

T E C H N I C A L M E M O R A N D U M

TO: Tena Seeds – Washington State Department of Ecology Toxics Cleanup Program

cc: Jim Broadlick – City Investors XI L.L.C.

FROM: Clifford Schmitt, L.G., L.H.G., Principal Hydrogeologist
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DATE: January 13, 2020

RE: **GROUNDWATER MONITORING PROGRAM**
SOUTH LAKE UNION BLOCK 38 WEST PROPERTY
SEATTLE, WASHINGTON
FARALLON PN: 397-061

Farallon Consulting, L.L.C. (Farallon) has prepared this Technical Memorandum to provide the rationale for selection of monitoring locations and sampling frequency for the Deep Outwash Aquifer Groundwater Performance Monitoring Program (Groundwater Monitoring Program) that will be conducted prior to, in conjunction with, and after completion of construction dewatering to facilitate mass excavation and building construction at the Block 38 West Property at 500 Westlake Avenue North in Seattle, Washington (Block 38 West) (Figure 1). The Groundwater Monitoring Program is a component of the interim action cleanup activities and is described in Section 8.4 of the *Interim Action Work Plan, Block 38 West Property, 500 through 536 Westlake Avenue North, Seattle, Washington* dated November 8, 2019, prepared by Farallon for City Investors IX L.L.C. (Interim Action Work Plan). The Groundwater Monitoring Program is being implemented in response to historical releases of the dry cleaning solvent tetrachloroethene (PCE) at the property at 700 Dexter Avenue North (BMR-Dexter Property), which resulted in a regional plume of chlorinated volatile organic compounds (CVOCs)¹ that has migrated through multiple water-bearing zones in the South Lake Union area (BMR-Dexter CVOC Plume).

Concentrations of CVOCs, specifically cDCE and vinyl chloride, that are attributable to the BMR-Dexter CVOC Plume are known to be present at, and/or immediately north-northwest of, Block

¹ The CVOCs include PCE; trichloroethene (TCE); isomers of dichloroethene, primarily cis-1,2-dichloroethene (cDCE); and vinyl chloride.



38 West. This Technical Memorandum provides a general overview of hydrogeologic units in the vicinity of Block 38 West, groundwater flow under static² (e.g. non-pumping) and pumping conditions, distribution of the BMR-Dexter CVOC Plume, and other information pertinent to development of the Groundwater Monitoring Program.

GROUNDWATER ZONES PRESENT IN SOUTH LAKE UNION AREA

Previous investigations in the South Lake Union area have described three water-bearing zones based on the lithologic unit in which they are encountered. These zones have varying degrees of hydraulic interconnection dependent on the location. The water-bearing zones at Block 38 West are summarized as follows:

- The uppermost water-bearing zone encountered on Block 38 West is the Shallow Water-Bearing Zone. The Shallow Water-Bearing Zone comprises fill and underlying recent deposits. At Block 38 West, the Shallow Water-Bearing Zone varies in thickness from approximately 5 to 15 feet and is first encountered at elevations between 22 and 25 feet North American Vertical Datum 1988 (NAVD88).
- The Intermediate Water-Bearing Zone³ refers to groundwater encountered in consolidated glacial deposits. Typically, these deposits comprise dense silty sands and stiff sandy silts. The Intermediate Water-Bearing Zone is first encountered at approximate elevations of 5 to 10 feet NAVD88. Based on previous subsurface investigations, the Shallow Water-Bearing Zone is in direct communication with the Intermediate Water-Bearing Zone on Block 38 West.
- The Deep Outwash Aquifer refers to groundwater first encountered at approximate elevations of -30 to -40 feet NAVD88 in outwash sands with minor silt content below the consolidated glacial deposits.

At Block 38 West, the vertical gradient between the water-bearing zones is relatively small (e.g., approximately 1 foot downward) and groundwater levels have ranged from 16 to 18 feet NAVD88.

GROUNDWATER FLOW UNDER STATIC CONDITIONS

Under static conditions, there is typically a downward vertical gradient present from the Shallow Water-Bearing Zone to the Intermediate Water-Bearing Zone and from the Intermediate Water-Bearing Zone to the Deep Outwash Aquifer in the South Lake Union area. In the area west of Terry Avenue North where no aquitard is present between the Shallow and Intermediate Water-Bearing Zones or between the Intermediate Water-Bearing Zone and the Deep Outwash Aquifer, groundwater from the Shallow Water-Bearing Zone discharges to the Intermediate Water-Bearing Zone and from the Intermediate Water-Bearing Zone to the Deep Outwash Aquifer as groundwater flows from west to east. A detailed description of the evidence supporting this conceptual model

² Static conditions in this Technical Memorandum refers to periods when no groundwater extraction is occurring for the purposes of construction dewatering or groundwater treatment, or for other purposes.

