a 4-inch air hammer bit to a depth of 30.76-feet btos on 22 November 2023. Following drilling the borehole was flushed and capped until the Westbay System installation. All flushed water was containerized in a 55-gallon drum.</p> <p>Westbay Installation: The Westbay System was installed with packers from 3.75-feet to 8.75-feet btos, 8.75-feet to 13.75-feet btos, and 19.75-feet to 24.75-feet btos, sampling ports at 8.75-feet, 13.75-feet, and 24.75-feet btos, and a pumping port at 18.75-feet btos on 6 February 2024.</p>				
SAMPLING INTERVAL PURGING Each sampling interval was purged by opening the associated pumping port and removing one interval-volume with a D-25 foot valve connected to 0.5-inch-tubing. All water purged was containerized in a 55-gallon drum.				
TYPE OF WELL CASING Steel	DIAMETER 5-inch	TYPE OF BACKFILL MATERIAL Grout		
BOTTOM OF CASING	ELEVATION 11.00	DEPTH (ft) 3.75	TYPE OF SEAL MATERIAL Grout	
BOREHOLE DIAMETER 4-inch	TOP OF SEAL		ELEVATION 14.75	
BOTTOM OF WELL	ELEVATION -16.01	DEPTH (ft) 30.76	DEPTH (ft) 0.00	
WESTBAY SYSTEM			SUMMARY SOIL CLASSIFICATION Bedrock	DEPTH (FT) bgs
TOP OF SAMPLE INTERVAL	ELEVATION 1		DEPTH (ft) 13.75	3.75
BOTTOM OF SAMPLE INTERVAL	ELEVATION -5		DEPTH (ft) 19.75	8.75
TOP OF SAMPLE INTERVAL	ELEVATION --		DEPTH (ft) --	13.75
BOTTOM OF SAMPLE INTERVAL	ELEVATION --		DEPTH (ft) --	18.75
TOP OF SAMPLE INTERVAL	ELEVATION --		DEPTH (ft) --	19.75
BOTTOM OF SAMPLE INTERVAL	ELEVATION --		DEPTH (ft) --	24.75
WESTBAY PIEZOMETRIC LEVELS				27.75
SAMPLING PORT DEPTH 13.75	DATE 2/6/2024		PIEZOMETRIC LEVEL -8.72	30.76
SAMPLING PORT DEPTH --	DATE --		PIEZOMETRIC LEVEL --	
SAMPLING PORT DEPTH --	DATE --	PIEZOMETRIC LEVEL --		
Langan Engineering, Environmental, Surveying, Landscape Architecture and Geology, D.P.C. 300 Kimball Drive, Parsippany, New Jersey 07054				

WELL CONSTRUCTION SUMMARY
Well No. LMW-9R-D

PROJECT 1487 1st Avenue		PROJECT NO. 100963701			
LOCATION New York, NY		ELEVATION AND DATUM 14.75 NAVD 88 (Subcellar slab surface)			
DRILLING AGENCY ECD NY		DATE STARTED 11/20/23	DATE FINISHED 02/06/2024		
DRILLING EQUIPMENT Comacchio MC 8D		DRILLER Willmer			
SIZE AND TYPE OF BIT 4-inch Air Hammer		INSPECTOR Leo Thottumari			
METHOD OF INSTALLATION <p>Drilling and Casing Installation: A Comacchio MC 8D track mounted air-rotary drill rig with a 5.75-inch air hammer bit was used to advance LMW-9R-D to a depth of 23.75-feet below top of slab (btos). The outer 7-inch steel casing was installed to a depth of 7-feet btos. The inner 5-inch ID steel casing was installed from 0-feet to 23.75-feet btos, bentonite was placed from 3 to 23.75-feet btos followed by grout between 0-feet and 3-feet btos. Following casing installation, the borehole for LMW-9R-D was advanced with a 4-inch air hammer bit to a depth of 63.75-feet btos on 27 November 2023. Following drilling the borehole was flushed and capped until the Westbay System installation. All flushed water was containerized in a 55-gallon drum.</p> <p>Westbay Installation: The Westbay System was installed with packers from 23.25-feet to 28.25-feet btos, 33.25-feet to 38.25-feet btos, 40.25-feet to 45.25-feet btos, and 50.25-feet to 55.25-feet btos, sampling ports at 28.25-feet, 38.25-feet, 45.25-feet, and 58.25-feet btos, and pumping ports at 33.25-feet, 50.25-feet, and 55.25-feet btos on 6 February 2024.</p>					
SAMPLING INTERVAL PURGING Each sampling interval was purged by opening the associated pumping port and removing one interval-volume with a D-25 foot valve connected to 0.5-inch-tubing. All water purged was containerized in a 55-gallon drum.					
TYPE OF WELL CASING Steel		DIAMETER 5-inch	TYPE OF BACKFILL MATERIAL Grout and Bentonite		
BOTTOM OF CASING	ELEVATION -9.00	DEPTH (ft) 23.75	TYPE OF SEAL MATERIAL Bentonite		
BOREHOLE DIAMETER 4-inch	TOP OF SEAL		ELEVATION 11.75		
BOTTOM OF WELL	ELEVATION -49.00	DEPTH (ft) 63.75	DEPTH (ft) 3.00		
WESTBAY SYSTEM			SUMMARY SOIL CLASSIFICATION	DEPTH (FT) bgs	
TOP OF SAMPLE INTERVAL	ELEVATION -13.5		DEPTH (ft) 28.25	Bedrock	3.00
BOTTOM OF SAMPLE INTERVAL	ELEVATION -18.5		DEPTH (ft) 33.25		7.00
TOP OF SAMPLE INTERVAL	ELEVATION -30.5		DEPTH (ft) 45.25		23.75
BOTTOM OF SAMPLE INTERVAL	ELEVATION -35.5		DEPTH (ft) 50.25		28.25
TOP OF SAMPLE INTERVAL	ELEVATION -40.5		DEPTH (ft) 55.25		33.25
BOTTOM OF SAMPLE INTERVAL	ELEVATION -49		DEPTH (ft) 63.75		38.25
					40.25
					45.25
					50.25
				55.25	
				58.25	
				63.25	
				63.75	
WESTBAY PIEZOMETRIC LEVELS					
SAMPLING PORT DEPTH	DATE	PIEZOMETRIC LEVEL			
28.25	2/9/2024	-8.10			
SAMPLING PORT DEPTH	DATE	PIEZOMETRIC LEVEL			
45.25	2/9/2024	-8.84			
SAMPLING PORT DEPTH	DATE	PIEZOMETRIC LEVEL			
58.25	2/9/2024	-9.15			

Langan Engineering, Environmental, Surveying, Landscape Architecture and Geology, D.P.C.
300 Kimball Drive, Parsippany, New Jersey 07054

WELL CONSTRUCTION SUMMARY

Well No. LMW-10R-S

PROJECT 1487 1st Avenue		PROJECT NO. 100963701		
LOCATION New York, NY		ELEVATION AND DATUM 14.75 NAVD 88 (Subcellar slab surface)		
DRILLING AGENCY ECD NY		DATE STARTED 11/15/2023	DATE FINISHED 02/07/2024	
DRILLING EQUIPMENT Comacchio MC 8D		DRILLER Willmer		
SIZE AND TYPE OF BIT 4-inch Air Hammer		INSPECTOR Leo Thottumari		
METHOD OF INSTALLATION <p>Drilling and Casing Installation: A Comacchio MC 8D track mounted air-rotary drill rig with a 5.75-inch air hammer bit was used to advance LMW-10R-S to a depth of 3.75-feet below top of slab (btos). 5-inch ID steel casing was grouted in place from 0-feet to 3.75-feet btos. Following casing installation, the borehole for LMW-10R-S was advanced with a 4-inch air hammer bit to a depth of 29.75-feet btos on 22 November 2023. Following drilling the borehole was flushed and capped until the Westbay System installation. All flushed water was containerized in a 55-gallon drum.</p> <p>Westbay Installation: The Westbay System was installed with packers from 3.75-feet to 8.75-feet btos and 18.75-feet to 23.75-feet btos, sampling ports at 8.75-feet and 24.75-feet btos, and a pumping port at 23.75-feet btos on 7 February 2024.</p>				
SAMPLING INTERVAL PURGING Each sampling interval was purged by opening the associated pumping port and removing one interval-volume with a D-25 foot valve connected to 0.5-inch-tubing. All water purged was containerized in a 55-gallon drum.				
TYPE OF WELL CASING Steel		DIAMETER 5-inch	TYPE OF BACKFILL MATERIAL Grout	
BOTTOM OF CASING		ELEVATION 11.00	DEPTH (ft) 3.75	
BOREHOLE DIAMETER 4-inch		TYPE OF SEAL MATERIAL Grout		
BOTTOM OF WELL		ELEVATION -15.00	DEPTH (ft) 29.75	
TOP OF SEAL		ELEVATION 14.75	DEPTH (ft) 0.00	
WESTBAY SYSTEM			SUMMARY SOIL CLASSIFICATION Bedrock	
TOP OF SAMPLE INTERVAL	ELEVATION -9		DEPTH (ft) 23.75	DEPTH (FT) bgs 3.75
BOTTOM OF SAMPLE INTERVAL	ELEVATION -15		DEPTH (ft) 29.75	DEPTH (FT) bgs 8.75
TOP OF SAMPLE INTERVAL	ELEVATION --		DEPTH (ft) --	DEPTH (FT) bgs 13.75
BOTTOM OF SAMPLE INTERVAL	ELEVATION --		DEPTH (ft) --	DEPTH (FT) bgs 18.75
TOP OF SAMPLE INTERVAL	ELEVATION --		DEPTH (ft) --	DEPTH (FT) bgs 23.75
BOTTOM OF SAMPLE INTERVAL	ELEVATION --		DEPTH (ft) --	DEPTH (FT) bgs 24.75
WESTBAY PIEZOMETRIC LEVELS			Pumping Port	DEPTH (FT) bgs 29.75
SAMPLING PORT DEPTH	DATE		PIEZOMETRIC LEVEL	
24.75	2/7/2024		-9.04	
SAMPLING PORT DEPTH	DATE	PIEZOMETRIC LEVEL		
--	--	--		
SAMPLING PORT DEPTH	DATE	PIEZOMETRIC LEVEL		
--	--	--		
Langan Engineering, Environmental, Surveying, Landscape Architecture and Geology, D.P.C. 300 Kimball Drive, Parsippany, New Jersey 07054				

WELL CONSTRUCTION SUMMARY

Well No. LMW-10R-D

PROJECT 1487 1st Avenue			PROJECT NO. 100963701		
LOCATION New York, NY			ELEVATION AND DATUM 14.75 NAVD 88 (Subcellar slab surface)		
DRILLING AGENCY ECD NY			DATE STARTED 11/15/2023		DATE FINISHED 02/08/2024
DRILLING EQUIPMENT Comacchio MC 8D			DRILLER Willmer		
SIZE AND TYPE OF BIT 4-inch Air Hammer			INSPECTOR Leo Thottumari		
METHOD OF INSTALLATION <p>Drilling and Casing Installation: A Comacchio MC 8D track mounted air-rotary drill rig with a 5.75-inch air hammer bit was used to advance LMW-10R-D to a depth of 23.75-feet below top of slab (btos). 5-inch ID steel casing was installed to 23.75-feet btos, bentonite was placed from 3 to 23.75-feet btos followed by grout between 0-feet and 3-feet btos. Following casing installation, the borehole for LMW-10R-D was advanced with a 4-inch air hammer bit to a depth of 63.84-feet btos on 22 November 2023. Following drilling the borehole was flushed and capped until the Westbay System installation. All flushed water was containerized in a 55-gallon drum.</p> <p>Westbay Installation: The Westbay System was installed with packers from 21.75-feet to 26.75-feet btos, 35.75-feet to 40.75-feet btos, and 45.75-feet to 50.75-feet btos, sampling ports at 30.75-feet, 40.75-feet, and 50.75-feet btos, and pumping ports at 35.75-feet and 45.75-feet btos on 8 February 2024.</p>					
SAMPLING INTERVAL PURGING Each sampling interval was purged by opening the associated pumping port and removing one interval-volume with a D-25 foot valve connected to 0.5-inch-tubing. All water purged was containerized in a 55-gallon drum.					
TYPE OF WELL CASING Steel		DIAMETER 5-inch		TYPE OF BACKFILL MATERIAL Grout and Bentonite	
BOTTOM OF CASING		ELEVATION -9.00		DEPTH (ft) 23.75	
BOREHOLE DIAMETER 4-inch			TYPE OF SEAL MATERIAL Bentonite		
BOTTOM OF WELL			TOP OF SEAL		DEPTH (ft) 3.00
ELEVATION -49.09		DEPTH (ft) 63.84		ELEVATION 11.75	
WESTBAY SYSTEM					
TOP OF SAMPLE INTERVAL		ELEVATION		DEPTH (ft)	
		-12		26.75	
BOTTOM OF SAMPLE INTERVAL		ELEVATION		DEPTH (ft)	
		-21		35.75	
TOP OF SAMPLE INTERVAL		ELEVATION		DEPTH (ft)	
		-26		40.75	
BOTTOM OF SAMPLE INTERVAL		ELEVATION		DEPTH (ft)	
		-31		45.75	
TOP OF SAMPLE INTERVAL		ELEVATION		DEPTH (ft)	
		--		--	
BOTTOM OF SAMPLE INTERVAL		ELEVATION		DEPTH (ft)	
		--		--	
WESTBAY PIEZOMETRIC LEVELS					
SAMPLING PORT DEPTH		DATE		PIEZOMETRIC LEVEL	
30.75		2/8/2023		-9.18	
SAMPLING PORT DEPTH		DATE		PIEZOMETRIC LEVEL	
40.75		2/8/2023		-9.10	
SAMPLING PORT DEPTH		DATE		PIEZOMETRIC LEVEL	
--		--		--	
				SUMMARY SOIL CLASSIFICATION Bedrock	
				DEPTH (FT) bgs 3.00	
				21.75	
				23.75	
				26.75	
				30.75	
				35.75	
				40.75	
				45.75	
				50.75	
				55.75	
				63.84	
Langan Engineering, Environmental, Surveying, Landscape Architecture and Geology, D.P.C. 300 Kimball Drive, Parsippany, New Jersey 07054					

APPENDIX B

Geophysical Report

HRGS

HAGER-RICHTER GEOSCIENCE

GEOPHYSICS FOR THE ENGINEERING & ENVIRONMENTAL COMMUNITIES

2 Industrial Way S/2, Atkinson, NH 03811 (603.893.9944)
846 Main Street, Fords, NJ 08863 (732.661.0555)

www.hager-richter.com

BOREHOLE GEOPHYSICAL LOGGING - DATA REPORT 1487 FIRST AVENUE REDEVELOPMENT SITE MANHATTAN, NEW YORK

BOREHOLES

LMW-6R-S LMW-7R-S LMW-8R-S LMW-9R-S LMW-10R-S
LMW-6R-D LMW-7R-D LMW-8R-D LMW-9R-D LMW-10R-D

Prepared for:

Langan
300 Kimball Drive, 4th Floor
Parsippany, New Jersey 07054

Prepared by:

Hager-Richter Geoscience, dba HR Geological Services in New York
2 Industrial Way S/2 846 Main Street
Atkinson, New Hampshire 03811 Fords, New Jersey 08863

Robert L. Garfield

Robert L. Garfield, P.G. (NY 000041)
Owner / Principal Borehole Geophysicist

File 22RG53
January 2024



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HAGER-RICHTER GEOSCIENCE
Atkinson, NH & Fords, NJ

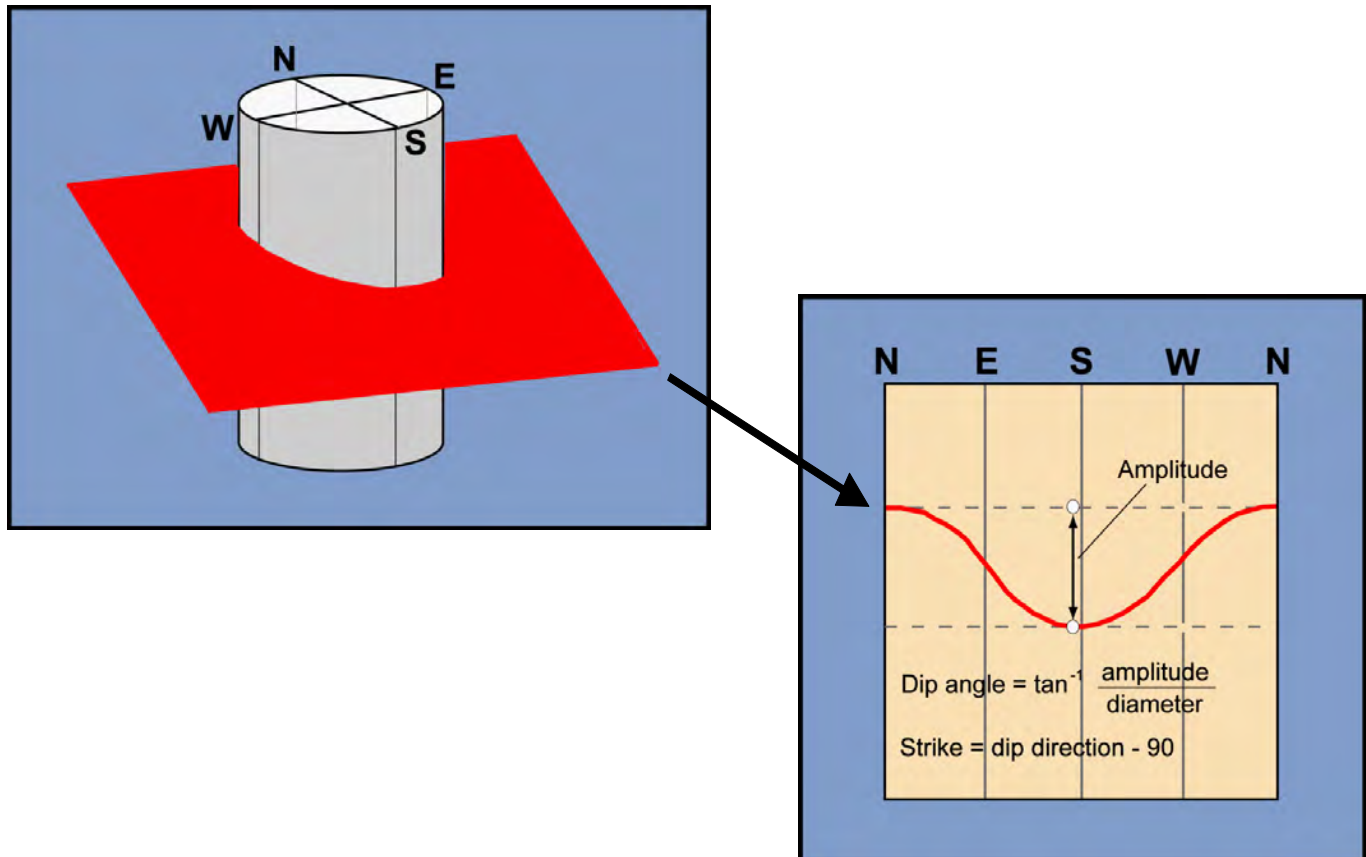


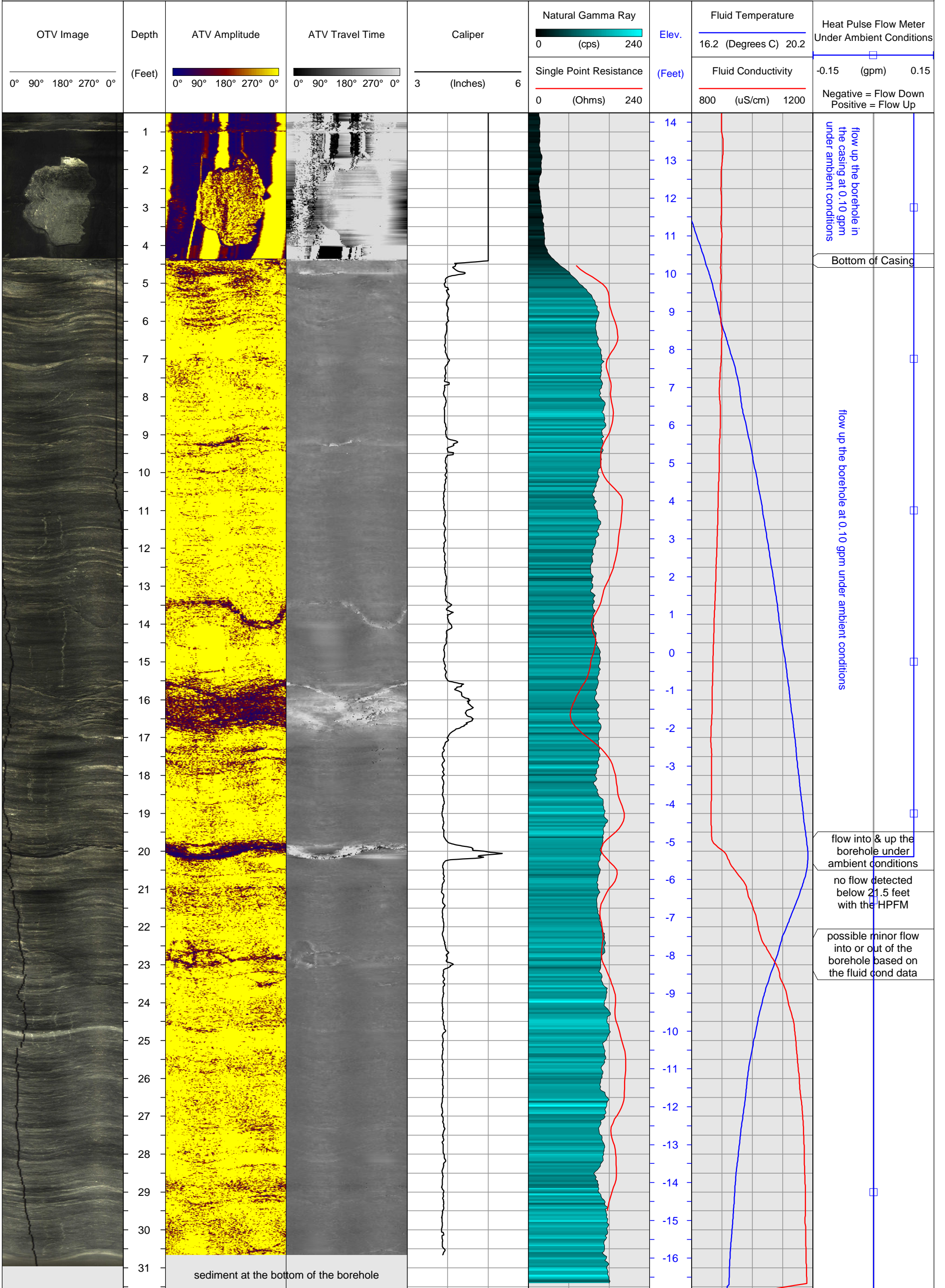
Figure 1. Televiwer explanation. The image on the left depicts a planar structure in red, such as a fracture or bedding plane, intersected by a borehole. The image on the right depicts the same structure unwrapped as it would be displayed in an optical televiwer (OTV) or acoustic televiwer (ATV) log.

Figure modified from: Garfield, R.L., Day-Lewis, F.D., Gray, M.B., Johnson, C.D., Williams, J.H. and Day-Lewis, A.D.F., 2003, Fractured-Rock Aquifer Characterization within a Regional Geologic Context: Results from the Bucknell University Hydrogeophysics Test Site, GSA Northeastern Section, 38th Annual Meeting, Paper No. 25-19.

CLIENT: Langan
PROJECT: 1487 First Avenue Redevelopment Site
LOCATION: Manhattan, New York
LOGGING GEOPHYSICIST(S): Mikko Aarnio
PROJECT REP(S) ON-SITE: Robert Bandstra & Gabriella DeGennaro
LOGS PROCESSED BY: Robert Garfield, P.G. & Nick DeCristofaro

HRGS FILE: 22RG53
LOG DATUM: Top of the Subcellar Slab | Elevation = 14.75 Feet
ORIENTATION REFERENCE: True North
MAGNETIC DECLINATION: 13° West
BOREHOLE DIAMETER: 4 Inches
WATER LEVEL DEPTH: Flowing Artesian at ~0.1 gpm

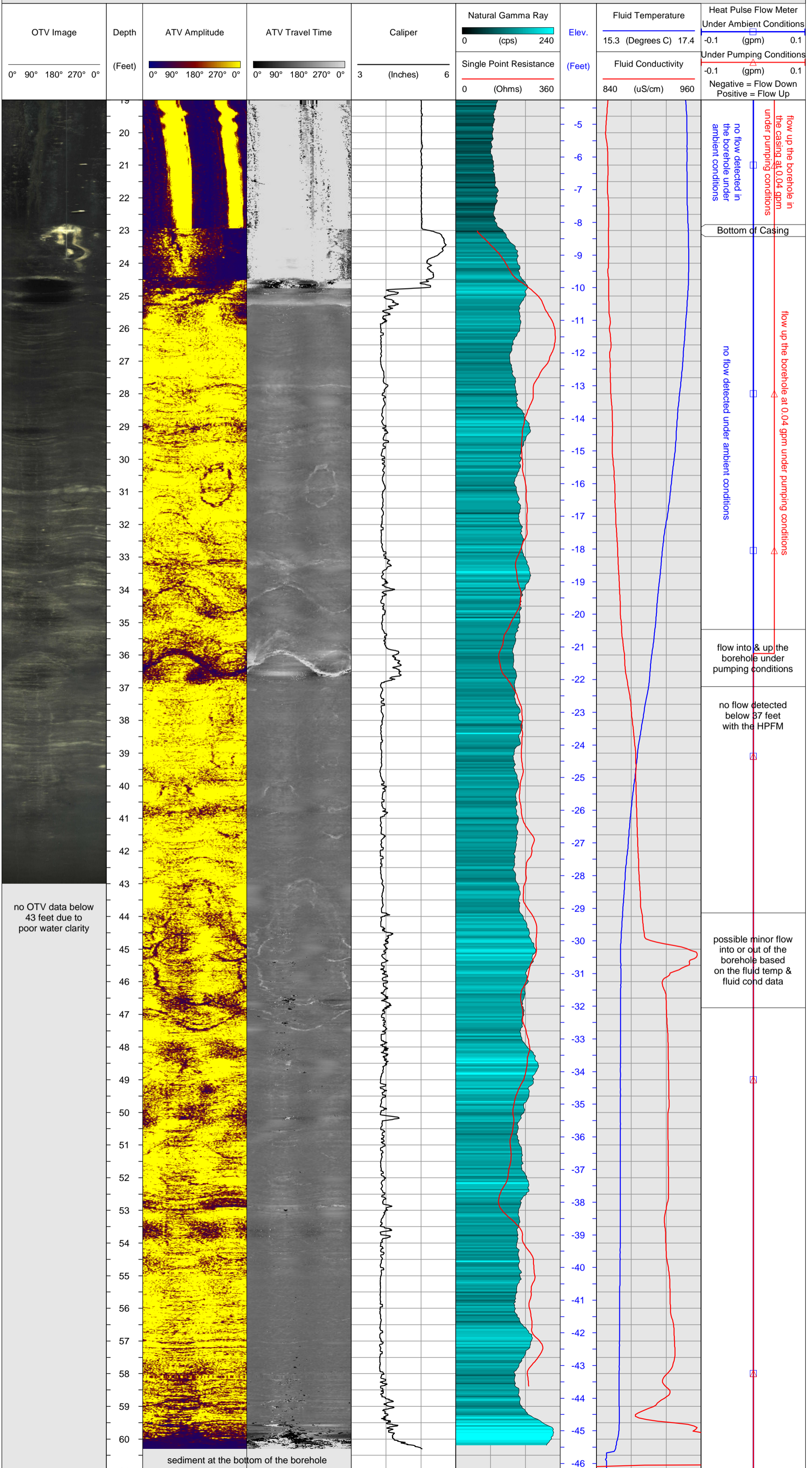
LMW-6R-S - Borehole Geophysical Logs



CLIENT: Langan
PROJECT: 1487 First Avenue Redevelopment Site
LOCATION: Manhattan, New York
LOGGING GEOPHYSICIST(S): Mikko Aarnio & Alex Collier
PROJECT REP(S) ON-SITE: Leo Thottumari
LOGS PROCESSED BY: Robert Garfield, P.G. & Nick DeCristofaro

HRGS FILE: 22RG53
LOG DATUM: Top of the Subcellar Slab | Elevation = 14.75 Feet
ORIENTATION REFERENCE: True North
MAGNETIC DECLINATION: 13° West
BOREHOLE DIAMETER: 4 Inches
WATER LEVEL DEPTH: 0.7 Feet

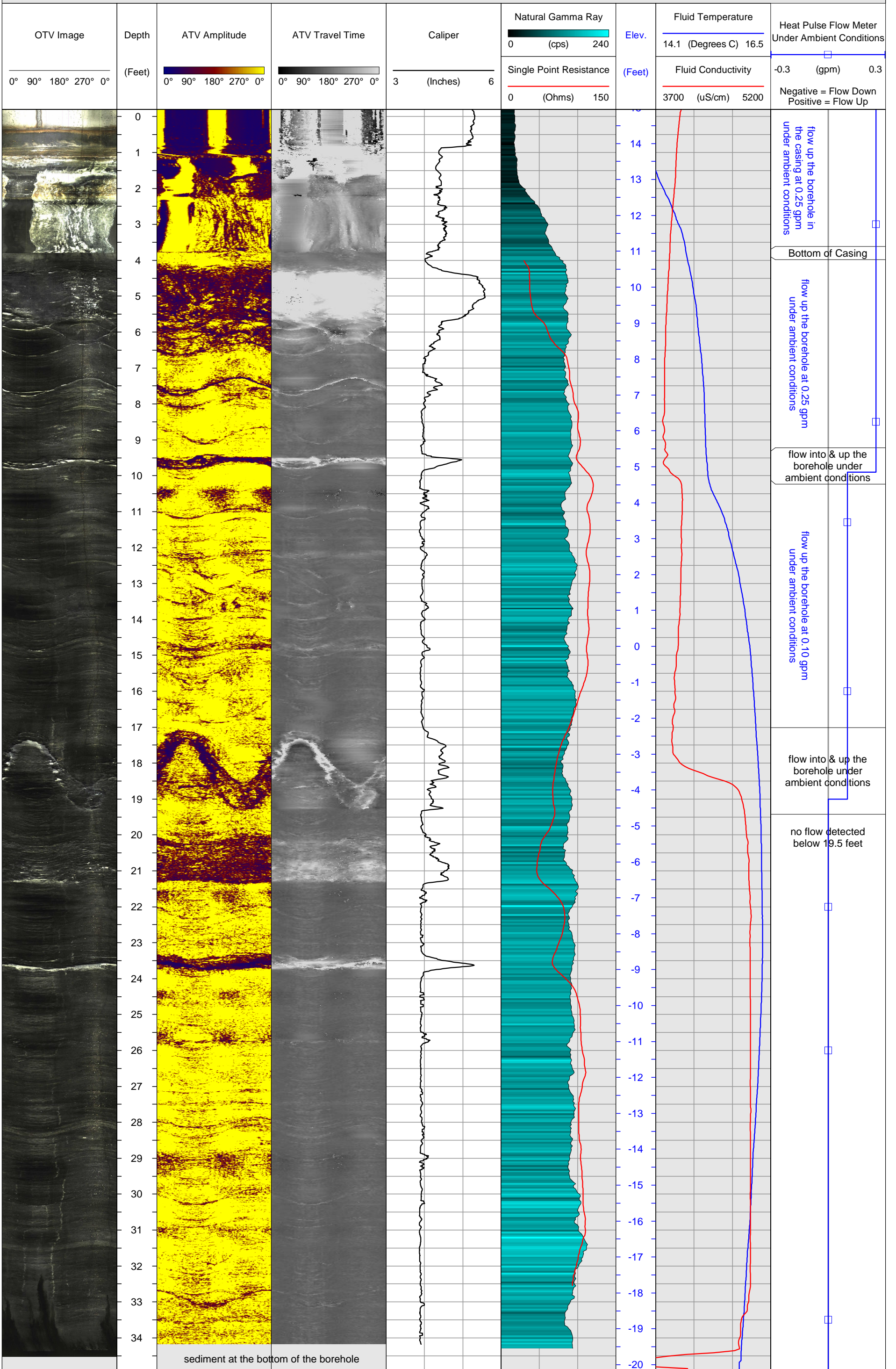
LMW-6R-D - Borehole Geophysical Logs



CLIENT: Langan
PROJECT: 1487 First Avenue Redevelopment Site
LOCATION: Manhattan, New York
LOGGING GEOPHYSICIST(S): Mikko Aarnio & Alex Collier
PROJECT REP(S) ON-SITE: Leo Thottumari
LOGS PROCESSED BY: Robert Garfield, P.G. & Nick DeCristofaro

HRGS FILE: 22RG53
LOG DATUM: Top of the Subcellar Slab | Elevation = 14.75 Feet
ORIENTATION REFERENCE: True North
MAGNETIC DECLINATION: 13° West
BOREHOLE DIAMETER: 4 Inches
WATER LEVEL DEPTH: Flowing Artesian at ~0.25 gpm

LMW-7R-S - Borehole Geophysical Logs

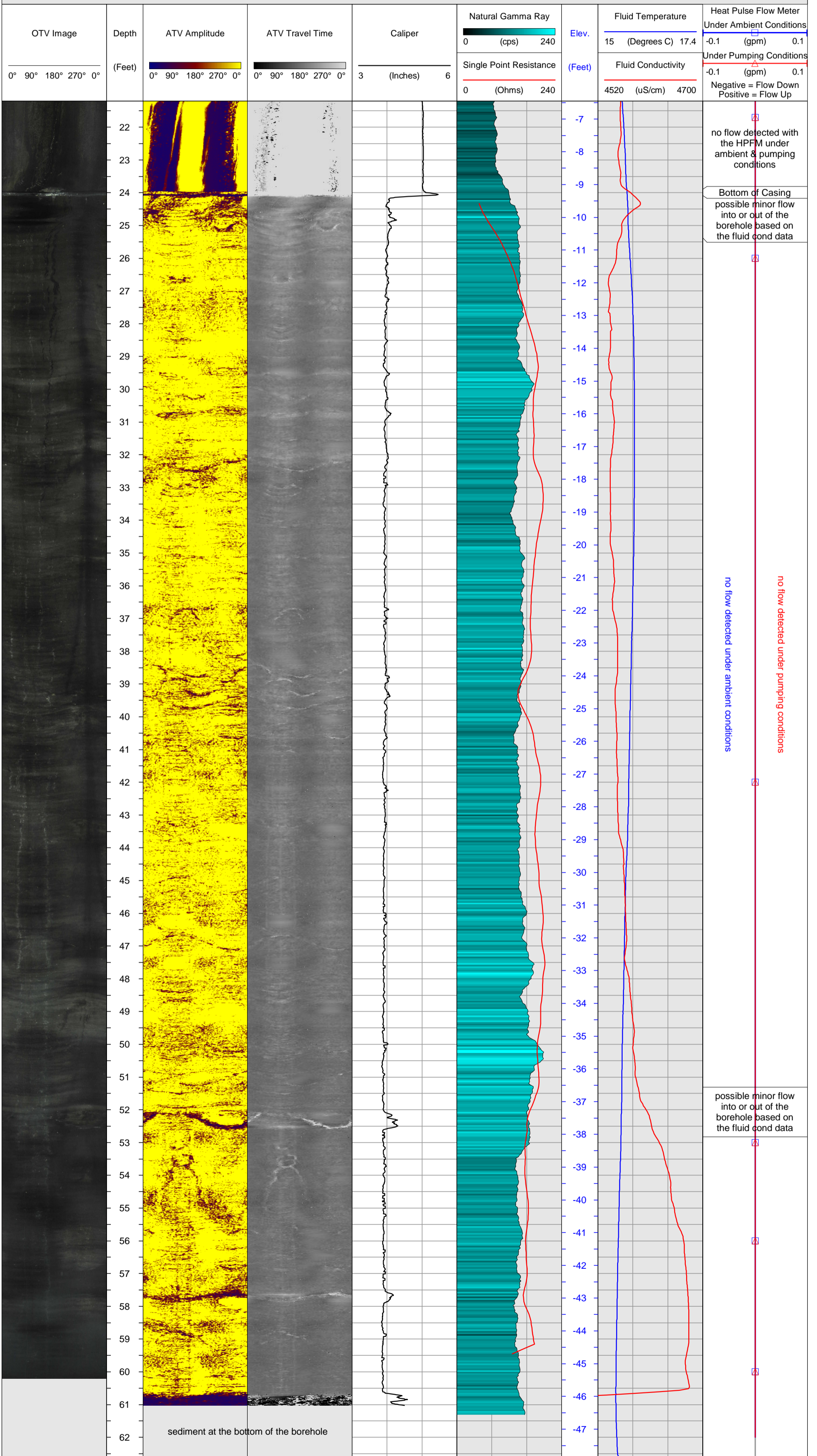


sediment at the bottom of the borehole

CLIENT: Langan
 PROJECT: 1487 First Avenue Redevelopment Site
 LOCATION: Manhattan, New York
 LOGGING GEOPHYSICIST(S): Mikko Aarnio
 PROJECT REP(S) ON-SITE: Leo Thottumari
 LOGS PROCESSED BY: Robert Garfield, P.G. & Nick DeCristofaro

HRGS FILE: 22RG53
 LOG DATUM: Top of the Subcellar Slab | Elevation = 14.75 Feet
 ORIENTATION REFERENCE: True North
 MAGNETIC DECLINATION: 13° West
 BOREHOLE DIAMETER: 4 Inches
 WATER LEVEL DEPTH: -0.2 Feet (inside a riser pipe)

LMW-7R-D - Borehole Geophysical Logs



no flow detected with the HPFM under ambient & pumping conditions

Bottom of Casing possible minor flow into or out of the borehole based on the fluid cond data

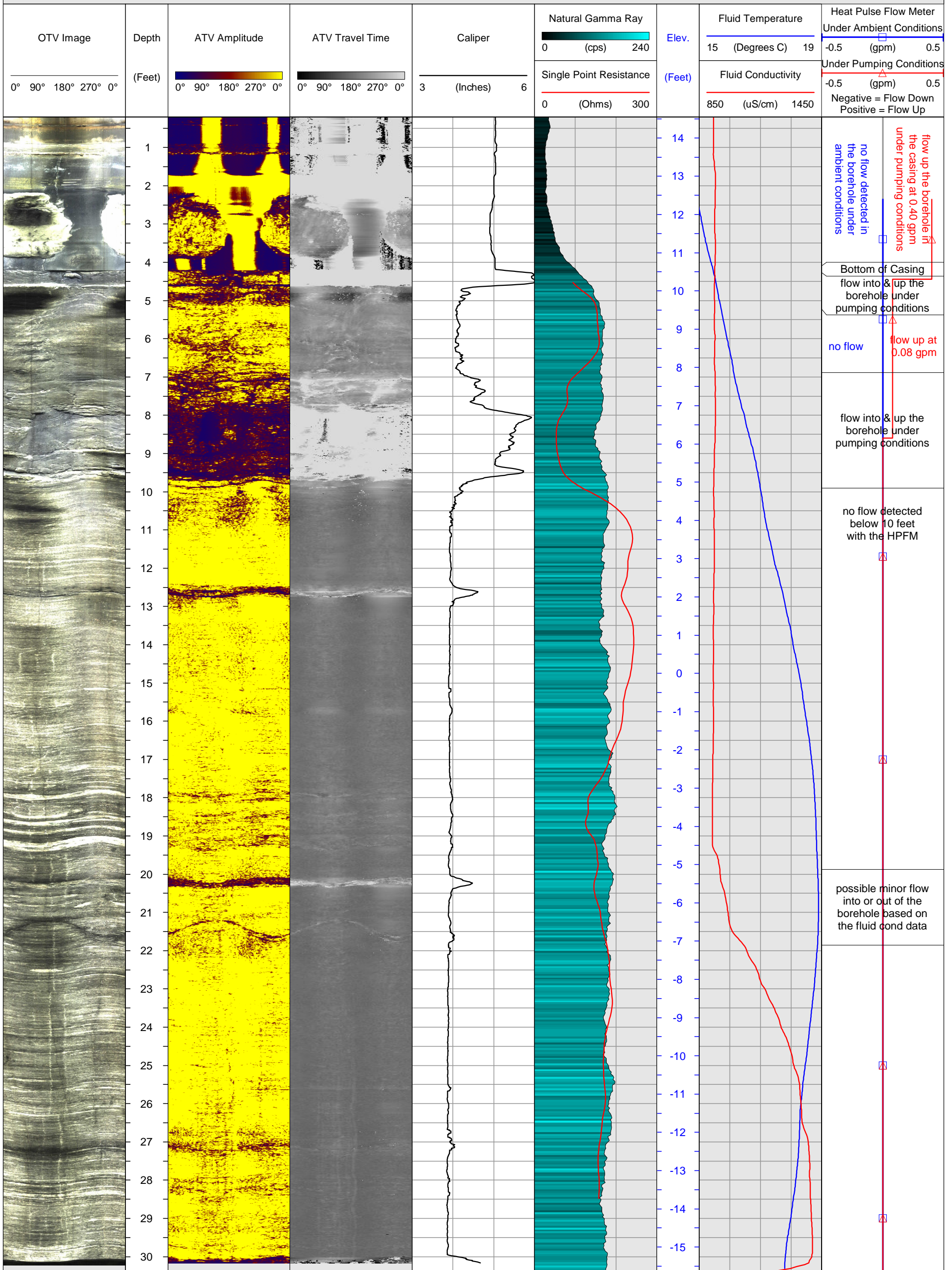
no flow detected under ambient conditions
 no flow detected under pumping conditions

possible minor flow into or out of the borehole based on the fluid cond data

CLIENT: Langan
PROJECT: 1487 First Avenue Redevelopment Site
LOCATION: Manhattan, New York
LOGGING GEOPHYSICIST(S): Mikko Aarnio
PROJECT REP(S) ON-SITE: Robert Bandstra
LOGS PROCESSED BY: Robert Garfield, P.G. & Nick DeCristofaro

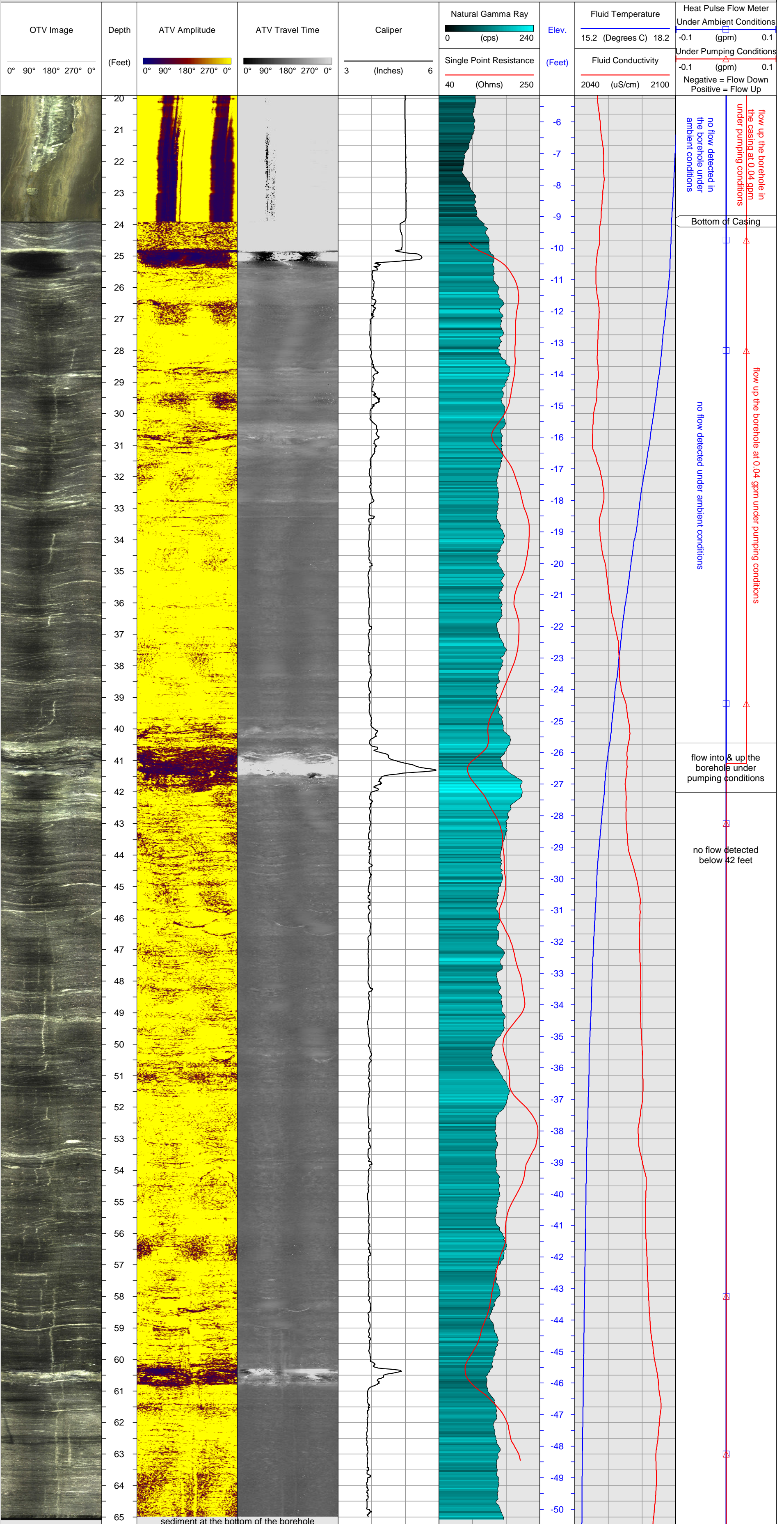
HRGS FILE: 22RG53
LOG DATUM: Top of the Subcellar Slab | Elevation = 14.75 Feet
ORIENTATION REFERENCE: True North
MAGNETIC DECLINATION: 13° West
BOREHOLE DIAMETER: 4 Inches
WATER LEVEL DEPTH: -7.8 Feet (inside a riser pipe)

LMW-8R-S - Borehole Geophysical Logs



CLIENT: Langan	HRGS FILE: 22RG53
PROJECT: 1487 First Avenue Redevelopment Site	LOG DATUM: Top of the Subcellar Slab Elevation = 14.75 Feet
LOCATION: Manhattan, New York	ORIENTATION REFERENCE: True North
LOGGING GEOPHYSICIST(S): Mikko Aarnio	MAGNETIC DECLINATION: 13° West
PROJECT REP(S) ON-SITE: Leo Thottumari & Robert Bandstra	BOREHOLE DIAMETER: 4 Inches
LOGS PROCESSED BY: Robert Garfield, P.G. & Nick DeCristofaro	WATER LEVEL DEPTH: 0.7 Feet

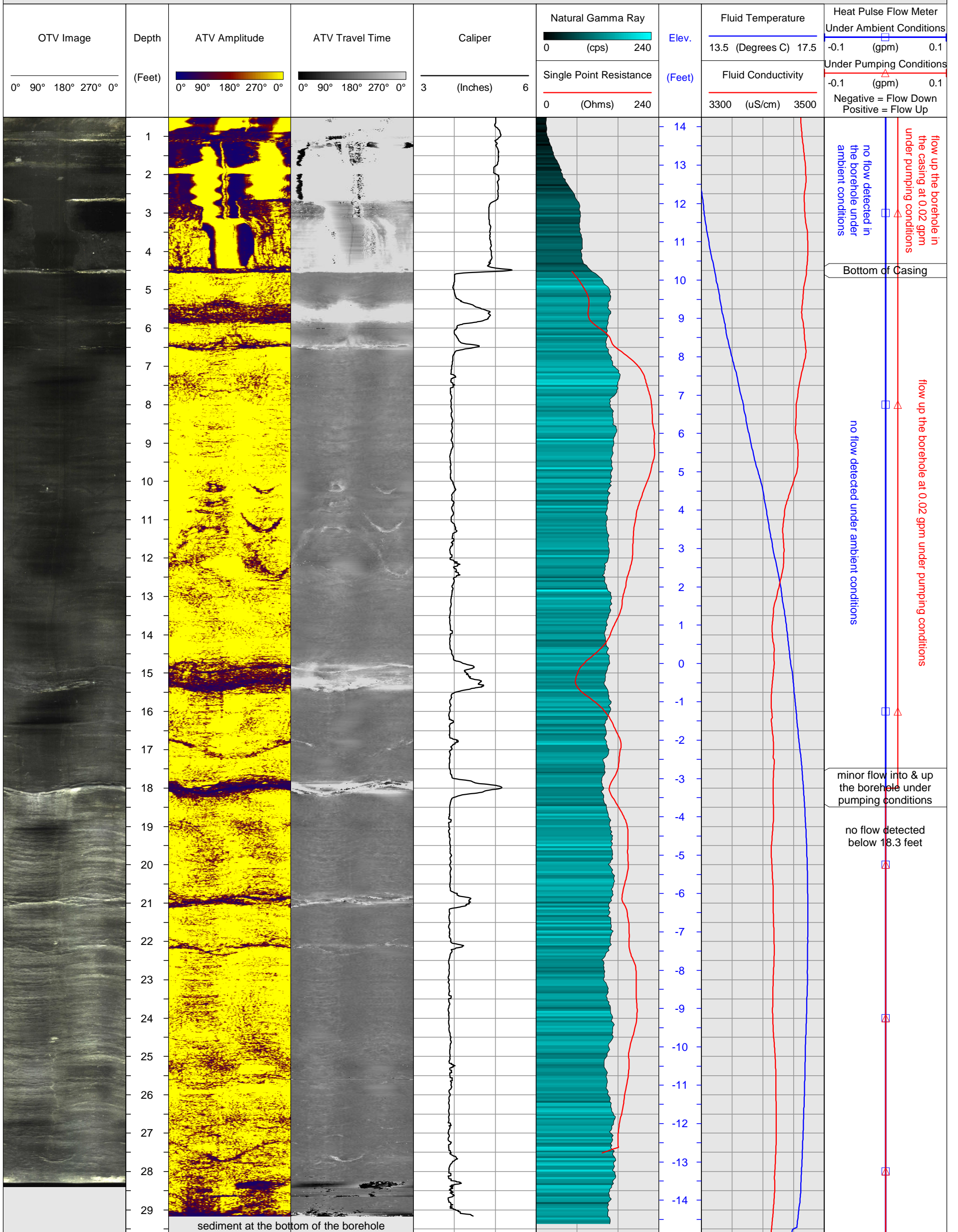
LMW-8R-D - Borehole Geophysical Logs



CLIENT: Langan
PROJECT: 1487 First Avenue Redevelopment Site
LOCATION: Manhattan, New York
LOGGING GEOPHYSICIST(S): Mikko Aarnio
PROJECT REP(S) ON-SITE: Leo Thottumari
LOGS PROCESSED BY: Robert Garfield, P.G. & Nick DeCristofaro

HRGS FILE: 22RG53
LOG DATUM: Top of the Subcellar Slab | Elevation = 14.75 Feet
ORIENTATION REFERENCE: True North
MAGNETIC DECLINATION: 13° West
BOREHOLE DIAMETER: 4 Inches
WATER LEVEL DEPTH: -4.5 Feet (inside a riser pipe)

LMW-9R-S - Borehole Geophysical Logs



no flow detected in the borehole under ambient conditions

flow up the borehole in the casing at 0.02 gpm under pumping conditions

Bottom of Casing

no flow detected under ambient conditions

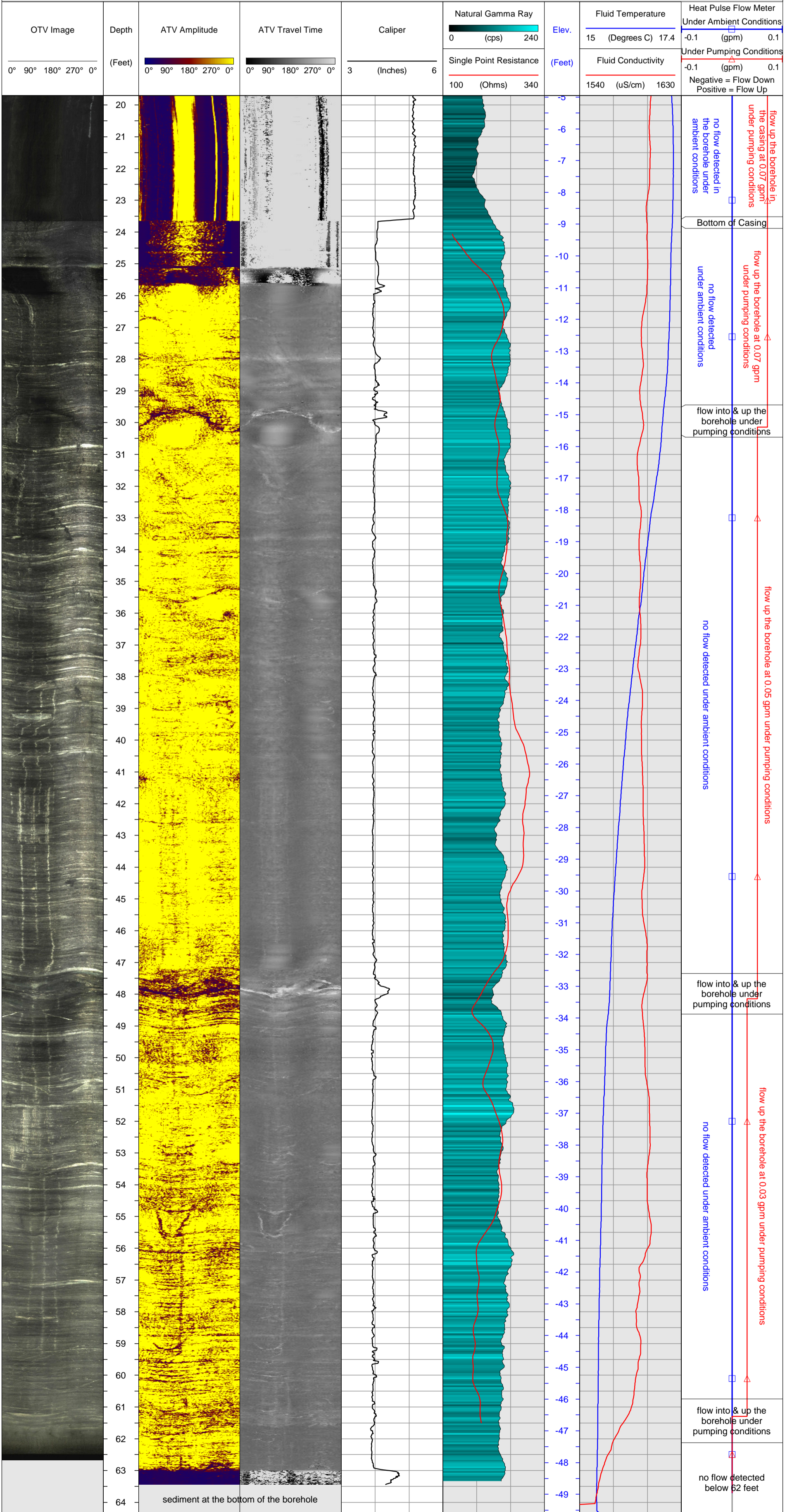
flow up the borehole at 0.02 gpm under pumping conditions

minor flow into & up the borehole under pumping conditions

no flow detected below 18.3 feet

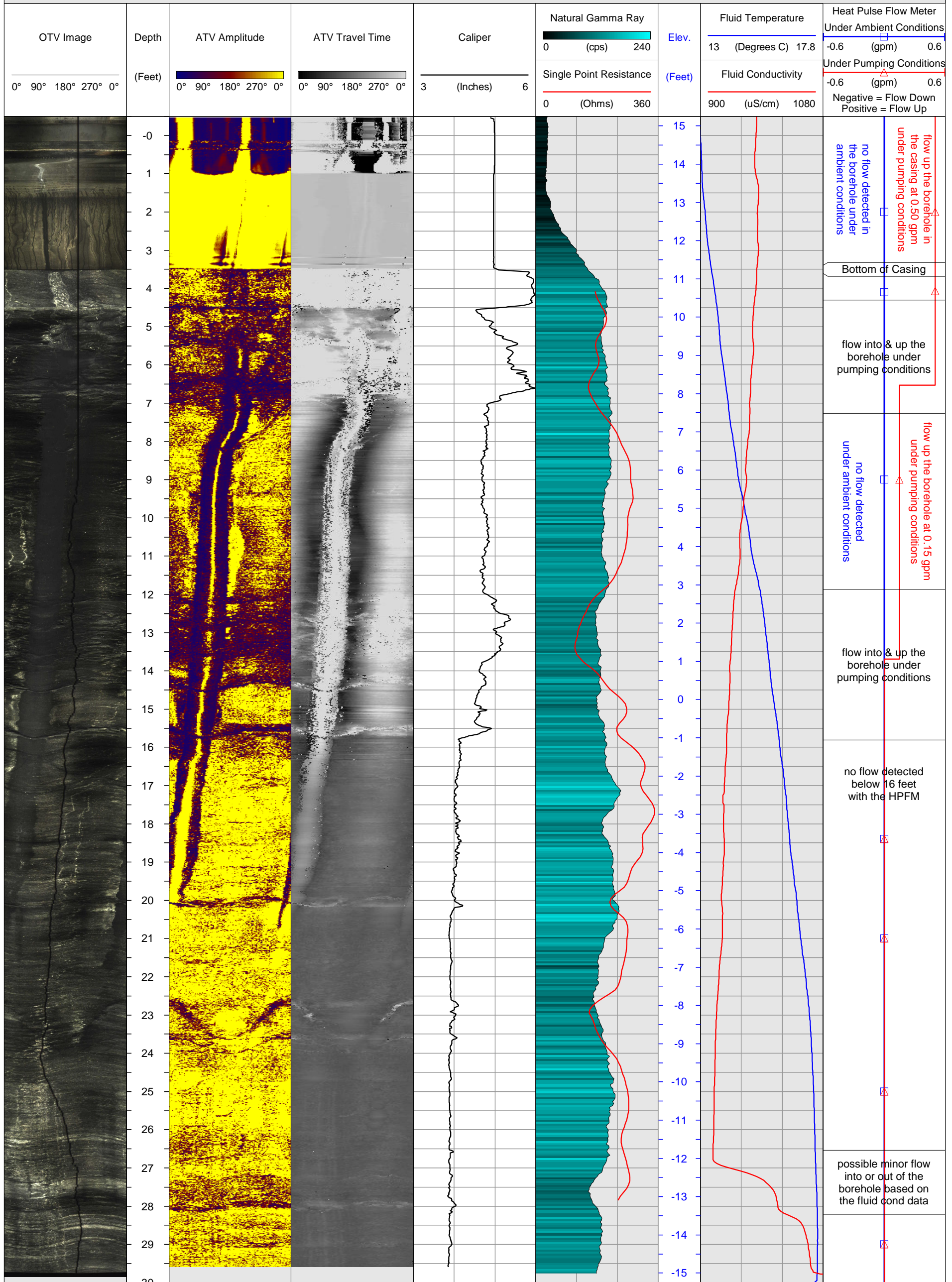
CLIENT: Langan	HRGS FILE: 22R2G53
PROJECT: 1487 First Avenue Redevelopment Site	LOG DATUM: Top of the Subcellar Slab Elevation = 14.75 Feet
LOCATION: Manhattan, New York	ORIENTATION REFERENCE: True North
LOGGING GEOPHYSICIST(S): Mikko Aarnio	MAGNETIC DECLINATION: 13° West
PROJECT REP(S) ON-SITE: Leo Thottumari	BOREHOLE DIAMETER: 4 Inches
LOGS PROCESSED BY: Robert Garfield, P.G. & Nick DeCristofaro	WATER LEVEL DEPTH: -2.9 Feet (inside a riser pipe)

LMW-9R-D - Borehole Geophysical Logs



CLIENT: Langan	HRGS FILE: 22RG53
PROJECT: 1487 First Avenue Redevelopment Site	LOG DATUM: Top of the Subcellar Slab Elevation = 14.75 Feet
LOCATION: Manhattan, New York	ORIENTATION REFERENCE: True North
LOGGING GEOPHYSICIST(S): Mikko Aarnio	MAGNETIC DECLINATION: 13° West
PROJECT REP(S) ON-SITE: Gabriella DeGennaro	BOREHOLE DIAMETER: 4 Inches
LOGS PROCESSED BY: Robert Garfield, P.G. & Nick DeCristofaro	WATER LEVEL DEPTH: -7.9 Feet (inside a riser pipe)

LMW-10R-S - Borehole Geophysical Logs



HRGS

HAGER-RICHTER GEOSCIENCE

LMW-6R-S - Summary of Borehole Flow Under Ambient (Artesian) Conditions

CLIENT	Langan
PROJECT	1487 First Avenue Redevelopment Site
LOCATION	Manhattan, New York
HRGS FILE	22RG53
DATE LOGGED	January 2 & 8, 2024
LOG DATUM	Top of the Subcellar Slab Elevation = 14.75 Feet

LMW-6R-S - Summary of Borehole Flow Under Ambient (Artesian) Conditions

Depth (Feet)	Comments
-10.3	Top of the 4-Inch PVC Riser Pipe
-8.0	Ambient Water Level
-5.0	Top of the 5-Inch Steel Casing flowing artesian at 0.10 gpm out at the PVC riser and steel casing joint
-5.0 - 0.0	flow up the borehole in the casing at 0.10 gpm under ambient conditions
0.0	Top of the Concrete Floor Slab
0.0 - 4.4	flow up the borehole in the casing at 0.10 gpm under ambient conditions
4.4	Bottom of the 5-Inch Steel Casing
4.4 - 19.7	flow up the borehole at 0.10 gpm under ambient conditions
19.7 - 20.3	flow into & up the borehole under ambient conditions
20.3 - 22.3	no flow detected under ambient conditions
22.3 - 23.1	possible minor flow into or out of the borehole based on the fluid cond data
23.1 - 31.6	no flow detected under ambient conditions
31.6	Bottom of the Borehole (based on the geophysical logging)

HRGS

HAGER-RICHTER GEOSCIENCE

LMW-6R-D - Summary of Borehole Flow Under Ambient & Pumping Conditions	
CLIENT	Langan
PROJECT	1487 First Avenue Redevelopment Site
LOCATION	Manhattan, New York
HRGS FILE	22RG53
DATE LOGGED	December 22 & 28, 2023
LOG DATUM	Top of the Subcellar Slab Elevation = 14.75 Feet

LMW-6R-D - Summary of Borehole Flow Under Ambient & Pumping Conditions

Depth (Feet)	Comments
	(flow was not detected in the borehole under ambient conditions)
0.0	Top of the Concrete Floor Slab
0.7	Ambient Water Level
8.0 - 9.0	Location of Pump for HPFM Under Pumping Conditions
9.0 - 23.0	flow up the borehole in the casing at 0.04 gpm under pumping conditions
23.0	Bottom of the 5-Inch Steel Casing
23.0 - 35.2	flow up the borehole at 0.04 gpm under pumping conditions
35.2 - 37.0	flow into & up the borehole under pumping conditions
37.0 - 43.9	no flow detected under pumping conditions
43.9 - 46.8	possible minor flow into or out of the borehole based on the fluid temp & cond data
46.8 - 61.0	no flow detected under pumping conditions
61.0	Bottom of the Borehole (based on the geophysical logging)

HRGS

HAGER-RICHTER GEOSCIENCE

LMW-7R-S - Summary of Borehole Flow Under Ambient (Artesian) Conditions

CLIENT	Langan
PROJECT	1487 First Avenue Redevelopment Site
LOCATION	Manhattan, New York
HRGS FILE	22RG53
DATE LOGGED	December 22, 2023
LOG DATUM	Top of the Subcellar Slab Elevation = 14.75 Feet

LMW-7R-S - Summary of Borehole Flow Under Ambient (Artesian) Conditions

Depth (Feet)	Comments
-5.2	Top of the 5-Inch Steel Casing Ambient Water Level (flowing artesian at 0.25 gpm out the top of casing)
-5.2 - 0.0	flow up the borehole in the casing at 0.25 gpm under ambient conditions
0.0	Top of the Concrete Floor Slab
0.0 - 3.8	flow up the borehole in the casing at 0.25 gpm under ambient conditions
3.8	Bottom of the 5-Inch Steel Casing
3.8 - 9.3	flow up the borehole at 0.25 gpm under ambient conditions
9.3 - 10.1	flow into & up the borehole under ambient conditions
10.1 - 17.0	flow up the borehole at 0.10 gpm under ambient conditions
17.0 - 19.4	flow into & up the borehole under ambient conditions
19.4 - 35.0	no flow detected under ambient conditions
35.0	Bottom of the Borehole (based on the geophysical logging)

HRGS

HAGER-RICHTER GEOSCIENCE

LMW-7R-D - Summary of Borehole Flow Under Ambient & Pumping Conditions	
CLIENT	Langan
PROJECT	1487 First Avenue Redevelopment Site
LOCATION	Manhattan, New York
HRGS FILE	22RG53
DATE LOGGED	December 29, 2023
LOG DATUM	Top of the Subcellar Slab Elevation = 14.75 Feet

LMW-7R-D - Summary of Borehole Flow Under Ambient & Pumping Conditions

Depth (Feet)	Comments
	(flow was not detected in the borehole under ambient or pumping conditions)
-0.2	Ambient Water Level
0.0	Top of the Concrete Floor Slab
7.0 - 8.0	Location of Pump for HPFM Under Pumping Conditions
24.0	Bottom of the 5-Inch Steel Casing
24.0 - 25.4	possible minor flow into or out of the borehole based on the fluid cond data
51.3 - 52.8	possible minor flow into or out of the borehole based on the fluid cond data
63.0	Bottom of the Borehole (based on the geophysical logging)

HRGS

HAGER-RICHTER GEOSCIENCE

LMW-8R-S - Summary of Borehole Flow Under Ambient & Pumping Conditions

CLIENT	Langan
PROJECT	1487 First Avenue Redevelopment Site
LOCATION	Manhattan, New York
HRGS FILE	22RG53
DATE LOGGED	January 2, 2024
LOG DATUM	Top of the Subcellar Slab Elevation = 14.75 Feet

LMW-8R-S - Summary of Borehole Flow Under Ambient & Pumping Conditions

Depth (Feet)	Comments
	(flow was not detected in the borehole under ambient conditions)
-7.8	Ambient Water Level
0.0	Top of the Concrete Floor Slab
1.0 - 2.0	Location of Pump for HPFM Under Pumping Conditions
2.0 - 4.3	flow up the borehole in the casing at 0.40 gpm under pumping conditions
4.3	Bottom of the 5-Inch Steel Casing
4.3 - 5.2	flow into & up the borehole under pumping conditions
5.2 - 6.9	flow up the borehole at 0.08 gpm under pumping conditions
6.9 - 9.9	flow into & up the borehole under pumping conditions
9.9 - 19.9	no flow detected under pumping conditions
19.9 - 21.9	possible minor flow into or out of the borehole based on the fluid cond data
21.9 - 30.4	no flow detected under pumping conditions
30.4	Bottom of the Borehole (based on the geophysical logging)

HRGS

HAGER-RICHTER GEOSCIENCE

LMW-8R-D - Summary of Borehole Flow Under Ambient & Pumping Conditions	
CLIENT	Langan
PROJECT	1487 First Avenue Redevelopment Site
LOCATION	Manhattan, New York
HRGS FILE	22RG53
DATE LOGGED	December 29, 2023 & January 2, 2024
LOG DATUM	Top of the Subcellar Slab Elevation = 14.75 Feet

LMW-8R-D - Summary of Borehole Flow Under Ambient & Pumping Conditions

Depth (Feet)	Comments
	(flow was not detected in the borehole under ambient conditions)
0.0	Top of the Concrete Floor Slab
0.7	Ambient Water Level
6.0 - 7.0	Location of Pump for HPFM Under Pumping Conditions
7.0 - 24.0	flow up the borehole in the casing at 0.04 gpm under pumping conditions
24.0	Bottom of the 5-Inch Steel Casing
24.0 - 40.4	flow up the borehole at 0.04 gpm under pumping conditions
40.4 - 42.0	flow into & up the borehole under pumping conditions
42.0 - 65.3	no flow detected under pumping conditions
65.3	Bottom of the Borehole (based on the geophysical logging)

HRGS

HAGER-RICHTER GEOSCIENCE

LMW-9R-S - Summary of Borehole Flow Under Ambient & Pumping Conditions

CLIENT	Langan
PROJECT	1487 First Avenue Redevelopment Site
LOCATION	Manhattan, New York
HRGS FILE	22RG53
DATE LOGGED	December 28, 2023
LOG DATUM	Top of the Subcellar Slab Elevation = 14.75 Feet

LMW-9R-S - Summary of Borehole Flow Under Ambient & Pumping Conditions

Depth (Feet)	Comments
	(flow was not detected in the borehole under ambient conditions)
-4.5	Ambient Water Level
0.0	Top of the Concrete Floor Slab
3.0 - 4.0	Location of Pump for HPFM Under Pumping Conditions
4.0 - 4.5	flow up the borehole in the casing at 0.02 gpm under pumping conditions
4.5	Bottom of the 5-Inch Steel Casing
4.5 - 17.5	flow up the borehole at 0.02 gpm under pumping conditions
17.5 - 18.4	flow into & up the borehole under pumping conditions
18.4 - 29.7	no flow detected under pumping conditions
29.7	Bottom of the Borehole (based on the geophysical logging)

HRGS

HAGER-RICHTER GEOSCIENCE

LMW-9R-D - Summary of Borehole Flow Under Ambient & Pumping Conditions	
CLIENT	Langan
PROJECT	1487 First Avenue Redevelopment Site
LOCATION	Manhattan, New York
HRGS FILE	22RG53
DATE LOGGED	December 28 & 29, 2023
LOG DATUM	Top of the Subcellar Slab Elevation = 14.75 Feet

LMW-9R-D - Summary of Borehole Flow Under Ambient & Pumping Conditions

Depth (Feet)	Comments
	(flow was not detected in the borehole under ambient conditions)
-2.9	Ambient Water Level
0.0	Top of the Concrete Floor Slab
6.0 - 7.0	Location of Pump for HPFM Under Pumping Conditions
7.0 - 23.7	flow up the borehole in the casing at 0.07 gpm under pumping conditions
23.7	Bottom of the 5-Inch Steel Casing
23.7 - 29.5	flow up the borehole at 0.07 gpm under pumping conditions
29.5 - 30.4	flow into & up the borehole under pumping conditions
30.4 - 47.3	flow up the borehole at 0.05 gpm under pumping conditions
47.3 - 48.6	flow into & up the borehole under pumping conditions
48.6 - 60.7	flow up the borehole at 0.03 gpm under pumping conditions
60.7 - 62.1	flow into & up the borehole under pumping conditions
62.1 - 64.4	no flow detected under pumping conditions
64.4	Bottom of the Borehole (based on the geophysical logging)

HRGS	
HAGER-RICHTER GEOSCIENCE	
LMW-10R-S - Summary of Borehole Flow Under Ambient & Pumping Conditions	
CLIENT	Langan
PROJECT	1487 First Avenue Redevelopment Site
LOCATION	Manhattan, New York
HRGS FILE	22RG53
DATE LOGGED	January 8, 2024
LOG DATUM	Top of the Subcellar Slab Elevation = 14.75 Feet

LMW-10R-S - Summary of Borehole Flow Under Ambient & Pumping Conditions	
Depth (Feet)	Comments
	(flow was not detected in the borehole under ambient conditions)
-7.9	Ambient Water Level
-5.0	Location of Pump for HPFM Under Pumping Conditions
-5.0 - 3.5	flow up the borehole in the casing at 0.50 gpm under pumping conditions
0.0	Top of the Concrete Floor Slab
0.0 - 3.5	flow up the borehole in the casing at 0.50 gpm under pumping conditions
3.5	Bottom of the 5-Inch Steel Casing
3.5 - 4.3	flow up the borehole at 0.50 gpm under pumping conditions
4.3 - 7.3	flow into & up the borehole under pumping conditions
7.3 - 11.9	flow up the borehole at 0.15 gpm under pumping conditions
11.9 - 15.8	flow into & up the borehole under pumping conditions
15.8 - 26.5	no flow detected under pumping conditions
26.5 - 28.2	possible minor flow into or out of the borehole based on the fluid cond data
28.2 - 30.0	no flow detected under pumping conditions
30.0	Bottom of the Borehole (based on the geophysical logging)

HRGS

HAGER-RICHTER GEOSCIENCE

LMW-10R-D - Summary of Borehole Flow Under Ambient (Artesian) Conditions	
CLIENT	Langan
PROJECT	1487 First Avenue Redevelopment Site
LOCATION	Manhattan, New York
HRGS FILE	22RG53
DATE LOGGED	January 8, 2024
LOG DATUM	Top of the Subcellar Slab Elevation = 14.75 Feet

LMW-10R-D - Summary of Borehole Flow Under Ambient (Artesian) Conditions

Depth (Feet)	Comments
-5.7	Top of the 5-Inch Steel Casing Ambient Water Level (flowing artesian at 0.10 gpm out the top of casing)
-5.7 - 0.0	flow up the borehole in the casing at 0.10 gpm under ambient conditions
0.0	Top of the Concrete Floor Slab
0.0 - 23.2	flow up the borehole in the casing at 0.10 gpm under ambient conditions
23.2	Bottom of the 5-Inch Steel Casing
23.2 - 32.9	flow up the borehole at 0.10 gpm under ambient conditions
32.9 - 33.5	flow into & up the borehole under ambient conditions
33.5 - 42.0	flow up the borehole at 0.06 gpm under ambient conditions
42.0 - 42.7	flow into & up the borehole under ambient conditions
42.7 - 47.2	no flow detected under ambient conditions
47.2 - 48.5	possible minor flow into or out of the borehole based on the fluid cond data
48.5 - 63.1	no flow detected under ambient conditions
63.1	Bottom of the Borehole (based on the geophysical logging)

APPENDIX C

Westbay Installation Documents



Westbay Completion Report

Westbay Monitoring Wells: LMW-6R-S, LMW-6R-D,
LMW-7R-S, LMW-7R-D, LMW-8R-S, LMW-8R-D,
LMW-9R-S, LMW-9R-D, LMW-10R-S, LMW-10R-D

1487 1st Ave.
New York, NY
February 2024

Prepared for:

Langan
300 Kimball Dr.
Parsippany, NJ 07054

Prepared by:

Earth Data Northeast, Inc.
Whiteland Technology Center
924 Springdale Drive
Exton, PA 19341

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Appendices

Appendix A – LMW-6R-S
Appendix B – LMW-6R-D
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Appendix F – LMW-8R-D
Appendix G – LMW-9R-S
Appendix H – LMW-9R-D
Appendix I – LMW-10R-S
Appendix J – LMW-10R-D

1. Introduction

This report details the onsite technical services performed by Earth Data Northeast, Inc. (EDN) for Langan. Westbay System monitoring wells were installed in boreholes LMW-6R-S, LMW-6R-D, LMW-7R-S, LMW-7R-D, LMW-8R-S, LMW-8R-D, LMW-9R-S, LMW-9R-D, LMW-10R-S and LMW-10R-D at 1487 1st Ave., New York, NY.

EDN installation technician Mr. George Seidman was onsite to perform the installations from January 31, 2024 through February 8, 2024. The EDN technician was assisted onsite by Langan personnel. This report documents the installation tasks and related QA checks.

2. Previous Site Activities

The monitoring wells were completed as open bedrock boreholes, 4-inches in diameter. Surface casing was 5-inches in diameter and extended to various depths. Geophysical logging was performed in each of the boreholes prior to Westbay System installation.

Table 1. Summary of Westbay System Installations

Well-ID	Installation Date	Borehole Depth	MP Casing Depth	No. Monitoring Zones
LMW-6R-S	February 2, 2024	32.0'	31.75'	1
LMW-6R-D	February 2, 2024	60.0'	59.75'	3
LMW-7R-S	February 5, 2024	32.0'	31.75'	2
LMW-7R-D	February 1, 2024	63.0'	62.75'	2
LMW-8R-S	February 1, 2024	30.0'	29.75'	2
LMW-8R-D	February 5, 2024	65.0'	64.75'	2
LMW-9R-S	February 6, 2024	28.0'	27.75'	1
LMW-9R-D	February 6, 2024	64.0'	63.25'	3

LMW-10R-S	February 7, 2024	30.0'	29.75'	1
LMW-10R-D	February 8, 2024	56.0'	55.75'	2

All depths are with respect to ground surface.

3. Installation

3.1 Preparation of Monitoring Well Design

Well designs were completed by EDN based on requested packer locations provided by Langan. Westbay casing installation logs were produced from the well design, and were reviewed and approved in the field by Langan. Copies of the well designs and installation logs are included in the Appendices.

All of the wells were completed with MP38 Westbay Systems. The monitoring intervals contained Model 0205 measurement port couplings, used to collect fluid pressures and groundwater samples. Each monitoring zone also contained a Model 0224 mechanical pumping port, which can be used for purging and hydraulic conductivity testing.

Langan declined to have optional synthetic filters installed over the measurement port couplings in each well.

3.2 Layout of Westbay Casing Components

Prior to the installation, the Westbay System casing components were laid out near the wellhead of the borehole in the order in which they were to be installed, as indicated on the approved installation log. Each casing component was numbered in order, beginning with the deepest components and continuing to the shallowest. Once numbered, each component received the proper Westbay System coupling as indicated on the installation log.

Magnetic Locating Collars were attached approximately 2.0 feet below the shallowest measurement port in each interval, where possible. Each casing component was visually inspected for any damage or defect prior to installation. Serial numbers for each Westbay packer and Westbay measurement port couplings were recorded on the Casing Installation Log. Each well component and attached coupling was confirmed with the log prior to being lowered into the well.

3.3 Lowering of Westbay Components

The open-hole water level of each borehole was above ground surface at the time of installation, allowing the Westbay Systems to be lowered by hand. As the components were joined, each

casing joint was tested with a minimum internal hydraulic pressure of 150 psi for 1 minute to confirm hydraulic seals. Check marks on the casing installation log provide a record of the joint testing.

Clean water was added to the Westbay casing when necessary to compensate for buoyancy effects during lowering. All data presented in this report is based on the final, as-built position of the Westbay components

3.4 Positioning of Westbay Components

After the components were lowered in to the well, the Westbay casing string was positioned as shown on the Summary Casing Logs. The Westbay casing string was supported in this position while packer inflation was carried out.

The positioning of the Westbay casing components is based on the “nominal” lengths of Westbay casing components. The positioning calculations do not include allowances for borehole temperature or deviation effects, which are site dependant. The attached figure titled “MOSDAX Transducer Position” provides information to correlate the position of MOSDAX Transducer sensors to the reference position at the top of the Measurement Port. The attached figure titled “Dimensions of Packer Seals and Monitoring Zones” outlines the calculations used to determine the packer centerline depths and zone lengths.

3.5 Hydraulic Integrity Testing

After the Westbay casing was lowered into in the borehole and prior to packer inflation, the water pressure inside the Westbay casing was monitored to confirm the hydraulic integrity of the casing. The water pressure inside the casing was monitored for a period of 30 minutes and observed for changes. In each of the wells the groundwater elevation was above the ground surface, so any leaks would result in an increasing water pressure inside the Westbay casing. The integrity tests indicated that the Westbay Systems were water tight prior to packer inflation. The results of the tests can be seen in Tables 2-11.

Table 2. Integrity Test Results-LMW-6R-S

Borehole	Time	Water Pressure (psi) Inside Westbay Casing
LMW-6R-S 2/2/24 Borehole Depth to Water AGS	14:25	24.89
	14:35	24.88
	14:45	24.89
	14:55	24.88

Table 3. Integrity Test Results-LMW-6R-D

Borehole	Time	Water Pressure (psi) Inside Westbay Casing
LMW-6R-D	9:57	34.17
2/2/24	10:07	34.16
Borehole Depth to Water	10:17	34.16
AGS	10:27	34.16

Table 4. Integrity Test Results-LMW-7R-S

Borehole	Time	Water Pressure (psi) Inside Westbay Casing
LMW-7R-S	10:29	25.03
2/5/24	10:39	25.02
Borehole Depth to Water	10:49	25.03
AGS	10:59	25.02

Table 5. Integrity Test Results-LMW-7R-D

Borehole	Time	Water Pressure (psi) Inside Westbay Casing
LMW-7R-D	15:39	32.07
2/1/24	15:49	32.08
Borehole Depth to Water	15:59	32.07
AGS	16:09	32.06

Table 6. Integrity Test Results-LMW-8R-S

Borehole	Time	Water Pressure (psi) Inside Westbay Casing
LMW-8R-S 2/1/24 Borehole Depth to Water AGS	9:46	18.84
	9:56	18.84
	10:06	18.84
	10:16	18.83

Table 7. Integrity Test Results-LMW-8R-D

Borehole	Time	Water Pressure (psi) Inside Westbay Casing
LMW-8R-D 2/5/24 Borehole Depth to Water AGS	15:01	31.80
	15:11	31.79
	15:21	31.78
	15:31	31.78

Table 8. Integrity Test Results-LMW-9R-S

Borehole	Time	Water Pressure (psi) Inside Westbay Casing
LMW-9R-S 2/6/24 Borehole Depth to Water AGS	14:27	22.77
	14:37	22.77
	14:47	22.77
	14:57	22.77

Table 9. Integrity Test Results-LMW-9R-D

Borehole	Time	Water Pressure (psi) Inside Westbay Casing
LMW-9R-D	10:24	31.66
2/6/24	10:34	31.65
Borehole Depth to Water	10:44	31.65
AGS	10:54	31.65

Table 10. Integrity Test Results-LMW-10R-S

Borehole	Time	Water Pressure (psi) Inside Westbay Casing
LMW-10R-S	9:07	26.69
2/7/24	9:17	26.67
Borehole Depth to Water	9:27	26.67
AGS	9:37	26.67

Table 11. Integrity Test Results-LMW-10R-D

Borehole	Time	Water Pressure (psi) Inside Westbay Casing
LMW-10R-D	10:16	31.91
2/8/24	10:26	31.89
Borehole Depth to Water	10:36	31.90
AGS	10:46	31.90

3.6 Pre-inflation Profile

Prior to inflating the packers in each well, a pressure profile was performed. The goal of the pressure profile was to confirm the proper operation and location of the measurement ports and magnetic collars. A plot of the Pre-Inflation Piezometric levels in all zones in the wells is shown

on Figures 3, 5, 7, 9, 11, 13, 15, 17, 19 and 21 in the Appendices along with the field profile forms.

3.7 Inflation of MP System Packers

The Westbay packers were inflated sequentially beginning at the bottom of the well using clean water either brought to the Site by EDN or provided by Langan. Westbay model No. 6055 vented inflation tool was used for packer inflation. The data for inflation of each packer are provided on the Westbay Packer Inflation Records included in the Appendices.