³ The Intermediate Water-Bearing Zone is sometimes further divided into an “A” and “B” units. For the purposes of this Technical Memorandum, this subdivision was not considered necessary.



of groundwater flow under static conditions is not presented in this Technical Memorandum but can be provided upon request⁴.

DISTRIBUTION OF BMR-DEXTER CVOC PLUME

The BMR-Dexter CVOC Plume currently extends more than 1,000 feet from the BMR-Dexter Property to the east-southeast as shown on Figure 2⁵. While construction dewatering associated with neighboring properties has had short-term, temporary impacts on the BMR-Dexter CVOC Plume, its current footprint is the result of significant releases of CVOCs to groundwater at the BMR Dexter Property beginning in 1966, followed by decades of down-gradient migration under static conditions (i.e., west to east).

Construction dewatering events were limited in duration and are relatively recent compared to the decades since dry cleaning services started at the BMR-Dexter Property and releases of PCE occurred to the subsurface. During most of the period when the BMR-Dexter CVOC Plume was migrating down-gradient of BMR-Dexter Property source areas, groundwater flow occurred under static conditions from west to east, including in the Intermediate Water-Bearing Zone and Deep Outwash Aquifer. Temporary variations in groundwater flow in the Intermediate Water-Bearing Zone and/or Deep Outwash Aquifer may have occurred during some construction dewatering or other groundwater extraction events for limited periods of time.

OVERVIEW OF CONSTRUCTION DEWATERING AT BMR-DEXTER PROPERTY

It is Farallon's understanding based upon submissions to Ecology by BMR-Dexter LLC that construction dewatering at the BMR-Dexter Property commenced on August 9, 2019⁶, and will continue for approximately 14 months during construction of two 14-story towers above three levels of subgrade parking⁷. The purpose of the construction dewatering system is to lower the groundwater table to an elevation below the base of the BMR-Dexter Property parking garage foundation (i.e., to below 1.6 feet NAVD88), which is up to 35 feet below the static groundwater level, prior to construction.

During the period of construction dewatering, groundwater beneath the BMR-Dexter Property and surrounding properties, including Block 79 to the east and Blocks 49 and 84 (City Mega Block) to

⁴ Briefly, comparison of groundwater elevations between appropriately screened wells that progress along the static-condition groundwater flow line from the BMR-Dexter Property to the east show positive head differences from the Shallow to Intermediate Water-Bearing Zones and from the Intermediate Water-Bearing Zone to the Deep Outwash Aquifer.

⁵ Approximate extent is based on groundwater data reported in the *Revised Agency Review Draft Remedial Investigation/Feasibility Study Work Plan, American Linen Supply Co – Dexter Avenue Site, 700 Dexter Avenue North, Seattle, Washington* dated April 15, 2019, prepared by PES Environmental, Inc. for the Washington State Department of Ecology (Ecology) (Draft RI/FS Report).

⁶ Letter regarding Progress Report No. 22 – August 2019, American Linen Supply Co – Dexter Ave Site, Agreed Order No. DE 14302 dated September 13, 2019, from Mr. Daniel A. Balbiani of PES Environmental, Inc. to Ms. Tamara Cardona of Ecology.

⁷ Pumping started on the northwestern leg of the BMR-Dexter Property dewatering system on August 6, 2019 and on the southern and eastern legs on August 19, 2019. An estimated 14-month construction period would result in system shut-down on or approximately on October 2020.



the south, will be within the radius of influence of the construction dewatering system. As a result, the direction of groundwater flow will be altered to flow radially toward the BMR-Dexter Property (e.g., groundwater at Block 79 will reverse from the static condition west-to-east flow direction and will flow east-to-west toward the BMR-Dexter Property).

OVERVIEW OF CONSTRUCTION DEWATERING AT BLOCK 38 WEST

Construction dewatering at Block 38 West will commence on approximately on December 30, 2019 and will continue for approximately 9 months during construction of a multistory mixed-use building with five stories above street level and four levels of parking below street level⁸. The objective of the construction dewatering system is to lower the groundwater table to an elevation below the base of the Block 38 West parking garage foundation (i.e., to below -10 feet NAVD88⁹), which is just over 25 feet below the static groundwater level prior to construction. During the period of construction dewatering, groundwater beneath Block 38 West and surrounding properties, including Block 37 to the north and Block 43 to the northwest, will be within the radius of influence of the construction dewatering system. As a result, the direction of groundwater flow will be altered to flow radially toward Block 38 West.

Although the current concentrations of CVOCs in the Deep Outwash Aquifer at Block 38 West (less than 1 microgram per liter of cDCE at monitoring wells FMW-137 and FMW-138) are less than the proposed screening levels for the American Linen Supply Co. – Dexter Avenue Site, concentrations of CVOCs exceeding the screening levels are present at distal end of the BMR-Dexter CVOC Plume on the western portion of Block 37 to the north (Figure 2). It is expected that much of the BMR-Dexter CVOC Plume mass presently located within approximately 400 to 500 feet¹⁰ of Block 38 West will be extracted during the period of construction dewatering system operation. The extracted BMR-Dexter CVOC Plume mass will be treated prior to discharge in accordance with the Interim Action Work Plan and applicable permit requirements, including Administrative Order Docket No. 16592.

EFFECTS OF CONCURRENT CONSTRUCTION DEWATERING

As stated above, construction dewatering at the BMR-Dexter Property will lower the groundwater table up to 35 feet, while construction dewatering at Block 38 West will lower the groundwater table approximately 26 to 28 feet below static groundwater levels. Because both systems will have similar cones of depression (e.g., depressions in the water table surface associated with groundwater withdrawal), it is anticipated that contamination at, and proximate to, each property will not be drawn toward the other property. As a result of concurrent construction dewatering at the BMR-Dexter Property and Block 38 West, a temporary groundwater divide will develop centered in the vicinity of the intersection of Valley Street and 9th Avenue North, oriented

⁸ The estimated 9-month dewatering schedule will result in system shut-down beginning in early September 2020.

⁹ *Groundwater Control Plan, Block 38, Seattle, Washington* dated October 17, 2018, prepared for GLY Construction by Middour Consulting, LLC.

¹⁰ The distance from Block 38 West that CVOC mass will be captured is dependent on the groundwater extraction rate during dewatering; the length of the dewatering at Block 38 West; the presence of a groundwater divide during concurrent construction dewatering at the both the BMR-Dexter Property and Block 38 West; and other hydrogeologic and fate and transport factors.



approximately north-northeast to south-southwest (Figure 2). Groundwater north and west of the divide will flow toward the BMR-Dexter Property construction dewatering system. Groundwater south and east of the divide will flow toward the Block 38 West construction dewatering system.

This condition is shown schematically on Figure 2 both in plan view and in profile. On the plan view, the approximate presently known extent of the BMR-Dexter CVOC Plume is shown in red shading¹¹ and the blue arrows depict the radial inward groundwater flow direction during construction dewatering at the BMR-Dexter Property and Block 38 West. The profile A-A'-A'' depicts the static and depressed groundwater levels and the groundwater divide that will temporarily be present between the properties during concurrent construction dewatering events.

The Block 38 West construction dewatering system is expected to capture groundwater at the distal end of the BMR-Dexter CVOC Plume located south and east of the groundwater divide (Figure 2). As the Block 38 West construction dewatering system operates, radial flow toward Block 38 West will develop. This radial flow will include a slightly more south-southeastern groundwater flow in the area of Block 43 on the southeastern side of the groundwater divide compared to static conditions.

RATIONALE FOR GROUNDWATER MONITORING PROGRAM

The purpose of the Groundwater Monitoring Program is to monitor groundwater with measurable concentrations of CVOCs that are associated with the BMR-Dexter CVOC Plume that will be affected by construction dewatering. Figure 3 shows the locations of the wells that will be sampled in conjunction with the Groundwater Monitoring Program proximate to the BMR-Dexter CVOC Plume, and summarizes analytical results for prior monitoring events at each well for which data are available.

Table 1 presents detailed information for each of the wells selected for inclusion in the Groundwater Monitoring Program and the rationale for selection as a monitoring point. The south-southeastern flow direction during construction dewatering in the area of the distal portion of the BMR-Dexter CVOC Plume is referred to as a “temporary flow path” in Table 1. With the exception of monitoring well FMW-141, located west of the temporary groundwater divide, and monitoring well MW113, located in the approximate vicinity of the temporary groundwater divide, the current concentrations of CVOCs at selected Groundwater Monitoring Program wells are low compared to CVOC concentrations within the radius of influence of the BMR-Dexter Property dewatering system.