4. Fluid Pressure Measurements

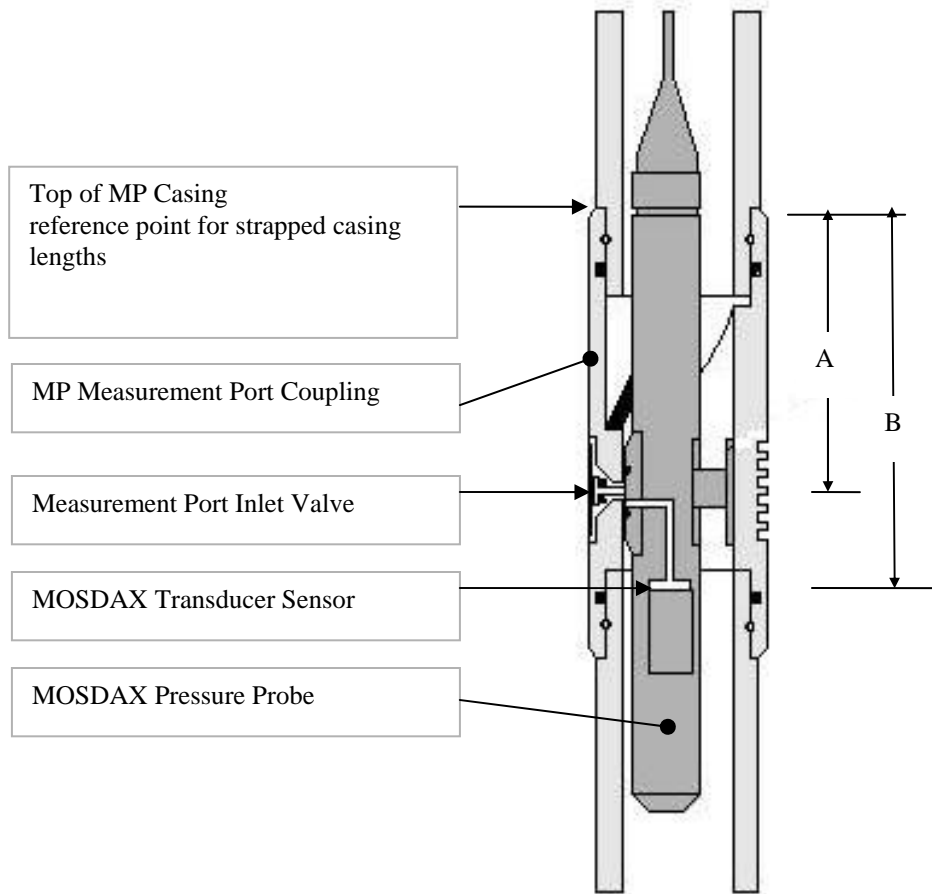
Following inflation of the packers, a post-inflation pressure profile was completed. At the time the measurements were taken, the isolated intervals may not have reached their final equilibrated fluid pressure levels. Longer term monitoring may be required to establish representative fluid pressures.

A plot of the Post –Inflation Piezometric levels is shown in Figure 4, 6, 8, 10, 12, 14, 16, 18, 20, and 22. The data was reviewed to confirm proper operation of the measurement ports and check the presence of the annulus seals between monitoring zones.

Figure 1

MOSDAX Transducer Position

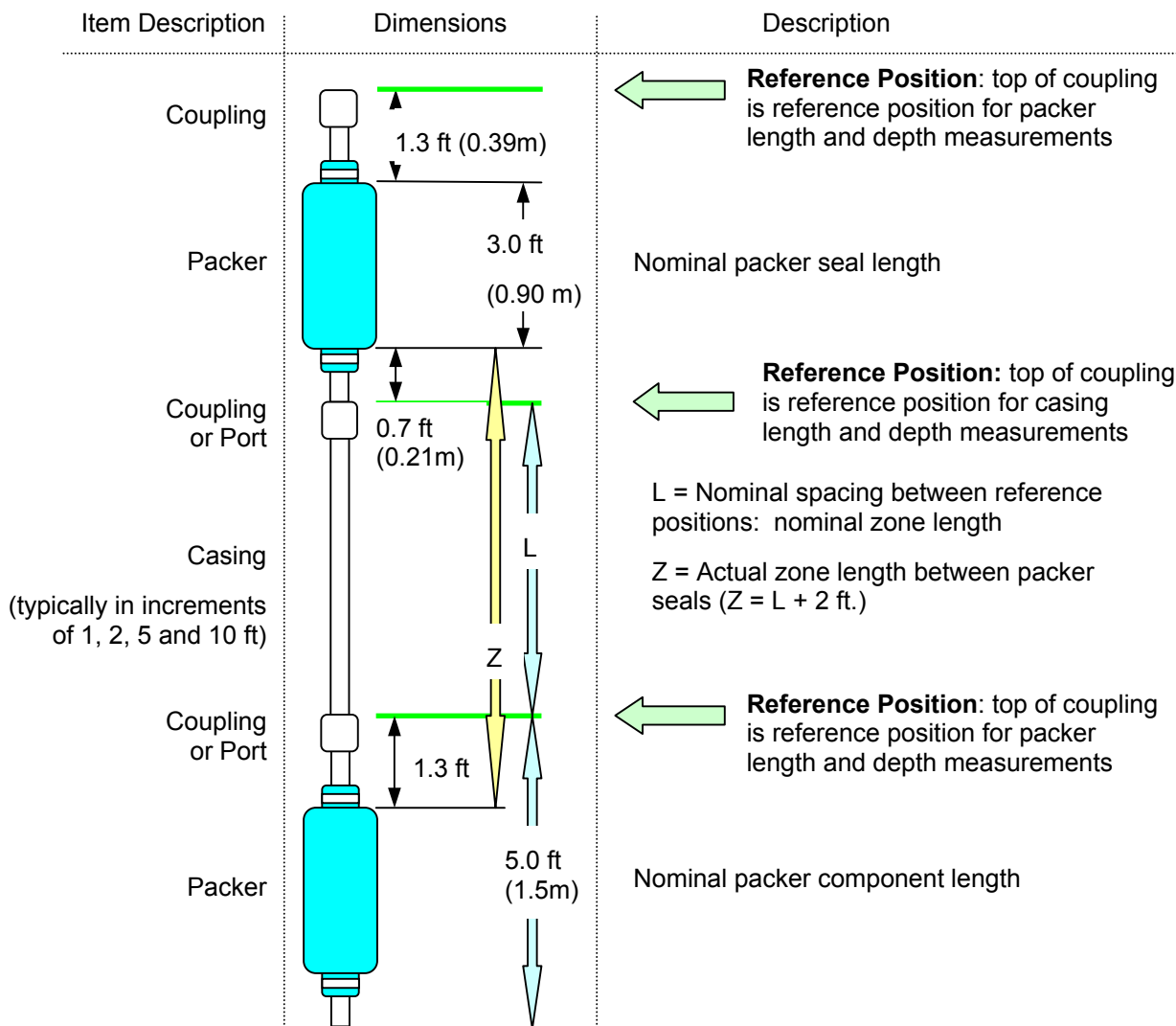
In an MP System Measurement Port Coupling



System	Measurement Port Type	A	B
Plastic MP38	0222, 0205	4.5" (114.3 mm)	6.5" (165.1 mm)

Dimensions of Packer Seals and Monitoring Zones

Westbay System – Plastic MP38



Schlumberger Private

Discussion Points:

- The top of a coupling (Regular Coupling, Measurement Port or Pumping Port) is the reference point for describing nominal depths and nominal lengths. Actual positions of packer seals and zone lengths are determined with respect to the appropriate reference positions.
- Packer Position Example: A packer with a nominal depth of 50 ft (15.2m), will have a nominal packer seal position of 51.3 to 54.3 ft. (15.59 to 16.49m)
- Zone Length Example: A zone whose upper packer is at 50 ft (15.2m) and bottom packer is at 70 ft (21.3m) will have a nominal zone length of 15 ft (4.6m) and an actual zone length (between packer seals) of 15.0+1.3+0.7 = 17.0ft. (4.6 + 0.39 + 0.2 = 5.19m)
- Information on the position of Measurement Port Valve and MOSDAX Transducer sensor, used for detailed calculation of piezometric level measurements, are described separately.

APPENDIX A – LMW-6R-S

As-Built Packer and Port Summary (Table 12)	- 1 Page
Summary Casing Log	- 3 Pages
Pre-Inflation Piezometric Pressure/Levels Field Data and Calculation Sheet (February 2, 2024)	- 1 Pages
Figure 3, Pre-Inflation Piezometric Pressure Profile	- 1 Page
Post-Inflation Piezometric Pressure/Levels Field Data and Calculation Sheet ((February 2, 2024)	- 1 Pages
Figure 4, Post-Inflation Piezometric Pressure Profile	- 1 Page
Casing Installation Log	- 3 Pages
MP Packer Inflation Records	- 3 Pages

Table 12. LMW-6R-S As-Built Packer and Port Summary

Port No.	Zone	Measurement Port Depth (ft)	Depth to Top of Packer (ft)	Top of Zone (ft)	Bottom of Zone (ft)	Comments
3	QA2	28.75	23.75	28.05	32.00	
2	Zone 1	18.75	13.75	18.05	25.05	
1	QA1	8.75	3.75	8.05	15.05	

All depth measurements in feet below ground surface (bgs).

All depth measurements use 'Nominal' tubing lengths.

Not corrected for borehole deviation or borehole temperature effects.

All depth measurement to upper edge of Westbay System coupling item.

Summary Casing Log

Company: Langan
Well: LMW-6R-S
Site: 1487 First Ave
Project: Langan - 1487 First Ave.

Job No:
Author: GS

Well Information

Reference Datum:
Elevation of Datum: 0.00 ft.
MP Casing Top: 0.00 ft.
MP Casing Length: 31.91 ft.

Borehole Depth: 35.75 ft.
Borehole Inclination:
Borehole Diameter: 4.00 in.

Well Description:

Other References:

File Information

File Name: LMW-6R-S.WWD
Report Date: Tue Jan 30 17:03:43 2024

File Date: Jan 30 10:26:06 2024










Sketch of Wellhead Completion

Legend

(Qty) MP Components (Library - WD Library 04/29/15)

Geology

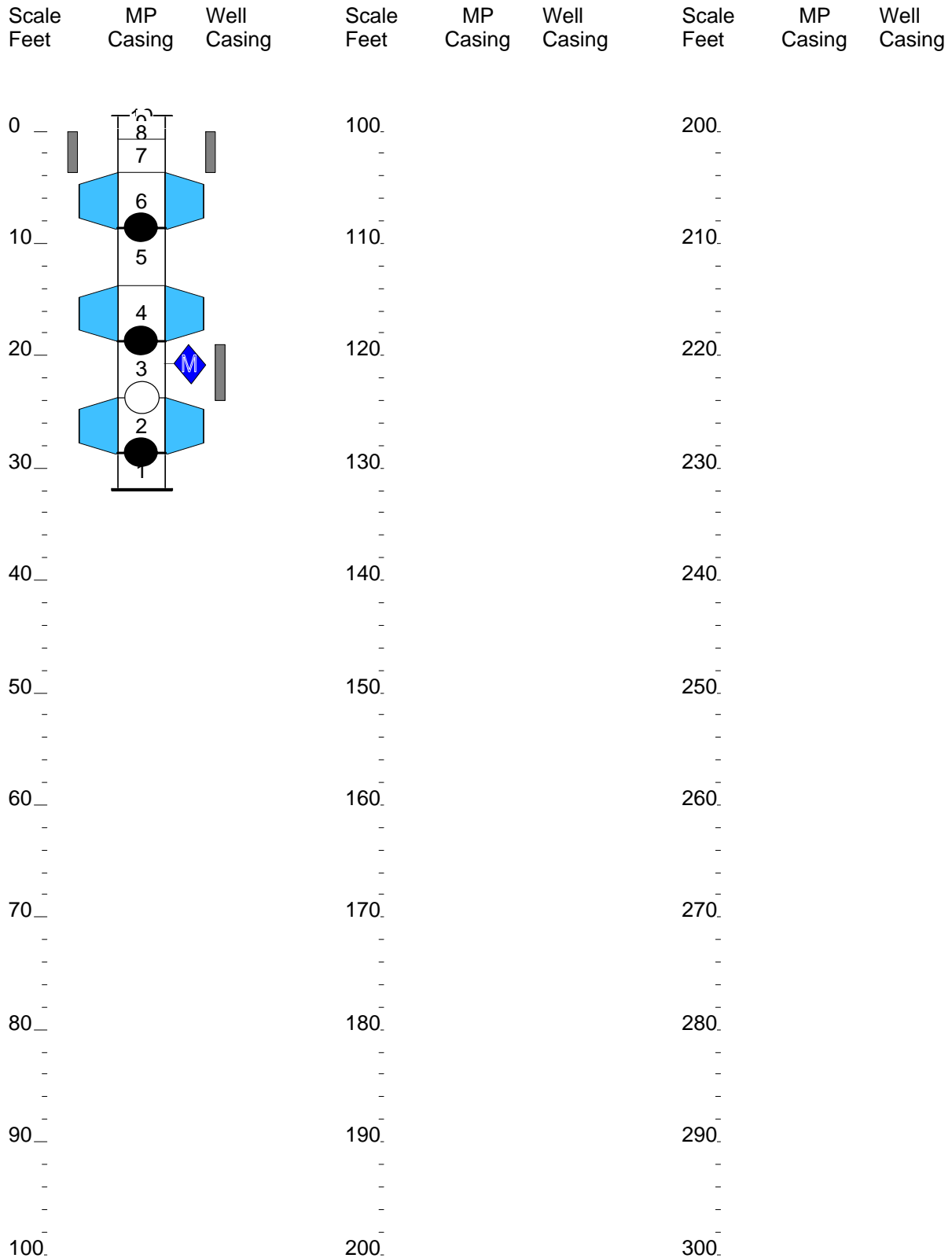
Backfill/Casing

-  (2) 0203 - MP38 End Cap
-  (2) 020101 - MP38 Casing 4 (1F/0.3M)
-  (2) 020103 - MP38 Casing 6 (3F/0.9M)
-  (3) 0238 - MP38 Packer - 74mm
(5F/1.5M)
-  (2) 020105 - MP38 Casing 2 (5F/1.5M)
-  (5) 0202 - MP38 Regular Coupling
-  (3) 0205 - MP38 Measurement Port
-  (1) 0224 - MP38 Pumping Port
-  (1) 0216 - Magnetic Location Collar



Well Designer Report Langan

Job No:
Well: LMW-6R-S





Westbay Piezometric Pressures/Levels

Field Data and Calculation Sheet

Well No.: LMU-CR-5
 Datum: CS
 Elev. G.S.: -
 Height of Westbay above G.S.: -
 Elev. top of Westbay Casing: -
 Reference Elevation: -
 Borehole angle: 90°

Probe Type: Sampler
 Serial No.: 3555
 Probe Range: 0-500
 Westbay Casing Type: MP38
 Sampler Valve Position: Closed

Date: 2/2/24
 Client: Lengen
 Job No.: FS1419
 Location: 1487 1st Ave
 Weather: -
 Operator: CS

Note: "Port position" in angled boreholes refer to position along drillhole. True depth (Dp) needs to be calculated using borehole angle and deviation data to calculate zone piezometric level (Dz).

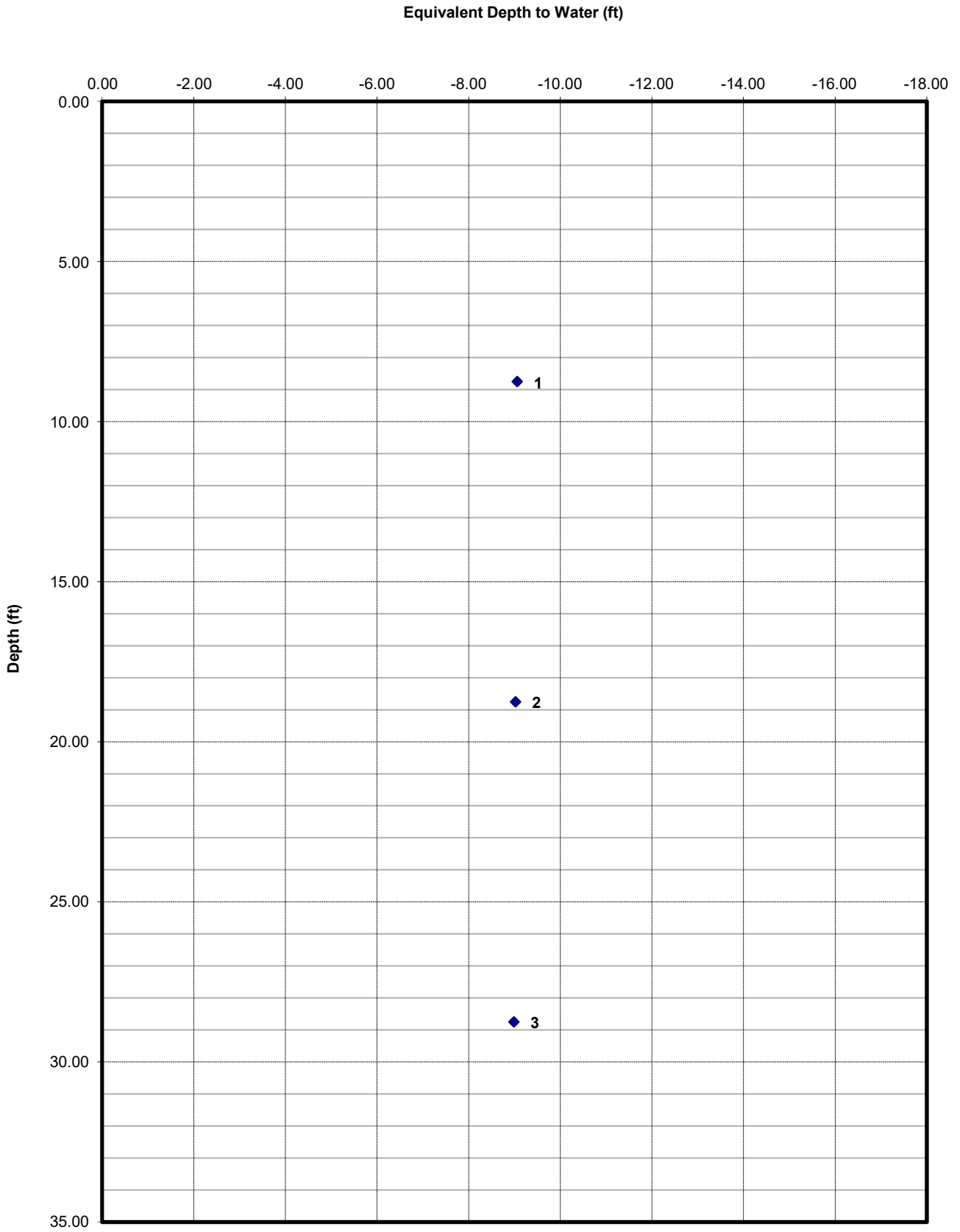
Ambient Reading (P_{atm}) (pressure, temperature, time)

Start: Pressure 14.69 Finish: 14.67
 Temp 6.67 16.90
 Time 14:21 15:07
 P_{atm} 14.69 psi

Port No.	Port Position From Log (ft)	Port Position From Cable (ft)	True Port Depth "Dp" (ft)	Fluid Pressure Readings					Pressure Head Outside Port (ft) H = (P2-Patm)/w	Piez. Level Outside Port (ft) Dz = Dp - H	Comments
				Inside Casing (P1)	Outside Casing (P2)	Time H:M:S	Probe Temp. (°C)	Inside Casing (P1)			
3	28.75	21.5	-	29.89	31.05	15:03	17.47	24.58	37.76	-9.01	Pro Tube
2	18.75	18.0	-	20.54	26.73	15:05	17.47	20.54	27.77	-9.02	
1	8.75	8.6	-	16.19	22.41	15:06	17.20	16.19	17.81	-9.06	

Notes: w = 0.4335 psi/ft (1.42psi/m) of H₂O Dz = piezometric level in zone Patm = atmospheric pressure H = pressure head of water in zone Dp = true depth of measurement port

Figure 3
Well: LMW-6R-S
Pre-Inflation Pressure Profile





Westbay Piezometric Pressures/Levels

Field Data and Calculation Sheet

Well No.: LMW-GR-S
 Datum: GS
 Elev. G.S.: -
 Height of Westbay above G.S.: -
 Elev. top of Westbay Casing: -
 Reference Elevation: -
 Borehole angle: 90°

Probe Type: Sampler
 Serial No.: 3158
 Probe Range: 0-520
 Westbay Casing Type: MP38
 Sampler Valve Position: Clock

Date: 2/2/24
 Client: Kengan
 Job No.: FS1457
 Location: 1487 1st Ave
 Weather: -
 Operator: GS

Note: "Port position" in angled boreholes refer to position along drillhole. True depth (Dp) needs to be calculated using borehole angle and deviation data to calculate zone piezometric level (Dz).

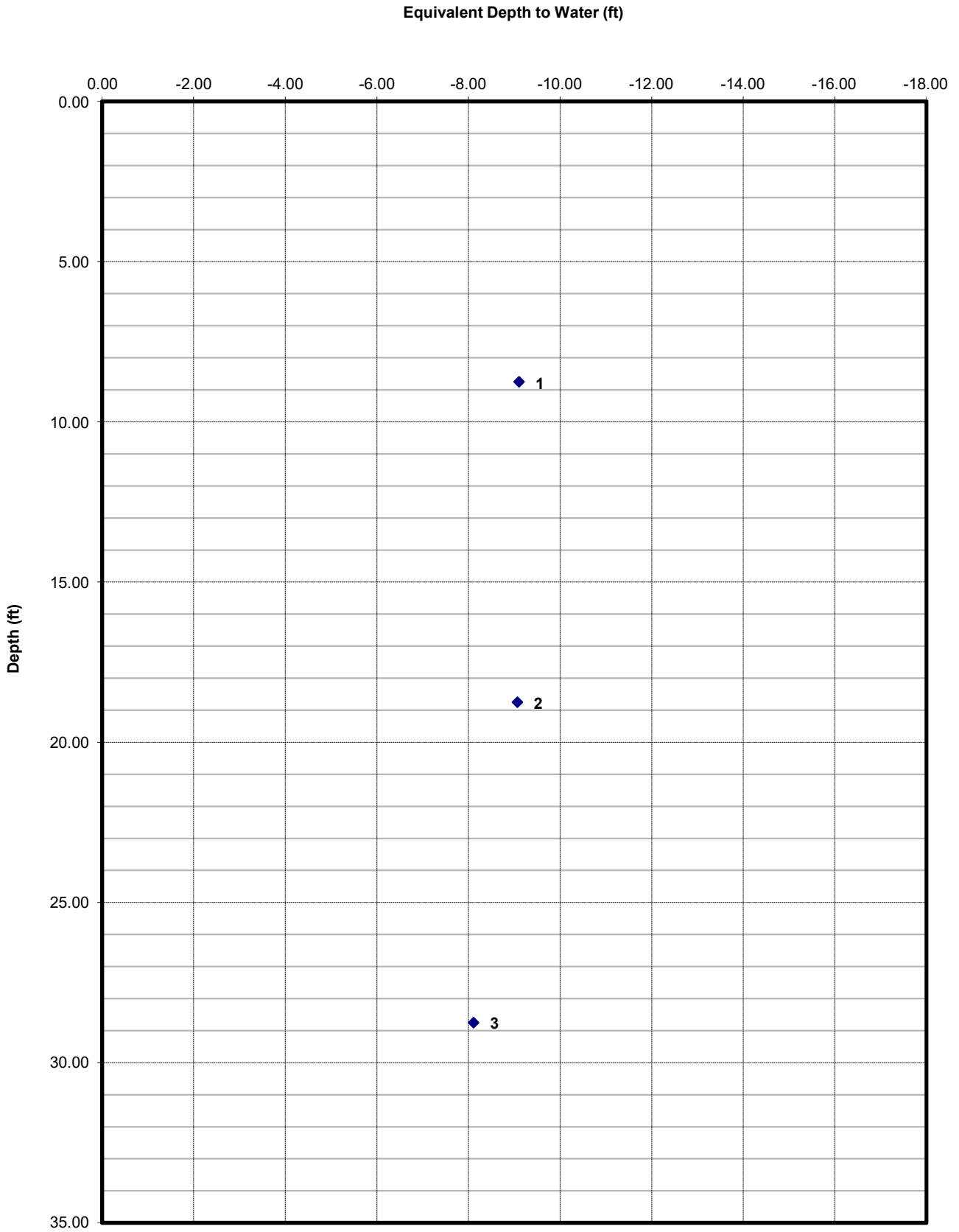
Ambient Reading (P_{atm}) (pressure, temperature, time)

Start: Pressure 14.70 Finish: 14.69
 Temp 4.17 12.59
 Time 16:40 16:47
 P_{atm} 14.70 psi

Port No.	Port Position From Log (ft)	Port Position From Cable (ft)	True Port Depth "Dp" (ft)	Fluid Pressure Readings				Pressure Head Outside Port (ft) H = (P2-Patm)/w	Piez. Level Outside Port (ft) Dz = Dp - H	Comments	
				Inside Casing (P1)	Outside Casing (P2)	Time H:M:S	Probe Temp. (°C)				Inside Casing (P1)
3	28.75	29.0	-	30.15	30.68	16:43	12.01	30.16	26.86	-8.11	Dist m/Phh
2	18.75	19.0	-	25.82	24.76	16:45	12.87	25.82	27.82	-9.07	
1	8.75	9.0	-	21.47	22.44	16:46	13.43	21.47	17.85	-9.10	

Notes: w = 0.4335 psi/ft (1.422psi/m) of H₂O Dz = piezometric level in zone Patm = atmospheric pressure H = pressure head of water in zone Dp = true depth of measurement port

Figure 4
Well: LMW-6R-S
Post-Inflation Pressure Profile



Casing Installation Log

Company: Langan
Well: LMW-6R-S
Site: 1487 First Ave
Project: Langan - 1487 First Ave.

Job No:
Author: GS

Well Information

Reference Datum:
Elevation of Datum: 0.00 ft.
MP Casing Top: 0.00 ft.
MP Casing Length: 31.91 ft.

Borehole Depth: 35.75 ft.
Borehole Inclination:
Borehole Diameter: 4.00 in.

Well Description:

Other References:

File Information

File Name: LMW-6R-S.WWD
Report Date: Tue Jan 30 17:22:35 2024

File Date: Jan 30 17:05:16 2024

Comments

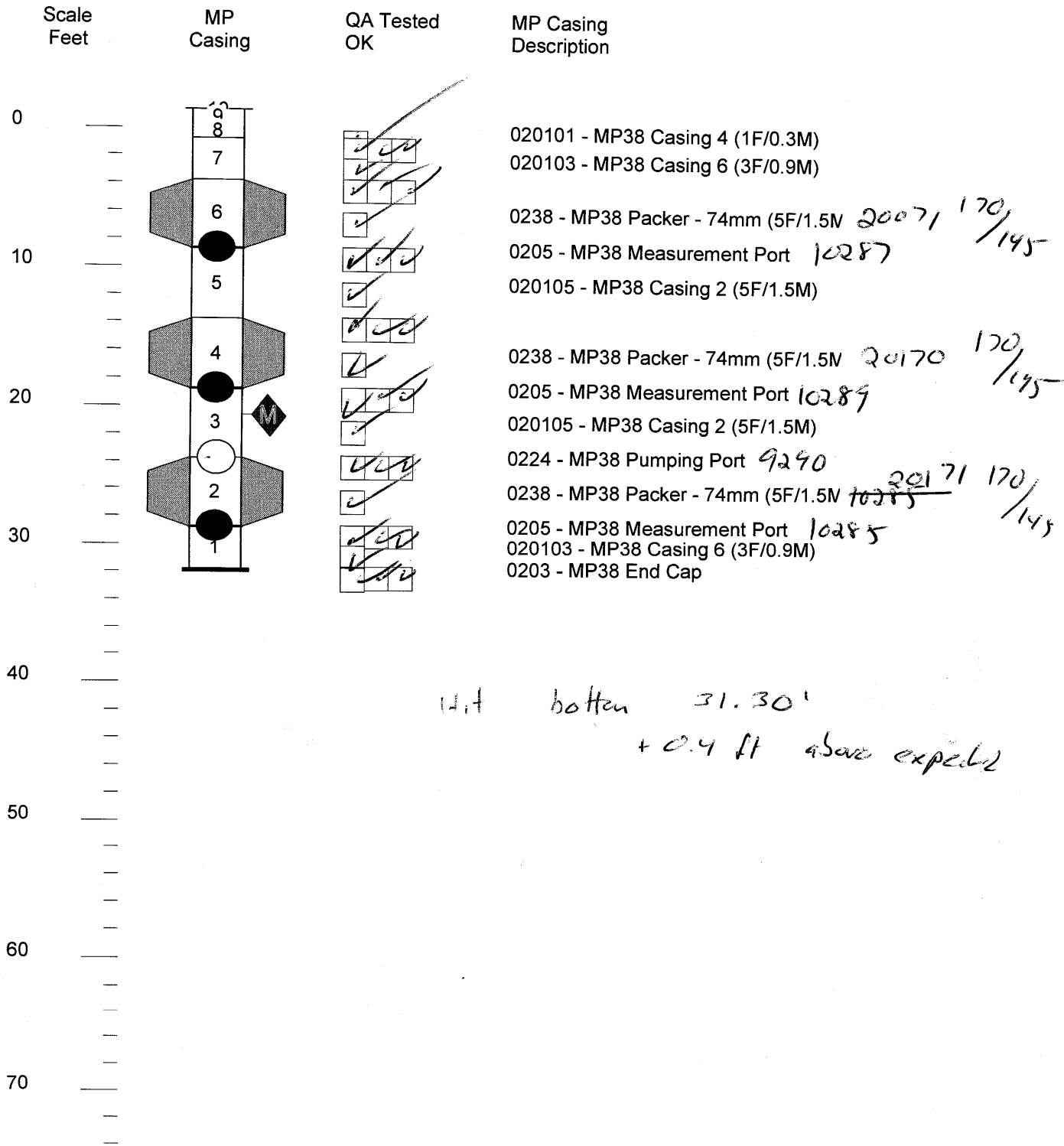
Log Information

Borehole condition confirmed.
MP well design & preparation.
MP well design checked.
MP well and borehole approved to install.

(method) logging Date: _____
By: [Signature] Date: 1/30/24
By: [Signature] Date: 2/2/24
By: [Signature] Date: 2/2/24

Well Designer Report Langan

Job No:
Well: LMW-6R-S



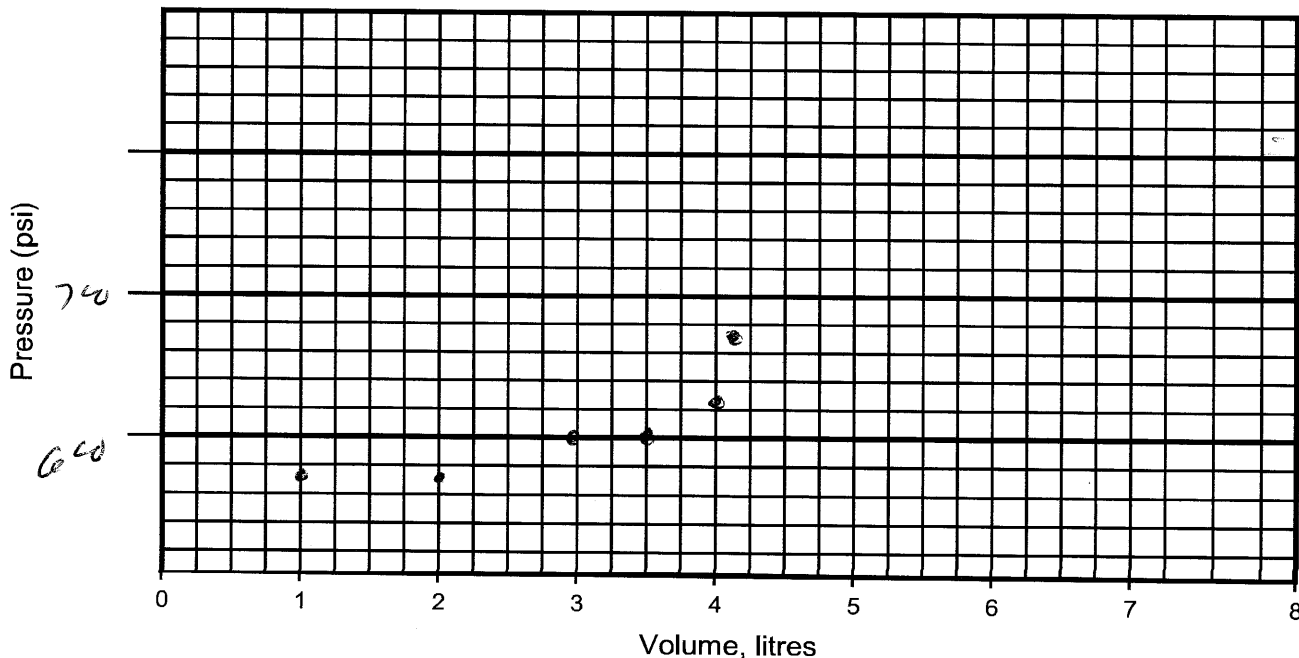


Westbay Packer Inflation Record

Project: Langan - 1487 1st Acc Project No.: FS1499 Well No.: LMW-GR-S
 Location: 1487 1st Acc Completed by: CS Date Inflated: 2/1/24
 Packer No. 1 - 20171 Depth (ft/m): 23.75 Inflation Tool No.: TIW 3544
 Packer Valve Pressure, P_V: 145 psi Final Line Pressure, P_L: 675 psi Tool Pressure, P_T: 400 psi
 Borehole Water Level: - (ft/m) = - psi (P_w)

Calculated Packer Element Pressure, P_E = P_L + P_w - P_V - P_T = 130 psi

Volume, litres	1.0	2.0	3.0	3.5	4.0	4.10	4.10	4.10		
Pressure, psi	575	575	600	600	625	675	/	0		
Volume, litres										
Pressure, psi										



Comments: Packer # 1

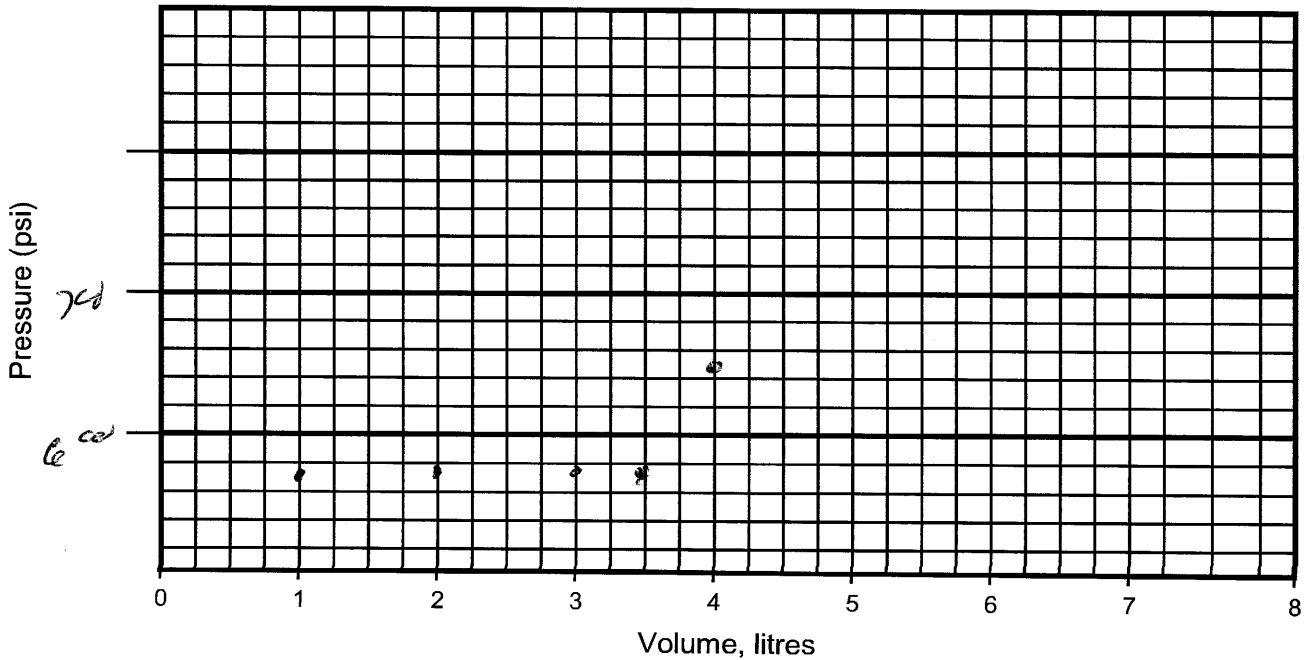
Time - 15:52



Westbay Packer Inflation Record

Project: Langan - 1487 1st Ave Project No.: F51477 Well No.: LMW-GR-S
 Location: 1487 1st Ave Completed by: CS Date Inflated: 2/10/24
 Packer No. 2 - 20170 Depth (ft/m): 13.75 Inflation Tool No.: T1W 3544
 Packer Valve Pressure, P_V: 145 psi Final Line Pressure, P_L: 450 psi Tool Pressure, P_T: 400 psi
 Borehole Water Level: - (ft/m) = - psi (P_w)
 Calculated Packer Element Pressure, P_E = P_L + P_w - P_V - P_T = 105 psi

Volume, litres	1.0	2.0	3.0	3.5	4.0	1	4.0			
Pressure, psi	575	575	575	575	650	1	0			
Volume, litres										
Pressure, psi										



Comments: Packer # 2

Time - 16:06

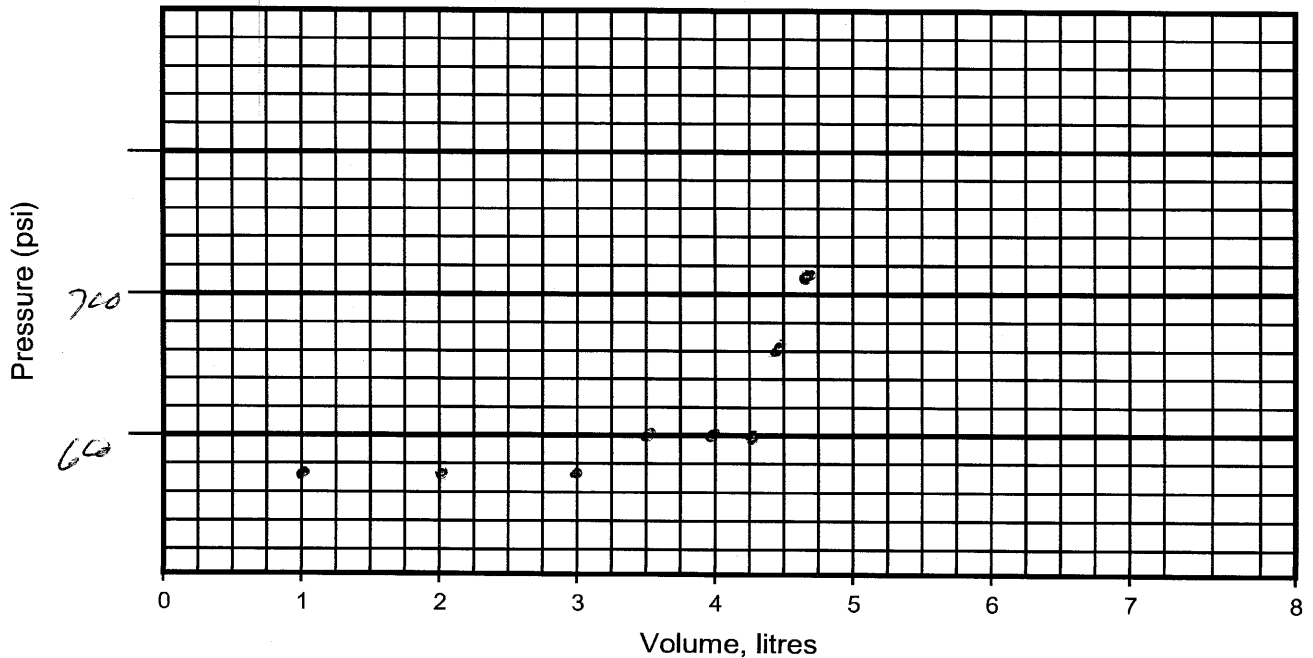


Westbay Packer Inflation Record

Project: ~~1487~~ Langer - 1487 1st Ave Project No.: FS1499 Well No.: 2MW-00R-5
 Location: 1487 1st Ave Completed by: CS Date Inflated: 2/2/24
 Packer No. 3-00071 Depth (ft/m): 375 Inflation Tool No.: TIW 3994
 Packer Valve Pressure, P_V: 145 psi Final Line Pressure, P_L: 660 psi Tool Pressure, P_T: 400 psi
 Borehole Water Level: — (ft/m) = — psi (P_w)
 Calculated Packer Element Pressure, P_E = P_L + P_w - P_V - P_T = 165 psi
115 psi

Volume, litres	1.0	2.0	3.0	3.5	4.0	4.25	4.50	/	4.90	4.55
Pressure, psi	575	575	575	600	600	600	660	/	6	700
Volume, litres	4.60	/	4.60							
Pressure, psi	710	/	0							

Add pressure 2/5/24



Comments: Packer # 3

Time - 16:20

APPENDIX B – LMW-6R-D

As-Built Packer and Port Summary (Table 13)	- 1 Page
Summary Casing Log	- 3 Pages
Pre-Inflation Piezometric Pressure/Levels Field Data and Calculation Sheet (February 2, 2024)	- 1 Pages
Figure 5, Pre-Inflation Piezometric Pressure Profile	- 1 Page
Post-Inflation Piezometric Pressure/Levels Field Data and Calculation Sheet February 2, 2024)	- 1 Pages
Figure 6, Post-Inflation Piezometric Pressure Profile	- 1 Page
Casing Installation Log	- 3 Pages
MP Packer Inflation Records	- 4 Pages

Table 13. LMW-6R-D As-Built Packer and Port Summary

Port No.	Zone	Measurement Port Depth (ft)	Depth to Top of Packer (ft)	Top of Zone (ft)	Bottom of Zone (ft)	Comments
4	Zone 3	54.75	47.75	52.05	60.00	
3	Zone 2	42.75	37.75	42.05	49.05	
2	Zone 1	32.75	27.75	32.05	39.05	
1	QA1	23.75	18.75	23.05	29.05	

All depth measurements in feet below ground surface (bgs).

All depth measurements use 'Nominal' tubing lengths.

Not corrected for borehole deviation or borehole temperature effects.

All depth measurement to upper edge of Westbay System coupling item.

Summary Casing Log

Company: Langan
Well: LMW-6R-D
Site: 1487 First Ave
Project: Langan - 1487 First Ave.

Job No:
Author: GS

Well Information

Reference Datum:
Elevation of Datum: 0.00 ft.
MP Casing Top: 0.00 ft.
MP Casing Length: 59.91 ft.

Borehole Depth: 59.75 ft.
Borehole Inclination:
Borehole Diameter: 4.00 in.

Well Description:

Other References:













File Information

File Name: LMW-6R-D.WWD
Report Date: Tue Jan 30 11:18:13 2024

File Date: Sep 18 14:50:00 2023

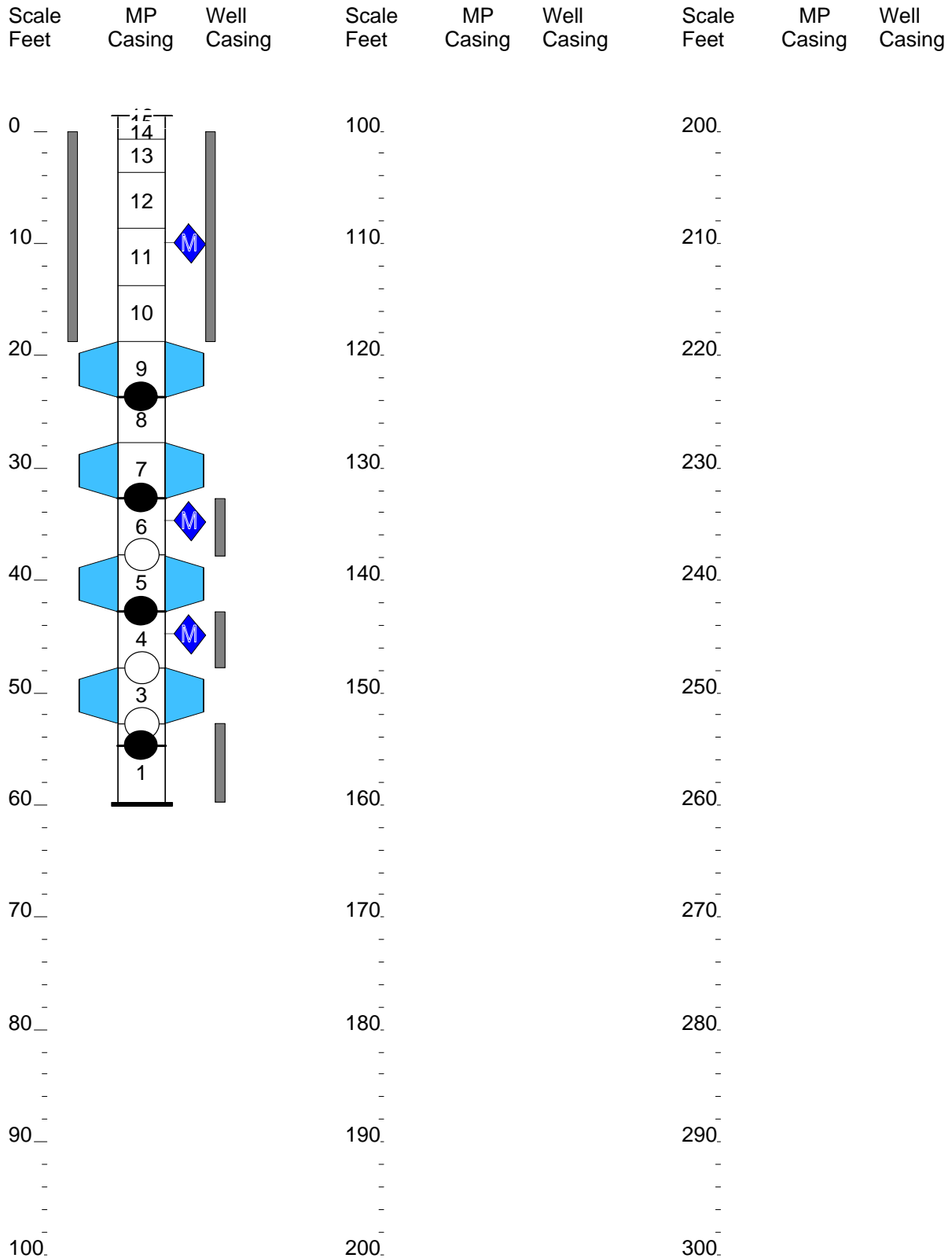
Sketch of Wellhead Completion

Legend

(Qty) MP Components (Library - WD Library 04/29/15)		Geology	Backfill/Casing
	(2) 0203 - MP38 End Cap		 Mild Steel
	(2) 020101 - MP38 Casing 4 (1F/0.3M)		
	(1) 020103 - MP38 Casing 6 (3F/0.9M)		
	(6) 020105 - MP38 Casing 2 (5F/1.5M)		
	(4) 0238 - MP38 Packer - 74mm (5F/1.5M)		
	(1) 020104 - MP38 Casing 5 (4F/1.2M)		
	(1) 020102 - MP38 Casing 3 (2F/0.6M)		
	(8) 0202 - MP38 Regular Coupling		
	(4) 0205 - MP38 Measurement Port		
	(3) 0224 - MP38 Pumping Port		
	(3) 0216 - Magnetic Location Collar		

Well Designer Report Langan

Job No:
Well: LMW-6R-D





Westbay Piezometric Pressures/Levels

Field Data and Calculation Sheet

Well No.: LMW-6R-D
 Datum: CS
 Elev. G.S.:
 Height of Westbay above G.S.: -
 Elev. top of Westbay Casing: -
 Reference Elevation: -
 Borehole angle: 90°

Probe Type: Sampler
 Serial No.: 3555
 Probe Range: 0-520
 Westbay Casing Type: MP38
 Sampler Valve Position: C10422

Date: 2/2/24
 Client: Lujan
 Job No.: FSP477
 Location: 1487 1st Ave
 Weather: -
 Operator: CS

Note: "Port position" in angled boreholes refer to position along drillhole. True depth (Dp) needs to be calculated using borehole angle and deviation data to calculate zone piezometric level (Dz).

Ambient Reading (P_{atm}) (pressure, temperature, time)

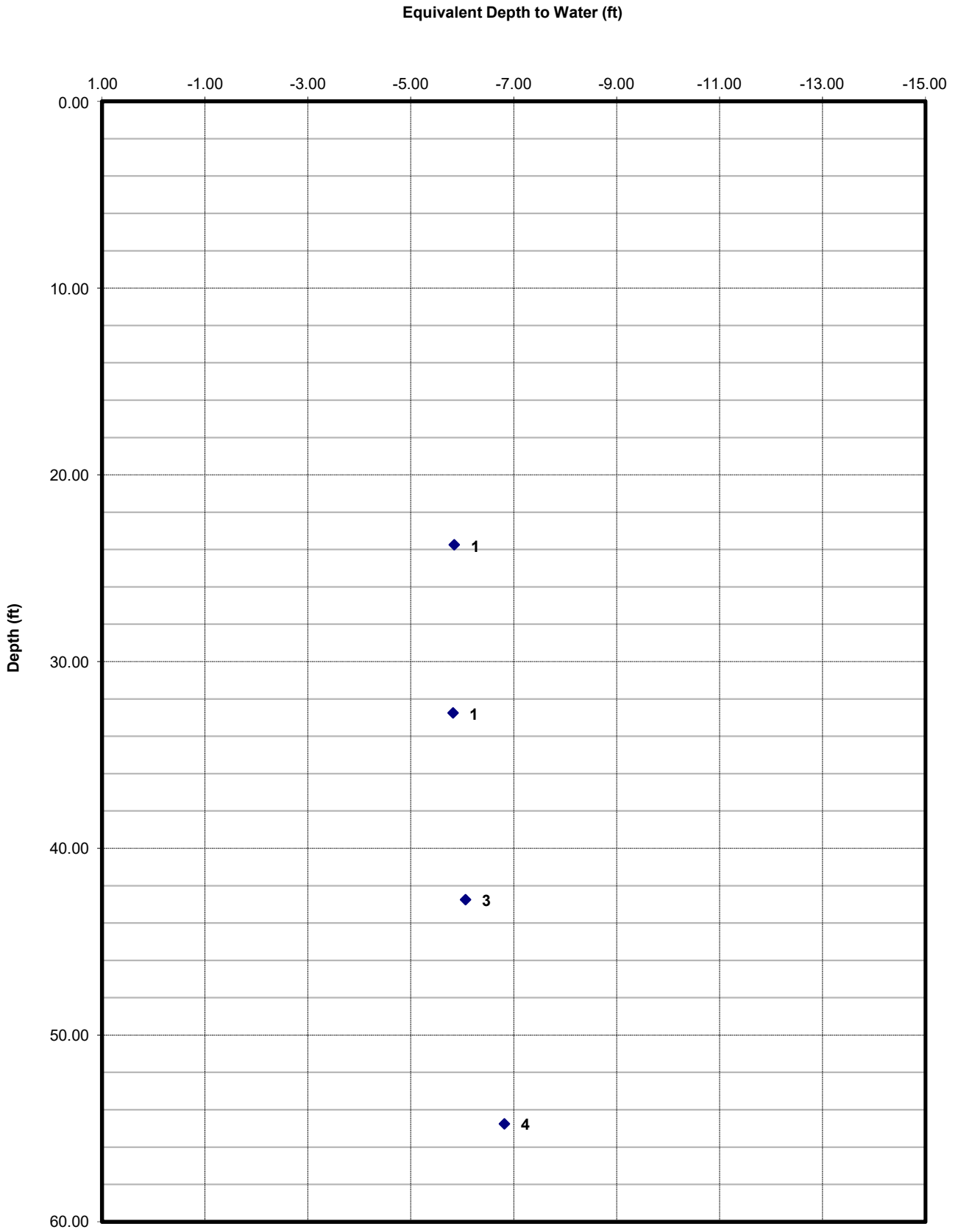
P_{atm} 14.65 psi

Start: Pressure	<u>14.65</u>	Finish: <u>14.66</u>
Temp	<u>6.99</u>	<u>16.55</u>
Time	<u>9:53</u>	<u>10:35</u>

Port No.	Port Position From Log (ft)	Port Position From Cable (ft)	True Port Depth "Dp" (ft)	Fluid Pressure Readings				Pressure Head Outside Port (ft) H = (P2-Patm)/w	Piez. Level Outside Port (ft) Dz = Dp - H	Comments	
				Inside Casing (P1)	Outside Casing (P2)	Time H:M:S	Probe Temp. (°C)				Inside Casing (P1)
4	54.75	54.80	-	34.16	41.34	10:29	16.03	24.15	61.57	6.82	Pre Inflow
3	43.75	42.98	-	28.97	35.81	10:31	16.07	28.57	48.81	6.06	
2	32.75	32.90	-	24.64	31.37	10:32	16.03	24.64	38.57	5.81	
1	23.75	24.0	-	20.73	27.48	10:34	16.44	20.73	29.60	5.84	

Notes: w = 0.4335 psi/ft (1.422psi/m) of H₂O Dz = piezometric level in zone Patm = atmospheric pressure H = pressure head of water in zone Dp = true depth of measurement port

Figure 5
Well: LMW-6R-D
Pre-Inflation Pressure Profile





Westbay Piezometric Pressures/Levels

Field Data and Calculation Sheet

Well No.: LMW-GR-13
 Datum: CS
 Elev. G.S.: -
 Height of Westbay above G.S.: -
 Elev. top of Westbay Casing: -
 Reference Elevation: -
 Borehole angle: 90°

Probe Type: Sampler
 Serial No.: 3555
 Probe Range: 0-500
 Westbay Casing Type: MP 38
 Sampler Valve Position: CLOSED

Date: 2/2/24
 Client: hanson
 Job No.: FS1499
 Location: 1487 1st Ave
 Weather: -
 Operator: CS

Note: "Port position" in angled boreholes refer to position along drillhole. True depth (Dp) needs to be calculated using borehole angle and deviation data to calculate zone piezometric level (Dz).

Ambient Reading (P_{atm}) (pressure, temperature, time)

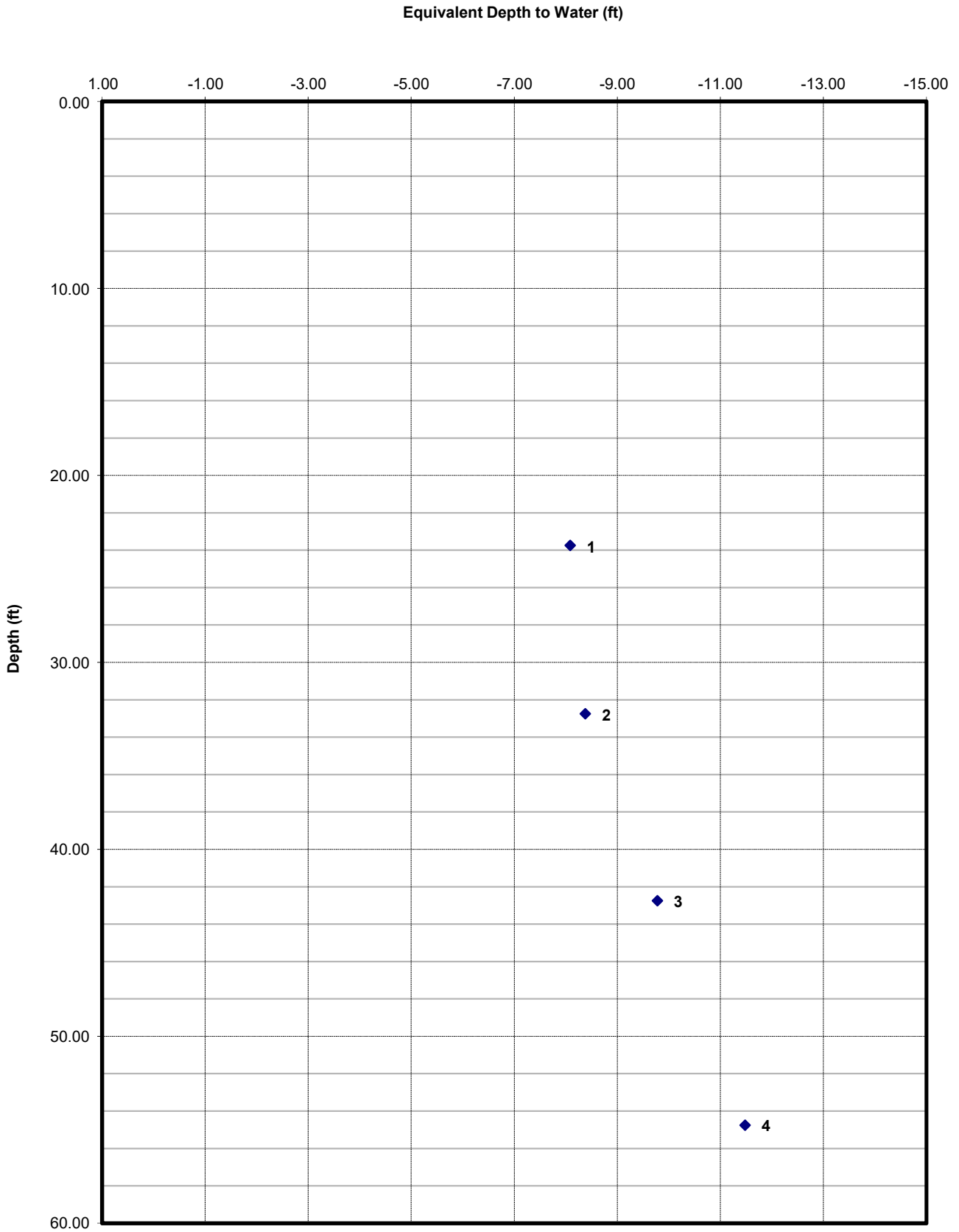
Start: Pressure 14.68 Finish: 14.69
 Temp 11.30 11.38
 Time 12:08 12:17

P_{atm} 14.68 psi

Port No.	Port Position From Log (ft)	Port Position From Cable (ft)	True Port Depth "Dp" (ft)	Fluid Pressure Readings					Pressure Head Outside Port (ft) H = (P2-Patm)/w	Piez. Level Outside Port (ft) Dz = Dp - H	Comments
				Inside Casing (P1)	Outside Casing (P2)	Time H:M:S	Probe Temp. (°C)	Inside Casing (P1)			
4	54.75	54.5	-	41.22	43.34	12:11	12.46	41.22	66.23	-11.48	Post mflk
3	42.75	42.5	-	36.01	37.45	12:13	13.32	36.01	52.53	-9.78	
2	30.75	30.6	-	31.68	32.51	12:14	13.96	31.69	41.13	-8.38	
1	23.75	23.6	-	27.78	28.48	12:16	14.60	27.77	31.83	-8.08	

Notes: w = 0.4335 psi/ft (1.422psi/m) of H₂O Dz = piezometric level in zone Patm = atmospheric pressure H = pressure head of water in zone Dp = true depth of measurement port

Figure 6
Well: LMW-6R-D
Post-Inflation Pressure Profile



Casing Installation Log

Company: Langan
Well: LMW-6R-D
Site: 1487 First Ave
Project: Langan - 1487 First Ave.

Job No:
Author: GS

Well Information

Reference Datum:
Elevation of Datum: 0.00 ft.
MP Casing Top: 0.00 ft.
MP Casing Length: 59.91 ft.

Borehole Depth: 59.75 ft.
Borehole Inclination:
Borehole Diameter: 4.00 in.

Well Description:

Other References:

File Information

File Name: LMW-6R-D.WWD
Report Date: Tue Jan 30 17:29:14 2024

File Date: Jan 30 11:22:20 2024













Comments

Log Information

Borehole condition confirmed.
MP well design & preparation.
MP well design checked.
MP well and borehole approved to install.

(method) logs Date: _____
By: [Signature] Date: 1/30/24
By: [Signature] Date: 2/2/24
By: [Signature] Date: 3/2/24

Legend

(Qty) MP Components (Library - WD Library 04/29/15)		Geology	Backfill/Casing
	(2) 0203 - MP38 End Cap		 Mild Steel
	(2) 020101 - MP38 Casing 4 (1F/0.3M)		
	(1) 020103 - MP38 Casing 6 (3F/0.9M)		
	(6) 020105 - MP38 Casing 2 (5F/1.5M)		
	(4) 0238 - MP38 Packer - 74mm (5F/1.5M)		
	(1) 020104 - MP38 Casing 5 (4F/1.2M)		
	(1) 020102 - MP38 Casing 3 (2F/0.6M)		
	(8) 0202 - MP38 Regular Coupling		
	(4) 0205 - MP38 Measurement Port		
	(3) 0224 - MP38 Pumping Port		
	(3) 0216 - Magnetic Location Collar		

Well Designer Report Langan

Job No:
Well: LMW-6R-D

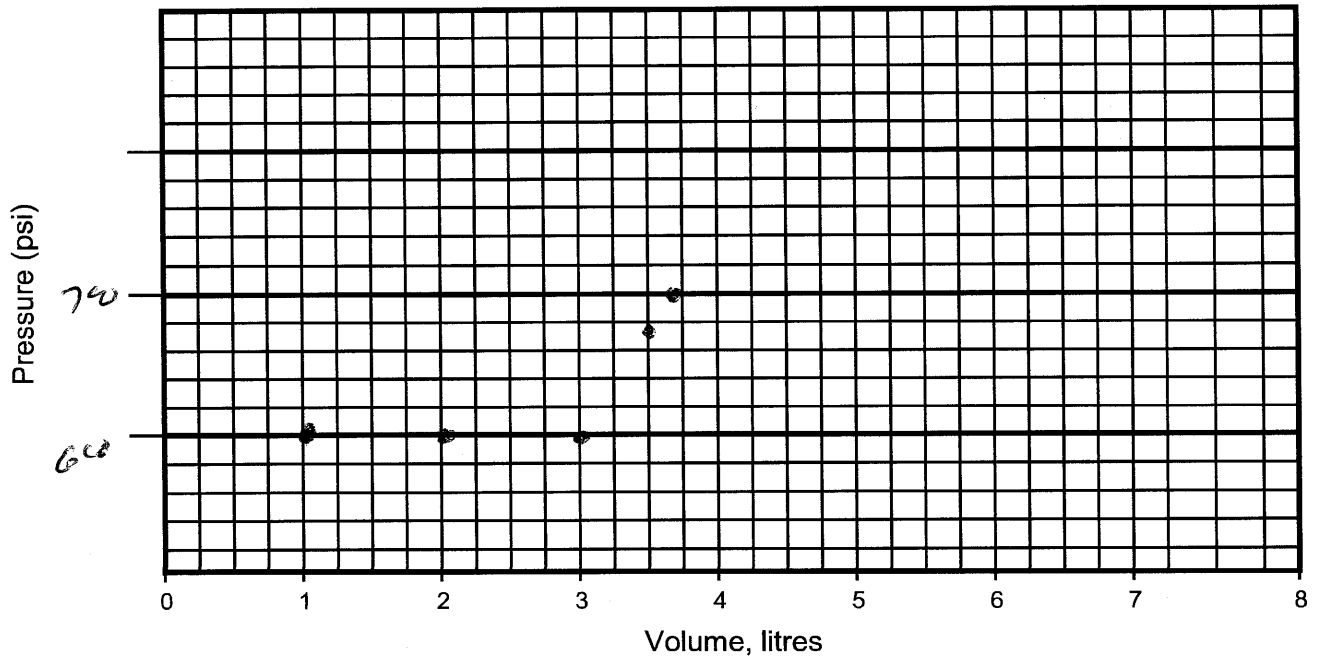
Scale Feet	MP Casing	QA Tested OK	MP Casing Description
0	15	<input checked="" type="checkbox"/>	020101 - MP38 Casing 4 (1F/0.3M)
	14	<input checked="" type="checkbox"/>	020103 - MP38 Casing 6 (3F/0.9M)
	13	<input checked="" type="checkbox"/>	
	12	<input checked="" type="checkbox"/>	020105 - MP38 Casing 2 (5F/1.5M)
10	11	<input checked="" type="checkbox"/>	020105 - MP38 Casing 2 (5F/1.5M)
	10	<input checked="" type="checkbox"/>	020105 - MP38 Casing 2 (5F/1.5M)
20	9	<input checked="" type="checkbox"/>	0238 - MP38 Packer - 74mm (5F/1.5M 20140 105/140)
	8	<input checked="" type="checkbox"/>	0205 - MP38 Measurement Port 10274
	8	<input checked="" type="checkbox"/>	020104 - MP38 Casing 5 (4F/1.2M)
30	7	<input checked="" type="checkbox"/>	0238 - MP38 Packer - 74mm (5F/1.5M 20159 170/145)
	6	<input checked="" type="checkbox"/>	0205 - MP38 Measurement Port 10273
	6	<input checked="" type="checkbox"/>	020105 - MP38 Casing 2 (5F/1.5M)
40	5	<input checked="" type="checkbox"/>	0224 - MP38 Pumping Port 9300
	5	<input checked="" type="checkbox"/>	0238 - MP38 Packer - 74mm (5F/1.5M 20158 105/140)
	4	<input checked="" type="checkbox"/>	0205 - MP38 Measurement Port 10299
	4	<input checked="" type="checkbox"/>	020105 - MP38 Casing 2 (5F/1.5M)
50	3	<input checked="" type="checkbox"/>	0224 - MP38 Pumping Port 9297
	3	<input checked="" type="checkbox"/>	0238 - MP38 Packer - 74mm (5F/1.5M 20172 105/140)
	3	<input checked="" type="checkbox"/>	0224 - MP38 Pumping Port 9299
	3	<input checked="" type="checkbox"/>	020102 - MP38 Casing 3 (2F/0.6M)
	3	<input checked="" type="checkbox"/>	0205 - MP38 Measurement Port 10270
60	1	<input checked="" type="checkbox"/>	020105 - MP38 Casing 2 (5F/1.5M)
	1	<input checked="" type="checkbox"/>	0203 - MP38 End Cap



Westbay Packer Inflation Record

Project: Lanigan - 1487 1st Ave Project No.: FS1499 Well No.: LNW-C09-D
 Location: 1487 1st Ave Completed by: CS Date Inflated: 02/24
 Packer No. 1 - 20172 Depth (ft / m): 47.85 Inflation Tool No.: TIV 3994
 Packer Valve Pressure, P_V: 140 psi Final Line Pressure, P_L: 700 psi Tool Pressure, P_T: 425 psi
 Borehole Water Level: — (ft / m) = — psi (P_w)
 Calculated Packer Element Pressure, P_E = P_L + P_w - P_V - P_T = 125 psi

Volume, litres	1.0	2.0	3.0	3.5	3.65	1	3.45			
Pressure, psi	600	600	600	675	700	1	0			
Volume, litres										
Pressure, psi										



Comments: Packer # 1

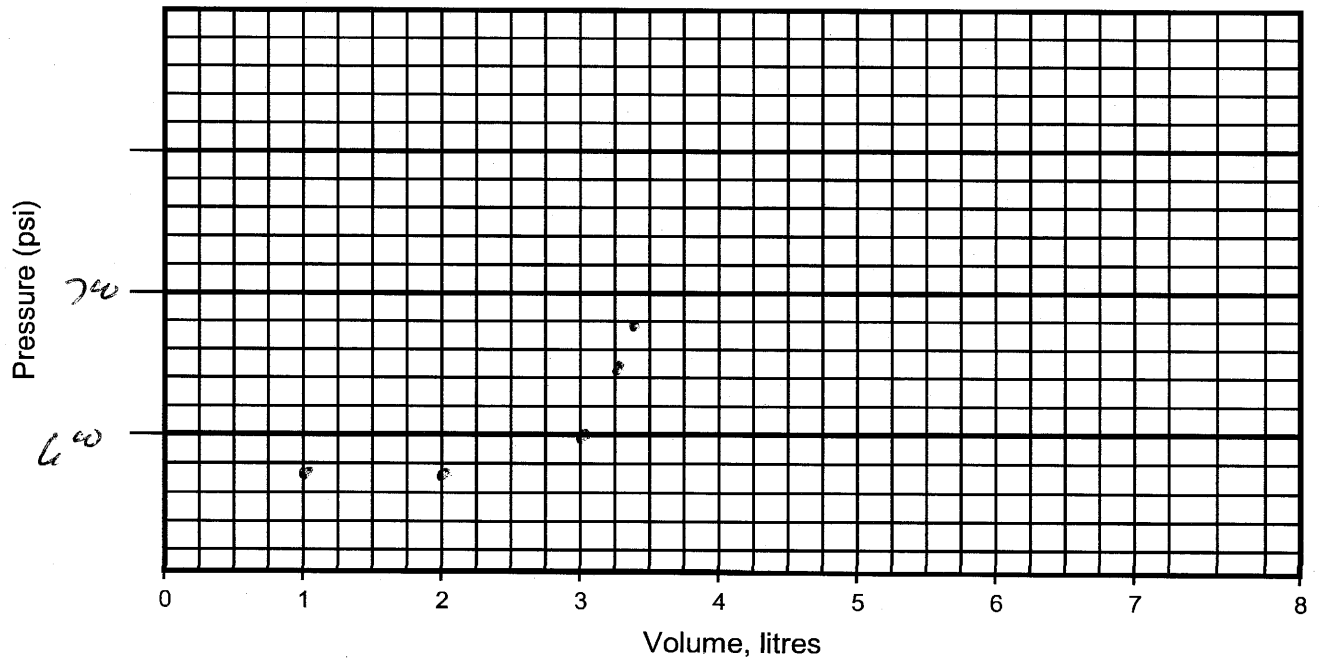
Time - 10:42



Westbay Packer Inflation Record

Project: Langan - 1487 1st Ave Project No.: ES1499 Well No.: LMW-CR-D
 Location: 1487 1st Ave Completed by: CS Date Inflated: 2/2/24
 Packer No. 2-20158 Depth (ft / m): 327.75 Inflation Tool No.: TIW 3984
 Packer Valve Pressure, P_V: 140 psi Final Line Pressure, P_L: 675 psi Tool Pressure, P_T: 425 psi
 Borehole Water Level: - (ft / m) = - psi (P_W)
 Calculated Packer Element Pressure, P_E = P_L + P_W - P_V - P_T = 110 psi

Volume, litres	1.0	2.0	3.0	3.25	3.35	1	3.55			
Pressure, psi	575	575	640	650	675	1	Ø			
Volume, litres										
Pressure, psi										



Comments: Packer # 2

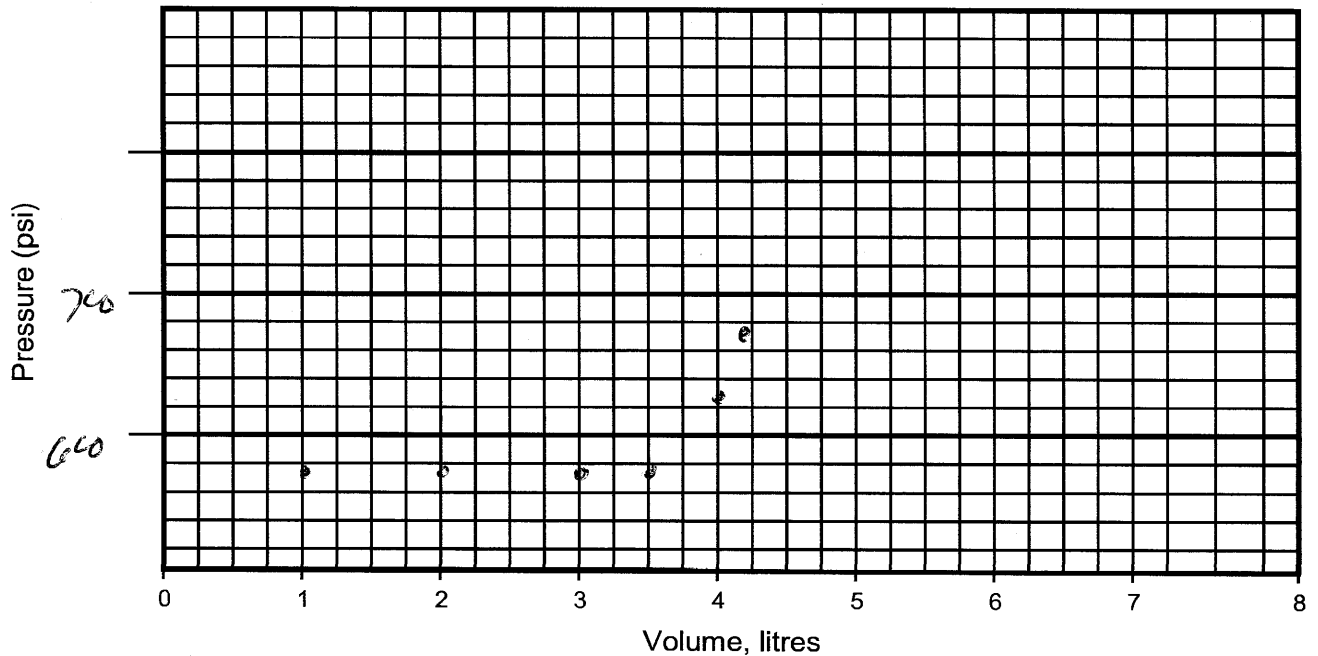
Time - 10:56



Westbay Packer Inflation Record

Project: Langan - 1487 1st Ave Project No.: FS1499 Well No.: LMW-COR-1D
 Location: 1487 1st Ave Completed by: CS Date Inflated: 2/1/24
 Packer No. 3-20159 Depth (ft/m): 2775 Inflation Tool No.: T143994
 Packer Valve Pressure, P_V: 145 psi Final Line Pressure, P_L: 675 psi Tool Pressure, P_T: 425 psi
 Borehole Water Level: - (ft/m) = - psi (P_w)
 Calculated Packer Element Pressure, P_E = P_L + P_w - P_V - P_T = 105 psi

Volume, litres	1.0	2.0	3.0	3.5	4.0	4.20	/	4.20		
Pressure, psi	575	575	575	575	625	675	/	0		
Volume, litres										
Pressure, psi										



Comments: Packer # 3 Time - 11:27



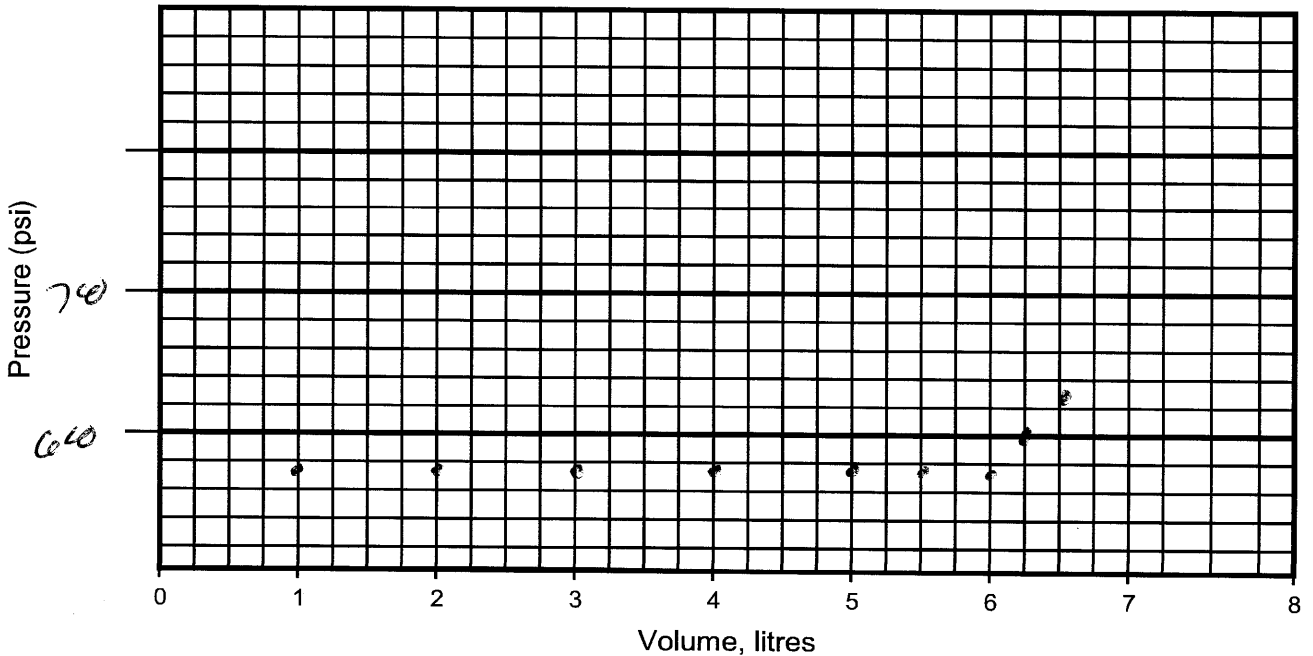
Westbay
Instruments

Sheet 4 of 4

Westbay Packer Inflation Record

Project: Langen-1487 1st Ave Project No.: FS1499 Well No.: LAW-6A-D
 Location: 1487 1st Ave Completed by: CS Date Inflated: 2/2/24
 Packer No. 4-20160 Depth (ft/m): 18.75 Inflation Tool No.: TLW 3994
 Packer Valve Pressure, P_V: 140 psi Final Line Pressure, P_L: 625 psi Tool Pressure, P_T: 425 psi
 Borehole Water Level: - (ft/m) = - psi (P_w)
 Calculated Packer Element Pressure, P_E = P_L + P_w - P_V - P_T = 110 psi

Volume, litres	10	20	30	40	5.0	5.5	6.0	6.25	6.50	/
Pressure, psi	575	575	575	575	575	575	575	640	625	/
Volume, litres	6.5									
Pressure, psi	0									



Comments: Packer # 4

Time - 11:44

APPENDIX C – LMW-7R-S

As-Built Packer and Port Summary (Table 14)	- 1 Page
Summary Casing Log	- 3 Pages
Pre-Inflation Piezometric Pressure/Levels Field Data and Calculation Sheet (February 5, 2024)	- 1 Pages
Figure 7, Pre-Inflation Piezometric Pressure Profile	- 1 Pages
Post-Inflation Piezometric Pressure/Levels Field Data and Calculation Sheet (February 5, 2024)	- 1 Pages
Figure 8, Post-Inflation Piezometric Pressure Profile	- 1 Pages
Casing Installation Log	- 3 Pages
MP Packer Inflation Records	- 3 Pages

Table 14. LMW-7R-S As-Built Packer and Port Summary

Port No.	Zone	Measurement Port Depth (ft)	Depth to Top of Packer (ft)	Top of Zone (ft)	Bottom of Zone (ft)	Comments
3	QA1	26.75	21.75	26.05	32.00	
2	Zone 2	16.75	11.75	16.05	23.05	
1	Zone 1	6.75	1.75	6.05	13.05	

All depth measurements in feet below ground surface (bgs).

All depth measurements use 'Nominal' tubing lengths.

Not corrected for borehole deviation or borehole temperature effects.

All depth measurement to upper edge of Westbay System coupling item.

Summary Casing Log

Company: Langan
Well: LMW-7R-S
Site: 1487 First Ave
Project: Langan - 1487 First Ave.

Job No:
Author: GS

Well Information

Reference Datum:
Elevation of Datum: 0.00 ft.
MP Casing Top: 0.00 ft.
MP Casing Length: 31.91 ft.

Borehole Depth: 34.75 ft.
Borehole Inclination:
Borehole Diameter: 4.00 in.

Well Description:

Other References:

File Information









File Name: LMW-7R-S.WWD
Report Date: Tue Jan 30 17:11:31 2024

File Date: Jan 30 10:34:11 2024

Sketch of Wellhead Completion

Legend

(Qty) MP Components (Library - WD Library 04/29/15)

-  (2) 0203 - MP38 End Cap
-  (3) 020101 - MP38 Casing 4 (1F/0.3M)
-  (3) 0238 - MP38 Packer - 74mm
(5F/1.5M)
-  (3) 020105 - MP38 Casing 2 (5F/1.5M)
-  (4) 0202 - MP38 Regular Coupling
-  (3) 0205 - MP38 Measurement Port
-  (2) 0224 - MP38 Pumping Port
-  (2) 0216 - Magnetic Location Collar

Geology

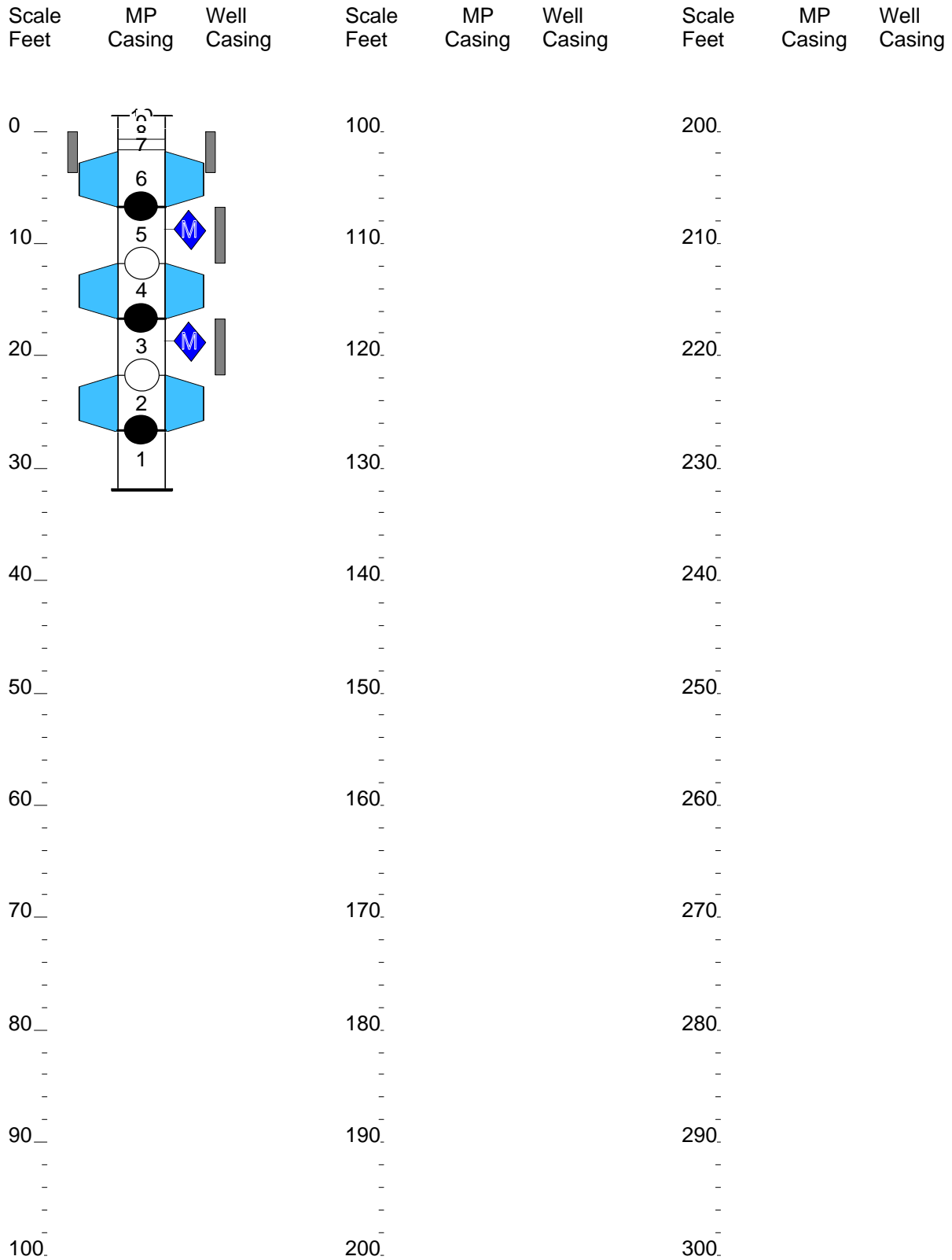
Backfill/Casing



Well Designer Report

Langan

Job No:
Well: LMW-7R-S





Westbay Piezometric Pressures/Levels

Field Data and Calculation Sheet

Well No.: LMW-70R-S
 Datum: CS
 Elev. G.S.: -
 Height of Westbay above G.S.: -
 Elev. top of Westbay Casing: -
 Reference Elevation: -
 Borehole angle: 50°

Probe Type: Sampler
 Serial No.: 3535
 Probe Range: 0-20
 Westbay Casing Type: MD38
 Sampler Valve Position: Closed

Date: 2/5/24
 Client: Kenyon
 Job No.: FS1499
 Location: 1487 1st Ave
 Weather: -
 Operator: CS

Note: "Port position" in angled boreholes refer to position along drillhole. True depth (Dp) needs to be calculated using borehole angle and deviation data to calculate zone piezometric level (Dz).