The frequency of sampling at each well has been selected based on the location of the well along the temporary flow paths and proximity to the BMR-Dexter CVOC Plume. All wells will be sampled prior to start-up and after shut-down of the Block 38 West construction dewatering system to obtain baseline and completion groundwater quality data.

¹¹ Based on data reported in the Draft RI/FS Report.



Sampling frequencies for selected wells included in the Groundwater Monitoring Program are described below:

- Monthly Sampling Events (dewatering wells DW-16, DW-17, and DW-18; interim action well IA-1; and geotechnical well GEI-2): These wells are located adjacent to Block 38 West or immediately up-gradient of Block 38 West on Block 37. This frequency of monitoring will support near-term decision making for treatment options of the extracted groundwater.
- Monthly and/or Bimonthly Sampling Events (monitoring wells MW113, MW119, FMW-129, FMW-140, and FMW-141): These wells are located within the current footprint of the BMR-Dexter CVOC Plume in areas further from Block 38 West than the wells to be sampled monthly.
 - CVOC mass¹² migrating on temporary flow paths passing monitoring wells MW119, FMW-129, and FMW-140 during the first few months of Block 38 West construction dewatering system operation will reach Block 38 West. CVOC mass migrating on temporary flow paths passing these wells after approximately 4 to 5 months of operation will not reach the Block 38 West construction dewatering system before it is turned off; therefore, the frequency of monitoring will be decreased during the latter half of operation of the Block 38 West construction dewatering system.
 - CVOC mass at monitoring well MW113 may not be captured by the Block 38 West construction dewatering system because of its position relative to the temporary groundwater divide, where the gradient will be relatively flat and the groundwater flow velocity correspondingly low.
 - CVOC mass¹³ at monitoring well FMW-141 will be within the radius of influence of the BMR-Dexter Property construction dewatering system and will not migrate toward Block 38 West during concurrent dewatering at both properties.
- Bimonthly Sampling Events (monitoring wells MW128 and FMW-131, and interim action well IA-4): These wells are located at the northeastern edge of the current BMR-Dexter CVOC Plume footprint. The temporary flow paths at these wells will be southerly during operation of the Block 38 West construction dewatering system. It is expected that CVOC concentrations to the north of these wells will be less than the proposed screening levels for the American Linen Supply Co. – Dexter Avenue Site and may be less than laboratory reporting limits. As Block 38 West construction dewatering progresses, CVOC concentrations are expected to decline at monitoring wells MW128 and FMW-131 and remain reported non-detect at interim action well IA-4. A bimonthly sampling frequency for these wells will be sufficient to confirm the expected trend of CVOC concentrations at this area of the BMR-Dexter CVOC Plume.

¹² CVOCs, including cDCE and vinyl chloride. TCE may potentially reach the Block 38 West construction dewatering system. PCE is not anticipated to reach the Block 38 West construction dewatering system.

¹³ Including PCE and PCE breakdown products.



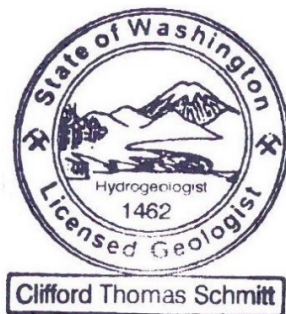
- No Sampling During Construction Dewatering (monitoring wells FMW-137 and FMW-138): Groundwater monitoring at other wells near monitoring well FMW-137 make it unnecessary to collect groundwater samples at this location during dewatering. The temporary flow path at monitoring well FMW-138 will be from south to north and is not associated with the area of the BMR-Dexter CVOC Plume that currently exceeds screening levels (Figure 2). Monitoring wells FMW-137 and FMW-138 will be sampled prior to start-up and after shut-down of the Block 38 West construction dewatering system to obtain baseline and completion groundwater quality data.

The data collected during the Groundwater Monitoring Program will be used to make any necessary modifications to the dewatering treatment system to maintain compliance with established Indicator Levels as required under Administrative Order Docket No. 16592. Groundwater monitoring data will also document the anticipated reduction in CVOC mass within the eastern portion of the BMR-Dexter CVOC Plume.

Shallow groundwater will not be monitored during the Groundwater Monitoring Program because no residual source of CVOCs to shallow groundwater has been identified in the area northwest of Block 38 West and east-southeast of the BMR-Dexter Property within the footprint of the BMR-Dexter CVOC Plume. Documentation supporting this finding is in preparation and will be provided to Ecology under separate cover.