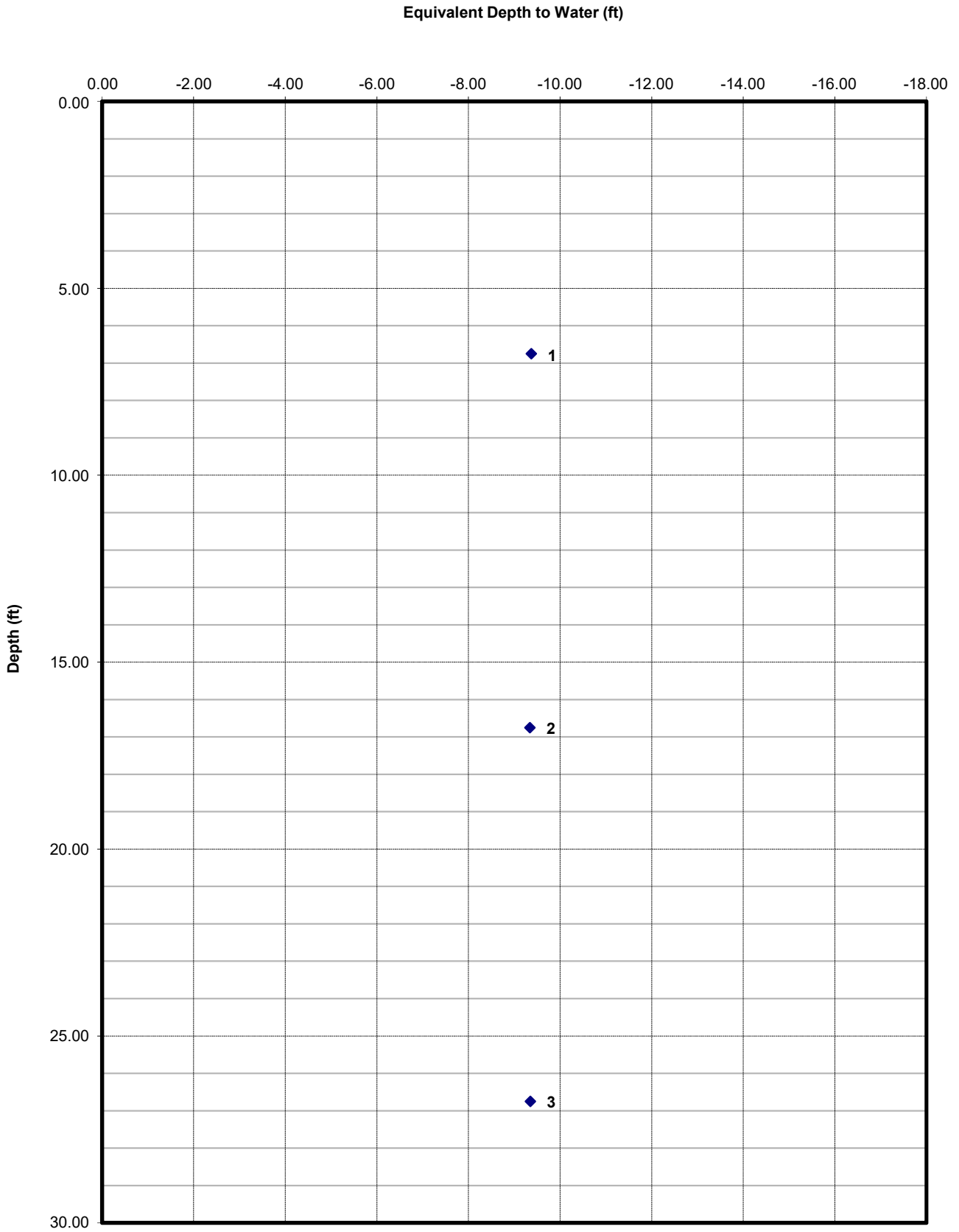
Ambient Reading (P_{atm}) (pressure, temperature, time)

Start: Pressure 14.71 Finish: 14.71
 Temp 74.1 14.67
 Time 10:26 11:04
 P_{atm} 14.71 psi

Port No.	Port Position From Log (ft)	Port Position From Cable (ft)	True Port Depth "Dp" (ft)	Fluid Pressure Readings				Pressure Head Outside Port (ft) H = (P2-Patm)/w	Piez. Level Outside Port (ft) Dz = Dp - H	Comments	
				Inside Casing (P1)	Outside Casing (P2)	Time H:M:S	Probe Temp. (°C)				Inside Casing (P1)
3	26.75	27.0	-	25.02	30.56	10:59	15.29	25.02	34.10	-9.35	Pre Inj
2	16.75	17.2	-	20.68	26.02	11:01	15.28	20.68	24.09	-9.34	
1	6.75	7.20	-	16.31	21.70	11:03	14.93	16.32	14.12	-9.37	

Notes: w = 0.4335 psi/ft (1.42psi/m) of H₂O Dz = piezometric level in zone Patm = atmospheric pressure H = pressure head of water in zone Dp = true depth of measurement port

Figure 7
Well: LMW-7R-S
Pre-Inflation Pressure Profile





Westbay Piezometric Pressures/Levels

Field Data and Calculation Sheet

Well No.: LMW-7A-5
 Datum: GS
 Elev. G.S.: -
 Height of Westbay above G.S.: -
 Elev. top of Westbay Casing: -
 Reference Elevation: -
 Borehole angle: 90'

Probe Type: Sampler
 Serial No.: 333
 Probe Range: 0-520
 Westbay Casing Type: MP38
 Sampler Valve Position: Closed

Date: 2/5/04
 Client: Kenyon
 Job No.: FS1475
 Location: 1987 1st Ave
 Weather: -
 Operator: CS

Note: "Port position" in angled boreholes refer to position along drillhole. True depth (Dp) needs to be calculated using borehole angle and deviation data to calculate zone piezometric level (Dz).

Ambient Reading (P_{atm}) (pressure, temperature, time)

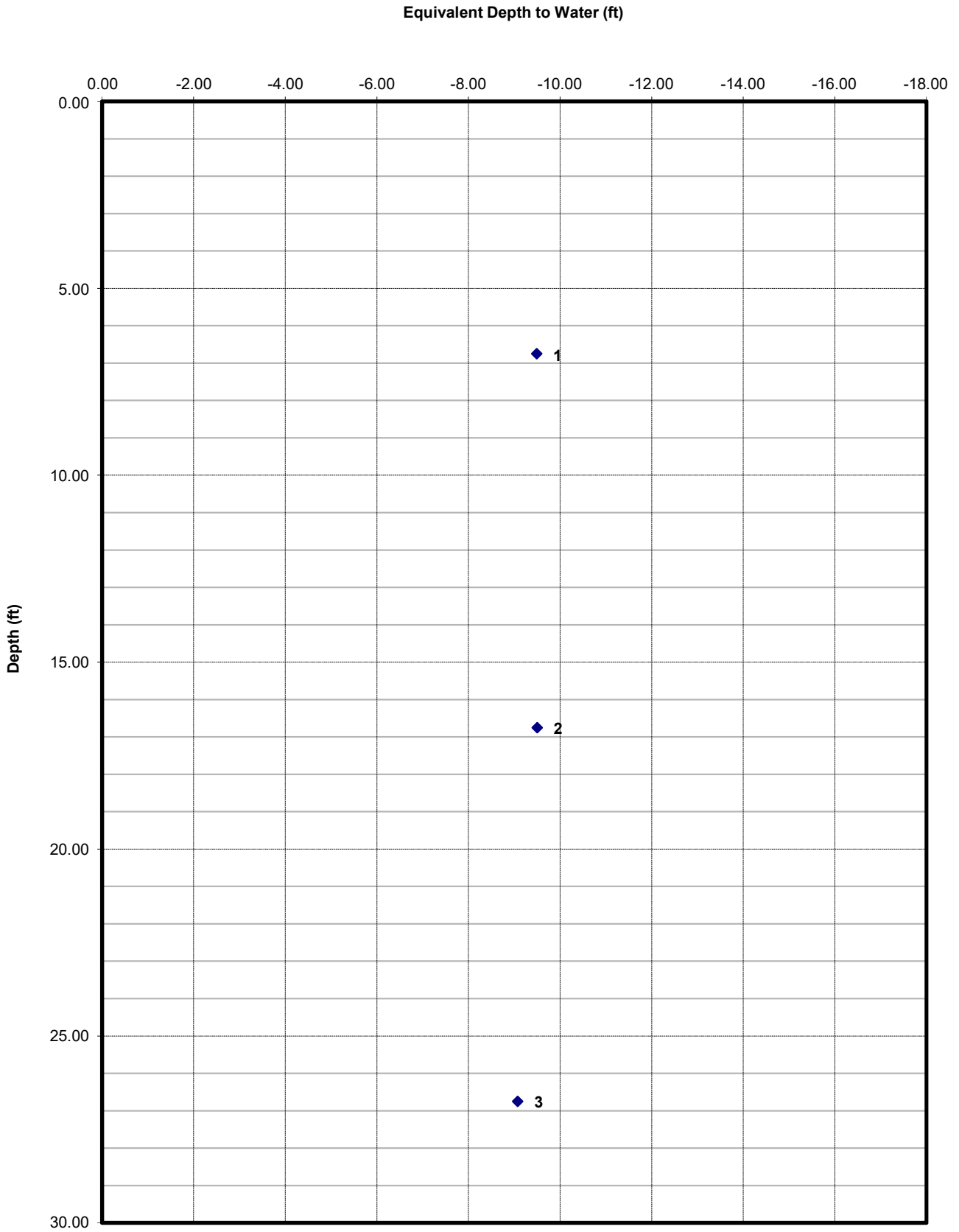
Start: Pressure 14.71 Finish: 14.72
 Temp 79.5 11.95
 Time 12:10 12:16

P_{atm} 14.71 psi

Port No.	Port Position From Log (ft)	Port Position From Cable (ft)	True Port Depth "Dp" (ft)	Fluid Pressure Readings					Pressure Head Outside Port (ft) H = (P2 - Patm)/w	Piez. Level Outside Port (ft) Dz = Dp - H	Comments
				Inside Casing (P1)	Outside Casing (P2)	Time H:M:S	Probe Temp. (°C)	Inside Casing (P1)			
3	26.75	26.6	-	29.62	30.24	12:12	10.54	29.63	35.82	-9.07	Post mblh
2	16.75	16.6	-	25.28	26.09	12:13	11.40	25.28	26.25	-9.50	
1	6.75	6.7	-	20.93	21.75	12:15	11.87	20.93	16.24	-9.49	

Notes: w = 0.4335 psi/ft (1.422psi/m) of H₂O Dz = piezometric level in zone Patm = atmospheric pressure H = pressure head of water in zone Dp = true depth of measurement port

Figure 8
Well: LMW-7R-S
Post-Inflation Pressure Profile



Casing Installation Log

Company: Langan
Well: LMW-7R-S
Site: 1487 First Ave
Project: Langan - 1487 First Ave.

Job No:
Author: GS

Well Information

Reference Datum:
Elevation of Datum: 0.00 ft.
MP Casing Top: 0.00 ft.
MP Casing Length: 31.91 ft.

Borehole Depth: 34.75 ft.
Borehole Inclination:
Borehole Diameter: 4.00 in.

Well Description:

Other References:

File Information

File Name: LMW-7R-S.VVWD
Report Date: Tue Jan 30 17:32:28 2024

File Date: Jan 30 17:13:04 2024

Comments









Log Information

Borehole condition confirmed.
MP well design & preparation.
MP well design checked.
MP well and borehole approved to install.

(method) logging Date: _____
By: [Signature] Date: 2/5/24
By: [Signature] Date: 2/5/24
By: [Signature] Date: 2/5/24

Legend

(Qty) MP Components (Library - WD Library 04/29/15)

-  (2) 0203 - MP38 End Cap
-  (3) 020101 - MP38 Casing 4 (1F/0.3M)
-  (3) 0238 - MP38 Packer - 74mm
(5F/1.5M)
-  (3) 020105 - MP38 Casing 2 (5F/1.5M)
-  (4) 0202 - MP38 Regular Coupling
-  (3) 0205 - MP38 Measurement Port
-  (2) 0224 - MP38 Pumping Port
-  (2) 0216 - Magnetic Location Collar

Geology

Backfill/Casing



Well Designer Report Langan

Job No:
Well: LMW-7R-S

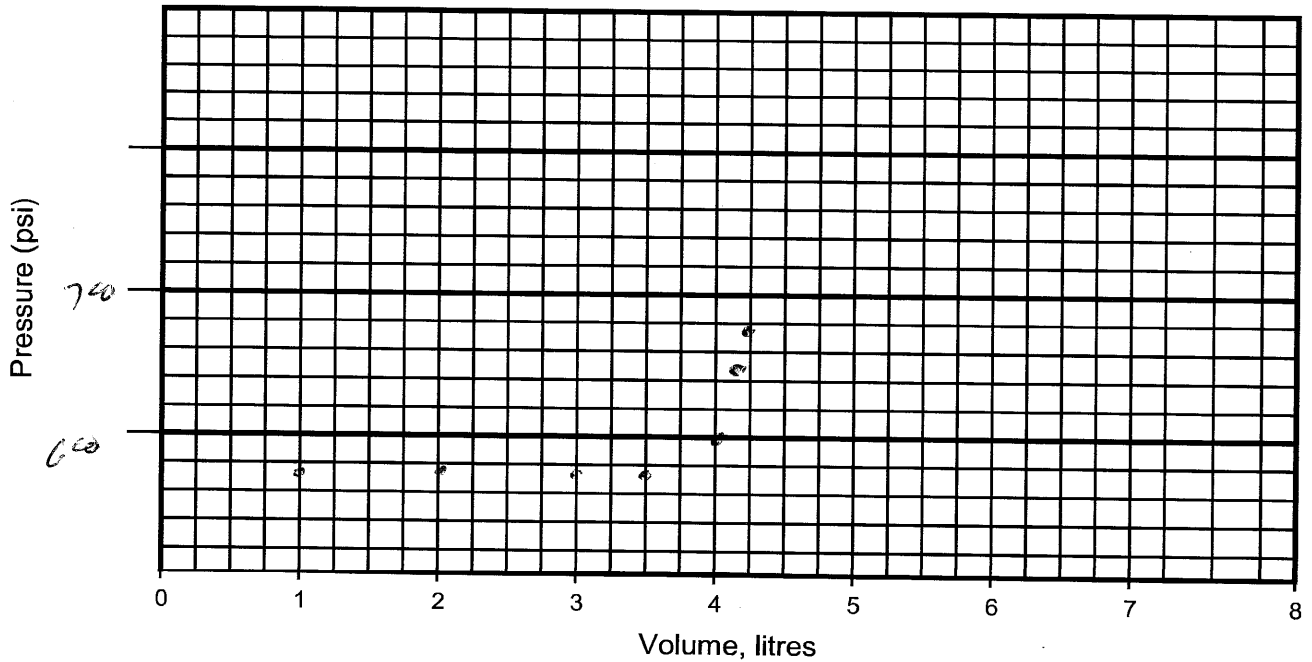
Scale Feet	MP Casing	QA Tested OK	MP Casing Description
0	7	<input checked="" type="checkbox"/>	020101 - MP38 Casing 4 (1F/0.3M)
	6	<input checked="" type="checkbox"/>	020101 - MP38 Casing 4 (1F/0.3M)
	5	<input checked="" type="checkbox"/>	0238 - MP38 Packer - 74mm (5F/1.5M) 20168 125/130
10	4	<input checked="" type="checkbox"/>	0205 - MP38 Measurement Port 10300
	3	<input checked="" type="checkbox"/>	020105 - MP38 Casing 2 (5F/1.5M)
	2	<input checked="" type="checkbox"/>	0224 - MP38 Pumping Port 9298
20	1	<input checked="" type="checkbox"/>	0238 - MP38 Packer - 74mm (5F/1.5M) 20168 160/135
		<input checked="" type="checkbox"/>	0205 - MP38 Measurement Port 10281
		<input checked="" type="checkbox"/>	020105 - MP38 Casing 2 (5F/1.5M)
		<input checked="" type="checkbox"/>	0224 - MP38 Pumping Port 9302
30		<input checked="" type="checkbox"/>	0238 - MP38 Packer - 74mm (5F/1.5M) 20167 170/145
		<input checked="" type="checkbox"/>	0205 - MP38 Measurement Port 10290
		<input checked="" type="checkbox"/>	020105 - MP38 Casing 2 (5F/1.5M)
		<input checked="" type="checkbox"/>	0203 - MP38 End Cap



Westbay Packer Inflation Record

Project: Keonjen - 1487 1st Ave Project No.: FS1499 Well No.: LMW-7R-5
 Location: 1487 1st Ave Completed by: GS Date Inflated: 2/5/24
 Packer No. 1 - 20167 Depth (ft / m): 21.75 Inflation Tool No.: T/W 3554
 Packer Valve Pressure, P_V: 195 psi Final Line Pressure, P_L: 675 psi Tool Pressure, P_T: 400 psi
 Borehole Water Level: - (ft / m) = - psi (P_w)
 Calculated Packer Element Pressure, P_E = P_L + P_w - P_V - P_T = 130 psi

Volume, litres	1.0	2.0	3.0	3.5	4.05	4.20	/			
Pressure, psi	575	575	575	575	630	675	/	0		
Volume, litres										
Pressure, psi										



Comments: Packer # 1

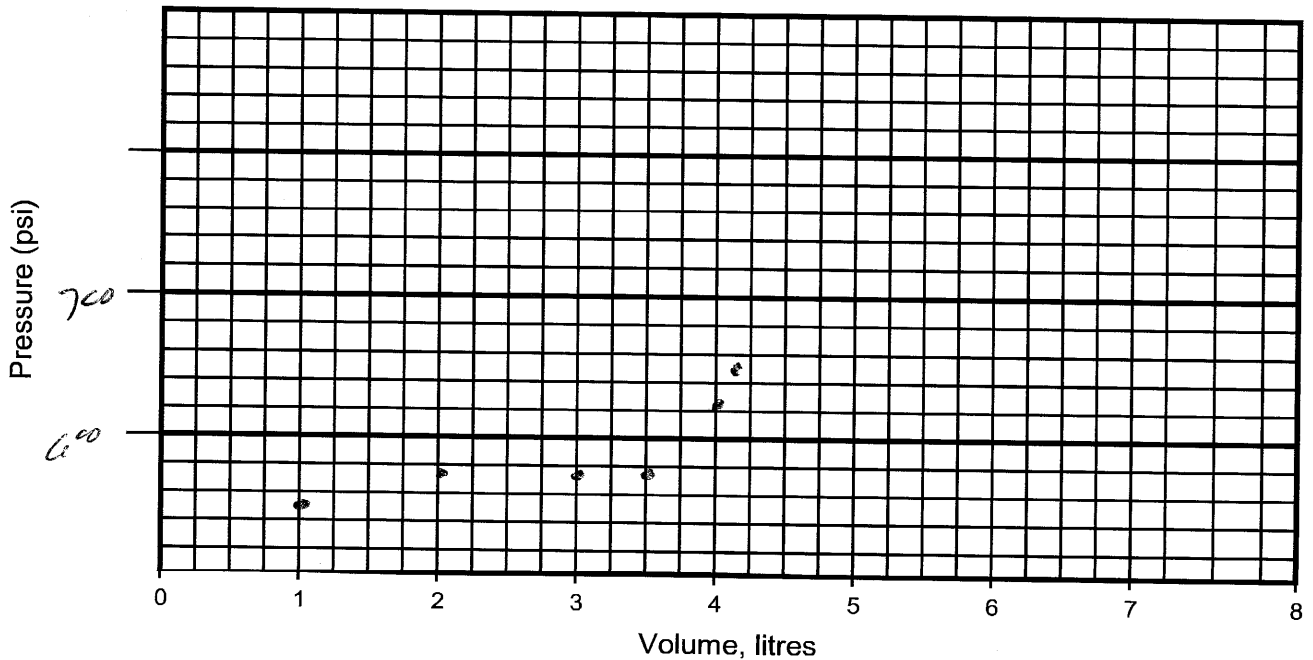
Time - 11:07



Westbay Packer Inflation Record

Project: Langen - 1487 1st Ac Project No.: FS1499 Well No.: LAW-7A-S
 Location: 1487 1st Ac Completed by: CS Date Inflated: 2/5/24
 Packer No. D-20168 Depth (ft/m): 11.75 Inflation Tool No.: 71w 3994
 Packer Valve Pressure, P_V: 135 psi Final Line Pressure, P_L: 630 psi Tool Pressure, P_T: 400 psi
 Borehole Water Level: - (ft/m) = - psi (P_w)
 Calculated Packer Element Pressure, P_E = P_L + P_w - P_V - P_T = 115 psi

Volume, litres	10	20	30	3.5	4.0	4.10				
Pressure, psi	550	575	575	575	625	630				
Volume, litres										
Pressure, psi										



Comments: Packer # 2

Time - 11:28

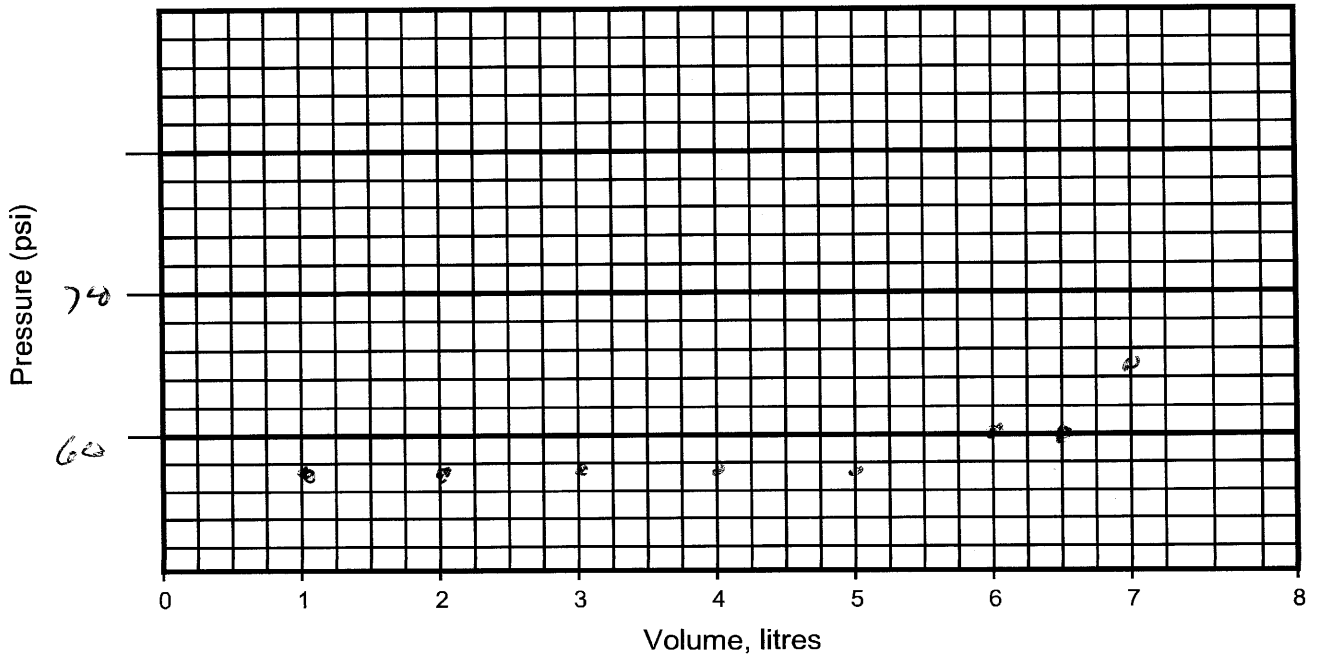


Westbay
Instruments

Westbay Packer Inflation Record

Project: 1487 1st Ave hanger - LAW Project No.: FS1499 Well No.: LAW-M-S
 Location: 1487 1st Ave Completed by: CS Date Inflated: 01/13/24
 Packer No. 3-20169 Depth (ft/m): 1.75 Inflation Tool No.: T1W 3794
 Packer Valve Pressure, P_V: 150 psi Final Line Pressure, P_L: 650 psi Tool Pressure, P_T: 400 psi
 Borehole Water Level: — (ft/m) = — psi (P_w)
 Calculated Packer Element Pressure, P_E = P_L + P_w - P_V - P_T = 100 psi

Volume, litres	1.0	2.0	3.0	4.0	5.0	6.0	6.5	7.0	/	6.9
Pressure, psi	575	575	575	575	575	600	600	650	/	0
Volume, litres	7.25	7.40	/	7.40						
Pressure, psi	650	675	/	0						



Comments: Packer #3 Time - 11:40

APPENDIX D – LMW-7R-D

As-Built Packer and Port Summary (Table 15)	- 1 Page
Summary Casing Log	- 3 Pages
Pre-Inflation Piezometric Pressure/Levels Field Data and Calculation Sheet (February 1, 2024)	- 1 Pages
Figure 9, Pre-Inflation Piezometric Pressure Profile	- 1 Pages
Post-Inflation Piezometric Pressure/Levels Field Data and Calculation Sheet (February 1, 2024)	- 1 Pages
Figure 10, Post-Inflation Piezometric Pressure Profile	- 1 Pages
Casing Installation Log	- 3 Pages
MP Packer Inflation Records	- 4 Pages

Table 15. LMW-7R-D As-Built Packer and Port Summary

Port No.	Zone	Measurement Port Depth (ft)	Depth to Top of Packer (ft)	Top of Zone (ft)	Bottom of Zone (ft)	Comments
4	QA2	59.75	54.75	59.05	64.00	
3	Zone 2	49.75	44.75	49.05	56.05	
2	QA1	33.75	28.75	33.05	46.05	
1	Zone 1	23.75	18.75	23.05	30.05	

All depth measurements in feet below ground surface (bgs).

All depth measurements use 'Nominal' tubing lengths.

Not corrected for borehole deviation or borehole temperature effects.

All depth measurement to upper edge of Westbay System coupling item.

Summary Casing Log

Company: Langan
Well: LMW-7R-D
Site: 1487 First Ave
Project: Langan - 1487 First Ave.

Job No:
Author: GS

Well Information

Reference Datum:
Elevation of Datum: 0.00 ft.
MP Casing Top: 0.00 ft.
MP Casing Length: 62.91 ft.

Borehole Depth: 63.75 ft.
Borehole Inclination:
Borehole Diameter: 4.00 in.

Well Description:

Other References:











File Information

File Name: LMW-7R-D.WWD
Report Date: Tue Jan 30 17:17:52 2024

File Date: Jan 30 11:39:04 2024

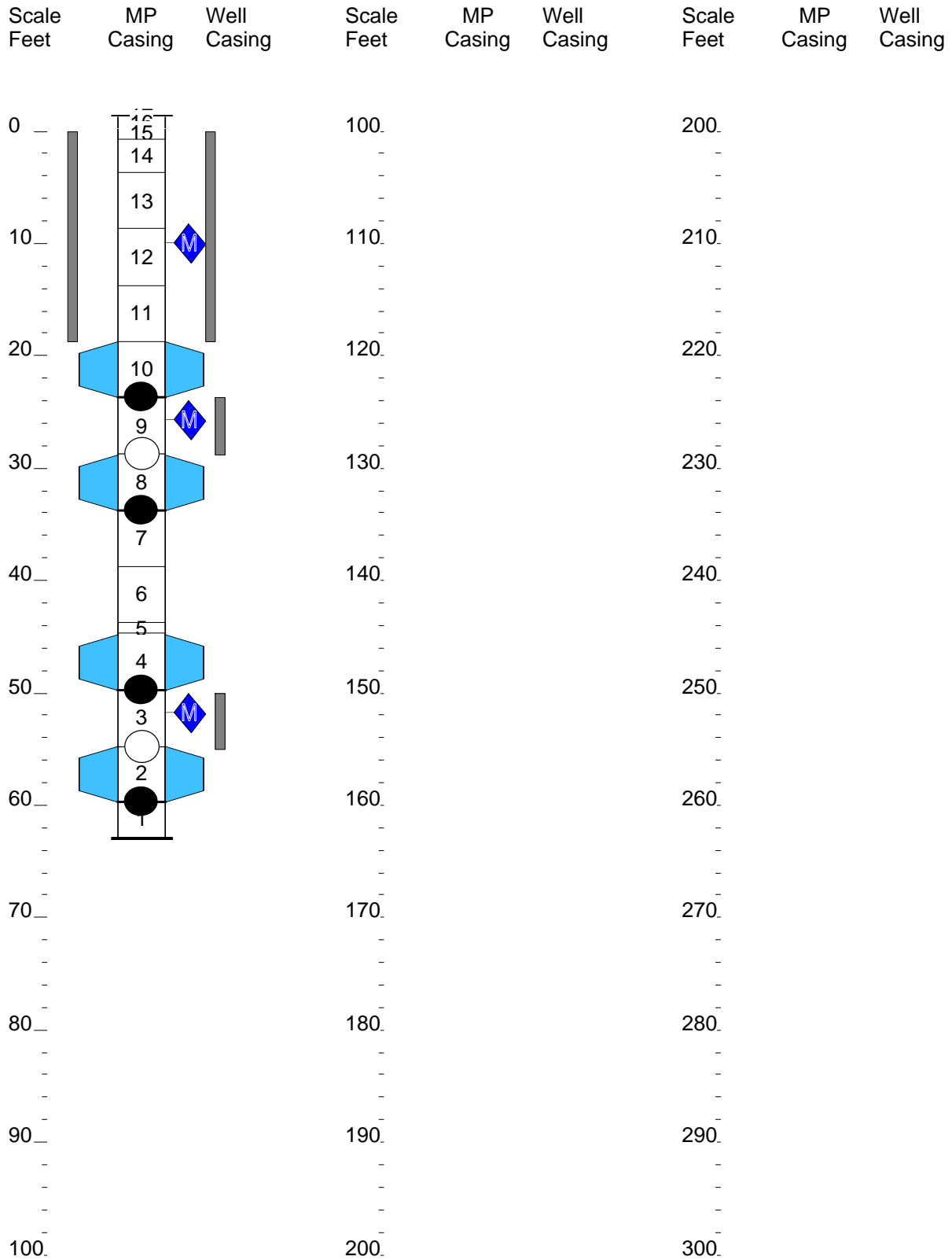
Sketch of Wellhead Completion

Legend

(Qty) MP Components (Library - WD Library 04/29/15)		Geology	Backfill/Casing
	(2) 0203 - MP38 End Cap		 Mild Steel
	(3) 020101 - MP38 Casing 4 (1F/0.3M)		
	(2) 020103 - MP38 Casing 6 (3F/0.9M)		
	(7) 020105 - MP38 Casing 2 (5F/1.5M)		
	(4) 0238 - MP38 Packer - 74mm (5F/1.5M)		
	(10) 0202 - MP38 Regular Coupling		
	(4) 0205 - MP38 Measurement Port		
	(2) 0224 - MP38 Pumping Port		
	(3) 0216 - Magnetic Location Collar		

Well Designer Report Langan

Job No:
Well: LMW-7R-D





Westbay Piezometric Pressures/Levels

Field Data and Calculation Sheet

Well No.: LMW-7R-D
 Datum: CS
 Elev. G.S.: -
 Height of Westbay above G.S.: -
 Elev. top of Westbay Casing: -
 Reference Elevation: -
 Borehole angle: 900

Probe Type: 2-Sampler
 Serial No.: 3335
 Probe Range: 0-520
 Westbay Casing Type: M038
 Sampler Valve Position: closed

Date: 2/1/24
 Client: Sanjour
 Job No.: FS1479
 Location: 1487 1st Ave
 Weather: -
 Operator: CS

Note: "Port position" in angled boreholes refer to position along drillhole. True depth (Dp) needs to be calculated using borehole angle and deviation data to calculate zone piezometric level (Dz).

Ambient Reading (P_{atm}) (pressure, temperature, time)

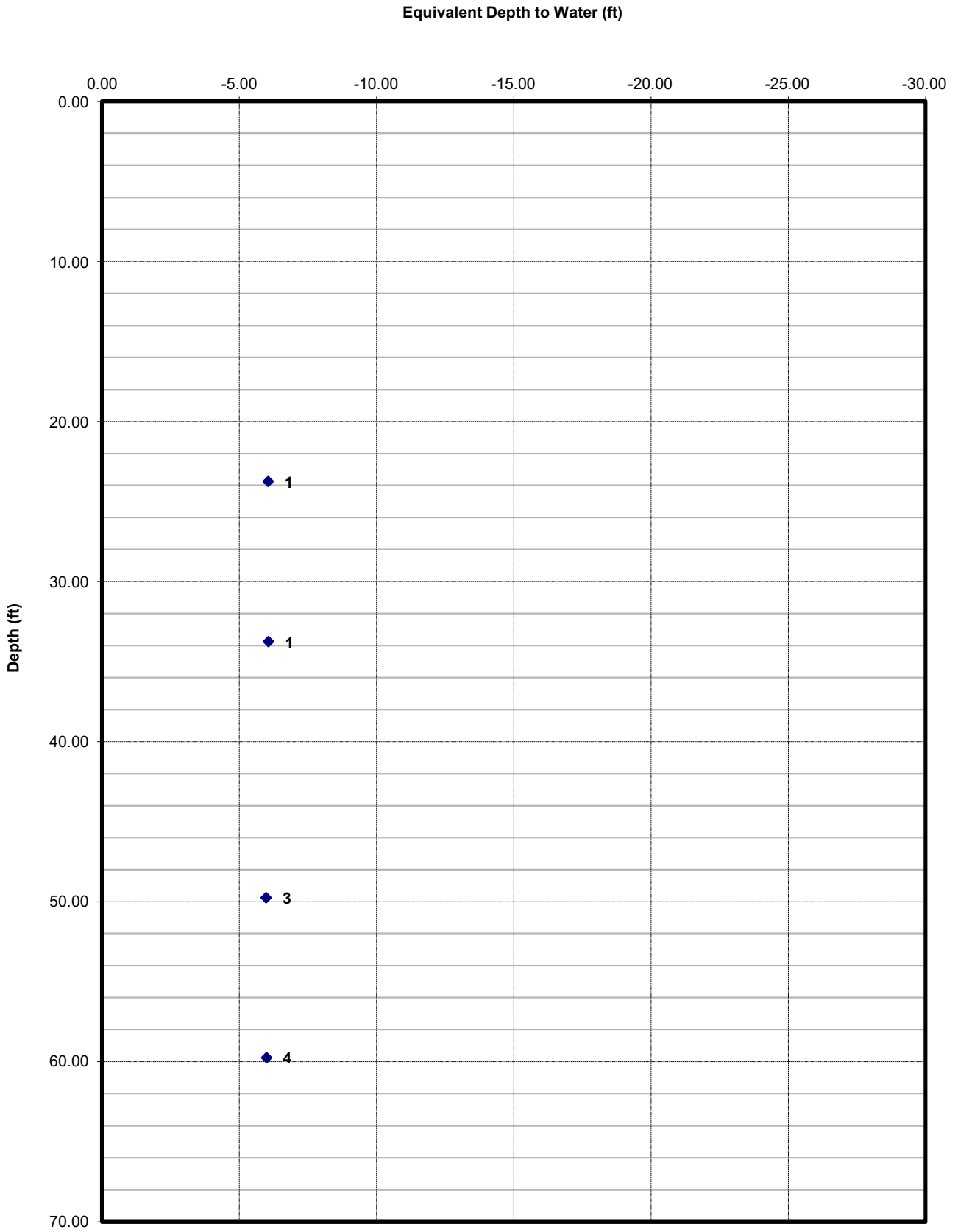
Start: Pressure 14.72 Finish: 14.72
 Temp 8.16 10.77
 Time 15:24 15:37

P_{atm} 14.72 psi

Port No.	Port Position From Log (ft)	Port Position From Cable (t)	True Port Depth "Dp" (ft)	Fluid Pressure Readings					Pressure Head Outside Port (ft) H = (P2-Patm)/w	Piez. Level Outside Port (ft) Dz = Dp - H	Comments
				Inside Casing (P1)	Outside Casing (P2)	Time H:M:S	Probe Temp. (°C)	Inside Casing (P1)			
4	59.75	59.6	-	31.43	49.22	15:29	9.24	31.43	45.74	-5.99	Pic In/In
3	49.75	49.6	-	27.10	38.88	15:30	10.37	27.10	55.73	-5.98	
2	33.75	33.7	-	20.18	31.98	15:32	11.23	20.18	39.82	-6.06	
1	23.75	23.7	-	15.83	27.64	15:35	12.53	15.84	29.80	-6.05	

Notes: w = 0.4335 psi/ft (1.422psi/m) of H₂O Dz = piezometric level in zone Patm = atmospheric pressure H = pressure head of water in zone Dp = true depth of measurement port

Figure 9
Well: LMW-7R-D
Pre-Inflation Pressure Profile





Westbay Piezometric Pressures/Levels

Field Data and Calculation Sheet

Well No.: LMW-7R-D
 Datum: GS
 Elev. G.S.: -
 Height of Westbay above G.S.: -
 Elev. top of Westbay Casing: -
 Reference Elevation: -
 Borehole angle: 90°

Probe Type: Sampler
 Serial No.: 2335
 Probe Range: 0-520
 Westbay Casing Type: MP38
 Sampler Valve Position: C1022

Date: 2/1/24
 Client: Larsen
 Job No.: 311875
 Location: 1187 153 Ave
 Weather: -
 Operator: CR

Note: "Port position" in angled boreholes refer to position along drillhole. True depth (Dp) needs to be calculated using borehole angle and deviation data to calculate zone piezometric level (Dz).

Ambient Reading (P_{atm}) (pressure, temperature, time)

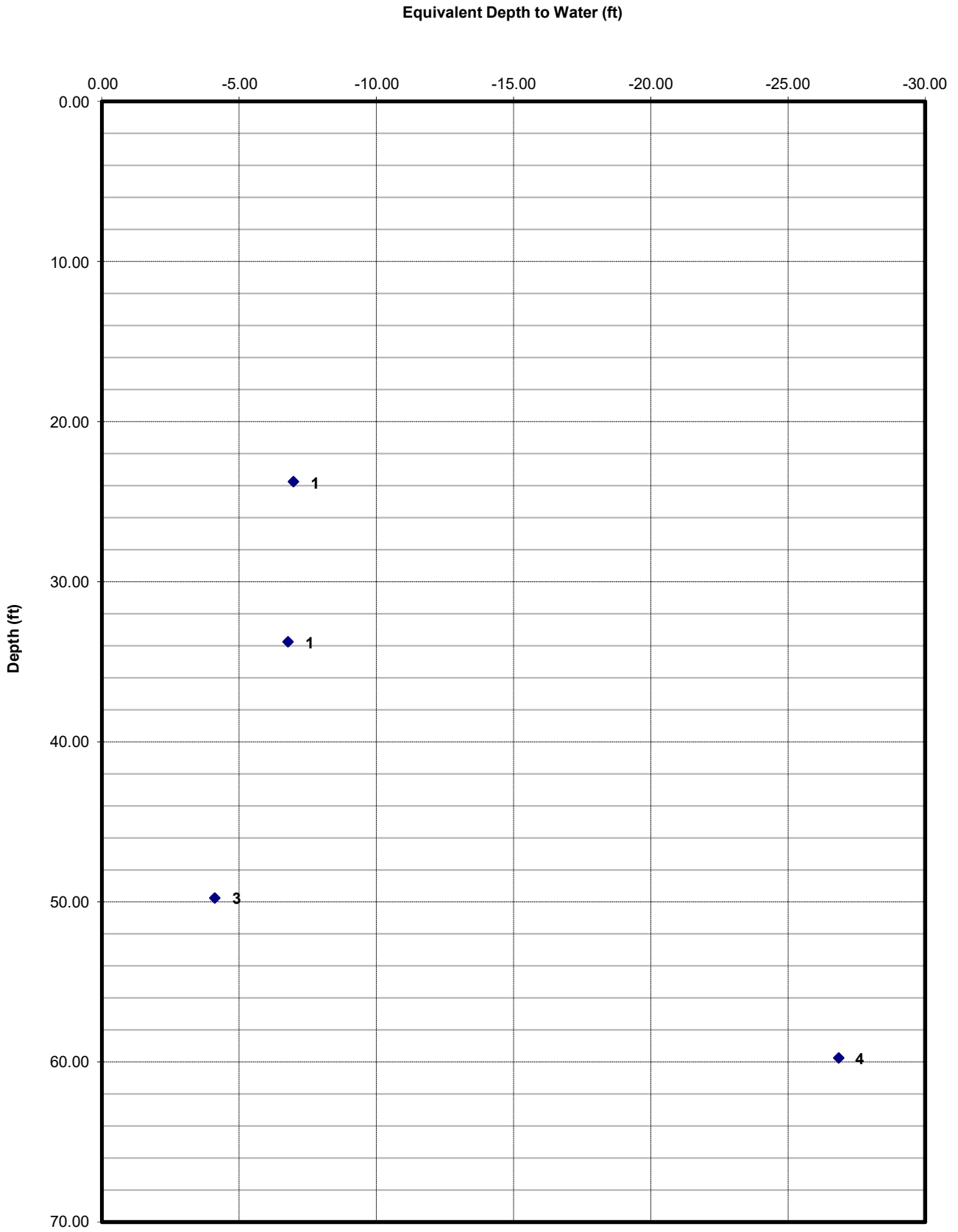
Start: Pressure 14.73 Finish: 14.72
 Temp 11.52 11.47
 Time 17:20 17:30

P_{atm} 14.73 psi

Port No.	Port Position From Log (ft)	Port Position From Cable (ft)	True Port Depth "Dp" (ft)	Fluid Pressure Readings					Pressure Head Outside Port (ft) H = (P2 - Patm) / w	Piez. Level Outside Port (ft) Dz = Dp - H	Comments
				Inside Casing (P1)	Outside Casing (P2)	Time H:M:S	Probe Temp. (°C)	Inside Casing (P1)			
4	59.75	59.40	-	42.77	52.27	17:24	12.56	42.77	84.60	26.85	Post In H ₂ O
3	49.75	49.50	-	38.43	38.08	17:25	13.27	38.43	53.86	-4.11	
2	33.75	33.60	-	31.50	32.30	17:27	13.91	31.50	40.53	-6.78	
1	23.75	23.60	-	27.15	28.05	17:29	14.39	27.15	30.73	-6.98	

Notes: w = 0.4335 psi/ft (1.422psi/m) of H₂O Dz = piezometric level in zone Patm = atmospheric pressure H = pressure head of water in zone Dp = true depth of measurement port

Figure 10
Well: LMW-7R-D
Post-Inflation Pressure Profile



Casing Installation Log

Company: Langan
Well: LMW-7R-D
Site: 1487 First Ave
Project: Langan - 1487 First Ave.

Job No:
Author: GS

Well Information

Reference Datum:
Elevation of Datum: 0.00 ft.
MP Casing Top: 0.00 ft.
MP Casing Length: 62.91 ft.

Borehole Depth: 63.75 ft.
Borehole Inclination:
Borehole Diameter: 4.00 in.

Well Description:

Other References:

File Information

File Name: LMW-7R-D.VVWD
Report Date: Tue Jan 30 17:30:47 2024

File Date: Jan 30 17:19:10 2024











Comments

Log Information

Borehole condition confirmed.
MP well design & preparation.
MP well design checked.
MP well and borehole approved to install.

(method)	<u>Logging</u>	Date:	_____
By:	<u>SGP/Alc</u>	Date:	<u>1/30/24</u>
By:	<u>TR</u>	Date:	<u>2/1/24</u>
By:	<u>ZF</u>	Date:	<u>2/1/24</u>

Legend

(Qty) MP Components (Library - WD Library 04/29/15)	Geology	Backfill/Casing
 (2) 0203 - MP38 End Cap		 Mild Steel
 (3) 020101 - MP38 Casing 4 (1F/0.3M)		
 (2) 020103 - MP38 Casing 6 (3F/0.9M)		
 (7) 020105 - MP38 Casing 2 (5F/1.5M)		
 (4) 0238 - MP38 Packer - 74mm (5F/1.5M)		
 (10) 0202 - MP38 Regular Coupling		
 (4) 0205 - MP38 Measurement Port		
 (2) 0224 - MP38 Pumping Port		
 (3) 0216 - Magnetic Location Collar		

Well Designer Report Langan

Job No:
Well: LMW-7R-D

Scale Feet	MP Casing	QA Tested OK	MP Casing Description
0	17	<input checked="" type="checkbox"/>	020101 - MP38 Casing 4 (1F/0.3M)
	16	<input checked="" type="checkbox"/>	020103 - MP38 Casing 6 (3F/0.9M)
	15	<input checked="" type="checkbox"/>	
	14	<input checked="" type="checkbox"/>	
	13	<input checked="" type="checkbox"/>	020105 - MP38 Casing 2 (5F/1.5M)
10	12	<input checked="" type="checkbox"/>	020105 - MP38 Casing 2 (5F/1.5M)
	11	<input checked="" type="checkbox"/>	020105 - MP38 Casing 2 (5F/1.5M)
20	10	<input checked="" type="checkbox"/>	0238 - MP38 Packer - 74mm (5F/1.5M 20165 165/140)
	9	<input checked="" type="checkbox"/>	0205 - MP38 Measurement Port 10280
	8	<input checked="" type="checkbox"/>	020105 - MP38 Casing 2 (5F/1.5M)
30	7	<input checked="" type="checkbox"/>	0224 - MP38 Pumping Port 9291
	6	<input checked="" type="checkbox"/>	0238 - MP38 Packer - 74mm (5F/1.5M 20167 165/140)
	5	<input checked="" type="checkbox"/>	0205 - MP38 Measurement Port 10282
40	4	<input checked="" type="checkbox"/>	020105 - MP38 Casing 2 (5F/1.5M)
	3	<input checked="" type="checkbox"/>	020105 - MP38 Casing 2 (5F/1.5M)
50	2	<input checked="" type="checkbox"/>	0224 - MP38 Pumping Port 9293
	1	<input checked="" type="checkbox"/>	0238 - MP38 Packer - 74mm (5F/1.5M 20163 165/140)
60		<input checked="" type="checkbox"/>	0205 - MP38 Measurement Port 10278
		<input checked="" type="checkbox"/>	020103 - MP38 Casing 6 (3F/0.9M)
70		<input checked="" type="checkbox"/>	0203 - MP38 End Cap

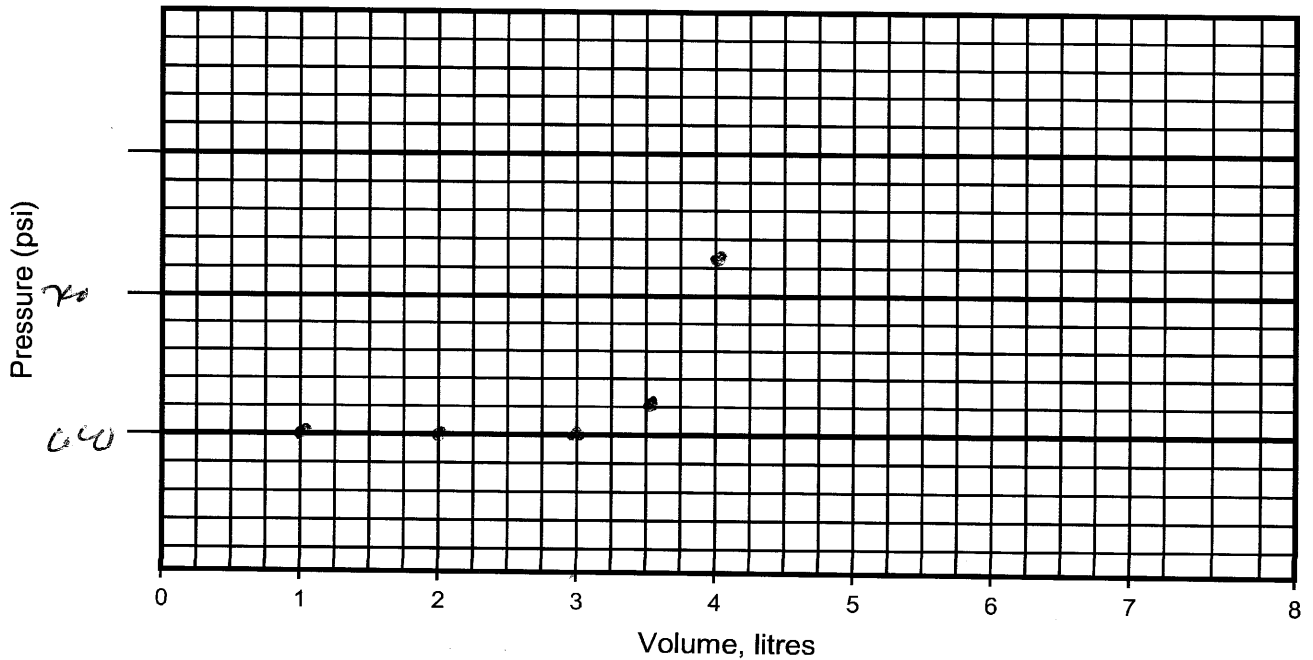


Westbay Packer Inflation Record

Project: Langen - 1487 1st Ave Project No.: FS1499 Well No.: LAW-7A-D
 Location: 1487 1st Ave Completed by: CS Date Inflated: 2/1/04
 Packer No. 1 - 20163 Depth (ft/m): 5475 Inflation Tool No.: TIW 3894
 Packer Valve Pressure, P_V: 1110 psi Final Line Pressure, P_L: 725 psi Tool Pressure, P_T: 450 psi
 Borehole Water Level: — (ft/m) = — psi (P_w)

Calculated Packer Element Pressure, P_E = P_L + P_w - P_V - P_T = 135 psi

Volume, litres	10	20	30	35	4.0	1	395			
Pressure, psi	600	600	600	625	725	1	0			
Volume, litres										
Pressure, psi										



Comments: Packer # 1

Time - 16:14

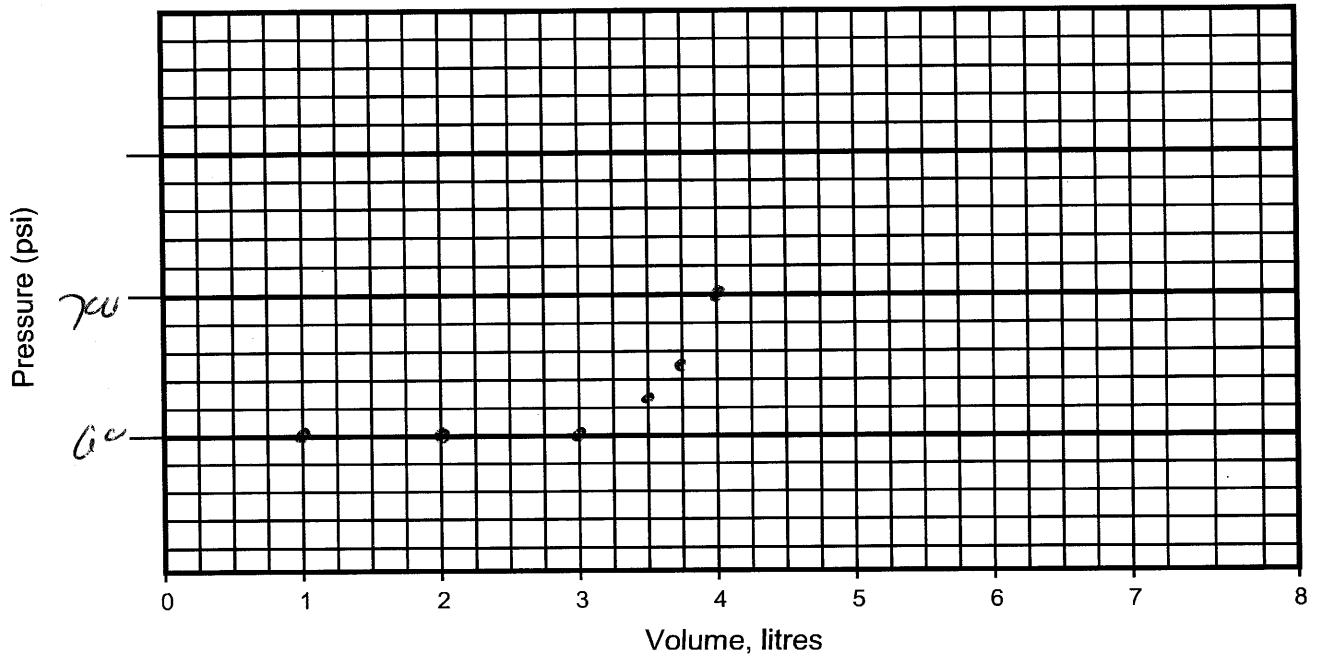


Westbay
Instruments

Westbay Packer Inflation Record

Project: Langan - 1487 - 1st Ave Project No.: FS1499 Well No.: LMW-7R-D
 Location: 1487 1st Ave Completed by: GS Date Inflated: 01/12/24
 Packer No. 2 - 10279 Depth (ft/m): 44.75' Inflation Tool No.: TW 3994
 Packer Valve Pressure, P_V: 140 psi Final Line Pressure, P_L: 700 psi Tool Pressure, P_T: 450 psi
 Borehole Water Level: - (ft/m) = - psi (P_W)
 Calculated Packer Element Pressure, P_E = P_L + P_W - P_V - P_T = 110 psi

Volume, litres	1.0	2.0	3.0	3.5	3.75	4.0	/	4.0		
Pressure, psi	600	600	600	625	650	700	/	8		
Volume, litres										
Pressure, psi										



Comments: Packer # 2

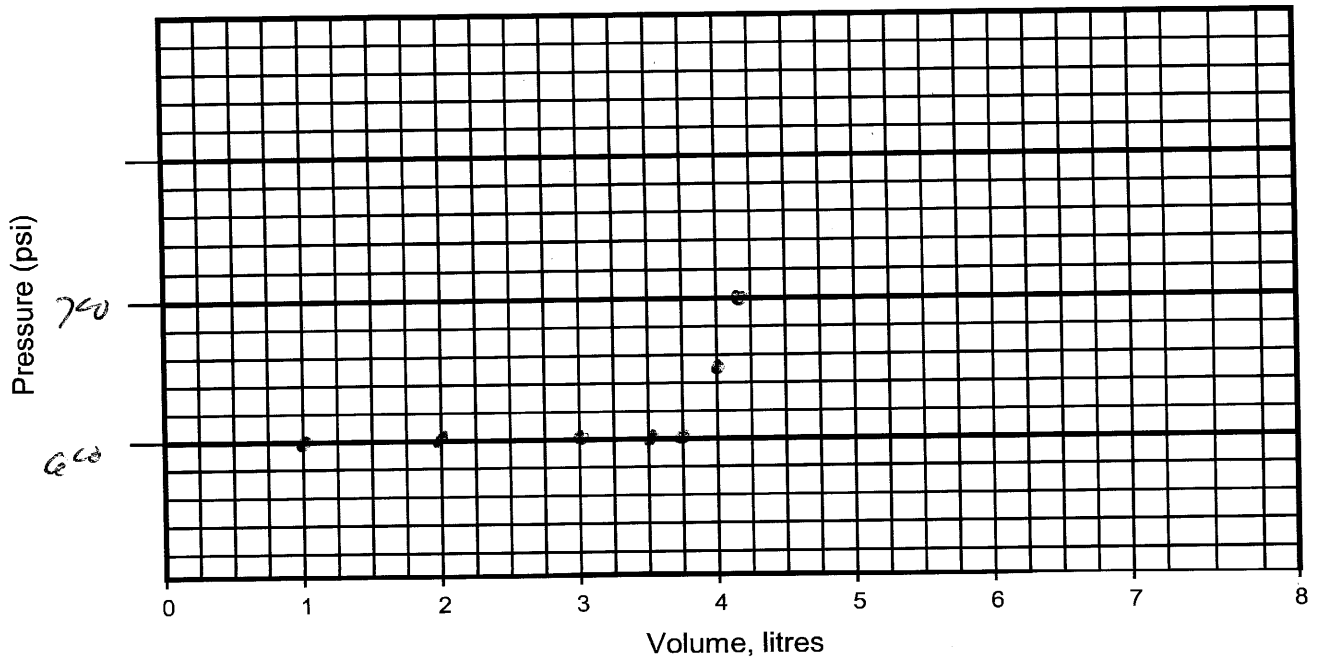
Time - 16:28



Westbay Packer Inflation Record

Project: Langa - 1487 1st Ave Project No.: FS149K Well No.: LAW-70R-D
 Location: 1487 1st Ave Completed by: CS Date Inflated: 2/1/24
 Packer No. 3-20164 Depth (ft/m): 28.75 Inflation Tool No.: T/W 3594
 Packer Valve Pressure, P_V: 140 psi Final Line Pressure, P_L: 740 psi Tool Pressure, P_T: 6150 psi
 Borehole Water Level: — (ft/m) = — psi (P_W)
 Calculated Packer Element Pressure, P_E = P_L + P_W - P_V - P_T = 110 psi

Volume, litres	1.0	2.0	3.0	3.5	3.75	4.0	4.25	4.15		
Pressure, psi	600	600	600	600	600	650	700	700		
Volume, litres										
Pressure, psi										



Comments: Packer # 3

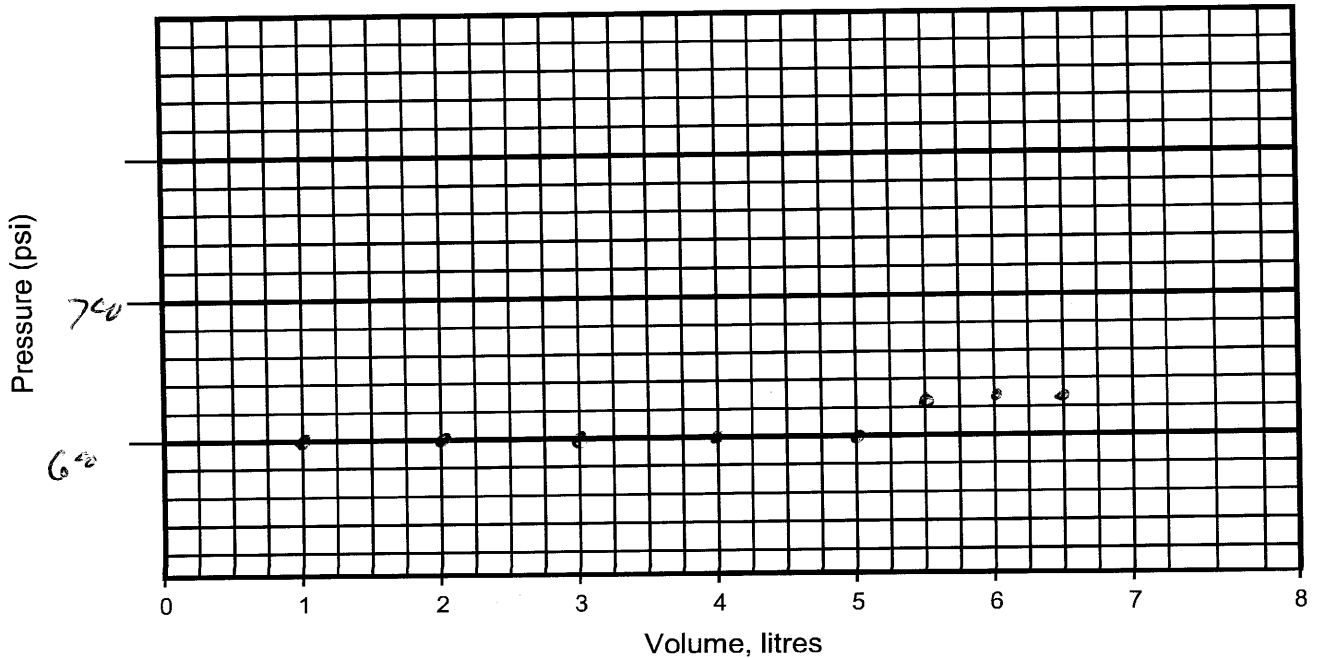
Time - 16:40



Westbay Packer Inflation Record

Project: Kaga 1487 1st Ave Project No.: FS1495 Well No.: LAW-7R-11
 Location: 1487 1st Ave Completed by: CS Date Inflated: 2/1/24
 Packer No. 00165 - 4 Depth (ft/m): 18.75 Inflation Tool No.: TIW 3995
 Packer Valve Pressure, P_V: 140 psi Final Line Pressure, P_L: 625 psi Tool Pressure, P_T: 450 psi
 Borehole Water Level: - (ft/m) = - psi (P_w)
 Calculated Packer Element Pressure, P_E = P_L + P_w - P_V - P_T = 35 psi

Volume, litres	1.0	2.0	3.0	4.0	5.0	5.5	6.0	6.5	/	6.5
Pressure, psi	600	600	600	600	600	625	625	625	/	0
Volume, litres										
Pressure, psi										



Comments: Packer # 4 Time - 16:50

APPENDIX E – LMW-8R-S

As-Built Packer and Port Summary (Table 16)	- 1 Page
Summary Casing Log	- 3 Pages
Pre-Inflation Piezometric Pressure/Levels Field Data and Calculation Sheet (February 1, 2024)	- 1 Pages
Figure 11, Pre-Inflation Piezometric Pressure Profile	- 1 Pages
Post-Inflation Piezometric Pressure/Levels Field Data and Calculation Sheet (February 1, 2023)	- 1 Pages
Figure 12, Post-Inflation Piezometric Pressure Profile	- 1 Pages
Casing Installation Log	- 3 Pages
MP Packer Inflation Records	- 3 Pages

Table 16. LMW-8R-S As-Built Packer and Port Summary

Port No.	Zone	Measurement Port Depth (ft)	Depth to Top of Packer (ft)	Top of Zone (ft)	Bottom of Zone (ft)	Comments
3	QA1	28.75	23.75	28.05	30.00	
2	Zone 2	18.75	11.75	16.05	25.05	
1	Zone 1	6.75	0.75	5.05	13.05	

All depth measurements in feet below ground surface (bgs).

All depth measurements use 'Nominal' tubing lengths.

Not corrected for borehole deviation or borehole temperature effects.

All depth measurement to upper edge of Westbay System coupling item.

Summary Casing Log

Company: Langan
Well: LMW-8R-S
Site: 1487 First Ave
Project: Langan - 1487 First Ave.

Job No:
Author: GS

Well Information

Reference Datum:
Elevation of Datum: 0.00 ft.
MP Casing Top: 0.00 ft.
MP Casing Length: 29.91 ft.

Borehole Depth: 29.75 ft.
Borehole Inclination:
Borehole Diameter: 4.00 in.

Well Description:

Other References:











File Information

File Name: LMW-8R-S.WWD
Report Date: Tue Jan 30 10:44:05 2024

File Date: Jan 30 10:38:57 2024

Sketch of Wellhead Completion

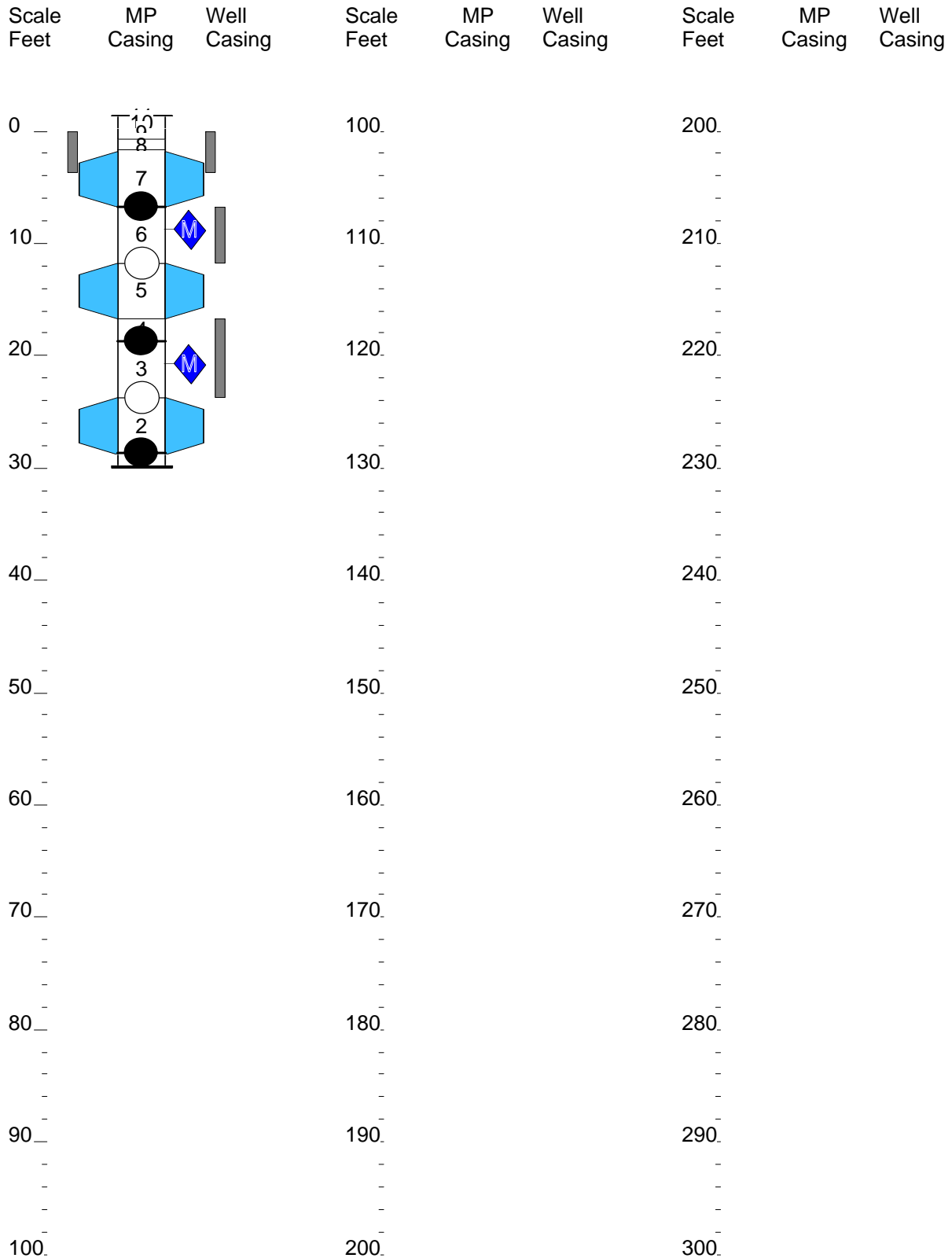
Legend

(Qty) MP Components (Library - WD Library 04/29/15)		Geology	Backfill/Casing
	(2) 0203 - MP38 End Cap		 Mild Steel
	(4) 020101 - MP38 Casing 4 (1F/0.3M)		
	(3) 0238 - MP38 Packer - 74mm (5F/1.5M)		
	(2) 020105 - MP38 Casing 2 (5F/1.5M)		
	(1) 020102 - MP38 Casing 3 (2F/0.6M)		
	(5) 0202 - MP38 Regular Coupling		
	(3) 0205 - MP38 Measurement Port		
	(2) 0224 - MP38 Pumping Port		
	(2) 0216 - Magnetic Location Collar		

Well Designer Report

Langan

Job No:
Well: LMW-8R-S





Westbay Piezometric Pressures/Levels

Field Data and Calculation Sheet

Well No.: LW-8R-5
 Datum: CS
 Elev. G.S.: -
 Height of Westbay above G.S.: -
 Elev. top of Westbay Casing: -
 Reference Elevation: -
 Borehole angle: 900

Probe Type: Sampler
 Serial No.: 3555
 Probe Range: 0-520
 Westbay Casing Type: MP35
 Sampler Valve Position: Close

Date: 2/1/24
 Client: Langan
 Job No.: FS1475
 Location: 1987 First Ave
 Weather: -
 Operator: CC

Note: "Port position" in angled boreholes refer to position along drillhole. True depth (Dp) needs to be calculated using borehole angle and deviation data to calculate zone piezometric level (Dz).

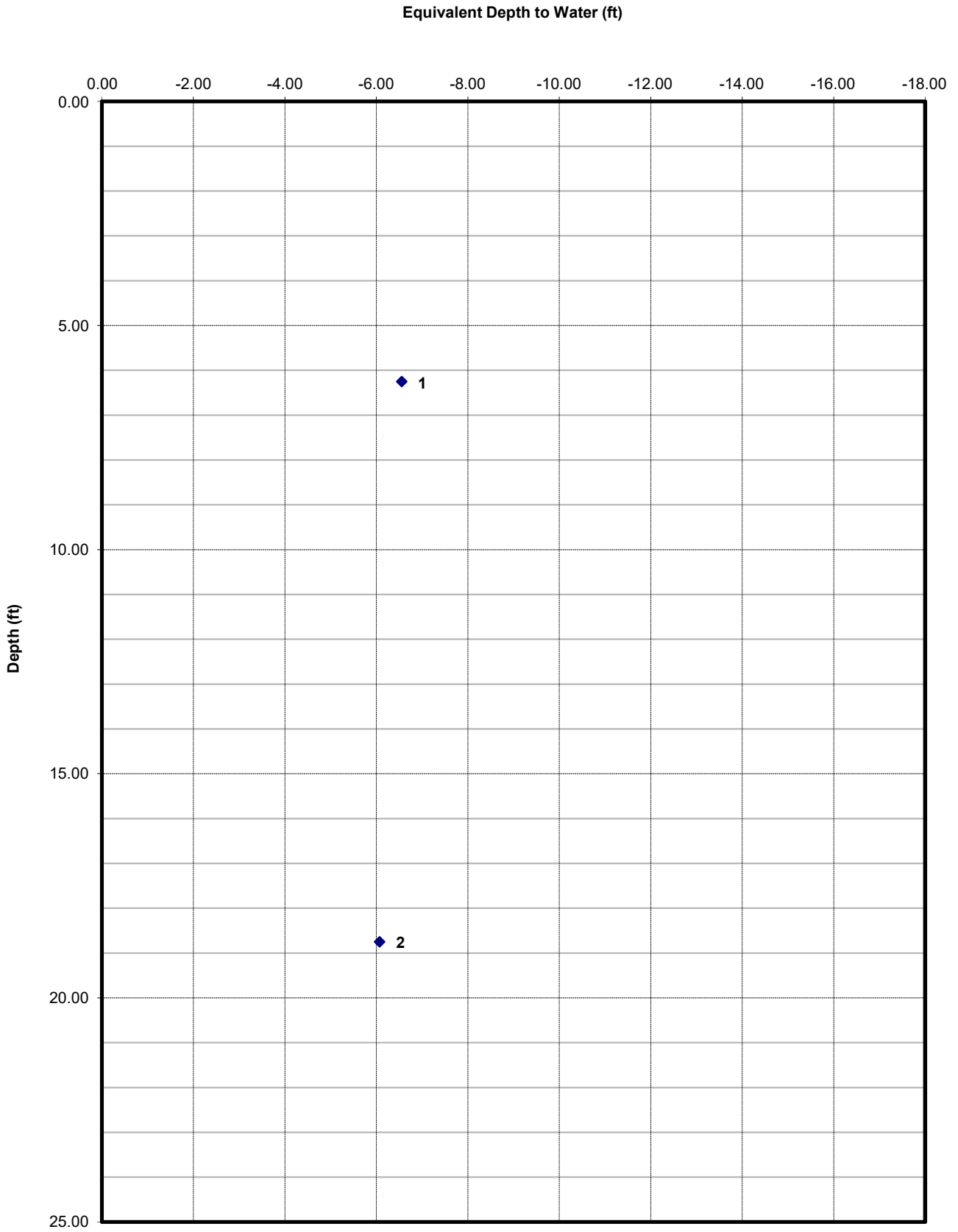
Ambient Reading (P_{atm}) (pressure, temperature, time)
 Start: Pressure 14.80 Finish: 14:25
 Temp 15.91 15:53
 Time 14:16 10:24

P_{atm} 14.80 psi

Port No.	Port Position From Log (ft)	Port Position From Cable (ft)	True Port Depth "Dp" (ft)	Fluid Pressure Readings					Pressure Head Outside Port (ft) H = (P2-Patm)/w	Piez. Level Outside Port (ft) Dz = Dp - H	Comments
				Inside Casing (P1)	Outside Casing (P2)	Time H:M:S	Probe Temp. (°C)	Inside Casing (P1)			
2	18.75	19.0	-	18.82	25.56	10:14	15.75	18.83	24.82	-6.07	Pr Infltr
1	6.75	17.0	-	14.77	20.35	10:22	15.62	14.78	12.80	-6.05	

Notes: w = 0.4335 psi/ft (1.422psi/m) of H₂O Dz = piezometric level in zone Patm = atmospheric pressure H = pressure head of water in zone Dp = true depth of measurement port

Figure 11
Well: LMW-8R-S
Pre-Inflation Pressure Profile





Westbay Piezometric Pressures/Levels

Field Data and Calculation Sheet

Well No.: LMW-8A-S
 Datum: CS
 Elev. G.S.: -
 Height of Westbay above G.S.: -
 Elev. top of Westbay Casing: -
 Reference Elevation: -
 Borehole angle: 900

Probe Type: Sampler
 Serial No.: 3835
 Probe Range: 0-50
 Westbay Casing Type: MP38
 Sampler Valve Position: Close

Date: 2/1/20
 Client: Leysen
 Job No.: FS1477
 Location: 1487 1st Ave
 Weather: -
 Operator: CS

Ambient Reading (P_{atm}) (pressure, temperature, time)

Start: Pressure 14.77 Finish: 14.77
 Temp 10.32 12.99
 Time 11:41 11:52

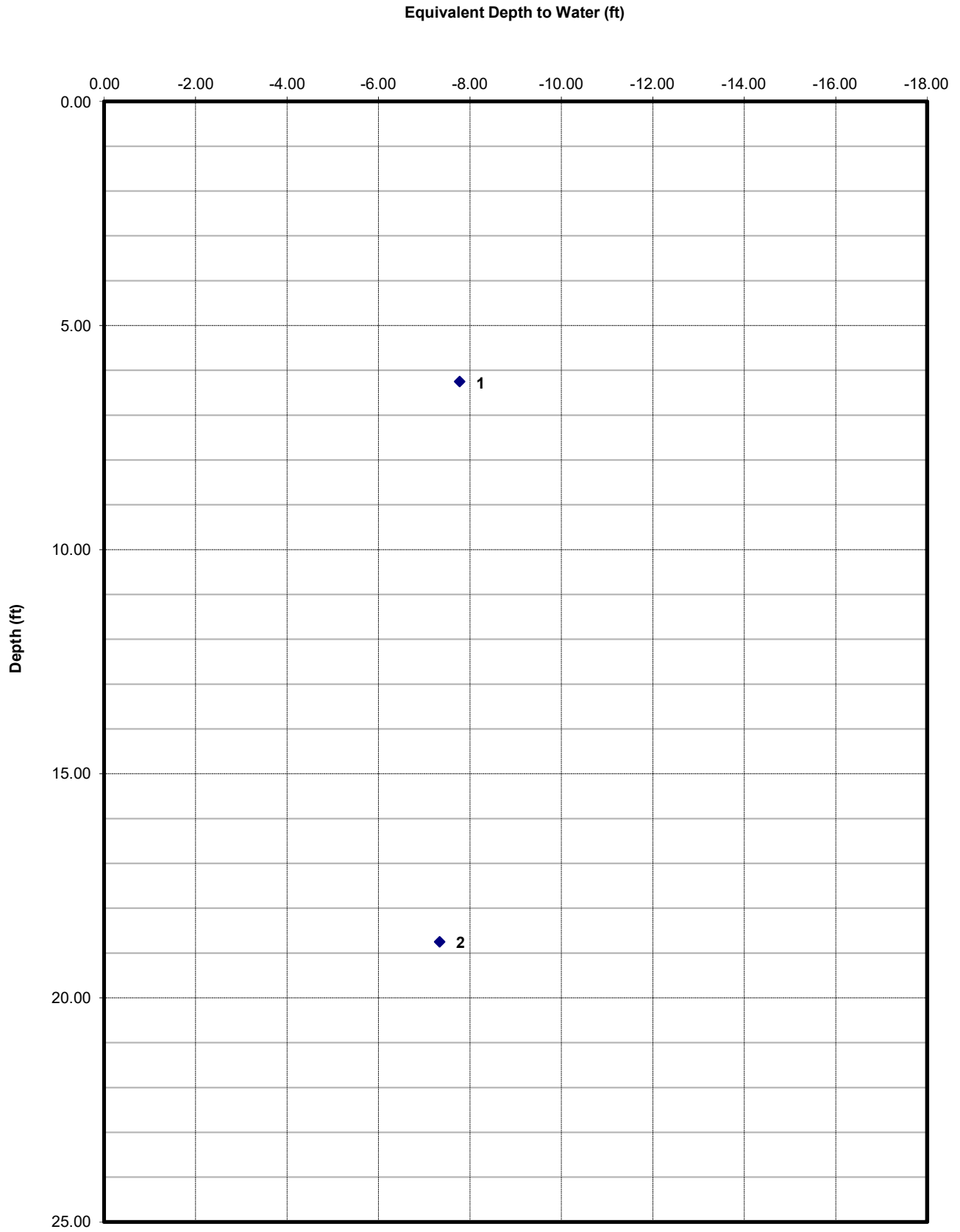
Note: "Port position" in angled boreholes refer to position along drillhole. True depth (Dp) needs to be calculated using borehole angle and deviation data to calculate zone piezometric level (Dz).

P_{atm} 14.77 psi

Port No.	Port Position From Log (ft)	Port Position From Cable (ft)	True Port Depth "Dp" (ft)	Fluid Pressure Readings					Pressure Head Outside Port (ft) H = (P2-Patm)/w	Piez. Level Outside Port (ft) Dz = Dp - H	Comments
				Inside Casing (P1)	Outside Casing (P2)	Time H:M:S	Probe Temp. (°C)	Inside Casing (P1)			
2	18.75	18.90	-	25.03	26.08	11:47	11.96	25.03	26.09	-7.33	Posi Inhh
1	6.25	6.90	-	19.81	20.85	11:50	12.78	19.81	19.03	-7.27	

Notes: w = 0.4335 psi/ft (1.422psi/m) of H₂O Dz = piezometric level in zone Patm = atmospheric pressure H = pressure head of water in zone Dp = true depth of measurement port

Figure 12
Well: LMW-8R-S
Post-Inflation Pressure Profile



Casing Installation Log

Company: Langan
Well: LMW-8R-S
Site: 1487 First Ave
Project: Langan - 1487 First Ave.

Job No:
Author: GS

Well Information

Reference Datum:
Elevation of Datum: 0.00 ft.
MP Casing Top: 0.00 ft.
MP Casing Length: 29.91 ft.

Borehole Depth: 29.75 ft.
Borehole Inclination:
Borehole Diameter: 4.00 in.

Well Description:

Other References:

File Information

File Name: LMW-8R-S.WWD
Report Date: Tue Jan 30 17:35:32 2024

File Date: Jan 30 10:46:06 2024











Comments

Log Information

Borehole condition confirmed.
MP well design & preparation.
MP well design checked.
MP well and borehole approved to install.

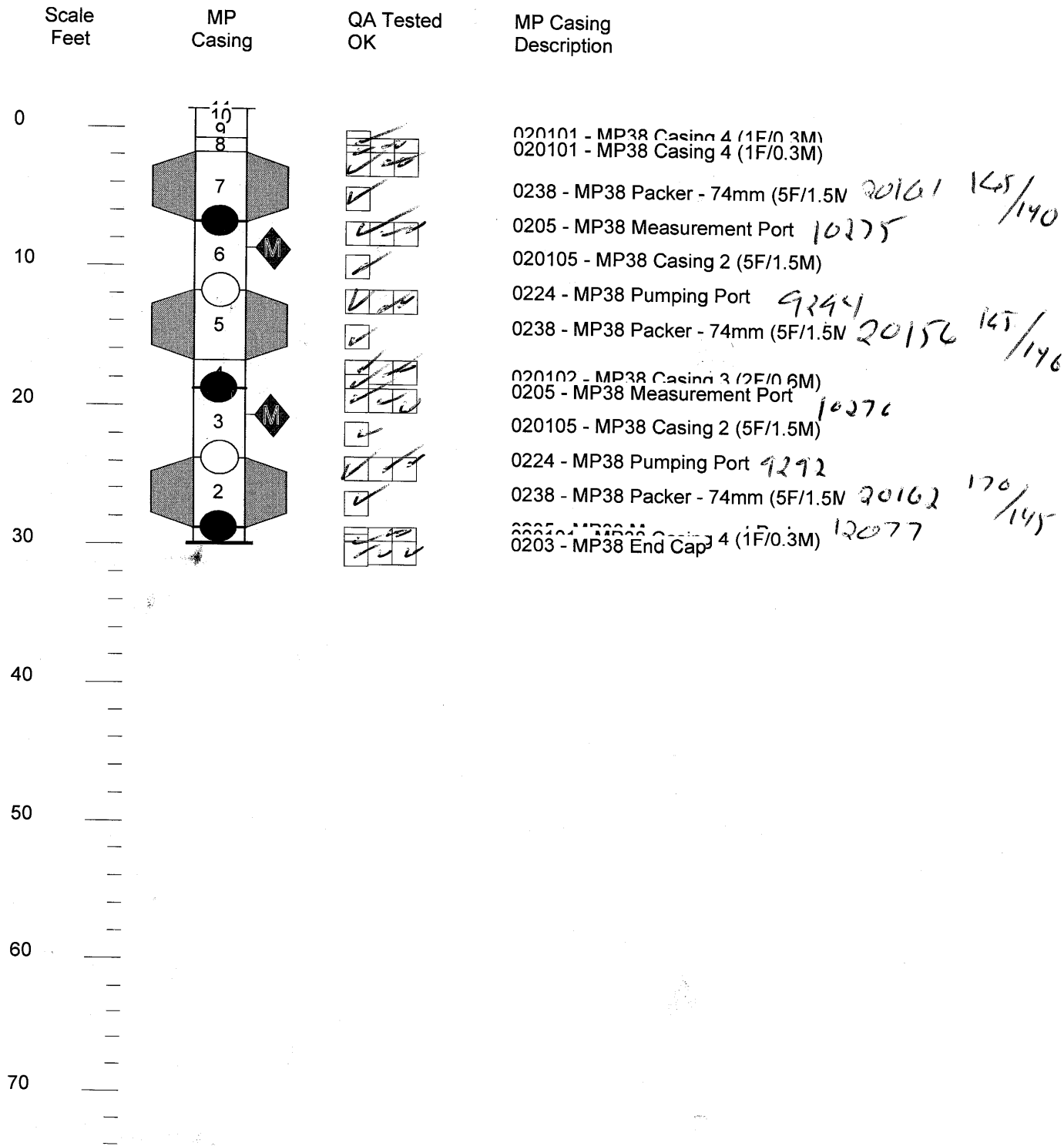
(method) Logging Date: _____
By: [Signature] Date: 1/30/24
By: [Signature] Date: 2/1/24
By: [Signature] Date: 2/1/24

Legend

(Qty) MP Components (Library - WD Library 04/29/15)	Geology	Backfill/Casing
 (2) 0203 - MP38 End Cap		 Mild Steel
 (4) 020101 - MP38 Casing 4 (1F/0.3M)		
 (3) 0238 - MP38 Packer - 74mm (5F/1.5M)		
 (2) 020105 - MP38 Casing 2 (5F/1.5M)		
 (1) 020102 - MP38 Casing 3 (2F/0.6M)		
 (5) 0202 - MP38 Regular Coupling		
 (3) 0205 - MP38 Measurement Port		
 (2) 0224 - MP38 Pumping Port		
 (2) 0216 - Magnetic Location Collar		

Well Designer Report Langan

Job No:
Well: LMW-8R-S

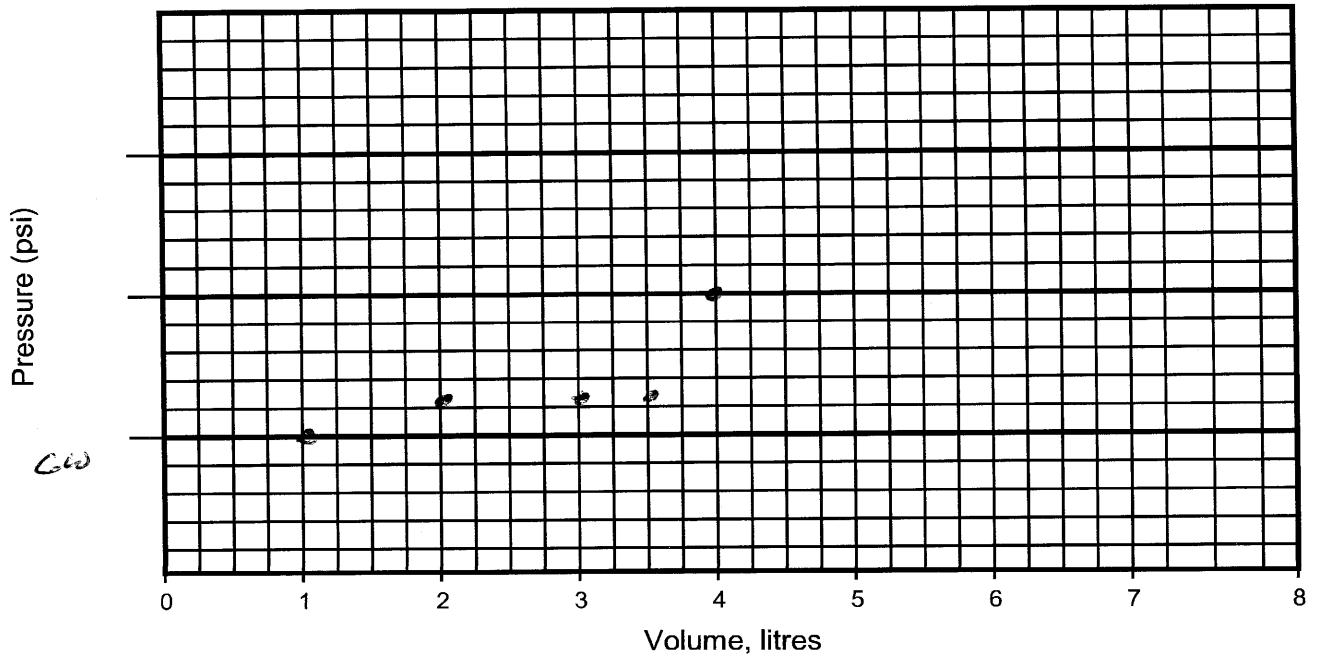




Westbay Packer Inflation Record

Project: Langen - 1487 Ford Ave Project No.: FS1491 Well No.: LMW-PR-5
 Location: 1487 - Ford Ave Completed by: CS Date Inflated: 2/1/27
 Packer No. 1 - 20102 Depth (ft/m): 2375 Inflation Tool No.: 716 3894
 Packer Valve Pressure, P_V: 145 psi Final Line Pressure, P_L: 740 psi Tool Pressure, P_T: 450 psi
 Borehole Water Level: - (ft/m) = - psi (P_W)
 Calculated Packer Element Pressure, P_E = P_L + P_W - P_V - P_T = 105 psi

Volume, litres	1.0	2.0	3.0	3.5	4.0	1	4.0			
Pressure, psi	600	625	625	625	625 700	1	6			
Volume, litres										
Pressure, psi										



Comments: Packer # 1

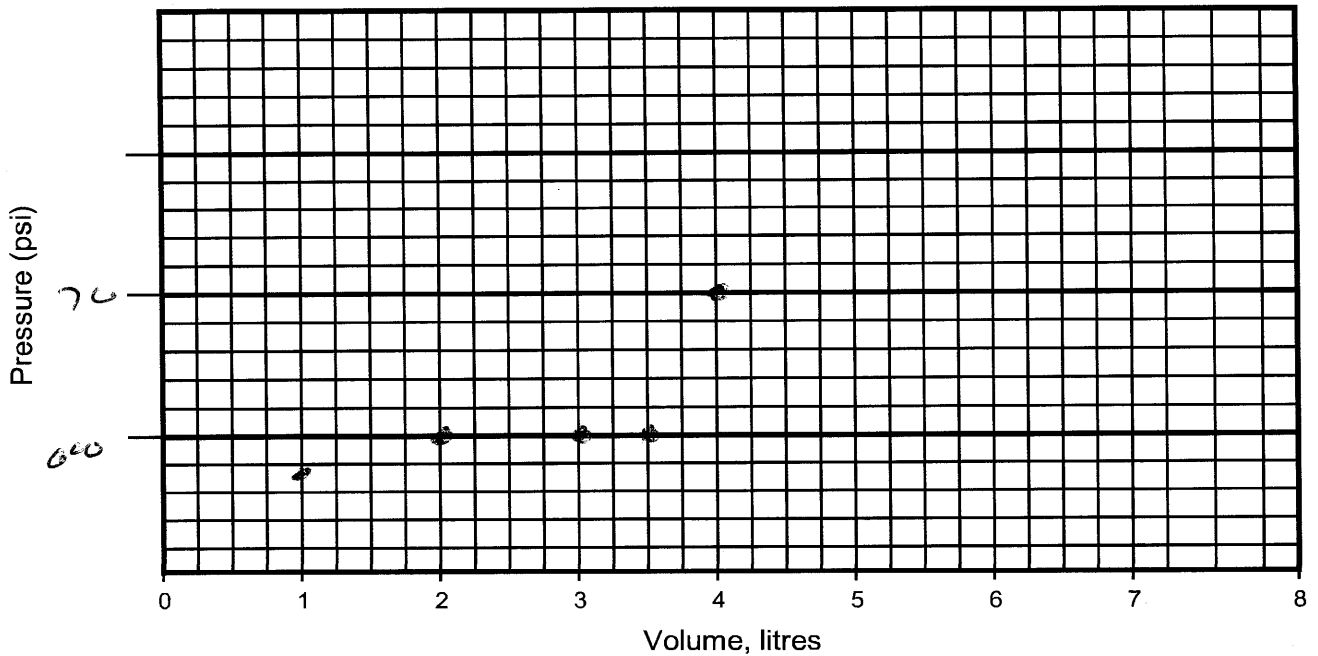
Time - 10:45



Westbay Packer Inflation Record

Project: Langan - 1487 Ford Ave Project No.: FS1499 Well No.: LMW-8R-5
 Location: 1487 First Ave. Completed by: CS Date Inflated: 21/124
 Packer No. 2 - 20156 Depth (ft/m): 11.75 Inflation Tool No.: Tlw 3794
 Packer Valve Pressure, P_V: 140 psi Final Line Pressure, P_L: 700 psi Tool Pressure, P_T: 450 psi
 Borehole Water Level: - (ft/m) = - psi (P_w)
 Calculated Packer Element Pressure, P_E = P_L + P_w - P_V - P_T = 110 psi

Volume, litres	1.0	2.0	2.0	3.5	4.0	/	4.0			
Pressure, psi	575	600	600	640	700	/	∅			
Volume, litres										
Pressure, psi										



Comments: Packer # 2

Time - 11:01



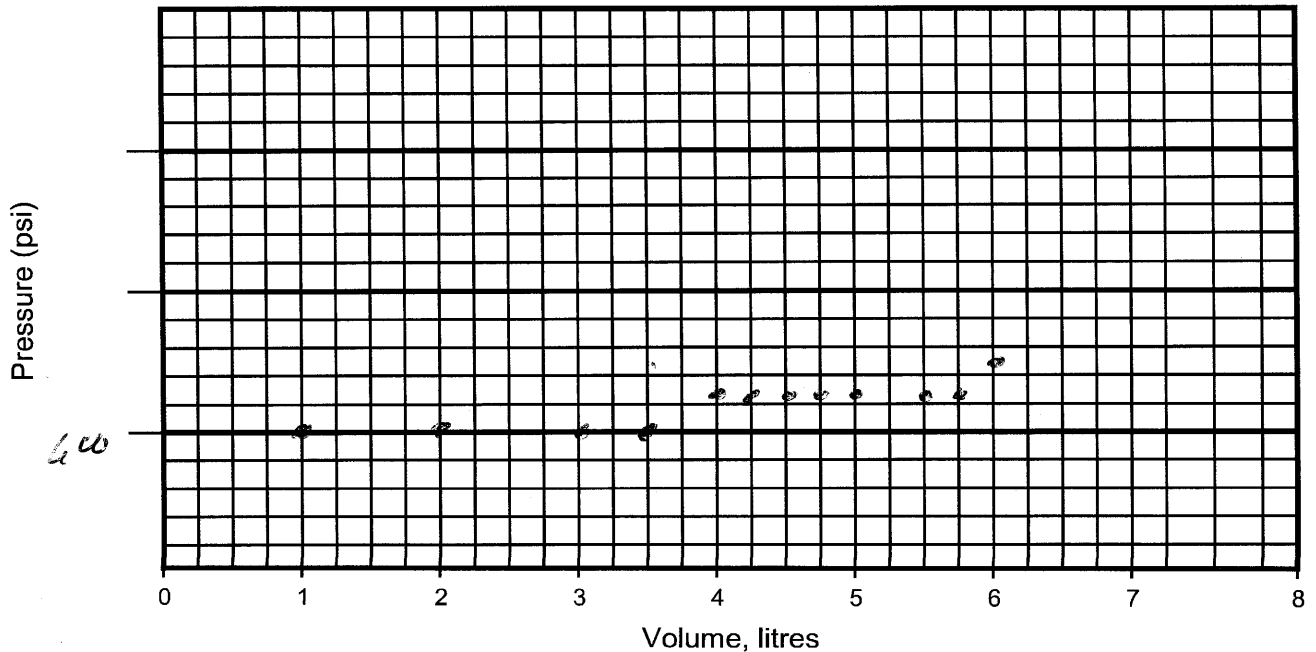
Westbay
Instruments

Sheet 3 of 7

Westbay Packer Inflation Record

Project: Lengen - 1487 1st Ave Project No.: ES1499 Well No.: LMW-8A-5
 Location: 1487 1st Ave Completed by: CS Date Inflated: 2/16/4
 Packer No. 5 - 20141 Depth (ft / m): 1.75 Inflation Tool No.: 7W 3994
 Packer Valve Pressure, P_V: 140 psi Final Line Pressure, P_L: 680 psi Tool Pressure, P_T: 480 psi
 Borehole Water Level: - (ft / m) = - psi (P_W)
 Calculated Packer Element Pressure, P_E = P_L + P_W - P_V - P_T = 110 psi

Volume, litres	1.0	2.0	3.0	3.5	4.0	4.25	4.5	4.75	/	4.75
Pressure, psi	400	600	600	600	625	625	625	625	/	φ
Volume, litres	5.0	5.5	5.75	6.0	/	6.0				
Pressure, psi	625	625	625	450	/	φ				



Comments: Packer # 3

Time - 11:37

APPENDIX F – LMW-8R-D

As-Built Packer and Port Summary (Table 17)	- 1 Page
Summary Casing Log	- 3 Pages
Pre-Inflation Piezometric Pressure/Levels Field Data and Calculation Sheet (February 5, 2024)	- 1 Pages
Figure 13, Pre-Inflation Piezometric Pressure Profile	- 1 Pages
Post-Inflation Piezometric Pressure/Levels Field Data and Calculation Sheet (February 5, 2024)	- 1 Pages
Figure 14, Post-Inflation Piezometric Pressure Profile	- 1 Pages
Casing Installation Log	- 3 Pages
MP Packer Inflation Records	- 3 Pages

Table 17. LMW-8R-D As-Built Packer and Port Summary

Port No.	Zone	Measurement Port Depth (ft)	Depth to Top of Packer (ft)	Top of Zone (ft)	Bottom of Zone (ft)	Comments
3	Zone 2	59.75	52.75	57.05	65.00	
2	QA1	39.75	34.75	39.05	54.05	
1	Zone 1	27.75	22.75	27.05	36.05	

All depth measurements in feet below ground surface (bgs).

All depth measurements use 'Nominal' tubing lengths.

Not corrected for borehole deviation or borehole temperature effects.

All depth measurement to upper edge of Westbay System coupling item.

Summary Casing Log

Company: Langan
Well: LMW-8R-D
Site: 1487 First Ave
Project: Langan - 1487 First Ave.

Job No:
Author: GS

Well Information

Reference Datum:
Elevation of Datum: 0.00 ft.
MP Casing Top: 0.00 ft.
MP Casing Length: 64.91 ft.

Borehole Depth: 64.75 ft.
Borehole Inclination:
Borehole Diameter: 4.00 in.

Well Description:

Other References:







File Information

File Name: LMW-8R-D.WWD
Report Date: Tue Jan 30 11:46:54 2024

File Date: Jan 30 11:43:10 2024

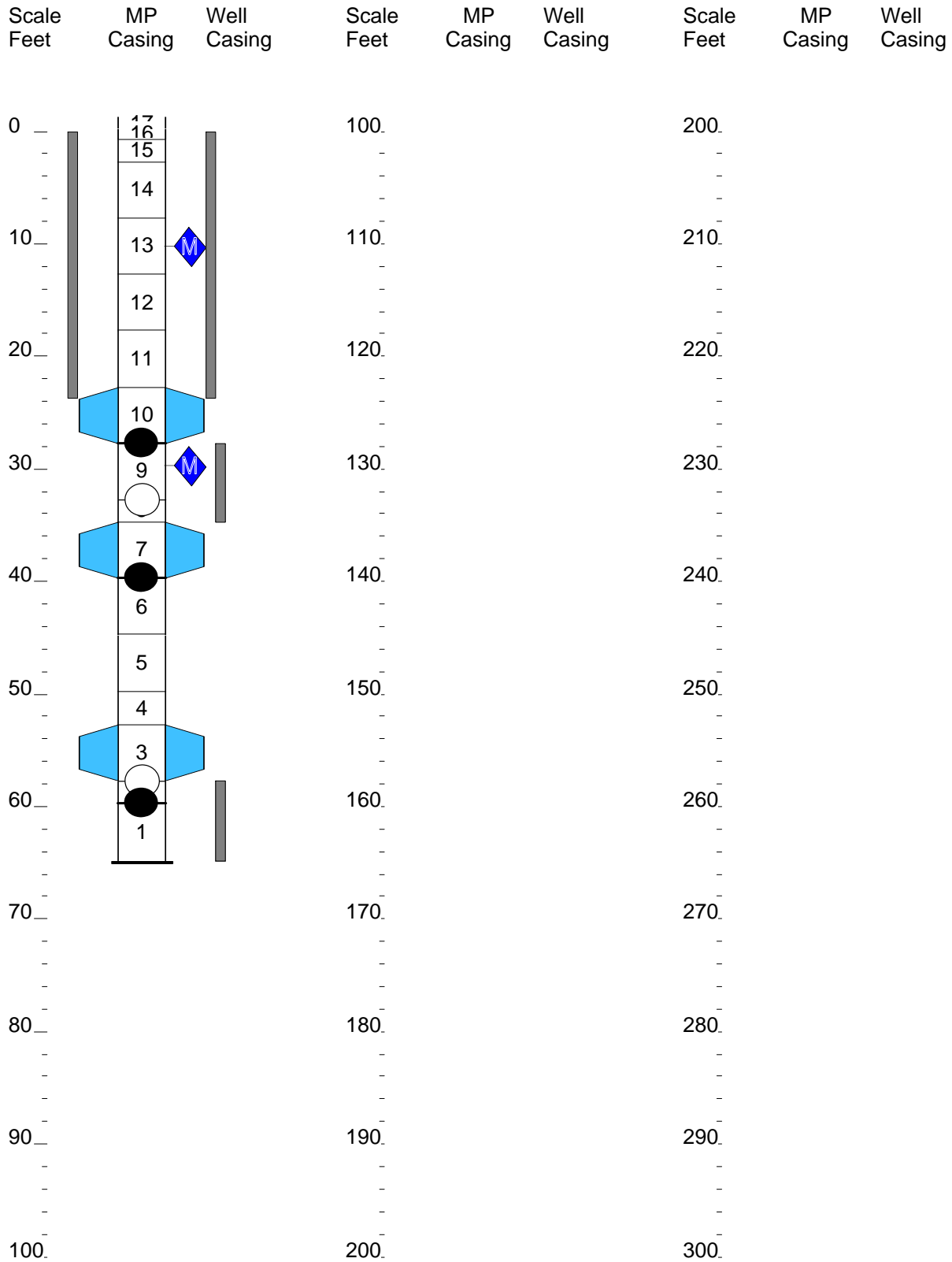
Sketch of Wellhead Completion

Legend

(Qty) MP Components (Library - WD Library 04/29/15)		Geology	Backfill/Casing
	(2) 020101 - MP38 Casing 4 (1F/0.3M)		 Mild Steel
	(3) 020102 - MP38 Casing 3 (2F/0.6M)		
	(8) 020105 - MP38 Casing 2 (5F/1.5M)		
 	(3) 0238 - MP38 Packer - 74mm (5F/1.5M)		
	(1) 020103 - MP38 Casing 6 (3F/0.9M)		
—	(1) 0203 - MP38 End Cap		
—	(12) 0202 - MP38 Regular Coupling		
	(3) 0205 - MP38 Measurement Port		
	(2) 0224 - MP38 Pumping Port		
	(2) 0216 - Magnetic Location Collar		

Well Designer Report Langan

Job No:
Well: LMW-8R-D





Westbay Piezometric Pressures/Levels Field Data and Calculation Sheet

Well No.: WLM-8R-1D
 Datum: GS
 Elev. G.S.: -
 Height of Westbay above G.S.: -
 Elev. top of Westbay Casing: -
 Reference Elevation: -
 Borehole angle: 90°

Probe Type: Sampler
 Serial No.: 3555
 Probe Range: 0-520
 Westbay Casing Type: NP38
 Sampler Valve Position: C1032

Date: 2/5/24
 Client: Hansen
 Job No.: FS1491
 Location: 1487 1st Ave
 Weather: -
 Operator: CS

Ambient Reading (P_{atm}) (pressure, temperature, time)
 Start: Pressure 14.70 Finish: 14.69
 Temp 6.09 16.00
 Time 14:58 15:38

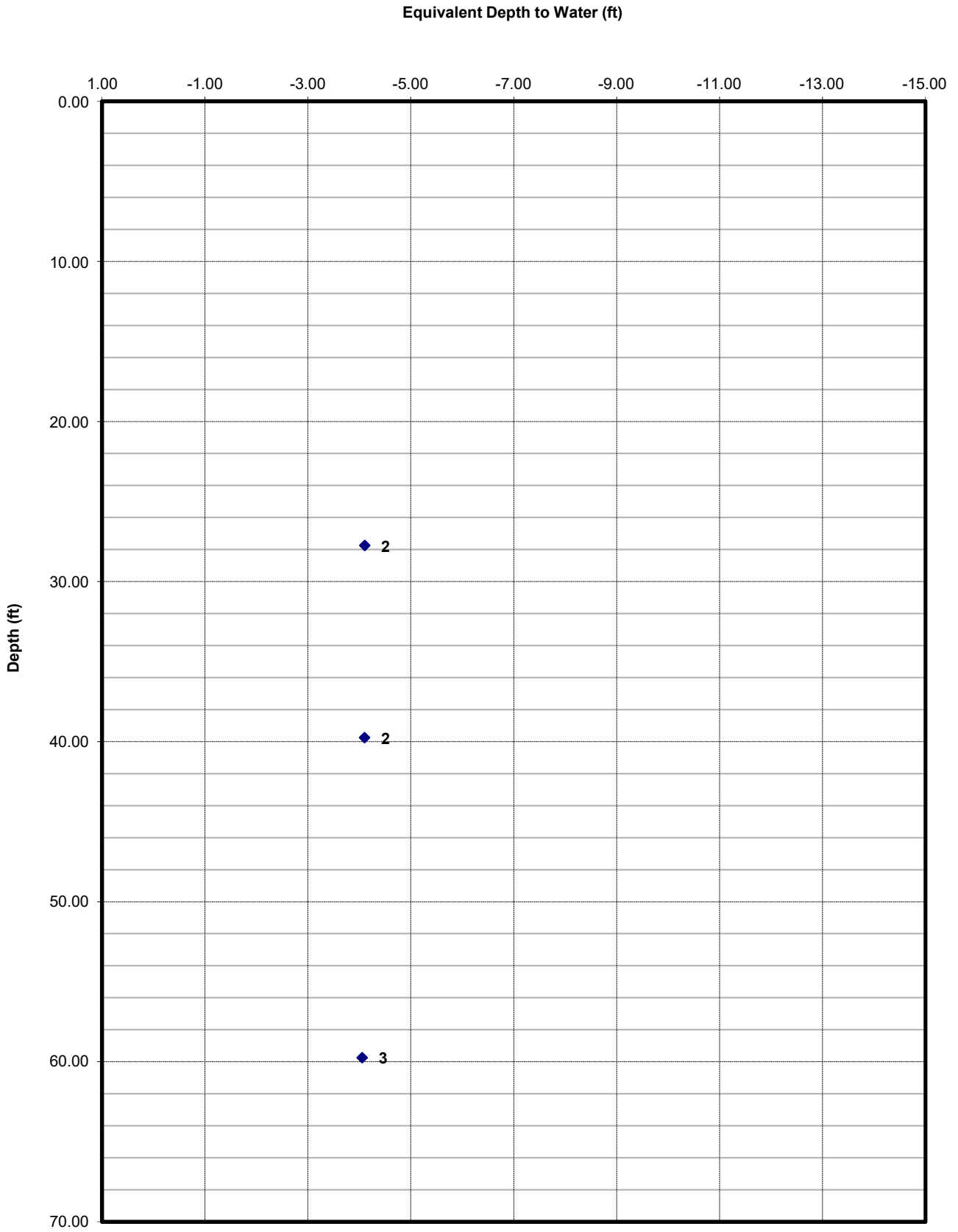
P_{atm} 14.70 psi

Note: "Port position" in angled boreholes refer to position along drillhole. True depth (Dp) needs to be calculated using borehole angle and deviation data to calculate zone piezometric level (Dz).

Port No.	Port Position From Log (ft)	Port Position From Cable (ft)	True Port Depth "Dp" (ft)	Fluid Pressure Readings					Pressure Head Outside Port (ft) H = (P2-Patm)/w	Piez. Level Outside Port (ft) Dz = Dp - H	Comments
				Inside Casing (P1)	Outside Casing (P2)	Time H:M:S	Probe Temp. (°C)	Inside Casing (P1)			
3	59.75	59.7	-	31.79	42.36	15:31	15.60	31.79	63.81	-4.06	Pre Inflow
2	39.75	39.5	-	23.12	33.71	15:32	15.68	23.12	43.85	-4.10	
1	27.75	27.6	-	17.90	28.51	15:34	15.80	17.91	31.86	-4.11	

Notes: w = 0.4335 psi/ft (1.422psi/m) of H₂O Dz = piezometric level in zone Patm = atmospheric pressure H = pressure head of water in zone Dp = true depth of measurement port

Figure 13
Well: LMW-8R-D
Pre-Inflation Pressure Profile





Westbay Piezometric Pressures/Levels

Field Data and Calculation Sheet

Well No.: LNW-812-D
 Datum: CS
 Elev. G.S.: -
 Height of Westbay above G.S.: -
 Elev. top of Westbay Casing: -
 Reference Elevation: -
 Borehole angle: 90°

Probe Type: Sampler
 Serial No.: 2535
 Probe Range: 0-520
 Westbay Casing Type: MP35
 Sampler Valve Position: C1252

Date: 2/5/20
 Client: Langen
 Job No.: TS1499
 Location: 1487 1st Ave
 Weather: -
 Operator: CS

Note: "Port position" in angled boreholes refer to position along drillhole. True depth (Dp) needs to be calculated using borehole angle and deviation data to calculate zone piezometric level (Dz).

Ambient Reading (P_{atm}) (pressure, temperature, time)

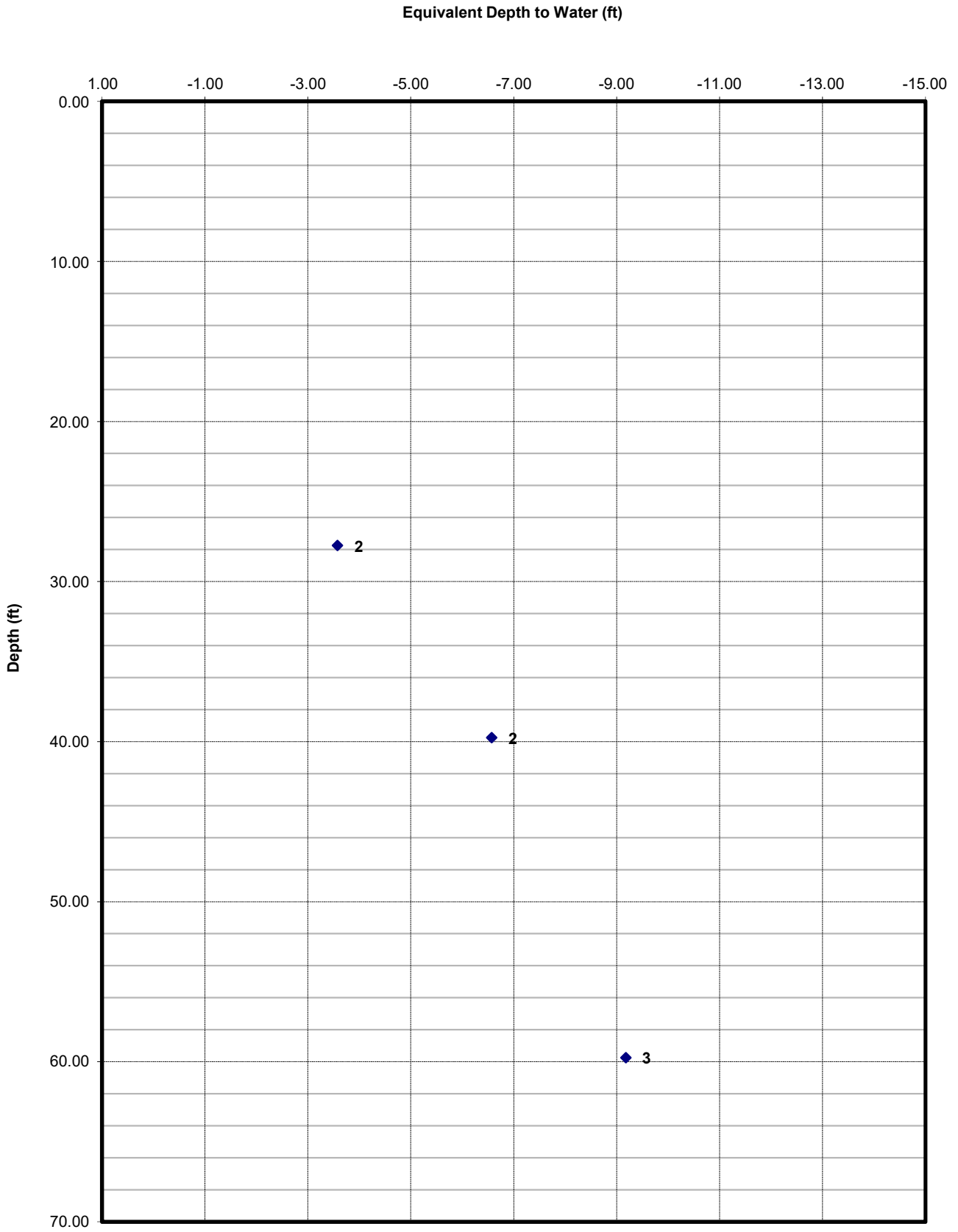
Start: Pressure 14.70 Finish: 14.72
 Temp 10.78 15.10
 Time 17:10 17:26

P_{atm} 14.70 psi

Port No.	Port Position From Log (ft)	Port Position From Cable (ft)	True Port Depth "Dp" (ft)	Fluid Pressure Readings					Pressure Head Outside Port (ft) H = (P2-Patm)/w	Piez. Level Outside Port (ft) Dz = Dp - H	Comments
				Inside Casing (P1)	Outside Casing (P2)	Time H:M:S	Probe Temp. (°C)	Inside Casing (P1)			
3	59.75	59.8	-	41.02	41.58	17:14	11.77	41.01	08.93	9.18	Post Inlet
2	34.75	34.8	-	32.58	32.31	17:16	13.09	32.30	40.61	-0.87	34.78 46.32 - 6.57
1	27.75	27.8	-	27.12	27.10	17:17	13.86	27.13	28.60	-0.85	28.21 31.33 - 3.57

Notes: w = 0.4335 psi/ft (1.422psi/m) of H₂O Dz = piezometric level in zone Patm = atmospheric pressure H = pressure head of water in zone Dp = true depth of measurement port

Figure 14
Well: LMW-8R-D
Post-Inflation Pressure Profile



Casing Installation Log

Company: Langan
Well: LMW-8R-D
Site: 1487 First Ave
Project: Langan - 1487 First Ave.

Job No:
Author: GS

Well Information

Reference Datum:
Elevation of Datum: 0.00 ft.
MP Casing Top: 0.00 ft.
MP Casing Length: 64.91 ft.

Borehole Depth: 64.75 ft.
Borehole Inclination:
Borehole Diameter: 4.00 in.

Well Description:

Other References:

File Information

File Name: LMW-8R-D.WWD
Report Date: Tue Jan 30 17:34:10 2024

File Date: Jan 30 14:35:02 2024












Comments

Log Information

Borehole condition confirmed.
MP well design & preparation.
MP well design checked.
MP well and borehole approved to install.

(method)	<u>Logging</u>	Date:	_____
By:	<u>GS</u>	Date:	<u>1/30/24</u>
By:	<u>TH</u>	Date:	<u>2/15/24</u>
By:	<u>JTA</u>	Date:	<u>2/15/24</u>

Legend

(Qty) MP Components (Library - WD Library 04/29/15)	Geology	Backfill/Casing
 (2) 020101 - MP38 Casing 4 (1F/0.3M)		 Mild Steel
 (3) 020102 - MP38 Casing 3 (2F/0.6M)		
 (8) 020105 - MP38 Casing 2 (5F/1.5M)		
 (3) 0238 - MP38 Packer - 74mm (5F/1.5M)		
 (1) 020103 - MP38 Casing 6 (3F/0.9M)		
 (1) 0203 - MP38 End Cap		
 (12) 0202 - MP38 Regular Coupling		
 (3) 0205 - MP38 Measurement Port		
 (2) 0224 - MP38 Pumping Port		
 (2) 0216 - Magnetic Location Collar		

Well Designer Report Langan

Job No:
Well: LMW-8R-D

Scale Feet	MP Casing	QA Tested OK	MP Casing Description
0	17	<input checked="" type="checkbox"/>	020101 - MP38 Casing 4 (1F/0.3M)
	16	<input checked="" type="checkbox"/>	020102 - MP38 Casing 3 (2F/0.6M)
	15	<input checked="" type="checkbox"/>	
	14	<input checked="" type="checkbox"/>	020105 - MP38 Casing 2 (5F/1.5M)
10	13	<input checked="" type="checkbox"/>	020105 - MP38 Casing 2 (5F/1.5M)
	12	<input checked="" type="checkbox"/>	020105 - MP38 Casing 2 (5F/1.5M)
	11	<input checked="" type="checkbox"/>	020105 - MP38 Casing 2 (5F/1.5M)
	10	<input checked="" type="checkbox"/>	0238 - MP38 Packer - 74mm (5F/1.5M)
	9	<input checked="" type="checkbox"/>	0205 - MP38 Measurement Port 10284
	9	<input checked="" type="checkbox"/>	020105 - MP38 Casing 2 (5F/1.5M)
	8	<input checked="" type="checkbox"/>	0224 - MP38 Pumping Port 9301
	8	<input checked="" type="checkbox"/>	020102 - MP38 Casing 3 (2F/0.6M)
	7	<input checked="" type="checkbox"/>	0238 - MP38 Packer - 74mm (5F/1.5M) 20015 105/140
40	6	<input checked="" type="checkbox"/>	0205 - MP38 Measurement Port 10283
	6	<input checked="" type="checkbox"/>	020105 - MP38 Casing 2 (5F/1.5M)
	5	<input checked="" type="checkbox"/>	020105 - MP38 Casing 2 (5F/1.5M)
50	4	<input checked="" type="checkbox"/>	020103 - MP38 Casing 6 (3F/0.9M)
	3	<input checked="" type="checkbox"/>	0238 - MP38 Packer - 74mm (5F/1.5M) 20146 170/145
	3	<input checked="" type="checkbox"/>	0224 - MP38 Pumping Port 9296
	3	<input checked="" type="checkbox"/>	020102 - MP38 Casing 3 (2F/0.6M)
60	2	<input checked="" type="checkbox"/>	0205 - MP38 Measurement Port 10280
	1	<input checked="" type="checkbox"/>	020105 - MP38 Casing 2 (5F/1.5M)
	1	<input checked="" type="checkbox"/>	0203 - MP38 End Cap

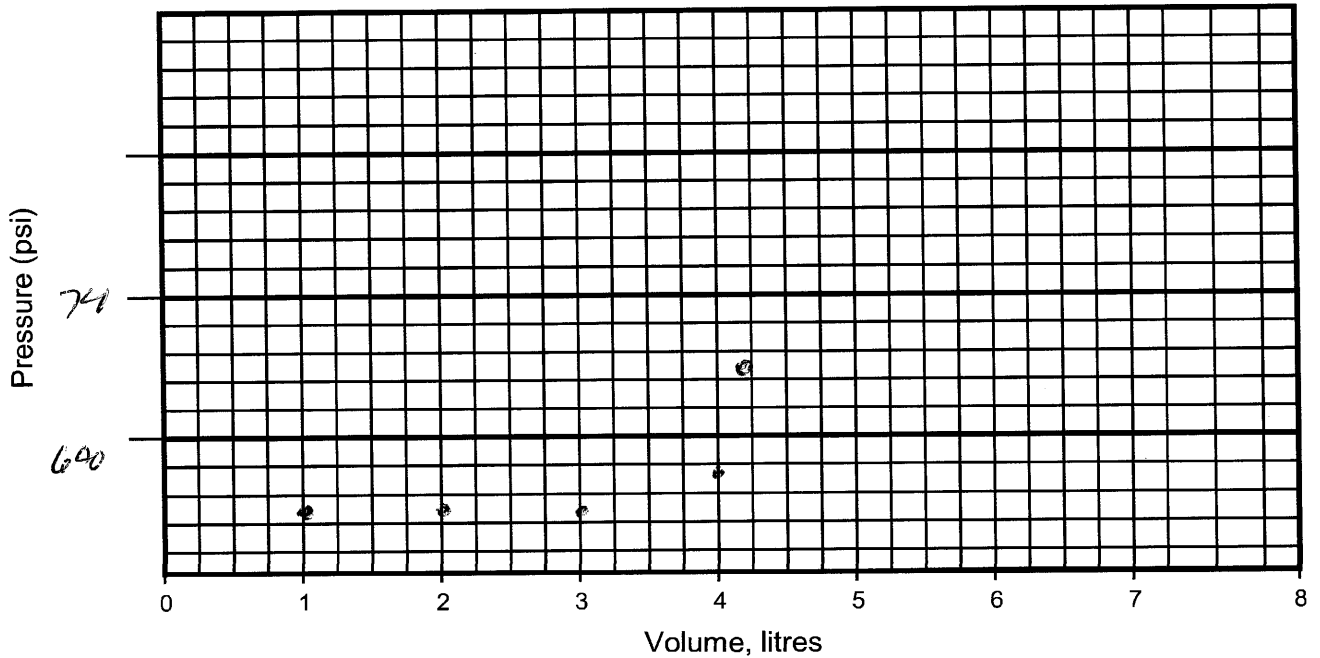


Westbay
Instruments

Westbay Packer Inflation Record

Project: Loney - 1487 1st Ave Project No.: FS149A Well No.: LHW-8R-15
 Location: 1487 1st Ave Completed by: CS Date Inflated: 2/5/04
 Packer No. 1 - 20166 Depth (ft/m): 52.75 Inflation Tool No.: T/W3994
 Packer Valve Pressure, P_V: 145 psi Final Line Pressure, P_L: 650 psi Tool Pressure, P_T: 400 psi
 Borehole Water Level: - (ft/m) = - psi (P_W)
 Calculated Packer Element Pressure, P_E = P_L + P_W - P_V - P_T = 105 psi

Volume, litres	10	20	30	35	40	4.15	1	4.95		
Pressure, psi	530	530	530	530	575	630	1	4		
Volume, litres										
Pressure, psi										



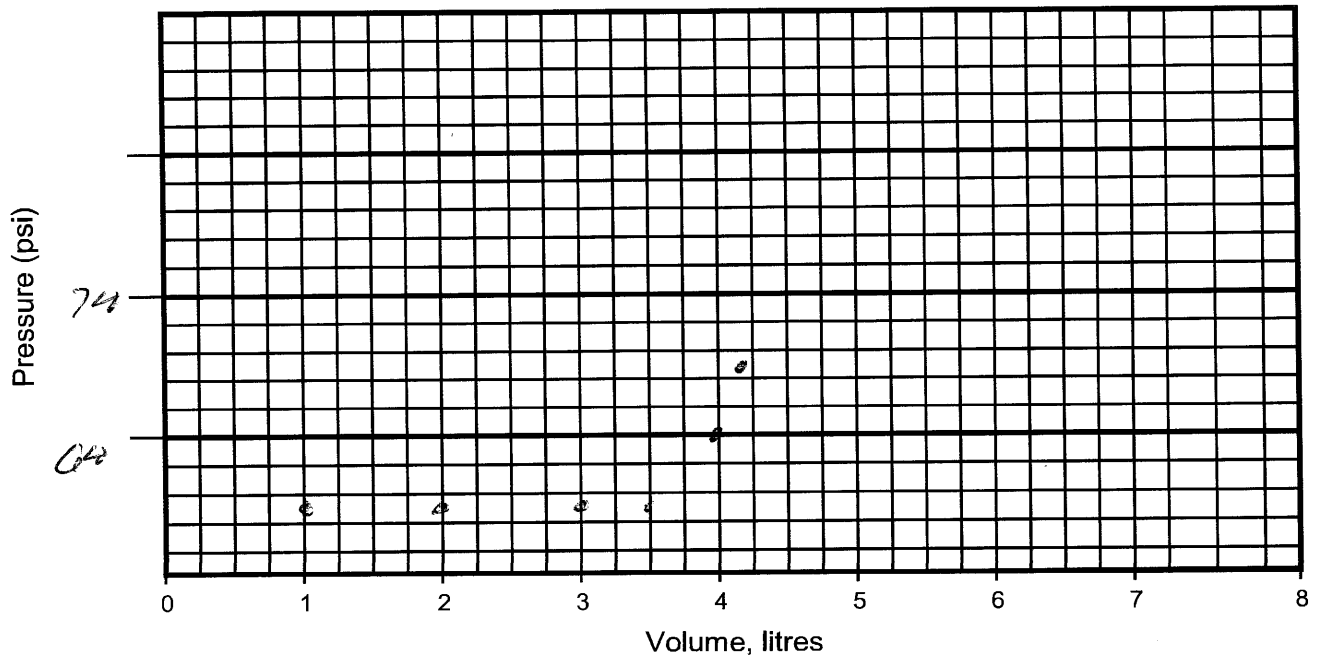
Comments: Packer # 1 Time - 15:46



Westbay Packer Inflation Record

Project: Langer - 1487 1st Ave Project No.: FS9499 Well No.: LAW-809-D
 Location: 1487 1st Ave Completed by: CO Date Inflated: 2/5/21
 Packer No. 2-90015 Depth (ft/m): 34.75 Inflation Tool No.: T/W 3594
 Packer Valve Pressure, P_V: 140 psi Final Line Pressure, P_L: 650 psi Tool Pressure, P_T: 40 psi
 Borehole Water Level: - (ft/m) = - psi (P_w)
 Calculated Packer Element Pressure, P_E = P_L + P_w - P_V - P_T = 110 psi

Volume, litres	1.0	2.0	3.0	3.5	4.0	4.20	/	4.20		
Pressure, psi	350	350	550	550	600	650	/	φ		
Volume, litres										
Pressure, psi										



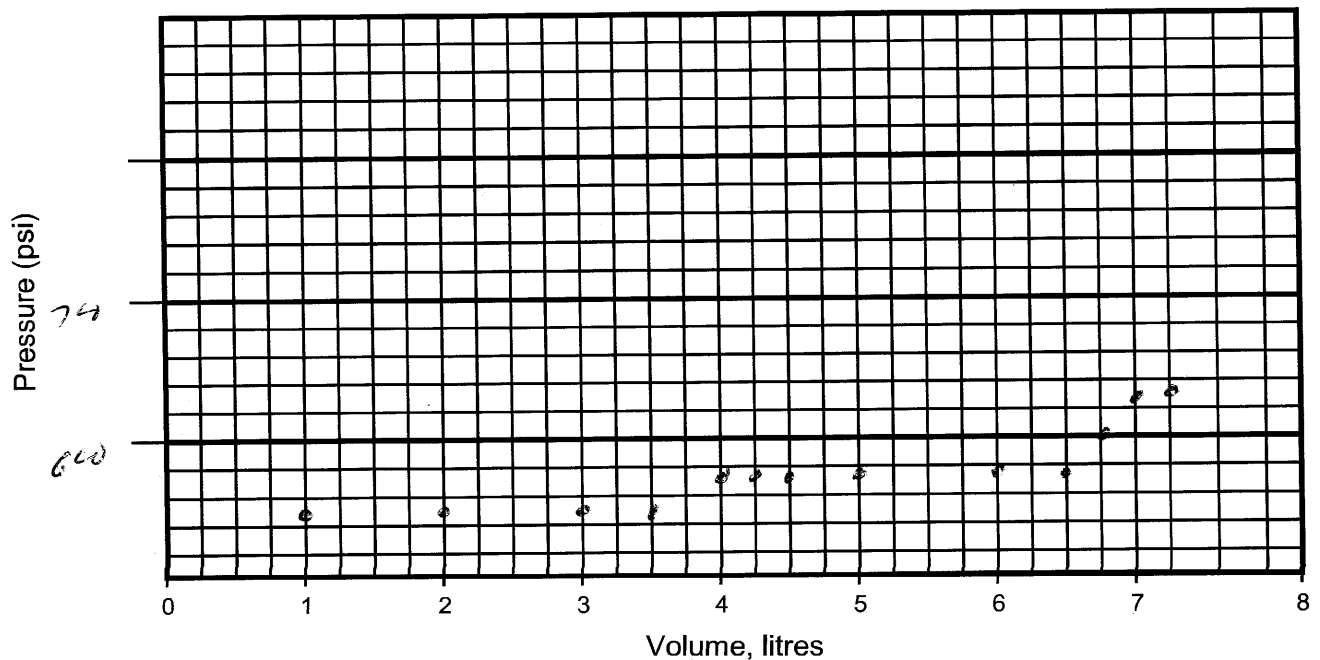
Comments: Packer # 2 Time - 16:15



Westbay Packer Inflation Record

Project: Leysin - 1487 1st Ave Project No.: ES149A Well No.: LMW-8A-D
 Location: 1487 1st Ave Completed by: CS Date Inflated: 2/5/24
 Packer No. 3 Depth (ft/m): 22.75 Inflation Tool No.: T143554
 Packer Valve Pressure, P_V: 140 psi Final Line Pressure, P_L: 625 psi Tool Pressure, P_T: 400 psi
 Borehole Water Level: - (ft/m) = - psi (P_W)
 Calculated Packer Element Pressure, P_E = P_L + P_W - P_V - P_T = 85 psi

Volume, litres	1.0	2.0	3.0	3.5	4.0	4.25	4.5	5.0	6.0	6.5
Pressure, psi	550	550	550	558	575	575	575	575	575	575
Volume, litres	6.25	7.0	7.25	/	7.5					
Pressure, psi	600	628	625	/	6					



Comments: Packer # 3

Time - 16:35

APPENDIX G – LMW-9R-S

As-Built Packer and Port Summary (Table 18)	- 1 Page
Summary Casing Log	- 3 Pages
Pre-Inflation Piezometric Pressure/Levels Field Data and Calculation Sheet (February 6, 2024)	- 1 Pages
Figure 15, Pre-Inflation Piezometric Pressure Profile	- 1 Pages
Post-Inflation Piezometric Pressure/Levels Field Data and Calculation Sheet (February 6, 2024)	- 1 Pages
Figure 16, Post-Inflation Piezometric Pressure Profile	- 1 Pages
Casing Installation Log	- 3 Pages
MP Packer Inflation Records	- 3 Pages

Table 18. LMW-9R-S As-Built Packer and Port Summary

Port No.	Zone	Measurement Port Depth (ft)	Depth to Top of Packer (ft)	Top of Zone (ft)	Bottom of Zone (ft)	Comments
3	QA2	24.75	19.75	24.05	28.00	
2	Zone 1	13.75	8.75	13.05	21.05	
1	QA1	8.75	3.75	8.05	10.05	

All depth measurements in feet below ground surface (bgs).

All depth measurements use 'Nominal' tubing lengths.

Not corrected for borehole deviation or borehole temperature effects.

All depth measurement to upper edge of Westbay System coupling item.

Summary Casing Log

Company: Langan
Well: LMW-9R-S
Site: 1487 First Ave
Project: Langan - 1487 First Ave.

Job No:
Author: GS

Well Information

Reference Datum:
Elevation of Datum: 0.00 ft.
MP Casing Top: 0.00 ft.
MP Casing Length: 27.91 ft.

Borehole Depth: 30.75 ft.
Borehole Inclination:
Borehole Diameter: 4.00 in.

Well Description:

Other References:











File Information

File Name: LMW-9R-S.WWD
Report Date: Tue Jan 30 10:54:19 2024

File Date: Jan 30 10:52:47 2024

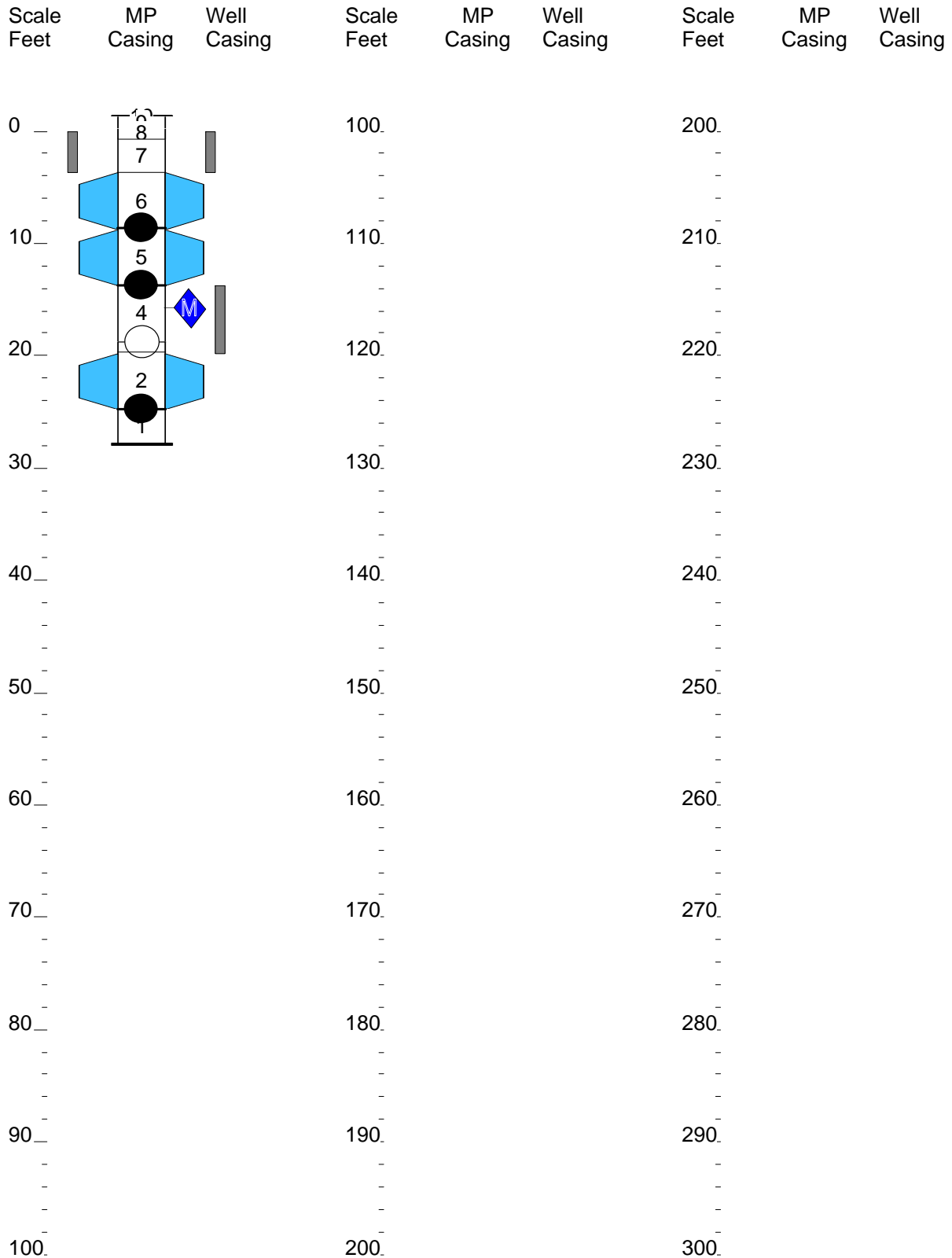
Sketch of Wellhead Completion

Legend

(Qty) MP Components (Library - WD Library 04/29/15)		Geology	Backfill/Casing
	(2) 0203 - MP38 End Cap		 Mild Steel
	(3) 020101 - MP38 Casing 4 (1F/0.3M)		
	(2) 020103 - MP38 Casing 6 (3F/0.9M)		
	(3) 0238 - MP38 Packer - 74mm (5F/1.5M)		
	(1) 020105 - MP38 Casing 2 (5F/1.5M)		
	(5) 0202 - MP38 Regular Coupling		
	(3) 0205 - MP38 Measurement Port		
	(1) 0224 - MP38 Pumping Port		
	(1) 0216 - Magnetic Location Collar		

Well Designer Report Langan

Job No:
Well: LMW-9R-S





Westbay Piezometric Pressures/Levels

Field Data and Calculation Sheet

Well No.: LMW-9R-5
 Datum: CS
 Elev.G.S.: -
 Height of Westbay above G.S.: -
 Elev. top of Westbay Casing: -
 Reference Elevation: -
 Borehole angle: 90°

Probe Type: Sampler
 Serial No.: 3535
 Probe Range: 0-520
 Westbay Casing Type: AD38
 Sampler Valve Position: Closed

Date: 2/6/24
 Client: Longman
 Job No.: ES1479
 Location: 1487 1st Ave
 Weather: -
 Operator: CS

Ambient Reading (P_{atm}) (pressure, temperature, time)

Start: Pressure 14.82 Finish: 14.82
 Temp 9.51 12.68
 Time 16:37 16:35

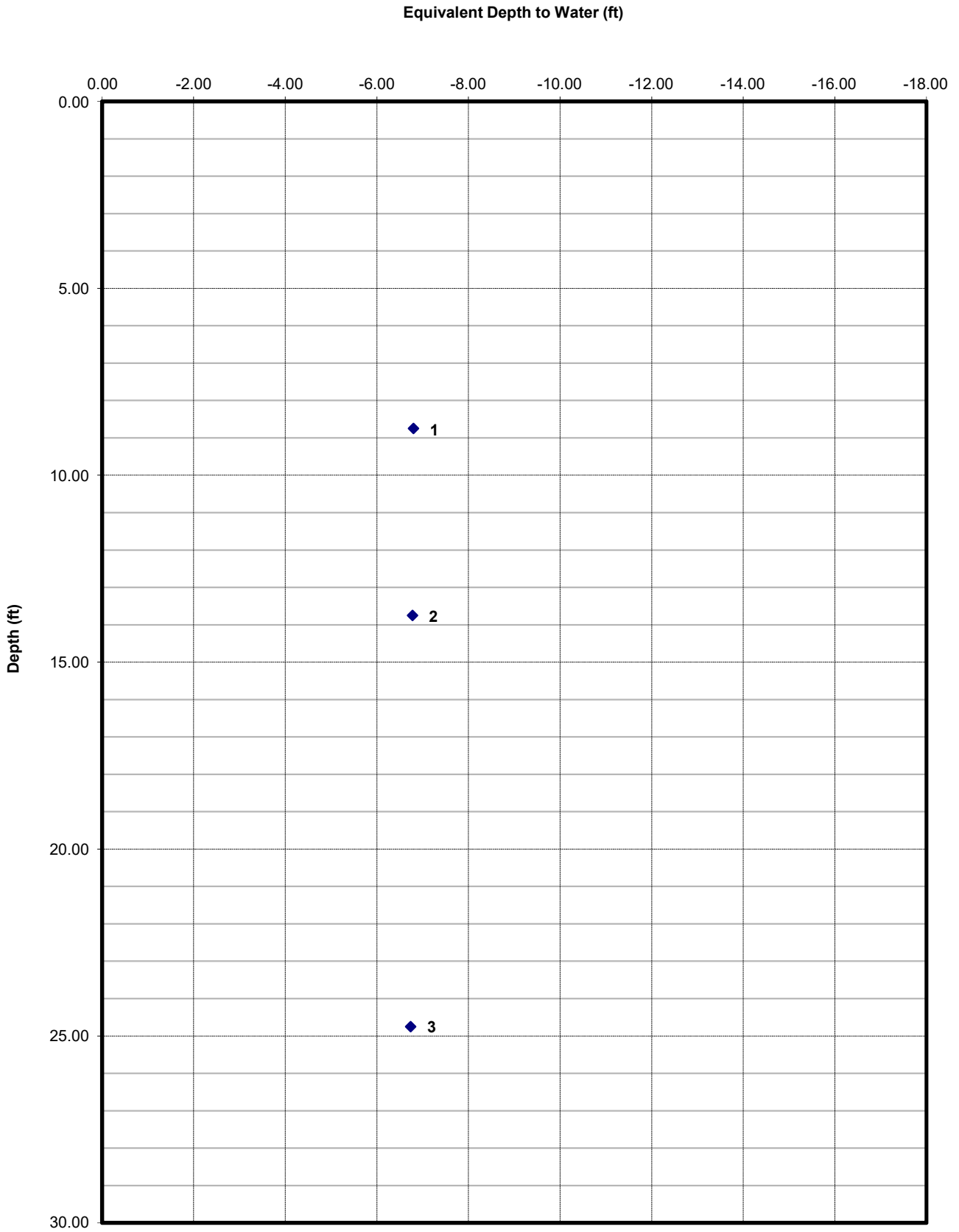
Note: "Port position" in angled boreholes refer to position along drillhole. True depth (Dp) needs to be calculated using borehole angle and deviation data to calculate zone piezometric level (Dz).

P_{atm} 14.82 psi

Port No.	Port Position From Log (ft)	Port Position From Cable (ft)	True Port Depth "Dp" (ft)	Fluid Pressure Readings					Pressure Head Outside Port (ft) H = (P2 - Patm) / w	Piez. Level Outside Port (ft) Dz = Dp - H	Comments
				Inside Casing (P1)	Outside Casing (P2)	Time H:M:S	Probe Temp. (°C)	Inside Casing (P1)			
3	21.75	24.8	-	29.34	28.71	16:30	10.84	29.34	32.04	-7.29	Post m/late
2	13.75	13.8	-	24.55	24.56	16:32	11.83	24.55	22.47	-8.72	
1	8.75	8.9	-	22.37	22.60	16:34	12.61	22.30	17.95	-9.20	

Notes: w = 0.4335 psi/ft (1.422psi/m) of H₂O Dz = piezometric level in zone Patm = atmospheric pressure H = pressure head of water in zone Dp = true depth of measurement port

Figure 15
Well: LMW-9R-S
Pre-Inflation Pressure Profile





Westbay Piezometric Pressures/Levels

Field Data and Calculation Sheet

Well No.: LMW-9R-S
 Datum: GS
 Elev. G.S.: -
 Height of Westbay above G.S.: -
 Elev. top of Westbay Casing: -
 Reference Elevation: -
 Borehole angle: 90°

Probe Type: Sampler
 Serial No.: 3155
 Probe Range: 0-500
 Westbay Casing Type: MD3P
 Sampler Valve Position: closed

Date: 2/6/24
 Client: Lanxon
 Job No.: FS1475
 Location: 1487 1st Ave
 Weather: -
 Operator: CS

Ambient Reading (P_{atm}) (pressure, temperature, time)

Start: Pressure 14.81 Finish: 14.81
 Temp 7.15 14.19
 Time 14:24 15:02

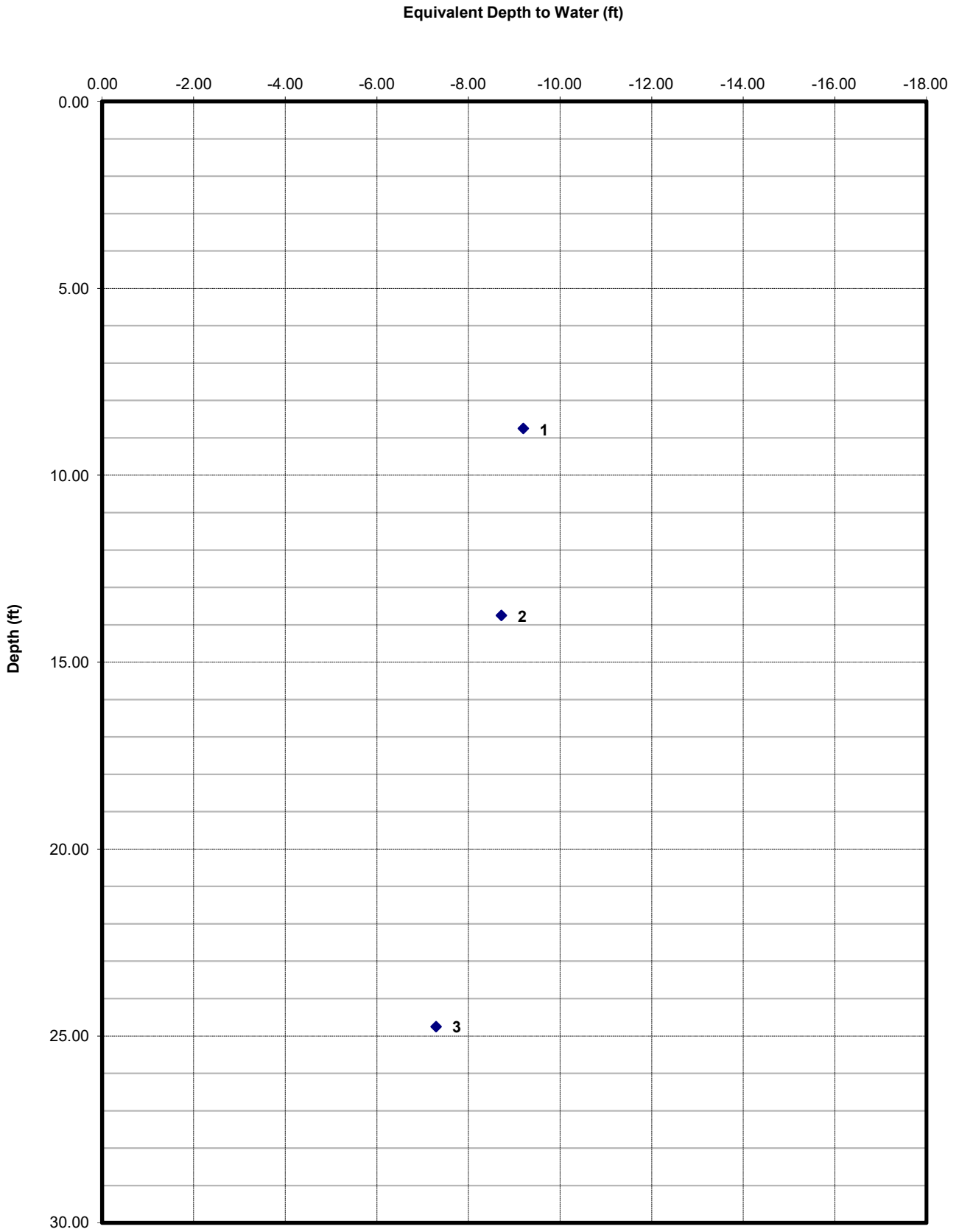
Note: "Port position" in angled boreholes refer to position along drillhole. True depth (Dp) needs to be calculated using borehole angle and deviation data to calculate zone piezometric level (Dz).

P_{atm} 14.81 psi

Port No.	Port Position From Log (ft)	Port Position From Cable (ft)	True Port Depth "Dp" (ft)	Fluid Pressure Readings					Pressure Head Outside Port (ft) H = (P2-Patm)/w	Piez. Level Outside Port (ft) Dz = Dp - H	Comments
				Inside Casing (P1)	Outside Casing (P2)	Time H:M:S	Probe Temp. (°C)	Inside Casing (P1)			
3	24.75	24.9	-	22.77	28.46	14:58	14.47	22.78	31.49	-6.74	Pre Inflow
2	13.75	13.9	-	17.98	23.71	14:59	14.46	17.99	20.53	-4.78	
1	8.75	9.0	-	15.81	21.55	15:01	14.43	15.81	15.55	-6.80	

Notes: w = 0.4335 psi/ft (1.42psi/m) of H₂O Dz = piezometric level in zone Patm = atmospheric pressure H = pressure head of water in zone Dp = true depth of measurement port

Figure 16
Well: LMW-9R-S
Post-Inflation Pressure Profile



Casing Installation Log

Company: Langan
Well: LMW-9R-S
Site: 1487 First Ave
Project: Langan - 1487 First Ave.

Job No:
Author: GS

Well Information

Reference Datum:
Elevation of Datum: 0.00 ft.
MP Casing Top: 0.00 ft.
MP Casing Length: 27.91 ft.

Borehole Depth: 30.75 ft.
Borehole Inclination:
Borehole Diameter: 4.00 in.

Well Description:

Other References:

File Information

File Name: LMW-9R-S.VVWD
Report Date: Tue Jan 30 17:38:58 2024

File Date: Jan 30 10:55:24 2024











Comments

Log Information

Borehole condition confirmed.
MP well design & preparation.
MP well design checked.
MP well and borehole approved to install.

(method)	<u>Logging</u>	Date:	<u>1/26/24</u>
By:	<u>[Signature]</u>	Date:	<u>2/6/24</u>
By:	<u>[Signature]</u>	Date:	<u>2/6/24</u>
By:	<u>[Signature]</u>	Date:	<u>2/6/24</u>

Legend

(Qty) MP Components (Library - WD Library 04/29/15)		Geology	Backfill/Casing
	(2) 0203 - MP38 End Cap		 Mild Steel
	(3) 020101 - MP38 Casing 4 (1F/0.3M)		
	(2) 020103 - MP38 Casing 6 (3F/0.9M)		
	(3) 0238 - MP38 Packer - 74mm (5F/1.5M)		
	(1) 020105 - MP38 Casing 2 (5F/1.5M)		
	(5) 0202 - MP38 Regular Coupling		
	(3) 0205 - MP38 Measurement Port		
	(1) 0224 - MP38 Pumping Port		
	(1) 0216 - Magnetic Location Collar		

Well Designer Report Langan

Job No:
Well: LMW-9R-S

Scale Feet	MP Casing	QA Tested OK	MP Casing Description
0	8	<input checked="" type="checkbox"/>	020101 - MP38 Casing 4 (1F/0.3M)
	7	<input checked="" type="checkbox"/>	020103 - MP38 Casing 6 (3F/0.9M)
	6	<input checked="" type="checkbox"/>	0238 - MP38 Packer - 74mm (5F/1.5M) 20150 170/145
10	5	<input checked="" type="checkbox"/>	0205 - MP38 Measurement Port 10296
	4	<input checked="" type="checkbox"/>	0238 - MP38 Packer - 74mm (5F/1.5M) 20149 145/140
	3	<input checked="" type="checkbox"/>	0205 - MP38 Measurement Port 10298
20	2	<input checked="" type="checkbox"/>	020105 - MP38 Casing 2 (5F/1.5M)
	1	<input checked="" type="checkbox"/>	020101 - MP38 Casing 4 (1F/0.3M) 5114
		<input checked="" type="checkbox"/>	0238 - MP38 Packer - 74mm (5F/1.5M) 20153-105/140
		<input checked="" type="checkbox"/>	0205 - MP38 Measurement Port 10247-10292
		<input checked="" type="checkbox"/>	020103 - MP38 Casing 6 (3F/0.9M)
		<input checked="" type="checkbox"/>	0203 - MP38 End Cap

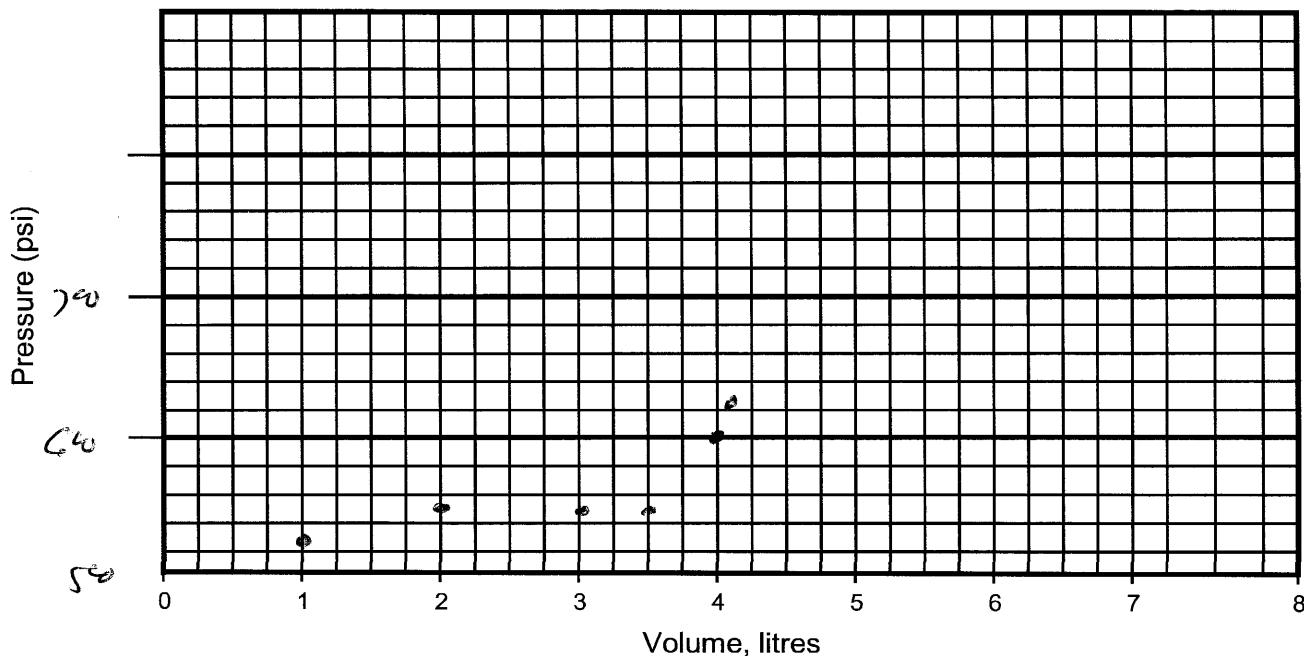


Westbay Packer Inflation Record

Project: Lingen - 1487 1st Ac Project No.: ES1459 Well No.: LMW-GR-5
 Location: 1487 1st Ac Completed by: CS Date Inflated: 2/6/24
 Packer No. 1 - 20155 Depth (ft / m): 1975 Inflation Tool No.: 71W3554
 Packer Valve Pressure, P_V: 140 psi Final Line Pressure, P_L: 625 psi Tool Pressure, P_T: 375 psi
 Borehole Water Level: (ft / m) = psi (P_W)

Calculated Packer Element Pressure, P_E = P_L + P_W - P_V - P_T = 110 psi

Volume, litres	10	20	30	35	40	4.05	/	4.0		
Pressure, psi	525	550	570	570	640	625	/	0		
Volume, litres										
Pressure, psi										



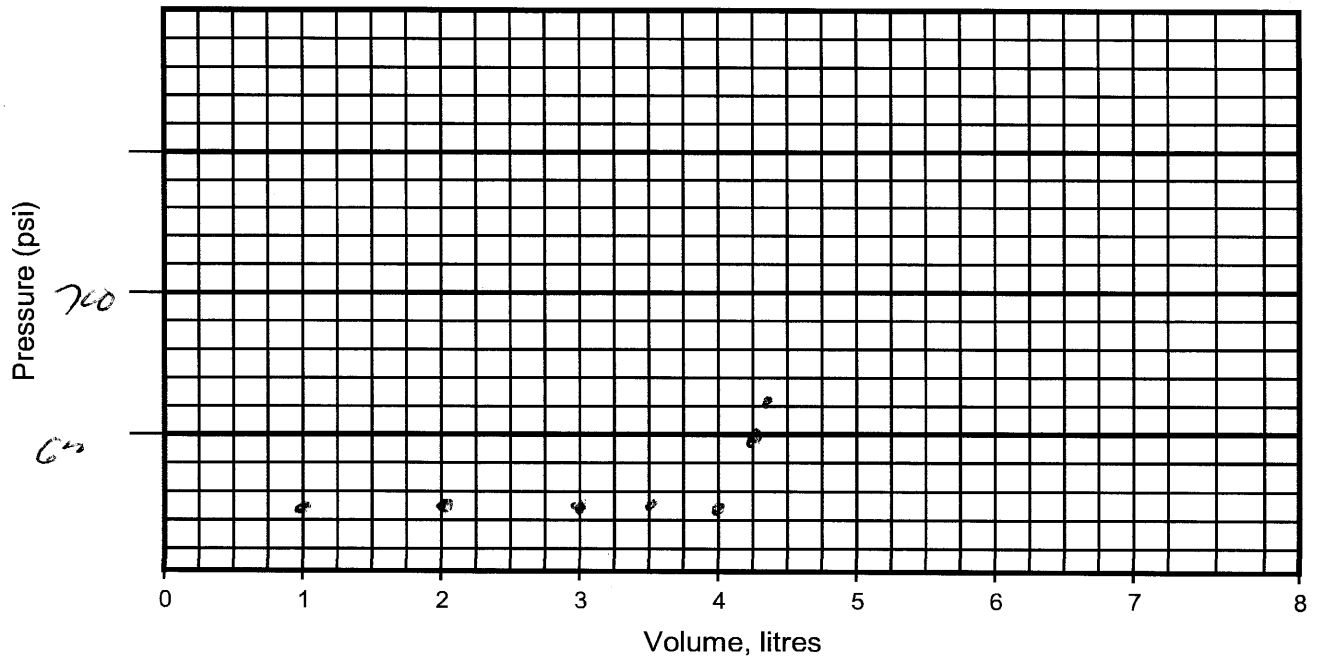
Comments: Packer # 1 Time - 15:18



Westbay Packer Inflation Record

Project: hengen -1487 1st Ave Project No.: FS149A Well No.: LAW-9A-5
 Location: 1487 1st Ave Completed by: CS Date Inflated: 2/16/24
 Packer No. 2-20149 Depth (ft/m): 8.75 Inflation Tool No.: T143594
 Packer Valve Pressure, P_V: 140 psi Final Line Pressure, P_L: 625 psi Tool Pressure, P_T: 375 psi
 Borehole Water Level: - (ft/m) = - psi (P_w)
 Calculated Packer Element Pressure, P_E = P_L + P_w - P_V - P_T = 110 psi

Volume, litres	1.0	2.0	3.0	3.5	4.0	4.25	4.30	/	4.1	
Pressure, psi	530	530	530	530	530	600	625	/	600	
Volume, litres										
Pressure, psi										



Comments: Packer # 2

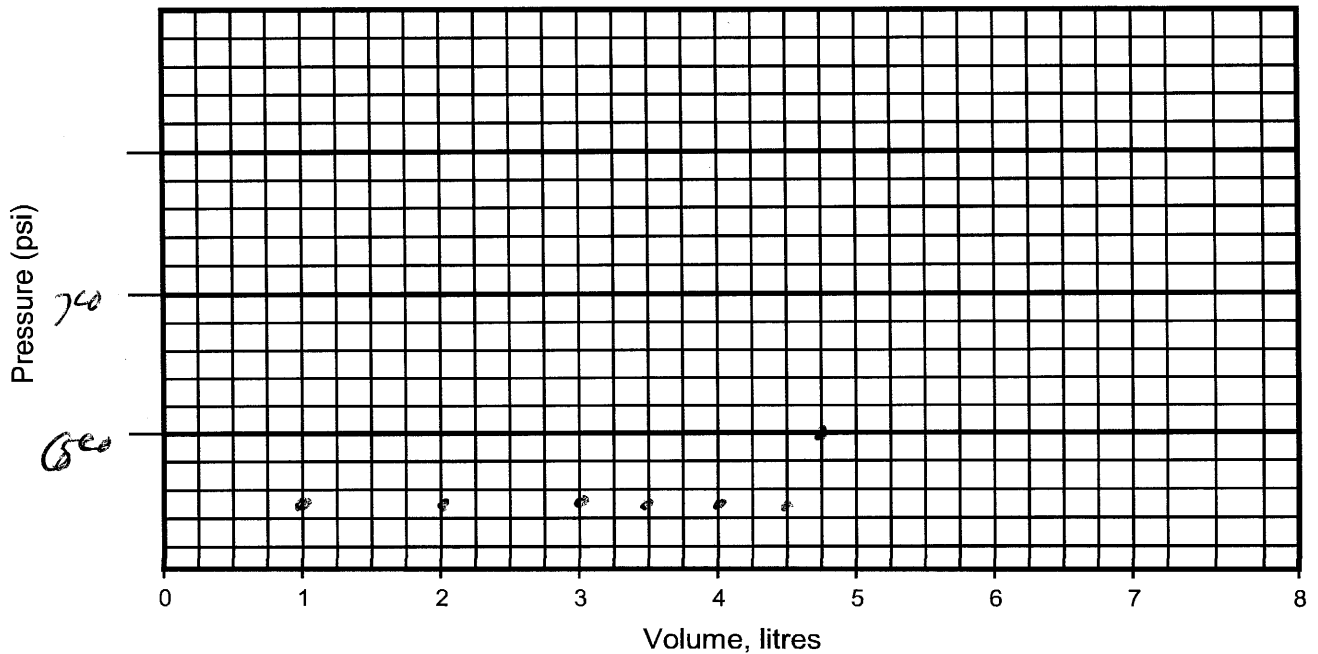
Time - 15:34



Westbay Packer Inflation Record

Project: Longen - 1487 1st Ave Project No.: FS1459 Well No.: LMW-3A-5
 Location: 1487 1st Ave Completed by: CS Date Inflated: 2/4/24
 Packer No. S-10250 Depth (ft/m): 3.75 Inflation Tool No.: TLW3954
 Packer Valve Pressure, P_V: 145 psi Final Line Pressure, P_L: 650 psi Tool Pressure, P_T: 375 psi
 Borehole Water Level: — (ft/m) = — psi (P_W)
 Calculated Packer Element Pressure, P_E = P_L + P_W - P_V - P_T = 130 psi

Volume, litres	1.0	2.0	3.0	3.5	4.0	4.5	4.95	4.90	4.85	4.85
Pressure, psi	570	570	570	570	570	570	600	650	/	0
Volume, litres										
Pressure, psi										



Comments: Packer # 3

Time - 15:52

APPENDIX H – LMW-9R-D

As-Built Packer and Port Summary (Table 19)	- 1 Page
Summary Casing Log	- 3 Pages
Pre-Inflation Piezometric Pressure/Levels Field Data and Calculation Sheet (February 6, 2024)	- 1 Pages
Figure 17, Pre-Inflation Piezometric Pressure Profile	- 1 Pages
Post-Inflation Piezometric Pressure/Levels Field Data and Calculation Sheet (February 6, 2024)	- 1 Pages
Figure 18, Post-Inflation Piezometric Pressure Profile	- 1 Pages
Casing Installation Log	- 3 Pages
MP Packer Inflation Records	- 4 Pages

Table 19. LMW-9R-D As-Built Packer and Port Summary

Port No.	Zone	Measurement Port Depth (ft)	Depth to Top of Packer (ft)	Top of Zone (ft)	Bottom of Zone (ft)	Comments
4	Zone 3	58.25	50.25	54.55	64.00	
3	Zone 2	45.25	40.25	44.55	51.55	
2	QA1	38.25	33.25	37.55	41.55	
1	Zone 1	28.25	23.25	27.55	34.55	

All depth measurements in feet below ground surface (bgs).

All depth measurements use 'Nominal' tubing lengths.

Not corrected for borehole deviation or borehole temperature effects.

All depth measurement to upper edge of Westbay System coupling item.

Summary Casing Log

Company: Langan
Well: LMW-9R-D
Site: 1487 First Ave
Project: Langan - 1487 First Ave.

Job No:
Author: GS

Well Information

Reference Datum:
Elevation of Datum: 0.00 ft.
MP Casing Top: 0.00 ft.
MP Casing Length: 63.41 ft.

Borehole Depth: 63.75 ft.
Borehole Inclination:
Borehole Diameter: 4.00 in.

Well Description:

Other References:

File Information

File Name: LMW-9R-D.WWD
Report Date: Tue Jan 30 11:57:53 2024

File Date: Sep 18 15:24:06 2023











Sketch of Wellhead Completion

Legend

(Qty) MP Components
(Library - WD Library 04/29/15)

Geology

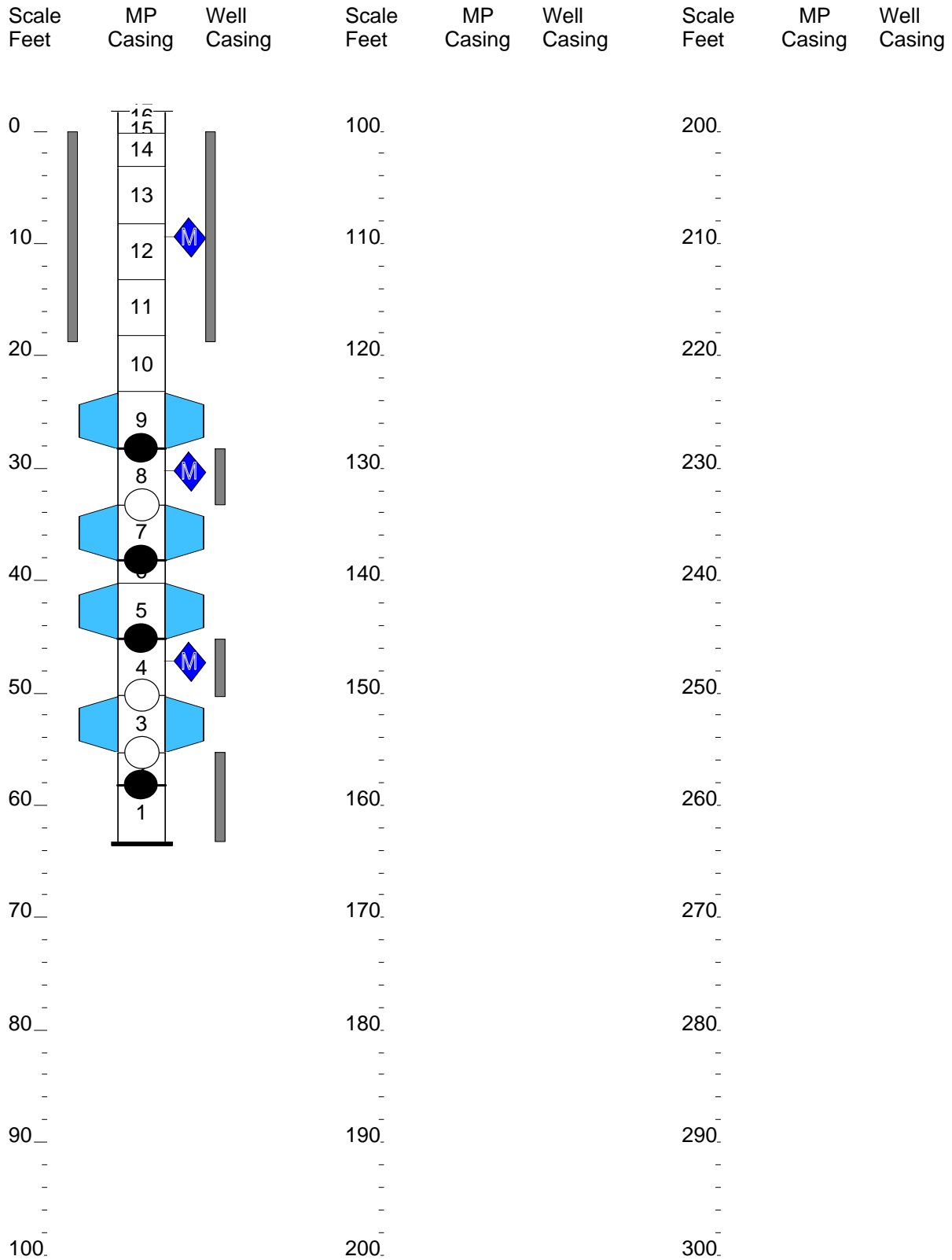
Backfill/Casing

-  (2) 0203 - MP38 End Cap
-  (2) 020101 - MP38 Casing 4 (1F/0.3M)
-  (2) 020103 - MP38 Casing 6 (3F/0.9M)
-  (7) 020105 - MP38 Casing 2 (5F/1.5M)
-  (4) 0238 - MP38 Packer - 74mm (5F/1.5M)
-  (1) 020102 - MP38 Casing 3 (2F/0.6M)
-  (9) 0202 - MP38 Regular Coupling
-  (4) 0205 - MP38 Measurement Port
-  (3) 0224 - MP38 Pumping Port
-  (3) 0216 - Magnetic Location Collar



Well Designer Report Langan

Job No:
Well: LMW-9R-D





Westbay Piezometric Pressures/Levels

Field Data and Calculation Sheet

Well No.: LMW-9R-D
 Datum: GS
 Elev. G.S.: -
 Height of Westbay above G.S.: -
 Elev. top of Westbay Casing: -
 Reference Elevation: -
 Borehole angle: 90°

Probe Type: Sampler
 Serial No.: 3535
 Probe Range: 0-520
 Westbay Casing Type: MP38
 Sampler Valve Position: Close

Date: 2/16/24
 Client: Longen
 Job No.: ES14
 Location: 1487 1st Ave
 Weather: -
 Operator: GS

Note: "Port position" in angled boreholes refer to position along drillhole. True depth (Dp) needs to be calculated using borehole angle and deviation data to calculate zone piezometric level (Dz).