Attachments: Figure 1, *South Lake Union Vicinity*
Figure 2, *Schematic of Groundwater Flow Concurrent Construction Dewatering*
Figure 3, *Historical Groundwater CVOC Results Groundwater Performance Monitoring Well Network*
Table 1, *Groundwater Monitoring Rationale*

EB/CS:mm



FIGURES

GROUNDWATER MONITORING PROGRAM South Lake Union Block 38 West Property Seattle, Washington

Farallon PN: 397-061



LEGEND

KING COUNTY PARCEL BOUNDARY

52 BLOCK DESIGNATION



NOTES:

1. ALL LOCATIONS ARE APPROXIMATE.
2. FIGURES WERE PRODUCED IN COLOR. GRAYSCALE COPIES MAY NOT REPRODUCE ALL ORIGINAL INFORMATION.



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FIGURE 1

**SOUTH LAKE UNION VICINITY
GROUNDWATER PERFORMANCE
MONITORING PROGRAM RATIONALE
BLOCK 38 WEST PROPERTY AREA
SEATTLE, WASHINGTON**

FARALLON PN: 397-061

Drawn By: jjones

Checked By: EB

Date: 12/30/2019

Disc Reference:

Path: \\vedgefs02\GIS\Projects\397 VULCAN\061 Block 38 CVOCs\Mapfiles\008_GW_Monitoring\Figure-01_SLU_VicinityMap.mxd



LEGEND

- ◆ SHALLOW WATER-BEARING ZONE WELL
- ◆ INTERMEDIATE WATER-BEARING ZONE WELL
- ◆ INTERMEDIATE "A" WATER-BEARING ZONE WELL
- ◆ INTERMEDIATE "B" WATER-BEARING ZONE WELL
- ⊕ DEEP OUTWASH AQUIFER WELL
- ⊗ INTERCEPTION WELL
- ◆ DEWATERING WELL
- KING COUNTY PARCEL BOUNDARY

CONCENTRATIONS REPORTED AS: SAMPLE DATE | PCE | TCE | cis-1,2-DCE | VC
 EXCEPT FOR WELLS IA-1 AND IA-4
 IA-1 AND IA-4 REPORTED AS:
 SAMPLE DATE | SAMPLE ELEVATION IN FEET NAVD88 | PCE | TCE | cis-1,2-DCE | VC
 ANALYTICAL RESULTS IN MICROGRAMS PER LITER

BOLD = CONCENTRATIONS THAT EXCEEDED THE MTCA CLEANUP LEVEL
 < = ANALYTE NOT DETECTED AT OR EXCEEDING THE LABORATORY REPORTING LIMIT LISTED
 CVOC = CHLORINATED VOLATILE ORGANIC COMPOUND
 PCE = TETRACHLOROETHENE
 TCE = TRICHLOROETHENE
 cis-1,2-DCE = cis-1,2-DICHLOROETHENE
 VC = VINYL CHLORIDE
 NAVD88 = NORTH AMERICAN VERTICAL DATUM OF 1988
 MTCA = WASHINGTON STATE MODEL TOXICS CONTROL ACT CLEANUP REGULATION

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FIGURE 3
 HISTORICAL GROUNDWATER CVOC RESULTS
 GROUNDWATER PERFORMANCE
 MONITORING WELL NETWORK
 BLOCK 38 WEST PROPERTY AREA
 SEATTLE, WASHINGTON

FARALLON PN: 397-061

TABLE

**GROUNDWATER MONITORING PROGRAM
South Lake Union Block 38 West Property
Seattle, Washington**

Farallon PN: 397-061

**Table 1
Rationale Deep Outwash Aquifer Groundwater Performance Monitoring
South Lake Union Area Block 38 West Property
Seattle, Washington
Farallon PN: 397-061**