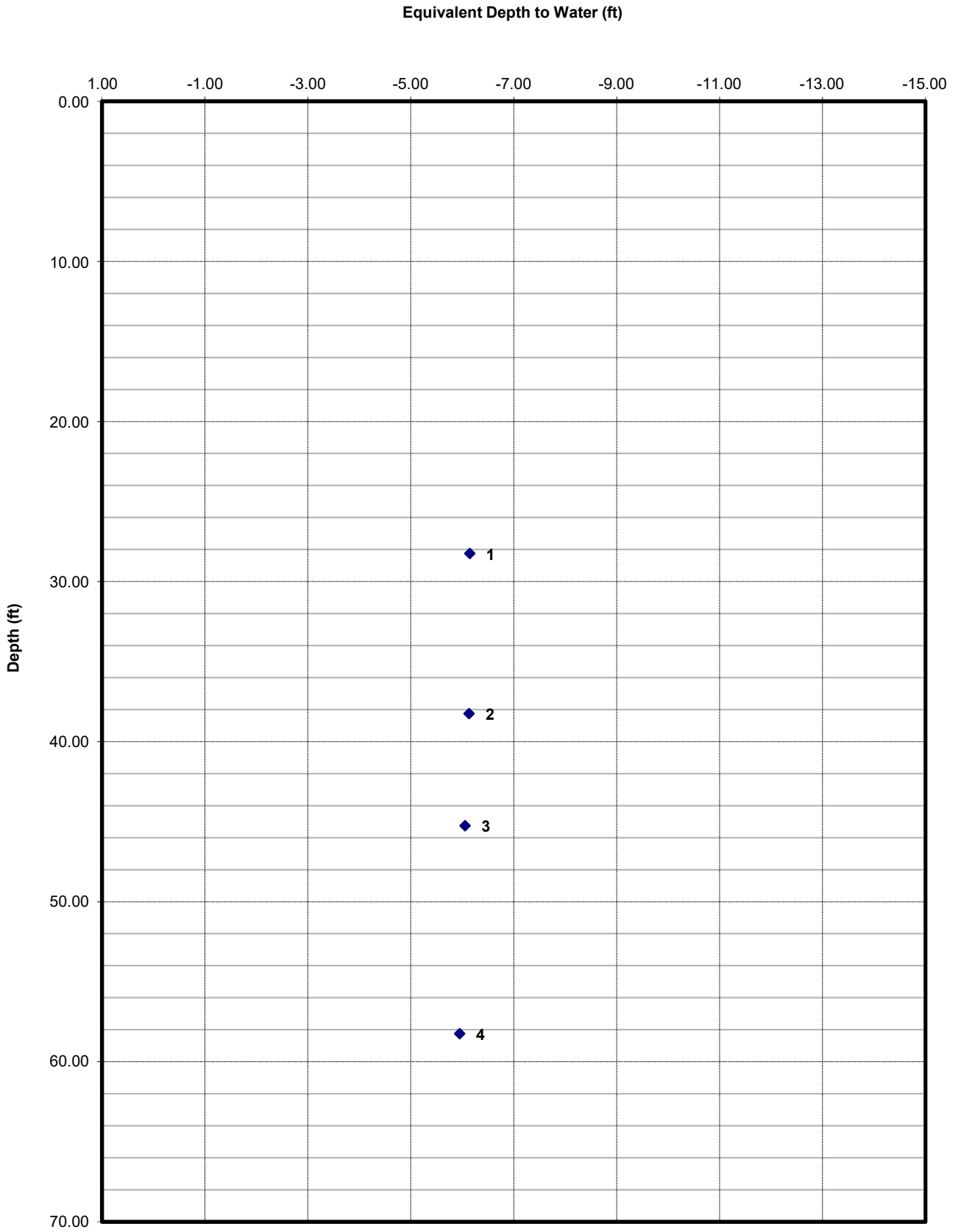
Ambient Reading (P_{atm}) (pressure, temperature, time)

Start: Pressure 14.85 Finish: 14.82
 Temp 66.7 15.53
 Time 10:20 10:59
 P_{atm} 14.85 psi

Port No.	Port Position From Log (ft)	Port Position From Cable (ft)	True Port Depth "Dp" (ft)	Fluid Pressure Readings					Pressure Head Outside Port (ft) H = (P2-Patm)/w	Piez. Level Outside Port (ft) Dz = Dp - H	Comments
				Inside Casing (P1)	Outside Casing (P2)	Time H:M:S	Probe Temp. (°C)	Inside Casing (P1)			
4	58.25	58.40	-	31.65	42.68	10:54	15.39	31.65	44.20	-8.95	Pre Install
3	45.25	45.40	-	26.03	37.09	10:55	15.43	26.03	51.30	-6.05	
2	38.25	38.40	-	23.01	34.09	10:57	15.42	23.01	44.38	-6.13	
1	29.25	28.40	-	18.68	29.76	10:58	15.46	18.69	34.39	-6.14	

Notes: w = 0.4335 psi/ft (1.422psi/m) of H₂O Dz = piezometric level in zone Patm = atmospheric pressure H = pressure head of water in zone Dp = true depth of measurement port

Figure 17
Well: LMW-9R-D
Pre-Inflation Pressure Profile





Westbay Piezometric Pressures/Levels

Field Data and Calculation Sheet

Well No.: LAW-GR-D
 Datum: GS
 Elev. G.S.: -
 Height of Westbay above G.S.: -
 Elev. top of Westbay Casing: -
 Reference Elevation: -
 Borehole angle: 90°

Probe Type: Sampler
 Serial No.: 3585
 Probe Range: 0-800
 Westbay Casing Type: MPSB
 Sampler Valve Position: Close

Date: 2/6/24
 Client: Wong
 Job No.: BTV
 Location: 1485 1st Ave
 Weather: -
 Operator: GS

Note: "Port position" in angled boreholes refer to position along drillhole. True depth (Dp) needs to be calculated using borehole angle and deviation data to calculate zone piezometric level (Dz).

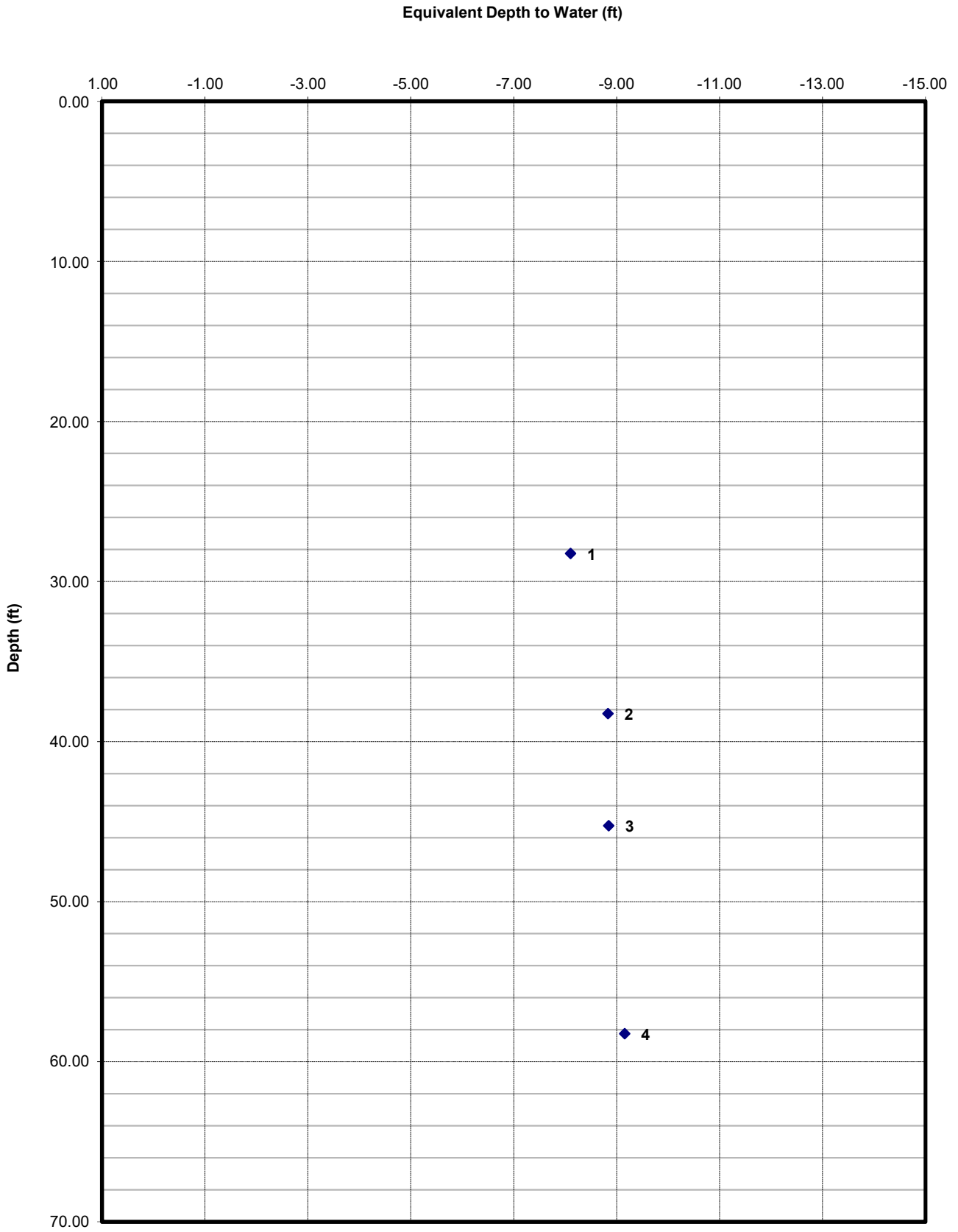
Ambient Reading (P_{atm}) (pressure, temperature, time)

Start: Pressure 11.84 Finish: 14.83
 Temp 10.43 14.15
 Time 12:22 12:31
 P_{atm} 11.84 psi

Port No.	Port Position From Log (ft)	Port Position From Cable (ft)	True Port Depth "Dp" (ft)	Fluid Pressure Readings					Pressure Head Outside Port (ft) H = (P2 - Patm) / w	Piez. Level Outside Port (ft) Dz = Dp - H	Comments
				Inside Casing (P1)	Outside Casing (P2)	Time H:M:S	Probe Temp. (°C)	Inside Casing (P1)			
4	58.25	477	-	41.61	44.06	12:25	11.55	41.62	67.40	-9.15	Dist Inlet
0	45.25	418	-	36.0	38.29	12:27	12.41	35.99	54.09	-8.84	
2	38.25	378	-	32.97	35.25	12:28	13.23	32.97	47.08	-8.83	
1	28.25	279	-	28.62	30.60	12:30	13.91	28.63	34.36	-8.10	

Notes: w = 0.4335 psi/ft (1.42psi/m) of H₂O Dz = piezometric level in zone Patm = atmospheric pressure H = pressure head of water in zone Dp = true depth of measurement port

Figure 18
Well: LMW-9R-D
Post-Inflation Pressure Profile



Casing Installation Log

Company: Langan
Well: LMW-9R-D
Site: 1487 First Ave
Project: Langan - 1487 First Ave.

Job No:
Author: GS

Well Information

Reference Datum:
Elevation of Datum: 0.00 ft.
MP Casing Top: 0.00 ft.
MP Casing Length: 63.41 ft.

Borehole Depth: 63.75 ft.
Borehole Inclination:
Borehole Diameter: 4.00 in.

Well Description:

Other References:

File Information

File Name: LMW-9R-D.WWD
Report Date: Tue Jan 30 17:36:56 2024

File Date: Jan 30 11:58:18 2024












Comments

Log Information

Borehole condition confirmed.
MP well design & preparation.
MP well design checked.
MP well and borehole approved to install.

(method)	<u>Lossing</u>	Date:	<u>1/20/24</u>
By:	<u>[Signature]</u>	Date:	<u>2/6/24</u>
By:	<u>[Signature]</u>	Date:	<u>2/6/24</u>
By:	<u>[Signature]</u>	Date:	<u>2/6/24</u>

Legend

(Qty) MP Components (Library - WD Library 04/29/15)		Geology	Backfill/Casing
	(2) 0203 - MP38 End Cap		 Mild Steel
	(2) 020101 - MP38 Casing 4 (1F/0.3M)		
	(2) 020103 - MP38 Casing 6 (3F/0.9M)		
	(7) 020105 - MP38 Casing 2 (5F/1.5M)		
	(4) 0238 - MP38 Packer - 74mm (5F/1.5M)		
	(1) 020102 - MP38 Casing 3 (2F/0.6M)		
	(9) 0202 - MP38 Regular Coupling		
	(4) 0205 - MP38 Measurement Port		
	(3) 0224 - MP38 Pumping Port		
	(3) 0216 - Magnetic Location Collar		

Well Designer Report Langan

Job No:
Well: LMW-9R-D

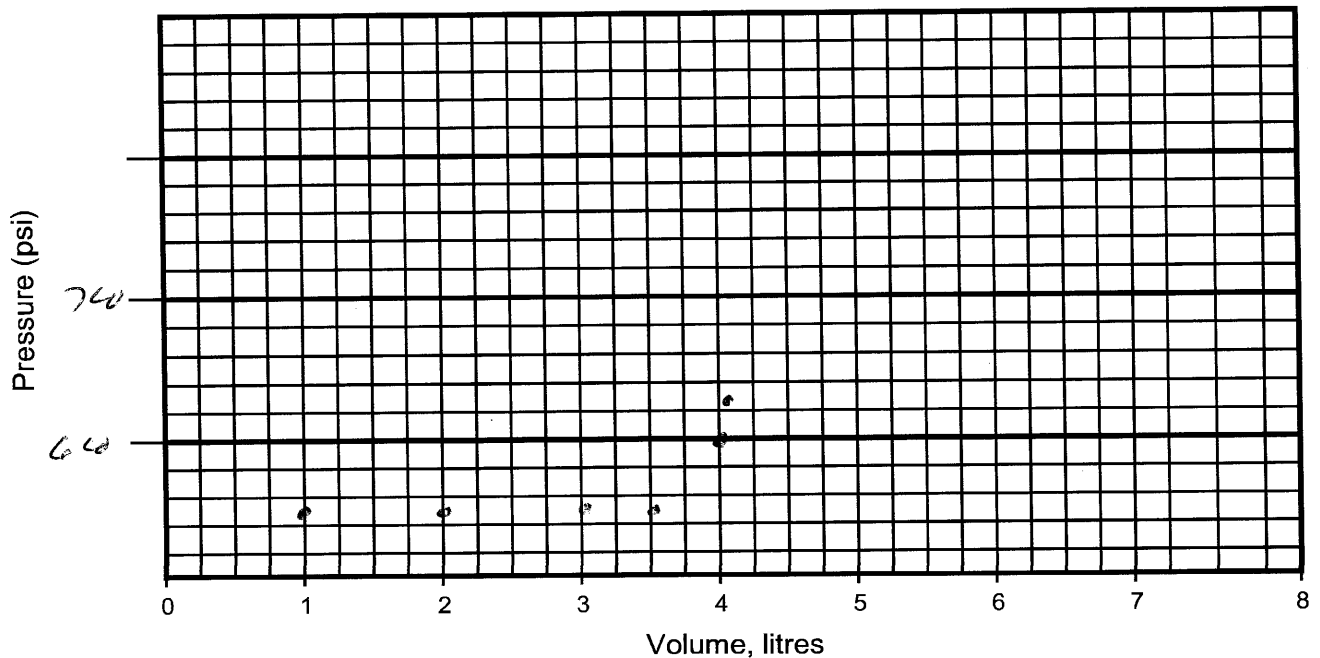
Scale Feet	MP Casing	QA Tested OK	MP Casing Description
0	17	<input checked="" type="checkbox"/>	
	15	<input checked="" type="checkbox"/>	
	14	<input checked="" type="checkbox"/>	020103 - MP38 Casing 6 (3F/0.9M)
	13	<input checked="" type="checkbox"/>	020105 - MP38 Casing 2 (5F/1.5M)
10	12	<input checked="" type="checkbox"/>	020105 - MP38 Casing 2 (5F/1.5M)
	11	<input checked="" type="checkbox"/>	020105 - MP38 Casing 2 (5F/1.5M)
20	10	<input checked="" type="checkbox"/>	020105 - MP38 Casing 2 (5F/1.5M)
	9	<input checked="" type="checkbox"/>	0238 - MP38 Packer - 74mm (5F/1.5M) 20151 165/140
30	8	<input checked="" type="checkbox"/>	0205 - MP38 Measurement Port 10294
	7	<input checked="" type="checkbox"/>	020105 - MP38 Casing 2 (5F/1.5M)
	6	<input checked="" type="checkbox"/>	0224 - MP38 Pumping Port 9295
40	5	<input checked="" type="checkbox"/>	0238 - MP38 Packer - 74mm (5F/1.5M) 20152 165/140
	4	<input checked="" type="checkbox"/>	0205 - MP38 Measurement Port 10295
	3	<input checked="" type="checkbox"/>	020102 - MP38 Casing 3 (2F/0.6M)
50	2	<input checked="" type="checkbox"/>	0238 - MP38 Packer - 74mm (5F/1.5M) 20153 175/150
	1	<input checked="" type="checkbox"/>	0205 - MP38 Measurement Port 10291
60		<input checked="" type="checkbox"/>	020105 - MP38 Casing 2 (5F/1.5M)
		<input checked="" type="checkbox"/>	0224 - MP38 Pumping Port 9287
		<input checked="" type="checkbox"/>	0238 - MP38 Packer - 74mm (5F/1.5M) 200154 165/140
		<input checked="" type="checkbox"/>	0224 - MP38 Pumping Port 9289
		<input checked="" type="checkbox"/>	020103 - MP38 Casing 6 (3F/0.9M)
		<input checked="" type="checkbox"/>	0205 - MP38 Measurement Port 10293
70		<input checked="" type="checkbox"/>	020105 - MP38 Casing 2 (5F/1.5M)
		<input checked="" type="checkbox"/>	0203 - MP38 End Cap



Westbay Packer Inflation Record

Project: Wenzel - 1487 1st Ave Project No.: FS149A Well No.: LMW-9R-1D
 Location: 1487 1st Ave Completed by: CS Date Inflated: 2/6/24
 Packer No. 1 - 200154 Depth (ft/m): 50.25 Inflation Tool No.: T10 3994
 Packer Valve Pressure, P_V: 140 psi Final Line Pressure, P_L: 625 psi Tool Pressure, P_T: 375 psi
 Borehole Water Level: — (ft/m) = — psi (P_W)
 Calculated Packer Element Pressure, P_E = P_L + P_W - P_V - P_T = 110 psi

Volume, litres	1.0	2.0	3.0	3.5	4.0	4.05	1	4.05		
Pressure, psi	550	550	550	550	600	625	1	0		
Volume, litres										
Pressure, psi										



Comments: Packer # 1

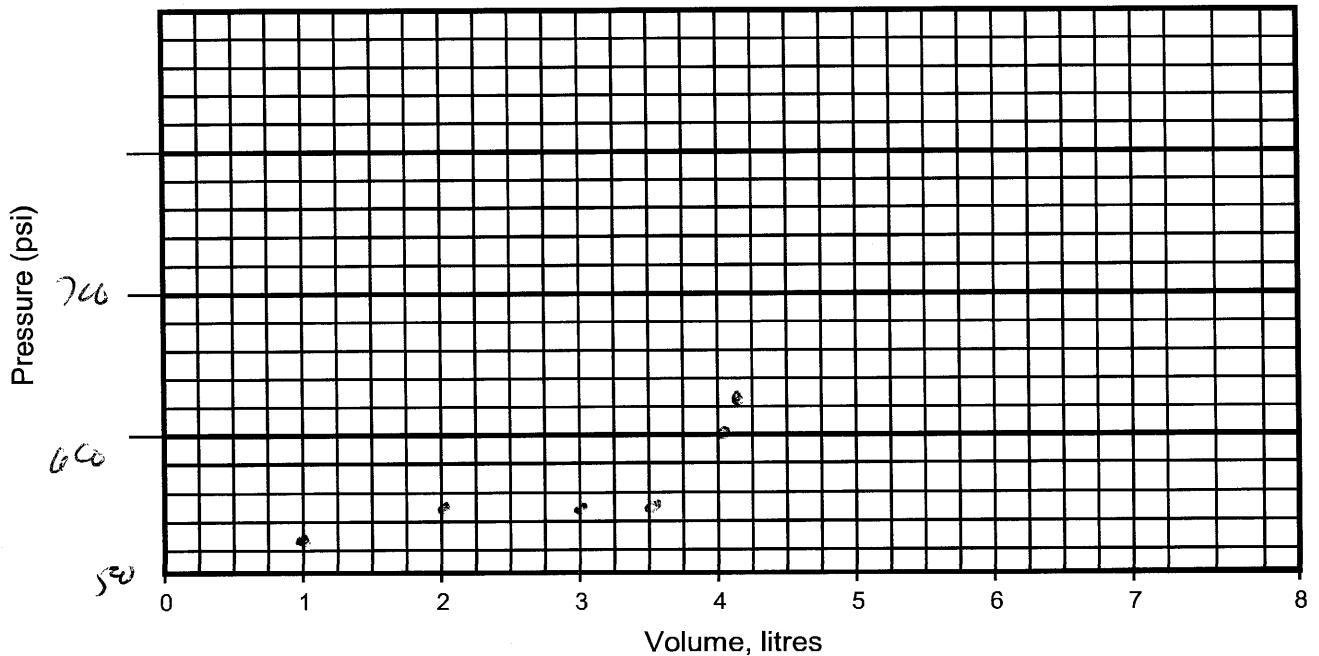
Time - 11:10



Westbay Packer Inflation Record

Project: Lansan - 1487 1st Ave Project No.: FS1495 Well No.: LMWGR-1D
 Location: 1487 1st Ave Completed by: CS Date Inflated: 2/6/24
 Packer No. 2 - 20753 Depth (ft/m): 40.25 Inflation Tool No.: T1W 3546
 Packer Valve Pressure, P_V: 150 psi Final Line Pressure, P_L: 625 psi Tool Pressure, P_T: 375 psi
 Borehole Water Level: — (ft/m) = — psi (P_W)
 Calculated Packer Element Pressure, P_E = P_L + P_W - P_V - P_T = 100 psi

Volume, litres	1.0	2.0	3.0	3.5	4.0	4.10	/	4.10		
Pressure, psi	525	530	530	530	600	625	/	∅		
Volume, litres										
Pressure, psi										



Comments: Packer # 2

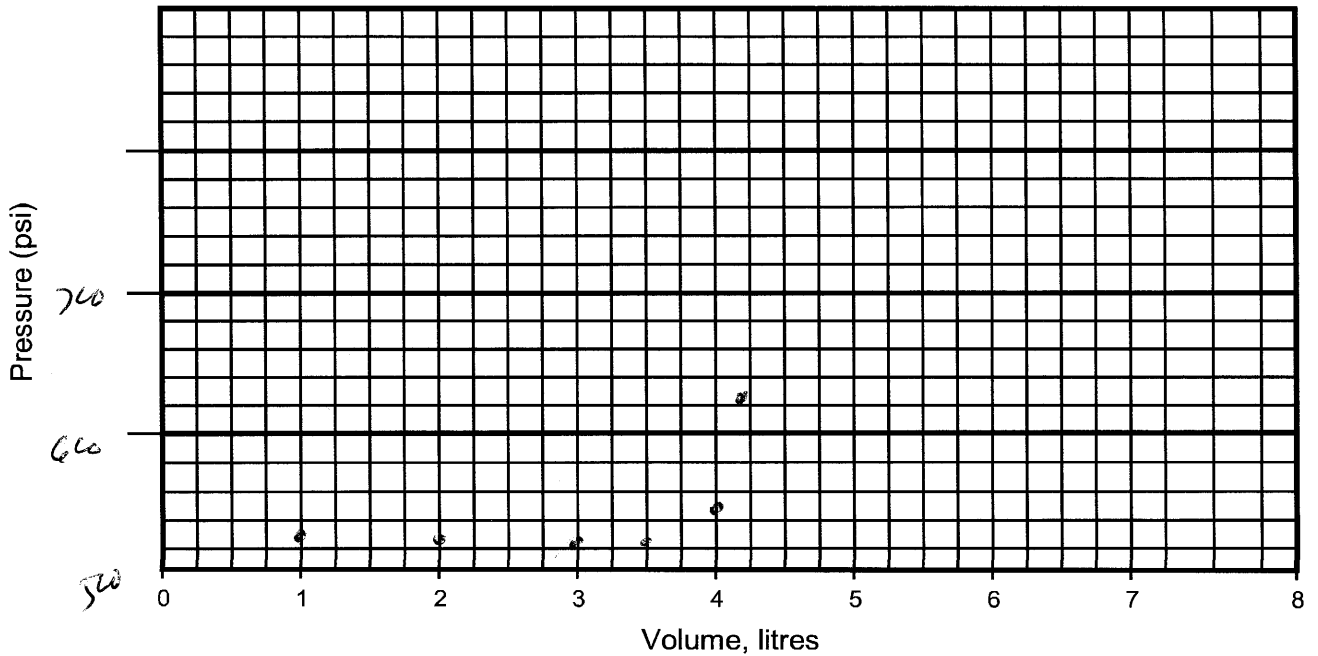
Time - 1124



Westbay Packer Inflation Record

Project: Lansca - 1487 1st Ave Project No.: FS1479 Well No.: LMW-9R-10
 Location: 1487 1st Ave Completed by: CS Date Inflated: 2/4/24
 Packer No. 3-20152 Depth (ft/m): 33.95 Inflation Tool No.: T1W3994
 Packer Valve Pressure, P_V: 140 psi Final Line Pressure, P_L: 625 psi Tool Pressure, P_T: 325 psi
 Borehole Water Level: — (ft/m) = — psi (P_W)
 Calculated Packer Element Pressure, P_E = P_L + P_W - P_V - P_T = 110 psi

Volume, litres	1.0	2.0	3.0	3.5	4.0	4.15	/	4.75		
Pressure, psi	525	525	525	525	520	625	/	∅		
Volume, litres										
Pressure, psi										



Comments: Packer # 3

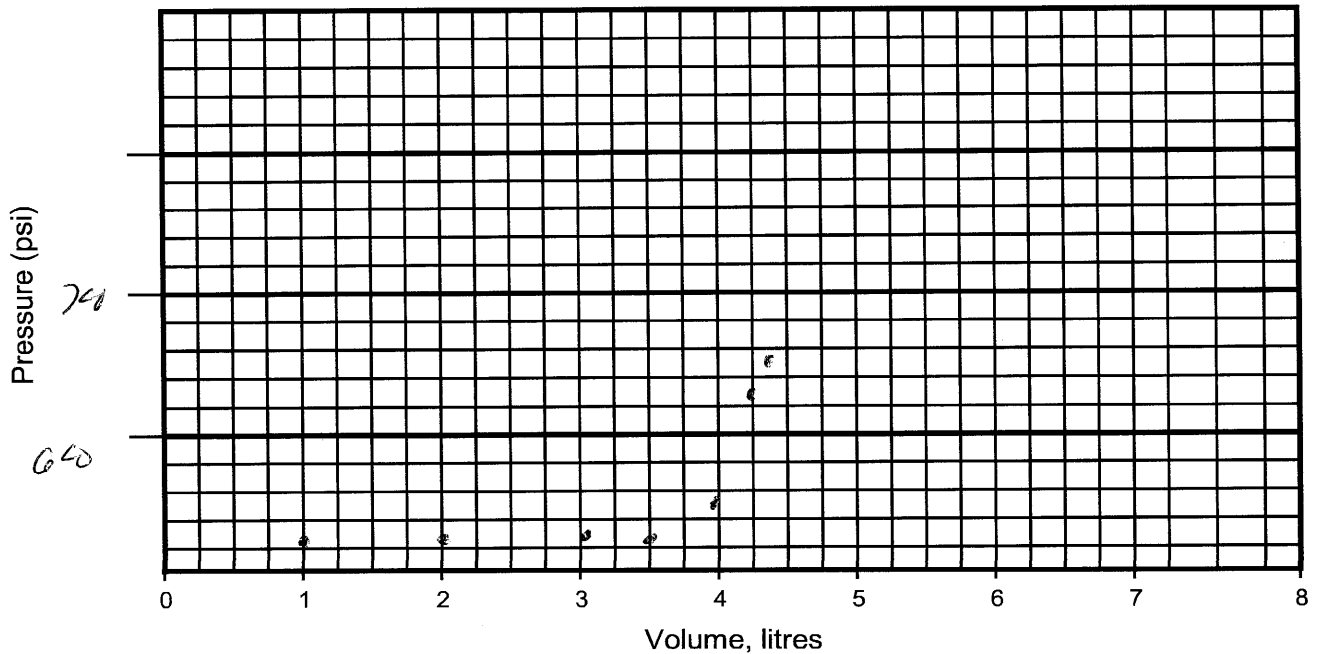
Time - 11:41



Westbay Packer Inflation Record

Project: Langen -1487 1st Ac Project No.: FS14 Well No.: LAW-9R-1
 Location: 1487 1st Ac Completed by: CS Date Inflated: 2/6/24
 Packer No. 4-26151 Depth (ft/m): 2325 Inflation Tool No.: 714 3594
 Packer Valve Pressure, P_V: 140 psi Final Line Pressure, P_L: 680 psi Tool Pressure, P_T: 325 psi
 Borehole Water Level: - (ft/m) = - psi (P_W)
 Calculated Packer Element Pressure, P_E = P_L + P_W - P_V - P_T = 135 psi

Volume, litres	10	20	30	35	40	425	435	1	430	
Pressure, psi	525	525	525	525	550	625	650	1	∅	
Volume, litres										
Pressure, psi										



Comments: Packer # 4/

Time - 12:01

APPENDIX I – LMW-10R-S

As-Built Packer and Port Summary (Table 20)	- 1 Page
Summary Casing Log	- 3 Pages
Pre-Inflation Piezometric Pressure/Levels Field Data and Calculation Sheet (February 7, 2024)	- 1 Pages
Figure 19, Pre-Inflation Piezometric Pressure Profile	- 1 Pages
Post-Inflation Piezometric Pressure/Levels Field Data and Calculation Sheet (February 7, 2024)	- 1 Pages
Figure 20, Post-Inflation Piezometric Pressure Profile	- 1 Pages
Casing Installation Log	- 3 Pages
MP Packer Inflation Records	- 2 Pages

Table 20. LMW-10R-S As-Built Packer and Port Summary

Port No.	Zone	Measurement Port Depth (ft)	Depth to Top of Packer (ft)	Top of Zone (ft)	Bottom of Zone (ft)	Comments
2	Zone 1	24.75	18.75	23.05	30.00	
1	QA1	8.75	3.75	8.05	20.05	

All depth measurements in feet below ground surface (bgs).

All depth measurements use 'Nominal' tubing lengths.

Not corrected for borehole deviation or borehole temperature effects.

All depth measurement to upper edge of Westbay System coupling item.

Summary Casing Log

Company: Langan
Well: LMW-10R-S
Site: 1487 First Ave
Project: Langan - 1487 First Ave.

Job No:
Author: GS

Well Information

Reference Datum:
Elevation of Datum: 0.00 ft.
MP Casing Top: 0.00 ft.
MP Casing Length: 29.91 ft.

Borehole Depth: 29.75 ft.
Borehole Inclination:
Borehole Diameter: 4.00 in.

Well Description:

Other References:





File Information

File Name: LMW10R-S.WWD
Report Date: Tue Jan 30 11:02:47 2024

File Date: Nov 17 14:27:28 2023

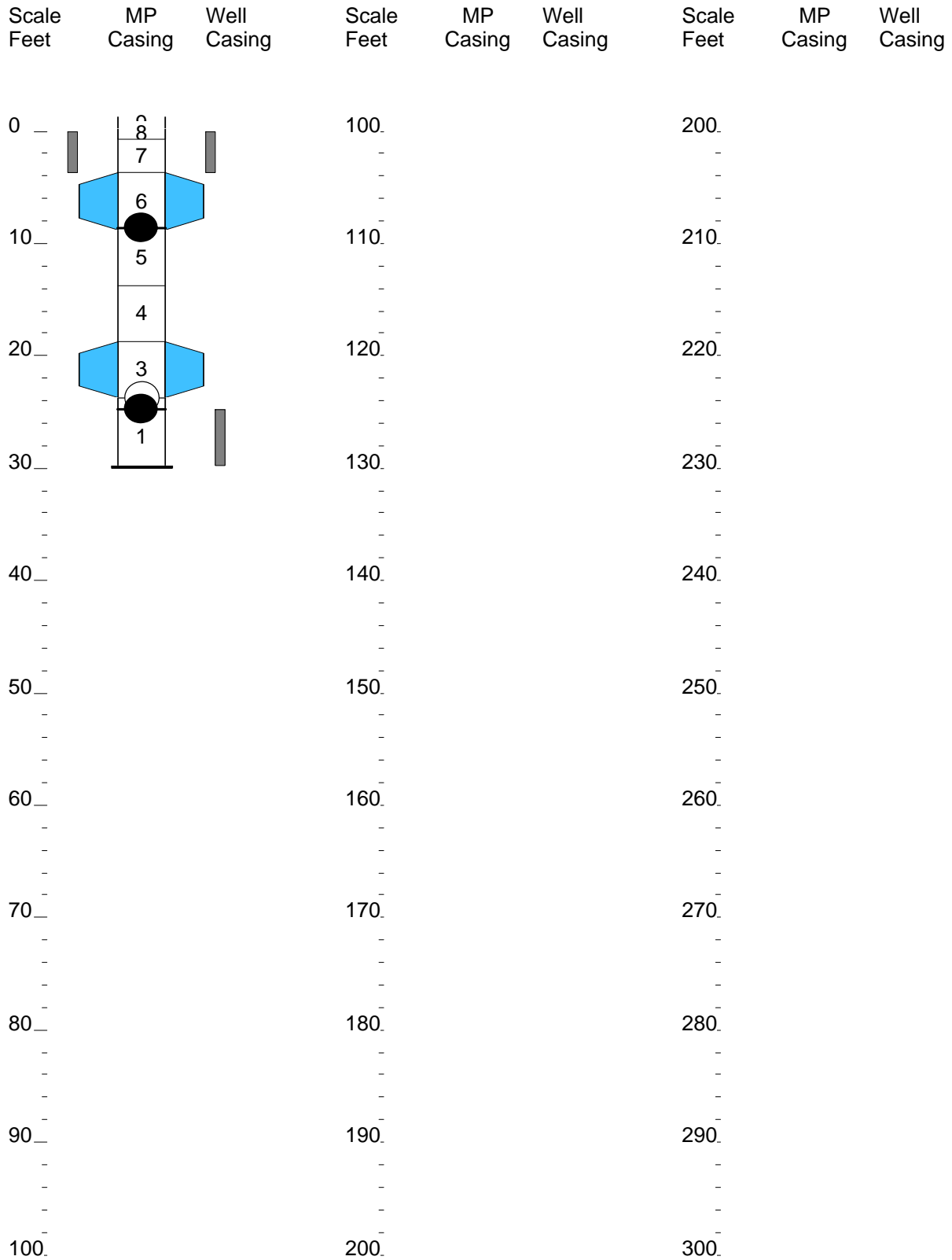
Sketch of Wellhead Completion

Legend

(Qty) MP Components (Library - WD Library 04/29/15)		Geology	Backfill/Casing
	(3) 020101 - MP38 Casing 4 (1F/0.3M)		 Mild Steel
	(1) 020103 - MP38 Casing 6 (3F/0.9M)		
	(2) 0238 - MP38 Packer - 74mm (5F/1.5M)		
	(3) 020105 - MP38 Casing 2 (5F/1.5M)		
—	(1) 0203 - MP38 End Cap		
—	(6) 0202 - MP38 Regular Coupling		
	(2) 0205 - MP38 Measurement Port		
	(1) 0224 - MP38 Pumping Port		

Well Designer Report Langan

Job No:
Well: LMW-10R-S





Westbay Piezometric Pressures/Levels
Field Data and Calculation Sheet

Well No.: LAW-10R-S
Datum: GS
Elev. G.S.: -
Height of Westbay above G.S.: -
Elev. top of Westbay Casing: -
Reference Elevation: -
Borehole angle: 90°

Probe Type: Sampler
Serial No.: 3555
Probe Range: 0-520
Westbay Casing Type: MP38
Sampler Valve Position: Close

Date: 2/7/24
Client: Henson
Job No.: F514
Location: 1487 1st Ave
Weather: -
Operator: CS

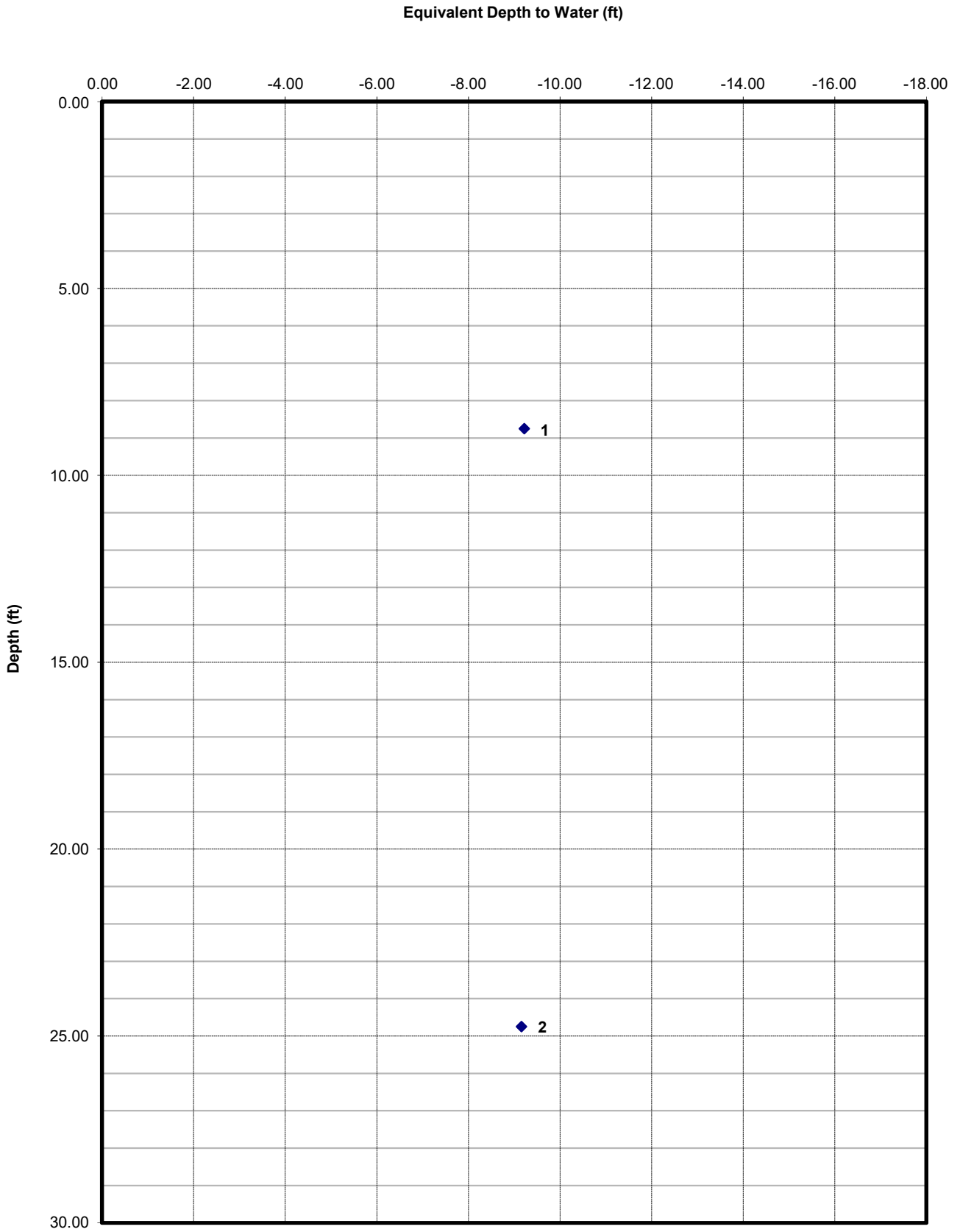
Note: "Port position" in angled boreholes refer to position along drillhole. True depth (Dp) needs to be calculated using borehole angle and deviation data to calculate zone piezometric level (Dz).

Ambient Reading (Patm) (pressure, temperature, time)
Start: Pressure 14.87, Temp 5.37, Time 9:04
Finish: 14.87, 15.70, 9:41
Patm 14.87 psi

Table with columns: Port No., Port Position From Log (ft), Port Position From Cable (ft), True Port Depth "Dp" (ft), Fluid Pressure Readings (Inside Casing P1, Outside Casing P2, Time H:M:S, Probe Temp °C, Inside Casing P1), Pressure Head Outside Port (ft), Piez. Level Outside Port (ft), Comments. Data rows include values like 2478, 249, 94.67, 29.57, 9:39, 16.19, 26.67, 33.91, -9.16.

Notes: w = 0.4335 psi/ft (1.42psi/m) of H2O, Dz = piezometric level in zone, Patm = atmospheric pressure, H = pressure head of water in zone, Dp = true depth of measurement port

Figure 19
Well: LMW-10R-S
Pre-Inflation Pressure Profile





Westbay Piezometric Pressures/Levels

Field Data and Calculation Sheet

Well No.: LAW-10R-J
 Datum: GS
 Elev. G.S.: -
 Height of Westbay above G.S.: -
 Elev. top of Westbay Casing: -
 Reference Elevation: -
 Borehole angle: 70°

Probe Type: Sample
 Serial No.: 3125
 Probe Range: 0-520
 Westbay Casing Type: MP38
 Sampler Valve Position: C/10ft

Date: 2/2/24
 Client: Langan
 Job No.: FJ1499
 Location: 1487 1st Ave
 Weather: -
 Operator: GS

Note: "Port position" in angled boreholes refer to position along drillhole. True depth (Dp) needs to be calculated using borehole angle and deviation data to calculate zone piezometric level (Dz).

Ambient Reading (P_{atm}) (pressure, temperature, time)

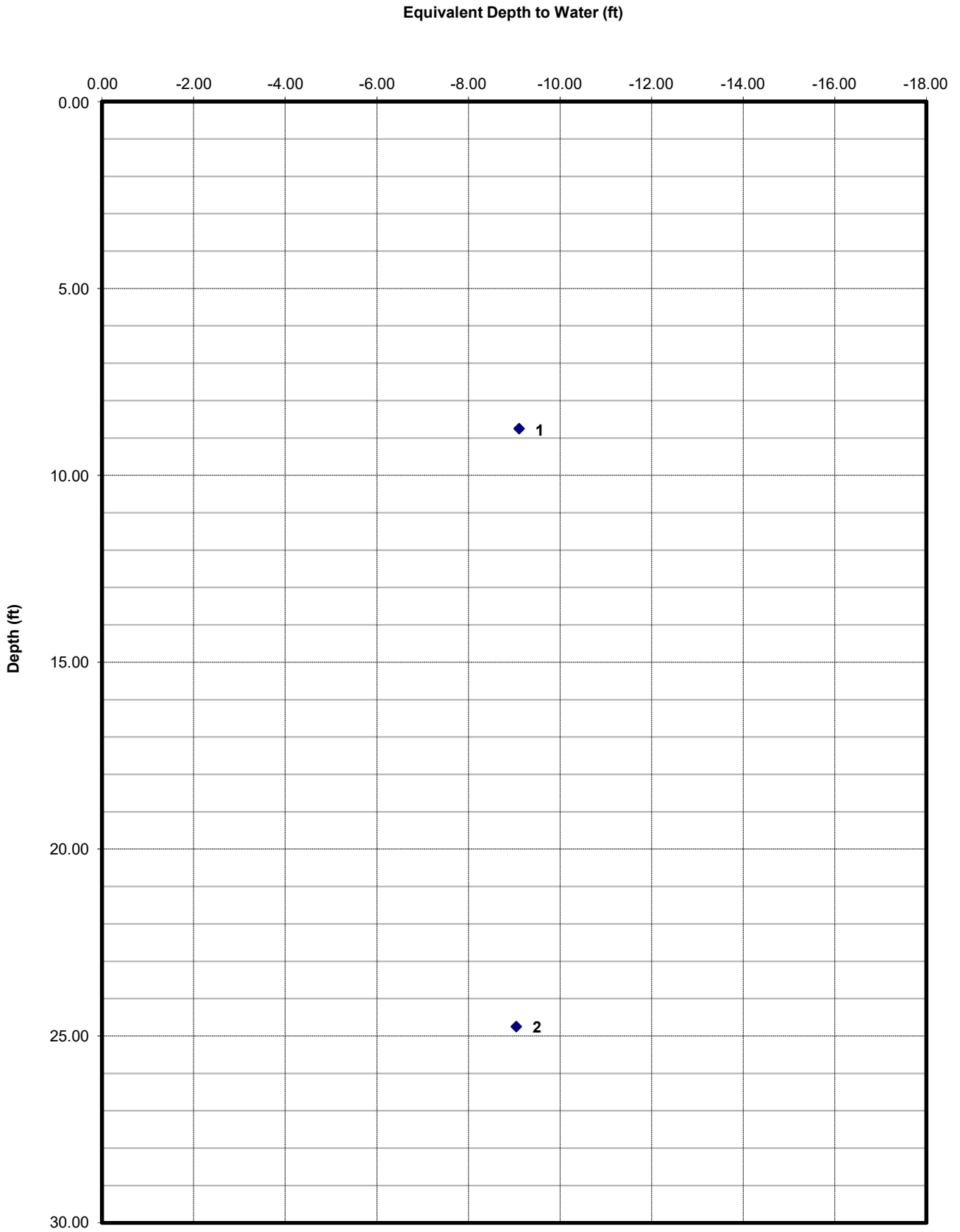
Start: Pressure 14.90 Finish: 14.88
 Temp 7.12 4.30 11.73
 Time 11:25 11:30

P_{atm} 14.90 psi

Port No.	Port Position From Log (ft)	Port Position From Cable (ft)	True Port Depth "Dp" (ft)	Fluid Pressure Readings					Pressure Head Outside Port (ft) H = (P2-Patm)/w	Piez. Level Outside Port (ft) Dz = Dp - H	Comments
				Inside Casing (P1)	Outside Casing (P2)	Time H:M:S	Probe Temp. (°C)	Inside Casing (P1)			
0	20.75	24.7	-	28.61	29.55	11:28	10.66	28.61	33.79	-9.04	Dist In/ht
1	8.75	8.80	-	21.66	22.09	11:29	11.39	21.65	17.85	-9.10	

Notes: w = 0.4335 psi/ft (1.422psi/m) of H₂O Dz = piezometric level in zone Patm = atmospheric pressure H = pressure head of water in zone Dp = true depth of measurement port

Figure 20
Well: LMW-10R-S
Post-Inflation Pressure Profile



Casing Installation Log

Company: Langan
Well: LMW-10R-S
Site: 1487 First Ave
Project: Langan - 1487 First Ave.

Job No:
Author: GS

Well Information

Reference Datum:
Elevation of Datum: 0.00 ft.
MP Casing Top: 0.00 ft.
MP Casing Length: 29.91 ft.

Borehole Depth: 29.75 ft.
Borehole Inclination:
Borehole Diameter: 4.00 in.

Well Description:

Other References:

File Information

File Name: LMW10R-S.WWD
Report Date: Tue Jan 30 17:42:08 2024

File Date: Jan 30 11:05:07 2024










Comments

Log Information

Borehole condition confirmed.
MP well design & preparation.
MP well design checked.
MP well and borehole approved to install.

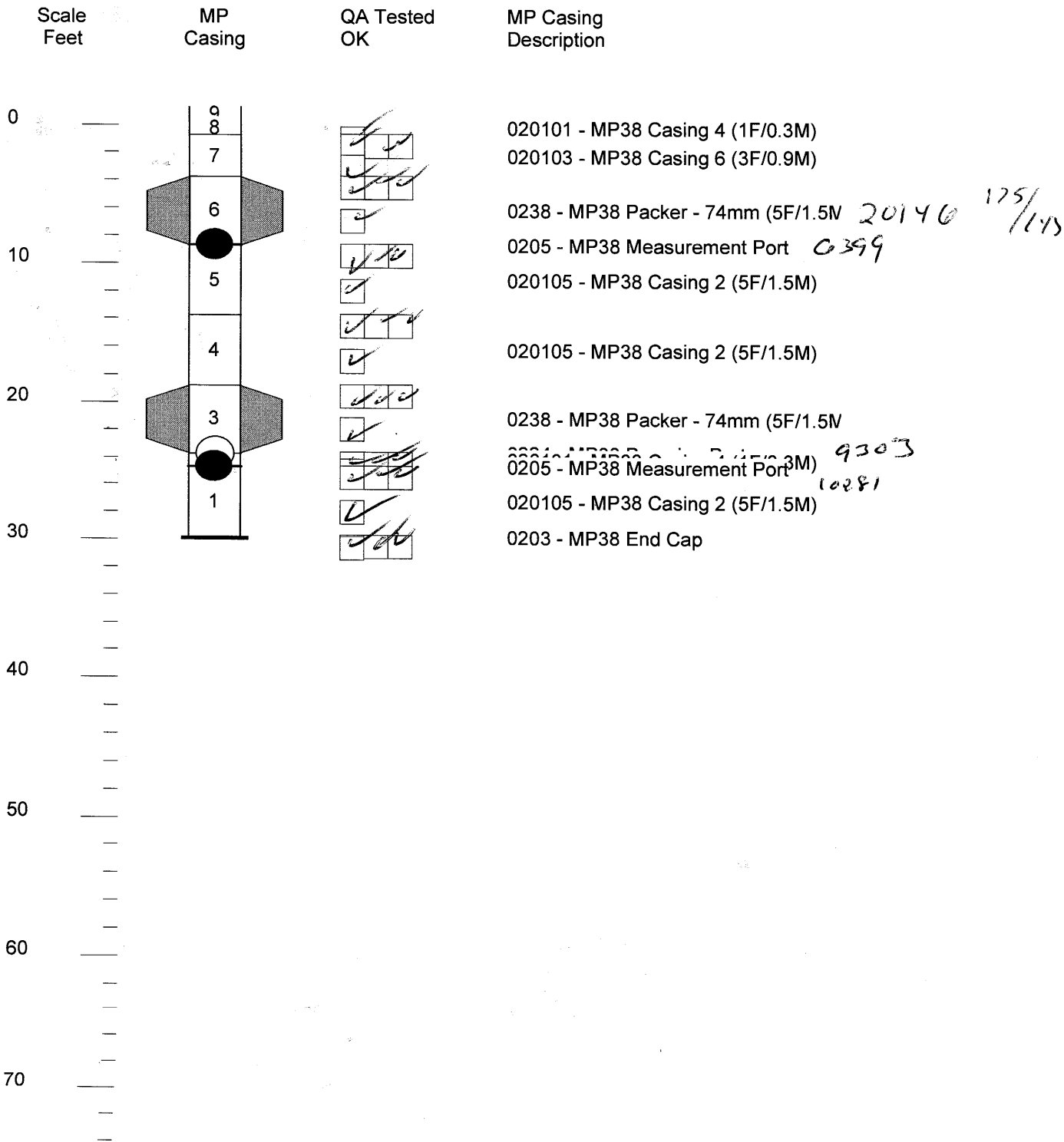
(method)	<u>Logging</u>	Date:	<u>1/30/24</u>
By:	<u>[Signature]</u>	Date:	<u>2/7/24</u>
By:	<u>[Signature]</u>	Date:	<u>2/7/24</u>

Legend

(Qty) MP Components (Library - WD Library 04/29/15)	Geology	Backfill/Casing
 (3) 020101 - MP38 Casing 4 (1F/0.3M)		 Mild Steel
 (1) 020103 - MP38 Casing 6 (3F/0.9M)		
 (2) 0238 - MP38 Packer - 74mm (5F/1.5M)		
 (3) 020105 - MP38 Casing 2 (5F/1.5M)		
 (1) 0203 - MP38 End Cap		
 (6) 0202 - MP38 Regular Coupling		
 (2) 0205 - MP38 Measurement Port		
 (1) 0224 - MP38 Pumping Port		

Well Designer Report Langan

Job No:
Well: LMW-10R-S

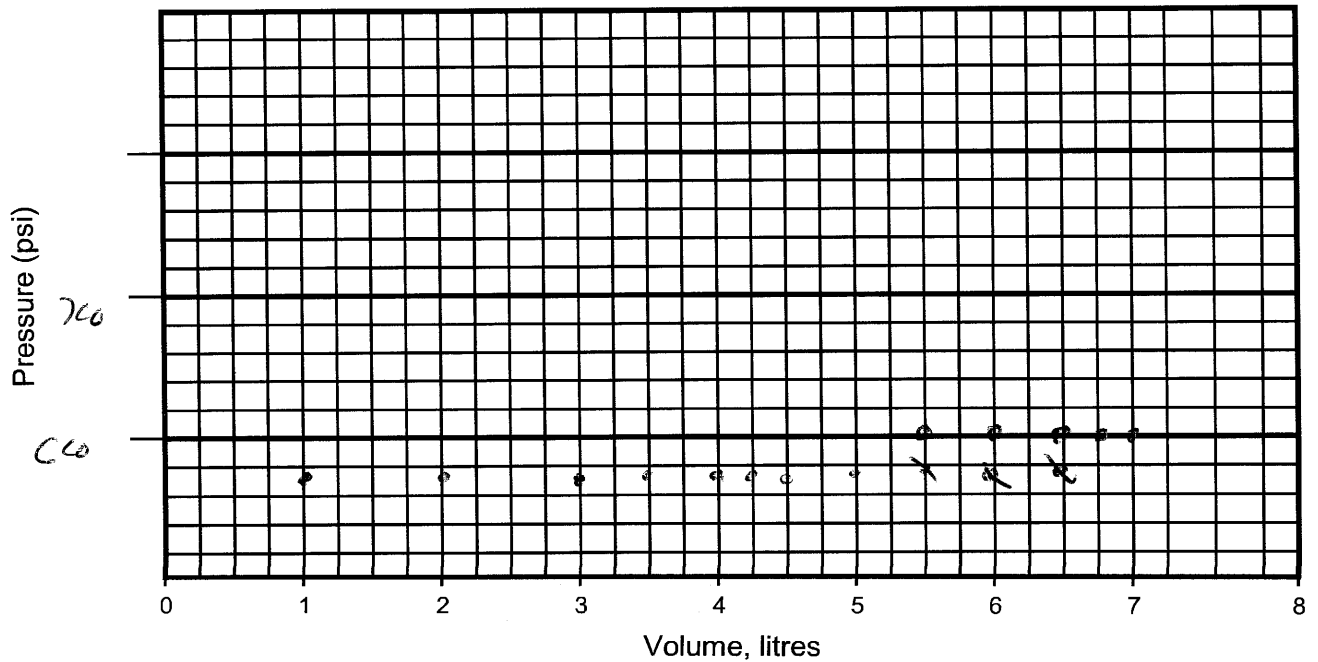




Westbay Packer Inflation Record

Project: Langer - 1487 1st Ave Project No.: FS1499 Well No.: LAW-¹⁰9A-5
 Location: 1487 1st Ave Completed by: CS Date Inflated: 2/7/24
 Packer No. 1 Depth (ft/m): 18.75 Inflation Tool No.: 7103994
 Packer Valve Pressure, P_V: 140 psi Final Line Pressure, P_L: 60 psi Tool Pressure, P_T: 375 psi
 Borehole Water Level: — (ft/m) = — psi (P_W)
 Calculated Packer Element Pressure, P_E = P_L + P_W - P_V - P_T = 85 psi

Volume, litres	1.0	2.0	3.0	3.5	4.0	4.25	4.50	5.0	5.5	6.0
Pressure, psi	575	575	575	575	575	575	575	575	600	600
Volume, litres	6.5	7.0	/	7.0						
Pressure, psi	600	600	/	0						



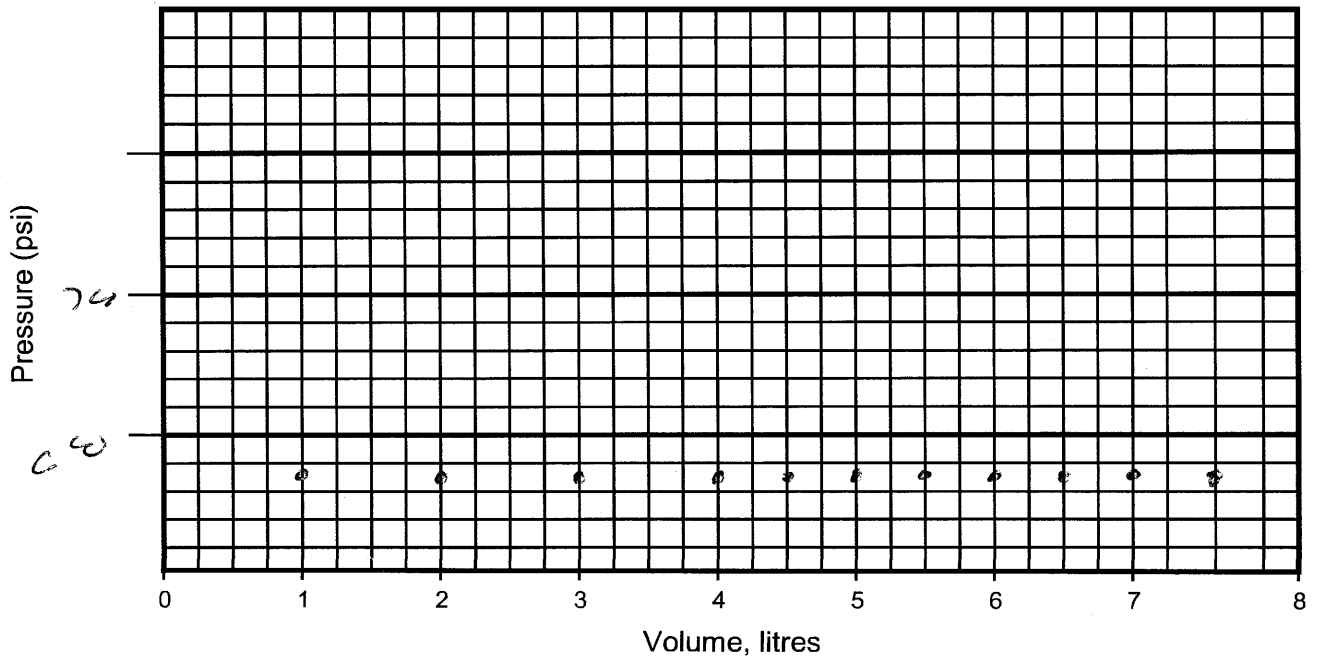
Comments: Packer # 1 Time - 9:48



Westbay Packer Inflation Record

Project: Lenger - 1487 1st Ave Project No.: FS1499 Well No.: LMW-~~7A~~-J
 Location: 1487 1st Ave Completed by: GS Date Inflated: 01/24
 Packer No. 2-20146 Depth (ft/m): 3.75 Inflation Tool No.: TIW 5554
 Packer Valve Pressure, P_V: 145 psi Final Line Pressure, P_L: 575 psi Tool Pressure, P_T: 375 psi
 Borehole Water Level: - (ft/m) = - psi (P_W)
 Calculated Packer Element Pressure, P_E = P_L + P_W - P_V - P_T = 55 psi

Volume, litres	1.0	2.0	3.0	3.5	4.0	4.5	5.0	5.5	6.0	6.5
Pressure, psi	575	575	575	575	575	575	575	575	575	575
Volume, litres	7.0	7.5	1							
Pressure, psi	575	575	1	∅						



Comments: Packer # 2

Time - 10:32

APPENDIX J – LMW-10R-D

As-Built Packer and Port Summary (Table 21)	- 1 Page
Summary Casing Log	- 3 Pages
Pre-Inflation Piezometric Pressure/Levels Field Data and Calculation Sheet (February 8, 2024)	- 1 Pages
Figure 21, Pre-Inflation Piezometric Pressure Profile	- 1 Pages
Post-Inflation Piezometric Pressure/Levels Field Data and Calculation Sheet (February 8, 2024)	- 1 Pages
Figure 22, Post-Inflation Piezometric Pressure Profile	- 1 Pages
Casing Installation Log	- 3 Pages
MP Packer Inflation Records	- 3 Pages

Table 21. LMW-10R-D As-Built Packer and Port Summary

Port No.	Zone	Measurement Port Depth (ft)	Depth to Top of Packer (ft)	Top of Zone (ft)	Bottom of Zone (ft)	Comments
3	QA1	50.75	45.75	50.05	56.00	
2	Zone 2	40.75	35.75	40.05	47.05	
1	Zone 1	30.75	21.75	26.05	37.05	

All depth measurements in feet below ground surface (bgs).

All depth measurements use 'Nominal' tubing lengths.

Not corrected for borehole deviation or borehole temperature effects.

All depth measurement to upper edge of Westbay System coupling item.

Summary Casing Log

Company: Langan
Well: LMW-10R-D
Site: 1487 First Ave
Project: Langan - 1487 First Ave.

Job No:
Author: GS

Well Information

Reference Datum:
Elevation of Datum: 0.00 ft.
MP Casing Top: 0.00 ft.
MP Casing Length: 55.91 ft.

Borehole Depth: 63.75 ft.
Borehole Inclination:
Borehole Diameter: 4.00 in.

Well Description:

Other References:











File Information

File Name: LMW10R-D.WWD
Report Date: Tue Jan 30 14:40:35 2024

File Date: Jan 30 12:14:14 2024

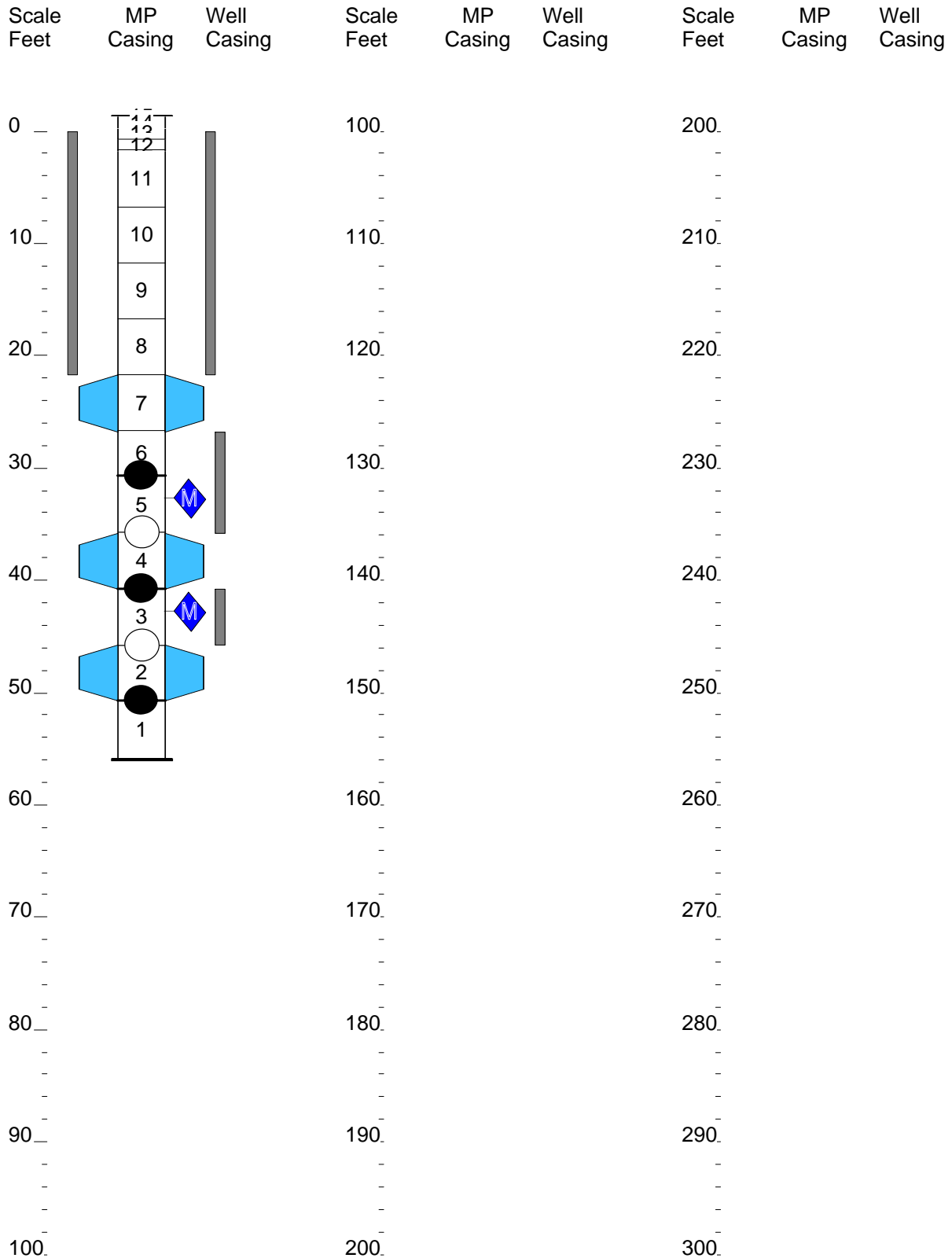
Sketch of Wellhead Completion

Legend

(Qty) MP Components (Library - WD Library 04/29/15)		Geology	Backfill/Casing
	(2) 0203 - MP38 End Cap		 Mild Steel
	(3) 020101 - MP38 Casing 4 (1F/0.3M)		
	(7) 020105 - MP38 Casing 2 (5F/1.5M)		
	(3) 0238 - MP38 Packer - 74mm (5F/1.5M)		
	(1) 020104 - MP38 Casing 5 (4F/1.2M)		
	(9) 0202 - MP38 Regular Coupling		
	(3) 0205 - MP38 Measurement Port		
	(2) 0224 - MP38 Pumping Port		
	(2) 0216 - Magnetic Location Collar		

Well Designer Report Langan

Job No:
Well: LMW-10R-D





Westbay Piezometric Pressures/Levels

Field Data and Calculation Sheet

Well No.: LMV-12R-1D
 Datum: GS
 Elev. G.S.: -
 Height of Westbay above G.S.: -
 Elev. top of Westbay Casing: -
 Reference Elevation: -
 Borehole angle: 90°

Probe Type: Sampler
 Serial No.: 3555
 Probe Range: 0-520
 Westbay Casing Type: MD38
 Sampler Valve Position: Close

Date: 2/8/24
 Client: Lansan
 Job No.: ES1439
 Location: 1487 1st Ave
 Weather: -
 Operator: GS

Note: "Port position" in angled boreholes refer to position along drillhole. True depth (Dp) needs to be calculated using borehole angle and deviation data to calculate zone piezometric level (Dz).

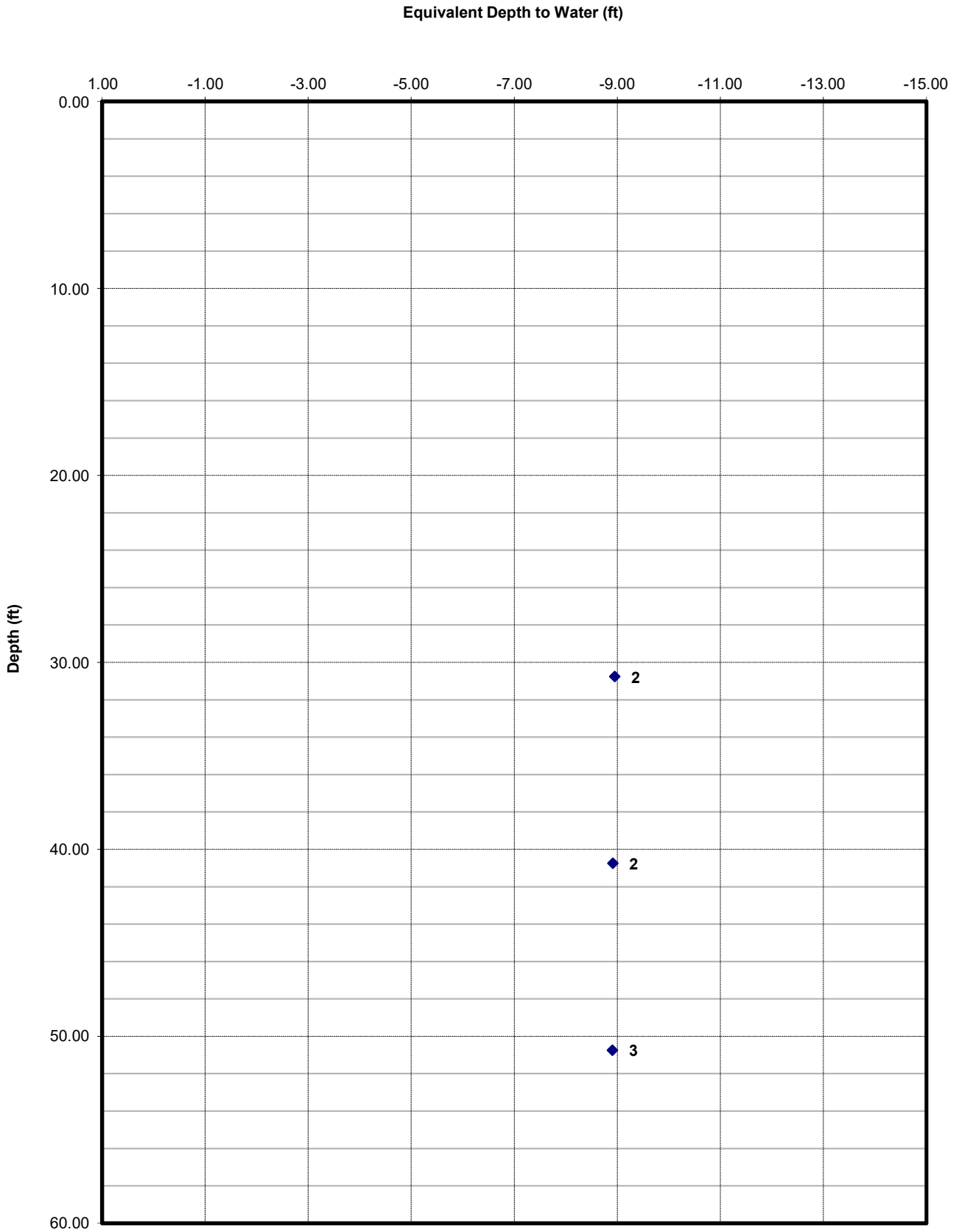
Ambient Reading (P_{atm}) (pressure, temperature, time)

Start: Pressure 14.88 Finish: 14.88
 Temp 4.67 15.95
 Time 10:13 10:50
 P_{atm} 14.88 psi

Port No.	Port Position From Log (ft)	Port Position From Cable (ft)	True Port Depth "Dp" (ft)	Fluid Pressure Readings					Pressure Head Outside Port (ft) H = (P2-Patm)/w	Piez. Level Outside Port (ft) Dz = Dp - H	Comments
				Inside Casing (P1)	Outside Casing (P2)	Time H:M:S	Probe Temp. (°C)	Inside Casing (P1)			
3	50.75	50.30	-	31.91	40.74	10:46	15.77	31.91	59.65	8.90	Pz In/ha
2	40.75	40.30	-	27.57	36.41	10:48	15.81	27.57	49.67	8.91	
1	30.75	30.40	-	23.22	32.09	10:49	15.93	23.23	39.70	8.95	

Notes: w = 0.4335 psi/ft (1.422psi/m) of H₂O Dz = piezometric level in zone Patm = atmospheric pressure H = pressure head of water in zone Dp = true depth of measurement port

Figure 21
Well: LMW-10R-D
Pre-Inflation Pressure Profile





Westbay Piezometric Pressures/Levels

Field Data and Calculation Sheet

Well No.: LMW-10A-D
 Datum: GS
 Elev. G.S.: -
 Height of Westbay above G.S.: -
 Elev. top of Westbay Casing: -
 Reference Elevation: -
 Borehole angle: 90°

Probe Type: Sampler
 Serial No.: 333
 Probe Range: 0-520
 Westbay Casing Type: MP38
 Sampler Valve Position: Close

Date: 2/8/24
 Client: Kengan
 Job No.: FS1499
 Location: 1487 1st Ave
 Weather: -
 Operator: CW

Ambient Reading (P_{atm}) (pressure, temperature, time)

Note: "Port position" in angled boreholes refer to position along drillhole. True depth (Dp) needs to be calculated using borehole angle and deviation data to calculate zone piezometric level (Dz).

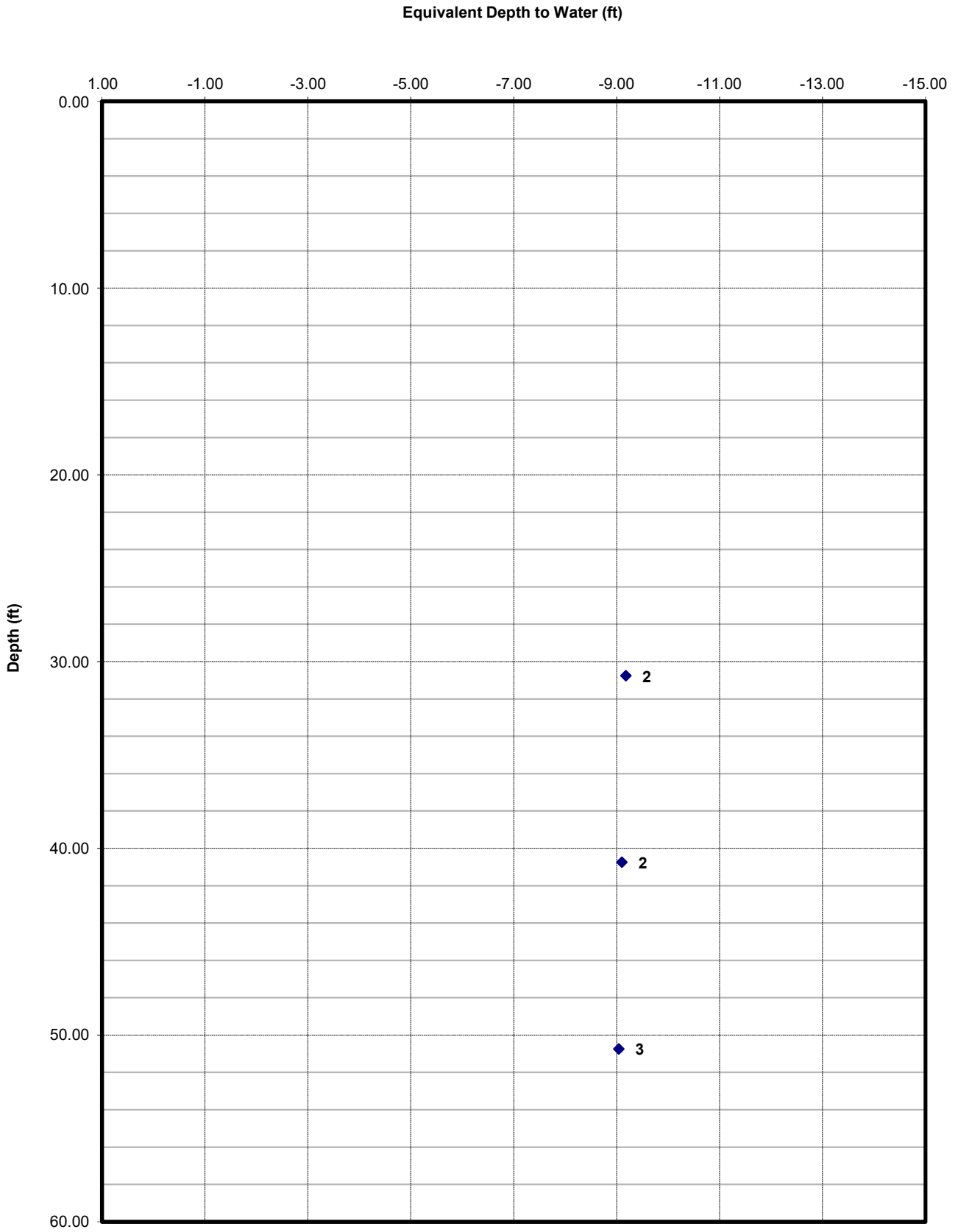
Start: Pressure 14.87 Finish: 14.87
 Temp 11.52 14.02
 Time 12:21 12:27

P_{atm} 14.87 psi

Port No.	Port Position From Log (ft)	Port Position From Cable (ft)	True Port Depth "Dp" (ft)	Fluid Pressure Readings				Pressure Head Outside Port (ft) H = (P2 - Patm) / w	Piez. Level Outside Port (ft) Dz = Dp - H	Comments	
				Inside Casing (P1)	Outside Casing (P2)	Time H:M:S	Probe Temp. (°C)				Inside Casing (P1)
3	38.75	50.76	-	39.15	40.79	12:23	11.89	39.15	59.79	9.04	Dist In/hh
2	40.75	90.80	-	39.81	36.48	12:25	12.97	39.81	49.85	9.10	
1	30.75	90.9	-	30.45	32.18	12:27	13.70	30.45	39.93	9.18	

Notes: w = 0.4335 psi/ft (1.422psi/m) of H₂O Dz = piezometric level in zone Patm = atmospheric pressure H = pressure head of water in zone Dp = true depth of measurement port

Figure 22
Well: LMW-10R-D
Post-Inflation Pressure Profile



Casing Installation Log

Company: Langan
Well: LMW-10R-D
Site: 1487 First Ave
Project: Langan - 1487 First Ave.

Job No:
Author: GS

Well Information

Reference Datum:
Elevation of Datum: 0.00 ft.
MP Casing Top: 0.00 ft.
MP Casing Length: 55.91 ft.

Borehole Depth: 63.75 ft.
Borehole Inclination:
Borehole Diameter: 4.00 in.

Well Description:

Other References:

File Information

File Name: LMW10R-D.VVWD
Report Date: Tue Jan 30 17:40:45 2024

File Date: Jan 30 12:14:14 2024











Comments

Log Information

Borehole condition confirmed.
MP well design & preparation.
MP well design checked.
MP well and borehole approved to install.

(method) logging Date: _____
By: [Signature] Date: 1/30/24
By: [Signature] Date: 2/8/24
By: [Signature] Date: 2/8/24

Legend

(Qty) MP Components (Library - WD Library 04/29/15)		Geology	Backfill/Casing
	(2) 0203 - MP38 End Cap		 Mild Steel
	(3) 020101 - MP38 Casing 4 (1F/0.3M)		
	(7) 020105 - MP38 Casing 2 (5F/1.5M)		
	(3) 0238 - MP38 Packer - 74mm (5F/1.5M)		
	(1) 020104 - MP38 Casing 5 (4F/1.2M)		
	(9) 0202 - MP38 Regular Coupling		
	(3) 0205 - MP38 Measurement Port		
	(2) 0224 - MP38 Pumping Port		
	(2) 0216 - Magnetic Location Collar		

Well Designer Report Langan

Job No:
Well: LMW-10R-D

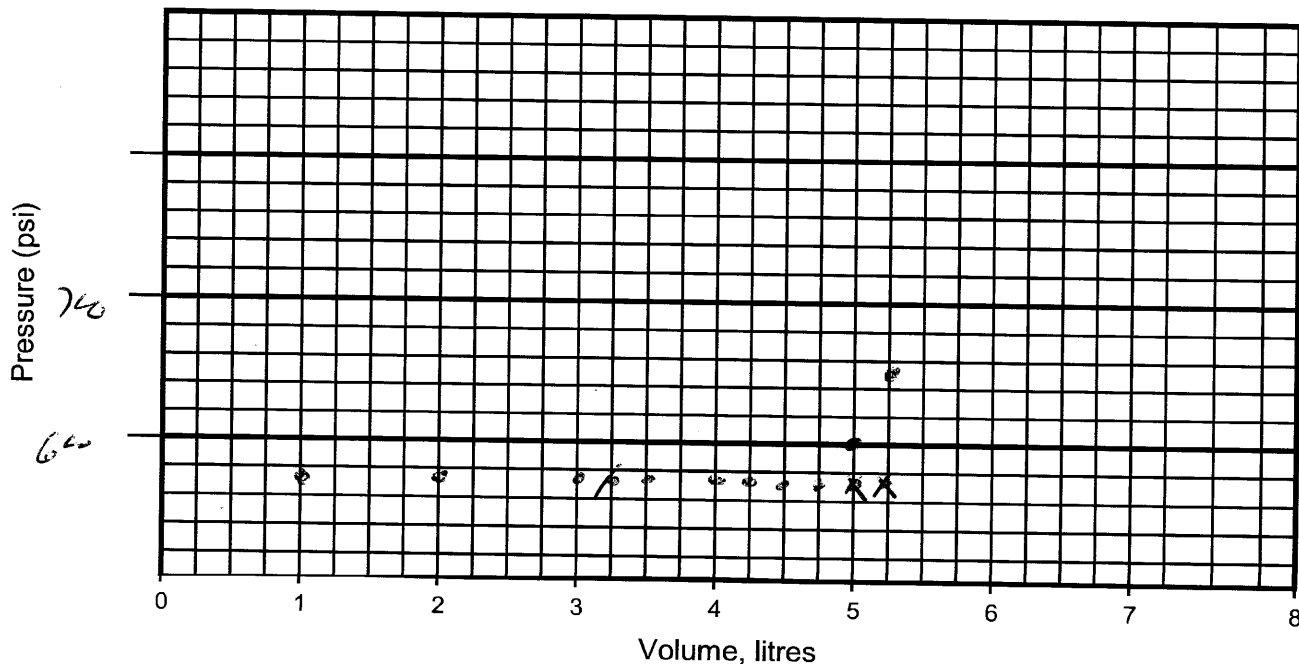
Scale Feet	MP Casing	QA Tested OK	MP Casing Description
0	12	<input checked="" type="checkbox"/>	020101 - MP38 Casing 4 (1F/0.3M)
	13	<input checked="" type="checkbox"/>	020101 - MP38 Casing 4 (1F/0.3M)
	12	<input checked="" type="checkbox"/>	020105 - MP38 Casing 2 (5F/1.5M)
	11	<input checked="" type="checkbox"/>	020105 - MP38 Casing 2 (5F/1.5M)
	10	<input checked="" type="checkbox"/>	020105 - MP38 Casing 2 (5F/1.5M)
10	10	<input checked="" type="checkbox"/>	020105 - MP38 Casing 2 (5F/1.5M)
	9	<input checked="" type="checkbox"/>	020105 - MP38 Casing 2 (5F/1.5M)
	8	<input checked="" type="checkbox"/>	020105 - MP38 Casing 2 (5F/1.5M)
20	8	<input checked="" type="checkbox"/>	020105 - MP38 Casing 2 (5F/1.5M)
	7	<input checked="" type="checkbox"/>	0238 - MP38 Packer - 74mm (5F/1.5M) 20147 165/140
	6	<input checked="" type="checkbox"/>	020104 - MP38 Casing 5 (4F/1.2M)
30	6	<input checked="" type="checkbox"/>	0205 - MP38 Measurement Port 10202
	5	<input checked="" type="checkbox"/>	020105 - MP38 Casing 2 (5F/1.5M)
	4	<input checked="" type="checkbox"/>	0224 - MP38 Pumping Port 924F
40	4	<input checked="" type="checkbox"/>	0238 - MP38 Packer - 74mm (5F/1.5M) 18150 105/145
	3	<input checked="" type="checkbox"/>	0205 - MP38 Measurement Port 10203
	3	<input checked="" type="checkbox"/>	020105 - MP38 Casing 2 (5F/1.5M)
	2	<input checked="" type="checkbox"/>	0224 - MP38 Pumping Port 925F
50	2	<input checked="" type="checkbox"/>	0238 - MP38 Packer - 74mm (5F/1.5M) 20148 105/140
	1	<input checked="" type="checkbox"/>	0205 - MP38 Measurement Port 10297
	1	<input checked="" type="checkbox"/>	020105 - MP38 Casing 2 (5F/1.5M)
	1	<input checked="" type="checkbox"/>	0203 - MP38 End Cap



Westbay Packer Inflation Record

Project: Looney - 1487 1st Ave Project No.: FS1499 Well No.: L44-10A-1
 Location: 1487 1st Ave Completed by: CS Date Inflated: 2/8/24
 Packer No. 1-20148 Depth (ft/m): 45.75 Inflation Tool No.: 71W886
 Packer Valve Pressure, P_V: 140 psi Final Line Pressure, P_L: 650 psi Tool Pressure, P_T: 400 psi
 Borehole Water Level: — (ft/m) = — psi (P_w)
 Calculated Packer Element Pressure, P_E = P_L + P_w - P_V - P_T = 110 psi

Volume, litres	1.0	2.0	3.0	3.5	4.0	4.25	4.50	4.75	5.0	5.25
Pressure, psi	575	575	575	575	575	575	575	575	600	650
Volume, litres	/	5.20								
Pressure, psi	/	0								



Comments: Packer # 1

Time - 10:58

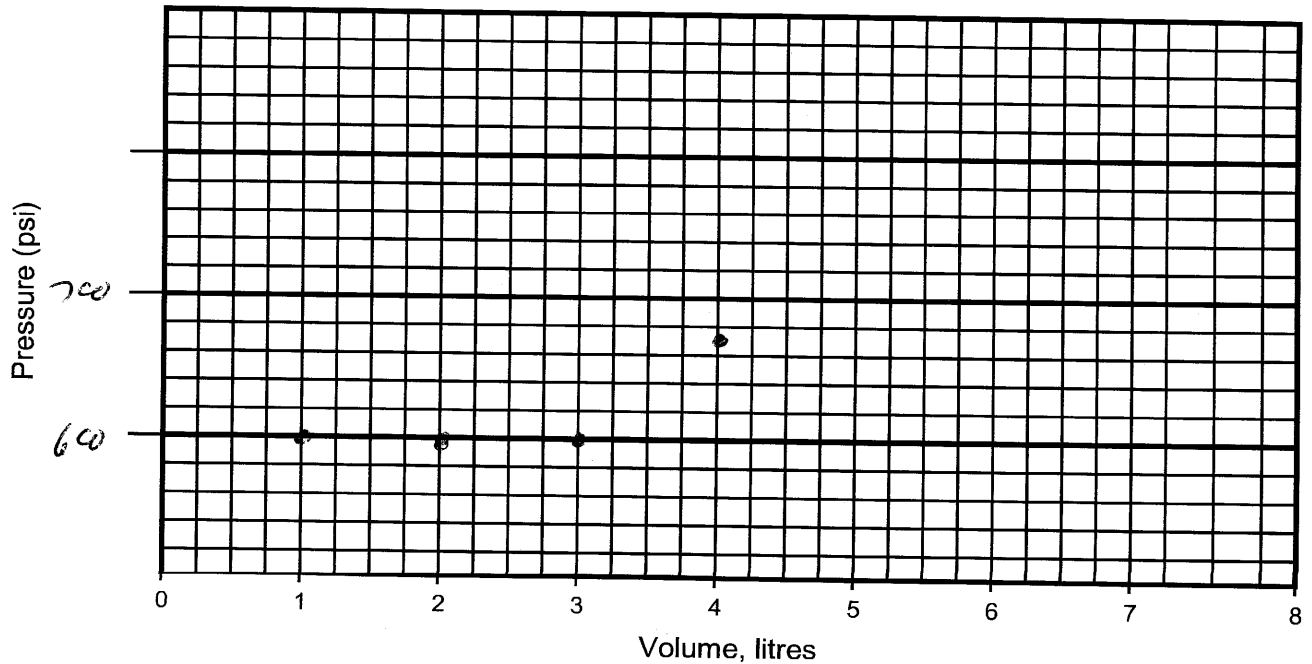


Westbay Packer Inflation Record

Project: Leaven - 1487 1st Ave Project No.: FS1499 Well No.: L40-100B-D
 Location: 1487-1st Ave Completed by: CS Date Inflated: 2/8/24
 Packer No. 2 - 10207 18/80 Depth (ft/m): 35.75 Inflation Tool No.: TW 3594
 Packer Valve Pressure, P_V: 145 psi Final Line Pressure, P_L: 675 psi Tool Pressure, P_T: 940 psi
 Borehole Water Level: — (ft/m) = — psi (P_w)

Calculated Packer Element Pressure, P_E = P_L + P_w - P_V - P_T = 130 psi

Volume, litres	1.0	2.0	3.0	4.0	1.0	4.0				
Pressure, psi	600	600	600	675	1	6				
Volume, litres										
Pressure, psi										



Comments: Packer # 2

Time - 11:21

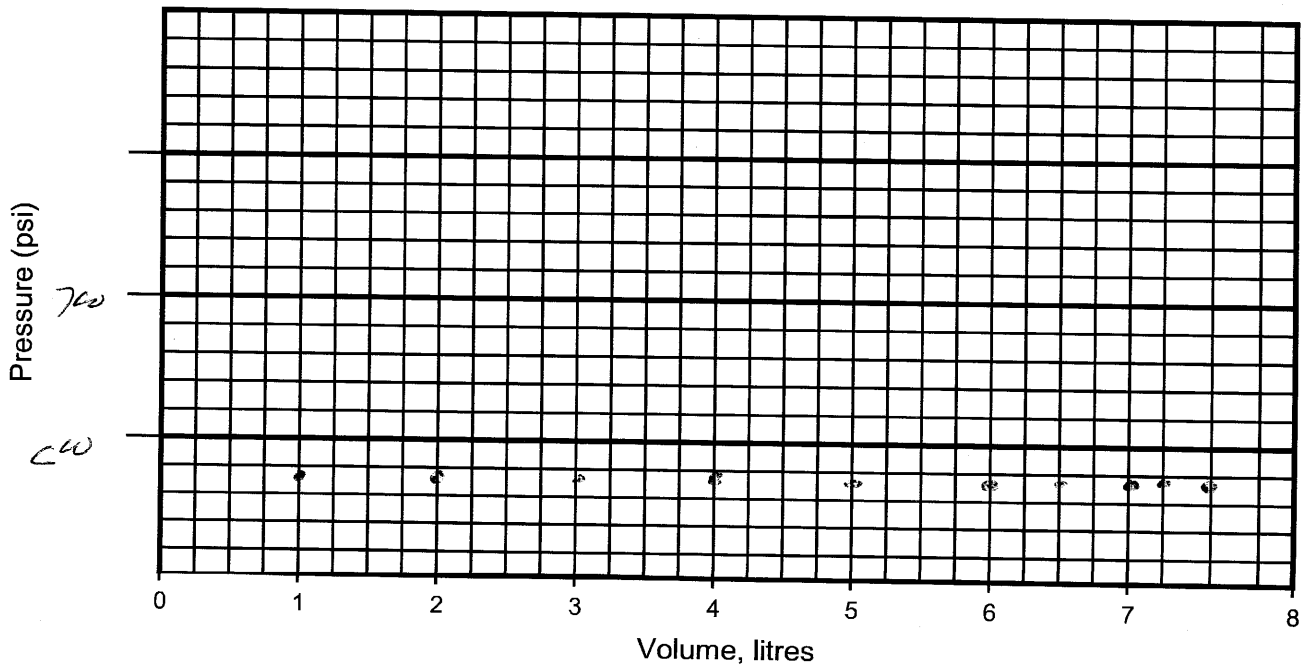


Westbay Packer Inflation Record

Project: hansen - 1487 1st Ave Project No.: FS1499 Well No.: LHW-10R-1
 Location: 1487 1st Ave Completed by: CS Date Inflated: 2/8/24
 Packer No. 3 - 20147 Depth (ft/m): 01.25 Inflation Tool No.: 71W 3994
 Packer Valve Pressure, P_V: 190 psi Final Line Pressure, P_L: 575 psi Tool Pressure, P_T: 400 psi
 Borehole Water Level: - (ft/m) = - psi (P_w)

Calculated Packer Element Pressure, P_E = P_L + P_w - P_V - P_T = 31 psi

Volume, litres	10	20	3.0	4.0	4.5	5.0	5.5	6.0	6.5	7.0
Pressure, psi	575	575	575	575	575	575	575	575	575	575
Volume, litres	2.25	3.50	/	25						
Pressure, psi	575	575	/	0						



Comments: Packer # 3

Time - 11:54

APPENDIX D

Laboratory Data Reports



ANALYTICAL REPORT

Lab Number:	L2408247
Client:	Langan Engineering & Environmental 300 Kimball Drive 4th Floor Parsippany, NJ 07054
ATTN:	Ashley Sandve
Phone:	(973) 560-4871
Project Name:	1487 FIRST AVE
Project Number:	100963701
Report Date:	02/16/24

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Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0826), IL (200077), IN (C-MA-03), KY (KY98045), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), OH (CL108), OR (MA-1316), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #525-23-122-91930).

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com



Project Name: 1487 FIRST AVE

Project Number: 100963701

Lab Number: L2408247

Report Date: 02/16/24

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2408247-01	LMW-6R-D_54.75	WATER	NEW YORK	02/13/24 12:00	02/14/24
L2408247-02	LMW-6R-D_42.75	WATER	NEW YORK	02/13/24 12:20	02/14/24
L2408247-03	LMW-6R-D_32.75	WATER	NEW YORK	02/13/24 12:40	02/14/24
L2408247-04	LMW-9R-S_13.75	WATER	NEW YORK	02/13/24 13:15	02/14/24
L2408247-05	LMW-10R-S_24.75	WATER	NEW YORK	02/13/24 10:00	02/14/24
L2408247-06	LMW-10R-D_40.75	WATER	NEW YORK	02/13/24 10:45	02/14/24
L2408247-07	LMW-10R-D_30.75	WATER	NEW YORK	02/13/24 11:20	02/14/24
L2408247-08	LMW-7R-S_6.75	WATER	NEW YORK	02/13/24 14:15	02/14/24
L2408247-09	LMW-7R-S_16.75	WATER	NEW YORK	02/13/24 15:10	02/14/24
L2408247-10	LMW-7R-D_23.75	WATER	NEW YORK	02/13/24 15:25	02/14/24
L2408247-11	LMW-7R-D_49.75	WATER	NEW YORK	02/13/24 15:48	02/14/24
L2408247-12	LMW-9R-D_58.25	WATER	NEW YORK	02/14/24 14:45	02/14/24
L2408247-13	LMW-8R-D_27.75	WATER	NEW YORK	02/14/24 11:00	02/14/24
L2408247-14	LMW-8R-D_59.75	WATER	NEW YORK	02/14/24 12:00	02/14/24
L2408247-15	LMW-8R-S_6.75	WATER	NEW YORK	02/14/24 12:30	02/14/24
L2408247-16	DUP01_021424	WATER	NEW YORK	02/14/24 12:40	02/14/24
L2408247-17	LMW-8R-S_18.75	WATER	NEW YORK	02/14/24 13:00	02/14/24
L2408247-18	LMW-6R-S_18.75	WATER	NEW YORK	02/14/24 09:45	02/14/24
L2408247-19	TB01_021424	WATER	NEW YORK	02/14/24 00:00	02/14/24

Project Name: 1487 FIRST AVE
Project Number: 100963701

Lab Number: L2408247
Report Date: 02/16/24

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

Project Name: 1487 FIRST AVE
Project Number: 100963701

Lab Number: L2408247
Report Date: 02/16/24

Case Narrative (continued)

Report Submission

All non-detect (ND) or estimated concentrations (J-qualified) have been quantitated to the limit noted in the MDL column.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature:

 Caitlin Walukevich

Title: Technical Director/Representative

Date: 02/16/24

ORGANICS

VOLATILES

Project Name: 1487 FIRST AVE**Lab Number:** L2408247**Project Number:** 100963701**Report Date:** 02/16/24**SAMPLE RESULTS**

Lab ID: L2408247-01
 Client ID: LMW-6R-D_54.75
 Sample Location: NEW YORK

Date Collected: 02/13/24 12:00
 Date Received: 02/14/24
 Field Prep: Not Specified

Sample Depth:

Matrix: Water
 Analytical Method: 1,8260D
 Analytical Date: 02/15/24 19:31
 Analyst: MJV

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	0.81	J	ug/l	2.5	0.70	1
1,1-Dichloroethane	ND		ug/l	2.5	0.70	1
Chloroform	ND		ug/l	2.5	0.70	1
Carbon tetrachloride	ND		ug/l	0.50	0.13	1
1,2-Dichloropropane	ND		ug/l	1.0	0.14	1
Dibromochloromethane	ND		ug/l	0.50	0.15	1
1,1,2-Trichloroethane	ND		ug/l	1.5	0.50	1
Tetrachloroethene	ND		ug/l	0.50	0.18	1
Chlorobenzene	ND		ug/l	2.5	0.70	1
Trichlorofluoromethane	ND		ug/l	2.5	0.70	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
1,1,1-Trichloroethane	ND		ug/l	2.5	0.70	1
Bromodichloromethane	ND		ug/l	0.50	0.19	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14	1
1,3-Dichloropropene, Total	ND		ug/l	0.50	0.14	1
1,1-Dichloropropene	ND		ug/l	2.5	0.70	1
Bromoform	ND		ug/l	2.0	0.65	1
1,1,1,2,2-Tetrachloroethane	0.21	J	ug/l	0.50	0.17	1
Benzene	ND		ug/l	0.50	0.16	1
Toluene	7.8		ug/l	2.5	0.70	1
Ethylbenzene	ND		ug/l	2.5	0.70	1
Chloromethane	ND		ug/l	2.5	0.70	1
Bromomethane	ND		ug/l	2.5	0.70	1
Vinyl chloride	0.61	J	ug/l	1.0	0.07	1
Chloroethane	ND		ug/l	2.5	0.70	1
1,1-Dichloroethene	ND		ug/l	0.50	0.17	1
trans-1,2-Dichloroethene	ND		ug/l	2.5	0.70	1

Project Name: 1487 FIRST AVE

Lab Number: L2408247

Project Number: 100963701

Report Date: 02/16/24

SAMPLE RESULTS

Lab ID: L2408247-01
 Client ID: LMW-6R-D_54.75
 Sample Location: NEW YORK

Date Collected: 02/13/24 12:00
 Date Received: 02/14/24
 Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Trichloroethene	ND		ug/l	0.50	0.18	1
1,2-Dichlorobenzene	ND		ug/l	2.5	0.70	1
1,3-Dichlorobenzene	ND		ug/l	2.5	0.70	1
1,4-Dichlorobenzene	ND		ug/l	2.5	0.70	1
Methyl tert butyl ether	ND		ug/l	2.5	0.70	1
p/m-Xylene	ND		ug/l	2.5	0.70	1
o-Xylene	ND		ug/l	2.5	0.70	1
Xylenes, Total	ND		ug/l	2.5	0.70	1
cis-1,2-Dichloroethene	0.80	J	ug/l	2.5	0.70	1
1,2-Dichloroethene, Total	0.80	J	ug/l	2.5	0.70	1
Dibromomethane	ND		ug/l	5.0	1.0	1
1,2,3-Trichloropropane	ND		ug/l	2.5	0.70	1
Acrylonitrile	ND		ug/l	5.0	1.5	1
Styrene	ND		ug/l	2.5	0.70	1
Dichlorodifluoromethane	ND		ug/l	5.0	1.0	1
Acetone	44		ug/l	5.0	1.5	1
Carbon disulfide	ND		ug/l	5.0	1.0	1
2-Butanone	55		ug/l	5.0	1.9	1
Vinyl acetate	ND		ug/l	5.0	1.0	1
4-Methyl-2-pentanone	ND		ug/l	5.0	1.0	1
2-Hexanone	ND		ug/l	5.0	1.0	1
Bromochloromethane	ND		ug/l	2.5	0.70	1
2,2-Dichloropropane	ND		ug/l	2.5	0.70	1
1,2-Dibromoethane	ND		ug/l	2.0	0.65	1
1,3-Dichloropropane	ND		ug/l	2.5	0.70	1
1,1,1,2-Tetrachloroethane	ND		ug/l	2.5	0.70	1
Bromobenzene	ND		ug/l	2.5	0.70	1
n-Butylbenzene	ND		ug/l	2.5	0.70	1
sec-Butylbenzene	ND		ug/l	2.5	0.70	1
tert-Butylbenzene	ND		ug/l	2.5	0.70	1
o-Chlorotoluene	ND		ug/l	2.5	0.70	1
p-Chlorotoluene	ND		ug/l	2.5	0.70	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	0.70	1
Hexachlorobutadiene	ND		ug/l	2.5	0.70	1
Isopropylbenzene	ND		ug/l	2.5	0.70	1
p-Isopropyltoluene	ND		ug/l	2.5	0.70	1
Naphthalene	ND		ug/l	2.5	0.70	1

Project Name: 1487 FIRST AVE
Project Number: 100963701

Lab Number: L2408247
Report Date: 02/16/24

SAMPLE RESULTS

Lab ID: L2408247-01
Client ID: LMW-6R-D_54.75
Sample Location: NEW YORK

Date Collected: 02/13/24 12:00
Date Received: 02/14/24
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
n-Propylbenzene	ND		ug/l	2.5	0.70	1
1,2,3-Trichlorobenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trichlorobenzene	ND		ug/l	2.5	0.70	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trimethylbenzene	0.74	J	ug/l	2.5	0.70	1
1,4-Dioxane	ND		ug/l	250	61.	1
p-Diethylbenzene	ND		ug/l	2.0	0.70	1
p-Ethyltoluene	ND		ug/l	2.0	0.70	1
1,2,4,5-Tetramethylbenzene	ND		ug/l	2.0	0.54	1
Ethyl ether	ND		ug/l	2.5	0.70	1
trans-1,4-Dichloro-2-butene	ND		ug/l	2.5	0.70	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	129		70-130
Toluene-d8	97		70-130
4-Bromofluorobenzene	100		70-130
Dibromofluoromethane	110		70-130

Project Name: 1487 FIRST AVE

Lab Number: L2408247

Project Number: 100963701

Report Date: 02/16/24

SAMPLE RESULTS

Lab ID: L2408247-02
 Client ID: LMW-6R-D_42.75
 Sample Location: NEW YORK

Date Collected: 02/13/24 12:20
 Date Received: 02/14/24
 Field Prep: Not Specified

Sample Depth:

Matrix: Water
 Analytical Method: 1,8260D
 Analytical Date: 02/15/24 19:57
 Analyst: MJV

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	2.5	0.70	1
1,1-Dichloroethane	ND		ug/l	2.5	0.70	1
Chloroform	ND		ug/l	2.5	0.70	1
Carbon tetrachloride	ND		ug/l	0.50	0.13	1
1,2-Dichloropropane	ND		ug/l	1.0	0.14	1
Dibromochloromethane	ND		ug/l	0.50	0.15	1
1,1,2-Trichloroethane	ND		ug/l	1.5	0.50	1
Tetrachloroethene	ND		ug/l	0.50	0.18	1
Chlorobenzene	ND		ug/l	2.5	0.70	1
Trichlorofluoromethane	ND		ug/l	2.5	0.70	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
1,1,1-Trichloroethane	ND		ug/l	2.5	0.70	1
Bromodichloromethane	ND		ug/l	0.50	0.19	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14	1
1,3-Dichloropropene, Total	ND		ug/l	0.50	0.14	1
1,1-Dichloropropene	ND		ug/l	2.5	0.70	1
Bromoform	ND		ug/l	2.0	0.65	1
1,1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.17	1
Benzene	0.16	J	ug/l	0.50	0.16	1
Toluene	12		ug/l	2.5	0.70	1
Ethylbenzene	ND		ug/l	2.5	0.70	1
Chloromethane	ND		ug/l	2.5	0.70	1
Bromomethane	ND		ug/l	2.5	0.70	1
Vinyl chloride	1.1		ug/l	1.0	0.07	1
Chloroethane	ND		ug/l	2.5	0.70	1
1,1-Dichloroethene	ND		ug/l	0.50	0.17	1
trans-1,2-Dichloroethene	ND		ug/l	2.5	0.70	1

Project Name: 1487 FIRST AVE

Lab Number: L2408247

Project Number: 100963701

Report Date: 02/16/24

SAMPLE RESULTS

Lab ID: L2408247-02
 Client ID: LMW-6R-D_42.75
 Sample Location: NEW YORK

Date Collected: 02/13/24 12:20
 Date Received: 02/14/24
 Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Trichloroethene	ND		ug/l	0.50	0.18	1
1,2-Dichlorobenzene	ND		ug/l	2.5	0.70	1
1,3-Dichlorobenzene	ND		ug/l	2.5	0.70	1
1,4-Dichlorobenzene	ND		ug/l	2.5	0.70	1
Methyl tert butyl ether	ND		ug/l	2.5	0.70	1
p/m-Xylene	ND		ug/l	2.5	0.70	1
o-Xylene	ND		ug/l	2.5	0.70	1
Xylenes, Total	ND		ug/l	2.5	0.70	1
cis-1,2-Dichloroethene	1.2	J	ug/l	2.5	0.70	1
1,2-Dichloroethene, Total	1.2	J	ug/l	2.5	0.70	1
Dibromomethane	ND		ug/l	5.0	1.0	1
1,2,3-Trichloropropane	ND		ug/l	2.5	0.70	1
Acrylonitrile	ND		ug/l	5.0	1.5	1
Styrene	ND		ug/l	2.5	0.70	1
Dichlorodifluoromethane	ND		ug/l	5.0	1.0	1
Acetone	51		ug/l	5.0	1.5	1
Carbon disulfide	1.0	J	ug/l	5.0	1.0	1
2-Butanone	53		ug/l	5.0	1.9	1
Vinyl acetate	ND		ug/l	5.0	1.0	1
4-Methyl-2-pentanone	ND		ug/l	5.0	1.0	1
2-Hexanone	ND		ug/l	5.0	1.0	1
Bromochloromethane	ND		ug/l	2.5	0.70	1
2,2-Dichloropropane	ND		ug/l	2.5	0.70	1
1,2-Dibromoethane	ND		ug/l	2.0	0.65	1
1,3-Dichloropropane	ND		ug/l	2.5	0.70	1
1,1,1,2-Tetrachloroethane	ND		ug/l	2.5	0.70	1
Bromobenzene	ND		ug/l	2.5	0.70	1
n-Butylbenzene	ND		ug/l	2.5	0.70	1
sec-Butylbenzene	ND		ug/l	2.5	0.70	1
tert-Butylbenzene	ND		ug/l	2.5	0.70	1
o-Chlorotoluene	ND		ug/l	2.5	0.70	1
p-Chlorotoluene	ND		ug/l	2.5	0.70	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	0.70	1
Hexachlorobutadiene	ND		ug/l	2.5	0.70	1
Isopropylbenzene	ND		ug/l	2.5	0.70	1
p-Isopropyltoluene	ND		ug/l	2.5	0.70	1
Naphthalene	ND		ug/l	2.5	0.70	1

Project Name: 1487 FIRST AVE
Project Number: 100963701

Lab Number: L2408247
Report Date: 02/16/24

SAMPLE RESULTS

Lab ID: L2408247-02
Client ID: LMW-6R-D_42.75
Sample Location: NEW YORK

Date Collected: 02/13/24 12:20
Date Received: 02/14/24
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
n-Propylbenzene	ND		ug/l	2.5	0.70	1
1,2,3-Trichlorobenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trichlorobenzene	ND		ug/l	2.5	0.70	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trimethylbenzene	0.95	J	ug/l	2.5	0.70	1
1,4-Dioxane	ND		ug/l	250	61.	1
p-Diethylbenzene	ND		ug/l	2.0	0.70	1
p-Ethyltoluene	ND		ug/l	2.0	0.70	1
1,2,4,5-Tetramethylbenzene	ND		ug/l	2.0	0.54	1
Ethyl ether	ND		ug/l	2.5	0.70	1
trans-1,4-Dichloro-2-butene	ND		ug/l	2.5	0.70	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	120		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	98		70-130
Dibromofluoromethane	109		70-130

Project Name: 1487 FIRST AVE**Lab Number:** L2408247**Project Number:** 100963701**Report Date:** 02/16/24**SAMPLE RESULTS**

Lab ID: L2408247-03
 Client ID: LMW-6R-D_32.75
 Sample Location: NEW YORK

Date Collected: 02/13/24 12:40
 Date Received: 02/14/24
 Field Prep: Not Specified

Sample Depth:

Matrix: Water
 Analytical Method: 1,8260D
 Analytical Date: 02/15/24 20:22
 Analyst: MJV

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	2.5	0.70	1
1,1-Dichloroethane	ND		ug/l	2.5	0.70	1
Chloroform	ND		ug/l	2.5	0.70	1
Carbon tetrachloride	ND		ug/l	0.50	0.13	1
1,2-Dichloropropane	ND		ug/l	1.0	0.14	1
Dibromochloromethane	ND		ug/l	0.50	0.15	1
1,1,2-Trichloroethane	ND		ug/l	1.5	0.50	1
Tetrachloroethene	ND		ug/l	0.50	0.18	1
Chlorobenzene	ND		ug/l	2.5	0.70	1
Trichlorofluoromethane	ND		ug/l	2.5	0.70	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
1,1,1-Trichloroethane	ND		ug/l	2.5	0.70	1
Bromodichloromethane	ND		ug/l	0.50	0.19	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14	1
1,3-Dichloropropene, Total	ND		ug/l	0.50	0.14	1
1,1-Dichloropropene	ND		ug/l	2.5	0.70	1
Bromoform	ND		ug/l	2.0	0.65	1
1,1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.17	1
Benzene	0.17	J	ug/l	0.50	0.16	1
Toluene	13		ug/l	2.5	0.70	1
Ethylbenzene	ND		ug/l	2.5	0.70	1
Chloromethane	ND		ug/l	2.5	0.70	1
Bromomethane	ND		ug/l	2.5	0.70	1
Vinyl chloride	1.2		ug/l	1.0	0.07	1
Chloroethane	ND		ug/l	2.5	0.70	1
1,1-Dichloroethene	ND		ug/l	0.50	0.17	1
trans-1,2-Dichloroethene	ND		ug/l	2.5	0.70	1

Project Name: 1487 FIRST AVE

Lab Number: L2408247

Project Number: 100963701

Report Date: 02/16/24

SAMPLE RESULTS

Lab ID: L2408247-03
 Client ID: LMW-6R-D_32.75
 Sample Location: NEW YORK

Date Collected: 02/13/24 12:40
 Date Received: 02/14/24
 Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Trichloroethene	ND		ug/l	0.50	0.18	1
1,2-Dichlorobenzene	ND		ug/l	2.5	0.70	1
1,3-Dichlorobenzene	ND		ug/l	2.5	0.70	1
1,4-Dichlorobenzene	ND		ug/l	2.5	0.70	1
Methyl tert butyl ether	ND		ug/l	2.5	0.70	1
p/m-Xylene	ND		ug/l	2.5	0.70	1
o-Xylene	ND		ug/l	2.5	0.70	1
Xylenes, Total	ND		ug/l	2.5	0.70	1
cis-1,2-Dichloroethene	1.2	J	ug/l	2.5	0.70	1
1,2-Dichloroethene, Total	1.2	J	ug/l	2.5	0.70	1
Dibromomethane	ND		ug/l	5.0	1.0	1
1,2,3-Trichloropropane	ND		ug/l	2.5	0.70	1
Acrylonitrile	ND		ug/l	5.0	1.5	1
Styrene	ND		ug/l	2.5	0.70	1
Dichlorodifluoromethane	ND		ug/l	5.0	1.0	1
Acetone	59		ug/l	5.0	1.5	1
Carbon disulfide	ND		ug/l	5.0	1.0	1
2-Butanone	57		ug/l	5.0	1.9	1
Vinyl acetate	ND		ug/l	5.0	1.0	1
4-Methyl-2-pentanone	ND		ug/l	5.0	1.0	1
2-Hexanone	1.2	J	ug/l	5.0	1.0	1
Bromochloromethane	ND		ug/l	2.5	0.70	1
2,2-Dichloropropane	ND		ug/l	2.5	0.70	1
1,2-Dibromoethane	ND		ug/l	2.0	0.65	1
1,3-Dichloropropane	ND		ug/l	2.5	0.70	1
1,1,1,2-Tetrachloroethane	ND		ug/l	2.5	0.70	1
Bromobenzene	ND		ug/l	2.5	0.70	1
n-Butylbenzene	ND		ug/l	2.5	0.70	1
sec-Butylbenzene	ND		ug/l	2.5	0.70	1
tert-Butylbenzene	ND		ug/l	2.5	0.70	1
o-Chlorotoluene	ND		ug/l	2.5	0.70	1
p-Chlorotoluene	ND		ug/l	2.5	0.70	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	0.70	1
Hexachlorobutadiene	ND		ug/l	2.5	0.70	1
Isopropylbenzene	ND		ug/l	2.5	0.70	1
p-Isopropyltoluene	ND		ug/l	2.5	0.70	1
Naphthalene	ND		ug/l	2.5	0.70	1

Project Name: 1487 FIRST AVE
Project Number: 100963701

Lab Number: L2408247
Report Date: 02/16/24

SAMPLE RESULTS

Lab ID: L2408247-03
Client ID: LMW-6R-D_32.75
Sample Location: NEW YORK

Date Collected: 02/13/24 12:40
Date Received: 02/14/24
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
n-Propylbenzene	ND		ug/l	2.5	0.70	1
1,2,3-Trichlorobenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trichlorobenzene	ND		ug/l	2.5	0.70	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trimethylbenzene	1.0	J	ug/l	2.5	0.70	1
1,4-Dioxane	ND		ug/l	250	61.	1
p-Diethylbenzene	0.79	J	ug/l	2.0	0.70	1
p-Ethyltoluene	ND		ug/l	2.0	0.70	1
1,2,4,5-Tetramethylbenzene	0.55	J	ug/l	2.0	0.54	1
Ethyl ether	ND		ug/l	2.5	0.70	1
trans-1,4-Dichloro-2-butene	ND		ug/l	2.5	0.70	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	119		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	96		70-130
Dibromofluoromethane	107		70-130

Project Name: 1487 FIRST AVE**Lab Number:** L2408247**Project Number:** 100963701**Report Date:** 02/16/24**SAMPLE RESULTS**

Lab ID: L2408247-04
 Client ID: LMW-9R-S_13.75
 Sample Location: NEW YORK

Date Collected: 02/13/24 13:15
 Date Received: 02/14/24
 Field Prep: Not Specified

Sample Depth:

Matrix: Water
 Analytical Method: 1,8260D
 Analytical Date: 02/15/24 20:48
 Analyst: MJV

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	2.5	0.70	1
1,1-Dichloroethane	ND		ug/l	2.5	0.70	1
Chloroform	ND		ug/l	2.5	0.70	1
Carbon tetrachloride	ND		ug/l	0.50	0.13	1
1,2-Dichloropropane	ND		ug/l	1.0	0.14	1
Dibromochloromethane	ND		ug/l	0.50	0.15	1
1,1,2-Trichloroethane	ND		ug/l	1.5	0.50	1
Tetrachloroethene	0.20	J	ug/l	0.50	0.18	1
Chlorobenzene	ND		ug/l	2.5	0.70	1
Trichlorofluoromethane	ND		ug/l	2.5	0.70	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
1,1,1-Trichloroethane	ND		ug/l	2.5	0.70	1
Bromodichloromethane	ND		ug/l	0.50	0.19	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14	1
1,3-Dichloropropene, Total	ND		ug/l	0.50	0.14	1
1,1-Dichloropropene	ND		ug/l	2.5	0.70	1
Bromoform	ND		ug/l	2.0	0.65	1
1,1,1,2,2-Tetrachloroethane	0.18	J	ug/l	0.50	0.17	1
Benzene	1.3		ug/l	0.50	0.16	1
Toluene	85		ug/l	2.5	0.70	1
Ethylbenzene	ND		ug/l	2.5	0.70	1
Chloromethane	ND		ug/l	2.5	0.70	1
Bromomethane	ND		ug/l	2.5	0.70	1
Vinyl chloride	4.6		ug/l	1.0	0.07	1
Chloroethane	ND		ug/l	2.5	0.70	1
1,1-Dichloroethene	ND		ug/l	0.50	0.17	1
trans-1,2-Dichloroethene	ND		ug/l	2.5	0.70	1

Project Name: 1487 FIRST AVE

Lab Number: L2408247

Project Number: 100963701

Report Date: 02/16/24

SAMPLE RESULTS

Lab ID: L2408247-04
 Client ID: LMW-9R-S_13.75
 Sample Location: NEW YORK

Date Collected: 02/13/24 13:15
 Date Received: 02/14/24
 Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Trichloroethene	ND		ug/l	0.50	0.18	1
1,2-Dichlorobenzene	ND		ug/l	2.5	0.70	1
1,3-Dichlorobenzene	ND		ug/l	2.5	0.70	1
1,4-Dichlorobenzene	ND		ug/l	2.5	0.70	1
Methyl tert butyl ether	ND		ug/l	2.5	0.70	1
p/m-Xylene	ND		ug/l	2.5	0.70	1
o-Xylene	ND		ug/l	2.5	0.70	1
Xylenes, Total	ND		ug/l	2.5	0.70	1
cis-1,2-Dichloroethene	ND		ug/l	2.5	0.70	1
1,2-Dichloroethene, Total	ND		ug/l	2.5	0.70	1
Dibromomethane	ND		ug/l	5.0	1.0	1
1,2,3-Trichloropropane	ND		ug/l	2.5	0.70	1
Acrylonitrile	ND		ug/l	5.0	1.5	1
Styrene	ND		ug/l	2.5	0.70	1
Dichlorodifluoromethane	ND		ug/l	5.0	1.0	1
Acetone	100		ug/l	5.0	1.5	1
Carbon disulfide	ND		ug/l	5.0	1.0	1
2-Butanone	82		ug/l	5.0	1.9	1
Vinyl acetate	ND		ug/l	5.0	1.0	1
4-Methyl-2-pentanone	4.3	J	ug/l	5.0	1.0	1
2-Hexanone	1.2	J	ug/l	5.0	1.0	1
Bromochloromethane	ND		ug/l	2.5	0.70	1
2,2-Dichloropropane	ND		ug/l	2.5	0.70	1
1,2-Dibromoethane	ND		ug/l	2.0	0.65	1
1,3-Dichloropropane	ND		ug/l	2.5	0.70	1
1,1,1,2-Tetrachloroethane	ND		ug/l	2.5	0.70	1
Bromobenzene	ND		ug/l	2.5	0.70	1
n-Butylbenzene	ND		ug/l	2.5	0.70	1
sec-Butylbenzene	ND		ug/l	2.5	0.70	1
tert-Butylbenzene	ND		ug/l	2.5	0.70	1
o-Chlorotoluene	ND		ug/l	2.5	0.70	1
p-Chlorotoluene	ND		ug/l	2.5	0.70	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	0.70	1
Hexachlorobutadiene	ND		ug/l	2.5	0.70	1
Isopropylbenzene	ND		ug/l	2.5	0.70	1
p-Isopropyltoluene	ND		ug/l	2.5	0.70	1
Naphthalene	ND		ug/l	2.5	0.70	1

Project Name: 1487 FIRST AVE
Project Number: 100963701

Lab Number: L2408247
Report Date: 02/16/24

SAMPLE RESULTS

Lab ID: L2408247-04
 Client ID: LMW-9R-S_13.75
 Sample Location: NEW YORK

Date Collected: 02/13/24 13:15
 Date Received: 02/14/24
 Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
n-Propylbenzene	ND		ug/l	2.5	0.70	1
1,2,3-Trichlorobenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trichlorobenzene	ND		ug/l	2.5	0.70	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.70	1
1,4-Dioxane	ND		ug/l	250	61.	1
p-Diethylbenzene	ND		ug/l	2.0	0.70	1
p-Ethyltoluene	ND		ug/l	2.0	0.70	1
1,2,4,5-Tetramethylbenzene	ND		ug/l	2.0	0.54	1
Ethyl ether	ND		ug/l	2.5	0.70	1
trans-1,4-Dichloro-2-butene	ND		ug/l	2.5	0.70	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	113		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	102		70-130
Dibromofluoromethane	99		70-130

Project Name: 1487 FIRST AVE**Lab Number:** L2408247**Project Number:** 100963701**Report Date:** 02/16/24**SAMPLE RESULTS**

Lab ID: L2408247-05
 Client ID: LMW-10R-S_24.75
 Sample Location: NEW YORK

Date Collected: 02/13/24 10:00
 Date Received: 02/14/24
 Field Prep: Not Specified

Sample Depth:

Matrix: Water
 Analytical Method: 1,8260D
 Analytical Date: 02/16/24 08:29
 Analyst: MJV

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	0.82	J	ug/l	2.5	0.70	1
1,1-Dichloroethane	ND		ug/l	2.5	0.70	1
Chloroform	13		ug/l	2.5	0.70	1
Carbon tetrachloride	ND		ug/l	0.50	0.13	1
1,2-Dichloropropane	ND		ug/l	1.0	0.14	1
Dibromochloromethane	ND		ug/l	0.50	0.15	1
1,1,2-Trichloroethane	ND		ug/l	1.5	0.50	1
Tetrachloroethene	0.41	J	ug/l	0.50	0.18	1
Chlorobenzene	ND		ug/l	2.5	0.70	1
Trichlorofluoromethane	ND		ug/l	2.5	0.70	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
1,1,1-Trichloroethane	ND		ug/l	2.5	0.70	1
Bromodichloromethane	0.81		ug/l	0.50	0.19	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14	1
1,3-Dichloropropene, Total	ND		ug/l	0.50	0.14	1
1,1-Dichloropropene	ND		ug/l	2.5	0.70	1
Bromoform	ND		ug/l	2.0	0.65	1
1,1,1,2-Tetrachloroethane	0.17	J	ug/l	0.50	0.17	1
Benzene	ND		ug/l	0.50	0.16	1
Toluene	8.0		ug/l	2.5	0.70	1
Ethylbenzene	ND		ug/l	2.5	0.70	1
Chloromethane	ND		ug/l	2.5	0.70	1
Bromomethane	ND		ug/l	2.5	0.70	1
Vinyl chloride	1.8		ug/l	1.0	0.07	1
Chloroethane	ND		ug/l	2.5	0.70	1
1,1-Dichloroethene	ND		ug/l	0.50	0.17	1
trans-1,2-Dichloroethene	ND		ug/l	2.5	0.70	1

Project Name: 1487 FIRST AVE

Lab Number: L2408247

Project Number: 100963701

Report Date: 02/16/24

SAMPLE RESULTS

Lab ID: L2408247-05
 Client ID: LMW-10R-S_24.75
 Sample Location: NEW YORK

Date Collected: 02/13/24 10:00
 Date Received: 02/14/24
 Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Trichloroethene	0.33	J	ug/l	0.50	0.18	1
1,2-Dichlorobenzene	ND		ug/l	2.5	0.70	1
1,3-Dichlorobenzene	ND		ug/l	2.5	0.70	1
1,4-Dichlorobenzene	ND		ug/l	2.5	0.70	1
Methyl tert butyl ether	ND		ug/l	2.5	0.70	1
p/m-Xylene	0.84	J	ug/l	2.5	0.70	1
o-Xylene	ND		ug/l	2.5	0.70	1
Xylenes, Total	0.84	J	ug/l	2.5	0.70	1
cis-1,2-Dichloroethene	7.5		ug/l	2.5	0.70	1
1,2-Dichloroethene, Total	7.5		ug/l	2.5	0.70	1
Dibromomethane	ND		ug/l	5.0	1.0	1
1,2,3-Trichloropropane	ND		ug/l	2.5	0.70	1
Acrylonitrile	ND		ug/l	5.0	1.5	1
Styrene	ND		ug/l	2.5	0.70	1
Dichlorodifluoromethane	ND		ug/l	5.0	1.0	1
Acetone	30		ug/l	5.0	1.5	1
Carbon disulfide	ND		ug/l	5.0	1.0	1
2-Butanone	5.6		ug/l	5.0	1.9	1
Vinyl acetate	ND		ug/l	5.0	1.0	1
4-Methyl-2-pentanone	ND		ug/l	5.0	1.0	1
2-Hexanone	ND		ug/l	5.0	1.0	1
Bromochloromethane	ND		ug/l	2.5	0.70	1
2,2-Dichloropropane	ND		ug/l	2.5	0.70	1
1,2-Dibromoethane	ND		ug/l	2.0	0.65	1
1,3-Dichloropropane	ND		ug/l	2.5	0.70	1
1,1,1,2-Tetrachloroethane	ND		ug/l	2.5	0.70	1
Bromobenzene	ND		ug/l	2.5	0.70	1
n-Butylbenzene	ND		ug/l	2.5	0.70	1
sec-Butylbenzene	ND		ug/l	2.5	0.70	1
tert-Butylbenzene	ND		ug/l	2.5	0.70	1
o-Chlorotoluene	ND		ug/l	2.5	0.70	1
p-Chlorotoluene	ND		ug/l	2.5	0.70	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	0.70	1
Hexachlorobutadiene	ND		ug/l	2.5	0.70	1
Isopropylbenzene	ND		ug/l	2.5	0.70	1
p-Isopropyltoluene	ND		ug/l	2.5	0.70	1
Naphthalene	ND		ug/l	2.5	0.70	1

Project Name: 1487 FIRST AVE

Lab Number: L2408247

Project Number: 100963701

Report Date: 02/16/24

SAMPLE RESULTS

Lab ID: L2408247-05
 Client ID: LMW-10R-S_24.75
 Sample Location: NEW YORK

Date Collected: 02/13/24 10:00
 Date Received: 02/14/24
 Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
n-Propylbenzene	ND		ug/l	2.5	0.70	1
1,2,3-Trichlorobenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trichlorobenzene	ND		ug/l	2.5	0.70	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.70	1
1,4-Dioxane	ND		ug/l	250	61.	1
p-Diethylbenzene	ND		ug/l	2.0	0.70	1
p-Ethyltoluene	ND		ug/l	2.0	0.70	1
1,2,4,5-Tetramethylbenzene	ND		ug/l	2.0	0.54	1
Ethyl ether	ND		ug/l	2.5	0.70	1
trans-1,4-Dichloro-2-butene	ND		ug/l	2.5	0.70	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	98		70-130
Toluene-d8	100		70-130
4-Bromofluorobenzene	99		70-130
Dibromofluoromethane	101		70-130

Project Name: 1487 FIRST AVE**Lab Number:** L2408247**Project Number:** 100963701**Report Date:** 02/16/24**SAMPLE RESULTS**

Lab ID: L2408247-06
 Client ID: LMW-10R-D_40.75
 Sample Location: NEW YORK

Date Collected: 02/13/24 10:45
 Date Received: 02/14/24
 Field Prep: Not Specified

Sample Depth:

Matrix: Water
 Analytical Method: 1,8260D
 Analytical Date: 02/15/24 21:13
 Analyst: MJV

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	2.5	0.70	1
1,1-Dichloroethane	ND		ug/l	2.5	0.70	1
Chloroform	6.4		ug/l	2.5	0.70	1
Carbon tetrachloride	ND		ug/l	0.50	0.13	1
1,2-Dichloropropane	ND		ug/l	1.0	0.14	1
Dibromochloromethane	ND		ug/l	0.50	0.15	1
1,1,2-Trichloroethane	ND		ug/l	1.5	0.50	1
Tetrachloroethene	ND		ug/l	0.50	0.18	1
Chlorobenzene	ND		ug/l	2.5	0.70	1
Trichlorofluoromethane	ND		ug/l	2.5	0.70	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
1,1,1-Trichloroethane	ND		ug/l	2.5	0.70	1
Bromodichloromethane	0.42	J	ug/l	0.50	0.19	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14	1
1,3-Dichloropropene, Total	ND		ug/l	0.50	0.14	1
1,1-Dichloropropene	ND		ug/l	2.5	0.70	1
Bromoform	ND		ug/l	2.0	0.65	1
1,1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.17	1
Benzene	0.66		ug/l	0.50	0.16	1
Toluene	ND		ug/l	2.5	0.70	1
Ethylbenzene	ND		ug/l	2.5	0.70	1
Chloromethane	ND		ug/l	2.5	0.70	1
Bromomethane	ND		ug/l	2.5	0.70	1
Vinyl chloride	0.75	J	ug/l	1.0	0.07	1
Chloroethane	ND		ug/l	2.5	0.70	1
1,1-Dichloroethene	ND		ug/l	0.50	0.17	1
trans-1,2-Dichloroethene	ND		ug/l	2.5	0.70	1

Project Name: 1487 FIRST AVE

Lab Number: L2408247

Project Number: 100963701

Report Date: 02/16/24

SAMPLE RESULTS

Lab ID: L2408247-06
 Client ID: LMW-10R-D_40.75
 Sample Location: NEW YORK

Date Collected: 02/13/24 10:45
 Date Received: 02/14/24
 Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Trichloroethene	ND		ug/l	0.50	0.18	1
1,2-Dichlorobenzene	ND		ug/l	2.5	0.70	1
1,3-Dichlorobenzene	ND		ug/l	2.5	0.70	1
1,4-Dichlorobenzene	ND		ug/l	2.5	0.70	1
Methyl tert butyl ether	ND		ug/l	2.5	0.70	1
p/m-Xylene	ND		ug/l	2.5	0.70	1
o-Xylene	ND		ug/l	2.5	0.70	1
Xylenes, Total	ND		ug/l	2.5	0.70	1
cis-1,2-Dichloroethene	ND		ug/l	2.5	0.70	1
1,2-Dichloroethene, Total	ND		ug/l	2.5	0.70	1
Dibromomethane	ND		ug/l	5.0	1.0	1
1,2,3-Trichloropropane	ND		ug/l	2.5	0.70	1
Acrylonitrile	ND		ug/l	5.0	1.5	1
Styrene	ND		ug/l	2.5	0.70	1
Dichlorodifluoromethane	ND		ug/l	5.0	1.0	1
Acetone	5.1		ug/l	5.0	1.5	1
Carbon disulfide	ND		ug/l	5.0	1.0	1
2-Butanone	ND		ug/l	5.0	1.9	1
Vinyl acetate	ND		ug/l	5.0	1.0	1
4-Methyl-2-pentanone	ND		ug/l	5.0	1.0	1
2-Hexanone	ND		ug/l	5.0	1.0	1
Bromochloromethane	ND		ug/l	2.5	0.70	1
2,2-Dichloropropane	ND		ug/l	2.5	0.70	1
1,2-Dibromoethane	ND		ug/l	2.0	0.65	1
1,3-Dichloropropane	ND		ug/l	2.5	0.70	1
1,1,1,2-Tetrachloroethane	ND		ug/l	2.5	0.70	1
Bromobenzene	ND		ug/l	2.5	0.70	1
n-Butylbenzene	ND		ug/l	2.5	0.70	1
sec-Butylbenzene	ND		ug/l	2.5	0.70	1
tert-Butylbenzene	ND		ug/l	2.5	0.70	1
o-Chlorotoluene	ND		ug/l	2.5	0.70	1
p-Chlorotoluene	ND		ug/l	2.5	0.70	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	0.70	1
Hexachlorobutadiene	ND		ug/l	2.5	0.70	1
Isopropylbenzene	ND		ug/l	2.5	0.70	1
p-Isopropyltoluene	ND		ug/l	2.5	0.70	1
Naphthalene	ND		ug/l	2.5	0.70	1

Project Name: 1487 FIRST AVE

Lab Number: L2408247

Project Number: 100963701

Report Date: 02/16/24

SAMPLE RESULTS

Lab ID: L2408247-06
 Client ID: LMW-10R-D_40.75
 Sample Location: NEW YORK

Date Collected: 02/13/24 10:45
 Date Received: 02/14/24
 Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
n-Propylbenzene	ND		ug/l	2.5	0.70	1
1,2,3-Trichlorobenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trichlorobenzene	ND		ug/l	2.5	0.70	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.70	1
1,4-Dioxane	ND		ug/l	250	61.	1
p-Diethylbenzene	ND		ug/l	2.0	0.70	1
p-Ethyltoluene	ND		ug/l	2.0	0.70	1
1,2,4,5-Tetramethylbenzene	ND		ug/l	2.0	0.54	1
Ethyl ether	ND		ug/l	2.5	0.70	1
trans-1,4-Dichloro-2-butene	ND		ug/l	2.5	0.70	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	116		70-130
Toluene-d8	92		70-130
4-Bromofluorobenzene	99		70-130
Dibromofluoromethane	111		70-130

Project Name: 1487 FIRST AVE**Lab Number:** L2408247**Project Number:** 100963701**Report Date:** 02/16/24**SAMPLE RESULTS**

Lab ID: L2408247-07
 Client ID: LMW-10R-D_30.75
 Sample Location: NEW YORK

Date Collected: 02/13/24 11:20
 Date Received: 02/14/24
 Field Prep: Not Specified

Sample Depth:

Matrix: Water
 Analytical Method: 1,8260D
 Analytical Date: 02/15/24 21:38
 Analyst: MJV

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	2.5	0.70	1
1,1-Dichloroethane	ND		ug/l	2.5	0.70	1
Chloroform	7.0		ug/l	2.5	0.70	1
Carbon tetrachloride	ND		ug/l	0.50	0.13	1
1,2-Dichloropropane	ND		ug/l	1.0	0.14	1
Dibromochloromethane	ND		ug/l	0.50	0.15	1
1,1,2-Trichloroethane	ND		ug/l	1.5	0.50	1
Tetrachloroethene	ND		ug/l	0.50	0.18	1
Chlorobenzene	ND		ug/l	2.5	0.70	1
Trichlorofluoromethane	ND		ug/l	2.5	0.70	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
1,1,1-Trichloroethane	ND		ug/l	2.5	0.70	1
Bromodichloromethane	0.44	J	ug/l	0.50	0.19	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14	1
1,3-Dichloropropene, Total	ND		ug/l	0.50	0.14	1
1,1-Dichloropropene	ND		ug/l	2.5	0.70	1
Bromoform	ND		ug/l	2.0	0.65	1
1,1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.17	1
Benzene	0.76		ug/l	0.50	0.16	1
Toluene	ND		ug/l	2.5	0.70	1
Ethylbenzene	ND		ug/l	2.5	0.70	1
Chloromethane	ND		ug/l	2.5	0.70	1
Bromomethane	ND		ug/l	2.5	0.70	1
Vinyl chloride	0.63	J	ug/l	1.0	0.07	1
Chloroethane	ND		ug/l	2.5	0.70	1
1,1-Dichloroethene	ND		ug/l	0.50	0.17	1
trans-1,2-Dichloroethene	ND		ug/l	2.5	0.70	1

Project Name: 1487 FIRST AVE

Lab Number: L2408247

Project Number: 100963701

Report Date: 02/16/24

SAMPLE RESULTS

Lab ID: L2408247-07
 Client ID: LMW-10R-D_30.75
 Sample Location: NEW YORK

Date Collected: 02/13/24 11:20
 Date Received: 02/14/24
 Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Trichloroethene	ND		ug/l	0.50	0.18	1
1,2-Dichlorobenzene	ND		ug/l	2.5	0.70	1
1,3-Dichlorobenzene	ND		ug/l	2.5	0.70	1
1,4-Dichlorobenzene	ND		ug/l	2.5	0.70	1
Methyl tert butyl ether	ND		ug/l	2.5	0.70	1
p/m-Xylene	ND		ug/l	2.5	0.70	1
o-Xylene	ND		ug/l	2.5	0.70	1
Xylenes, Total	ND		ug/l	2.5	0.70	1
cis-1,2-Dichloroethene	ND		ug/l	2.5	0.70	1
1,2-Dichloroethene, Total	ND		ug/l	2.5	0.70	1
Dibromomethane	ND		ug/l	5.0	1.0	1
1,2,3-Trichloropropane	ND		ug/l	2.5	0.70	1
Acrylonitrile	ND		ug/l	5.0	1.5	1
Styrene	ND		ug/l	2.5	0.70	1
Dichlorodifluoromethane	ND		ug/l	5.0	1.0	1
Acetone	4.3	J	ug/l	5.0	1.5	1
Carbon disulfide	ND		ug/l	5.0	1.0	1
2-Butanone	ND		ug/l	5.0	1.9	1
Vinyl acetate	ND		ug/l	5.0	1.0	1
4-Methyl-2-pentanone	ND		ug/l	5.0	1.0	1
2-Hexanone	ND		ug/l	5.0	1.0	1
Bromochloromethane	ND		ug/l	2.5	0.70	1
2,2-Dichloropropane	ND		ug/l	2.5	0.70	1
1,2-Dibromoethane	ND		ug/l	2.0	0.65	1
1,3-Dichloropropane	ND		ug/l	2.5	0.70	1
1,1,1,2-Tetrachloroethane	ND		ug/l	2.5	0.70	1
Bromobenzene	ND		ug/l	2.5	0.70	1
n-Butylbenzene	ND		ug/l	2.5	0.70	1
sec-Butylbenzene	ND		ug/l	2.5	0.70	1
tert-Butylbenzene	ND		ug/l	2.5	0.70	1
o-Chlorotoluene	ND		ug/l	2.5	0.70	1
p-Chlorotoluene	ND		ug/l	2.5	0.70	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	0.70	1
Hexachlorobutadiene	ND		ug/l	2.5	0.70	1
Isopropylbenzene	ND		ug/l	2.5	0.70	1
p-Isopropyltoluene	ND		ug/l	2.5	0.70	1
Naphthalene	ND		ug/l	2.5	0.70	1

Project Name: 1487 FIRST AVE

Lab Number: L2408247

Project Number: 100963701

Report Date: 02/16/24

SAMPLE RESULTS

Lab ID: L2408247-07
 Client ID: LMW-10R-D_30.75
 Sample Location: NEW YORK

Date Collected: 02/13/24 11:20
 Date Received: 02/14/24
 Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
n-Propylbenzene	ND		ug/l	2.5	0.70	1
1,2,3-Trichlorobenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trichlorobenzene	ND		ug/l	2.5	0.70	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.70	1
1,4-Dioxane	ND		ug/l	250	61.	1
p-Diethylbenzene	ND		ug/l	2.0	0.70	1
p-Ethyltoluene	ND		ug/l	2.0	0.70	1
1,2,4,5-Tetramethylbenzene	ND		ug/l	2.0	0.54	1
Ethyl ether	ND		ug/l	2.5	0.70	1
trans-1,4-Dichloro-2-butene	ND		ug/l	2.5	0.70	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	122		70-130
Toluene-d8	97		70-130
4-Bromofluorobenzene	105		70-130
Dibromofluoromethane	114		70-130

Project Name: 1487 FIRST AVE
Project Number: 100963701

Lab Number: L2408247
Report Date: 02/16/24

SAMPLE RESULTS

Lab ID: L2408247-08 D
 Client ID: LMW-7R-S_6.75
 Sample Location: NEW YORK

Date Collected: 02/13/24 14:15
 Date Received: 02/14/24
 Field Prep: Not Specified

Sample Depth:

Matrix: Water
 Analytical Method: 1,8260D
 Analytical Date: 02/15/24 23:44
 Analyst: MJV

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	12	3.5	5
1,1-Dichloroethane	ND		ug/l	12	3.5	5
Chloroform	ND		ug/l	12	3.5	5
Carbon tetrachloride	ND		ug/l	2.5	0.67	5
1,2-Dichloropropane	ND		ug/l	5.0	0.68	5
Dibromochloromethane	ND		ug/l	2.5	0.74	5
1,1,2-Trichloroethane	ND		ug/l	7.5	2.5	5
Tetrachloroethene	21		ug/l	2.5	0.90	5
Chlorobenzene	ND		ug/l	12	3.5	5
Trichlorofluoromethane	ND		ug/l	12	3.5	5
1,2-Dichloroethane	ND		ug/l	2.5	0.66	5
1,1,1-Trichloroethane	ND		ug/l	12	3.5	5
Bromodichloromethane	ND		ug/l	2.5	0.96	5
trans-1,3-Dichloropropene	ND		ug/l	2.5	0.82	5
cis-1,3-Dichloropropene	ND		ug/l	2.5	0.72	5
1,3-Dichloropropene, Total	ND		ug/l	2.5	0.72	5
1,1-Dichloropropene	ND		ug/l	12	3.5	5
Bromoform	ND		ug/l	10	3.2	5
1,1,1,2,2-Tetrachloroethane	ND		ug/l	2.5	0.84	5
Benzene	ND		ug/l	2.5	0.80	5
Toluene	5.3	J	ug/l	12	3.5	5
Ethylbenzene	ND		ug/l	12	3.5	5
Chloromethane	ND		ug/l	12	3.5	5
Bromomethane	ND		ug/l	12	3.5	5
Vinyl chloride	46		ug/l	5.0	0.36	5
Chloroethane	ND		ug/l	12	3.5	5
1,1-Dichloroethene	ND		ug/l	2.5	0.84	5
trans-1,2-Dichloroethene	4.0	J	ug/l	12	3.5	5

Project Name: 1487 FIRST AVE

Lab Number: L2408247

Project Number: 100963701

Report Date: 02/16/24

SAMPLE RESULTS

Lab ID: L2408247-08 D

Date Collected: 02/13/24 14:15

Client ID: LMW-7R-S_6.75

Date Received: 02/14/24

Sample Location: NEW YORK

Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Trichloroethene	21		ug/l	2.5	0.88	5
1,2-Dichlorobenzene	ND		ug/l	12	3.5	5
1,3-Dichlorobenzene	ND		ug/l	12	3.5	5
1,4-Dichlorobenzene	ND		ug/l	12	3.5	5
Methyl tert butyl ether	ND		ug/l	12	3.5	5
p/m-Xylene	ND		ug/l	12	3.5	5
o-Xylene	ND		ug/l	12	3.5	5
Xylenes, Total	ND		ug/l	12	3.5	5
cis-1,2-Dichloroethene	500		ug/l	12	3.5	5
1,2-Dichloroethene, Total	500	J	ug/l	12	3.5	5
Dibromomethane	ND		ug/l	25	5.0	5
1,2,3-Trichloropropane	ND		ug/l	12	3.5	5
Acrylonitrile	ND		ug/l	25	7.5	5
Styrene	ND		ug/l	12	3.5	5
Dichlorodifluoromethane	ND		ug/l	25	5.0	5
Acetone	9.1	J	ug/l	25	7.3	5
Carbon disulfide	ND		ug/l	25	5.0	5
2-Butanone	ND		ug/l	25	9.7	5
Vinyl acetate	ND		ug/l	25	5.0	5
4-Methyl-2-pentanone	ND		ug/l	25	5.0	5
2-Hexanone	ND		ug/l	25	5.0	5
Bromochloromethane	ND		ug/l	12	3.5	5
2,2-Dichloropropane	ND		ug/l	12	3.5	5
1,2-Dibromoethane	ND		ug/l	10	3.2	5
1,3-Dichloropropane	ND		ug/l	12	3.5	5
1,1,1,2-Tetrachloroethane	ND		ug/l	12	3.5	5
Bromobenzene	ND		ug/l	12	3.5	5
n-Butylbenzene	ND		ug/l	12	3.5	5
sec-Butylbenzene	ND		ug/l	12	3.5	5
tert-Butylbenzene	ND		ug/l	12	3.5	5
o-Chlorotoluene	ND		ug/l	12	3.5	5
p-Chlorotoluene	ND		ug/l	12	3.5	5
1,2-Dibromo-3-chloropropane	ND		ug/l	12	3.5	5
Hexachlorobutadiene	ND		ug/l	12	3.5	5
Isopropylbenzene	ND		ug/l	12	3.5	5
p-Isopropyltoluene	ND		ug/l	12	3.5	5
Naphthalene	ND		ug/l	12	3.5	5

Project Name: 1487 FIRST AVE

Lab Number: L2408247

Project Number: 100963701

Report Date: 02/16/24

SAMPLE RESULTS

Lab ID: L2408247-08 D

Date Collected: 02/13/24 14:15

Client ID: LMW-7R-S_6.75

Date Received: 02/14/24

Sample Location: NEW YORK

Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
n-Propylbenzene	ND		ug/l	12	3.5	5
1,2,3-Trichlorobenzene	ND		ug/l	12	3.5	5
1,2,4-Trichlorobenzene	ND		ug/l	12	3.5	5
1,3,5-Trimethylbenzene	ND		ug/l	12	3.5	5
1,2,4-Trimethylbenzene	ND		ug/l	12	3.5	5
1,4-Dioxane	ND		ug/l	1200	300	5
p-Diethylbenzene	ND		ug/l	10	3.5	5
p-Ethyltoluene	ND		ug/l	10	3.5	5
1,2,4,5-Tetramethylbenzene	ND		ug/l	10	2.7	5
Ethyl ether	ND		ug/l	12	3.5	5
trans-1,4-Dichloro-2-butene	ND		ug/l	12	3.5	5

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	117		70-130
Toluene-d8	97		70-130
4-Bromofluorobenzene	104		70-130
Dibromofluoromethane	106		70-130

Project Name: 1487 FIRST AVE**Lab Number:** L2408247**Project Number:** 100963701**Report Date:** 02/16/24**SAMPLE RESULTS**

Lab ID: L2408247-09 D

Date Collected: 02/13/24 15:10

Client ID: LMW-7R-S_16.75

Date Received: 02/14/24

Sample Location: NEW YORK

Field Prep: Not Specified

Sample Depth:

Matrix: Water

Analytical Method: 1,8260D

Analytical Date: 02/16/24 09:35

Analyst: MJV

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	12	3.5	5
1,1-Dichloroethane	ND		ug/l	12	3.5	5
Chloroform	ND		ug/l	12	3.5	5
Carbon tetrachloride	ND		ug/l	2.5	0.67	5
1,2-Dichloropropane	ND		ug/l	5.0	0.68	5
Dibromochloromethane	ND		ug/l	2.5	0.74	5
1,1,2-Trichloroethane	ND		ug/l	7.5	2.5	5
Tetrachloroethene	25		ug/l	2.5	0.90	5
Chlorobenzene	ND		ug/l	12	3.5	5
Trichlorofluoromethane	ND		ug/l	12	3.5	5
1,2-Dichloroethane	ND		ug/l	2.5	0.66	5
1,1,1-Trichloroethane	ND		ug/l	12	3.5	5
Bromodichloromethane	ND		ug/l	2.5	0.96	5
trans-1,3-Dichloropropene	ND		ug/l	2.5	0.82	5
cis-1,3-Dichloropropene	ND		ug/l	2.5	0.72	5
1,3-Dichloropropene, Total	ND		ug/l	2.5	0.72	5
1,1-Dichloropropene	ND		ug/l	12	3.5	5
Bromoform	ND		ug/l	10	3.2	5
1,1,1,2-Tetrachloroethane	ND		ug/l	2.5	0.84	5
Benzene	ND		ug/l	2.5	0.80	5
Toluene	ND		ug/l	12	3.5	5
Ethylbenzene	ND		ug/l	12	3.5	5
Chloromethane	ND		ug/l	12	3.5	5
Bromomethane	ND		ug/l	12	3.5	5
Vinyl chloride	70		ug/l	5.0	0.36	5
Chloroethane	ND		ug/l	12	3.5	5
1,1-Dichloroethene	ND		ug/l	2.5	0.84	5
trans-1,2-Dichloroethene	5.1	J	ug/l	12	3.5	5

Project Name: 1487 FIRST AVE

Lab Number: L2408247

Project Number: 100963701

Report Date: 02/16/24

SAMPLE RESULTS

Lab ID: L2408247-09 D

Date Collected: 02/13/24 15:10

Client ID: LMW-7R-S_16.75

Date Received: 02/14/24

Sample Location: NEW YORK

Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Trichloroethene	25		ug/l	2.5	0.88	5
1,2-Dichlorobenzene	ND		ug/l	12	3.5	5
1,3-Dichlorobenzene	ND		ug/l	12	3.5	5
1,4-Dichlorobenzene	ND		ug/l	12	3.5	5
Methyl tert butyl ether	ND		ug/l	12	3.5	5
p/m-Xylene	ND		ug/l	12	3.5	5
o-Xylene	ND		ug/l	12	3.5	5
Xylenes, Total	ND		ug/l	12	3.5	5
cis-1,2-Dichloroethene	560		ug/l	12	3.5	5
1,2-Dichloroethene, Total	570	J	ug/l	12	3.5	5
Dibromomethane	ND		ug/l	25	5.0	5
1,2,3-Trichloropropane	ND		ug/l	12	3.5	5
Acrylonitrile	ND		ug/l	25	7.5	5
Styrene	ND		ug/l	12	3.5	5
Dichlorodifluoromethane	ND		ug/l	25	5.0	5
Acetone	ND		ug/l	25	7.3	5
Carbon disulfide	ND		ug/l	25	5.0	5
2-Butanone	ND		ug/l	25	9.7	5
Vinyl acetate	ND		ug/l	25	5.0	5
4-Methyl-2-pentanone	ND		ug/l	25	5.0	5
2-Hexanone	ND		ug/l	25	5.0	5
Bromochloromethane	ND		ug/l	12	3.5	5
2,2-Dichloropropane	ND		ug/l	12	3.5	5
1,2-Dibromoethane	ND		ug/l	10	3.2	5
1,3-Dichloropropane	ND		ug/l	12	3.5	5
1,1,1,2-Tetrachloroethane	ND		ug/l	12	3.5	5
Bromobenzene	ND		ug/l	12	3.5	5
n-Butylbenzene	ND		ug/l	12	3.5	5
sec-Butylbenzene	ND		ug/l	12	3.5	5
tert-Butylbenzene	ND		ug/l	12	3.5	5
o-Chlorotoluene	ND		ug/l	12	3.5	5
p-Chlorotoluene	ND		ug/l	12	3.5	5
1,2-Dibromo-3-chloropropane	ND		ug/l	12	3.5	5
Hexachlorobutadiene	ND		ug/l	12	3.5	5
Isopropylbenzene	ND		ug/l	12	3.5	5
p-Isopropyltoluene	ND		ug/l	12	3.5	5
Naphthalene	ND		ug/l	12	3.5	5

Project Name: 1487 FIRST AVE

Lab Number: L2408247

Project Number: 100963701

Report Date: 02/16/24

SAMPLE RESULTS

Lab ID: L2408247-09 D

Date Collected: 02/13/24 15:10

Client ID: LMW-7R-S_16.75

Date Received: 02/14/24

Sample Location: NEW YORK

Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
n-Propylbenzene	ND		ug/l	12	3.5	5
1,2,3-Trichlorobenzene	ND		ug/l	12	3.5	5
1,2,4-Trichlorobenzene	ND		ug/l	12	3.5	5
1,3,5-Trimethylbenzene	ND		ug/l	12	3.5	5
1,2,4-Trimethylbenzene	ND		ug/l	12	3.5	5
1,4-Dioxane	ND		ug/l	1200	300	5
p-Diethylbenzene	ND		ug/l	10	3.5	5
p-Ethyltoluene	ND		ug/l	10	3.5	5
1,2,4,5-Tetramethylbenzene	ND		ug/l	10	2.7	5
Ethyl ether	ND		ug/l	12	3.5	5
trans-1,4-Dichloro-2-butene	ND		ug/l	12	3.5	5

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	100		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	102		70-130
Dibromofluoromethane	100		70-130

Project Name: 1487 FIRST AVE**Lab Number:** L2408247**Project Number:** 100963701**Report Date:** 02/16/24**SAMPLE RESULTS**

Lab ID: L2408247-10 D

Date Collected: 02/13/24 15:25

Client ID: LMW-7R-D_23.75

Date Received: 02/14/24

Sample Location: NEW YORK

Field Prep: Not Specified

Sample Depth:

Matrix: Water

Analytical Method: 1,8260D

Analytical Date: 02/16/24 00:09

Analyst: MJV

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	10	2.8	4
1,1-Dichloroethane	ND		ug/l	10	2.8	4
Chloroform	ND		ug/l	10	2.8	4
Carbon tetrachloride	ND		ug/l	2.0	0.54	4
1,2-Dichloropropane	ND		ug/l	4.0	0.55	4
Dibromochloromethane	ND		ug/l	2.0	0.60	4
1,1,2-Trichloroethane	ND		ug/l	6.0	2.0	4
Tetrachloroethene	1.2	J	ug/l	2.0	0.72	4
Chlorobenzene	ND		ug/l	10	2.8	4
Trichlorofluoromethane	ND		ug/l	10	2.8	4
1,2-Dichloroethane	ND		ug/l	2.0	0.53	4
1,1,1-Trichloroethane	ND		ug/l	10	2.8	4
Bromodichloromethane	ND		ug/l	2.0	0.77	4
trans-1,3-Dichloropropene	ND		ug/l	2.0	0.66	4
cis-1,3-Dichloropropene	ND		ug/l	2.0	0.58	4
1,3-Dichloropropene, Total	ND		ug/l	2.0	0.58	4
1,1-Dichloropropene	ND		ug/l	10	2.8	4
Bromoform	ND		ug/l	8.0	2.6	4
1,1,1,2,2-Tetrachloroethane	ND		ug/l	2.0	0.67	4
Benzene	ND		ug/l	2.0	0.64	4
Toluene	4.2	J	ug/l	10	2.8	4
Ethylbenzene	ND		ug/l	10	2.8	4
Chloromethane	ND		ug/l	10	2.8	4
Bromomethane	ND		ug/l	10	2.8	4
Vinyl chloride	17		ug/l	4.0	0.28	4
Chloroethane	ND		ug/l	10	2.8	4
1,1-Dichloroethene	ND		ug/l	2.0	0.68	4
trans-1,2-Dichloroethene	ND		ug/l	10	2.8	4

Project Name: 1487 FIRST AVE

Lab Number: L2408247

Project Number: 100963701

Report Date: 02/16/24

SAMPLE RESULTS

Lab ID: L2408247-10 D

Date Collected: 02/13/24 15:25

Client ID: LMW-7R-D_23.75

Date Received: 02/14/24

Sample Location: NEW YORK

Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Trichloroethene	1.0	J	ug/l	2.0	0.70	4
1,2-Dichlorobenzene	ND		ug/l	10	2.8	4
1,3-Dichlorobenzene	ND		ug/l	10	2.8	4
1,4-Dichlorobenzene	ND		ug/l	10	2.8	4
Methyl tert butyl ether	ND		ug/l	10	2.8	4
p/m-Xylene	ND		ug/l	10	2.8	4
o-Xylene	ND		ug/l	10	2.8	4
Xylenes, Total	ND		ug/l	10	2.8	4
cis-1,2-Dichloroethene	29		ug/l	10	2.8	4
1,2-Dichloroethene, Total	29		ug/l	10	2.8	4
Dibromomethane	ND		ug/l	20	4.0	4
1,2,3-Trichloropropane	ND		ug/l	10	2.8	4
Acrylonitrile	ND		ug/l	20	6.0	4
Styrene	ND		ug/l	10	2.8	4
Dichlorodifluoromethane	ND		ug/l	20	4.0	4
Acetone	54		ug/l	20	5.8	4
Carbon disulfide	ND		ug/l	20	4.0	4
2-Butanone	410		ug/l	20	7.8	4
Vinyl acetate	ND		ug/l	20	4.0	4
4-Methyl-2-pentanone	ND		ug/l	20	4.0	4
2-Hexanone	ND		ug/l	20	4.0	4
Bromochloromethane	ND		ug/l	10	2.8	4
2,2-Dichloropropane	ND		ug/l	10	2.8	4
1,2-Dibromoethane	ND		ug/l	8.0	2.6	4
1,3-Dichloropropane	ND		ug/l	10	2.8	4
1,1,1,2-Tetrachloroethane	ND		ug/l	10	2.8	4
Bromobenzene	ND		ug/l	10	2.8	4
n-Butylbenzene	ND		ug/l	10	2.8	4
sec-Butylbenzene	ND		ug/l	10	2.8	4
tert-Butylbenzene	ND		ug/l	10	2.8	4
o-Chlorotoluene	ND		ug/l	10	2.8	4
p-Chlorotoluene	ND		ug/l	10	2.8	4
1,2-Dibromo-3-chloropropane	ND		ug/l	10	2.8	4
Hexachlorobutadiene	ND		ug/l	10	2.8	4
Isopropylbenzene	ND		ug/l	10	2.8	4
p-Isopropyltoluene	ND		ug/l	10	2.8	4
Naphthalene	ND		ug/l	10	2.8	4

Project Name: 1487 FIRST AVE

Lab Number: L2408247

Project Number: 100963701

Report Date: 02/16/24

SAMPLE RESULTS

Lab ID: L2408247-10 D

Date Collected: 02/13/24 15:25

Client ID: LMW-7R-D_23.75

Date Received: 02/14/24

Sample Location: NEW YORK

Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
n-Propylbenzene	ND		ug/l	10	2.8	4
1,2,3-Trichlorobenzene	ND		ug/l	10	2.8	4
1,2,4-Trichlorobenzene	ND		ug/l	10	2.8	4
1,3,5-Trimethylbenzene	ND		ug/l	10	2.8	4
1,2,4-Trimethylbenzene	ND		ug/l	10	2.8	4
1,4-Dioxane	ND		ug/l	1000	240	4
p-Diethylbenzene	ND		ug/l	8.0	2.8	4
p-Ethyltoluene	ND		ug/l	8.0	2.8	4
1,2,4,5-Tetramethylbenzene	ND		ug/l	8.0	2.2	4
Ethyl ether	ND		ug/l	10	2.8	4
trans-1,4-Dichloro-2-butene	ND		ug/l	10	2.8	4

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	122		70-130
Toluene-d8	97		70-130
4-Bromofluorobenzene	100		70-130
Dibromofluoromethane	108		70-130

Project Name: 1487 FIRST AVE**Lab Number:** L2408247**Project Number:** 100963701**Report Date:** 02/16/24**SAMPLE RESULTS**

Lab ID: L2408247-11
 Client ID: LMW-7R-D_49.75
 Sample Location: NEW YORK

Date Collected: 02/13/24 15:48
 Date Received: 02/14/24
 Field Prep: Not Specified

Sample Depth:

Matrix: Water
 Analytical Method: 1,8260D
 Analytical Date: 02/15/24 22:03
 Analyst: MJV

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	2.5	0.70	1
1,1-Dichloroethane	ND		ug/l	2.5	0.70	1
Chloroform	ND		ug/l	2.5	0.70	1
Carbon tetrachloride	ND		ug/l	0.50	0.13	1
1,2-Dichloropropane	ND		ug/l	1.0	0.14	1
Dibromochloromethane	ND		ug/l	0.50	0.15	1
1,1,2-Trichloroethane	ND		ug/l	1.5	0.50	1
Tetrachloroethene	0.28	J	ug/l	0.50	0.18	1
Chlorobenzene	ND		ug/l	2.5	0.70	1
Trichlorofluoromethane	ND		ug/l	2.5	0.70	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
1,1,1-Trichloroethane	ND		ug/l	2.5	0.70	1
Bromodichloromethane	ND		ug/l	0.50	0.19	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14	1
1,3-Dichloropropene, Total	ND		ug/l	0.50	0.14	1
1,1-Dichloropropene	ND		ug/l	2.5	0.70	1
Bromoform	ND		ug/l	2.0	0.65	1
1,1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.17	1
Benzene	0.29	J	ug/l	0.50	0.16	1
Toluene	4.2		ug/l	2.5	0.70	1
Ethylbenzene	ND		ug/l	2.5	0.70	1
Chloromethane	ND		ug/l	2.5	0.70	1
Bromomethane	ND		ug/l	2.5	0.70	1
Vinyl chloride	27		ug/l	1.0	0.07	1
Chloroethane	ND		ug/l	2.5	0.70	1
1,1-Dichloroethene	ND		ug/l	0.50	0.17	1
trans-1,2-Dichloroethene	ND		ug/l	2.5	0.70	1

Project Name: 1487 FIRST AVE

Lab Number: L2408247

Project Number: 100963701

Report Date: 02/16/24

SAMPLE RESULTS

Lab ID: L2408247-11
 Client ID: LMW-7R-D_49.75
 Sample Location: NEW YORK

Date Collected: 02/13/24 15:48
 Date Received: 02/14/24
 Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Trichloroethene	0.21	J	ug/l	0.50	0.18	1
1,2-Dichlorobenzene	ND		ug/l	2.5	0.70	1
1,3-Dichlorobenzene	ND		ug/l	2.5	0.70	1
1,4-Dichlorobenzene	ND		ug/l	2.5	0.70	1
Methyl tert butyl ether	ND		ug/l	2.5	0.70	1
p/m-Xylene	ND		ug/l	2.5	0.70	1
o-Xylene	ND		ug/l	2.5	0.70	1
Xylenes, Total	ND		ug/l	2.5	0.70	1
cis-1,2-Dichloroethene	20		ug/l	2.5	0.70	1
1,2-Dichloroethene, Total	20		ug/l	2.5	0.70	1
Dibromomethane	ND		ug/l	5.0	1.0	1
1,2,3-Trichloropropane	ND		ug/l	2.5	0.70	1
Acrylonitrile	ND		ug/l	5.0	1.5	1
Styrene	ND		ug/l	2.5	0.70	1
Dichlorodifluoromethane	ND		ug/l	5.0	1.0	1
Acetone	53		ug/l	5.0	1.5	1
Carbon disulfide	ND		ug/l	5.0	1.0	1
2-Butanone	560	E	ug/l	5.0	1.9	1
Vinyl acetate	ND		ug/l	5.0	1.0	1
4-Methyl-2-pentanone	ND		ug/l	5.0	1.0	1
2-Hexanone	ND		ug/l	5.0	1.0	1
Bromochloromethane	ND		ug/l	2.5	0.70	1
2,2-Dichloropropane	ND		ug/l	2.5	0.70	1
1,2-Dibromoethane	ND		ug/l	2.0	0.65	1
1,3-Dichloropropane	ND		ug/l	2.5	0.70	1
1,1,1,2-Tetrachloroethane	ND		ug/l	2.5	0.70	1
Bromobenzene	ND		ug/l	2.5	0.70	1
n-Butylbenzene	ND		ug/l	2.5	0.70	1
sec-Butylbenzene	ND		ug/l	2.5	0.70	1
tert-Butylbenzene	ND		ug/l	2.5	0.70	1
o-Chlorotoluene	ND		ug/l	2.5	0.70	1
p-Chlorotoluene	ND		ug/l	2.5	0.70	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	0.70	1
Hexachlorobutadiene	ND		ug/l	2.5	0.70	1
Isopropylbenzene	ND		ug/l	2.5	0.70	1
p-Isopropyltoluene	ND		ug/l	2.5	0.70	1
Naphthalene	ND		ug/l	2.5	0.70	1

Project Name: 1487 FIRST AVE
Project Number: 100963701

Lab Number: L2408247
Report Date: 02/16/24

SAMPLE RESULTS

Lab ID: L2408247-11
Client ID: LMW-7R-D_49.75
Sample Location: NEW YORK

Date Collected: 02/13/24 15:48
Date Received: 02/14/24
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
n-Propylbenzene	ND		ug/l	2.5	0.70	1
1,2,3-Trichlorobenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trichlorobenzene	ND		ug/l	2.5	0.70	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.70	1
1,4-Dioxane	ND		ug/l	250	61.	1
p-Diethylbenzene	ND		ug/l	2.0	0.70	1
p-Ethyltoluene	ND		ug/l	2.0	0.70	1
1,2,4,5-Tetramethylbenzene	ND		ug/l	2.0	0.54	1
Ethyl ether	ND		ug/l	2.5	0.70	1
trans-1,4-Dichloro-2-butene	ND		ug/l	2.5	0.70	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	117		70-130
Toluene-d8	100		70-130
4-Bromofluorobenzene	103		70-130
Dibromofluoromethane	106		70-130

Project Name: 1487 FIRST AVE**Lab Number:** L2408247**Project Number:** 100963701**Report Date:** 02/16/24**SAMPLE RESULTS**

Lab ID: L2408247-11 D

Date Collected: 02/13/24 15:48

Client ID: LMW-7R-D_49.75

Date Received: 02/14/24

Sample Location: NEW YORK

Field Prep: Not Specified

Sample Depth:

Matrix: Water

Analytical Method: 1,8260D

Analytical Date: 02/16/24 11:04

Analyst: MJV

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
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Volatile Organics by GC/MS - Westborough Lab

2-Butanone	420		ug/l	50	19.	10
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Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	101		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	101		70-130
Dibromofluoromethane	100		70-130

Project Name: 1487 FIRST AVE**Lab Number:** L2408247**Project Number:** 100963701**Report Date:** 02/16/24**SAMPLE RESULTS**

Lab ID: L2408247-12
 Client ID: LMW-9R-D_58.25
 Sample Location: NEW YORK

Date Collected: 02/14/24 14:45
 Date Received: 02/14/24
 Field Prep: Not Specified

Sample Depth:

Matrix: Water
 Analytical Method: 1,8260D
 Analytical Date: 02/15/24 22:28
 Analyst: MJV

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	2.5	0.70	1
1,1-Dichloroethane	ND		ug/l	2.5	0.70	1
Chloroform	ND		ug/l	2.5	0.70	1
Carbon tetrachloride	ND		ug/l	0.50	0.13	1
1,2-Dichloropropane	ND		ug/l	1.0	0.14	1
Dibromochloromethane	ND		ug/l	0.50	0.15	1
1,1,2-Trichloroethane	ND		ug/l	1.5	0.50	1
Tetrachloroethene	ND		ug/l	0.50	0.18	1
Chlorobenzene	ND		ug/l	2.5	0.70	1
Trichlorofluoromethane	ND		ug/l	2.5	0.70	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
1,1,1-Trichloroethane	ND		ug/l	2.5	0.70	1
Bromodichloromethane	ND		ug/l	0.50	0.19	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14	1
1,3-Dichloropropene, Total	ND		ug/l	0.50	0.14	1
1,1-Dichloropropene	ND		ug/l	2.5	0.70	1
Bromoform	ND		ug/l	2.0	0.65	1
1,1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.17	1
Benzene	5.7		ug/l	0.50	0.16	1
Toluene	ND		ug/l	2.5	0.70	1
Ethylbenzene	ND		ug/l	2.5	0.70	1
Chloromethane	ND		ug/l	2.5	0.70	1
Bromomethane	ND		ug/l	2.5	0.70	1
Vinyl chloride	0.24	J	ug/l	1.0	0.07	1
Chloroethane	ND		ug/l	2.5	0.70	1
1,1-Dichloroethene	ND		ug/l	0.50	0.17	1
trans-1,2-Dichloroethene	ND		ug/l	2.5	0.70	1

Project Name: 1487 FIRST AVE

Lab Number: L2408247

Project Number: 100963701

Report Date: 02/16/24

SAMPLE RESULTS

Lab ID: L2408247-12
 Client ID: LMW-9R-D_58.25
 Sample Location: NEW YORK

Date Collected: 02/14/24 14:45
 Date Received: 02/14/24
 Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Trichloroethene	ND		ug/l	0.50	0.18	1
1,2-Dichlorobenzene	ND		ug/l	2.5	0.70	1
1,3-Dichlorobenzene	ND		ug/l	2.5	0.70	1
1,4-Dichlorobenzene	ND		ug/l	2.5	0.70	1
Methyl tert butyl ether	0.75	J	ug/l	2.5	0.70	1
p/m-Xylene	ND		ug/l	2.5	0.70	1
o-Xylene	ND		ug/l	2.5	0.70	1
Xylenes, Total	ND		ug/l	2.5	0.70	1
cis-1,2-Dichloroethene	ND		ug/l	2.5	0.70	1
1,2-Dichloroethene, Total	ND		ug/l	2.5	0.70	1
Dibromomethane	ND		ug/l	5.0	1.0	1
1,2,3-Trichloropropane	ND		ug/l	2.5	0.70	1
Acrylonitrile	ND		ug/l	5.0	1.5	1
Styrene	ND		ug/l	2.5	0.70	1
Dichlorodifluoromethane	ND		ug/l	5.0	1.0	1
Acetone	9.7		ug/l	5.0	1.5	1
Carbon disulfide	ND		ug/l	5.0	1.0	1
2-Butanone	16		ug/l	5.0	1.9	1
Vinyl acetate	ND		ug/l	5.0	1.0	1
4-Methyl-2-pentanone	ND		ug/l	5.0	1.0	1
2-Hexanone	ND		ug/l	5.0	1.0	1
Bromochloromethane	ND		ug/l	2.5	0.70	1
2,2-Dichloropropane	ND		ug/l	2.5	0.70	1
1,2-Dibromoethane	ND		ug/l	2.0	0.65	1
1,3-Dichloropropane	ND		ug/l	2.5	0.70	1
1,1,1,2-Tetrachloroethane	ND		ug/l	2.5	0.70	1
Bromobenzene	ND		ug/l	2.5	0.70	1
n-Butylbenzene	ND		ug/l	2.5	0.70	1
sec-Butylbenzene	ND		ug/l	2.5	0.70	1
tert-Butylbenzene	ND		ug/l	2.5	0.70	1
o-Chlorotoluene	ND		ug/l	2.5	0.70	1
p-Chlorotoluene	ND		ug/l	2.5	0.70	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	0.70	1
Hexachlorobutadiene	ND		ug/l	2.5	0.70	1
Isopropylbenzene	ND		ug/l	2.5	0.70	1
p-Isopropyltoluene	ND		ug/l	2.5	0.70	1
Naphthalene	ND		ug/l	2.5	0.70	1

Project Name: 1487 FIRST AVE
Project Number: 100963701

Lab Number: L2408247
Report Date: 02/16/24

SAMPLE RESULTS

Lab ID: L2408247-12
Client ID: LMW-9R-D_58.25
Sample Location: NEW YORK

Date Collected: 02/14/24 14:45
Date Received: 02/14/24
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
n-Propylbenzene	ND		ug/l	2.5	0.70	1
1,2,3-Trichlorobenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trichlorobenzene	ND		ug/l	2.5	0.70	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.70	1
1,4-Dioxane	ND		ug/l	250	61.	1
p-Diethylbenzene	ND		ug/l	2.0	0.70	1
p-Ethyltoluene	ND		ug/l	2.0	0.70	1
1,2,4,5-Tetramethylbenzene	ND		ug/l	2.0	0.54	1
Ethyl ether	ND		ug/l	2.5	0.70	1
trans-1,4-Dichloro-2-butene	ND		ug/l	2.5	0.70	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	118		70-130
Toluene-d8	97		70-130
4-Bromofluorobenzene	109		70-130
Dibromofluoromethane	106		70-130

Project Name: 1487 FIRST AVE**Lab Number:** L2408247**Project Number:** 100963701**Report Date:** 02/16/24**SAMPLE RESULTS**