Well No.	Well Screen Completion Depth (feet bgs)	Well Screen Completion Elevation (feet)	Well Classification	Selection Rationale
City Mega Block (Southwest of 9th Avenue North and Broad Street)				
MW119	35.0 to 45.0	2.74 to -7.26	Intermediate	Intermediate monitoring well located on a temporary southeasterly flow path within the predicted radius of influence of the Block 38 West construction dewatering system.
FMW-129	84.2 to 89.2	-45.56 to -50.56	Deep	Deep Outwash Aquifer monitoring well located on a temporary southeasterly flow path within the predicted radius of influence of construction dewatering system at Block 38 West. Monitoring well FMW-129 is anticipated to be beyond the radius of influence of the BMR-Dexter Property construction dewatering system during concurrent dewatering with Block 38 West.
Block 37 Property				
GEI-2	50.5 to 60.5	-21.12 to -31.12	Intermediate/Deep	Intermediate/Deep Outwash Aquifer monitoring well within the predicted radius of influence of the Block 38 West construction dewatering system. Groundwater will temporarily flow more directly south relative to static conditions.
MW128	60 to 70	-30.80 to -40.80	Deep	Deep Outwash Aquifer monitoring well within the predicted radius of influence of the Block 38 West construction dewatering system. Groundwater will temporarily flow more directly south relative to static conditions.
FMW-131	62.5 to 72.5	-34.65 to -44.65	Deep	Deep Outwash Aquifer monitoring well within the predicted radius of influence of the Block 38 West construction dewatering system. Groundwater flow direction during construction dewatering at Block 38 West will be similar to static conditions.
IA-1 ²	32 to 92	0.59 to -59.41	Deep	Interim action well within the predicted radius of influence of the Block 38 West construction dewatering system. The screened interval of this well allows for reconnaissance sampling of Intermediate Water-Bearing Zone and Deep Outwash Aquifer groundwater proximate to Block 38 West. Groundwater flow direction during construction dewatering at Block 38 West will be similar to static conditions.
IA-4 ²	32 to 92	-0.84 to -60.84	Deep	Interim action well within the predicted radius of influence of the Block 38 West construction dewatering system. The screened interval of this well allows for reconnaissance sampling of Intermediate Water-Bearing Zone and Deep Outwash Aquifer groundwater slightly beyond the northeastern boundary of the current footprint of the BMR-Dexter CVOC Plume.
Block 38 Property				
FMW-137	72.0 to 85.0	-44.9 to -57.9	Deep	Deep Outwash Aquifer monitoring well northeast-adjacent to the Block 38 West construction dewatering system.
FMW-138	90.0 to 100.0	-45.96 to -55.96	Deep	Deep Outwash Aquifer monitoring well southeast-adjacent to the Block 38 West construction dewatering system.
DW-16 ³	24 to 64	10 to -30	Dewatering	Dewatering well at the northern end of the western edge of Block 38 West. Samples collected from this and adjacent dewatering wells are expected to quantify some of the highest relative impacts from the BMR-Dexter CVOC Plume, if observed.
DW-17 ³	22 to 62	10 to -30	Dewatering	Dewatering well at the northwestern corner of Block 38 West. Samples collected from this and adjacent dewatering wells are expected to quantify the highest relative impacts from the BMR-Dexter CVOC Plume, if observed.
DW-18 ³	21 to 61	10 to -30	Dewatering	Dewatering well on the northern portion of Block 38 West. Samples collected from this and adjacent dewatering wells are expected to quantify some of the highest relative impacts from the BMR-Dexter CVOC Plume, if observed.

Table 1
Rationale Deep Outwash Aquifer Groundwater Performance Monitoring
South Lake Union Area Block 38 West Property
Seattle, Washington
Farallon PN: 397-061

Well No.	Well Screen Completion Depth (feet bgs)	Well Screen Completion Elevation (feet)	Well Classification	Selection Rationale
Block 77 Property				
FMW-140	70.0 to 80.0	-38.0 to -48.0	Deep	Deep Outwash Aquifer monitoring well near the edge of the predicted radius of influence of the Block 38 West construction dewatering system during concurrent dewatering at the 700 Dexter Property. Block 38 West construction dewatering influence on groundwater flow direction is expected to be limited.
Block 79 Property				
FMW-141	47.6 to 57.5	-12.45 to -22.35	Intermediate	Intermediate Zone monitoring well within the radius of influence of the BMR-Dexter Property construction dewatering system and beyond the radius of influence of the Block 38 West construction dewatering system.
MW113	70.0 to 80.0	-36.80 to -46.80	Deep	Deep Outwash Aquifer monitoring well at the outer limit of the estimated radius of influence of the Block 38 West construction dewatering system during concurrent dewatering at the 700 Dexter Property. Block 38 West construction dewatering influence on groundwater flow direction is expected to be limited.

NOTES:

¹ Construction dewatering at Block 38 West is scheduled to begin in late December 2019.

² Low-flow samples to be collected at top, middle, and bottom of interim action well screen (60-foot total installed length).

³ Groundwater collected from sampling port installed at well header during construction dewatering.

Intermediate = Intermediate Water-Bearing Zone

Deep = Deep Outwash Aquifer