Lab ID: L2408247-13
 Client ID: LMW-8R-D_27.75
 Sample Location: NEW YORK

Date Collected: 02/14/24 11:00
 Date Received: 02/14/24
 Field Prep: Not Specified

Sample Depth:

Matrix: Water
 Analytical Method: 1,8260D
 Analytical Date: 02/15/24 22:54
 Analyst: MJV

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	2.5	0.70	1
1,1-Dichloroethane	ND		ug/l	2.5	0.70	1
Chloroform	ND		ug/l	2.5	0.70	1
Carbon tetrachloride	ND		ug/l	0.50	0.13	1
1,2-Dichloropropane	ND		ug/l	1.0	0.14	1
Dibromochloromethane	ND		ug/l	0.50	0.15	1
1,1,2-Trichloroethane	ND		ug/l	1.5	0.50	1
Tetrachloroethene	ND		ug/l	0.50	0.18	1
Chlorobenzene	ND		ug/l	2.5	0.70	1
Trichlorofluoromethane	ND		ug/l	2.5	0.70	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
1,1,1-Trichloroethane	ND		ug/l	2.5	0.70	1
Bromodichloromethane	ND		ug/l	0.50	0.19	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14	1
1,3-Dichloropropene, Total	ND		ug/l	0.50	0.14	1
1,1-Dichloropropene	ND		ug/l	2.5	0.70	1
Bromoform	ND		ug/l	2.0	0.65	1
1,1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.17	1
Benzene	3.8		ug/l	0.50	0.16	1
Toluene	1.3	J	ug/l	2.5	0.70	1
Ethylbenzene	ND		ug/l	2.5	0.70	1
Chloromethane	ND		ug/l	2.5	0.70	1
Bromomethane	0.94	J	ug/l	2.5	0.70	1
Vinyl chloride	0.94	J	ug/l	1.0	0.07	1
Chloroethane	ND		ug/l	2.5	0.70	1
1,1-Dichloroethene	ND		ug/l	0.50	0.17	1
trans-1,2-Dichloroethene	ND		ug/l	2.5	0.70	1

Project Name: 1487 FIRST AVE

Lab Number: L2408247

Project Number: 100963701

Report Date: 02/16/24

SAMPLE RESULTS

Lab ID: L2408247-13
 Client ID: LMW-8R-D_27.75
 Sample Location: NEW YORK

Date Collected: 02/14/24 11:00
 Date Received: 02/14/24
 Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Trichloroethene	ND		ug/l	0.50	0.18	1
1,2-Dichlorobenzene	ND		ug/l	2.5	0.70	1
1,3-Dichlorobenzene	ND		ug/l	2.5	0.70	1
1,4-Dichlorobenzene	ND		ug/l	2.5	0.70	1
Methyl tert butyl ether	ND		ug/l	2.5	0.70	1
p/m-Xylene	ND		ug/l	2.5	0.70	1
o-Xylene	ND		ug/l	2.5	0.70	1
Xylenes, Total	ND		ug/l	2.5	0.70	1
cis-1,2-Dichloroethene	1.3	J	ug/l	2.5	0.70	1
1,2-Dichloroethene, Total	1.3	J	ug/l	2.5	0.70	1
Dibromomethane	ND		ug/l	5.0	1.0	1
1,2,3-Trichloropropane	ND		ug/l	2.5	0.70	1
Acrylonitrile	ND		ug/l	5.0	1.5	1
Styrene	ND		ug/l	2.5	0.70	1
Dichlorodifluoromethane	ND		ug/l	5.0	1.0	1
Acetone	69		ug/l	5.0	1.5	1
Carbon disulfide	ND		ug/l	5.0	1.0	1
2-Butanone	82		ug/l	5.0	1.9	1
Vinyl acetate	ND		ug/l	5.0	1.0	1
4-Methyl-2-pentanone	ND		ug/l	5.0	1.0	1
2-Hexanone	ND		ug/l	5.0	1.0	1
Bromochloromethane	ND		ug/l	2.5	0.70	1
2,2-Dichloropropane	ND		ug/l	2.5	0.70	1
1,2-Dibromoethane	ND		ug/l	2.0	0.65	1
1,3-Dichloropropane	ND		ug/l	2.5	0.70	1
1,1,1,2-Tetrachloroethane	ND		ug/l	2.5	0.70	1
Bromobenzene	ND		ug/l	2.5	0.70	1
n-Butylbenzene	ND		ug/l	2.5	0.70	1
sec-Butylbenzene	ND		ug/l	2.5	0.70	1
tert-Butylbenzene	ND		ug/l	2.5	0.70	1
o-Chlorotoluene	ND		ug/l	2.5	0.70	1
p-Chlorotoluene	ND		ug/l	2.5	0.70	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	0.70	1
Hexachlorobutadiene	ND		ug/l	2.5	0.70	1
Isopropylbenzene	ND		ug/l	2.5	0.70	1
p-Isopropyltoluene	ND		ug/l	2.5	0.70	1
Naphthalene	ND		ug/l	2.5	0.70	1

Project Name: 1487 FIRST AVE
Project Number: 100963701

Lab Number: L2408247
Report Date: 02/16/24

SAMPLE RESULTS

Lab ID: L2408247-13
Client ID: LMW-8R-D_27.75
Sample Location: NEW YORK

Date Collected: 02/14/24 11:00
Date Received: 02/14/24
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
n-Propylbenzene	ND		ug/l	2.5	0.70	1
1,2,3-Trichlorobenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trichlorobenzene	ND		ug/l	2.5	0.70	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.70	1
1,4-Dioxane	ND		ug/l	250	61.	1
p-Diethylbenzene	ND		ug/l	2.0	0.70	1
p-Ethyltoluene	ND		ug/l	2.0	0.70	1
1,2,4,5-Tetramethylbenzene	ND		ug/l	2.0	0.54	1
Ethyl ether	ND		ug/l	2.5	0.70	1
trans-1,4-Dichloro-2-butene	ND		ug/l	2.5	0.70	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	119		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	102		70-130
Dibromofluoromethane	105		70-130

Project Name: 1487 FIRST AVE**Lab Number:** L2408247**Project Number:** 100963701**Report Date:** 02/16/24**SAMPLE RESULTS**

Lab ID: L2408247-14
 Client ID: LMW-8R-D_59.75
 Sample Location: NEW YORK

Date Collected: 02/14/24 12:00
 Date Received: 02/14/24
 Field Prep: Not Specified

Sample Depth:

Matrix: Water
 Analytical Method: 1,8260D
 Analytical Date: 02/15/24 23:19
 Analyst: MJV

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	2.5	0.70	1
1,1-Dichloroethane	ND		ug/l	2.5	0.70	1
Chloroform	ND		ug/l	2.5	0.70	1
Carbon tetrachloride	ND		ug/l	0.50	0.13	1
1,2-Dichloropropane	ND		ug/l	1.0	0.14	1
Dibromochloromethane	ND		ug/l	0.50	0.15	1
1,1,2-Trichloroethane	ND		ug/l	1.5	0.50	1
Tetrachloroethene	ND		ug/l	0.50	0.18	1
Chlorobenzene	ND		ug/l	2.5	0.70	1
Trichlorofluoromethane	ND		ug/l	2.5	0.70	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
1,1,1-Trichloroethane	ND		ug/l	2.5	0.70	1
Bromodichloromethane	ND		ug/l	0.50	0.19	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14	1
1,3-Dichloropropene, Total	ND		ug/l	0.50	0.14	1
1,1-Dichloropropene	ND		ug/l	2.5	0.70	1
Bromoform	ND		ug/l	2.0	0.65	1
1,1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.17	1
Benzene	8.1		ug/l	0.50	0.16	1
Toluene	ND		ug/l	2.5	0.70	1
Ethylbenzene	ND		ug/l	2.5	0.70	1
Chloromethane	ND		ug/l	2.5	0.70	1
Bromomethane	ND		ug/l	2.5	0.70	1
Vinyl chloride	2.7		ug/l	1.0	0.07	1
Chloroethane	ND		ug/l	2.5	0.70	1
1,1-Dichloroethene	ND		ug/l	0.50	0.17	1
trans-1,2-Dichloroethene	ND		ug/l	2.5	0.70	1

Project Name: 1487 FIRST AVE

Lab Number: L2408247

Project Number: 100963701

Report Date: 02/16/24

SAMPLE RESULTS

Lab ID: L2408247-14
 Client ID: LMW-8R-D_59.75
 Sample Location: NEW YORK

Date Collected: 02/14/24 12:00
 Date Received: 02/14/24
 Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Trichloroethene	ND		ug/l	0.50	0.18	1
1,2-Dichlorobenzene	ND		ug/l	2.5	0.70	1
1,3-Dichlorobenzene	ND		ug/l	2.5	0.70	1
1,4-Dichlorobenzene	ND		ug/l	2.5	0.70	1
Methyl tert butyl ether	ND		ug/l	2.5	0.70	1
p/m-Xylene	ND		ug/l	2.5	0.70	1
o-Xylene	ND		ug/l	2.5	0.70	1
Xylenes, Total	ND		ug/l	2.5	0.70	1
cis-1,2-Dichloroethene	2.3	J	ug/l	2.5	0.70	1
1,2-Dichloroethene, Total	2.3	J	ug/l	2.5	0.70	1
Dibromomethane	ND		ug/l	5.0	1.0	1
1,2,3-Trichloropropane	ND		ug/l	2.5	0.70	1
Acrylonitrile	ND		ug/l	5.0	1.5	1
Styrene	ND		ug/l	2.5	0.70	1
Dichlorodifluoromethane	ND		ug/l	5.0	1.0	1
Acetone	52		ug/l	5.0	1.5	1
Carbon disulfide	ND		ug/l	5.0	1.0	1
2-Butanone	120		ug/l	5.0	1.9	1
Vinyl acetate	ND		ug/l	5.0	1.0	1
4-Methyl-2-pentanone	ND		ug/l	5.0	1.0	1
2-Hexanone	ND		ug/l	5.0	1.0	1
Bromochloromethane	ND		ug/l	2.5	0.70	1
2,2-Dichloropropane	ND		ug/l	2.5	0.70	1
1,2-Dibromoethane	ND		ug/l	2.0	0.65	1
1,3-Dichloropropane	ND		ug/l	2.5	0.70	1
1,1,1,2-Tetrachloroethane	ND		ug/l	2.5	0.70	1
Bromobenzene	ND		ug/l	2.5	0.70	1
n-Butylbenzene	ND		ug/l	2.5	0.70	1
sec-Butylbenzene	ND		ug/l	2.5	0.70	1
tert-Butylbenzene	ND		ug/l	2.5	0.70	1
o-Chlorotoluene	ND		ug/l	2.5	0.70	1
p-Chlorotoluene	ND		ug/l	2.5	0.70	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	0.70	1
Hexachlorobutadiene	ND		ug/l	2.5	0.70	1
Isopropylbenzene	ND		ug/l	2.5	0.70	1
p-Isopropyltoluene	ND		ug/l	2.5	0.70	1
Naphthalene	ND		ug/l	2.5	0.70	1

Project Name: 1487 FIRST AVE**Lab Number:** L2408247**Project Number:** 100963701**Report Date:** 02/16/24**SAMPLE RESULTS**

Lab ID: L2408247-14
 Client ID: LMW-8R-D_59.75
 Sample Location: NEW YORK

Date Collected: 02/14/24 12:00
 Date Received: 02/14/24
 Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
n-Propylbenzene	ND		ug/l	2.5	0.70	1
1,2,3-Trichlorobenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trichlorobenzene	ND		ug/l	2.5	0.70	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.70	1
1,4-Dioxane	ND		ug/l	250	61.	1
p-Diethylbenzene	ND		ug/l	2.0	0.70	1
p-Ethyltoluene	ND		ug/l	2.0	0.70	1
1,2,4,5-Tetramethylbenzene	ND		ug/l	2.0	0.54	1
Ethyl ether	ND		ug/l	2.5	0.70	1
trans-1,4-Dichloro-2-butene	ND		ug/l	2.5	0.70	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	118		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	107		70-130
Dibromofluoromethane	105		70-130

Project Name: 1487 FIRST AVE
Project Number: 100963701

Lab Number: L2408247
Report Date: 02/16/24

SAMPLE RESULTS

Lab ID: L2408247-15
Client ID: LMW-8R-S_6.75
Sample Location: NEW YORK

Date Collected: 02/14/24 12:30
Date Received: 02/14/24
Field Prep: Not Specified

Sample Depth:

Matrix: Water
Analytical Method: 1,8260D
Analytical Date: 02/16/24 08:07
Analyst: MJV

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	2.5	0.70	1
1,1-Dichloroethane	ND		ug/l	2.5	0.70	1
Chloroform	ND		ug/l	2.5	0.70	1
Carbon tetrachloride	ND		ug/l	0.50	0.13	1
1,2-Dichloropropane	ND		ug/l	1.0	0.14	1
Dibromochloromethane	ND		ug/l	0.50	0.15	1
1,1,2-Trichloroethane	ND		ug/l	1.5	0.50	1
Tetrachloroethene	0.54		ug/l	0.50	0.18	1
Chlorobenzene	ND		ug/l	2.5	0.70	1
Trichlorofluoromethane	ND		ug/l	2.5	0.70	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
1,1,1-Trichloroethane	ND		ug/l	2.5	0.70	1
Bromodichloromethane	ND		ug/l	0.50	0.19	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14	1
1,3-Dichloropropene, Total	ND		ug/l	0.50	0.14	1
1,1-Dichloropropene	ND		ug/l	2.5	0.70	1
Bromoform	ND		ug/l	2.0	0.65	1
1,1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.17	1
Benzene	0.31	J	ug/l	0.50	0.16	1
Toluene	8.7		ug/l	2.5	0.70	1
Ethylbenzene	ND		ug/l	2.5	0.70	1
Chloromethane	ND		ug/l	2.5	0.70	1
Bromomethane	ND		ug/l	2.5	0.70	1
Vinyl chloride	4.4		ug/l	1.0	0.07	1
Chloroethane	ND		ug/l	2.5	0.70	1
1,1-Dichloroethene	ND		ug/l	0.50	0.17	1
trans-1,2-Dichloroethene	ND		ug/l	2.5	0.70	1

Project Name: 1487 FIRST AVE

Lab Number: L2408247

Project Number: 100963701

Report Date: 02/16/24

SAMPLE RESULTS

Lab ID: L2408247-15
 Client ID: LMW-8R-S_6.75
 Sample Location: NEW YORK

Date Collected: 02/14/24 12:30
 Date Received: 02/14/24
 Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Trichloroethene	0.56		ug/l	0.50	0.18	1
1,2-Dichlorobenzene	ND		ug/l	2.5	0.70	1
1,3-Dichlorobenzene	ND		ug/l	2.5	0.70	1
1,4-Dichlorobenzene	ND		ug/l	2.5	0.70	1
Methyl tert butyl ether	ND		ug/l	2.5	0.70	1
p/m-Xylene	1.2	J	ug/l	2.5	0.70	1
o-Xylene	1.0	J	ug/l	2.5	0.70	1
Xylenes, Total	2.2	J	ug/l	2.5	0.70	1
cis-1,2-Dichloroethene	14		ug/l	2.5	0.70	1
1,2-Dichloroethene, Total	14		ug/l	2.5	0.70	1
Dibromomethane	ND		ug/l	5.0	1.0	1
1,2,3-Trichloropropane	ND		ug/l	2.5	0.70	1
Acrylonitrile	ND		ug/l	5.0	1.5	1
Styrene	ND		ug/l	2.5	0.70	1
Dichlorodifluoromethane	ND		ug/l	5.0	1.0	1
Acetone	13		ug/l	5.0	1.5	1
Carbon disulfide	ND		ug/l	5.0	1.0	1
2-Butanone	2.0	J	ug/l	5.0	1.9	1
Vinyl acetate	ND		ug/l	5.0	1.0	1
4-Methyl-2-pentanone	ND		ug/l	5.0	1.0	1
2-Hexanone	ND		ug/l	5.0	1.0	1
Bromochloromethane	ND		ug/l	2.5	0.70	1
2,2-Dichloropropane	ND		ug/l	2.5	0.70	1
1,2-Dibromoethane	ND		ug/l	2.0	0.65	1
1,3-Dichloropropane	ND		ug/l	2.5	0.70	1
1,1,1,2-Tetrachloroethane	ND		ug/l	2.5	0.70	1
Bromobenzene	ND		ug/l	2.5	0.70	1
n-Butylbenzene	ND		ug/l	2.5	0.70	1
sec-Butylbenzene	ND		ug/l	2.5	0.70	1
tert-Butylbenzene	ND		ug/l	2.5	0.70	1
o-Chlorotoluene	ND		ug/l	2.5	0.70	1
p-Chlorotoluene	ND		ug/l	2.5	0.70	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	0.70	1
Hexachlorobutadiene	ND		ug/l	2.5	0.70	1
Isopropylbenzene	ND		ug/l	2.5	0.70	1
p-Isopropyltoluene	ND		ug/l	2.5	0.70	1
Naphthalene	ND		ug/l	2.5	0.70	1

Project Name: 1487 FIRST AVE
Project Number: 100963701

Lab Number: L2408247
Report Date: 02/16/24

SAMPLE RESULTS

Lab ID: L2408247-15
 Client ID: LMW-8R-S_6.75
 Sample Location: NEW YORK

Date Collected: 02/14/24 12:30
 Date Received: 02/14/24
 Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
n-Propylbenzene	ND		ug/l	2.5	0.70	1
1,2,3-Trichlorobenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trichlorobenzene	ND		ug/l	2.5	0.70	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.70	1
1,4-Dioxane	ND		ug/l	250	61.	1
p-Diethylbenzene	ND		ug/l	2.0	0.70	1
p-Ethyltoluene	ND		ug/l	2.0	0.70	1
1,2,4,5-Tetramethylbenzene	ND		ug/l	2.0	0.54	1
Ethyl ether	ND		ug/l	2.5	0.70	1
trans-1,4-Dichloro-2-butene	ND		ug/l	2.5	0.70	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	99		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	102		70-130
Dibromofluoromethane	99		70-130

Project Name: 1487 FIRST AVE
Project Number: 100963701

Lab Number: L2408247
Report Date: 02/16/24

SAMPLE RESULTS

Lab ID: L2408247-16
 Client ID: DUP01_021424
 Sample Location: NEW YORK

Date Collected: 02/14/24 12:40
 Date Received: 02/14/24
 Field Prep: Not Specified

Sample Depth:

Matrix: Water
 Analytical Method: 1,8260D
 Analytical Date: 02/16/24 08:51
 Analyst: MJV

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	2.5	0.70	1
1,1-Dichloroethane	ND		ug/l	2.5	0.70	1
Chloroform	ND		ug/l	2.5	0.70	1
Carbon tetrachloride	ND		ug/l	0.50	0.13	1
1,2-Dichloropropane	ND		ug/l	1.0	0.14	1
Dibromochloromethane	ND		ug/l	0.50	0.15	1
1,1,2-Trichloroethane	ND		ug/l	1.5	0.50	1
Tetrachloroethene	0.64		ug/l	0.50	0.18	1
Chlorobenzene	ND		ug/l	2.5	0.70	1
Trichlorofluoromethane	ND		ug/l	2.5	0.70	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
1,1,1-Trichloroethane	ND		ug/l	2.5	0.70	1
Bromodichloromethane	ND		ug/l	0.50	0.19	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14	1
1,3-Dichloropropene, Total	ND		ug/l	0.50	0.14	1
1,1-Dichloropropene	ND		ug/l	2.5	0.70	1
Bromoform	ND		ug/l	2.0	0.65	1
1,1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.17	1
Benzene	0.29	J	ug/l	0.50	0.16	1
Toluene	10		ug/l	2.5	0.70	1
Ethylbenzene	ND		ug/l	2.5	0.70	1
Chloromethane	ND		ug/l	2.5	0.70	1
Bromomethane	ND		ug/l	2.5	0.70	1
Vinyl chloride	5.2		ug/l	1.0	0.07	1
Chloroethane	ND		ug/l	2.5	0.70	1
1,1-Dichloroethene	ND		ug/l	0.50	0.17	1
trans-1,2-Dichloroethene	ND		ug/l	2.5	0.70	1

Project Name: 1487 FIRST AVE

Lab Number: L2408247

Project Number: 100963701

Report Date: 02/16/24

SAMPLE RESULTS

Lab ID: L2408247-16
 Client ID: DUP01_021424
 Sample Location: NEW YORK

Date Collected: 02/14/24 12:40
 Date Received: 02/14/24
 Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Trichloroethene	0.70		ug/l	0.50	0.18	1
1,2-Dichlorobenzene	ND		ug/l	2.5	0.70	1
1,3-Dichlorobenzene	ND		ug/l	2.5	0.70	1
1,4-Dichlorobenzene	ND		ug/l	2.5	0.70	1
Methyl tert butyl ether	ND		ug/l	2.5	0.70	1
p/m-Xylene	1.4	J	ug/l	2.5	0.70	1
o-Xylene	1.2	J	ug/l	2.5	0.70	1
Xylenes, Total	2.6	J	ug/l	2.5	0.70	1
cis-1,2-Dichloroethene	17		ug/l	2.5	0.70	1
1,2-Dichloroethene, Total	17		ug/l	2.5	0.70	1
Dibromomethane	ND		ug/l	5.0	1.0	1
1,2,3-Trichloropropane	ND		ug/l	2.5	0.70	1
Acrylonitrile	ND		ug/l	5.0	1.5	1
Styrene	ND		ug/l	2.5	0.70	1
Dichlorodifluoromethane	ND		ug/l	5.0	1.0	1
Acetone	14		ug/l	5.0	1.5	1
Carbon disulfide	ND		ug/l	5.0	1.0	1
2-Butanone	ND		ug/l	5.0	1.9	1
Vinyl acetate	ND		ug/l	5.0	1.0	1
4-Methyl-2-pentanone	ND		ug/l	5.0	1.0	1
2-Hexanone	ND		ug/l	5.0	1.0	1
Bromochloromethane	ND		ug/l	2.5	0.70	1
2,2-Dichloropropane	ND		ug/l	2.5	0.70	1
1,2-Dibromoethane	ND		ug/l	2.0	0.65	1
1,3-Dichloropropane	ND		ug/l	2.5	0.70	1
1,1,1,2-Tetrachloroethane	ND		ug/l	2.5	0.70	1
Bromobenzene	ND		ug/l	2.5	0.70	1
n-Butylbenzene	ND		ug/l	2.5	0.70	1
sec-Butylbenzene	ND		ug/l	2.5	0.70	1
tert-Butylbenzene	ND		ug/l	2.5	0.70	1
o-Chlorotoluene	ND		ug/l	2.5	0.70	1
p-Chlorotoluene	ND		ug/l	2.5	0.70	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	0.70	1
Hexachlorobutadiene	ND		ug/l	2.5	0.70	1
Isopropylbenzene	ND		ug/l	2.5	0.70	1
p-Isopropyltoluene	ND		ug/l	2.5	0.70	1
Naphthalene	ND		ug/l	2.5	0.70	1

Project Name: 1487 FIRST AVE
Project Number: 100963701

Lab Number: L2408247
Report Date: 02/16/24

SAMPLE RESULTS

Lab ID: L2408247-16
Client ID: DUP01_021424
Sample Location: NEW YORK

Date Collected: 02/14/24 12:40
Date Received: 02/14/24
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
n-Propylbenzene	ND		ug/l	2.5	0.70	1
1,2,3-Trichlorobenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trichlorobenzene	ND		ug/l	2.5	0.70	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.70	1
1,4-Dioxane	ND		ug/l	250	61.	1
p-Diethylbenzene	ND		ug/l	2.0	0.70	1
p-Ethyltoluene	ND		ug/l	2.0	0.70	1
1,2,4,5-Tetramethylbenzene	ND		ug/l	2.0	0.54	1
Ethyl ether	ND		ug/l	2.5	0.70	1
trans-1,4-Dichloro-2-butene	ND		ug/l	2.5	0.70	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	98		70-130
Toluene-d8	100		70-130
4-Bromofluorobenzene	95		70-130
Dibromofluoromethane	100		70-130

Project Name: 1487 FIRST AVE**Lab Number:** L2408247**Project Number:** 100963701**Report Date:** 02/16/24**SAMPLE RESULTS**

Lab ID: L2408247-17
 Client ID: LMW-8R-S_18.75
 Sample Location: NEW YORK

Date Collected: 02/14/24 13:00
 Date Received: 02/14/24
 Field Prep: Not Specified

Sample Depth:

Matrix: Water
 Analytical Method: 1,8260D
 Analytical Date: 02/16/24 07:45
 Analyst: MJV

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	2.5	0.70	1
1,1-Dichloroethane	ND		ug/l	2.5	0.70	1
Chloroform	ND		ug/l	2.5	0.70	1
Carbon tetrachloride	ND		ug/l	0.50	0.13	1
1,2-Dichloropropane	ND		ug/l	1.0	0.14	1
Dibromochloromethane	ND		ug/l	0.50	0.15	1
1,1,2-Trichloroethane	ND		ug/l	1.5	0.50	1
Tetrachloroethene	ND		ug/l	0.50	0.18	1
Chlorobenzene	ND		ug/l	2.5	0.70	1
Trichlorofluoromethane	ND		ug/l	2.5	0.70	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
1,1,1-Trichloroethane	ND		ug/l	2.5	0.70	1
Bromodichloromethane	ND		ug/l	0.50	0.19	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14	1
1,3-Dichloropropene, Total	ND		ug/l	0.50	0.14	1
1,1-Dichloropropene	ND		ug/l	2.5	0.70	1
Bromoform	ND		ug/l	2.0	0.65	1
1,1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.17	1
Benzene	0.18	J	ug/l	0.50	0.16	1
Toluene	2.3	J	ug/l	2.5	0.70	1
Ethylbenzene	ND		ug/l	2.5	0.70	1
Chloromethane	ND		ug/l	2.5	0.70	1
Bromomethane	ND		ug/l	2.5	0.70	1
Vinyl chloride	1.6		ug/l	1.0	0.07	1
Chloroethane	ND		ug/l	2.5	0.70	1
1,1-Dichloroethene	ND		ug/l	0.50	0.17	1
trans-1,2-Dichloroethene	ND		ug/l	2.5	0.70	1

Project Name: 1487 FIRST AVE

Lab Number: L2408247

Project Number: 100963701

Report Date: 02/16/24

SAMPLE RESULTS

Lab ID: L2408247-17
 Client ID: LMW-8R-S_18.75
 Sample Location: NEW YORK

Date Collected: 02/14/24 13:00
 Date Received: 02/14/24
 Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Trichloroethene	ND		ug/l	0.50	0.18	1
1,2-Dichlorobenzene	ND		ug/l	2.5	0.70	1
1,3-Dichlorobenzene	ND		ug/l	2.5	0.70	1
1,4-Dichlorobenzene	ND		ug/l	2.5	0.70	1
Methyl tert butyl ether	ND		ug/l	2.5	0.70	1
p/m-Xylene	ND		ug/l	2.5	0.70	1
o-Xylene	ND		ug/l	2.5	0.70	1
Xylenes, Total	ND		ug/l	2.5	0.70	1
cis-1,2-Dichloroethene	2.9		ug/l	2.5	0.70	1
1,2-Dichloroethene, Total	2.9		ug/l	2.5	0.70	1
Dibromomethane	ND		ug/l	5.0	1.0	1
1,2,3-Trichloropropane	ND		ug/l	2.5	0.70	1
Acrylonitrile	ND		ug/l	5.0	1.5	1
Styrene	ND		ug/l	2.5	0.70	1
Dichlorodifluoromethane	ND		ug/l	5.0	1.0	1
Acetone	3.5	J	ug/l	5.0	1.5	1
Carbon disulfide	ND		ug/l	5.0	1.0	1
2-Butanone	7.1		ug/l	5.0	1.9	1
Vinyl acetate	ND		ug/l	5.0	1.0	1
4-Methyl-2-pentanone	ND		ug/l	5.0	1.0	1
2-Hexanone	ND		ug/l	5.0	1.0	1
Bromochloromethane	ND		ug/l	2.5	0.70	1
2,2-Dichloropropane	ND		ug/l	2.5	0.70	1
1,2-Dibromoethane	ND		ug/l	2.0	0.65	1
1,3-Dichloropropane	ND		ug/l	2.5	0.70	1
1,1,1,2-Tetrachloroethane	ND		ug/l	2.5	0.70	1
Bromobenzene	ND		ug/l	2.5	0.70	1
n-Butylbenzene	ND		ug/l	2.5	0.70	1
sec-Butylbenzene	ND		ug/l	2.5	0.70	1
tert-Butylbenzene	ND		ug/l	2.5	0.70	1
o-Chlorotoluene	ND		ug/l	2.5	0.70	1
p-Chlorotoluene	ND		ug/l	2.5	0.70	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	0.70	1
Hexachlorobutadiene	ND		ug/l	2.5	0.70	1
Isopropylbenzene	ND		ug/l	2.5	0.70	1
p-Isopropyltoluene	ND		ug/l	2.5	0.70	1
Naphthalene	ND		ug/l	2.5	0.70	1

Project Name: 1487 FIRST AVE
Project Number: 100963701

Lab Number: L2408247
Report Date: 02/16/24

SAMPLE RESULTS

Lab ID: L2408247-17
 Client ID: LMW-8R-S_18.75
 Sample Location: NEW YORK

Date Collected: 02/14/24 13:00
 Date Received: 02/14/24
 Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
n-Propylbenzene	ND		ug/l	2.5	0.70	1
1,2,3-Trichlorobenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trichlorobenzene	ND		ug/l	2.5	0.70	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.70	1
1,4-Dioxane	ND		ug/l	250	61.	1
p-Diethylbenzene	ND		ug/l	2.0	0.70	1
p-Ethyltoluene	ND		ug/l	2.0	0.70	1
1,2,4,5-Tetramethylbenzene	ND		ug/l	2.0	0.54	1
Ethyl ether	ND		ug/l	2.5	0.70	1
trans-1,4-Dichloro-2-butene	ND		ug/l	2.5	0.70	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	98		70-130
Toluene-d8	102		70-130
4-Bromofluorobenzene	102		70-130
Dibromofluoromethane	100		70-130

Project Name: 1487 FIRST AVE
Project Number: 100963701

Lab Number: L2408247
Report Date: 02/16/24

SAMPLE RESULTS

Lab ID: L2408247-18
 Client ID: LMW-6R-S_18.75
 Sample Location: NEW YORK

Date Collected: 02/14/24 09:45
 Date Received: 02/14/24
 Field Prep: Not Specified

Sample Depth:

Matrix: Water
 Analytical Method: 1,8260D
 Analytical Date: 02/16/24 09:13
 Analyst: MJV

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	2.5	0.70	1
1,1-Dichloroethane	ND		ug/l	2.5	0.70	1
Chloroform	ND		ug/l	2.5	0.70	1
Carbon tetrachloride	ND		ug/l	0.50	0.13	1
1,2-Dichloropropane	ND		ug/l	1.0	0.14	1
Dibromochloromethane	ND		ug/l	0.50	0.15	1
1,1,2-Trichloroethane	ND		ug/l	1.5	0.50	1
Tetrachloroethene	0.28	J	ug/l	0.50	0.18	1
Chlorobenzene	ND		ug/l	2.5	0.70	1
Trichlorofluoromethane	ND		ug/l	2.5	0.70	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
1,1,1-Trichloroethane	ND		ug/l	2.5	0.70	1
Bromodichloromethane	ND		ug/l	0.50	0.19	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14	1
1,3-Dichloropropene, Total	ND		ug/l	0.50	0.14	1
1,1-Dichloropropene	ND		ug/l	2.5	0.70	1
Bromoform	ND		ug/l	2.0	0.65	1
1,1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.17	1
Benzene	0.23	J	ug/l	0.50	0.16	1
Toluene	8.3		ug/l	2.5	0.70	1
Ethylbenzene	ND		ug/l	2.5	0.70	1
Chloromethane	ND		ug/l	2.5	0.70	1
Bromomethane	ND		ug/l	2.5	0.70	1
Vinyl chloride	2.8		ug/l	1.0	0.07	1
Chloroethane	ND		ug/l	2.5	0.70	1
1,1-Dichloroethene	ND		ug/l	0.50	0.17	1
trans-1,2-Dichloroethene	ND		ug/l	2.5	0.70	1

Project Name: 1487 FIRST AVE

Lab Number: L2408247

Project Number: 100963701

Report Date: 02/16/24

SAMPLE RESULTS

Lab ID: L2408247-18
 Client ID: LMW-6R-S_18.75
 Sample Location: NEW YORK

Date Collected: 02/14/24 09:45
 Date Received: 02/14/24
 Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Trichloroethene	0.31	J	ug/l	0.50	0.18	1
1,2-Dichlorobenzene	ND		ug/l	2.5	0.70	1
1,3-Dichlorobenzene	ND		ug/l	2.5	0.70	1
1,4-Dichlorobenzene	ND		ug/l	2.5	0.70	1
Methyl tert butyl ether	ND		ug/l	2.5	0.70	1
p/m-Xylene	1.0	J	ug/l	2.5	0.70	1
o-Xylene	0.87	J	ug/l	2.5	0.70	1
Xylenes, Total	1.9	J	ug/l	2.5	0.70	1
cis-1,2-Dichloroethene	3.3		ug/l	2.5	0.70	1
1,2-Dichloroethene, Total	3.3		ug/l	2.5	0.70	1
Dibromomethane	ND		ug/l	5.0	1.0	1
1,2,3-Trichloropropane	ND		ug/l	2.5	0.70	1
Acrylonitrile	ND		ug/l	5.0	1.5	1
Styrene	ND		ug/l	2.5	0.70	1
Dichlorodifluoromethane	ND		ug/l	5.0	1.0	1
Acetone	22		ug/l	5.0	1.5	1
Carbon disulfide	ND		ug/l	5.0	1.0	1
2-Butanone	4.8	J	ug/l	5.0	1.9	1
Vinyl acetate	ND		ug/l	5.0	1.0	1
4-Methyl-2-pentanone	ND		ug/l	5.0	1.0	1
2-Hexanone	ND		ug/l	5.0	1.0	1
Bromochloromethane	ND		ug/l	2.5	0.70	1
2,2-Dichloropropane	ND		ug/l	2.5	0.70	1
1,2-Dibromoethane	ND		ug/l	2.0	0.65	1
1,3-Dichloropropane	ND		ug/l	2.5	0.70	1
1,1,1,2-Tetrachloroethane	ND		ug/l	2.5	0.70	1
Bromobenzene	ND		ug/l	2.5	0.70	1
n-Butylbenzene	ND		ug/l	2.5	0.70	1
sec-Butylbenzene	ND		ug/l	2.5	0.70	1
tert-Butylbenzene	ND		ug/l	2.5	0.70	1
o-Chlorotoluene	ND		ug/l	2.5	0.70	1
p-Chlorotoluene	ND		ug/l	2.5	0.70	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	0.70	1
Hexachlorobutadiene	ND		ug/l	2.5	0.70	1
Isopropylbenzene	ND		ug/l	2.5	0.70	1
p-Isopropyltoluene	ND		ug/l	2.5	0.70	1
Naphthalene	ND		ug/l	2.5	0.70	1

Project Name: 1487 FIRST AVE
Project Number: 100963701

Lab Number: L2408247
Report Date: 02/16/24

SAMPLE RESULTS

Lab ID: L2408247-18
Client ID: LMW-6R-S_18.75
Sample Location: NEW YORK

Date Collected: 02/14/24 09:45
Date Received: 02/14/24
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
n-Propylbenzene	ND		ug/l	2.5	0.70	1
1,2,3-Trichlorobenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trichlorobenzene	ND		ug/l	2.5	0.70	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.70	1
1,4-Dioxane	ND		ug/l	250	61.	1
p-Diethylbenzene	ND		ug/l	2.0	0.70	1
p-Ethyltoluene	ND		ug/l	2.0	0.70	1
1,2,4,5-Tetramethylbenzene	ND		ug/l	2.0	0.54	1
Ethyl ether	ND		ug/l	2.5	0.70	1
trans-1,4-Dichloro-2-butene	ND		ug/l	2.5	0.70	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	99		70-130
Toluene-d8	100		70-130
4-Bromofluorobenzene	89		70-130
Dibromofluoromethane	100		70-130

Project Name: 1487 FIRST AVE
Project Number: 100963701

Lab Number: L2408247
Report Date: 02/16/24

SAMPLE RESULTS

Lab ID: L2408247-19
 Client ID: TB01_021424
 Sample Location: NEW YORK

Date Collected: 02/14/24 00:00
 Date Received: 02/14/24
 Field Prep: Not Specified

Sample Depth:

Matrix: Water
 Analytical Method: 1,8260D
 Analytical Date: 02/15/24 19:06
 Analyst: MJV

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	2.5	0.70	1
1,1-Dichloroethane	ND		ug/l	2.5	0.70	1
Chloroform	ND		ug/l	2.5	0.70	1
Carbon tetrachloride	ND		ug/l	0.50	0.13	1
1,2-Dichloropropane	ND		ug/l	1.0	0.14	1
Dibromochloromethane	ND		ug/l	0.50	0.15	1
1,1,2-Trichloroethane	ND		ug/l	1.5	0.50	1
Tetrachloroethene	ND		ug/l	0.50	0.18	1
Chlorobenzene	ND		ug/l	2.5	0.70	1
Trichlorofluoromethane	ND		ug/l	2.5	0.70	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
1,1,1-Trichloroethane	ND		ug/l	2.5	0.70	1
Bromodichloromethane	ND		ug/l	0.50	0.19	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14	1
1,3-Dichloropropene, Total	ND		ug/l	0.50	0.14	1
1,1-Dichloropropene	ND		ug/l	2.5	0.70	1
Bromoform	ND		ug/l	2.0	0.65	1
1,1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.17	1
Benzene	ND		ug/l	0.50	0.16	1
Toluene	ND		ug/l	2.5	0.70	1
Ethylbenzene	ND		ug/l	2.5	0.70	1
Chloromethane	ND		ug/l	2.5	0.70	1
Bromomethane	ND		ug/l	2.5	0.70	1
Vinyl chloride	ND		ug/l	1.0	0.07	1
Chloroethane	ND		ug/l	2.5	0.70	1
1,1-Dichloroethene	ND		ug/l	0.50	0.17	1
trans-1,2-Dichloroethene	ND		ug/l	2.5	0.70	1

Project Name: 1487 FIRST AVE

Lab Number: L2408247

Project Number: 100963701

Report Date: 02/16/24

SAMPLE RESULTS

Lab ID: L2408247-19

Date Collected: 02/14/24 00:00

Client ID: TB01_021424

Date Received: 02/14/24

Sample Location: NEW YORK

Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Trichloroethene	ND		ug/l	0.50	0.18	1
1,2-Dichlorobenzene	ND		ug/l	2.5	0.70	1
1,3-Dichlorobenzene	ND		ug/l	2.5	0.70	1
1,4-Dichlorobenzene	ND		ug/l	2.5	0.70	1
Methyl tert butyl ether	ND		ug/l	2.5	0.70	1
p/m-Xylene	ND		ug/l	2.5	0.70	1
o-Xylene	ND		ug/l	2.5	0.70	1
Xylenes, Total	ND		ug/l	2.5	0.70	1
cis-1,2-Dichloroethene	ND		ug/l	2.5	0.70	1
1,2-Dichloroethene, Total	ND		ug/l	2.5	0.70	1
Dibromomethane	ND		ug/l	5.0	1.0	1
1,2,3-Trichloropropane	ND		ug/l	2.5	0.70	1
Acrylonitrile	ND		ug/l	5.0	1.5	1
Styrene	ND		ug/l	2.5	0.70	1
Dichlorodifluoromethane	ND		ug/l	5.0	1.0	1
Acetone	ND		ug/l	5.0	1.5	1
Carbon disulfide	ND		ug/l	5.0	1.0	1
2-Butanone	ND		ug/l	5.0	1.9	1
Vinyl acetate	ND		ug/l	5.0	1.0	1
4-Methyl-2-pentanone	ND		ug/l	5.0	1.0	1
2-Hexanone	ND		ug/l	5.0	1.0	1
Bromochloromethane	ND		ug/l	2.5	0.70	1
2,2-Dichloropropane	ND		ug/l	2.5	0.70	1
1,2-Dibromoethane	ND		ug/l	2.0	0.65	1
1,3-Dichloropropane	ND		ug/l	2.5	0.70	1
1,1,1,2-Tetrachloroethane	ND		ug/l	2.5	0.70	1
Bromobenzene	ND		ug/l	2.5	0.70	1
n-Butylbenzene	ND		ug/l	2.5	0.70	1
sec-Butylbenzene	ND		ug/l	2.5	0.70	1
tert-Butylbenzene	ND		ug/l	2.5	0.70	1
o-Chlorotoluene	ND		ug/l	2.5	0.70	1
p-Chlorotoluene	ND		ug/l	2.5	0.70	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	0.70	1
Hexachlorobutadiene	ND		ug/l	2.5	0.70	1
Isopropylbenzene	ND		ug/l	2.5	0.70	1
p-Isopropyltoluene	ND		ug/l	2.5	0.70	1
Naphthalene	ND		ug/l	2.5	0.70	1

Project Name: 1487 FIRST AVE
Project Number: 100963701

Lab Number: L2408247
Report Date: 02/16/24

SAMPLE RESULTS

Lab ID: L2408247-19
 Client ID: TB01_021424
 Sample Location: NEW YORK

Date Collected: 02/14/24 00:00
 Date Received: 02/14/24
 Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
n-Propylbenzene	ND		ug/l	2.5	0.70	1
1,2,3-Trichlorobenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trichlorobenzene	ND		ug/l	2.5	0.70	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.70	1
1,4-Dioxane	ND		ug/l	250	61.	1
p-Diethylbenzene	ND		ug/l	2.0	0.70	1
p-Ethyltoluene	ND		ug/l	2.0	0.70	1
1,2,4,5-Tetramethylbenzene	ND		ug/l	2.0	0.54	1
Ethyl ether	ND		ug/l	2.5	0.70	1
trans-1,4-Dichloro-2-butene	ND		ug/l	2.5	0.70	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	121		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	101		70-130
Dibromofluoromethane	110		70-130

Project Name: 1487 FIRST AVE
Project Number: 100963701

Lab Number: L2408247
Report Date: 02/16/24

Method Blank Analysis Batch Quality Control

Analytical Method: 1,8260D
Analytical Date: 02/15/24 18:41
Analyst: LAC

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-04,06-08,10-14,19 Batch: WG1885883-5					
Methylene chloride	ND		ug/l	2.5	0.70
1,1-Dichloroethane	ND		ug/l	2.5	0.70
Chloroform	ND		ug/l	2.5	0.70
Carbon tetrachloride	ND		ug/l	0.50	0.13
1,2-Dichloropropane	ND		ug/l	1.0	0.14
Dibromochloromethane	ND		ug/l	0.50	0.15
1,1,2-Trichloroethane	ND		ug/l	1.5	0.50
Tetrachloroethene	ND		ug/l	0.50	0.18
Chlorobenzene	ND		ug/l	2.5	0.70
Trichlorofluoromethane	ND		ug/l	2.5	0.70
1,2-Dichloroethane	ND		ug/l	0.50	0.13
1,1,1-Trichloroethane	ND		ug/l	2.5	0.70
Bromodichloromethane	ND		ug/l	0.50	0.19
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14
1,3-Dichloropropene, Total	ND		ug/l	0.50	0.14
1,1-Dichloropropene	ND		ug/l	2.5	0.70
Bromoform	ND		ug/l	2.0	0.65
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.17
Benzene	ND		ug/l	0.50	0.16
Toluene	ND		ug/l	2.5	0.70
Ethylbenzene	ND		ug/l	2.5	0.70
Chloromethane	ND		ug/l	2.5	0.70
Bromomethane	ND		ug/l	2.5	0.70
Vinyl chloride	ND		ug/l	1.0	0.07
Chloroethane	ND		ug/l	2.5	0.70
1,1-Dichloroethene	ND		ug/l	0.50	0.17
trans-1,2-Dichloroethene	ND		ug/l	2.5	0.70
Trichloroethene	ND		ug/l	0.50	0.18

Project Name: 1487 FIRST AVE
Project Number: 100963701

Lab Number: L2408247
Report Date: 02/16/24

Method Blank Analysis Batch Quality Control

Analytical Method: 1,8260D
Analytical Date: 02/15/24 18:41
Analyst: LAC

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-04,06-08,10-14,19 Batch: WG1885883-5					
1,2-Dichlorobenzene	ND		ug/l	2.5	0.70
1,3-Dichlorobenzene	ND		ug/l	2.5	0.70
1,4-Dichlorobenzene	ND		ug/l	2.5	0.70
Methyl tert butyl ether	ND		ug/l	2.5	0.70
p/m-Xylene	ND		ug/l	2.5	0.70
o-Xylene	ND		ug/l	2.5	0.70
Xylenes, Total	ND		ug/l	2.5	0.70
cis-1,2-Dichloroethene	ND		ug/l	2.5	0.70
1,2-Dichloroethene, Total	ND		ug/l	2.5	0.70
Dibromomethane	ND		ug/l	5.0	1.0
1,2,3-Trichloropropane	ND		ug/l	2.5	0.70
Acrylonitrile	ND		ug/l	5.0	1.5
Styrene	ND		ug/l	2.5	0.70
Dichlorodifluoromethane	ND		ug/l	5.0	1.0
Acetone	ND		ug/l	5.0	1.5
Carbon disulfide	ND		ug/l	5.0	1.0
2-Butanone	ND		ug/l	5.0	1.9
Vinyl acetate	ND		ug/l	5.0	1.0
4-Methyl-2-pentanone	ND		ug/l	5.0	1.0
2-Hexanone	ND		ug/l	5.0	1.0
Bromochloromethane	ND		ug/l	2.5	0.70
2,2-Dichloropropane	ND		ug/l	2.5	0.70
1,2-Dibromoethane	ND		ug/l	2.0	0.65
1,3-Dichloropropane	ND		ug/l	2.5	0.70
1,1,1,2-Tetrachloroethane	ND		ug/l	2.5	0.70
Bromobenzene	ND		ug/l	2.5	0.70
n-Butylbenzene	ND		ug/l	2.5	0.70
sec-Butylbenzene	ND		ug/l	2.5	0.70
tert-Butylbenzene	ND		ug/l	2.5	0.70

Project Name: 1487 FIRST AVE
Project Number: 100963701

Lab Number: L2408247
Report Date: 02/16/24

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260D
Analytical Date: 02/15/24 18:41
Analyst: LAC

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-04,06-08,10-14,19 Batch: WG1885883-5					
o-Chlorotoluene	ND		ug/l	2.5	0.70
p-Chlorotoluene	ND		ug/l	2.5	0.70
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	0.70
Hexachlorobutadiene	ND		ug/l	2.5	0.70
Isopropylbenzene	ND		ug/l	2.5	0.70
p-Isopropyltoluene	ND		ug/l	2.5	0.70
Naphthalene	ND		ug/l	2.5	0.70
n-Propylbenzene	ND		ug/l	2.5	0.70
1,2,3-Trichlorobenzene	ND		ug/l	2.5	0.70
1,2,4-Trichlorobenzene	ND		ug/l	2.5	0.70
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.70
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.70
1,4-Dioxane	ND		ug/l	250	61.
p-Diethylbenzene	ND		ug/l	2.0	0.70
p-Ethyltoluene	ND		ug/l	2.0	0.70
1,2,4,5-Tetramethylbenzene	ND		ug/l	2.0	0.54
Ethyl ether	ND		ug/l	2.5	0.70
trans-1,4-Dichloro-2-butene	ND		ug/l	2.5	0.70

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	120		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	103		70-130
Dibromofluoromethane	109		70-130

Project Name: 1487 FIRST AVE
Project Number: 100963701

Lab Number: L2408247
Report Date: 02/16/24

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260D
Analytical Date: 02/16/24 07:23
Analyst: MJV

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 05,09,11,15-18 Batch: WG1886026-5					
Methylene chloride	ND		ug/l	2.5	0.70
1,1-Dichloroethane	ND		ug/l	2.5	0.70
Chloroform	ND		ug/l	2.5	0.70
Carbon tetrachloride	ND		ug/l	0.50	0.13
1,2-Dichloropropane	ND		ug/l	1.0	0.14
Dibromochloromethane	ND		ug/l	0.50	0.15
1,1,2-Trichloroethane	ND		ug/l	1.5	0.50
Tetrachloroethene	ND		ug/l	0.50	0.18
Chlorobenzene	ND		ug/l	2.5	0.70
Trichlorofluoromethane	ND		ug/l	2.5	0.70
1,2-Dichloroethane	ND		ug/l	0.50	0.13
1,1,1-Trichloroethane	ND		ug/l	2.5	0.70
Bromodichloromethane	ND		ug/l	0.50	0.19
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14
1,3-Dichloropropene, Total	ND		ug/l	0.50	0.14
1,1-Dichloropropene	ND		ug/l	2.5	0.70
Bromoform	ND		ug/l	2.0	0.65
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.17
Benzene	ND		ug/l	0.50	0.16
Toluene	ND		ug/l	2.5	0.70
Ethylbenzene	ND		ug/l	2.5	0.70
Chloromethane	ND		ug/l	2.5	0.70
Bromomethane	ND		ug/l	2.5	0.70
Vinyl chloride	ND		ug/l	1.0	0.07
Chloroethane	ND		ug/l	2.5	0.70
1,1-Dichloroethene	ND		ug/l	0.50	0.17
trans-1,2-Dichloroethene	ND		ug/l	2.5	0.70
Trichloroethene	ND		ug/l	0.50	0.18

Project Name: 1487 FIRST AVE
Project Number: 100963701

Lab Number: L2408247
Report Date: 02/16/24

Method Blank Analysis Batch Quality Control

Analytical Method: 1,8260D
Analytical Date: 02/16/24 07:23
Analyst: MJV

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 05,09,11,15-18 Batch: WG1886026-5					
1,2-Dichlorobenzene	ND		ug/l	2.5	0.70
1,3-Dichlorobenzene	ND		ug/l	2.5	0.70
1,4-Dichlorobenzene	ND		ug/l	2.5	0.70
Methyl tert butyl ether	ND		ug/l	2.5	0.70
p/m-Xylene	ND		ug/l	2.5	0.70
o-Xylene	ND		ug/l	2.5	0.70
Xylenes, Total	ND		ug/l	2.5	0.70
cis-1,2-Dichloroethene	ND		ug/l	2.5	0.70
1,2-Dichloroethene, Total	ND		ug/l	2.5	0.70
Dibromomethane	ND		ug/l	5.0	1.0
1,2,3-Trichloropropane	ND		ug/l	2.5	0.70
Acrylonitrile	ND		ug/l	5.0	1.5
Styrene	ND		ug/l	2.5	0.70
Dichlorodifluoromethane	ND		ug/l	5.0	1.0
Acetone	ND		ug/l	5.0	1.5
Carbon disulfide	ND		ug/l	5.0	1.0
2-Butanone	ND		ug/l	5.0	1.9
Vinyl acetate	ND		ug/l	5.0	1.0
4-Methyl-2-pentanone	ND		ug/l	5.0	1.0
2-Hexanone	ND		ug/l	5.0	1.0
Bromochloromethane	ND		ug/l	2.5	0.70
2,2-Dichloropropane	ND		ug/l	2.5	0.70
1,2-Dibromoethane	ND		ug/l	2.0	0.65
1,3-Dichloropropane	ND		ug/l	2.5	0.70
1,1,1,2-Tetrachloroethane	ND		ug/l	2.5	0.70
Bromobenzene	ND		ug/l	2.5	0.70
n-Butylbenzene	ND		ug/l	2.5	0.70
sec-Butylbenzene	ND		ug/l	2.5	0.70
tert-Butylbenzene	ND		ug/l	2.5	0.70

Project Name: 1487 FIRST AVE
Project Number: 100963701

Lab Number: L2408247
Report Date: 02/16/24

Method Blank Analysis Batch Quality Control

Analytical Method: 1,8260D
Analytical Date: 02/16/24 07:23
Analyst: MJV

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 05,09,11,15-18 Batch: WG1886026-5					
o-Chlorotoluene	ND		ug/l	2.5	0.70
p-Chlorotoluene	ND		ug/l	2.5	0.70
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	0.70
Hexachlorobutadiene	ND		ug/l	2.5	0.70
Isopropylbenzene	ND		ug/l	2.5	0.70
p-Isopropyltoluene	ND		ug/l	2.5	0.70
Naphthalene	ND		ug/l	2.5	0.70
n-Propylbenzene	ND		ug/l	2.5	0.70
1,2,3-Trichlorobenzene	ND		ug/l	2.5	0.70
1,2,4-Trichlorobenzene	ND		ug/l	2.5	0.70
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.70
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.70
1,4-Dioxane	ND		ug/l	250	61.
p-Diethylbenzene	ND		ug/l	2.0	0.70
p-Ethyltoluene	ND		ug/l	2.0	0.70
1,2,4,5-Tetramethylbenzene	ND		ug/l	2.0	0.54
Ethyl ether	ND		ug/l	2.5	0.70
trans-1,4-Dichloro-2-butene	ND		ug/l	2.5	0.70

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	101		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	98		70-130
Dibromofluoromethane	101		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: 1487 FIRST AVE

Lab Number: L2408247

Project Number: 100963701

Report Date: 02/16/24

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-04,06-08,10-14,19 Batch: WG1885883-3 WG1885883-4								
Methylene chloride	88		95		70-130	8		20
1,1-Dichloroethane	100		110		70-130	10		20
Chloroform	97		100		70-130	3		20
Carbon tetrachloride	110		100		63-132	10		20
1,2-Dichloropropane	100		110		70-130	10		20
Dibromochloromethane	87		95		63-130	9		20
1,1,2-Trichloroethane	82		100		70-130	20		20
Tetrachloroethene	96		95		70-130	1		20
Chlorobenzene	98		99		75-130	1		20
Trichlorofluoromethane	120		110		62-150	9		20
1,2-Dichloroethane	100		110		70-130	10		20
1,1,1-Trichloroethane	110		100		67-130	10		20
Bromodichloromethane	99		97		67-130	2		20
trans-1,3-Dichloropropene	77		93		70-130	19		20
cis-1,3-Dichloropropene	94		98		70-130	4		20
1,1-Dichloropropene	94		99		70-130	5		20
Bromoform	86		88		54-136	2		20
1,1,2,2-Tetrachloroethane	100		100		67-130	0		20
Benzene	93		99		70-130	6		20
Toluene	85		100		70-130	16		20
Ethylbenzene	100		100		70-130	0		20
Chloromethane	140	Q	120		64-130	15		20
Bromomethane	100		95		39-139	5		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: 1487 FIRST AVE

Lab Number: L2408247

Project Number: 100963701

Report Date: 02/16/24

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-04,06-08,10-14,19 Batch: WG1885883-3 WG1885883-4								
Vinyl chloride	120		100		55-140	18		20
Chloroethane	120		130		55-138	8		20
1,1-Dichloroethene	100		100		61-145	0		20
trans-1,2-Dichloroethene	94		96		70-130	2		20
Trichloroethene	97		93		70-130	4		20
1,2-Dichlorobenzene	97		99		70-130	2		20
1,3-Dichlorobenzene	99		100		70-130	1		20
1,4-Dichlorobenzene	98		100		70-130	2		20
Methyl tert butyl ether	86		93		63-130	8		20
p/m-Xylene	105		100		70-130	5		20
o-Xylene	100		100		70-130	0		20
cis-1,2-Dichloroethene	95		97		70-130	2		20
Dibromomethane	96		95		70-130	1		20
1,2,3-Trichloropropane	99		100		64-130	1		20
Acrylonitrile	95		100		70-130	5		20
Styrene	105		105		70-130	0		20
Dichlorodifluoromethane	110		93		36-147	17		20
Acetone	86		95		58-148	10		20
Carbon disulfide	100		110		51-130	10		20
2-Butanone	95		110		63-138	15		20
Vinyl acetate	140	Q	160	Q	70-130	13		20
4-Methyl-2-pentanone	70		89		59-130	24	Q	20
2-Hexanone	76		88		57-130	15		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: 1487 FIRST AVE

Lab Number: L2408247

Project Number: 100963701

Report Date: 02/16/24

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-04,06-08,10-14,19 Batch: WG1885883-3 WG1885883-4								
Bromochloromethane	110		96		70-130	14		20
2,2-Dichloropropane	120		120		63-133	0		20
1,2-Dibromoethane	86		96		70-130	11		20
1,3-Dichloropropane	82		100		70-130	20		20
1,1,1,2-Tetrachloroethane	95		95		64-130	0		20
Bromobenzene	95		96		70-130	1		20
n-Butylbenzene	100		100		53-136	0		20
sec-Butylbenzene	100		100		70-130	0		20
tert-Butylbenzene	98		99		70-130	1		20
o-Chlorotoluene	100		110		70-130	10		20
p-Chlorotoluene	100		100		70-130	0		20
1,2-Dibromo-3-chloropropane	85		91		41-144	7		20
Hexachlorobutadiene	83		85		63-130	2		20
Isopropylbenzene	99		100		70-130	1		20
p-Isopropyltoluene	93		94		70-130	1		20
Naphthalene	86		92		70-130	7		20
n-Propylbenzene	100		110		69-130	10		20
1,2,3-Trichlorobenzene	91		93		70-130	2		20
1,2,4-Trichlorobenzene	88		91		70-130	3		20
1,3,5-Trimethylbenzene	100		100		64-130	0		20
1,2,4-Trimethylbenzene	90		92		70-130	2		20
1,4-Dioxane	60		60		56-162	0		20
p-Diethylbenzene	89		90		70-130	1		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: 1487 FIRST AVE

Project Number: 100963701

Lab Number: L2408247

Report Date: 02/16/24

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-04,06-08,10-14,19 Batch: WG1885883-3 WG1885883-4								
p-Ethyltoluene	100		100		70-130	0		20
1,2,4,5-Tetramethylbenzene	85		88		70-130	3		20
Ethyl ether	94		100		59-134	6		20
trans-1,4-Dichloro-2-butene	110		120		70-130	9		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	113		115		70-130
Toluene-d8	87		102		70-130
4-Bromofluorobenzene	101		103		70-130
Dibromofluoromethane	102		97		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: 1487 FIRST AVE

Lab Number: L2408247

Project Number: 100963701

Report Date: 02/16/24

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 05,09,11,15-18 Batch: WG1886026-3 WG1886026-4								
Methylene chloride	99		98		70-130	1		20
1,1-Dichloroethane	100		100		70-130	0		20
Chloroform	100		98		70-130	2		20
Carbon tetrachloride	92		90		63-132	2		20
1,2-Dichloropropane	100		99		70-130	1		20
Dibromochloromethane	92		91		63-130	1		20
1,1,2-Trichloroethane	100		100		70-130	0		20
Tetrachloroethene	91		86		70-130	6		20
Chlorobenzene	98		94		75-130	4		20
Trichlorofluoromethane	96		90		62-150	6		20
1,2-Dichloroethane	98		98		70-130	0		20
1,1,1-Trichloroethane	95		90		67-130	5		20
Bromodichloromethane	96		95		67-130	1		20
trans-1,3-Dichloropropene	93		93		70-130	0		20
cis-1,3-Dichloropropene	94		92		70-130	2		20
1,1-Dichloropropene	93		91		70-130	2		20
Bromoform	89		85		54-136	5		20
1,1,2,2-Tetrachloroethane	100		97		67-130	3		20
Benzene	100		97		70-130	3		20
Toluene	99		95		70-130	4		20
Ethylbenzene	98		94		70-130	4		20
Chloromethane	110		110		64-130	0		20
Bromomethane	92		86		39-139	7		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: 1487 FIRST AVE

Lab Number: L2408247

Project Number: 100963701

Report Date: 02/16/24

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 05,09,11,15-18 Batch: WG1886026-3 WG1886026-4								
Vinyl chloride	110		110		55-140	0		20
Chloroethane	120		110		55-138	9		20
1,1-Dichloroethene	94		91		61-145	3		20
trans-1,2-Dichloroethene	98		94		70-130	4		20
Trichloroethene	99		94		70-130	5		20
1,2-Dichlorobenzene	98		97		70-130	1		20
1,3-Dichlorobenzene	98		95		70-130	3		20
1,4-Dichlorobenzene	98		96		70-130	2		20
Methyl tert butyl ether	91		92		63-130	1		20
p/m-Xylene	95		90		70-130	5		20
o-Xylene	95		95		70-130	0		20
cis-1,2-Dichloroethene	98		96		70-130	2		20
Dibromomethane	95		96		70-130	1		20
1,2,3-Trichloropropane	100		95		64-130	5		20
Acrylonitrile	100		110		70-130	10		20
Styrene	95		95		70-130	0		20
Dichlorodifluoromethane	98		95		36-147	3		20
Acetone	110		110		58-148	0		20
Carbon disulfide	98		95		51-130	3		20
2-Butanone	110		110		63-138	0		20
Vinyl acetate	100		100		70-130	0		20
4-Methyl-2-pentanone	83		85		59-130	2		20
2-Hexanone	80		82		57-130	2		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: 1487 FIRST AVE

Lab Number: L2408247

Project Number: 100963701

Report Date: 02/16/24

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 05,09,11,15-18 Batch: WG1886026-3 WG1886026-4								
Bromochloromethane	98		97		70-130	1		20
2,2-Dichloropropane	98		95		63-133	3		20
1,2-Dibromoethane	94		92		70-130	2		20
1,3-Dichloropropane	99		98		70-130	1		20
1,1,1,2-Tetrachloroethane	96		92		64-130	4		20
Bromobenzene	100		90		70-130	11		20
n-Butylbenzene	100		99		53-136	1		20
sec-Butylbenzene	97		90		70-130	7		20
tert-Butylbenzene	96		89		70-130	8		20
o-Chlorotoluene	110		93		70-130	17		20
p-Chlorotoluene	100		95		70-130	5		20
1,2-Dibromo-3-chloropropane	90		94		41-144	4		20
Hexachlorobutadiene	86		88		63-130	2		20
Isopropylbenzene	100		90		70-130	11		20
p-Isopropyltoluene	96		90		70-130	6		20
Naphthalene	86		91		70-130	6		20
n-Propylbenzene	110		93		69-130	17		20
1,2,3-Trichlorobenzene	87		87		70-130	0		20
1,2,4-Trichlorobenzene	88		90		70-130	2		20
1,3,5-Trimethylbenzene	110		92		64-130	18		20
1,2,4-Trimethylbenzene	98		92		70-130	6		20
1,4-Dioxane	156		156		56-162	0		20
p-Diethylbenzene	96		95		70-130	1		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: 1487 FIRST AVE

Project Number: 100963701

Lab Number: L2408247

Report Date: 02/16/24

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 05,09,11,15-18 Batch: WG1886026-3 WG1886026-4								
p-Ethyltoluene	100		91		70-130	9		20
1,2,4,5-Tetramethylbenzene	93		94		70-130	1		20
Ethyl ether	110		100		59-134	10		20
trans-1,4-Dichloro-2-butene	100		100		70-130	0		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	101		106		70-130
Toluene-d8	100		101		70-130
4-Bromofluorobenzene	100		93		70-130
Dibromofluoromethane	97		98		70-130

Matrix Spike Analysis

Batch Quality Control

Project Name: 1487 FIRST AVE

Project Number: 100963701

Lab Number: L2408247

Report Date: 02/16/24

<i>Parameter</i>	<i>Native Sample</i>	<i>MS Added</i>	<i>MS Found</i>	<i>MS %Recovery</i>	<i>Qual</i>	<i>MSD Found</i>	<i>MSD %Recovery</i>	<i>Qual</i>	<i>Recovery Limits</i>	<i>RPD</i>	<i>Qual</i>	<i>RPD Limits</i>
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 05,09,11,15-18 QC Batch ID: WG1886026-6 WG1886026-7 QC Sample: L2408247-18 Client ID: LMW-6R-S_18.75												
Methylene chloride	ND	10	10	100		11	110		70-130	10		20
1,1-Dichloroethane	ND	10	10	100		11	110		70-130	10		20
Chloroform	ND	10	10	100		11	110		70-130	10		20
Carbon tetrachloride	ND	10	10	100		11	110		63-132	10		20
1,2-Dichloropropane	ND	10	10	100		11	110		70-130	10		20
Dibromochloromethane	ND	10	9.0	90		9.7	97		63-130	7		20
1,1,2-Trichloroethane	ND	10	9.9	99		11	110		70-130	11		20
Tetrachloroethene	0.28J	10	9.6	96		10	100		70-130	4		20
Chlorobenzene	ND	10	9.6	96		10	100		75-130	4		20
Trichlorofluoromethane	ND	10	10	100		11	110		62-150	10		20
1,2-Dichloroethane	ND	10	9.8	98		11	110		70-130	12		20
1,1,1-Trichloroethane	ND	10	10	100		11	110		67-130	10		20
Bromodichloromethane	ND	10	9.6	96		10	100		67-130	4		20
trans-1,3-Dichloropropene	ND	10	9.2	92		9.8	98		70-130	6		20
cis-1,3-Dichloropropene	ND	10	9.1	91		9.8	98		70-130	7		20
1,1-Dichloropropene	ND	10	10	100		11	110		70-130	10		20
Bromoform	ND	10	8.6	86		8.6	86		54-136	0		20
1,1,2,2-Tetrachloroethane	ND	10	10	100		11	110		67-130	10		20
Benzene	0.23J	10	10	100		11	110		70-130	10		20
Toluene	8.3	10	18	97		19	107		70-130	5		20
Ethylbenzene	ND	10	10	100		11	110		70-130	10		20
Chloromethane	ND	10	11	110		12	120		64-130	9		20
Bromomethane	ND	10	6.0	60		6.9	69		39-139	14		20

Matrix Spike Analysis

Batch Quality Control

Project Name: 1487 FIRST AVE

Lab Number: L2408247

Project Number: 100963701

Report Date: 02/16/24

<i>Parameter</i>	<i>Native Sample</i>	<i>MS Added</i>	<i>MS Found</i>	<i>MS %Recovery</i>	<i>Qual</i>	<i>MSD Found</i>	<i>MSD %Recovery</i>	<i>Qual</i>	<i>Recovery Limits</i>	<i>RPD</i>	<i>Qual</i>	<i>RPD Limits</i>
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 05,09,11,15-18 QC Batch ID: WG1886026-6 WG1886026-7 QC Sample: L2408247-18 Client ID: LMW-6R-S_18.75												
Vinyl chloride	2.8	10	15	122		16	132		55-140	6		20
Chloroethane	ND	10	12	120		13	130		55-138	8		20
1,1-Dichloroethene	ND	10	10	100		11	110		61-145	10		20
trans-1,2-Dichloroethene	ND	10	10	100		11	110		70-130	10		20
Trichloroethene	0.31J	10	10	100		11	110		70-130	10		20
1,2-Dichlorobenzene	ND	10	9.4	94		10	100		70-130	6		20
1,3-Dichlorobenzene	ND	10	9.4	94		10	100		70-130	6		20
1,4-Dichlorobenzene	ND	10	9.4	94		10	100		70-130	6		20
Methyl tert butyl ether	ND	10	9.4	94		10	100		63-130	6		20
p/m-Xylene	1.0J	20	20	100		22	110		70-130	10		20
o-Xylene	0.87J	20	20	100		21	105		70-130	5		20
cis-1,2-Dichloroethene	3.3	10	13	97		14	107		70-130	7		20
Dibromomethane	ND	10	9.6	96		10	100		70-130	4		20
1,2,3-Trichloropropane	ND	10	10	100		10	100		64-130	0		20
Acrylonitrile	ND	10	11	110		12	120		70-130	9		20
Styrene	ND	20	20	100		21	105		70-130	5		20
Dichlorodifluoromethane	ND	10	12	120		13	130		36-147	8		20
Acetone	22	10	31	90		33	110		58-148	6		20
Carbon disulfide	ND	10	11	110		12	120		51-130	9		20
2-Butanone	4.8J	10	16	160	Q	17	170	Q	63-138	6		20
Vinyl acetate	ND	10	10	100		11	110		70-130	10		20
4-Methyl-2-pentanone	ND	10	9.8	98		10	100		59-130	2		20
2-Hexanone	ND	10	9.4	94		10	100		57-130	6		20

Matrix Spike Analysis

Batch Quality Control

Project Name: 1487 FIRST AVE

Lab Number: L2408247

Project Number: 100963701

Report Date: 02/16/24

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 05,09,11,15-18 QC Batch ID: WG1886026-6 WG1886026-7 QC Sample: L2408247-18 Client ID: LMW-6R-S_18.75												
Bromochloromethane	ND	10	9.7	97		10	100		70-130	3		20
2,2-Dichloropropane	ND	10	10	100		11	110		63-133	10		20
1,2-Dibromoethane	ND	10	9.2	92		9.9	99		70-130	7		20
1,3-Dichloropropane	ND	10	9.8	98		10	100		70-130	2		20
1,1,1,2-Tetrachloroethane	ND	10	9.3	93		9.9	99		64-130	6		20
Bromobenzene	ND	10	9.3	93		9.7	97		70-130	4		20
n-Butylbenzene	ND	10	10	100		10	100		53-136	0		20
sec-Butylbenzene	ND	10	9.8	98		10	100		70-130	2		20
tert-Butylbenzene	ND	10	9.7	97		10	100		70-130	3		20
o-Chlorotoluene	ND	10	9.8	98		10	100		70-130	2		20
p-Chlorotoluene	ND	10	9.8	98		10	100		70-130	2		20
1,2-Dibromo-3-chloropropane	ND	10	9.3	93		9.4	94		41-144	1		20
Hexachlorobutadiene	ND	10	8.5	85		8.6	86		63-130	1		20
Isopropylbenzene	ND	10	9.8	98		9.8	98		70-130	0		20
p-Isopropyltoluene	ND	10	9.7	97		10	100		70-130	3		20
Naphthalene	ND	10	9.4	94		9.7	97		70-130	3		20
n-Propylbenzene	ND	10	10	100		11	110		69-130	10		20
1,2,3-Trichlorobenzene	ND	10	8.6	86		8.9	89		70-130	3		20
1,2,4-Trichlorobenzene	ND	10	8.7	87		8.8	88		70-130	1		20
1,3,5-Trimethylbenzene	ND	10	9.7	97		10	100		64-130	3		20
1,2,4-Trimethylbenzene	ND	10	9.8	98		11	110		70-130	12		20
1,4-Dioxane	ND	500	830	166	Q	890	178	Q	56-162	7		20
p-Diethylbenzene	ND	10	9.4	94		10	100		70-130	6		20

Matrix Spike Analysis

Batch Quality Control

Project Name: 1487 FIRST AVE

Project Number: 100963701

Lab Number: L2408247

Report Date: 02/16/24

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 05,09,11,15-18 QC Batch ID: WG1886026-6 WG1886026-7 QC Sample: L2408247-18 Client ID: LMW-6R-S_18.75												
p-Ethyltoluene	ND	10	9.8	98		10	100		70-130	2		20
1,2,4,5-Tetramethylbenzene	ND	10	8.9	89		9.5	95		70-130	7		20
Ethyl ether	ND	10	10	100		11	110		59-134	10		20
trans-1,4-Dichloro-2-butene	ND	10	9.6	96		10	100		70-130	4		20

Surrogate	MS % Recovery	Qualifier	MSD % Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	105		101		70-130
4-Bromofluorobenzene	97		93		70-130
Dibromofluoromethane	99		98		70-130
Toluene-d8	100		99		70-130

Project Name: 1487 FIRST AVE**Lab Number:** L2408247**Project Number:** 100963701**Report Date:** 02/16/24**Sample Receipt and Container Information**

Were project specific reporting limits specified?

YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2408247-01A	Vial HCl preserved	A	NA		2.7	Y	Absent		NYTCL-8260(14)
L2408247-01B	Vial HCl preserved	A	NA		2.7	Y	Absent		NYTCL-8260(14)
L2408247-01C	Vial HCl preserved	A	NA		2.7	Y	Absent		NYTCL-8260(14)
L2408247-02A	Vial HCl preserved	A	NA		2.7	Y	Absent		NYTCL-8260(14)
L2408247-02B	Vial HCl preserved	A	NA		2.7	Y	Absent		NYTCL-8260(14)
L2408247-02C	Vial HCl preserved	A	NA		2.7	Y	Absent		NYTCL-8260(14)
L2408247-03A	Vial HCl preserved	A	NA		2.7	Y	Absent		NYTCL-8260(14)
L2408247-03B	Vial HCl preserved	A	NA		2.7	Y	Absent		NYTCL-8260(14)
L2408247-03C	Vial HCl preserved	A	NA		2.7	Y	Absent		NYTCL-8260(14)
L2408247-04A	Vial HCl preserved	A	NA		2.7	Y	Absent		NYTCL-8260(14)
L2408247-04B	Vial HCl preserved	A	NA		2.7	Y	Absent		NYTCL-8260(14)
L2408247-04C	Vial HCl preserved	A	NA		2.7	Y	Absent		NYTCL-8260(14)
L2408247-05A	Vial HCl preserved	A	NA		2.7	Y	Absent		NYTCL-8260(14)
L2408247-05B	Vial HCl preserved	A	NA		2.7	Y	Absent		NYTCL-8260(14)
L2408247-05C	Vial HCl preserved	A	NA		2.7	Y	Absent		NYTCL-8260(14)
L2408247-06A	Vial HCl preserved	A	NA		2.7	Y	Absent		NYTCL-8260(14)
L2408247-06B	Vial HCl preserved	A	NA		2.7	Y	Absent		NYTCL-8260(14)
L2408247-06C	Vial HCl preserved	A	NA		2.7	Y	Absent		NYTCL-8260(14)
L2408247-07A	Vial HCl preserved	A	NA		2.7	Y	Absent		NYTCL-8260(14)
L2408247-07B	Vial HCl preserved	A	NA		2.7	Y	Absent		NYTCL-8260(14)
L2408247-07C	Vial HCl preserved	A	NA		2.7	Y	Absent		NYTCL-8260(14)
L2408247-08A	Vial HCl preserved	A	NA		2.7	Y	Absent		NYTCL-8260(14)
L2408247-08B	Vial HCl preserved	A	NA		2.7	Y	Absent		NYTCL-8260(14)

Project Name: 1487 FIRST AVE

Lab Number: L2408247

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Report Date: 02/16/24

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2408247-08C	Vial HCl preserved	A	NA		2.7	Y	Absent		NYTCL-8260(14)
L2408247-09A	Vial HCl preserved	A	NA		2.7	Y	Absent		NYTCL-8260(14)
L2408247-09B	Vial HCl preserved	A	NA		2.7	Y	Absent		NYTCL-8260(14)
L2408247-09C	Vial HCl preserved	A	NA		2.7	Y	Absent		NYTCL-8260(14)
L2408247-10A	Vial HCl preserved	A	NA		2.7	Y	Absent		NYTCL-8260(14)
L2408247-10B	Vial HCl preserved	A	NA		2.7	Y	Absent		NYTCL-8260(14)
L2408247-10C	Vial HCl preserved	A	NA		2.7	Y	Absent		NYTCL-8260(14)
L2408247-11A	Vial HCl preserved	A	NA		2.7	Y	Absent		NYTCL-8260(14)
L2408247-11B	Vial HCl preserved	A	NA		2.7	Y	Absent		NYTCL-8260(14)
L2408247-11C	Vial HCl preserved	A	NA		2.7	Y	Absent		NYTCL-8260(14)
L2408247-12A	Vial HCl preserved	A	NA		2.7	Y	Absent		NYTCL-8260(14)
L2408247-12B	Vial HCl preserved	A	NA		2.7	Y	Absent		NYTCL-8260(14)
L2408247-12C	Vial HCl preserved	A	NA		2.7	Y	Absent		NYTCL-8260(14)
L2408247-13A	Vial HCl preserved	A	NA		2.7	Y	Absent		NYTCL-8260(14)
L2408247-13B	Vial HCl preserved	A	NA		2.7	Y	Absent		NYTCL-8260(14)
L2408247-13C	Vial HCl preserved	A	NA		2.7	Y	Absent		NYTCL-8260(14)
L2408247-14A	Vial HCl preserved	A	NA		2.7	Y	Absent		NYTCL-8260(14)
L2408247-14B	Vial HCl preserved	A	NA		2.7	Y	Absent		NYTCL-8260(14)
L2408247-14C	Vial HCl preserved	A	NA		2.7	Y	Absent		NYTCL-8260(14)
L2408247-15A	Vial HCl preserved	A	NA		2.7	Y	Absent		NYTCL-8260(14)
L2408247-15B	Vial HCl preserved	A	NA		2.7	Y	Absent		NYTCL-8260(14)
L2408247-15C	Vial HCl preserved	A	NA		2.7	Y	Absent		NYTCL-8260(14)
L2408247-16A	Vial HCl preserved	A	NA		2.7	Y	Absent		NYTCL-8260(14)
L2408247-16B	Vial HCl preserved	A	NA		2.7	Y	Absent		NYTCL-8260(14)
L2408247-16C	Vial HCl preserved	A	NA		2.7	Y	Absent		NYTCL-8260(14)
L2408247-17A	Vial HCl preserved	A	NA		2.7	Y	Absent		NYTCL-8260(14)
L2408247-17B	Vial HCl preserved	A	NA		2.7	Y	Absent		NYTCL-8260(14)
L2408247-17C	Vial HCl preserved	A	NA		2.7	Y	Absent		NYTCL-8260(14)

Project Name: 1487 FIRST AVE
Project Number: 100963701

Serial_No:02162412:10
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Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2408247-18A	Vial HCl preserved	A	NA		2.7	Y	Absent		NYTCL-8260(14)
L2408247-18A1	Vial HCl preserved	A	NA		2.7	Y	Absent		NYTCL-8260(14)
L2408247-18A2	Vial HCl preserved	A	NA		2.7	Y	Absent		NYTCL-8260(14)
L2408247-18B	Vial HCl preserved	A	NA		2.7	Y	Absent		NYTCL-8260(14)
L2408247-18B1	Vial HCl preserved	A	NA		2.7	Y	Absent		NYTCL-8260(14)
L2408247-18B2	Vial HCl preserved	A	NA		2.7	Y	Absent		NYTCL-8260(14)
L2408247-18C	Vial HCl preserved	A	NA		2.7	Y	Absent		NYTCL-8260(14)
L2408247-18C1	Vial HCl preserved	A	NA		2.7	Y	Absent		NYTCL-8260(14)
L2408247-18C2	Vial HCl preserved	A	NA		2.7	Y	Absent		NYTCL-8260(14)
L2408247-19A	Vial HCl preserved	A	NA		2.7	Y	Absent		NYTCL-8260(14)
L2408247-19B	Vial HCl preserved	A	NA		2.7	Y	Absent		NYTCL-8260(14)

Project Name: 1487 FIRST AVE
Project Number: 100963701

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Report Date: 02/16/24

GLOSSARY

Acronyms

DL	- Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EMPC	- Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LOD	- Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
LOQ	- Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.) Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NDPA/DPA	- N-Nitrosodiphenylamine/Diphenylamine.
NI	- Not Ignitable.
NP	- Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.
NR	- No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.
STLP	- Semi-dynamic Tank Leaching Procedure per EPA Method 1315.
TEF	- Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.
TEQ	- Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.
TIC	- Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: DU Report with 'J' Qualifiers



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Footnotes

- 1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Chlordane: The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA, this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Gasoline Range Organics (GRO): Gasoline Range Organics (GRO) results include all chromatographic peaks eluting from Methyl tert butyl ether through Naphthalene, with the exception of GRO analysis in support of State of Ohio programs, which includes all chromatographic peaks eluting from Hexane through Dodecane.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

- A** - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.
- B** - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).
- C** - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- D** - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
- E** - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
- F** - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.
- G** - The concentration may be biased high due to matrix interferences (i.e. co-elution) with non-target compound(s). The result should be considered estimated.
- H** - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
- I** - The lower value for the two columns has been reported due to obvious interference.
- J** - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively

Report Format: DU Report with 'J' Qualifiers



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Data Qualifiers

Identified Compounds (TICs). For calculated parameters, this represents that one or more values used in the calculation were estimated.

- M** - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- ND** - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.
- NJ** - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.
- P** - The RPD between the results for the two columns exceeds the method-specified criteria.
- Q** - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)
- R** - Analytical results are from sample re-analysis.
- RE** - Analytical results are from sample re-extraction.
- S** - Analytical results are from modified screening analysis.
- V** - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)
- Z** - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Project Name: 1487 FIRST AVE
Project Number: 100963701

Lab Number: L2408247
Report Date: 02/16/24

REFERENCES

- 1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - VI, 2018.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.



Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility

EPA 624.1: m/p-xylene, o-xylene, Naphthalene

EPA 625.1: alpha-Terpineol

EPA 8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.

EPA 8270E: NPW: Dimethylnaphthalene, 1,4-Diphenylhydrazine, alpha-Terpineol; SCM: Dimethylnaphthalene, 1,4-Diphenylhydrazine.

SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO₂, NO₃.

Mansfield Facility

SM 2540D: TSS.

EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene,

3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.

Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water

EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2:** Nitrate-N, Nitrite-N; **SM4500NO3-F:** Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE,**

EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B

EPA 524.2: THMs and VOCs; **EPA 504.1:** EDB, DBCP.

Microbiology: SM9215B; SM9223-P/A, SM9223B-Colilert-QT, SM9222D.

Non-Potable Water

SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1:**

Ammonia-N, **LACHAT 10-107-06-1-B:** Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2:** Nitrate-N, **SM4500P-E, SM4500P-B, E, SM4500SO4-E,**

SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.

EPA 624.1: Volatile Halocarbons & Aromatics,

EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II,

Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs

EPA 625.1: SVOC (Acid/Base/Neutral Extractables).

Microbiology: SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603, SM9222D.

Mansfield Facility:

Drinking Water

EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.

EPA 522, EPA 537.1.

Non-Potable Water


EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.

EPA 200.8: Al, Sb, As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.

EPA 245.1 Hg.

SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

 NEW YORK CHAIN OF CUSTODY	Service Centers Mahwah, NJ 07430: 35 Whitney Rd, Suite 5 Albany, NY 12205: 14 Walker Way Tonawanda, NY 14150: 275 Cooper Ave, Suite 105	Page <u>1</u> of <u>2</u>	Date Rec'd in Lab <u>2/15/24</u>	ALPHA Job # <u>12408247</u>							
	Westborough, MA 01581 8 Walkup Dr. TEL: 508-898-9220 FAX: 508-898-9193	Mansfield, MA 02048 320 Forbes Blvd TEL: 508-822-9300 FAX: 508-822-3288	Project Information Project Name: <u>1487 First Ave</u> Project Location: <u>New York</u> Project # <u>1009 63701</u> (Use Project name as Project #) <input type="checkbox"/>								
Client Information Client: <u>Langan</u> Address: <u>300 Kimball Dr.</u> <u>Passippany NJ, 07054</u> Phone: <u>973-580-4400</u> Fax: _____ Email: <u>asandve@langan.com</u>		Deliverables <input type="checkbox"/> ASP-A <input checked="" type="checkbox"/> ASP-B <input type="checkbox"/> EQulS (1 File) <input checked="" type="checkbox"/> EQulS (4 File) <input type="checkbox"/> Other									
Turn-Around Time Standard <input checked="" type="checkbox"/> Due Date: _____ Rush (only if pre approved) <input type="checkbox"/> # of Days: _____		Regulatory Requirement <input type="checkbox"/> NY TOGS <input type="checkbox"/> NY Part 375 <input type="checkbox"/> AWQ Standards <input type="checkbox"/> NY CP-51 <input type="checkbox"/> NY Restricted Use <input type="checkbox"/> Other <input type="checkbox"/> NY Unrestricted Use <input type="checkbox"/> NYC Sewer Discharge									
These samples have been previously analyzed by Alpha <input type="checkbox"/>		ANALYSIS									
Other project specific requirements/comments: _____ Please specify Metals or TAL. _____		Sample Filtration <input type="checkbox"/> Done <input type="checkbox"/> Lab to do Preservation <input type="checkbox"/> Lab to do (Please Specify below)									
ALPHA Lab ID (Lab Use Only)		Sample ID		Collection		Sample Matrix		Sampler's Initials		Sample Specific Comments	
		Date Time									
08247-01		LMW-6R-D-54.75		2/13 12:00		AQW		RB		X	
-02		LMW-6R-D-42.75		2/13 12:20		AQ		RB		X	
-03		LMW-6R-D-32.75		2/13 12:40		AQ		RB		X	
-04		LMW-9R-S-13.75		2/13 13:15		AQ		RB		X	
-05		LMW-10R-S-21.75		2/13 10:00		AQ		RB		X	
-06		LMW-10R-D-40.75		2/13 10:45		AQ		RB		X	
-07		LMW-10R-D-30.75		2/13 11:20		AQ		RB		X	
-08		LMW-7R-S-6.75		2/13 14:15		AQ		RB		X	
-09		LMW-7R-S-16.75		2/13 15:10		AQ		RB		X	
-10		LMW-7R-D-22.75		2/13 15:25		AQ		RB		X	
Preservative Code: A = None B = HCl C = HNO ₃ D = H ₂ SO ₄ E = NaOH F = MeOH G = NaHSO ₄ H = Na ₂ S ₂ O ₃ K/E = Zn Ac/NaOH O = Other		Container Code: P = Plastic A = Amber Glass V = Vial G = Glass B = Bacteria Cup C = Cube O = Other E = Encore D = BOD Bottle		Westboro: Certification No: MA935 Mansfield: Certification No: MA015		Container Type		Preservative		Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. BY EXECUTING THIS COC, THE CLIENT HAS READ AND AGREES TO BE BOUND BY ALPHA'S TERMS & CONDITIONS. (See reverse side.)	
		Relinquished By:		Date/Time		Received By:		Date/Time			
		<u>TJL (Langan)</u>		<u>2/14/2024 11:57</u>		<u>Tyler Mykennis</u>		<u>2/14/24 12:00</u>			
		<u>Tyler Mykennis</u>		<u>2/14/24 15:30</u>		<u>[Signature]</u>		<u>2/14/24 18:51</u>			
		<u>[Signature]</u>		<u>2/14/24</u>		<u>[Signature]</u>		<u>2/14 22:00</u>			
		<u>[Signature]</u>		<u>2/14 22:00</u>		<u>[Signature]</u>		<u>2/15/24 00:30</u>			



**NEW YORK
CHAIN OF
CUSTODY**

Westborough, MA 01581
8 Walkup Dr.
TEL: 508-898-9220
FAX: 508-898-9193

Mansfield, MA 02048
320 Forbes Blvd
TEL: 508-822-9300
FAX: 508-822-3288

Service Centers

Mahwah, NJ 07430: 35 Whitney Rd, Suite 5
Albany, NY 12205: 14 Walker Way
Tonawanda, NY 14150: 275 Cooper Ave, Suite 105

Page 2
of
2

Date Rec'd
in Lab 2/15/24

ALPHA Job #
23468247

Project Information		Deliverables		Billing Information	
Project Name: <u>1487 First Ave</u>		<input type="checkbox"/> ASP-A <input checked="" type="checkbox"/> ASP-B		<input checked="" type="checkbox"/> Same as Client Info	
Project Location: <u>New York, NY</u>		<input type="checkbox"/> EQUIS (1 File) <input checked="" type="checkbox"/> EQUIS (4 File)		PO #	
Project # <u>100963701</u>		<input type="checkbox"/> Other			
(Use Project name as Project #) <input type="checkbox"/>		Regulatory Requirement		Disposal Site Information	
Project Manager: <u>Ashley Sandve</u>		<input type="checkbox"/> NY TOGS <input type="checkbox"/> NY Part 375		Please identify below location of applicable disposal facilities.	
ALPHAQuote #:		<input type="checkbox"/> AWQ Standards <input type="checkbox"/> NY CP-51		Disposal Facility:	
Turn-Around Time		<input type="checkbox"/> NY Restricted Use <input type="checkbox"/> Other		<input type="checkbox"/> NJ <input type="checkbox"/> NY	
Standard <input checked="" type="checkbox"/> Due Date:		<input type="checkbox"/> NY Unrestricted Use		<input type="checkbox"/> Other:	
Rush (only if pre approved) <input type="checkbox"/> # of Days:		<input type="checkbox"/> NYC Sewer Discharge			
Email: <u>asandve@langan.com</u>					

These samples have been previously analyzed by Alpha

Other project specific requirements/comments:

Please specify Metals or TAL.

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection		Sample Matrix	Sampler's Initials	ANALYSIS	Sample Filtration	
		Date	Time				<input type="checkbox"/> Done	<input type="checkbox"/> Lab to do
<u>08247-11</u>	<u>LMW-7R-D-49.75</u>	<u>2/13</u>	<u>15:48</u>	<u>AWQ</u>	<u>RD</u>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	(Please Specify below) Sample Specific Comments <u>volume for MS/MSD trip blank</u>
<u>-12</u>	<u>LMW-9R-D-58.25</u>	<u>2/14</u>	<u>14:45</u>	<u>GW</u>	<u>LT</u>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
<u>-13</u>	<u>LMW-8R-D-27.75</u>	↓	<u>11:00</u>	↓	↓	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
<u>-14</u>	<u>LMW-8R-D-59.75</u>	↓	<u>12:00</u>	↓	↓	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
<u>-15</u>	<u>LMW-8R-S-6.75</u>	↓	<u>12:30</u>	↓	↓	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
<u>-16</u>	<u>DUP01-021424</u>	↓	<u>12:40</u>	↓	↓	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
<u>-17</u>	<u>LMW-8R-S-18.75</u>	↓	<u>13:00</u>	↓	↓	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
<u>-18</u>	<u>LMW-6R-S-18.75</u>	↓	<u>9:45</u>	↓	↓	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
<u>-19</u>	<u>TB01-021424</u>	↓	<u>-</u>	<u>-</u>	<u>-</u>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

Preservative Code: A = None B = HCl C = HNO ₃ D = H ₂ SO ₄ E = NaOH F = MeOH G = NaHSO ₄ H = Na ₂ S ₂ O ₃ K/E = Zn Ac/NaOH O = Other	Container Code P = Plastic A = Amber Glass V = Vial G = Glass B = Bacteria Cup C = Cube O = Other E = Encore D = BOD Bottle	Westboro: Certification No: MA935 Mansfield: Certification No: MA015	Container Type	Preservative
---	--	---	----------------	--------------

Relinquished By:	Date/Time	Received By:	Date/Time
<u>Taylor McCarren</u>	<u>2/14/2024 16:57</u>	<u>Taylor McCarren</u>	<u>2/14/24 17:00</u>
<u>Taylor McCarren</u>	<u>2/14/2024 18:20</u>	<u>Taylor McCarren</u>	<u>2/14/24 18:55</u>
<u>[Signature]</u>	<u>2/14/24</u>	<u>[Signature]</u>	<u>2/14 22:00</u>
<u>[Signature]</u>	<u>2/15 01:30</u>	<u>[Signature]</u>	<u>2/15/24 00:30</u>



ANALYTICAL REPORT

Lab Number:	L2408532
Client:	Langan Engineering & Environmental 300 Kimball Drive 4th Floor Parsippany, NJ 07054
ATTN:	Ashley Sandve
Phone:	(973) 560-4871
Project Name:	1487 FIRST AVE
Project Number:	100963701
Report Date:	02/27/24

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0826), IL (200077), IN (C-MA-03), KY (KY98045), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), OH (CL108), OR (MA-1316), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #525-23-122-91930).

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com



Project Name: 1487 FIRST AVE
Project Number: 100963701

Lab Number: L2408532
Report Date: 02/27/24

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2408532-01	TB02_02152024	WATER	NEW YORK, NY	02/15/24 00:00	02/15/24
L2408532-02	LMW-8R-S_6.75	WATER	NEW YORK, NY	02/15/24 13:00	02/15/24
L2408532-03	LMW-9R-D_58.25	WATER	NEW YORK, NY	02/14/24 17:00	02/15/24
L2408532-04	LMW-7R-S_16.75	WATER	NEW YORK, NY	02/15/24 11:00	02/15/24
L2408532-05	FB01_02152024	WATER	NEW YORK, NY	02/15/24 16:15	02/15/24

Project Name: 1487 FIRST AVE
Project Number: 100963701

Lab Number: L2408532
Report Date: 02/27/24

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

Project Name: 1487 FIRST AVE
Project Number: 100963701

Lab Number: L2408532
Report Date: 02/27/24

Case Narrative (continued)

Report Submission

February 27, 2024: This final report includes the results of all requested analyses.

February 26, 2024: This is a preliminary report.

All non-detect (ND) or estimated concentrations (J-qualified) have been quantitated to the limit noted in the MDL column.

The analyses of Dehalococcoides and Total Eubacteria were subcontracted. A copy of the laboratory report is included as an addendum. Please note: This data is only available in PDF format and is not available on Data Merger.

Sample Receipt

The analyses performed were specified by the client.

L2408532-02, -03, and -05: Headspace was noted in the sample containers submitted for Total Alkalinity - SM 2320. The analysis was performed at the client's request.

Dissolved Organic Carbon

L2408532-02 through -05: The sample was filtered with the method required holding time exceeded.

L2408532-03: The DOC result is greater than the TOC result due to the filtering procedure required by the DOC method.

L2408532-04: The sample has an elevated detection limit due to the dilution required by the sample matrix.

Total Organic Carbon

L2408532-04: The sample has an elevated detection limit due to the dilution required by the sample matrix.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature:  Tiffani Morrissey

Title: Technical Director/Representative

Date: 02/27/24

METALS

Project Name: 1487 FIRST AVE

Lab Number: L2408532

Project Number: 100963701

Report Date: 02/27/24

SAMPLE RESULTS

Lab ID: L2408532-02

Date Collected: 02/15/24 13:00

Client ID: LMW-8R-S_6.75

Date Received: 02/15/24

Sample Location: NEW YORK, NY

Field Prep: Not Specified

Sample Depth:

Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Calcium, Total	127.		mg/l	0.100	0.0394	1	02/17/24 08:16	02/19/24 13:41	EPA 3005A	1,6020B	EJF
Iron, Total	8.33		mg/l	0.0500	0.0191	1	02/17/24 08:16	02/19/24 13:41	EPA 3005A	1,6020B	EJF
Magnesium, Total	19.9		mg/l	0.0700	0.0242	1	02/17/24 08:16	02/19/24 13:41	EPA 3005A	1,6020B	EJF
Manganese, Total	0.6621		mg/l	0.00100	0.00044	1	02/17/24 08:16	02/19/24 13:41	EPA 3005A	1,6020B	EJF
Total Hardness (by calculation) - Mansfield Lab											
Hardness	398.9		mg/l	0.5400	NA	1	02/17/24 08:16	02/19/24 13:41	EPA 3005A	1,6020B	EJF



Project Name: 1487 FIRST AVE

Lab Number: L2408532

Project Number: 100963701

Report Date: 02/27/24

SAMPLE RESULTS

Lab ID: L2408532-03

Date Collected: 02/14/24 17:00

Client ID: LMW-9R-D_58.25

Date Received: 02/15/24

Sample Location: NEW YORK, NY

Field Prep: Not Specified

Sample Depth:

Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Calcium, Total	148.		mg/l	0.100	0.0394	1	02/17/24 08:16	02/19/24 13:45	EPA 3005A	1,6020B	EJF
Iron, Total	16.7		mg/l	0.0500	0.0191	1	02/17/24 08:16	02/19/24 13:45	EPA 3005A	1,6020B	EJF
Magnesium, Total	26.4		mg/l	0.0700	0.0242	1	02/17/24 08:16	02/19/24 13:45	EPA 3005A	1,6020B	EJF
Manganese, Total	0.7859		mg/l	0.00100	0.00044	1	02/17/24 08:16	02/19/24 13:45	EPA 3005A	1,6020B	EJF
Total Hardness (by calculation) - Mansfield Lab											
Hardness	478.1		mg/l	0.5400	NA	1	02/17/24 08:16	02/19/24 13:45	EPA 3005A	1,6020B	EJF



Project Name: 1487 FIRST AVE

Lab Number: L2408532

Project Number: 100963701

Report Date: 02/27/24

SAMPLE RESULTS

Lab ID: L2408532-04

Date Collected: 02/15/24 11:00

Client ID: LMW-7R-S_16.75

Date Received: 02/15/24

Sample Location: NEW YORK, NY

Field Prep: Not Specified

Sample Depth:

Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Calcium, Total	371.		mg/l	1.00	0.394	10	02/17/24 08:16	02/19/24 20:27	EPA 3005A	1,6020B	WKP
Iron, Total	88.2		mg/l	0.0500	0.0191	1	02/17/24 08:16	02/19/24 13:50	EPA 3005A	1,6020B	EJF
Magnesium, Total	118.		mg/l	0.700	0.242	10	02/17/24 08:16	02/19/24 20:27	EPA 3005A	1,6020B	WKP
Manganese, Total	6.149		mg/l	0.1000	0.04400	100	02/17/24 08:16	02/19/24 20:51	EPA 3005A	1,6020B	WKP
Total Hardness (by calculation) - Mansfield Lab											
Hardness	1413.		mg/l	5.400	NA	10	02/17/24 08:16	02/19/24 20:27	EPA 3005A	1,6020B	WKP



Project Name: 1487 FIRST AVE

Lab Number: L2408532

Project Number: 100963701

Report Date: 02/27/24

SAMPLE RESULTS

Lab ID: L2408532-05

Date Collected: 02/15/24 16:15

Client ID: FB01_02152024

Date Received: 02/15/24

Sample Location: NEW YORK, NY

Field Prep: Not Specified

Sample Depth:

Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Calcium, Total	0.0970	J	mg/l	0.100	0.0394	1	02/17/24 08:16	02/19/24 13:36	EPA 3005A	1,6020B	EJF
Iron, Total	ND		mg/l	0.0500	0.0191	1	02/17/24 08:16	02/19/24 13:36	EPA 3005A	1,6020B	EJF
Magnesium, Total	ND		mg/l	0.0700	0.0242	1	02/17/24 08:16	02/19/24 13:36	EPA 3005A	1,6020B	EJF
Manganese, Total	0.00066	J	mg/l	0.00100	0.00044	1	02/17/24 08:16	02/19/24 13:36	EPA 3005A	1,6020B	EJF
Total Hardness (by calculation) - Mansfield Lab											
Hardness	ND		mg/l	0.5400	NA	1	02/17/24 08:16	02/19/24 13:36	EPA 3005A	1,6020B	EJF



Project Name: 1487 FIRST AVE
Project Number: 100963701

Lab Number: L2408532
Report Date: 02/27/24

Method Blank Analysis Batch Quality Control

Parameter	Result Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 02-05 Batch: WG1886150-1									
Calcium, Total	ND	mg/l	0.100	0.0394	1	02/17/24 08:16	02/19/24 11:01	1,6020B	EJF
Iron, Total	ND	mg/l	0.0500	0.0191	1	02/17/24 08:16	02/19/24 11:01	1,6020B	EJF
Magnesium, Total	ND	mg/l	0.0700	0.0242	1	02/17/24 08:16	02/19/24 11:01	1,6020B	EJF
Manganese, Total	ND	mg/l	0.00100	0.00044	1	02/17/24 08:16	02/19/24 11:01	1,6020B	EJF

Prep Information

Digestion Method: EPA 3005A

Parameter	Result Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Hardness (by calculation) - Mansfield Lab for sample(s): 02-05 Batch: WG1886150-1									
Hardness	ND	mg/l	0.5400	NA	1	02/17/24 08:16	02/19/24 11:01	1,6020B	EJF

Prep Information

Digestion Method: EPA 3005A

Lab Control Sample Analysis

Batch Quality Control

Project Name: 1487 FIRST AVE
Project Number: 100963701

Lab Number: L2408532
Report Date: 02/27/24

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 02-05 Batch: WG1886150-2								
Calcium, Total	80		-		80-120	-		
Iron, Total	110		-		80-120	-		
Magnesium, Total	99		-		80-120	-		
Manganese, Total	102		-		80-120	-		
Total Hardness (by calculation) - Mansfield Lab Associated sample(s): 02-05 Batch: WG1886150-2								
Hardness	92		-		80-120	-		

Matrix Spike Analysis Batch Quality Control

Project Name: 1487 FIRST AVE
Project Number: 100963701

Lab Number: L2408532
Report Date: 02/27/24

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 02-05 QC Batch ID: WG1886150-3 QC Sample: L2408462-01 Client ID: MS Sample												
Calcium, Total	67.6	10	74.7	71	Q	-	-		75-125	-		20
Iron, Total	0.501	1	1.50	100		-	-		75-125	-		20
Magnesium, Total	8.15	10	17.3	92		-	-		75-125	-		20
Manganese, Total	6.576	0.5	7.415	168	Q	-	-		75-125	-		20
Total Hardness (by calculation) - Mansfield Lab Associated sample(s): 02-05 QC Batch ID: WG1886150-3 QC Sample: L2408462-01 Client ID: MS Sample												
Hardness	202.4	66.2	257.9	84		-	-		75-125	-		20

Lab Duplicate Analysis

Batch Quality Control

Project Name: 1487 FIRST AVE

Project Number: 100963701

Lab Number: L2408532

Report Date: 02/27/24

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 02-05 QC Batch ID: WG1886150-4 QC Sample: L2408462-01 Client ID: DUP Sample						
Iron, Total	0.501	0.527	mg/l	5		20

INORGANICS & MISCELLANEOUS

Project Name: 1487 FIRST AVE
Project Number: 100963701

Lab Number: L2408532
Report Date: 02/27/24

SAMPLE RESULTS

Lab ID: L2408532-02
Client ID: LMW-8R-S_6.75
Sample Location: NEW YORK, NY

Date Collected: 02/15/24 13:00
Date Received: 02/15/24
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Alkalinity, Total	260.		mg CaCO3/L	2.00	NA	1	-	02/19/24 10:24	121,2320B	MKT
Chloride	410		mg/l	10	8.9	10	-	02/19/24 21:19	121,4500CL-E	TLH
Nitrogen, Nitrate	0.164		mg/l	0.100	0.022	1	-	02/16/24 08:00	121,4500NO3-F	KAF
Sulfate	30.		mg/l	10	1.4	1	02/21/24 15:40	02/21/24 15:40	1,9038	MRW
Total Organic Carbon	6.7		mg/l	2.0	0.39	4	-	02/20/24 03:24	1,9060A	DEW
Dissolved Organic Carbon	6.6		mg/l	4.0	0.17	4	02/20/24 07:40	02/20/24 11:39	1,9060A	DEW



Project Name: 1487 FIRST AVE
Project Number: 100963701

Lab Number: L2408532
Report Date: 02/27/24

SAMPLE RESULTS

Lab ID: L2408532-03
Client ID: LMW-9R-D_58.25
Sample Location: NEW YORK, NY

Date Collected: 02/14/24 17:00
Date Received: 02/15/24
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Alkalinity, Total	272.		mg CaCO3/L	2.00	NA	1	-	02/19/24 10:24	121,2320B	MKT
Chloride	230		mg/l	10	8.9	10	-	02/19/24 21:43	121,4500CL-E	TLH
Nitrogen, Nitrate	ND		mg/l	0.100	0.022	1	-	02/16/24 08:01	121,4500NO3-F	KAF
Sulfate	1.5	J	mg/l	10	1.4	1	02/21/24 15:40	02/21/24 15:40	1,9038	MRW
Total Organic Carbon	2.1		mg/l	0.50	0.09	1	-	02/20/24 03:24	1,9060A	DEW
Dissolved Organic Carbon	3.9		mg/l	2.0	0.08	2	02/20/24 07:40	02/20/24 11:39	1,9060A	DEW



Project Name: 1487 FIRST AVE
Project Number: 100963701

Lab Number: L2408532
Report Date: 02/27/24

SAMPLE RESULTS

Lab ID: L2408532-04
Client ID: LMW-7R-S_16.75
Sample Location: NEW YORK, NY

Date Collected: 02/15/24 11:00
Date Received: 02/15/24
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Alkalinity, Total	166.		mg CaCO3/L	2.00	NA	1	-	02/19/24 10:24	121,2320B	MKT
Chloride	1200		mg/l	100	89.	100	-	02/19/24 22:15	121,4500CL-E	TLH
Nitrogen, Nitrate	0.117		mg/l	0.100	0.022	1	-	02/16/24 08:17	121,4500NO3-F	KAF
Sulfate	150		mg/l	100	14.	10	02/21/24 15:40	02/21/24 15:40	1,9038	MRW
Total Organic Carbon	0.72	J	mg/l	1.0	0.19	2	-	02/20/24 03:24	1,9060A	DEW
Dissolved Organic Carbon	0.80	J	mg/l	2.0	0.08	2	02/20/24 07:40	02/20/24 11:39	1,9060A	DEW



Project Name: 1487 FIRST AVE
Project Number: 100963701

Lab Number: L2408532
Report Date: 02/27/24

SAMPLE RESULTS

Lab ID: L2408532-05
Client ID: FB01_02152024
Sample Location: NEW YORK, NY

Date Collected: 02/15/24 16:15
Date Received: 02/15/24
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Alkalinity, Total	ND		mg CaCO3/L	2.00	NA	1	-	02/19/24 10:24	121,2320B	MKT
Chloride	ND		mg/l	1.0	0.89	1	-	02/19/24 22:15	121,4500CL-E	TLH
Nitrogen, Nitrate	ND		mg/l	0.100	0.022	1	-	02/16/24 08:03	121,4500NO3-F	KAF
Sulfate	1.7	J	mg/l	10	1.4	1	02/21/24 15:40	02/21/24 15:40	1,9038	MRW
Total Organic Carbon	0.17	J	mg/l	0.50	0.09	1	-	02/20/24 03:24	1,9060A	DEW
Dissolved Organic Carbon	0.24	J	mg/l	1.0	0.04	1	02/20/24 07:40	02/20/24 11:39	1,9060A	DEW



Project Name: 1487 FIRST AVE
Project Number: 100963701

Lab Number: L2408532
Report Date: 02/27/24

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab for sample(s): 02-05 Batch: WG1885813-1										
Nitrogen, Nitrate	ND		mg/l	0.100	0.022	1	-	02/16/24 03:07	121,4500NO3-F	KAF
General Chemistry - Westborough Lab for sample(s): 02-05 Batch: WG1886895-1										
Alkalinity, Total	ND		mg CaCO3/L	2.00	NA	1	-	02/19/24 10:24	121,2320B	MKT
General Chemistry - Westborough Lab for sample(s): 02-05 Batch: WG1886968-1										
Chloride	ND		mg/l	1.0	0.89	1	-	02/19/24 20:59	121,4500CL-E	TLH
General Chemistry - Westborough Lab for sample(s): 02-05 Batch: WG1887039-1										
Total Organic Carbon	ND		mg/l	0.50	0.09	1	-	02/20/24 03:24	1,9060A	DEW
General Chemistry - Westborough Lab for sample(s): 02-05 Batch: WG1887040-1										
Dissolved Organic Carbon	0.05	J	mg/l	1.0	0.04	1	-	02/20/24 03:24	1,9060A	DEW
General Chemistry - Westborough Lab for sample(s): 02-05 Batch: WG1887773-1										
Sulfate	1.6	J	mg/l	10	1.4	1	02/21/24 15:40	02/21/24 15:40	1,9038	MRW

Lab Control Sample Analysis

Batch Quality Control

Project Name: 1487 FIRST AVE

Project Number: 100963701

Lab Number: L2408532

Report Date: 02/27/24

Parameter	LCS		LCSD		%Recovery Limits	RPD	Qual	RPD Limits
	%Recovery	Qual	%Recovery	Qual				
General Chemistry - Westborough Lab Associated sample(s): 02-05 Batch: WG1885813-2								
Nitrogen, Nitrate	97		-		90-110	-		
General Chemistry - Westborough Lab Associated sample(s): 02-05 Batch: WG1886895-2								
Alkalinity, Total	106		-		90-110	-		10
General Chemistry - Westborough Lab Associated sample(s): 02-05 Batch: WG1886968-2								
Chloride	97		-		90-110	-		
General Chemistry - Westborough Lab Associated sample(s): 02-05 Batch: WG1887039-2								
Total Organic Carbon	92		-		90-110	-		
General Chemistry - Westborough Lab Associated sample(s): 02-05 Batch: WG1887040-2								
Dissolved Organic Carbon	92		-		90-110	-		
General Chemistry - Westborough Lab Associated sample(s): 02-05 Batch: WG1887773-2								
Sulfate	100		-		90-110	-		

Matrix Spike Analysis Batch Quality Control

Project Name: 1487 FIRST AVE

Lab Number: L2408532

Project Number: 100963701

Report Date: 02/27/24

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	MSD Qual	MSD Found	MSD %Recovery	MSD Qual	Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 02-05 QC Batch ID: WG1885813-4 QC Sample: L2408390-01 Client ID: MS Sample												
Nitrogen, Nitrate	1.70	4	5.64	98		-	-		83-113	-		17
General Chemistry - Westborough Lab Associated sample(s): 02-05 QC Batch ID: WG1886895-4 QC Sample: L2408656-01 Client ID: MS Sample												
Alkalinity, Total	145.	100	163	18	Q	-	-		86-116	-		10
General Chemistry - Westborough Lab Associated sample(s): 02-05 QC Batch ID: WG1886968-4 QC Sample: L2408532-02 Client ID: LMW-8R-S_6.75												
Chloride	410	20	430	100		-	-		58-140	-		7
General Chemistry - Westborough Lab Associated sample(s): 02-05 QC Batch ID: WG1887039-4 QC Sample: L2408532-02 Client ID: LMW-8R-S_6.75												
Total Organic Carbon	6.7	40	47	102		-	-		80-120	-		20
General Chemistry - Westborough Lab Associated sample(s): 02-05 QC Batch ID: WG1887040-4 QC Sample: L2408838-01 Client ID: MS Sample												
Dissolved Organic Carbon	14.	80	100	110		-	-		80-120	-		20
General Chemistry - Westborough Lab Associated sample(s): 02-05 QC Batch ID: WG1887773-4 QC Sample: L2408651-01 Client ID: MS Sample												
Sulfate	140	200	350	106		-	-		55-147	-		14

Lab Duplicate Analysis

Batch Quality Control

Project Name: 1487 FIRST AVE

Project Number: 100963701

Lab Number: L2408532

Report Date: 02/27/24

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 02-05 QC Batch ID: WG1885813-3 QC Sample: L2408390-01 Client ID: DUP Sample						
Nitrogen, Nitrate	1.70	1.70	mg/l	0		17
General Chemistry - Westborough Lab Associated sample(s): 02-05 QC Batch ID: WG1886895-3 QC Sample: L2408656-01 Client ID: DUP Sample						
Alkalinity, Total	145.	145	mg CaCO3/L	0		10
General Chemistry - Westborough Lab Associated sample(s): 02-05 QC Batch ID: WG1886968-3 QC Sample: L2408532-02 Client ID: LMW-8R-S_6.75						
Chloride	410	400	mg/l	2		7
General Chemistry - Westborough Lab Associated sample(s): 02-05 QC Batch ID: WG1887039-3 QC Sample: L2408532-02 Client ID: LMW-8R-S_6.75						
Total Organic Carbon	6.7	6.6	mg/l	2		20
General Chemistry - Westborough Lab Associated sample(s): 02-05 QC Batch ID: WG1887040-3 QC Sample: L2408838-01 Client ID: DUP Sample						
Dissolved Organic Carbon	14.	14	mg/l	0		20
General Chemistry - Westborough Lab Associated sample(s): 02-05 QC Batch ID: WG1887773-3 QC Sample: L2408651-01 Client ID: DUP Sample						
Sulfate	140	150	mg/l	7		14

Project Name: 1487 FIRST AVE**Lab Number:** L2408532**Project Number:** 100963701**Report Date:** 02/27/24**Sample Receipt and Container Information**

Were project specific reporting limits specified?

YES

Cooler Information

Cooler	Custody Seal
A	Absent
B	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2408532-01A	Vial HCl preserved	A	NA		2.1	Y	Absent		HOLD-8260(14)
L2408532-01B	Vial HCl preserved	A	NA		2.1	Y	Absent		HOLD-8260(14)
L2408532-02A	Vial unpreserved	B	NA		2.0	Y	Absent		HOLD-8260(14)
L2408532-02B	Vial unpreserved	B	NA		2.0	Y	Absent		HOLD-8260(14)
L2408532-02C	Vial unpreserved	B	NA		2.0	Y	Absent		FILTER(1)
L2408532-02D	Vial H2SO4 preserved	B	NA		2.0	Y	Absent		TOC-9060(28)
L2408532-02E	Vial H2SO4 preserved	B	NA		2.0	Y	Absent		TOC-9060(28)
L2408532-02F	Vial H2SO4 preserved	B	NA		2.0	Y	Absent		TOC-9060(28)
L2408532-02G	Plastic 250ml unpreserved/No Headspace	B	NA		2.0	Y	Absent		ALK-T-2320(14)
L2408532-02H	Plastic 250ml unpreserved	B	7	7	2.0	Y	Absent		SO4-9038(28),CL-4500(28),NO3-4500(2)
L2408532-02I	Plastic 250ml HNO3 preserved	B	<2	<2	2.0	Y	Absent		FE-6020T(180),CA-6020T(180),MN-6020T(180),MG-6020T(180),HARDT-6020(180)
L2408532-02X	Vial H2SO4 preserved Filtrates	B	NA		2.0	Y	Absent		DOC-9060(28)
L2408532-02Y	Vial H2SO4 preserved Filtrates	B	NA		2.0	Y	Absent		DOC-9060(28)
L2408532-02Z	Vial H2SO4 preserved Filtrates	B	NA		2.0	Y	Absent		DOC-9060(28)
L2408532-03A	Vial unpreserved	B	NA		2.0	Y	Absent		HOLD-8260(14)
L2408532-03B	Vial unpreserved	B	NA		2.0	Y	Absent		HOLD-8260(14)
L2408532-03C	Vial unpreserved	B	NA		2.0	Y	Absent		FILTER(1)
L2408532-03D	Vial H2SO4 preserved	B	NA		2.0	Y	Absent		TOC-9060(28)
L2408532-03E	Vial H2SO4 preserved	B	NA		2.0	Y	Absent		TOC-9060(28)
L2408532-03F	Vial H2SO4 preserved	B	NA		2.0	Y	Absent		TOC-9060(28)
L2408532-03G	Plastic 250ml unpreserved/No Headspace	B	NA		2.0	Y	Absent		ALK-T-2320(14)
L2408532-03H	Plastic 250ml unpreserved	B	7	7	2.0	Y	Absent		SO4-9038(28),CL-4500(28),NO3-4500(2)

Project Name: 1487 FIRST AVE
Project Number: 100963701

Serial_No:02272415:44
Lab Number: L2408532
Report Date: 02/27/24

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2408532-03I	Plastic 250ml HNO3 preserved	B	<2	<2	2.0	Y	Absent		FE-6020T(180),CA-6020T(180),MN-6020T(180),HARDT-6020(180),MG-6020T(180)
L2408532-03X	Vial H2SO4 preserved Filtrates	B	NA		2.0	Y	Absent		DOC-9060(28)
L2408532-03Y	Vial H2SO4 preserved Filtrates	B	NA		2.0	Y	Absent		DOC-9060(28)
L2408532-03Z	Vial H2SO4 preserved Filtrates	B	NA		2.0	Y	Absent		DOC-9060(28)
L2408532-04A	Vial unpreserved	B	NA		2.0	Y	Absent		HOLD-8260(14)
L2408532-04B	Vial unpreserved	B	NA		2.0	Y	Absent		HOLD-8260(14)
L2408532-04C	Vial unpreserved	B	NA		2.0	Y	Absent		FILTER(1)
L2408532-04D	Vial H2SO4 preserved	B	NA		2.0	Y	Absent		TOC-9060(28)
L2408532-04E	Vial H2SO4 preserved	B	NA		2.0	Y	Absent		TOC-9060(28)
L2408532-04F	Vial H2SO4 preserved	B	NA		2.0	Y	Absent		TOC-9060(28)
L2408532-04G	Plastic 250ml unpreserved/No Headspace	B	NA		2.0	Y	Absent		ALK-T-2320(14)
L2408532-04H	Plastic 250ml unpreserved	B	7	7	2.0	Y	Absent		SO4-9038(28),CL-4500(28),NO3-4500(2)
L2408532-04I	Plastic 250ml HNO3 preserved	B	<2	<2	2.0	Y	Absent		FE-6020T(180),CA-6020T(180),MN-6020T(180),MG-6020T(180),HARDT-6020(180)
L2408532-04X	Vial H2SO4 preserved Filtrates	B	NA		2.0	Y	Absent		DOC-9060(28)
L2408532-04Y	Vial H2SO4 preserved Filtrates	B	NA		2.0	Y	Absent		DOC-9060(28)
L2408532-04Z	Vial H2SO4 preserved Filtrates	B	NA		2.0	Y	Absent		DOC-9060(28)
L2408532-05A	Vial unpreserved	A	NA		2.1	Y	Absent		FILTER(1)
L2408532-05B	Vial unpreserved	A	NA		2.1	Y	Absent		FILTER(1)
L2408532-05C	Vial unpreserved	A	NA		2.1	Y	Absent		FILTER(1)
L2408532-05D	Vial HCl preserved	A	NA		2.1	Y	Absent		HOLD-8260(14)
L2408532-05E	Vial HCl preserved	A	NA		2.1	Y	Absent		HOLD-8260(14)
L2408532-05F	Vial HCl preserved	A	NA		2.1	Y	Absent		HOLD-8260(14)
L2408532-05G	Vial H2SO4 preserved	A	NA		2.1	Y	Absent		TOC-9060(28)
L2408532-05H	Vial H2SO4 preserved	A	NA		2.1	Y	Absent		TOC-9060(28)
L2408532-05I	Vial H2SO4 preserved	A	NA		2.1	Y	Absent		TOC-9060(28)
L2408532-05J	Plastic 250ml unpreserved/No Headspace	A	NA		2.1	Y	Absent		ALK-T-2320(14)
L2408532-05K	Plastic 250ml unpreserved	A	7	7	2.1	Y	Absent		SO4-9038(28),CL-4500(28),NO3-4500(2)

Project Name: 1487 FIRST AVE**Lab Number:** L2408532**Project Number:** 100963701**Report Date:** 02/27/24**Container Information**

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2408532-05L	Plastic 250ml HNO3 preserved	A	<2	<2	2.1	Y	Absent		FE-6020T(180),CA-6020T(180),MN-6020T(180),MG-6020T(180),HARDT-6020(180)
L2408532-05X	Vial H2SO4 preserved Filtrates	A	NA		2.1	Y	Absent		DOC-9060(28)
L2408532-05Y	Vial H2SO4 preserved Filtrates	A	NA		2.1	Y	Absent		DOC-9060(28)
L2408532-05Z	Vial H2SO4 preserved Filtrates	A	NA		2.1	Y	Absent		DOC-9060(28)
L2408532-06A	Vial HCl preserved	A	NA		2.1	Y	Absent		-
L2408532-06B	Vial HCl preserved	A	NA		2.1	Y	Absent		-
L2408532-06C	Vial HCl preserved	A	NA		2.1	Y	Absent		-
L2408532-06D	Plastic 250ml HNO3 preserved	A	<2	<2	2.1	Y	Absent		-
L2408532-06E	Amber 120ml unpreserved	A	7	7	2.1	Y	Absent		-
L2408532-06F	Amber 120ml unpreserved	A	7	7	2.1	Y	Absent		-
L2408532-06G	Amber 120ml unpreserved	A	7	7	2.1	Y	Absent		-
L2408532-06H	Amber 120ml unpreserved	A	7	7	2.1	Y	Absent		-
L2408532-06I	Amber 250ml unpreserved	A	7	7	2.1	Y	Absent		-
L2408532-06J	Amber 250ml unpreserved	A	7	7	2.1	Y	Absent		-
L2408532-06K	Amber 1000ml unpreserved	A	7	7	2.1	Y	Absent		-
L2408532-06L	Amber 1000ml unpreserved	A	7	7	2.1	Y	Absent		-
L2408532-06M	Amber 1000ml HCl preserved	A	<2	<2	2.1	Y	Absent		-
L2408532-06N	Amber 1000ml HCl preserved	A	<2	<2	2.1	Y	Absent		-

Project Name: 1487 FIRST AVE
Project Number: 100963701

Lab Number: L2408532
Report Date: 02/27/24

GLOSSARY

Acronyms

DL	- Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EMPC	- Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LOD	- Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
LOQ	- Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.) Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NDPA/DPA	- N-Nitrosodiphenylamine/Diphenylamine.
NI	- Not Ignitable.
NP	- Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.
NR	- No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.
STLP	- Semi-dynamic Tank Leaching Procedure per EPA Method 1315.
TEF	- Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.
TEQ	- Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.
TIC	- Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: DU Report with 'J' Qualifiers



Project Name: 1487 FIRST AVE
Project Number: 100963701

Lab Number: L2408532
Report Date: 02/27/24

Footnotes

- 1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Chlordane: The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA, this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Gasoline Range Organics (GRO): Gasoline Range Organics (GRO) results include all chromatographic peaks eluting from Methyl tert butyl ether through Naphthalene, with the exception of GRO analysis in support of State of Ohio programs, which includes all chromatographic peaks eluting from Hexane through Dodecane.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

- A** - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.
- B** - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).
- C** - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- D** - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
- E** - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
- F** - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.
- G** - The concentration may be biased high due to matrix interferences (i.e. co-elution) with non-target compound(s). The result should be considered estimated.
- H** - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
- I** - The lower value for the two columns has been reported due to obvious interference.
- J** - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively

Report Format: DU Report with 'J' Qualifiers



Project Name: 1487 FIRST AVE
Project Number: 100963701

Lab Number: L2408532
Report Date: 02/27/24

Data Qualifiers

Identified Compounds (TICs). For calculated parameters, this represents that one or more values used in the calculation were estimated.

- M** - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- ND** - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.
- NJ** - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.
- P** - The RPD between the results for the two columns exceeds the method-specified criteria.
- Q** - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)
- R** - Analytical results are from sample re-analysis.
- RE** - Analytical results are from sample re-extraction.
- S** - Analytical results are from modified screening analysis.
- V** - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)
- Z** - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Project Name: 1487 FIRST AVE
Project Number: 100963701

Lab Number: L2408532
Report Date: 02/27/24

REFERENCES

- 1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - VI, 2018.
- 121 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WEF. Standard Methods Online.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.



Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility

EPA 624.1: m/p-xylene, o-xylene, Naphthalene

EPA 625.1: alpha-Terpineol

EPA 8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.

EPA 8270E: NPW: Dimethylnaphthalene, 1,4-Diphenylhydrazine, alpha-Terpineol; SCM: Dimethylnaphthalene, 1,4-Diphenylhydrazine.

SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO₂, NO₃.

Mansfield Facility

SM 2540D: TSS.

EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene,

3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.

Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water

EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2:** Nitrate-N, Nitrite-N; **SM4500NO3-F:** Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE,**

EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B

EPA 524.2: THMs and VOCs; **EPA 504.1:** EDB, DBCP.

Microbiology: SM9215B; SM9223-P/A, SM9223B-Colilert-QT, SM9222D.

Non-Potable Water

SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1:**

Ammonia-N, **LACHAT 10-107-06-1-B:** Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2:** Nitrate-N, **SM4500P-E, SM4500P-B, E, SM4500SO4-E,**

SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.

EPA 624.1: Volatile Halocarbons & Aromatics,

EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs

EPA 625.1: SVOC (Acid/Base/Neutral Extractables).

Microbiology: SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603, SM9222D.

Mansfield Facility:

Drinking Water

EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.

EPA 522, EPA 537.1.

Non-Potable Water


EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.

EPA 200.8: Al, Sb, As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.

EPA 245.1 Hg.

SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

 <p>NEW YORK CHAIN OF CUSTODY</p> <p>Westborough, MA 01581 8 Walkup Dr. Tel: 508-899-0220 Fax: 508-896-0133</p> <p>Mansfield, MA 02048 320 Forbes Blvd Tel: 508-822-9300 Fax: 508-822-3288</p>	<p>Service Centers</p> <p>Mahwah, NJ 07430: 35 Whitney Rd, Suite 5 Albany, NY 12205: 14 Walker Way Tonawanda, NY 14150: 275 Cooper Ave, Suite 105</p>	<p>Page 1 of 2</p>	<p>Date Rec'd in Lab 2/16/24</p>	<p>ALPHA Job # L2408532</p>									
	<p>Project Information</p> <p>Project Name: 1487 First Ave Project Location: New York NY Project # 100963701 (Use Project name as Project #) <input type="checkbox"/></p>		<p>Deliverables</p> <p><input type="checkbox"/> ASP-A <input checked="" type="checkbox"/> ASP-B <input type="checkbox"/> EQUIS (1 File) <input checked="" type="checkbox"/> EQUIS (4 File) <input type="checkbox"/> Other</p>		<p>Billing Information</p> <p><input checked="" type="checkbox"/> Same as Client Info PO#</p>								
<p>Client Information</p> <p>Client: Lagan Address: 300 East 14th St Laguardia NJ 07030 Phone: 913-580-4100 Fax: 913-580-4100 Email: a.sandre@laguan.com</p>		<p>Project Manager: Ashley Sandre ALPHAQuote #: Turn-Around Time: Standard <input checked="" type="checkbox"/> Rush (only if pre approved) <input type="checkbox"/> Due Date: # of Days:</p>		<p>Regulatory Requirement</p> <p><input type="checkbox"/> NY TOCS <input type="checkbox"/> NY Part 375 <input type="checkbox"/> AWQ Standards <input type="checkbox"/> NY CP-01 <input type="checkbox"/> NY Restricted Use <input type="checkbox"/> Other <input type="checkbox"/> NY Unrestricted Use <input type="checkbox"/> NYC Sewer Discharge</p>	<p>Disposal Site Information</p> <p>Please identify below location of applicable disposal facilities. Disposal Facility: <input type="checkbox"/> NJ <input type="checkbox"/> NY <input type="checkbox"/> Other</p>								
<p>These samples have been previously analyzed by Alpha <input type="checkbox"/></p> <p>Other project specific requirements/comments:</p> <p>Please specify Metals or TAL.</p>		<p>ANALYSIS</p> <p>ALK-T-2320 TOC SO4, CL, NO3 DOC Total Metals sub DIX/EBAC NYTCL-P260</p>		<p>Sample Filtration</p> <p><input type="checkbox"/> Done <input type="checkbox"/> Lab to do Preservation <input type="checkbox"/> Lab to do (Please Specify below)</p> <p>Sample Specific Comments</p>									
ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	ALK-T-2320	TOC	SO4, CL, NO3	DOC	Total Metals	sub DIX/EBAC	NYTCL-P260	
08532-01	TB02-02152024	2/15/24		AG		X	X	X	X	X	X	X	Sample with DIX/EBAC
02	LMW-8R-S-6.75	2/15/24	1300	AG	RB	X	X	X	X	X	X	X	Sent directly to Microbial Insights
03	LMW-9R-D-58.25	2/14/24	1700	AG	LT	X	X	X	X	X	X	X	
04	LMW-7R-S-16.75	2/15/24	1100	AG	RB	X	X	X	X	X	X	X	
	FB01-02152024	2/15/24	1000	AG	RB	X	X	X	X	X	X	X	
05	FB01-02152024	2/16/24	1615	AG	RB	X	X	X	X	X	X	X	
<p>Preservative Code: A = None B = HCl C = HNO3 D = H2SO4 F = NaOH G = NaHCO3 H = Na2S2O8 K = Zn Ac/Nac(II) O = Other</p>		<p>Container Code: F = Plastic A = Amber Glass V = Vial G = Glass B = Bacter's Cup C = Cup Q = Other E = Encore D = BOD Bottle</p>		<p>Westboro: Certification No: MA936 Mansfield: Certification No: MA015</p>		<p>Container Type</p>		<p>Preservative</p>		<p>Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. BY EXECUTING THIS COC, THE CLIENT HAS READ AND AGREES TO BE BOUND BY ALPHA'S TERMS & CONDITIONS (See reverse side.)</p>			
<p>Relinquished By: Anthony Green</p>		<p>Date/Time: 2/15/24 1640</p>		<p>Received By: Anthony Green</p>		<p>Date/Time: 2/15 4:40</p>		<p>2/15 19:45</p>		<p>2/16/24 0025</p>		<p>2/16/24 0025</p>	
<p>Relinquished By: Anthony Green</p>		<p>Date/Time: 2/16/24 0025</p>		<p>Received By: Anthony Green</p>		<p>Date/Time: 2/16/24 0025</p>		<p>2/16/24 0025</p>		<p>2/16/24 0025</p>		<p>2/16/24 0020</p>	



10515 Research Drive
Knoxville, TN 37932
Phone: (865) 573-8188
Fax: (865) 573-8133



Client: Ben Rao
Pace Analytical (Formerly AlphaLab)
8 Walkup Dr
Westborough, MA 01581
Phone: 201-812-2633
Fax:

Identifier: 068VB **Date Rec:** 02/16/2024 **Report Date:** 02/27/2024

Client Project #: 100963701 **Client Project Name:** 1487 First Ave

Purchase Order #: L2408532

Test results provided for: CENSUS

Reviewed By:

NOTICE: This report is intended only for the addressee shown above and may contain confidential or privileged information. If the recipient of this material is not the intended recipient or if you have received this in error, please notify Microbial Insights, Inc. immediately. The data and other information in this report represent only the sample(s) analyzed and are rendered upon condition that it is not to be reproduced without approval from Microbial Insights, Inc. Thank you for your cooperation.

Results relate only to the items tested and the sample(s) as received by the laboratory.

MICROBIAL INSIGHTS, INC.

10515 Research Dr., Knoxville, TN 37932
 Tel. (865) 573-8188 Fax. (865) 573-8133

CENSUS

Client: Pace Analytical (Formerly AlphaLab)
Project: 1487 First Ave

MI Project Number: 068VB
Date Received: 02/16/2024

Sample Information

Client Sample ID:	LMW-8R-S_6.75	LMW-9R-D_58.25	LMW-7R-S_16.75	FB01_02152024
Sample Date:	02/15/2024	02/15/2024	02/15/2024	02/15/2024
Units:	cells/mL	cells/mL	cells/mL	cells/mL
Analyst/Reviewer:	AR/SK	AR/SK	AR/SK	AR/SK

Dechlorinating Bacteria

<i>Dehalococcoides</i>	DHC	1.80E+03	9.10E+03	4.40E+03	1.40E+00
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Phylogenetic Group

Total Eubacteria	EBAC	1.75E+07	1.44E+07	2.13E+07	1.50E+02
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Legend:

NA = Not Analyzed NS = Not Sampled J = Estimated gene copies below PQL but above LQL I = Inhibited
 < = Result not detected

Quality Assurance/Quality Control Data

Samples Received 2/16/2024

Component	Date Prepared	Date Analyzed	Arrival Temperature	Positive Control	Extraction Blank	Negative Control
DHC	02/16/2024	02/27/2024	0 °C	102%	non-detect	non-detect
EBAC	02/16/2024	02/27/2024	0 °C	97%	non-detect	non-detect



ANALYTICAL REPORT

Lab Number:	L2408838
Client:	Langan Engineering & Environmental 300 Kimball Drive 4th Floor Parsippany, NJ 07054
ATTN:	Ashley Sandve
Phone:	(973) 560-4871
Project Name:	1487 FIRST AVE
Project Number:	100963701
Report Date:	02/26/24

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0826), IL (200077), IN (C-MA-03), KY (KY98045), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), OH (CL108), OR (MA-1316), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #525-23-122-91930).

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com



Project Name: 1487 FIRST AVE
Project Number: 100963701

Lab Number: L2408838
Report Date: 02/26/24

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2408838-01	LMW-6R-S_18.75	WATER	NEW YORK, NY	02/15/24 17:00	02/16/24
L2408838-02	LMW-10R-D_40.75	WATER	NEW YORK, NY	02/16/24 10:00	02/16/24
L2408838-03	TB03_02162024	WATER	NEW YORK, NY	02/16/24 00:00	02/16/24

Project Name: 1487 FIRST AVE
Project Number: 100963701

Lab Number: L2408838
Report Date: 02/26/24

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

Project Name: 1487 FIRST AVE
Project Number: 100963701

Lab Number: L2408838
Report Date: 02/26/24

Case Narrative (continued)

Report Submission

All non-detect (ND) or estimated concentrations (J-qualified) have been quantitated to the limit noted in the MDL column.

The analyses of Dehalococcoides and Total Eubacteria were subcontracted. A copy of the laboratory report is included as an addendum. Please note: This data is only available in PDF format and is not available on Data Merger.

Sample Receipt

The analyses performed were specified by the client.

L2408838-02: Headspace was noted in the sample container submitted for Total Alkalinity - SM 2320. The analysis was performed at the client's request.

L2408838-03: A Trip Blank was received, but not listed on the Chain of Custody. At the client's request, this sample was not analyzed. The Client ID is reported as "TB03_02162024".

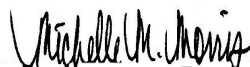
Dissolved Organic Carbon

L2408838-01 and -02: The sample was filtered with the method required holding time exceeded.

L2408838-02: The DOC result is greater than the TOC result due to the filtering procedure required by the DOC method.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature:



Michelle M. Morris

Title: Technical Director/Representative

Date: 02/26/24

METALS

Project Name: 1487 FIRST AVE

Lab Number: L2408838

Project Number: 100963701

Report Date: 02/26/24

SAMPLE RESULTS

Lab ID: L2408838-01
 Client ID: LMW-6R-S_18.75
 Sample Location: NEW YORK, NY

Date Collected: 02/15/24 17:00
 Date Received: 02/16/24
 Field Prep: Not Specified

Sample Depth:
 Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Calcium, Total	133.		mg/l	1.00	0.394	10	02/20/24 10:54	02/23/24 08:40	EPA 3005A	1,6020B	EJF
Iron, Total	25.7		mg/l	0.0500	0.0191	1	02/20/24 10:54	02/23/24 08:17	EPA 3005A	1,6020B	EJF
Magnesium, Total	19.2		mg/l	0.700	0.242	10	02/20/24 10:54	02/23/24 08:40	EPA 3005A	1,6020B	EJF
Manganese, Total	0.6660		mg/l	0.00100	0.00044	1	02/20/24 10:54	02/23/24 08:17	EPA 3005A	1,6020B	EJF
Total Hardness (by calculation) - Mansfield Lab											
Hardness	411.5		mg/l	5.400	NA	10	02/20/24 10:54	02/23/24 08:40	EPA 3005A	1,6020B	EJF



Project Name: 1487 FIRST AVE

Lab Number: L2408838

Project Number: 100963701

Report Date: 02/26/24

SAMPLE RESULTS

Lab ID: L2408838-02

Date Collected: 02/16/24 10:00

Client ID: LMW-10R-D_40.75

Date Received: 02/16/24

Sample Location: NEW YORK, NY

Field Prep: Not Specified

Sample Depth:

Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Calcium, Total	153.		mg/l	1.00	0.394	10	02/20/24 10:54	02/23/24 08:45	EPA 3005A	1,6020B	EJF
Iron, Total	15.2		mg/l	0.0500	0.0191	1	02/20/24 10:54	02/23/24 08:22	EPA 3005A	1,6020B	EJF
Magnesium, Total	27.2		mg/l	0.700	0.242	10	02/20/24 10:54	02/23/24 08:45	EPA 3005A	1,6020B	EJF
Manganese, Total	0.7028		mg/l	0.00100	0.00044	1	02/20/24 10:54	02/23/24 08:22	EPA 3005A	1,6020B	EJF
Total Hardness (by calculation) - Mansfield Lab											
Hardness	493.8		mg/l	5.400	NA	10	02/20/24 10:54	02/23/24 08:45	EPA 3005A	1,6020B	EJF



Project Name: 1487 FIRST AVE
Project Number: 100963701

Lab Number: L2408838
Report Date: 02/26/24

Method Blank Analysis Batch Quality Control

Parameter	Result Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 01-02 Batch: WG1886950-1									
Calcium, Total	ND	mg/l	0.100	0.0394	1	02/20/24 10:54	02/23/24 06:18	1,6020B	EJF
Iron, Total	ND	mg/l	0.0500	0.0191	1	02/20/24 10:54	02/23/24 06:18	1,6020B	EJF
Magnesium, Total	ND	mg/l	0.0700	0.0242	1	02/20/24 10:54	02/23/24 06:18	1,6020B	EJF
Manganese, Total	ND	mg/l	0.00100	0.00044	1	02/20/24 10:54	02/23/24 06:18	1,6020B	EJF

Prep Information

Digestion Method: EPA 3005A

Parameter	Result Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Hardness (by calculation) - Mansfield Lab for sample(s): 01-02 Batch: WG1886950-1									
Hardness	ND	mg/l	0.5400	NA	1	02/20/24 10:54	02/23/24 06:18	1,6020B	EJF

Prep Information

Digestion Method: EPA 3005A

Lab Control Sample Analysis

Batch Quality Control

Project Name: 1487 FIRST AVE
Project Number: 100963701

Lab Number: L2408838
Report Date: 02/26/24

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-02 Batch: WG1886950-2								
Calcium, Total	106		-		80-120	-		
Iron, Total	105		-		80-120	-		
Magnesium, Total	106		-		80-120	-		
Manganese, Total	104		-		80-120	-		
Total Hardness (by calculation) - Mansfield Lab Associated sample(s): 01-02 Batch: WG1886950-2								
Hardness	106		-		80-120	-		

Matrix Spike Analysis Batch Quality Control

Project Name: 1487 FIRST AVE
Project Number: 100963701

Lab Number: L2408838
Report Date: 02/26/24

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-02 QC Batch ID: WG1886950-3 WG1886950-4 QC Sample: L2408684-01 Client ID: MS Sample												
Calcium, Total	195	10	222	270	Q	225	300	Q	75-125	1		20
Iron, Total	10.9	1	12.7	180	Q	12.9	200	Q	75-125	2		20
Magnesium, Total	27.5	10	39.2	117		39.5	120		75-125	1		20
Manganese, Total	1.101	0.5	1.661	124		1.704	133	Q	75-125	3		20
Total Hardness (by calculation) - Mansfield Lab Associated sample(s): 01-02 QC Batch ID: WG1886950-3 WG1886950-4 QC Sample: L2408684-01 Client ID: MS Sample												
Hardness	600.6	66.2	716.0	174	Q	724.7	188	Q	75-125	1		20

**Lab Serial Dilution
Analysis
Batch Quality Control**

Project Name: 1487 FIRST AVE

Project Number: 100963701

Lab Number: L2408838

Report Date: 02/26/24

Parameter	Native Sample	Serial Dilution	Units	% D	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-02 QC Batch ID: WG1886950-6 QC Sample: L2408684-01 Client ID: DUP Sample						
Iron, Total	10.9	11.2	mg/l	3		20
Total Metals - Mansfield Lab Associated sample(s): 01-02 QC Batch ID: WG1886950-6 QC Sample: L2408684-01 Client ID: DUP Sample						
Manganese, Total	1.101	1.114	mg/l	1		20

INORGANICS & MISCELLANEOUS

Project Name: 1487 FIRST AVE
Project Number: 100963701

Lab Number: L2408838
Report Date: 02/26/24

SAMPLE RESULTS

Lab ID: L2408838-01
Client ID: LMW-6R-S_18.75
Sample Location: NEW YORK, NY

Date Collected: 02/15/24 17:00
Date Received: 02/16/24
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Alkalinity, Total	494.		mg CaCO3/L	4.00	NA	2	-	02/19/24 10:24	121,2320B	MKT
Chloride	180		mg/l	10	8.9	10	-	02/20/24 22:12	121,4500CL-E	TLH
Nitrogen, Nitrate	0.100		mg/l	0.100	0.022	1	-	02/17/24 05:29	121,4500NO3-F	MRM
Sulfate	3.5	J	mg/l	10	1.4	1	02/22/24 12:30	02/22/24 12:30	1,9038	MRW
Total Organic Carbon	15.		mg/l	5.0	0.97	10	-	02/20/24 03:24	1,9060A	DEW
Dissolved Organic Carbon	14.		mg/l	10	0.43	10	02/17/24 11:49	02/20/24 03:24	1,9060A	DEW



Project Name: 1487 FIRST AVE
Project Number: 100963701

Lab Number: L2408838
Report Date: 02/26/24

SAMPLE RESULTS

Lab ID: L2408838-02
Client ID: LMW-10R-D_40.75
Sample Location: NEW YORK, NY

Date Collected: 02/16/24 10:00
Date Received: 02/16/24
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Alkalinity, Total	335.		mg CaCO3/L	2.00	NA	1	-	02/19/24 10:24	121,2320B	MKT
Chloride	160		mg/l	10	8.9	10	-	02/20/24 22:14	121,4500CL-E	TLH
Nitrogen, Nitrate	0.063	J	mg/l	0.100	0.022	1	-	02/17/24 05:31	121,4500NO3-F	MRM
Sulfate	11.		mg/l	10	1.4	1	02/22/24 12:30	02/22/24 12:30	1,9038	MRW
Total Organic Carbon	3.2		mg/l	1.0	0.19	2	-	02/20/24 03:24	1,9060A	DEW
Dissolved Organic Carbon	3.4		mg/l	2.0	0.08	2	02/17/24 11:49	02/20/24 03:24	1,9060A	DEW



Project Name: 1487 FIRST AVE
Project Number: 100963701

Lab Number: L2408838
Report Date: 02/26/24

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab for sample(s): 01-02 Batch: WG1886245-1										
Nitrogen, Nitrate	ND		mg/l	0.100	0.022	1	-	02/17/24 03:54	121,4500NO3-F	MRM
General Chemistry - Westborough Lab for sample(s): 01-02 Batch: WG1886895-1										
Alkalinity, Total	ND		mg CaCO3/L	2.00	NA	1	-	02/19/24 10:24	121,2320B	MKT
General Chemistry - Westborough Lab for sample(s): 01-02 Batch: WG1887039-1										
Total Organic Carbon	ND		mg/l	0.50	0.09	1	-	02/20/24 03:24	1,9060A	DEW
General Chemistry - Westborough Lab for sample(s): 01-02 Batch: WG1887040-1										
Dissolved Organic Carbon	0.05	J	mg/l	1.0	0.04	1	-	02/20/24 03:24	1,9060A	DEW
General Chemistry - Westborough Lab for sample(s): 01-02 Batch: WG1887354-1										
Chloride	ND		mg/l	1.0	0.89	1	-	02/20/24 20:21	121,4500CL-E	TLH
General Chemistry - Westborough Lab for sample(s): 01-02 Batch: WG1888130-1										
Sulfate	ND		mg/l	10	1.4	1	02/22/24 12:30	02/22/24 12:30	1,9038	MRW

Lab Control Sample Analysis

Batch Quality Control

Project Name: 1487 FIRST AVE

Project Number: 100963701

Lab Number: L2408838

Report Date: 02/26/24

Parameter	LCS		LCSD		%Recovery Limits	RPD	Qual	RPD Limits
	%Recovery	Qual	%Recovery	Qual				
General Chemistry - Westborough Lab Associated sample(s): 01-02 Batch: WG1886245-2								
Nitrogen, Nitrate	98		-		90-110	-		
General Chemistry - Westborough Lab Associated sample(s): 01-02 Batch: WG1886895-2								
Alkalinity, Total	106		-		90-110	-		10
General Chemistry - Westborough Lab Associated sample(s): 01-02 Batch: WG1887039-2								
Total Organic Carbon	92		-		90-110	-		
General Chemistry - Westborough Lab Associated sample(s): 01-02 Batch: WG1887040-2								
Dissolved Organic Carbon	92		-		90-110	-		
General Chemistry - Westborough Lab Associated sample(s): 01-02 Batch: WG1887354-2								
Chloride	93		-		90-110	-		
General Chemistry - Westborough Lab Associated sample(s): 01-02 Batch: WG1888130-2								
Sulfate	100		-		90-110	-		

Matrix Spike Analysis Batch Quality Control

Project Name: 1487 FIRST AVE
Project Number: 100963701

Lab Number: L2408838
Report Date: 02/26/24

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	MSD Qual	MSD Found	MSD %Recovery	MSD Qual	Recovery Limits	RPD	RPD Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-02 QC Batch ID: WG1886245-4 QC Sample: L2408656-01 Client ID: MS Sample												
Nitrogen, Nitrate	2.48	4	6.36	97		-	-		83-113	-		17
General Chemistry - Westborough Lab Associated sample(s): 01-02 QC Batch ID: WG1886895-4 QC Sample: L2408656-01 Client ID: MS Sample												
Alkalinity, Total	145.	100	163	18	Q	-	-		86-116	-		10
General Chemistry - Westborough Lab Associated sample(s): 01-02 QC Batch ID: WG1887039-4 QC Sample: L2408532-02 Client ID: MS Sample												
Total Organic Carbon	6.7	40	47	102		-	-		80-120	-		20
General Chemistry - Westborough Lab Associated sample(s): 01-02 QC Batch ID: WG1887040-4 QC Sample: L2408838-01 Client ID: LMW-6R-S_18.75												
Dissolved Organic Carbon	14.	80	100	110		-	-		80-120	-		20
General Chemistry - Westborough Lab Associated sample(s): 01-02 QC Batch ID: WG1887354-4 QC Sample: L2408651-01 Client ID: MS Sample												
Chloride	420	20	420	0	Q	-	-		58-140	-		7
General Chemistry - Westborough Lab Associated sample(s): 01-02 QC Batch ID: WG1888130-4 QC Sample: L2408651-07 Client ID: MS Sample												
Sulfate	51.	100	150	102		-	-		55-147	-		14

Lab Duplicate Analysis

Batch Quality Control

Project Name: 1487 FIRST AVE

Project Number: 100963701

Lab Number: L2408838

Report Date: 02/26/24

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab	Associated sample(s): 01-02	QC Batch ID: WG1886245-3	QC Sample: L2408656-01	Client ID: DUP Sample		
Nitrogen, Nitrate	2.48	2.50	mg/l	1		17
General Chemistry - Westborough Lab	Associated sample(s): 01-02	QC Batch ID: WG1886895-3	QC Sample: L2408656-01	Client ID: DUP Sample		
Alkalinity, Total	145.	145	mg CaCO3/L	0		10
General Chemistry - Westborough Lab	Associated sample(s): 01-02	QC Batch ID: WG1887039-3	QC Sample: L2408532-02	Client ID: DUP Sample		
Total Organic Carbon	6.7	6.6	mg/l	2		20
General Chemistry - Westborough Lab	Associated sample(s): 01-02	QC Batch ID: WG1887040-3	QC Sample: L2408838-01	Client ID: LMW-6R-S_18.75		
Dissolved Organic Carbon	14.	14	mg/l	0		20
General Chemistry - Westborough Lab	Associated sample(s): 01-02	QC Batch ID: WG1887354-3	QC Sample: L2408651-01	Client ID: DUP Sample		
Chloride	420	410	mg/l	2		7
General Chemistry - Westborough Lab	Associated sample(s): 01-02	QC Batch ID: WG1888130-3	QC Sample: L2408651-07	Client ID: DUP Sample		
Sulfate	51.	50	mg/l	2		14

Project Name: 1487 FIRST AVE

Lab Number: L2408838

Project Number: 100963701

Report Date: 02/26/24

Sample Receipt and Container Information

Were project specific reporting limits specified?

YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2408838-01A	Vial unpreserved	A	NA		2.0	Y	Absent		HOLD-8260(14)
L2408838-01B	Vial unpreserved	A	NA		2.0	Y	Absent		HOLD-8260(14)
L2408838-01C	Vial unpreserved	A	NA		2.0	Y	Absent		DOC-9060(28),FILTER(1)
L2408838-01D	Vial H2SO4 preserved	A	NA		2.0	Y	Absent		TOC-9060(28)
L2408838-01E	Vial H2SO4 preserved	A	NA		2.0	Y	Absent		TOC-9060(28)
L2408838-01F	Vial H2SO4 preserved	A	NA		2.0	Y	Absent		TOC-9060(28)
L2408838-01G	Plastic 250ml unpreserved/No Headspace	A	NA		2.0	Y	Absent		ALK-T-2320(14)
L2408838-01H	Plastic 250ml unpreserved	A	7	7	2.0	Y	Absent		CL-4500(28),SO4-9038(28),NO3-4500(2)
L2408838-01J	Plastic 250ml HNO3 preserved	A	<2	<2	2.0	Y	Absent		FE-6020T(180),CA-6020T(180),MN-6020T(180),MG-6020T(180),HARDT-6020(180)
L2408838-01Z	Vial H2SO4 preserved Filtrates	A	NA		2.0	Y	Absent		DOC-9060(28)
L2408838-02A	Vial unpreserved	A	NA		2.0	Y	Absent		HOLD-8260(14)
L2408838-02B	Vial unpreserved	A	NA		2.0	Y	Absent		HOLD-8260(14)
L2408838-02C	Vial unpreserved	A	NA		2.0	Y	Absent		DOC-9060(28),FILTER(1)
L2408838-02D	Vial H2SO4 preserved	A	NA		2.0	Y	Absent		TOC-9060(28)
L2408838-02E	Vial H2SO4 preserved	A	NA		2.0	Y	Absent		TOC-9060(28)
L2408838-02F	Vial H2SO4 preserved	A	NA		2.0	Y	Absent		TOC-9060(28)
L2408838-02G	Plastic 250ml unpreserved/No Headspace	A	NA		2.0	Y	Absent		ALK-T-2320(14)
L2408838-02H	Plastic 250ml unpreserved	A	7	7	2.0	Y	Absent		CL-4500(28),SO4-9038(28),NO3-4500(2)
L2408838-02J	Plastic 250ml HNO3 preserved	A	<2	<2	2.0	Y	Absent		FE-6020T(180),CA-6020T(180),MN-6020T(180),HARDT-6020(180),MG-6020T(180)
L2408838-02Z	Vial H2SO4 preserved Filtrates	A	NA		2.0	Y	Absent		DOC-9060(28)
L2408838-03A	Vial HCl preserved	A	NA		2.0	Y	Absent		HOLD-8260(14)
L2408838-03B	Vial HCl preserved	A	NA		2.0	Y	Absent		HOLD-8260(14)

Project Name: 1487 FIRST AVE
Project Number: 100963701

Serial_No:02262417:16
Lab Number: L2408838
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Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
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Project Name: 1487 FIRST AVE
Project Number: 100963701

Lab Number: L2408838
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GLOSSARY

Acronyms

DL	- Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EMPC	- Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LOD	- Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
LOQ	- Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.) Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NDPA/DPA	- N-Nitrosodiphenylamine/Diphenylamine.
NI	- Not Ignitable.
NP	- Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.
NR	- No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.
STLP	- Semi-dynamic Tank Leaching Procedure per EPA Method 1315.
TEF	- Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.
TEQ	- Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.
TIC	- Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: DU Report with 'J' Qualifiers



Project Name: 1487 FIRST AVE
Project Number: 100963701

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Footnotes

- 1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Chlordane: The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA, this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Gasoline Range Organics (GRO): Gasoline Range Organics (GRO) results include all chromatographic peaks eluting from Methyl tert butyl ether through Naphthalene, with the exception of GRO analysis in support of State of Ohio programs, which includes all chromatographic peaks eluting from Hexane through Dodecane.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

- A** - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.
- B** - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).
- C** - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- D** - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
- E** - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
- F** - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.
- G** - The concentration may be biased high due to matrix interferences (i.e. co-elution) with non-target compound(s). The result should be considered estimated.
- H** - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
- I** - The lower value for the two columns has been reported due to obvious interference.
- J** - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively

Report Format: DU Report with 'J' Qualifiers



Project Name: 1487 FIRST AVE
Project Number: 100963701

Lab Number: L2408838
Report Date: 02/26/24

Data Qualifiers

Identified Compounds (TICs). For calculated parameters, this represents that one or more values used in the calculation were estimated.

- M** - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- ND** - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.
- NJ** - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.
- P** - The RPD between the results for the two columns exceeds the method-specified criteria.
- Q** - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)
- R** - Analytical results are from sample re-analysis.
- RE** - Analytical results are from sample re-extraction.
- S** - Analytical results are from modified screening analysis.
- V** - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)
- Z** - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Project Name: 1487 FIRST AVE
Project Number: 100963701

Lab Number: L2408838
Report Date: 02/26/24

REFERENCES

- 1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - VI, 2018.
- 121 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WEF. Standard Methods Online.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.



Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility

EPA 624.1: m/p-xylene, o-xylene, Naphthalene

EPA 625.1: alpha-Terpineol

EPA 8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.

EPA 8270E: NPW: Dimethylnaphthalene, 1,4-Diphenylhydrazine, alpha-Terpineol; SCM: Dimethylnaphthalene, 1,4-Diphenylhydrazine.

SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO₂, NO₃.

Mansfield Facility

SM 2540D: TSS.

EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene,

3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.

Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water

EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2:** Nitrate-N, Nitrite-N; **SM4500NO3-F:** Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE,**

EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B

EPA 524.2: THMs and VOCs; **EPA 504.1:** EDB, DBCP.

Microbiology: SM9215B; SM9223-P/A, SM9223B-Colilert-QT, SM9222D.

Non-Potable Water

SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1:**

Ammonia-N, **LACHAT 10-107-06-1-B:** Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2:** Nitrate-N, **SM4500P-E, SM4500P-B, E, SM4500SO4-E,**

SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.

EPA 624.1: Volatile Halocarbons & Aromatics,

EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs

EPA 625.1: SVOC (Acid/Base/Neutral Extractables).

Microbiology: SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603, SM9222D.

Mansfield Facility:

Drinking Water

EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.

EPA 522, EPA 537.1.

Non-Potable Water

EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.

EPA 200.8: Al, Sb, As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.

EPA 245.1 Hg.

SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.



NEW YORK CHAIN OF CUSTODY

Westborough, MA 01581
8 Walkup Dr.
TEL: 508-898-8920
FAX: 508-898-8183

Mansfield, MA 02048
320 Forbes Blvd
TEL: 508-822-9300
FAX: 508-822-3286

Service Centers

Mahwah, NJ 07430: 35 Whitney Rd, Suite 5
Albany, NY 12205: 14 Walker Way
Tonawanda, NY 14150: 275 Cooper Ave, Suite 105

Page

1 of 1

Date Rec'd
in Lab

2/16/24

ALPHA Job #

12408838

Project Information

Project Name: 1487 First Ave
Project Location: New York NY
Project #: 100963701

Deliverables

ASP-A ASP-B
 EQUIS (1 File) EQUIS (4 File)
 Other

Billing Information

Same as Client Info
PO #

Client Information

(Use Project name as Project #)

Regulatory Requirement

NY TOGS NY Part 375
 AWQ Standards NY CP-51
 NY Restricted Use Other
 NY Unrestricted Use
 NYC Sewer Discharge

Disposal Site Information

Please identify below location of applicable disposal facilities.

Disposal Facility:

NJ NY
 Other:

Project Manager: Ashley Sandve

ALPHAQuote #:

Turn-Around Time

Standard Due Date:
Rush (only if pre approved) # of Days:

Client: Langan

Address: 300 Kimball
Drive Parsippany

Phone: 973, 580-4960

Fax:

Email: a.sandve@langan.com

These samples have been previously analyzed by Alpha

Other project specific requirements/comments:

Please specify Metals or TAL.

ANALYSIS

Alk-T-22320	TOC	SO ₄ , CL, NO ₃	DOC	Total Metals	Sub DTK / BBA	NYTEL-8280
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Sample Filtration

Done
 Lab to do
 Preservation
 Lab to do

(Please Specify below)

Sample Specific Comments

Bottles for DTK
EBAK sent to
Sub

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection		Sample Matrix	Sampler's Initials	ANALYSIS							Sample Specific Comments
		Date	Time			Alk-T-22320	TOC	SO ₄ , CL, NO ₃	DOC	Total Metals	Sub DTK / BBA	NYTEL-8280	
08838-01	LMW-GR-S-18.75	2/15	1700	AQ	RB	X	X	X	X	X	X	X	Bottles for DTK
08838-02	LMW-10R-D-40.75	2/16	1000	AQ	RD	X	X	X	X	X	X	X	EBAK sent to Sub
	(PB)												

Preservative Code.

A = None
B = HCl
C = HNO₃
D = H₂SO₄
E = NaOH
F = MnOH
G = NaHSO₄
H = Na₂S₂O₃
K/E = Zn Ac/NaOH
O = Other

Container Code

P = Plastic
A = Amber Glass
V = Vial
G = Glass
B = Bacteria Cup
C = Cube
O = Other
E = Encore
Q = BOD Bottle

Westboro: Certification No: MA035

Mansfield: Certification No: MA015

Container Type

Preservative

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. BY EXECUTING THIS COC, THE CLIENT HAS READ AND AGREES TO BE BOUND BY ALPHA'S TERMS & CONDITIONS. (See reverse side.)

Relinquished By:	Date/Time	Received By:	Date/Time
1/16/20	2/16/24 16:42 DM		2/16/24 (1643)
017	2/16/24 (1643)	Paul Maggella	2/16/24 / 16:55
Paul Maggella	2/16/24	Chris...	2/16/24 22:40
Chris...	2/16/24 22:40	Chris...	2/16/24 22:40



10515 Research Drive
Knoxville, TN 37932
Phone: (865) 573-8188
Fax: (865) 573-8133



Client: Ben Rao
Pace Analytical (Formerly AlphaLab)
8 Walkup Dr
Westborough, MA 01581

Phone: 201-812-2633

Fax:

Identifier: 069VB **Date Rec:** 02/17/2024 **Report Date:** 02/23/2024

Client Project #: 100963701 **Client Project Name:** 1487 First Ave

Purchase Order #: L2408838

Test results provided for: CENSUS

Reviewed By:

NOTICE: This report is intended only for the addressee shown above and may contain confidential or privileged information. If the recipient of this material is not the intended recipient or if you have received this in error, please notify Microbial Insights, Inc. immediately. The data and other information in this report represent only the sample(s) analyzed and are rendered upon condition that it is not to be reproduced without approval from Microbial Insights, Inc. Thank you for your cooperation.

Results relate only to the items tested and the sample(s) as received by the laboratory.

MICROBIAL INSIGHTS, INC.

10515 Research Dr., Knoxville, TN 37932
 Tel. (865) 573-8188 Fax. (865) 573-8133

CENSUS

Client: Pace Analytical (Formerly AlphaLab)
Project: 1487 First Ave

MI Project Number: 069VB
Date Received: 02/17/2024

Sample Information

Client Sample ID:	LMW-10R-D_40.	LMW-6R-S_18.
	75	75
Sample Date:	02/16/2024	02/15/2024
Units:	cells/mL	cells/mL
Analyst/Reviewer:	AR/SK	AR/SK

Dechlorinating Bacteria

<i>Dehalococcoides</i>	<i>DHC</i>	3.50E+03	1.40E+03
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Phylogenetic Group

Total Eubacteria	EBAC	3.80E+06	5.57E+07
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Legend:

NA = Not Analyzed NS = Not Sampled J = Estimated gene copies below PQL but above LQL I = Inhibited
 < = Result not detected

Quality Assurance/Quality Control Data

Samples Received 2/16/2024

Component	Date Prepared	Date Analyzed	Arrival Temperature	Positive Control	Extraction Blank	Negative Control
DHC	02/17/2024	02/23/2024	0 °C	102%	non-detect	non-detect
EBAC	02/17/2024	02/23/2024	0 °C	97%	non-detect	non-detect

Samples Received 2/17/2024

Component	Date Prepared	Date Analyzed	Arrival Temperature	Positive Control	Extraction Blank	Negative Control
DHC	02/17/2024	02/23/2024	0 °C	102%	non-detect	non-detect
EBAC	02/17/2024	02/23/2024	0 °C	97%	non-detect	non-detect

APPENDIX E

Data Summary Usability Reports

Technical Memorandum

Data Usability Summary Report
For 1487 First Avenue Development
February 2024 Groundwater Samples
Langan Project No.: 100963701
February 29, 2024 Page 1 of 5

To: Ashley Sandve, Langan Project Engineer
From: Joe Conboy, Langan Senior Staff Chemist
Date: March 4, 2024
Re: Data Usability Summary Report
For 1487 First Avenue Development
February 2024 Groundwater Samples
Langan Project No.: 100963701

This memorandum presents the findings of an analytical data validation from the analysis of groundwater samples collected in February 2024 by Langan Engineering and Environmental Services at 1487 First Avenue Development. The samples were analyzed by Alpha Analytical Laboratories, Inc. (NYSDOH NELAP registration # 11148) for volatile organic compounds (VOCs), metals & total hardness, sulfate, total organic carbon (TOC) & dissolved organic carbon (DOC), nitrate, total alkalinity and chloride by the methods specified below.

- VOCs by SW-846 Method 8260D
- Metals & Total Hardness by SW-846 Method 6020B
- Sulfate (as SO₄) by SW-846 Method 9038
- TOC and DOC by SW-846 Method 9060
- Nitrate (as N) by SM Method 4500NO₃F
- Total Alkalinity by SM Method 2320B
- Chloride (as Cl) by SM Method 4500-CL-E

Table 1, attached, summarizes the laboratory and client sample identification numbers, sample collection dates, level of data validation, and analytical parameters subject to review.

Validation Overview

This data validation was performed in accordance with the following guidelines, where applicable:

- USEPA Region II Standard Operating Procedures (SOPs) for Data Validation
- USEPA Contract Laboratory Program “National Functional Guidelines for Organic Superfund Methods Data Review” (EPA 540- R-20-005, November 2020)
- USEPA Contract Laboratory Program “National Functional Guidelines for Inorganic Superfund Methods Data Review” (EPA 540- R-20-005, November 2020), and
- published analytical methodologies.

Technical Memorandum

The following acronyms may be used in the discussion of data-quality issues:

%D	Percent Difference	MB	Method Blank
CCV	Continuing Calibration Verification	MDL	Method Detection Limit
FB	Field Blank	MS	Matrix Spike
FD	Field Duplicate	MSD	Matrix Spike Duplicate
ICAL	Initial Calibration	RF	Response Factor
ICV	Initial Calibration Verification	RL	Reporting Limit
ISTD	Internal Standard	RPD	Relative Percent Difference
LCL	Lower Control Limit	RSD	Relative Standard Deviation
LCS	Laboratory Control Sample	TB	Trip Blank
LCSD	Laboratory Control Sample Duplicate	UCL	Upper Control Limit

Tier 1 data validation is based on completeness and compliance checks of sample-related QC results including: sample receipt documentation; analytical holding times; sample preservation; blank results (method, field, and trip); surrogate recoveries; MS/MSD recoveries and RPDs values; field duplicate RPDs, laboratory duplicate RPDs, and LCS/LCSD recoveries and RPDs. Three (3) SDGs underwent Tier 1 validation review.

As a result of the review process, the following qualifiers may be assigned to the data in accordance with the USEPA guidelines and our best professional judgment:

- R** – The sample results are unusable because certain criteria were not met when generating the data. The analyte may or may not be present in the sample.
- J** – The analyte was positively identified and the associated numerical value is the approximate concentration of the analyte in the sample.
- UJ** – The analyte was not detected at a level greater than or equal to the reporting limit; however, the reported reporting limit is approximate and may be inaccurate or imprecise.
- U** – The analyte was analyzed for, but was not detected at a level greater than or equal to the level of the RL or the sample concentration for results impacted by blank contamination.
- NJ** – The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.

If any validation qualifiers are assigned, these qualifiers should supersede any laboratory-applied qualifiers. Data that is not qualified as a result of this data validation is considered acceptable on the basis of the items specified for review. Data that is qualified as "R" are considered invalid and are not technically usable for data interpretation. Data that is otherwise qualified because of minor data-quality anomalies are usable, as qualified in Table 2 (attached).

Technical Memorandum

Data Usability Summary Report
For 1487 First Avenue Development
February 2024 Groundwater Samples
Langan Project No.: 100963701
March 4, 2024 Page 3 of 5

MAJOR DEFICIENCIES:

Major deficiencies include those that grossly impact data quality and necessitate the rejection of results. No major deficiencies were identified.

MINOR DEFICIENCIES:

Minor deficiencies include anomalies that directly impact data quality and necessitate qualification, but do not result in unusable data. The section below describes the minor deficiencies that were identified.

VOCs by SW-846 Method 8260D

L2408247

The LCS/LCSD for batch WG1885883 exhibited a RPD above the control limit for 4-methyl-2-pentanone (24%). The associated results in samples LMW-6R-D_54.75, LMW-6R-D_42.75, LMW-6R-D_32.75, LMW-9R-S_13.75, LMW-10R-D_40.75, LMW-10R-D_30.75, LMW-7R-S_6.75, LMW-7R-D_23.75, LMW-7R-D_49.75, LMW-9R-D_58.25, LMW-8R-D_27.75, and LMW-8R-D_59.75 are qualified as J or UJ because of potential indeterminate bias.

Sulfate (As SO₄) by SW-846 Method 9038

L2408532

The FB (FB01_02152024) exhibited a detection of sulfate (1.7 mg/l). The associated results <10x blank concentration in samples LMW-8R-S_6.75, LMW-9R-D_58.25, and LMW-7R-S_16.75 are qualified as U at the reporting limit because of potential blank contamination.

The MB for batch WG1887773 exhibited a detection of sulfate (1.6 mg/l). The associated results <10x the blank concentration in samples LMW-8R-S_6.75, LMW-9R-D_58.25, and LMW-7R-S_16.75 are qualified as U at the reporting limit because of potential blank contamination.

TOC and DOC by SW-846 Method 9060

L2408532

The FB (FB01_02152024) exhibited detections of dissolved organic carbon (0.24 mg/l) and total organic carbon (0.17 mg/l). The associated results <10x blank concentrations in samples LMW-8R-S_6.75, LMW-9R-D_58.25, and LMW-7R-S_16.75 are qualified as U at the reporting limit because of potential blank contamination.

Technical Memorandum

Data Usability Summary Report
For 1487 First Avenue Development
February 2024 Groundwater Samples
Langan Project No.: 100963701
March 4, 2024 Page 4 of 5

The MB for batch WG1887040 exhibited a detection of dissolved organic carbon (0.05 mg/l). The associated results <10x the blank concentration in samples LMW-8R-S_6.75, LMW-9R-D_58.25, and LMW-7R-S_16.75 are qualified as U at the reporting limit because of potential blank contamination.

OTHER DEFICIENCIES:

Other deficiencies include anomalies that do not directly impact data quality and do not necessitate qualification. The section below describes the other deficiencies that were identified.

VOCs by SW-846 Method 8260D

L2408247

The LCS and/or LCSD for batch WG1885883 exhibited percent recoveries above the UCL for chloromethane (140%) and vinyl acetate (140%, 160%). The associated results are non-detect. No qualification is necessary.

The MS/MSD performed on sample LMW-6R-S_18.75 exhibited percent recoveries above the UCL for 1,4-dioxane (166%, 178%) and 2-butanone (160%, 170%). Organic results are not qualified on the basis of MS/MSD recoveries alone. No qualification is necessary.

Metals & Total Hardness by SW-846 Method 6020B

L2408532

The FB (FB01_02152024) exhibited detections of total calcium (0.0970 mg/l) and total manganese (0.00066 mg/l). The associated results are >10X the contamination. No qualification is necessary.

TOC and DOC by SW-846 Method 9060

L2408838

The MB for batch WG1887040 exhibited a detection of dissolved organic carbon (0.05 mg/l). The associated results are >10X the contamination. No qualification is necessary.

FIELD DUPLICATES:

Zero field duplicate and parent sample pairs were collected and analyzed for all parameters. For results less than 5X the RL, analytes meet the precision criteria if the absolute difference is less than $\pm 1X$ the RL. For results greater than 5X the RL, analytes meet the precision criteria if the

Technical Memorandum

Data Usability Summary Report
For 1487 First Avenue Development
February 2024 Groundwater Samples
Langan Project No.: 100963701
March 4, 2024 Page 5 of 5

RPD is less than or equal to 30% for groundwater. The following field duplicate and parent sample pairs were compared to and met the precision criteria:

- DUP01_021424 and LMW-8R-S_6.75

CONCLUSION:

On the basis of this evaluation, the laboratory appears to have followed the specified analytical methods with the exception of errors discussed above. If a given fraction is not mentioned above, that means that all specified criteria were met for that parameter. All of the data packages met ASP Category B requirements.

All data are considered usable, as qualified. In addition, completeness, defined as the percentage of analytical results that are judged to be valid, is 100%.

Signed:



Joe Conboy
Senior Staff Chemist